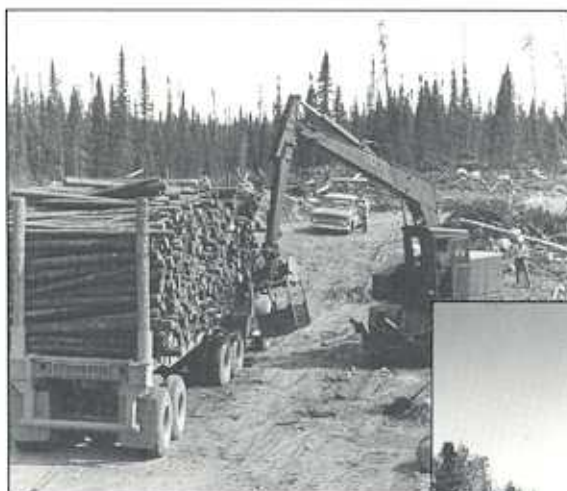




## Compendium of Canadian Manufactured Forest Machinery and Tools

Franc Humar

Industry, Trade and Technology Branch • Information Report DPC-X-31



Forestry  
Canada

Forêts  
Canada

## Forestry Canada

Forestry Canada is the main focus for forestry matters in the federal government. It provides national leadership through the development, coordination, and implementation of federal policies and programs to enhance long-term economic, social, and environmental benefits from the forest sector for Canadians.

Forestry Canada is a decentralized organization with six regions, two national research institutes, and seven regional sub-offices located across Canada. Headquarters is located in the National Capital Region in Hull, Quebec.

In support of its mandate, Forestry Canada carries out the following activities:

- administers forest development agreements negotiated with the provinces
- undertakes and supports research, development, and technology transfer in forest management and utilization
- compiles, analyzes, and disseminates information about national and international forest resources and related matters
- monitors disease and insect pests in Canada's forests
- provides information, analyses, and policy advice on economics, industry, markets, and trade related to the forest sector
- promotes employment, education, and training opportunities in the forest sector
- promotes public awareness of all aspects of the forest sector.

Forestry Canada interacts regularly with provincial and territorial governments, industry, labor, universities, conservationists, and the public through such bodies as the Canadian Council of Forest Ministers, the Forest Sector Advisory Council, the Forestry Research Advisory Council of Canada, the Canadian Forest Inventory Committee, the Canadian Committee on Forest Fire Management, the Canadian Interagency Forest Fire Centre, and regional consultative committees. Forestry Canada is also active in international forestry agencies such as the International Union of Forestry Research Organizations and the Food and Agriculture Organization, as well as in technical and trade missions.

## Forêts Canada

Forêts Canada est l'organisme principal en matière de foresterie à l'intérieur du gouvernement fédéral. Chef de file sur le plan national, il assure la préparation, la coordination et la mise en œuvre des politiques et des programmes fédéraux dans le but d'améliorer les avantages économiques, sociaux et environnementaux à long terme offerts aux Canadiens par le secteur forestier.

Forêts Canada est une organisation décentralisée: six régions, deux instituts de recherche nationaux ainsi que sept sous-bureaux régionaux sont répartis dans tout le Canada. L'administration centrale est établie dans la région de la Capitale nationale, à Hull (Québec).

Pour remplir son mandat, Forêts Canada assume les tâches suivantes:

- il administre les accords de développement forestier conclus avec les provinces
- il entreprend et appuie la recherche, la mise au point et le transfert technologique dans le domaine de la gestion et de l'utilisation des forêts
- il rassemble, analyse et diffuse de l'information sur les ressources forestières nationales et internationales et les domaines connexes
- il fait des relevés des maladies et des insectes ravageurs des forêts canadiennes
- il fournit de l'information, des analyses et des conseils (quant aux politiques) concernant l'économie, l'industrie, les marchés et le commerce reliés au secteur forestier
- il favorise les occasions d'emploi et de formation universitaire et technique dans le secteur forestier
- il encourage les Canadiens à prendre conscience de tous les aspects du secteur forestier

Forêts Canada entretient des rapports sur une base régulière avec les gouvernements provinciaux et territoriaux, l'industrie, le monde du travail, les universités, les environnementalistes et le public par l'entremise d'organismes comme le Conseil canadien des ministres des Forêts, le Conseil consultatif du secteur forestier, le Conseil consultatif de la recherche forestière du Canada, le Comité de l'inventaire des forêts du Canada, le Comité canadien de la gestion des incendies de forêt, le Centre interservices des feux de forêt du Canada et des comités consultatifs régionaux. Forêts Canada joue également un rôle actif dans des organismes internationaux de foresterie comme l'Union internationale des instituts de recherches forestières et l'Organisation pour l'alimentation et l'agriculture, de même qu'au sein de délégations de nature technique ou commerciale.

# **Compendium of Canadian Manufactured Forest Machinery and Tools**

Franc Humar, P. Eng.

Scientific authority  
D.V. Myles  
Forestry Canada

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Cette publication est également disponible en français sous le titre *Inventaire de la machinerie et des outils forestiers d'origine canadienne*.

## FOREWORD

This compendium on Canadian Forest Equipment and Tools was contracted to Franc Humar, Professional Forest Engineer through the Science Branch of the Department of Supply and Services. It was sponsored by Forestry Canada and the Department of External Affairs with Mr. D.V. Myles of Forestry Canada as the scientific authority on the project. It was produced with the assistance of the Canadian forest equipment manufacturers who responded to the detailed questionnaires. Without their good co-operation, this publication would not be possible.

Every attempt has been made to include all forest machinery and tools manufactured in Canada.

Any errors or omissions are strictly unintentional, and the fact that one machine may be listed and another omitted is not an endorsement of a particular machine.

This compendium is intended to provide information on the various kinds of forest equipment and tools manufactured in Canada.

## INTRODUCTION

The compendium of Canadian manufactured forest machinery and tools, describes the available forestry equipment, with data on the physical, mechanical and operational specifications. This should permit the compendium users to make a preliminary assessment of the forest equipment suitability to meet their particular needs. It is hoped to assist forestry planners, managers of forest projects, professional foresters and engineers, forest technicians and technologists, forest extension personnel, educators, students and other interested persons.

The Compendium is divided into three key forestry sectors: silviculture, logging and transport, and forestry support. The silviculture sector contains nine specific equipment groups consisting of: chemical and fertilizer applicators, land clearing equipment and attachments, nursery equipment, pruning equipment, scarification machinery and attachments, seeding equipment, slash disposal equipment, tree planting equipment and tools, and complementary equipment.

The logging and transport sector covers six main functions: felling, off-road transport, processing, loading secondary transport, road construction and maintenance. Each functional group contains the specific equipment groups of available Canadian manufactured equipment and tools.

The third forest support sector, contains four specific equipment groups consisting of: fire protection, fire monitoring, portable sawmills and complementary equipment.

Each forestry sector lists at its start, in index form, the specific equipment group and the corresponding equipment, attachments and tools.

An index of forestry equipment manufacturers, by key forestry sectors, functions, and specific equipment groups can be found at the front of the compendium. This should permit quick reference of product/manufacturer information.

The opportunity to be listed in future additions is provided to Canadian forestry equipment manufacturers free of charge. If you would like to be included, or wish to suggest changes to the listing, please fill in the form enclosed at the rear of this compendium.

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## RITTENHOUSE SPRAYERS



The 200 LC plantation sprayer, trailer model with gasoline engine, shown here. Also available is the 500 LC plantation sprayer with P.T.O., and the 1500 LC trailer type, plantation air blast sprayer.

The Company manufactures sprayers specifically designed for forestry use, some trailer mounted. It makes available the model 3PTH Cannon sprayers, as well as estate sprayers equipped with a choice of booms, hand guns, or with cluster nozzles. It also produces back-pack sprayers in various sizes, and safety equipment, such as masks, gloves, and goggles.

### Operational Specifications

The model 200 LC is available in skid mount, or trailer versions. The skid mount design fits neatly in a lawn trailer. The trailer version can be pulled behind a garden tractor or ATV.

Applications are for spot spraying with hose and gun, or boom spraying of herbicide, insecticide, and fungicide.

The model 500 LC has an all hydraulic swing, tilt, and blower drive, with booms available to 10 m (33 ft). The model 500 LC plantation sprayer gives an air blast application of herbicide, insecticide or fungicide.

The model 1500 LC also has an all hydraulic swing, tilt and blower drive. This model comes with a mechanical agitator, unlike the 500's jet agitation system. With a large 1500 litre capacity, it can provide an air blast application of herbicides, insecticides and fungicides over extensive forest areas.

### Particular Specifications

Model	200 LC	500 LC	1500 LC
Overall length cm (in)	203 (80)	132 (52)	440 (173)
Overall width cm (in)	114 (45)	145 (57)	163 (64)
Overall height cm (in)	91 (36)	231 (91)	244 (96)
Weight kg (lb)	84 (185)	340 (750)	680 (1500)
Tank capacity L (l. gal)	200 (45)	500 (110)	1500 (330)

### Mechanical Specifications

Tank material	fiberglass	fiberglass	fiberglass
Tires cm (in)	two 20 (8) w.t.	skid mount	two 38 (15) w.t.
Power kW (hp)	2.6 (3.5)	PTO 34 (45)	PTO 37 (50)
Pump L/sec (gal/min)	0.4 (6)	1.2 (18.5)	1.7 (27)
Drive	6.1 gearbox	PTO	PTO
Blower range m (ft)	—	30 (100)	30 (100)
Options	hose & gun boom	hose & gun hose reel	hose & gun hose reel

### MANUFACTURER:

M.K. RITTENHOUSE  
& SONS LTD.

R.R. No. 3, 4th Avenue  
St. Catharines, Ont.  
L2R 6P9  
TEL: (416) 684-8122  
FAX: (416) 641-3820  
TELEX: 061-5105

## CONAIR AERIAL SPRAY SYSTEMS



Conair Aviation manufactures and operates a range of aerial spray systems for forest pest control. Photo shows the Conair system for the F27 Firefighter/Fokker F27 aircraft.

C-130, Bell 205 and Bell 212. The spray systems consist of internal tanks and pump pallets, wing-mounted low-drag booms, pilot-operated computerized flow control equipment and various interchangeable nozzles, depending on droplet size requirements.

### Operational Specifications

Removable, low-drag wing booms, have interchangeable nozzles to handle a variety of spray applications. Typical applications include oil spill control, pest and disease control, using fixed-wing and rotary-wing aircraft.

Conair has developed aerial spray systems that can be adapted to a variety of spraying requirements, from both fixed-wing and rotary aircraft such as Douglas DC-6, Fokker F27, Aeritalia G-222, Lockheed

### MANUFACTURER:

CONAIR AVIATION LTD.

P.O. Box 220  
Abbotsford, B.C.  
V2S 4N9  
TEL: (604) 863-1171  
FAX: (604) 853-9017  
TELEX: 04-363529

### Particular Specifications

Model	Douglas DC-6	Fokker F27	Aeritalia G-222	Lockheed C-130
Total Useful Vol. L (imp. gal)	13600 3(3090)	3785 (860)	3875 (881)	7750 (1760)
Loading Rate, L/min	1800	1514	1800	1800
Max. Flow Rate L/min	1800	1514	1800	3000
Coverage Level L/ha	0-180	0-100	0-180	0-280
Swath Width m	50-670	50-700	50-600	50-975
Weight Spray System kg	1137	698	1157	3650
Removal Time Hours	4	4	4	4



*The Bracke Herbicider is designed to apply herbicides in conjunction with scarification treatments. A smaller amount of the total site can be treated more effectively, with more accurate placement, reducing much of the off-target drift.*

The KBM/Bracke Herbicider is jointly manufactured by Robur Maskin AB in Bracke, Sweden and by KBM Forestry Consultants Inc. in Thunder Bay, Ontario, Canada. These Companies have co-operated to offer the one pass method of mechanical and chemical site preparation. High quality microsites, with chemical vegetation control, can be produced in a single operation.

## Operational Specifications

The Bracke consists of two mattock wheels, each with four pairs of tines. These wheels are rotated by a chain drive actuated by the rubber support wheels. As the mattock wheels turn more slowly than the ground wheels, the tines are dragged through the ground and scarify patches.

With a herbicide tank capacity of 800 L (180 gal), some 2 hours of operation are obtained between fill-ups. Depending on site difficulty and chemical types used, production 0.6 to 1.4 hectares (1.5 to 3.5 ac) per hour can be obtained.

The Herbicider incorporates all the features of the standard two-row scarifier. Suitable prime movers are 82 to 112 kW (110 to 150 hp) skidders or 67 to 89 kW (90 to 120 hp) crawler tractors.

The Bracke performs best on flat to rolling sites with slopes up to 25%, light to medium slash, and loamy soils. It is poorly suited for working on very wet sites or sites with slopes steeper than 30%, heavy slash and/or high stumps, or duff layers greater than 25 cm. When negotiating short steep slopes, the Bracke can be let out on the winch line of the prime mover, and then winched back, to permit better mobility.

The Bracke can be used together with a V-plow in medium to heavy slash. It prepares between 1000 and 1500 planting spots per hectare.

The Bracke is a patch scarifier, and by creating only intermittent scalped patches, the Bracke minimizes the potential for overscarification and erosion.

## Particular Specifications

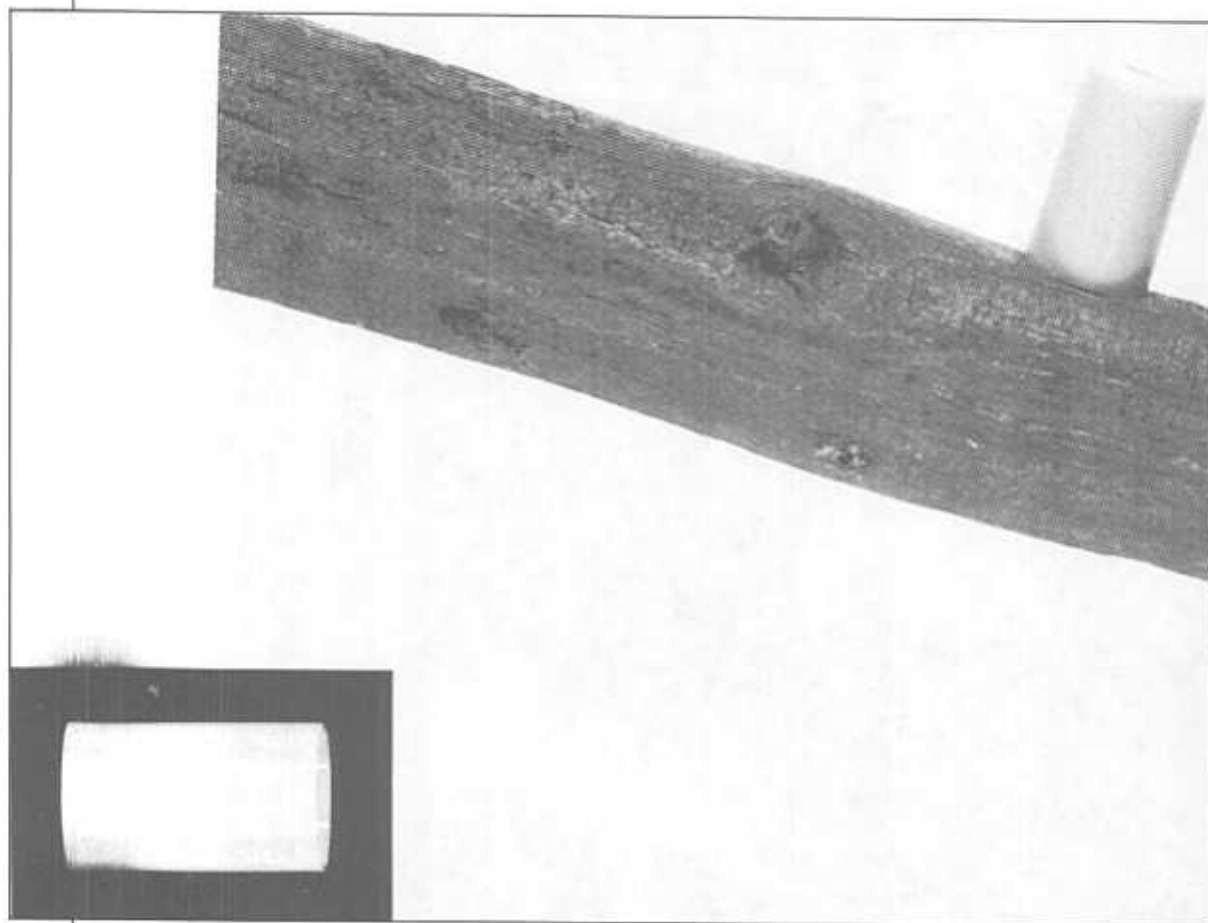
	System weight	kg (lb)	Dry	230 (500)
			Full	1043 (2300)
Tank:	Material	mm		5 (0.2)
	Capacity	L (gal)		800 (180)
	Residual volume	L (gal)		4 (1)
Components:	Regulator	KPa (psi)		0-350 (0-50)
Nozzles:	Location	Top of machine frame, rear of machine frame, boom location on top of tank.		
	Type	1/4 npt ball fittings, and cluster broadcast individual nozzle regulators and check valves.		
	Availability	System is compatible with any spraying systems nozzle tips of the tee jet, flood jet, disc, cone, and offset types.		
Max. flow rate for the system		11.1 (2.4) @		
	L/min (gal/min)	10 km	(6 mph)	
Pump:	Type	Dual diaphragm piston; inlet 2.5 cm (1 in), outlet 1.9 cm (3/4 in)		
	Drive System	Chain to intermediate axle, with disconnect.		

## MANUFACTURER:

**KBM FORESTRY  
CONSULTANTS INC.**

360 Mooney Street  
Thunder Bay, Ontario  
P7B 5R4  
TEL: (807) 344-0811  
TELEX: 073-4603

## GEL CAP INJECTION SYSTEM



*GEL CAP capsule injection system is a controlled herbicide application system for forestry, utilities, municipalities, transmission companies, golf courses.*

GEL CAP is a species specific, capsule, injection system (delivery system). ARBOUR CAP is the herbicide containing capsule. The GEL CAP Applications Tool consists of three components: Capsule Driver, a 40 cm (16 in) extension and a cordless electric drill.

### Operational Specifications

The GEL CAP application tool has been designed

to assist the operator in correctly applying capsules to the target species. By driving the capsule into the tree to the correct depth, it ensures a firm, secure attachment, and a liquid-tight seal. The operator picks up capsules from the cardboard sleeve, and applies them to the tree with a simple motion employing the cordless drill. Correct seating of the capsules is described on each carton containing 1000 capsules. The capsule driver must be adjusted to achieve the correct results.

GEL CAP'S uses include: right-of-way control (including transmission lines, distribution lines, pipelines, etc.), selective thinning, juvenile spacing, weeding, brushing and boulevard control.

### Particular Specifications

One (1) Arbour Cap per 6 cm (2 1/2 in) of tree diameter at breast height  
Refer to Monsanto's Vision (Roundup) for injection & other applications

Capsule Driver	O-Ring, Socket, Locknut & Bushing
Extension cm (in)	41 (16)
Makita Model #6071D drill	0 to 600 rpm variable speed, reversible with AC/DC fast charger & metal carrying case

## MANUFACTURER:

**PACE CHEMICALS LTD.**

8321 Willard Street  
Burnaby, B.C.  
V3N 2X3  
TEL: (604) 520-6211

# CONAIR AERIAL FERTILIZER SPREADER



*Bell 205 helicopter applying nitrogen fertilizer with Conair's 1500 kg capacity spreader. Swath guidance is provided by multiple remote ground transponders and an on-board computer.*

A total systems approach to aerial fertilization, from preliminary planning and staging, through to final application.

## Physical Specifications

Capacity kg (lb) 1500 (3307)

## Mechanical Specifications

Power	Two-cycle engine
Min. flying height m (ft)	30 (98)
Swath guidance	Del Norte Navigation System
Distance between transponders km (mi)	1-30 (0.6-18.6)
Total swath width m (ft)	66 (217)
Effective swath width m (ft)	22 (72)
Daily productivity ha (ac)	Up to 200 (494) ha (ac)/helicopter

## Operational Specifications

The system is a part of the integrated railhead to forest floor fertilizer delivery system, developed and operated by Conair and its subsidiary, Frontier Helicopters.

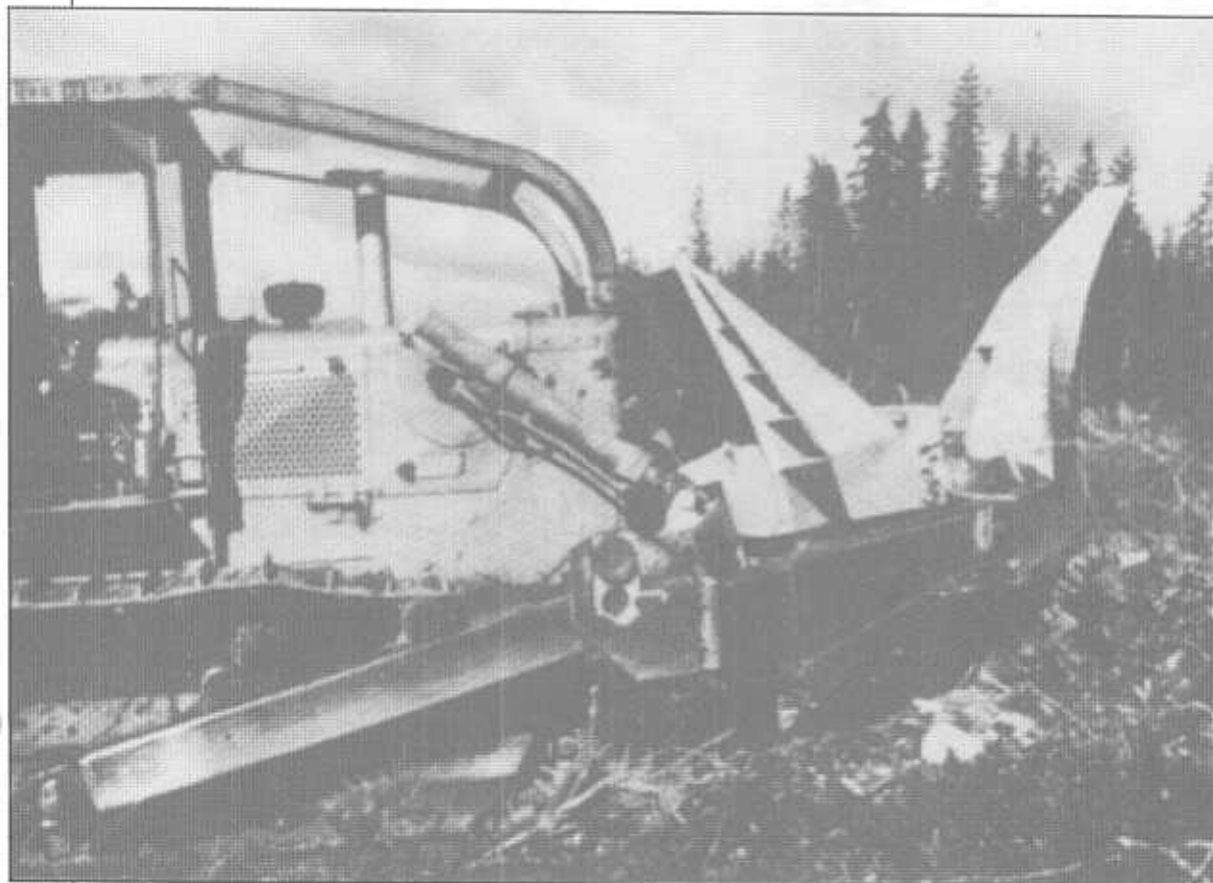
The client normally orders bulk fertilizer delivered to the rail siding in 90 tonne cars. The cars are subsequently unloaded, and the fertilizer is weighed at the rail siding, placed into special 1500 kg containers, which are trucked to the heliport. At the heliport, a 1500 kg container of fertilizer is loaded directly into the spreader which is suspended beneath the helicopter.

Aerial application takes place during spring and fall when the fertilizer is dissolved by the seasonal rains and washed into the forest floor. Growth response is usually evident in the stand after one year, and is continuous for up to five years.

## MANUFACTURER:

CONAIR AVIATION LTD.

P.O. Box 220  
Abbotsford, B.C.  
V2S 4N9  
TEL: (604) 853-1171  
FAX: (604) 853-9017  
TELEX: 04-363529



*The C & H plow is a V-plow that mounts to the C-frame of a crawler tractor.*

## Particular Specifications

Length m (ft)	2.0 (6.6)
Width m (ft)	3.2 (10.5)
Height m (ft)	1.9 (6.2)
Weight kg (lb)	3090 (6812)

## Mechanical Specifications

Prime mover required D6 or D7, TD20, D65  
Komatsu type crawler  
tractors

Designed to fit the C-frame, clamped by large bolts

## Operational Specifications

The C & H plow is designed to prepare a continuous slash-free strip of mineral soil 2.5 m (6.4 ft) ahead of planting. The amount of soil and humus disturbance can be controlled by adjusting the setting of the plow.

The C & H plow is best suited to sites with even to rolling terrain, of slopes less than 25%. It is used on deep duff and moderate to heavy slash where it produces a well defined planting trail. It has been reported to have a higher productivity, and less costs than a brush blade on similar sites.

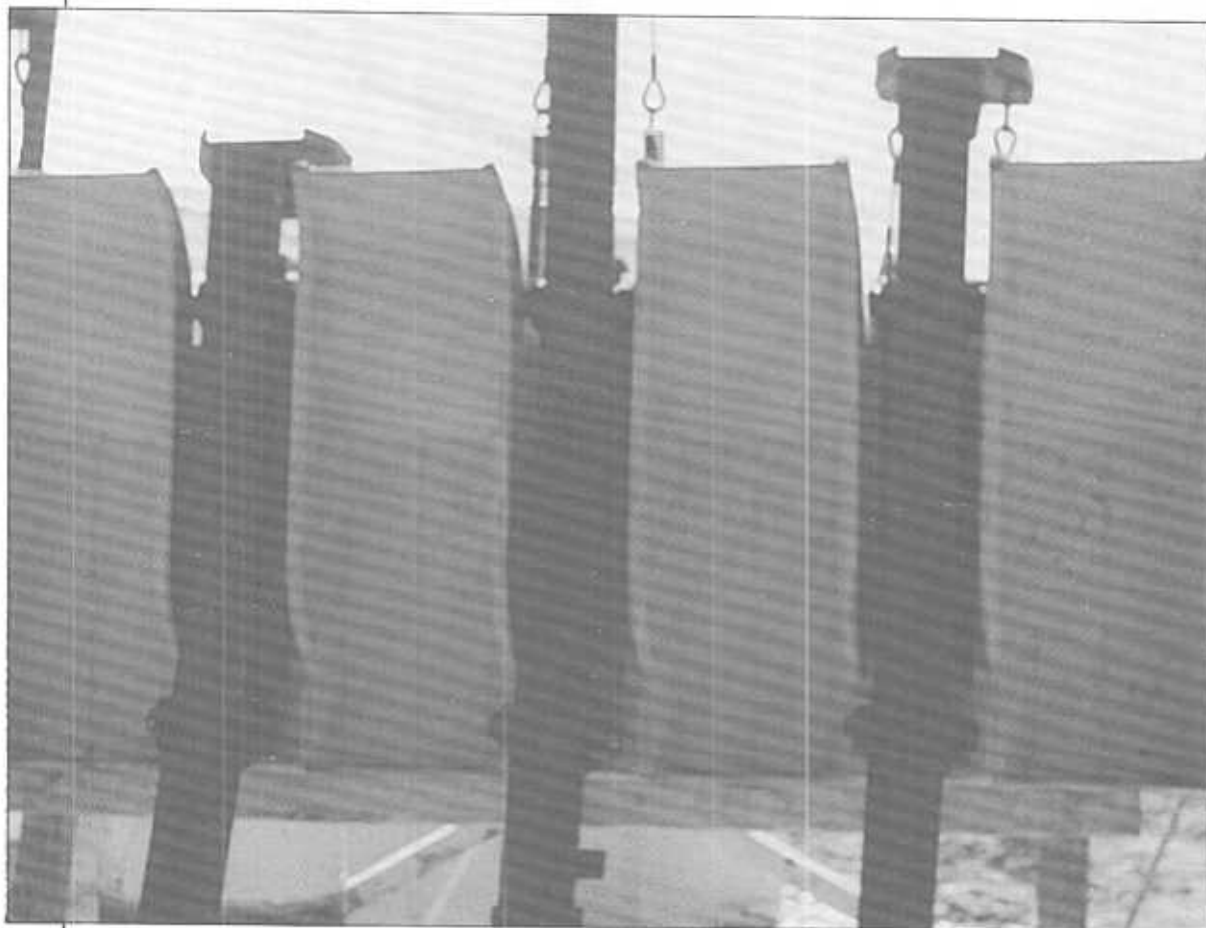
Cazes and Heppner are manufacturers of site preparation attachments, such as the V-plow, model SP 609. The plow clears a continuous slash-free strip improving planting access and ease of planting, while providing better microsite for seedling growth.

## MANUFACTURER:

**CAZES AND HEPPNER  
FOREST SERVICES LTD.**

Box 2037  
Clearbrook, B.C.  
V2T 3T8  
TEL: (604) 853-0674

## C.F.E. SLASH RAKE



*The CFE Slash Rake is manufactured by CFE in Edmonton, similar in design to the German made Raumfix slash rake.*

Canadian Forestry Equipment Ltd. manufactures, sells and leases a complete line of silvicultural site preparation equipment. In addition to scarifiers, disc trenchers, rakes, and plows, the Company handles the Timberwolf Brush Cutter, G.K. Forest Sprayer, herbicide attachments for disc trenchers, silvicultural prime movers and carriers, as well as fire pump kits.

Different models of slash rakes equipped with 4, 5, 6, and 7 teeth are available for mounting on rubber tired skidders.

### Operational Specifications

The C.F.E. slash rake is equipped with 4, 5, 6, or 7 spring loaded teeth which are designed to move up and down on tracking guides when obstacles are encountered. This is particularly useful as it prevents uprooting of stumps, reduces ground disturbance, and minimizes the soil pushed into the windrows or piles.

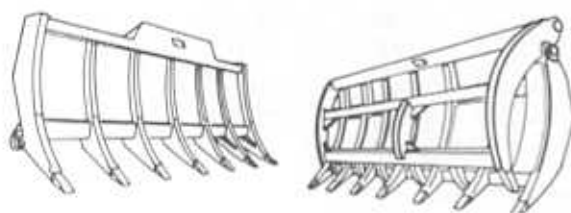
The rakes are used to pile slash and scarify at the same time. They are particularly efficient for clean-ups on mechanical delimber operations.

### MANUFACTURER:

Canadian Forestry  
Equipment Ltd.

17212 - 106 Avenue,  
Edmonton, Alta., T5S 1H1  
TEL: (403) 484-6687

# WELDCO-BEALES LAND CLEARING BLADE AND GRAPPLE RAKE



Weldco-Beales Land Clearing Blade (left), and Grapple Rake (right)

Weldco-Beales is a major manufacturer of forestry attachments, and produces land clearing blades, C-frames (CBB series) or straight land clearing blades (SBB series), as well as Grapple Rakes (GR series)

## Operational Specifications

Land clearing blades are designed for efficient piling and stacking applications. Cast curved teeth are spaced to comb the ground, and the shaped teeth to cut tree roots.

WB Grapple Rakes come with full roll back action; the overhanging grapple arm permits raking in both directions. With this attachment, the operator can stack, load and remove logs and boulders with ease. They can be used for feeding small logs, brush and slash to the chipper.

Land clearing blades are available in either C-frame or straight dozer versions. The straight blades mount interchangeably with the standard dozer blade, while the C-frame comes complete with sidearms, no centre pin, thereby permitting quick and easy mounting.

Special rock rakes are also available, with additional teeth installed, as required.

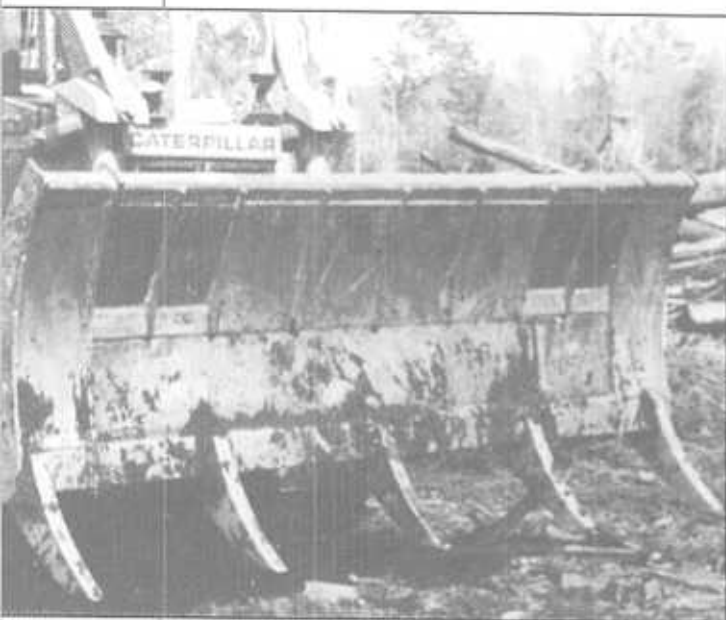
## Particular Specifications

Tractor Model	Attach Class	Blade Information				
		Blade Model No.	Length	Tooth Penetr.	Tooth Spacing	Approx. Wt. Kg (lb)
D3 TD7, 8	110	CBB2	223(88)	31(12)	38(15)	499(110)
D20, JD350, JD450, Case D4, TD9, FA8, Case 850, JD550	350	SBB2	234(92)	31(12)	41(16)	590(1300)
D45/50 1150	185	CBB3	272(107)	46(18)	53(21)	680(1500)
		SBB3	251(99)	46(18)	48(19)	748(1650)
		CBB4	312(123)	46(18)	51(20)	862(1900)
D5/D6, TD15, FA10 1150	185	SBB4	284(112)	46(18)	45(17.5)	907(1200)
D65, FA14, JD850	235	CBB5	320(126)	46(18)	53(21)	1293(2850)
		SBB5	302(119)	46(18)	43(17)	1315(2900)
		CBB6	350(138)	46(18)	61(24)	1338(2950)
D7G, TD20E, D814A, 8220, FA16 D85E	260	SBB6	328(129)	46(18)	53(21)	1361(3000)
		CBB7	353(139)	46(18)	57.8(22)	1701(3750)
		SBB7	328(129)	46(18)	53(21)	1588(3500)
D8K, TD25, D125 FA21, 82, 30B, HD21	310	CBB8	381(150)	48(19)	63(25)	1769(3900)
		SBB8	351(138)	48(19)	57(23)	1792(3950)
		CBB9	376(148)	53(21)	53(21)	2087(4600)
D9K, D155, D8L, FA31	360	SBB9	376(148)	53(21)	53(21)	2177(4800)
		CBB10	450(177)	58(68)	55(21)	3720(8200)
		SBB10	399(157)	58(68)	56(22)	3856(8500)
D9L, FA41, 355	410	CBB11	457(180)	60(23)	58(23)	5443(12000)

## MANUFACTURER:

Weldco Beales  
#410 - 6450 Roberts Street  
Burnaby B.C., V5G 4E1  
TEL: (604) 294-2222  
FAX: (604) 294-1292  
TELEX: 04-55103

# BALDERSON/FLECO LAND CLEARING AND FORESTRY BRUSH BLADES AND RAKES



*Brush Blades and Rakes are available in various versions for root raking, windrowing and piling. Versions with welded fixed position teeth, and with bolt on movable teeth are both available.*

The Balderson/Fleco model MA (multi-application) Rake, Rock and Root Rakes, Clamp Rakes, Clearing Rakes, Stacker Rakes, Blade Rakes, and Root Plows are available from Balderson. They are used in right-of-way preparation, land clearing and reforestation work. Various styles are available for root raking, windrowing and piling.

Rakes are built for wheel loaders, track loaders and dozers. Several versions with welded, fixed position teeth, or with bolt-on, moveable teeth, are available.

**PRICE:** For Cat D6H c/w push arms and trunnions, price of brush rake is list \$7,100.00, F.O.B. Edmonton, Alta. (1988). Delivery in 4 to 6 weeks.

## Operational Specifications

The heavy duty clearing rake is an appropriate tool for heavy land clearing. The rake easily removes trees, grubs stumps and clears rocks. Matched to the new Cat high sprocket tractors, these rakes have good reach for tree pushing, as well as strength for prying.

The multi-application (MA) rake is used for clearing of large trees, stumps and boulders, with replaceable wear tips, a brush rack and a steel plate in the centre of the frame for optimal service.

The blade rake is used in conjunction with straight blades, recommended for piling limbs and tops, grubbing brush and light to medium duty raking. As this rake is pinned, it swings away from the blade, when backing.

The clamp rake is extremely versatile for general land clearing. Used for grubbing brush, stumps and rocks, as well as raking, piling and loading debris, with minimum spillage due to the good retaining action of the integral clamp.

## Particular Specifications

### Heavy Duty Clearing Rake:

Caterpillar Model	D8N		D7H		D6H	
	Straight	Angle	Straight	Angle	Straight	Angle
Balderson Model	BCR8S	BCR8A	BCR7S	BCR7A	BCR6S	BCR6A
Rake Width mm	3607	4013	3607	3937	3353	3581
(in)	(142)	(158)	(142)	(155)	(132)	(141)
Rake Height mm	2032	2032	1956	1956	1753	1753
(in)	(80)	(80)	(77)	(77)	(69)	(69)
Number of teeth	9	9	9	9	9	9
Approx. Weight kg	2630	2565	2405	2270	1405	1295
(lb)	(5800)	(5650)	(5300)	(5000)	(3100)	(2850)

### Blake Rake:

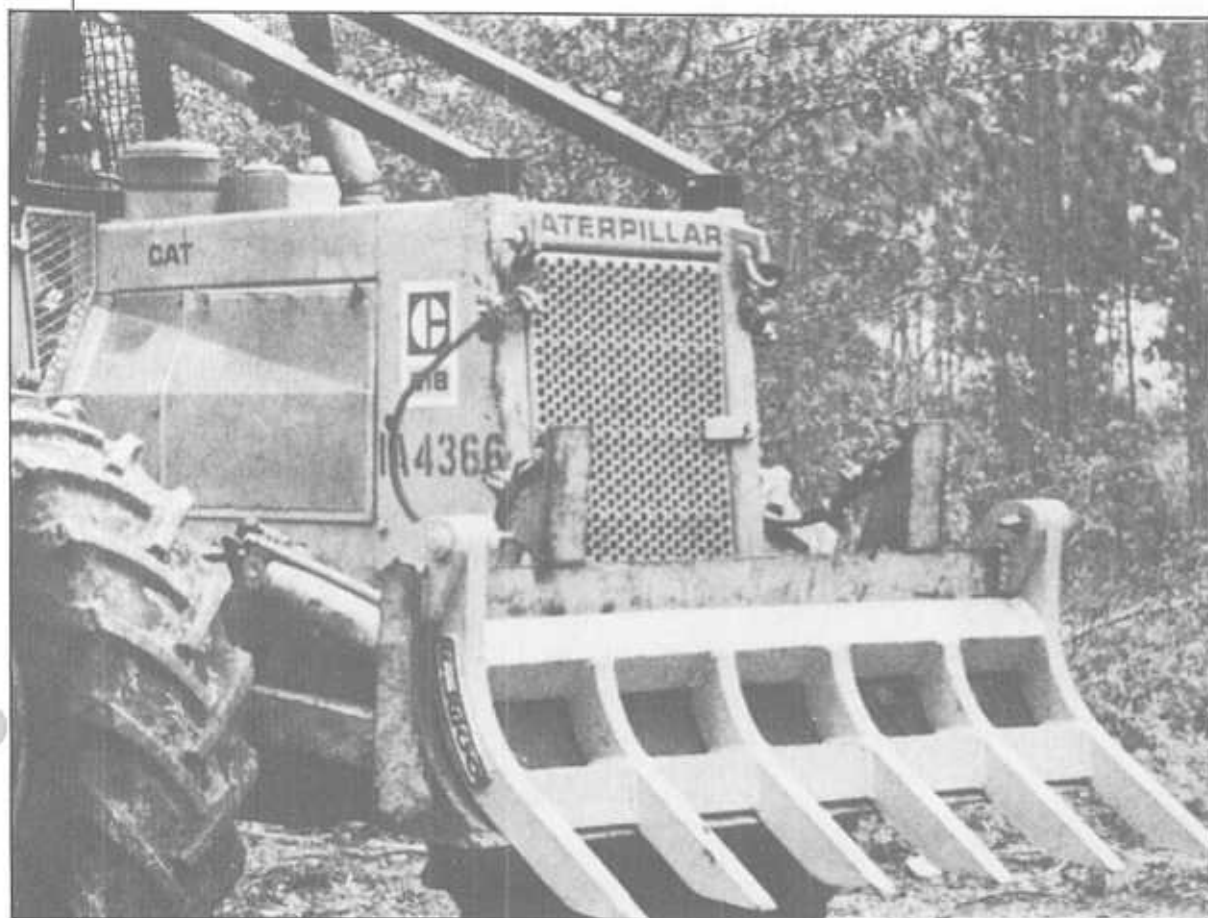
Width	2007 mm (79 in)
Height	762 mm (30 in)
Tooth Penetration	381 mm (15 in)
Tooth Length	737 mm (29 in)
Opening at Tooth Tips	343 mm (13 1/2 in)
Number of Teeth	6
Total Weight	323 kg (713 lb)

## MANUFACTURER:

**BALDERSON  
CANADA LTD.**

6400-30 St.  
Edmonton, Alta.  
T6P 1J6  
TEL: (403) 469-9185  
FAX: (403) 469-9256

## BALDERSON/FLECO BLADE RAKE



*The Balderson blade rake on the Cat 518 skidder is shown here. Note how the frame of the rake fits against, and is supported by, the skidder blade.*

### Particular Specifications

Width mm (in)	2007 (79)
Height mm (in)	762 (30)
Tooth Penetration mm (in)	381 (15)
Tooth Length mm (in)	737 (29)
Opening at Tooth Tips mm (in)	343 (13 1/2)
Number of Teeth	6
Total Weight kg (lb)	323 (713)

### Operational Specifications

Designed for grubbing and light brush piling, the rake attachment mounts on the normal skidder dozer blade. It broadens the work range of the skidder to include piling of limbs and tops, grubbing brush around the landing, and light to medium duty raking.

Two sets of mounting brackets must be welded to the top of the blade before the rake can be installed. The mounting brackets are supplied with the blade rake. This simple method of mounting reduces the amount of time required to put on, or take off the rake. The pin type mounting allows the rake to swing away from the blade so that material which has been piled, is not dragged back from the window. It also allows the blade to be used for back-blading to fill holes left in the cleared area.

Designed by Balderson for the Cat 518 Skidder or equivalent size skidder. Available as Balderson model BL 518 rake attachment, which mounts on the normal skidder dozer blade.

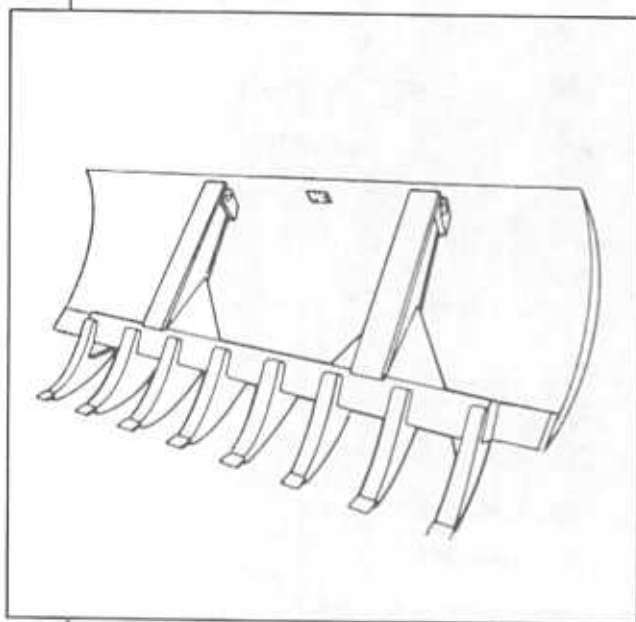
PRICE: For a Cat 518 skidder, or equivalent, list \$2,100.00, F.O.B. Edmonton, Alta. (1988). Delivery in 3 to 4 weeks.

### MANUFACTURER:

**BALDERSON  
CANADA LTD.**

6400 30th Street  
Edmonton, Alta.  
T6P 1J6  
TEL: (403) 469-9185  
FAX: (403) 469-9256

# WELDCO-BEALES MOULD BOARD RAKE



Mould Board Rake, Model MBR, ideally suited to the contractor who has a small amount of brush to be removed.

Available in models MBR2 to MBR6 to fit tractor models D3 to D8K. The manufacturer, Weldco-Beales, are specialists in the design and manufacture of equipment and attachments for the forest industry with a wide range of products.

## Operational Specifications

The mould board rake is designed for small brush removal and land clearing. Once the weld-on brackets are installed, the rake may be removed or re-installed in a few minutes.

Special lengths of rakes are available on request.

## MANUFACTURER:

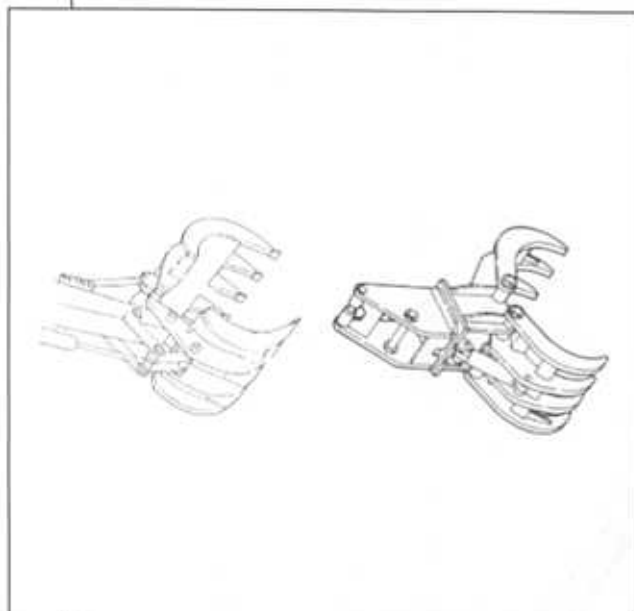
Weldco-Beales

#410 - 6450 Roberts St.  
Burnaby, B.C., V5G 4E1  
TEL: (604) 294-2222  
FAX: (604) 294-1292  
TELEX: 04-55103

## Particular Specifications

Tractor Model	Attachment Class	Mold Board Model	Rake Length cm (in)	Mold Board Rake Information			Appr. Wt kg (lb)
				Tooth Penet. cm (in)	Tooth Space. cm (in)	Tooth Thick. cm (in)	
D3,TD7+8 D20JD350/450 D4,TD9,FA8	110	MBR2	183(72)	38(15)	36(14)	4(1.5)	304 (670)
Case850,JD550 D45/50,1150, D5/D6,TD15 FA10,1450,D55/60	160	MBR3	213(84)	38(15)	41(16.5)	3.8(1.5)	386 (850)
JD750 D65,FA14,JD850	210	MBR4	254(100)	43(16)	43(16)	5(2)	567 (1250)
8220,FA16 D8K,TD25,D125 FA21,82- 30B,HD21	260	MBR5	274(108)	48(19)	38(15)	6.4(2.5)	930 (2050)
	360	MBR6	305(120)	53(21)	43(16)	8(3)	1270 (2800)

# WELDCO-BEALES BRUSH AND CLEARING RAKES



*Weldco Excavator Brush Rake (left), and the Power Clearing Rake (right).*

The Company are specialists in the design and manufacture of machines and attachments for the forest industry with a wide range of products.

Weldco-Beales manufactured rakes models BR 2 to 5, and PR 42, 54, fit most excavators in the 0.19 m<sup>3</sup> (0.25 yd<sup>3</sup>) to 1.9 m<sup>3</sup> (2.5 yd<sup>3</sup>) capacities.

## Operational Specifications

Excavator brush rakes are designed for raking, stumping, and handling bulky materials. In forestry, they are particularly useful in meeting the grubbing and cleaning needs.

The power clearing rake allows the operator to land, clear, build a burning pile; load logs, etc.

## Particular Specifications

### EXCAVATOR BRUSH RAKE

Machine Size m <sup>3</sup> (yd <sup>3</sup> )	Model	Open cm (in)	Closed cm (in)	Width cm (in)	Weight kg (lb)
0.19 to 0.57	15BR2	244 (96)	30 (12)	91 (36)	975 (2150)
0.76 to 0.96	25BR3	279 (110)	38 (15)	121 (48)	1360 (3000)
1.05 to 1.34	35BR4	325 (128)	46 (18)	137 (54)	1644 (3625)
1.43 to 1.91	45BR5	356 (140)	51 (20)	137 (54)	2019 (4450)

Optional: Hydraulic cylinder kit which allows full control of the rake bottom (extra valve required).

### POWER CLEARING RAKE

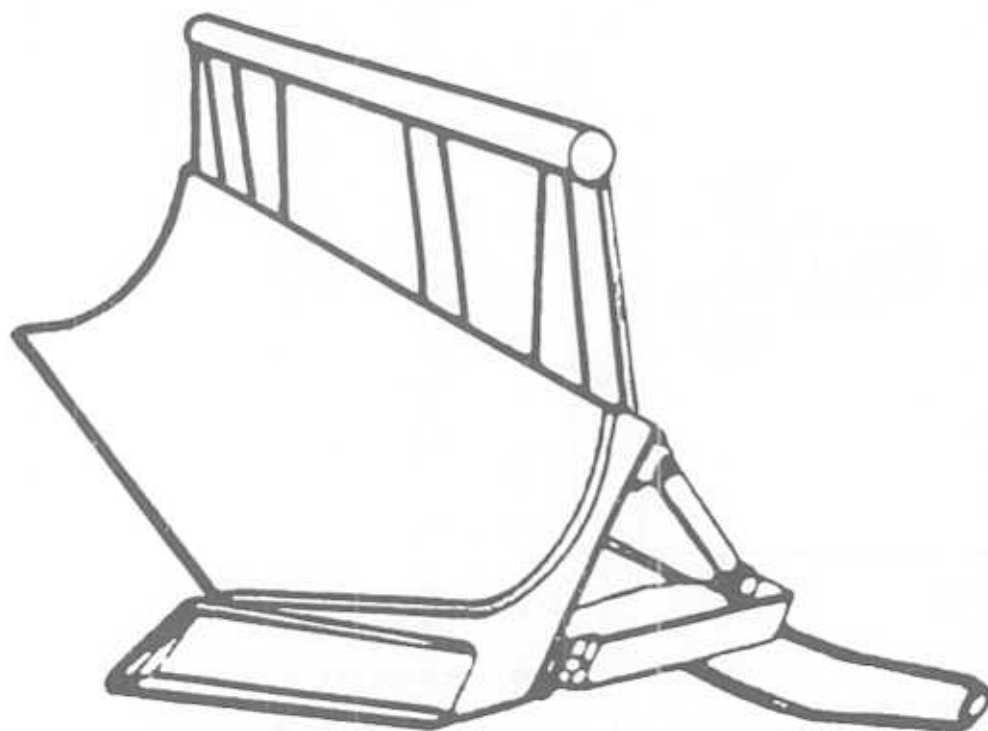
Machine Size m <sup>3</sup> (yd <sup>3</sup> )	Model	Opening cm (in)	Closing cm (in)	Width cm (in)	Weight kg (lb)
0.76 to 0.96 (1 to 1 1/4)	25PR45	114 (45)	15 (6)	91 (36)	1497 (3300)
1.05 to 1.34 (1 3/8 to 1 3/4)	35PR54	147 (58)	36 (14)	107 (42)	1860 (4100)

## MANUFACTURER:

Weldco-Beales

#410 - 6450  
Roberts St.  
Burnaby, B.C.  
V5G 4E1  
TEL: (604) 294-2222  
FAX: 294-1292  
TELEX: 04-55103

## ONE WAY BRUSH CUTTER



*Weldco-Beales One-way Brush Cutter to fit standard tractor models*

### MANUFACTURER:

Weldco-Beales

#410 - 6450 Roberts St.  
Burnaby, B.C., V5G 4E1  
TEL: (604) 294-2222 FAX:  
(604) 294-1292  
TELEX: 04-55103

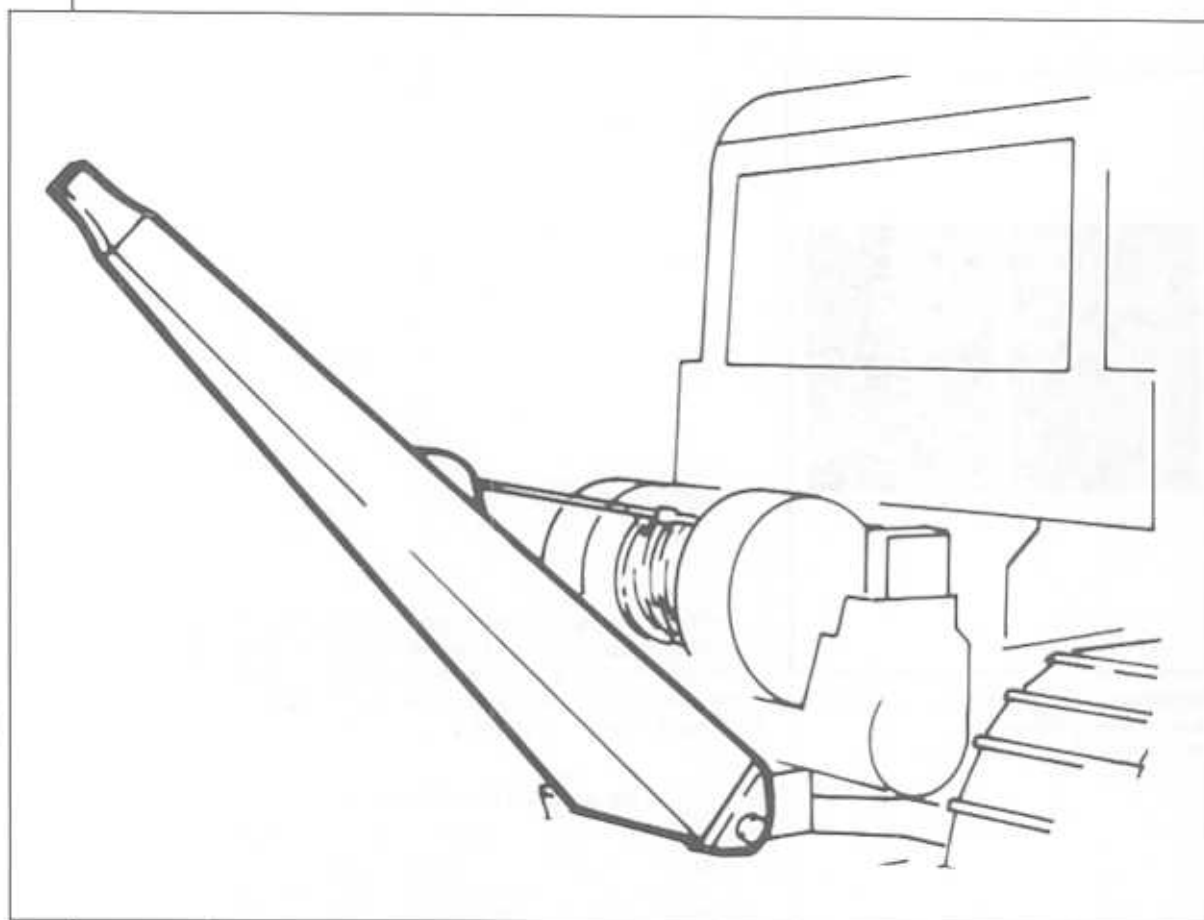
The Company are specialists in the design and manufacture of machines and attachments for the forest industry with a wide range of products.

Three Weldco-Beales brush cutter models are available, all with built in splitter, to fit tractor models D3 to D9.

#### Particular Specifications

Serrated or straight edge  
Supplied with rigid struts for C-frame mounting  
Optional heavy duty bumper  
For custom designs, consult the manufacturer

## WELDCO-BEALES STUMP SPLITTERS



*Weldco-Beales stump splitter  
with winch operation.*

The Company are specialists in the design and manufacture of machines and attachments for the forest industry, with a wide range of products.

Weldco-Beales manufactures stump splitter models to fit tractors D4 to D8, or equivalent.

### Operational Specifications

Weldco-Beales stump splitters are available for use with Hyster, Carco, and Caterpillar winches. These are adaptable to any ripper tool bar. Hydraulic operation is available, when no winch is required.

### Particular Specifications

Tractor Model	Attachment Class No.	Model	Splitter Length cm (in)	Approximate Weight kg (lb)
D4/D6	175/235	SS2	274 (108)	794 (1750)
D7/D8	260/390	SS3	229 (90)	953 (2100)

## MANUFACTURER:

### WELDCO-BEALES

#410 - 6450

Roberts St.

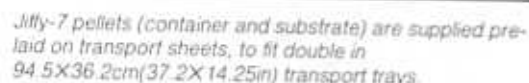
Burnaby, B.C.

V5G 4E1

TEL: (604) 294-2222

FAX: (604) 294-1292

TELEX: 04-55103



### Operational Specifications

The system is reported to be cost effective, and competitive with paper pots.

### Pellet Specifications

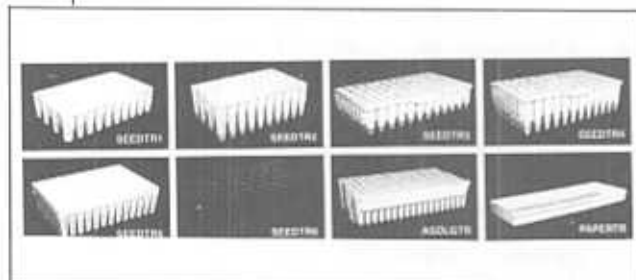
	#70	#140	#165
Size			
Before exp.	42 X 12	30 X 12	28 X 12
After exp.	43 X 60 to 65	31 X 60 to 65	30 X 60 to 65
Cube cm <sup>3</sup>	Approx. 90	Approx. 46	Approx. 40
Dry Matter	14.0 gr	8.5 gr	7.5 gr
Soil Ph	4.5 to 15	8.5 to 5	4.5 to 5
Fertilizer	Optional	Optional	Optional

	# 70	# 140	# 165
Pellets/sheet	7 X 10 = 70	10 X 14 = 140	11 X 15 = 165
Density u/m <sup>2</sup>			
In tray	409	818	965
On sheet	459	918	1082
Pellet/carton	1120	1960	2310
Wt/carton, kg	15	17	15
Carton/pallet	25	25	25

Jiffy Products Ltd.,

Industrial Park,  
Shippigan, N.B., E0B 2P0  
TEL: (506) 336-2284 FAX:  
(506) 336-9609  
TELEX: 014-24542

# ROPAK MULTI-POT SEEDLING TRAYS



Ropak multi-pot liner trays available in eight models

Ropak manufactures a variety of Multi-pot tray choices, with a choice of cavity volumes, and cavity spacing. Available in eight models TR1 through TR6, ASDLGTR, and PAPERTR.

## Operational Specifications

Ropak's seedling growing trays are constructed of high density polyethylene plastic. Life durability is expected to be about 6-10 years. There are eight models with varying seedling densities and cavity rooting volumes. In 1987, North American forestry usage of these trays produced approximately 200,000 seedlings.

## Particular Specifications

Product Code	Product Name	Dimensions mm (in.)		
		Length	Width	Height
SEEDTR1	Multi-Pot # 1-67	356 (14.0)	222 (8.75)	889 (3.50)
SEEDTR2	Multi-Pot # 2-67	356 (14.0)	222 (8.75)	121 (4.75)
SEEDTR3	Multi-Pot # 3-96	619 (24.0)	356 (14.0)	122 (4.80)
SEEDTR4	Multi-Pot # 4-96	619 (24.0)	356 (14.0)	168 (6.60)
SEEDTR5	Multi-Pot # 5-104	356 (14.0)	244 (9.62)	89 (3.50)
SEEDTR6	Multi-Pot # 6-45	356 (14.0)	222 (8.75)	121 (4.75)
ASDLGTR	PCA313A Seedling Tray	619 (24.0)	356 (14.0)	133 (5.25)
PAPERTR	Propagation Tray	940 (37.0)	356 (14.0)	76 (3.00)

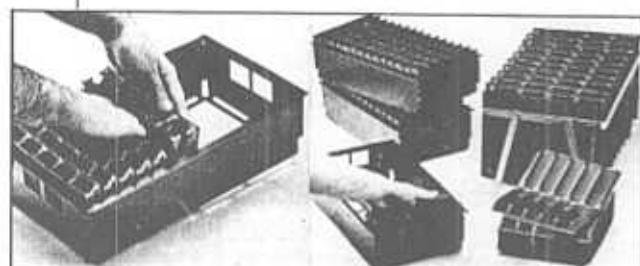
  

Product Code	Cavity Volume cm <sup>3</sup> (cu. in.)	Cavities Per Tray	Cavity Dia. mm (in.)	Cavities Per m <sup>2</sup> (sq. ft.)
SEEDTR1	57 (3.5)	67	32 (1.25)	850 (79)
SEEDTR2	66 (4.0)	67	32 (1.25)	850 (79)
SEEDTR3	98 (6.0)	96	38 (1.50)	441 (41)
SEEDTR4	147 (9.0)	96	38 (1.50)	441 (41)
SEEDTR5	49 (3.0)	104	1X32 (1X0.25)	1206 (112)
ASDLGTR	57 (3.5)	198	25 (1.00)	915 (85)
PAPERTR	—	—	—	—

## MANUFACTURER:

Ropak Can-Am Ltd.,  
P.O. Box 340, Springhill  
Industrial Park  
Springhill, Nova Scotia  
B0M 1X0  
TEL: (902) 597-3787  
FAX: (902) 597-8318

# SPENCER-LEMAIRE SEEDLING GERMINATION AND CONTAINER SYSTEM



Roottrainer containers for growing plants from seed and cuttings are available in 8 sizes. Unfolding containers enables the user to monitor the seedling condition, making extraction easy.

Roottrainers come in eight sizes with four fitting the standard polypropylene open-bottomed trays, and folding steel frames holding the larger sizes.

Germination boxes and Filling Machines are also manufactured by Spencer-Lemaire.

## Operational Specifications

Roottrainers are made from Dow styron plastic. Alternative materials are optional.

Ferdinands are most often used for growing lodgepole pine, white spruce and black spruce. At 102 cells per tray, a bench density of 1253 per square metre is obtained.

Fives are used for jackpine, yellow cedar, Sitka spruce, loblolly pine and eucalyptus.

Sixes are used for the larger pines, redwood, Douglas-fir, red cedar. Twelve books fit into a standard tray, producing 72 cells.

The Hillsons are used for larger seedlings, ponderosa pine, macadamia nut, hemlock, native trees and shrubs for shallow soil, rocky conditions. They are often used for starting selected cuttings in the horticultural field, with 32 cells per tray.

Tinus is used for shelterbelts, poplar, oak, sycamore, cashew, walnut, birch, elm and fruit trees.

Super 45's are used for tropicals, large cuttings, reclamation, native plants, hybrid poplar, for deep soil, dry sites. Folding steel frames hold 40 cells of Tinus and 27 cells of Super 45's.

Marx X one cells, are used for individual commercial nursery plants. The 1 litre, which are 4 Marx X together, some 30.5 cm (12 in) wide, are used for larger plants and cuttings. These fit 4 books to a dairy case, on 3-inch centres.

## Particular Specifications

Roottrainers Type Size	Cell Vol. in <sup>3</sup>	Cell Vol. ml	Cell Size cm (in)	Cells per Book	Cells per Tray	Trays per Case	Books per Case	Prices / Case (varies / vol) CDN \$ (1988)
Ferdinands	2.5	40	1.9x1.9x10 (3/4x3/4x4)	6	102	30	500	80 to 65
Fives	3.8	65	2.5x2.5x10 (1x1x4.25)	5	70	36	500	95 to 80
Sixes	5.5	90	2.5x2.5x14 (1x1x5.5)	6	72	42	500	110 to 95
Hillsons	10.5	175	3.8x3.8x13 (1.5x1.5x5)4	32	63	500	135 to 120	
Tinus	21.5	350	3.8x5.1x20 (1.5x2x8)	4	40	25*	250	135 to 120
Super 45	45	750	5.1x6.4x25 (2x2.5x10)	3	27	11*	100	115 to 100
Marx X	80	1300	7.6x7.6x25 (3x3x10)	1	—	Tube	300	140 to 125
1 Litre 4 Cell	80	1300	7.6x7.6x25 (3x3x10)	4	16	25**	100	180 to 165

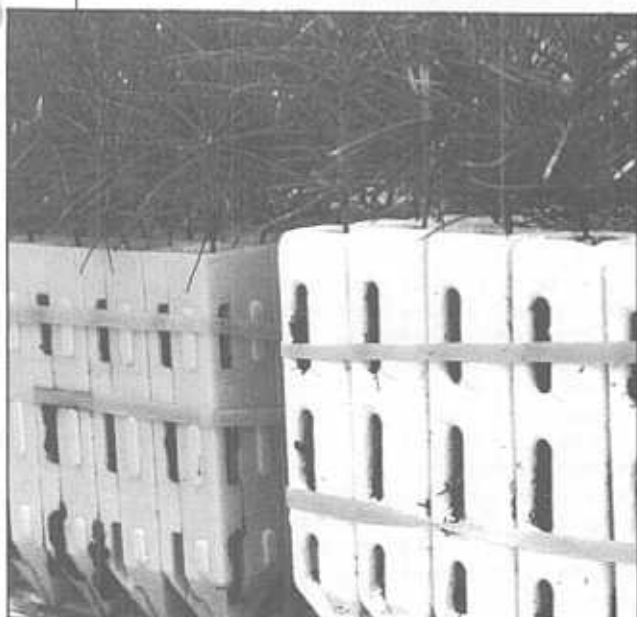
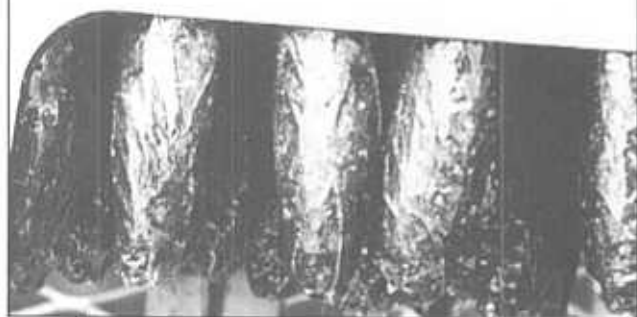
Trays	Sizes cm (in)	Prices CDN \$ (var. with quantity)
Folding or Rigid	21.6x36.1x10.2 (8.5x14.5x4)	1.05 to 0.95
Tinus Toter (5 books)	21.6x25.4x17.8 (8.5x10x7)	2.05 to 1.85
* Plastic Folding Frame	26.7x43.2x15.2 (10.5x17x6)	4.40 to 3.75
** Dairy Cases	33.0x33.0x26.7 (13x13x10.5)	5.35 to 4.50

## MANUFACTURER:

Spencer-Lemaire Industries Ltd.

11413-120 St. Edmonton, Alta T5G 2Y3 TEL: (403) 451-4318, 451-4319 FAX: (403) 452-0920 TELEX 037-2966

# XYLON TREE SEEDLING CONTAINERS



1. Xylon I, 4-piece plastic seedling cartridge, with seedlings.
2. Xylon II plastic film seedling container, in the rack.

**Xylon I**  
4-piece construction  
Polystyrene plastic  
Cartridge dimensions, cm (in.)  
10 (3.9) x 2.2 (0.9) x 2.2 (0.9)  
Soil volume, cm<sup>3</sup> (in.<sup>3</sup>) 30 (1.8)

## Particular Specifications

**Xylon II**  
Thin plastic film construction, perforated for singulation of cells  
Durable polystyrene rack  
Variable configurations  
Variable sizes  
Option: Copper coating

The International Foretech System produces in the nursery protected seedlings, and in the field mechanized planting processes.

The company produces two tree seedling containers, called the Xylon I cartridge, and the Xylon II container. It also produces two mechanical planters, Foretech's Silvaplanters models PB II and PB III, which make high speed automated planting possible.

## Operational Specifications

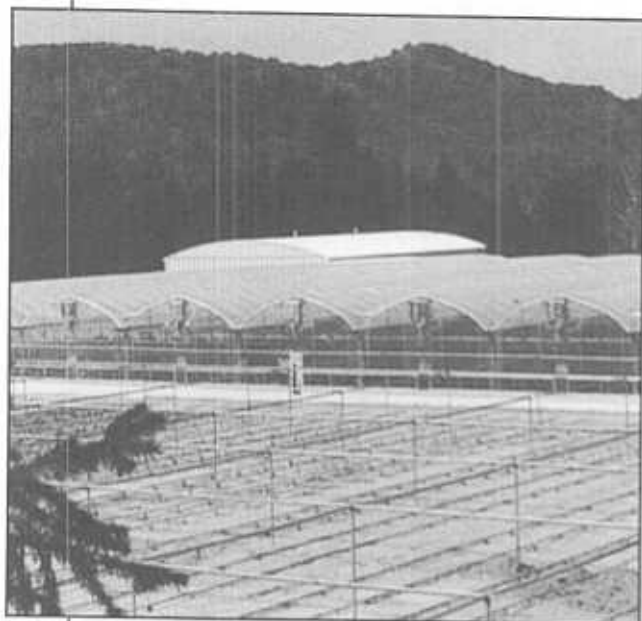
**Xylon I:** The Xylon I cartridge is planted along with the seedling and splits open as the tree grows. The container offers excellent handling characteristics in the nursery and in the field. Seedlings suffer minimal damage as a result of handling, since the seedling need never be removed from the container. The cartridge can be machine planted with International Foretech's Silvaplanters PB II planting machine.

**Xylon II:** The Xylon II container offers improved handling of seedlings, in that seedlings can be singularly processed while still in their protective film casing. This guards against moisture loss and soil-plug deterioration during shipping and handling. Xylon II's are also available in a copper coated form which produces natural seedling root systems. Xylon II can be employed with a supporting rack, or as an insert in conventional containers.

## MANUFACTURER:

International Foretech  
Systems Ltd.,  
120-2620 Simpson Road  
Richmond, B.C.,  
V6X 2P9  
TEL: (604) 273-1243  
FAX: (604) 273-8852

# HARNOIS GREENHOUSE SYSTEMS



*Plastigro tunnels are an inexpensive way to cover a large growing surface.*

Harnois are manufacturers of greenhouses, shade-houses, shelters, irrigation equipment, control, heating, artificial snowmaking equipment, and complete turnkey projects. The Company's technical department will design special structures to meet buyers needs. Harnois Industries manufactures the Nordique, a gutter connected greenhouse, Plastigro tunnels, and the Harnois shadehouse structures.

## Operational Specifications

The Nordique is a gutter connected greenhouse, with oval shaped ribs for strength, and curved purlins to promote natural snow shedding. It can be covered with a combination of materials.

The Plastigro can best be utilized for reforestation, usually using a single film cover. Easy to assemble of galvanized, tubular steel with ends interconnecting. Parts are also easy to transport, as they are a maximum 15 feet long.

Shadehouses are all galvanized steel and can cover areas of all sizes. They are available in basic spacing of 6.1 m (20 ft) x 6.1 m (20 ft), and 7.3 m (24 ft) x 7.3 m (24 ft). Other dimensions are available on request.

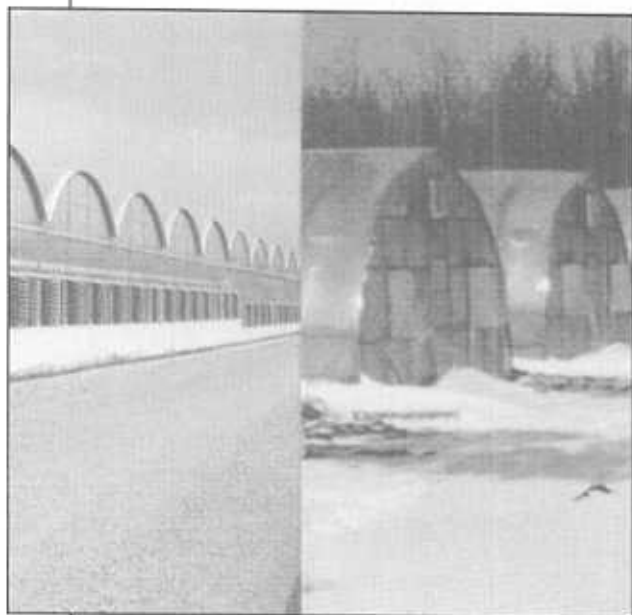
## MANUFACTURER:

Harnois Industries Inc.  
1044 Principle St.  
P.O. Box 150  
St-Thomas (Joliette), Qu  
J0K 3L0  
TEL: (514) 756-1041  
FAX: (514) 756-8389

## Particular Specifications

Model	Nordique 21	Plastigro
Width, ft (m)	6.5 (21.3)	7.62 (25) 9.14 (30)
Side Height, m (ft)	2.44 (8)	
	3.00 (10)	
	3.66 (12)	
Span length, m (ft)	7.06 (23.17)	11.2 (37) 12.9 (42.3)
Centre Height, m (ft)	4.11 (13.5)	3.2 (10.3) 3.5 (11.5)
	4.72 (15.5)	
	5.33 (17.5)	

## VARY GREENHOUSE SYSTEMS



*Vary gutter-connected greenhouse installation on the left and the Vary free standing greenhouse on the right. Vary greenhouses are shipped to the purchaser ready for field assembly.*

The Company are manufacturers of the Vary's Gothic Arch, freestanding, and gutter-connected greenhouses; Thermofilm IR covering; Vary pro-fit rolling bench; Root Zone bottom heat systems; Vary circulating fans and ventilation products; Vary Hi-Light H.I.D. 400 watt lamps, and the Vary shade system.

### Particular Specifications

The Vary gutter-connected greenhouses, have a gothic arch design, and consist of an energy truss of cast aluminum post tops with bolt through columns, and 6.4 cm (2½ in.) square pre-drilled columns, 3.4 m (11 ft.) in height. Vary greenhouses are available in 6.4 m (21 ft), 7.3 m (24 ft), and 8.4 m (27½ ft.) widths, and will accommodate all the latest greenhouse production equipment. All models come pre-drilled for easy assembly. Vary offers a choice of sizes and coverings to meet individual needs.

Vary's free-standing greenhouses, use a standard extruded aluminum base, incorporating Polylocking channel. The Polylock is designed to make installation of polyethylene easy, by simply snapping it between the inner and outer strips, in any combination of up to 16 mils thick.

The Vary Pro-Fit rolling bench is designed to maximize growing area within the modern greenhouse environment. The benches are of hot-dipped galvanized expanded metal adaptable to the Vary Root Zone bottom heat systems.

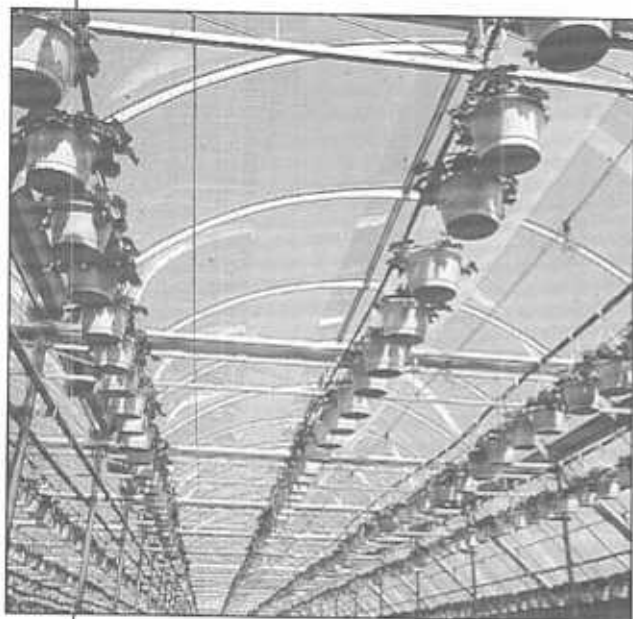
The Root Zone bottom heat system is a micro climate, hot water heating system supplying heat to the root area of plants. While warming the roots, the warm air rises through the soil and also heats the foliage promoting faster and more vigorous growth. The system utilizes a patented synthetic rubber tubing to circulate the hot water. Root Zone Tubing is available in three different styles: regular, having an outside diameter of 0.64 cm (¼ in.) suitable for most bench growing applications, regular Root Zone Tubing with a built-in flange for wooden bench operations where the grower simply staples the flange to the slats, and Root Zone Supertube with an outside diameter of 2.5 cm (1 in.) which can be buried in the soil beneath in-ground crops.

Vary uses Grundfos or Taco pumps to push hot water through the Root Zone system. Vary can supply such auxiliary equipment as boilers, heat exchangers and electronic modulating mix valves. The Company also manufactures circulating fans and motorized shutters to promote air movement in greenhouses.

### MANUFACTURER:

Vary Industries,  
317 South Service Rd. W.  
Gimsby, Ont.,  
L3M 4N6  
TEL: (416) 945-9691  
FAX: (416) 945-2313

# THE WESTBROOK GUTTER-CONNECTED GREENHOUSE



*The Westbrook gutter-connected greenhouse available in double poly or curve tempered glass.*

Westbrook Systems manufacture greenhouses in 5.5 m, 6.4 m, 7.3 m, 9.1 m, and 11.0 m (18, 21, 24, 30 and 36 foot) widths, with roof cladding in poly, acrylic, or tempered glass, curved to the arch.

The Company also produces a complete line of shade, heat retention, humidity and blackout curtains; grow carts, rolling and stationary benches (trough, Ebb and Flow, and expanded metal surface), heating, grow lights, ventilation, fogging, irrigation, mono rail systems and more.

## Operational Specifications

Westbrook gutter connected greenhouses come in double poly, and the 5.5 m and 6.4 m width models are also available in curve tempered glass.

Westbrook rolling benches are available in expanded metal, covered; trough, or ebb and flow types.

Westbrook gothic-style free standing greenhouses are available in 9.1 m (30 ft) widths, as well as custom sizes.

A durable, well constructed ventilation system, that can economically move the volume of CFMs required, is also available.

## Particular Specifications

Widths available m (ft) 5.5 (18) 6.4 (21) 7.3 (24)

Arches: a. 1"x3"x16 gauge galvanized steel set at 6' spacing  
b. 1"x3"x14 gauge galvanized steel set at 6' spacings

Trusses: a. 10" high 1 1/4"x1 1/4" square tubing with 3/8" rod webbing  
b. 1"x2"x14 gauge galvanized steel

Gutters: 11" wide x 5 1/2" deep x 12 gauge galvanized steel, joggled and pre-punched for easy assembly.

Roof Cladding: a. 6 mil three year CIL Durafilm poly  
b. 4 mm tempered glass 6'x10' in size and curved to arch profile

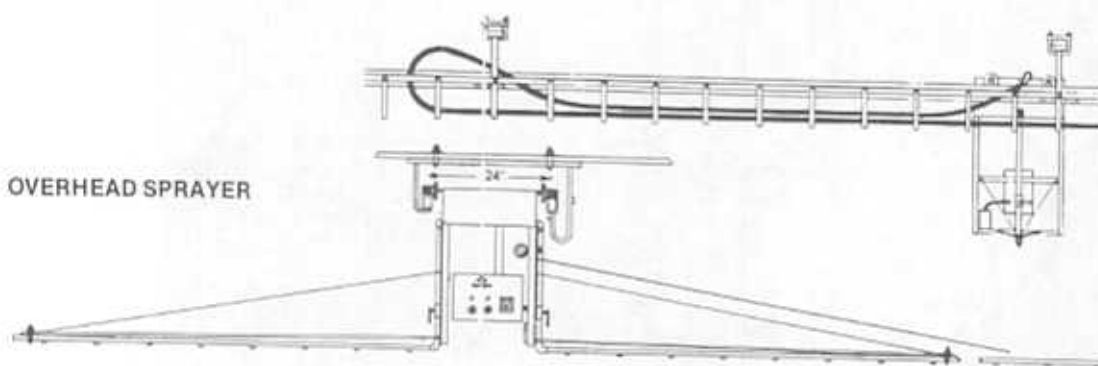
Fan: Blade dia. 24" to 54" fitting panel sizes 30"x30" to 60"x60"

## MANUFACTURER:

Westbrook Greenhouse Systems Ltd.,  
270 Hunter Road,  
P.O. Box 99,  
Grimsby, Ont.  
L3M 4G1  
TEL: (416) 945-4111  
FAX: (416) 945-6564  
TELEX: 061-5291

# ANDPRO SPRAY-RITE NURSERY SPRAYERS

OVERHEAD SPRAYER



*The travelling boom greenhouse sprayer suitable for ground level, overhead, bench height or outdoor installations. The sprayer travels the length of the greenhouse, reversing direction automatically at each end, until switched off.*

Andpro manufactures nursery sprayers to irrigate, mist, fertilize and apply chemicals. Additional Andpro equipment consist of manual and stationary spray booms; portable injector systems, including agitator and material handling systems, including mono-rail, carts and conveyors.

## Particular Specifications

Andpro travelling boom sprayer is available for any clear span greenhouse up to 12.8 m (42 ft.) wide and 91.4 m (300 ft.) long.

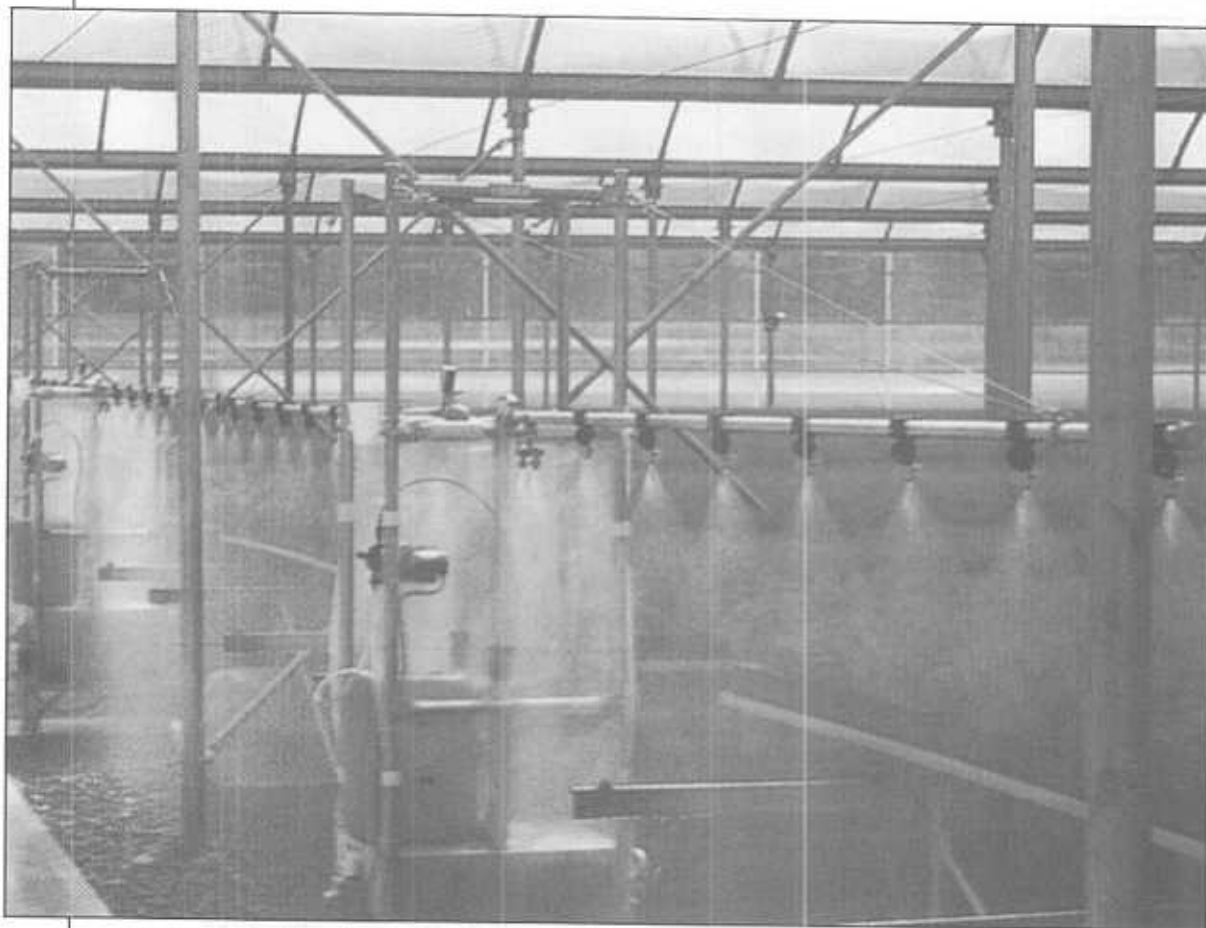
The uniform spray patterns of the units, enable fertilizers, and wettable powders to be applied.

Drive	110 V electric motor with reverse
Speed	3, 4, 4.6 or 5.5 m/min (10, 13, 15 or 18 fpm)
Spray Nozzles	Equally spaced along the boom with tip capacities varying from .38 to 5.4 l/min at 28 124 kg/m <sup>2</sup> (40 psi.) liquid pressure
Optional Features	Boom height adjusts 406 mm (16 in.) at 51 mm (2 in.) increments Preselect capability for watering certain areas Computer capability to connect to main terminal Complete set of misting tips with gaskets, strainers and colour coded caps Supports for H.P.S. lights

## MANUFACTURER:

Andpro Ltd.,  
RR#4,  
Waterford, Ont.  
N0E 1Y0  
TEL: (519) 443-7466

## HARNOIS GREENHOUSE ACCESSORIES



*The Harnois Aquaboom designed for all greenhouses and shadehouses, achieving watering uniformity plus accurate fertilization.*

### Particular Specifications

#### Aquaboom

Corrosion free all aluminum casing  
Fast adjustment of watering height  
Chain driven and rubber wheels  
38.1 cm (15 in.) spacing, no-drip nozzles  
Adjustable speed, 2.4 m (8 ft) to 9.1 m (30 ft)/min.  
Aisle width from 45.7 cm (18 in.) to 61 cm (24 in.)

#### Options

Fertilizer injector  
Benches  
Trays rolling on benches for higher production (inside the greenhouse)  
Under the shadehouse, special tracks receive the rolling trays  
Transportation Racks  
Unique transportation rack designed specially for reforestation containers permitting a maximum number of plants to be transported in a minimum amount of space. Each shelf is removable, lockable, height adjustable, and has a capacity of 10 containers of plants. The rack can hold up to 8 shelves, and is easy to handle with the help of a fork lift.

The Company are manufacturers of greenhouses, shadehouses, shelters, irrigation equipment, controls, heating equipment, artificial snowmaking equipment, and complete turnkey projects. The Company's technical department will design special structures to meet buyers needs. Harnois manufactures the Nordique, a gutter connected greenhouse, Plastigro tunnels, and the Harnois shadehouse structures, Aquaboom, Benches, and Transportation Racks.

### MANUFACTURER:

Harnois Industries Inc.  
1044 Principle St.  
P.O. Box 150  
St-Thomas (Joliette), Que.  
J0K 3L0  
TEL: (514) 756-1041  
FAX: (514) 756-8389

## NURSERY SEEDLING HARVESTER



*The Hovey 8-row seedling harvester with dual side conveyors.*

Hovey Industries manufactures the 8-Row seedling harvester with dual side conveyors.

PRICE: Approx. \$50,000. to \$60,000. F.O.B. Ottawa, Ont., 1988.

### Particular Specifications

Height	2.3 m (7.5 ft)
Length	4.8 m (15.7 ft)
Width (without conveyor)	2.3 m (7.5 ft)
Weight	1500 kg (3,307 lb)

### Operational Specifications

The nursery seedling harvester lifts seedlings at ground speeds of 5 m/min to 12 m/min. It requires approximately 26.1 kW (35 BHP) at PTO speed of 540 RPM to drive the hydraulic system.

The pulling tractor must have a hydrostatic transmission.

Available in 6, 7, and 8 row configurations.

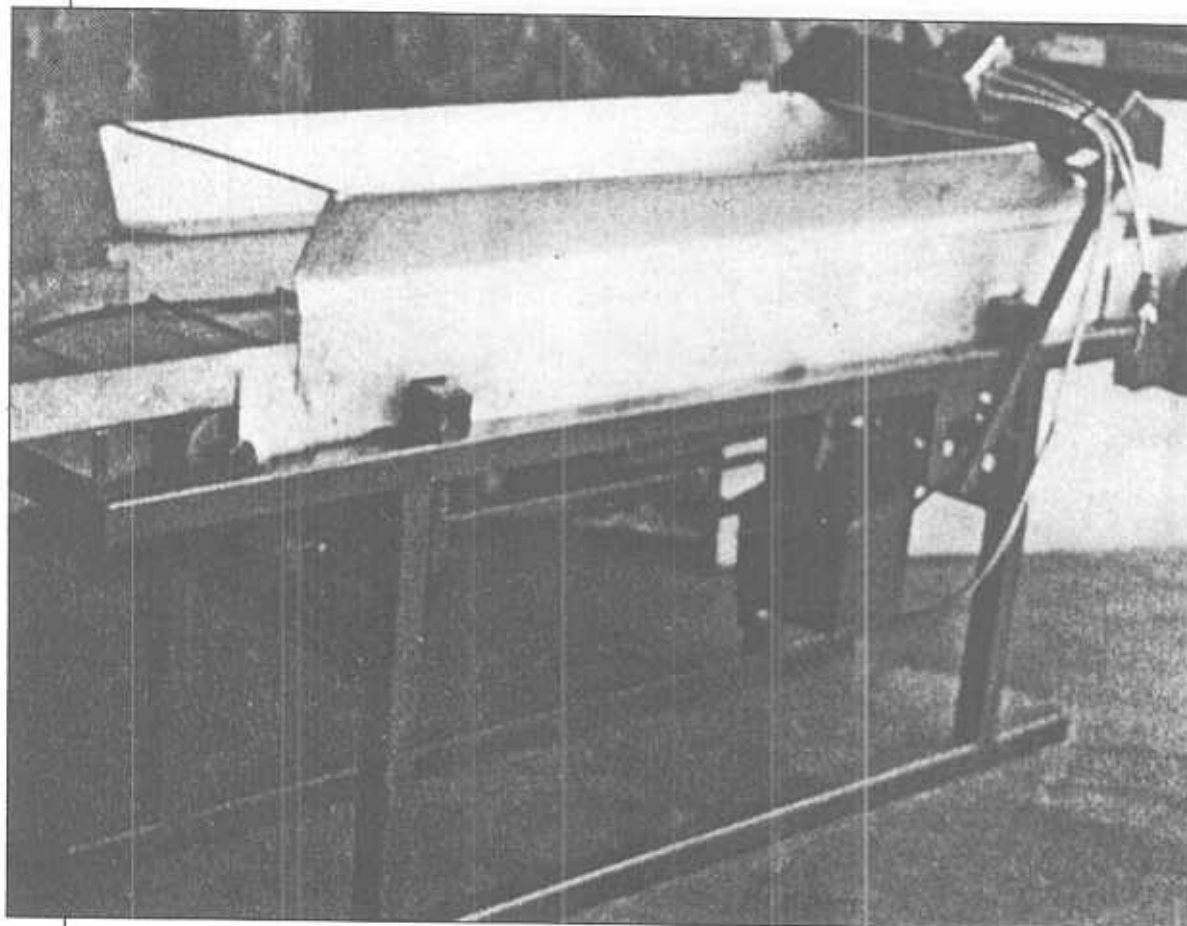
### MANUFACTURER:

Hovey Industries Ltd.,

2378 Holly Lane,  
Ottawa, Ontario  
K1V 7P1

TEL: (613) 731-1200  
FAX: (613) 731-0851  
TELEX: 053-4740

# SPENCER-LEMAIRE GERMINATION BOXES AND FILLING MACHINES



*Petawawa Style Germination Box and the Spencer Lemaire Filling Machine.*

## Particular Specifications

The germination boxes are modelled on the Petawawa Forest Institute's specifications

Inside useful size is : 22 x 25 cm (9 x 10 in.)

Prices \$ CDN

Lid: Polycarbonate 2.65 ea.

Base: 4.25

Grille: 1.75

Set: 8.00 ea.

The Spencer-Lemaire filling machine is adaptable to any kind of container system.

Length 2.4 m (8 ft)

Width 0.8 m (2.5 ft)

Height 1.1 m (3.75)

Conveyor Dayton gearmotor

Cam Drive Leeson 1/3 hp, heavy duty motor

Price, F.O.B., Edmonton (1988) \$4,500 CDN

For standard roottrainer sizes, the tray filling machine averages 500 trays per hour.

Spencer-Lemaire manufactures Roottrainer seedling germination and container systems, as well as germination boxes and filling machines.

## MANUFACTURER:

Spencer-Lemaire  
Industries Ltd.

11413 - 120 St.

Edmonton, Alta

T5G 2Y3

TEL: (403) 451-4318

FAX: (403) 452-0920

TELEX: 037-2966

## NOVA SYLVA MULTIPOT BACK TRANSPORTER



*Nova Sylva Back Transporter carries up to eight Multipot seedling containers.*

PRICE: F.O.B. Montreal, Approx. \$100.00, immediate delivery, (1988)

### Particular Specifications

Height	54 cm (21 in.)
Width	80 cm (31.5 in.)
Weight	4 kg (8.8 lbs)

### Operational Specifications

The Nova Sylva back transporter carries up to eight 45 or 67 cavity Multipot containers. Each container slides into a steel holder. A mobile leg maintains the transporter in the upright position while loading and unloading. The heavy duty anodized aluminum frame is S-shaped for comfort.

## MANUFACTURER:

Nova Sylva Inc.,

P.O. Box 1624,  
1587 Denault St.,  
Sherbrooke, Quebec  
J1H 5M4  
TEL: (819) 821-4617  
FAX: (819) 821-4671

## FORESTRY TANDEM TRAILER/SEEDLING CARRIER



*Nova Sylva seedling carrier.*

PRICE: F.O.B. Montreal, approx. \$1600, 2 weeks delivery. (1988)

### Particular Specifications

Height	1.5 m (5 ft.)
Length	2.25 m (48"x88") (Box)
Weight	Approx. 159 kg (350 lb)
Wheels	4 x 20.5 x 8.0-10 4 ply tires

### Operational Specifications

The forestry tandem trailer, has a seedling rack capable of transporting 90 Multipot containers, on or off-road. The tandem bogies, help maintain a relatively level load over rough terrain. The seedling box can be replaced with posts for log hauling. The unit is shipped disassembled.

### MANUFACTURER:

Nova Sylva Inc.,  
P.O. Box 1624,  
1587 Denault St.,  
Sherbrooke, Quebec  
J1H 5M4  
TEL: (819) 821-4617  
FAX: (819) 821-4671

## CLIMBING TREE DELIMBER/DEBARKER



*Climbing Tree Saw and Debarker. This machine prunes limbs on the way up the tree, and debarks the bole on the way down.*

### Particular Specifications

In operation, after the tree saw is placed on the tree, it climbs the tree, and removes the branches on the way up. At a predetermined set height, the machine reverses direction, activates the debarker which removes the bark on the way down.

Performance figures and costs from field tests, indicate the cost effectiveness of this approach in controlling infestations of Pine beetles, so that the beetle larvae are either killed mechanically or are subject to lethal temperature variation, starvation or predation. Other possible uses of this machine are as a portable hydraulic power source.

Operating tree size ranges from 18 to 39 cm (7 to 15.5 in.) diameter. The climbing rate is 2.9 m/min. (9.5 fpm.). Branches up to 7.6 cm (3 in.) can be cut. Track drive, using modified roller chain, is mounted on a frame and gimbaled horizontally. The power is provided by the Husqvarna 181 power head.

For further technical and operational information, see Technical Note No. TN-81, FERIC, Vancouver, B.C., The Development of a Climbing Tree Delimber/Debarker, D.C. Molson, January, 1985.

The Company manufactures small silviculture equipment for pruning trees.

### MANUFACTURER:

Seymour Engineering Ltd.

930 Sherwood Ave.,  
Coquitlam, B.C.

V3K 1A8  
TEL: (604) 521-5409  
FAX: (604) 525-5725

## A2 FORESTER



*The A2 forester is specifically designed for forestry and silviculture, and will mulch stumps and slash into two rows, to prepare the forest sites for replanting. The rototilling action puts the nutrients back into the soil, up to 230 mm (9 in.) in depth, thus preventing regrowth for several years.*

The A2 Forester is Canadian in concept, design and manufacture. It is specifically designed for forestry and silviculture applications and is different from the Rotoclear Machine, which is manufactured for use in land breaking and agriculture.

The rotor in the Forester model A2, is 3 m (10 ft.) long, instead of the shorter 2.3 m (7.5 ft.) length of the Rotoclear Machine. This machine is also hydrostatically driven, instead of the mechanical drive on the Rotoclear, which permits the user of the A2 better control of the speed of the rotor.

PRICE: Approx. \$350,000 F.O.B. Calgary, Alta. (1988)

### Operational Specifications

The A2 Forester was originally designed and manufactured for the Canadian Forest Service in order to prepare forest sites for replanting.

The cutting portion of the rotor is the outer 914 mm (3 ft.) on each end, leaving a protective area in the centre. The machine will chew, mulch and bury stumps, roots and underbrush under the soil to a depth of 230 mm (9 in.) or less, leaving the top soil ready for planting. An important feature is that the machine will fragment and mulch stumps measuring up to the width of the rotor, providing they are cut no higher than 127 mm (5 in.) above the ground.

Its many uses are in land clearing, scarification, site preparation and slash disposal.

### Particular Specifications

Height	2750 mm	9 ft.
Width	4110 mm	13.5 ft.
Length	9750 mm	32 ft.
Weight	14.73 Imp. Tons	33,000 lb.

Rotor:	
Width, m (ft)	3.05 (10)
Cutting on each end, m (ft)	0.9 (3)
Diam. incl. teeth, cm (in.)	79 (31)
Teeth	44 self sharpening, knock out replacement
Pockets	44 taper wedge
Drum, cm (in.)	50.8 (20)
Depth of cut, cm (in)	0 to 22.8 (0 to 9)
Rotor Speed, rpm	380

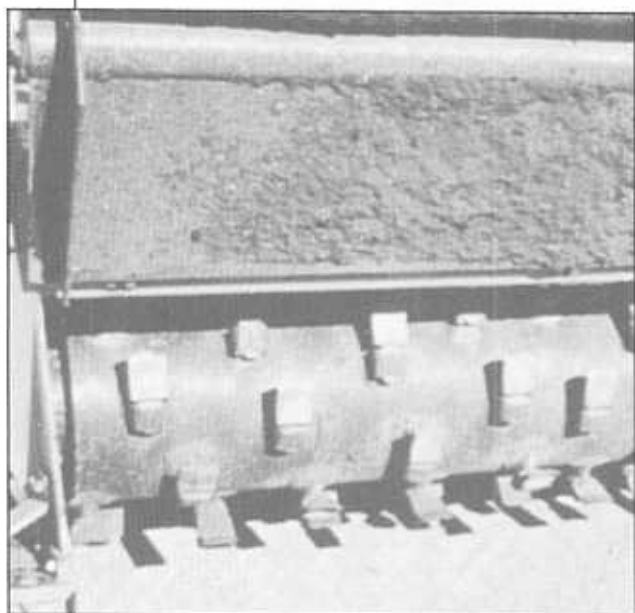
### Mechanical Specifications

Engine	8V-92T Detroit Diesel, Silver, 358 kW (480 hp) @ 2000 RPM
Hydrostatic Drive System	Hagglund Dennison Pump Series P24P, Model C with Sundstrand SMA Motors
Electrical System	24 volt alternator
Tires	73-4400-32 H16 Logger( 185.4x11176-8128 cm)
Fuel tanks, L (Imp. gal)	1113.7 (245)
Hydraulic tanks, L (I. gal)	1000.12 (220)

### MANUFACTURER:

Roto International Corporation Inc.,  
6 3834 54 Avenue S.E.  
Calgary, Alta.  
T2C 2K9  
TEL: (403) 279-7759  
FAX: (403) 236-5214

# ROTOCLEAR MACHINE



*The RotoClear is a 6.7 m (22 ft), 9,980 kg (22,000 lb) roto-tiller specifically designed to mulch tree stumps and slash, and scarify soil for use in landbreaking and agriculture.*

The Madge RotoClear is Canadian in concept, design and manufacture. It can clear, mulch surface growth, under rigorous conditions of climate and terrain. Used in agricultural-forestry, environmental management. It is also available as the A2 Forester, which is specifically designed for forestry and silviculture (see A2 Forester).

PRICE: Approx. \$150,000 F.O.B. Calgary, Alta (1988).

## Operational Specifications

The RotoClear can be pulled by a four-wheel drive tractor, track-type tractor or all-terrain vehicle. The pulling vehicle should be equipped with a blade or roll bar, to push down the timber or underbrush. Standing trees up to 1524 mm (5 ft.) diameter can, in this way, be mulched in one pass by the RotoClear. The RotoClear Machine has been used throughout Canada, the United States, Mexico, Columbia, Argentina and West Germany for land clearing, reforestation, land reclamation and for mixing soil ingredients for road work, for more than 15 years.

The machine will chew, mulch and bury stumps, roots and underbrush under the soil to a depth of 230 mm (9 in.) or less, leaving the top soil ready for planting. Quite often prior to seeding, the soil is packed or lightly raked, as the rotor fluffs it up to approximately 305 to 356 mm (12 to 14 in.). An important feature is that the machine will fragment and mulch stumps measuring up to the width of the rotor, providing they are cut no higher than 127 mm (5 in.) above the ground.

## Physical Specifications

Length	6850 mm (22.5 ft.)
Width	3000 mm (9.7 ft.)
Height	2750 mm (9.0 ft.)
Shipping Weight	9980 kg (22,000 lb.)

## Mechanical Specifications

Engine	8V-92T GM Diesel 317 kW (425 HP) @ 2350 RPM
Rotor	
Width	2300 mm (7.5 ft.)
Diameter	790 mm (2.58 ft.)
Options	8V-71 GM Diesel 318 HP @ 2100 RPM 8V-71 GM Diesel 365 HP @ 2350 RPM Special rotors on request

## MANUFACTURER:

Roto International  
Corporation Inc.,  
6 3834 54 Avenue S.E.  
Calgary, Alta.,  
T2C 2K9  
TEL:(403) 279-7759  
FAX: (403) 236-5214

# PERCHERON M2M MECHANICAL DISC TRENCHER



*The Percheron I.C.L. M2M mechanical disc trencher*

## Specifications

Overall length, cm (in.)	198 (78)
Overall height, cm (in.)	305 (120)
Overall width, cm (in.)	137 (54)
Angle, degrees	30
Disc diam. incl. teeth, cm (in.)	99 (39)
No. teeth/disc	10
Disc tooth length, cm (in.)	33 (13)
	1.8 to 2.0 m
Disc spacing, m (ft)	(5.9-6.6 ft)
Bottom frame to ground clear, cm (in.)	112 (44)

## Mechanical Specifications

Prime mover required, kW (hp) 96 (130)

## Operational Specifications

The Percheron disc trencher can be applied under severe conditions such as ground covered with stumps, rocks, debris, thick duff and very hilly areas.

The disc trencher will create simultaneously two continuous furrows. Five different adjustments can be made to narrow or control the depth penetration of the two discs in order to obtain the proper micro-site exposure for tree planting, or direct seeding.

The standard type, model M2M, is directly bolted to the prime mover and can be lifted off the ground, by the transporter winch, for forest manoeuvring, and also for long distance transportation. The M2M-Qd model, with quick disconnect coupling, enables the prime mover operator to readily disconnect or fully re-engage the disc trencher. This is particularly useful where severe conditions are likely to be encountered, such as swampy areas, steep slopes, and forest sites where large quantities of debris, boulders, stumps are likely to be encountered.

The Percheron disc trencher is available in models M2M directly bolted to the prime mover and model M2M-Qd, quick disconnect coupling type.

Disc trenchers are continuous row scarifiers that attach to the rear of a prime mover. They are adaptations of agricultural discs for forested site applications.

## MANUFACTURER:

Industries Couture Limitee

2007 boul. Talbot  
C.P. 460  
Chicoutimi, Que.,  
G7H 5C8  
TEL: (418) 549-2850  
FAX: (418) 549-1076  
TELEX: 051-36122

## CANADIAN FORESTRY EQUIPMENT DISC TRENCHER



*The CFE Disc Trencher, a continuous row scarifier, that attaches to the rear of a crawler tractor.*

C.F.E. manufactures, sells and leases a complete line of silvicultural site preparation equipment. In addition to scarifiers, disc trenchers, rakes and plows, the Company handles brush cutters, sprayers, herbicide attachments for disc trenchers, silvicultural prime movers and carriers, and fire pump kits.

### Particular Specifications

Length, m (ft)	2.3 (7.5)
Width, m (ft)	2.4 (8.0)
Height, m (ft)	1.2 (3.9)
Weight, kg (lb.)	3175 (7000)

### Mechanical Specifications

Two freely rotating, non-powered, spring loaded discs. Each disc with 10 rounded teeth.

The disc angle can be adjusted to alter the width and depth of the furrow.

Soil penetration is increased by adding weight to steel box frame.

### Operational Specifications

The disc trencher produces parallel furrows generally 1.8 m (5.9 ft) to 2.4 m (7.9 ft) apart, depending on the model. Furrows average 10-15 cm (3.9-5.9 in.) in depth. Generally trees can be subsequently planted at the bottom, or sides of the furrow.

Disc trenchers work best on moderately wet to moderately dry sites, with silt loam and coarser soil textures, and light to medium slash. Disc trenchers are good for reducing grass competition, reducing duff and improving soil temperature.

### MANUFACTURER:

Canadian Forestry  
Equipment Ltd.

17212 - 106 Ave.,  
Edmonton, Alta.,  
T5S 1H9  
TEL: (403) 484-6687  
TELEX: 037-3302

## LE CRABE FOREST HARROW



*Le Crabe Forestry Harrow used to maintain hydro lines instead of chemical approaches*

Les Entreprises Protege-Sol manufactures the Crabe forestry harrow, as well as the Crabe Forwarder. The Crabe Harrow is available in two models: 2.43m (8 ft.) and 3.65m (12 ft.) sizes.

PRICE: Approx. (1988) F.O.B. Montreal, Que. \$45,000.

### Particular Specifications

Height, m (ft)	1.8 (6)
Overall Length, m (ft)	3.7 (12)
Maximum Width, m (ft)	2.43 (8) or 3.65 (12)
Weight, kg (lb)	3,000 (6,614)

### Operational Specifications

The forest harrow is available with 61.0 cm (24 in.), 76.2 cm (30 in.) or 91.4 cm (36 in.) diameter discs attached to the frame, with each disc independently mounted so it can ride over obstacles as found on the forest terrain.

The harrow prepares, revitalizes, and scarifies land in preparation for tree planting, or for just putting it back as agricultural land. It has also been utilized very successfully to maintain hydro lines, replacing the more often applied chemical methods. In tropical climates, it is used in sugarcane applications.

### MANUFACTURER:

Les Entreprises Protege-Sol Inc.

621 Joncas  
Laval, Que.  
H7X 2R2  
TEL: (514) 386-8461

## HAWK POWER SCALPER



*The Hawk Power Scalper chain saw attachment for spot scarification, fire guards and weed control. It consists of four double torsion springs mounted on a specially designed hub which rotates at 5000 r.p.m.*

A chain saw attachment for spot scarification, fire guards, and weed control using a power scalper.

### Particular Specifications

The Hawk Power Scalper is especially useful in small remote areas; inaccessible areas; wet blocks; steep grades, gullies, heavily stumped blocks, where site preparation of timber stands for tree plantations is required. The operator has direct control in making a plantable microsite at optimum depth and location. The powerful, light weight scalper, makes hand fire guards an easy job, with savings in fire control costs.

This is an alternate method to the traditional use of herbicides in weed and brush control.

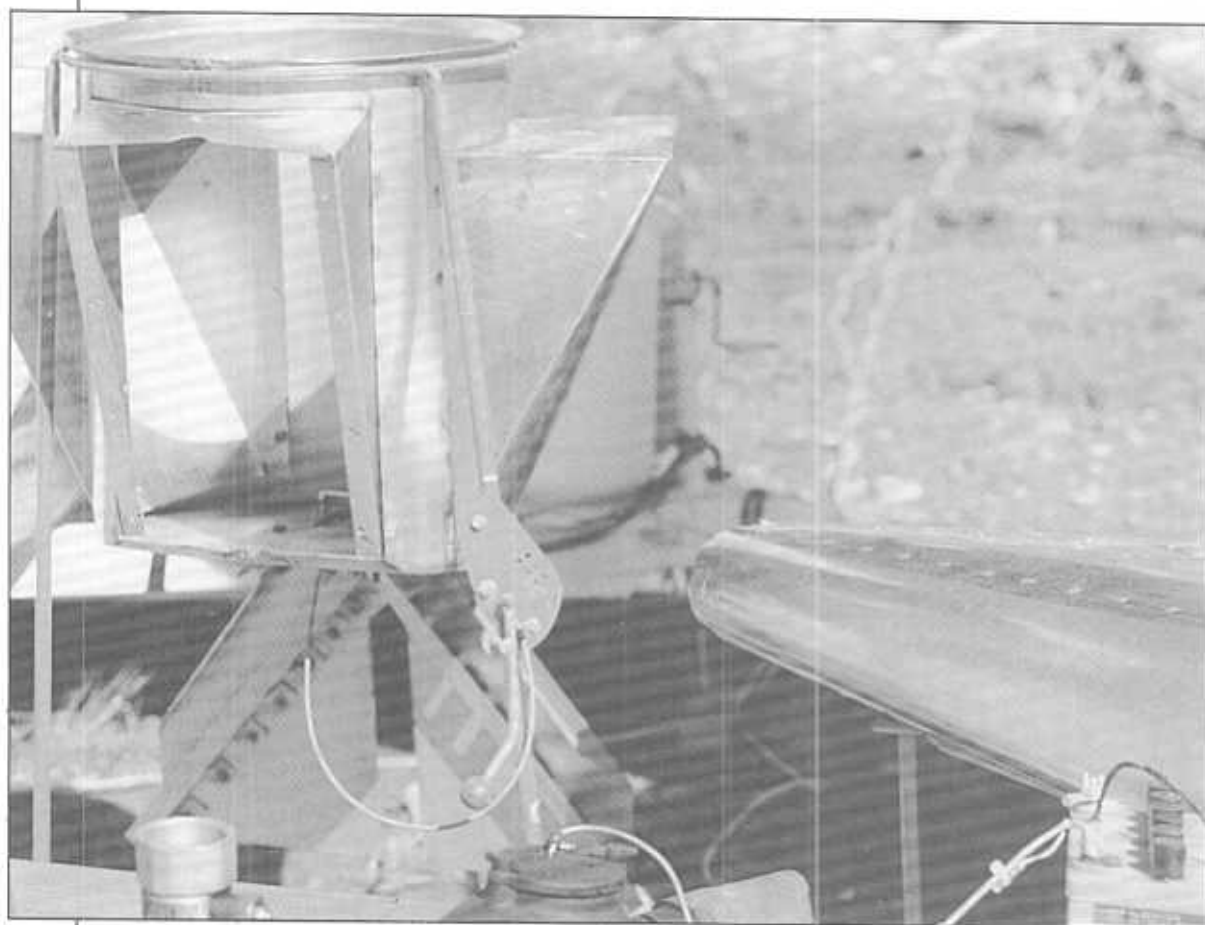
Detailed information is available in FERIC, Montreal, Que., Field Note: Silviculture No. 5.

### MANUFACTURER:

Hawk Forest Enterprises Ltd.,

2282 South Nicholson Street  
Prince George, B.C.  
V2N 1V8  
TEL: (604) 563-5765

## AGRIC AERIAL SEEDER



*The Agric Air's Aerial Seeder used to broadcast softwood seeds, mounted on the Piper Pawnee.*

### MANUFACTURER:

AGRIC AIR Inc.  
King City, Ontario,  
LOG 1K0  
TEL: (416) 832-1519  
TELEX: 05-830507

Designed for aerial, softwood seed dispersion by Piper Pawnee, but is adaptable to other small aircraft.

The Company are specialists in air spraying of forest and field crops, and also in the design and construction of aerial attachments for planes to meet particular needs.

#### Specifications

Dispersion rate: No. seeds/ha(ac) 24,700 to 37,050 (12,000 to 15,000)  
(Jack Pine)  
Dispersion controls from the pilot's cockpit

## R.M.L. STUMP CHIPPER



*R.M.L. mobile stump chipper.*

### Particular Specifications

Length	4115 mm (162 in.)
Width	1803 mm (71 in.)
Height	2032 mm (80 in.)
Weight	1710 mm (3700 lb.)

### Mechanical Specifications

Engine	Wisconsin V465D, 65 HP @ 2500 RPM max.
Fuel Tank	94.6 litres (25 gallons)
Hydraulic System Tank	15.1 litres (4 gallons)
	635 mm (25 in.) diameter x 22 mm
Chipper Disc	(7/8 in.) thick 32 carbide teeth

### Operational Specifications

The integral mounted trailer meets Ontario and Quebec highway standards, and includes running lights, electronic brakes, telescopic trailer shaft, 8x14.5x12 ply tires, as well as a ball and socket trailer hitch.

Rodrique Metal specializes in carbide tipped saws, cutter heads and specialty knives, as well as chippers and hammermills.

### MANUFACTURER:

Rodrique Metal Ltée.  
256 rue Jacques-Cartier,  
St-Romuald, Quebec  
G6W 3A9  
TEL: (418) 839-0671  
FAX: (418) 839-4132  
TELEX: 05-13786

# GRIZZLY WHOLE TREE CHIPPER



1. Portable whole tree chipper, diesel powered, with hydraulic infeed and safety control bar around the infeed chute, 30 cm (12") dia. capacity

2. Micro switch will not permit engine start up until the shroud covering the chipper disc is securely in place.

The Grizzly model 12.00 whole tree chipper; also available is a special narrow gauge model.

PRICE: Approximately \$27,000, depending on engine and other options, F.O.B. Kelowna. Availability 60/90 days. (1988)

## Particular Specifications

Height cm (in.)	269.24 (106)
Overall Length cm (in.)	375.92 (148)
Maximum Width cm (in.)	182.88 (72)
Ground Clearance cm (in.)	34.29 (13.5)
Tongue Weight kg (lb.)	113.40 (250)
Total Weight kg (lb.)	2671.70 (5890)

## Mechanical Specifications

Engine	60/75 diesel c/w clutch
Starter	Electric start with alternator
Air Cleaner	Donaldson plus Turbo II air pre-cleaner
Power Train	Belts
Chipper Disc	96.52 cm (38 in) X 3.81 cm (1 1/2 in)
Infeed	Two hydraulically driven feed wheels with safety control bar

## Operational Specifications

The Grizzly model 12.00 tree chipper can chip brush or wood up to 30.5 cm in diameter (12 in.). It produces a 1.9 cm (3/4 in) chip which can be rotationally directed 290 deg. The vertical direction of the chips is controlled by a deflector on the end of the discharge chute. An adjustable anvil sets the knife clearance. The control bar around the infeed chute provides the operators with infeed speed control. There is a neutral (stop) position and by pushing the control bar totally forward, the infeed rollers will reverse.

## MANUFACTURER:

Gemaco Sales Ltd. (Mfg. Div.),

991 Ellis Street,  
Kelowna, B.C.  
V1Y 1Z3  
TEL: (604) 762-3939  
FAX: (604) 762-5755

# FANDRICH AERIAL CONE RAKE



The Fandrich Aerial Cone Rake collecting Pacific silver fir cones.

## Particular Specifications

A cone shaped device to be suspended under a helicopter on a 18.3 m (60 ft.) tether. Open at the bottom it slips over about 5m (16 ft.) of crown. As the collector is raised, the cones or branches are removed and subsequently dropped into a surrounding wire mesh basket. The helicopter deposits a collection from several trees at a dumping site, where the wire basket and the fiberglass cutting cone are separated, allowing the branches to fall free.

Typical collecting rates using the Fandrich Aerial Cone Rake:

Species	Collecting Rate hL/hr (bu/hr)	
	Average	Highest*
Grand Fir	17.8 (50)	33.0 (94)
Pacific Silver Fir	17.8 (50)	22.2 (63)
White Fir	16.0 (45)	23.6 (67)
Redwood	9.2 (26)	13.0 (37)
Douglas-Fir	7.0 (20)	15.5 (44)
White Spruce	5.6 (16)	7.7 (22)
Lodgepole Pine	4.6 (13)	6.0 (17)
Mountain Hemlock	4.3 (12)	5.1 (15)
Western Hemlock	3.0 (9)	3.5 (10)
Western Red cedar	3.0 (9)	7.7 (20)

\*Conditions for high collecting rates: heavy cone crop near top of crown, good crop on most trees in stand, heliport close by, with a good external-load pilot.

hL = 1 hectolitre

## Operational Specifications

Helicopters with aerial cone rakes, quickly collect large volumes of cones. The best areas and superior trees are selected from the air, and the harvesting is subsequently undertaken. The rake usually leaves the tops intact, so that they continue to grow and produce more cones.

To be cost-effective, aerial harvesting requires project planning, and constant cone monitoring.

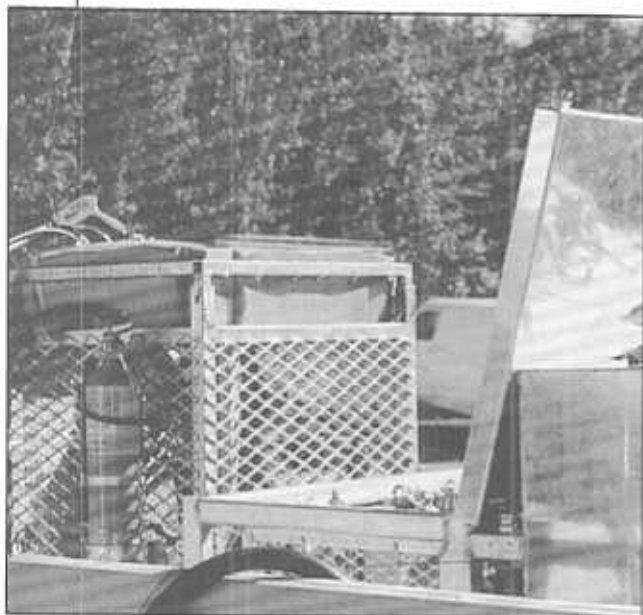
Three variations of the cone harvester rake are manufactured by Fandrich: one cuts branches and cones, one strips branches clean, and a third rakes cones out of the trees.

## MANUFACTURER

Fandrich Cone Harvester Ltd.,

2461 Sunnyside Place,  
Abbotsford, B.C.  
V2T 4C4  
TEL: (604) 859-0666

# LA TERRATORCHE DEBRIS BURNER



*Flame thrower, La Terratorche, used to get rid of logging debris, clean the sides of roads, and in sanitation applications.*

The Terratorch is a flame thrower type of ground ignition device using a gel-gas mixture, mounted on a pick-up truck. Developed by SPIM (Service de la protection contre les insectes et les maladies) of Ministère de l'Énergie et des Ressources (MER) from a concept by the Boise Interagency Fire Centre (BIFC) of Idaho.

## Particular Specifications

Capacity, mixing tank with agitator, L (l. gal) 500 (110)  
Loads gasoline directly from 205L (45.1 gal) drums into reservoir  
Preparation of mix, utilizing 4 L (1.8 kg) of Surefire coagulant gel  
Optimal mixing temperature, 21 deg C (70 deg F)  
Propane ignition system with regulator and tank  
Motor, Honda 6 kW (8 hp)  
Transport vehicle, 4X4 truck, or off-road transporter with 3 - 9 kg (20 lb) fire extinguishers  
Helmet equipped communication system for operators, and with office at all times  
Operators Safety Equipment: Nomex overalls, mask, glasses, and gloves

## Operational Specifications

The operation of the equipment requires 3 persons: the driver, the operator of the flame thrower and a security person.

The flame nozzle can shoot up to 40m (408 ft). The distance is a function of the revolution of the motor.

Only certified and trained personnel are permitted to use the apparatus. All loading of the vehicle normally occurs within 50 m of a water source. Emphasis must be on safety at all times.

Varsol is recommended for cleaning the reservoir after each use.

## MANUFACTURER:

Ministère De L'Énergie et Des Ressources

S.P.I.M.  
1530, boul. de l'Entente  
Quebec, Que.  
G1S 4S7  
TEL: (418) 643-4670  
Fax: (418) 643-2368  
Telex: 051-31556

## R.M.L. BRUSH CHIPPER



R.M.L. brush chipper, mounted on three-point tractor hitch with P.T.O.

R.M.L. Brush Chipper is available in P.T.O. models for hook-up to agricultural tractors; also available in models RM 12x12 and RM 12x16, with chippers mounted on single axle trailers with their own power source, and chippers mounted on truck platforms; and available in 122 cm (48 in.) diameter chippers for sawmills, plane factories, furniture manufacturing and any other mill with wood refuse.

### Particular and Mechanical Specifications

#### R.M.L. 12x12, 12x16 Brush Chippers

Cylinder	High strength C-1040 30.5 cm (12 in.) diam.
Shaft	C-1040, 8.3 cm (3 1/4 in.) diam. 4 knives, high speed, steel
Bearings	Spherical roller bearings
Body	Welded steel 16 mm (5/8 in.) thick. Flywheel 533 mm (21 in.) diameter on shaft
Capacity	Hardwood 11.4 cm (4 1/2 in.) diam.
Chipper Opening	9 1/2 x 11 1/2 in. (model RM 12x12) 9 1/2 x 15 1/2 in. (model RM 12x16)

#### R.M.L. 122cm( 48 in.) Diameter Chippers

Dimensions	From 12.7x12.7 cm (5x5 ft.) to 20.3x20.3 cm (8x8 ft.) Choice of 3 or 6 knives Horizontal or 45 degree sloped inlet
------------	--

Average Production 145 m<sup>3</sup> (40 cords) per hour

### Operational Specifications

These chippers are part of a "Fast Chips" system, which includes the chipper, sifter, cyclone, sawdust exhauster, shavings exhauster and electrical control board.

### MANUFACTURER:

Rodrigue Metal Ltée.,  
256 rue Jacques-Cartier  
St-Romuald, Quebec  
G6W 3A9  
TEL: (418) 839-0671  
FAX: (418) 839-4132  
TELEX: 05-13786

## LA TAUPE CLEARING SAW SCARIFICATION ATTACHMENT



*The Taupe scarification attachment for brush saws, with multiple applications on both farm and forest. In forestry it is most often used to prepare microsites before planting.*

PRICE: Approx. \$26.00 (1988) F.O.B. St-Fidele, Que., (1988).

### Particular Specifications

Diameter 13 cm (5 in.)  
Height 6 cm (2.3 in.)  
Weight 750 g (1.6 lb.)

The Taupe is a trident, mounted on a metallic disc.

### Operational Specifications

The Taupe (mole) is used as a semi-motorized spot scarifier. It is especially useful on steep slopes, wet areas, unstable soils or rocky soils where machine scarifiers cannot go. The Taupe is used for treatment of small areas, at a reasonable cost.

The Company manufactures the Taupe site preparation attachment, adaptable to all professional type clearing saws.

### MANUFACTURER:

Innovations Forestières 3  
R Inc.,

401 Cap St-Fidele, St-  
Fidele,  
Quebec G0T 1T0  
TEL: (418) 434-3435

## BALDERSON-FLECO BRUSH BURNER



Heavy duty brush burner (trailer is optional)

The Balderson-Fleco brush burner is available in standard and heavy duty models, BHD5284 and BBBP5285.

### Operational Specifications

Used to induce a draft when burning slash. A spray of fuel oil can be added to ensure a rapid start of the burn.

The brush burner has a valve to control fuel supply for safer burning, a nozzle holding rod that can be engaged at the best spot, and a propeller that feeds air into the brush pile.

The heavy duty trailer mounted model can be rotated 360 deg. and tilted 30 deg. for accurate positioning.

### Specifications

	BHD	BBB
Model	Wisconsin	Briggs & Stratton
Engine	10.4 (14)	2.2 (3)
Power, kW (hp)	1067 (42)	762 (30)
Propeller, mm (in.)	2265 (80,000)	650 (23,000) Fuel
Fan Rating, m <sup>3</sup> /m (ft <sup>3</sup> /m)	228 (60)	114 (30)
Pump Capacity, Lph (gph)	340 (750)	95 (210)
Weight, kg (lb)		
Optional: Trailer, 3886x84 mm (153x84 in.)		

### MANUFACTURER:

Balderson Canada Ltd

6400 30th Street,  
Edmonton, Alta.,  
T6P 1J6  
TEL: (403) 469-9185  
FAX: (403) 469-9256

## POCKET CYCLONE



*Weldco Pocket Cyclone aids in the burning of stumps and slash.*

### Particular Specifications

Weight: kg (lb)	24 (52)
Height: cm (in.)	86 (34)
Width: cm (in.)	69 (27)
Length: cm (in.)	64 (25)

### Mechanical Specifications

Engine: kW (hp)	2.2 (3), 4-cycle Briggs & Stratton
Propellor: cm (in.)	61 (24) diameter, 2-blade
Air Capacity:	18,000 CFM at full throttle, 6000 idle
Air Velocity: kph (mph)	39 (24) with full throttle, 13 (8) mph idle

### Operational Specifications

The cyclone speeds up combustion of brush, stumps, slash, refuse, etc. It controls smoke where fires have been set near highways or populated areas. It exhausts fumes from buildings under construction, and aids almost any kind of drying operation.

The Model PC-1C Pocket Cyclone incorporates a belt driven pump, plus filter and nozzle for spraying diesel fuel to assist burning.

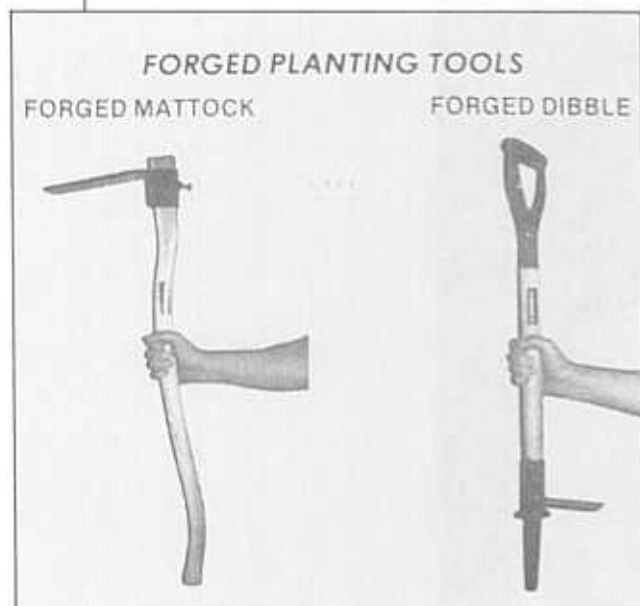
Weldco-Beales pocket cyclone is available in the standard Model PC-1A brush burner. Also available as Model PC-1C which sprays diesel fuel to ensure rapid starts.

### MANUFACTURER:

Weldco-Beales

#410 - 6450 Roberts St.  
Burnaby, B.C.,  
V5G 4E1  
TEL: (604) 294-2222  
FAX: (604) 294-1292  
TELEX: 04-55103

# FORGED PLANTING TOOLS, DIBBLE AND MATTOCK



A. & M. Steelcraft forged planting dibble (right), and forged mattock (left).

Mattocks and hoes are versatile and inexpensive tools used for manual site preparation or improvement before planting.

Both the dibble and mattock are available with or without handle. Dibble in Styro # 2, # 4 and # 8, in mudpack # 1 and # 2. Mattock with or without bolt.

A and M Steelcraft also manufactures picaroons (with or without hammerheads) from a weight of 255 to 595 g (9 to 21 oz.) with handles ranging from 406 to 914 mm (16 to 36 in.). As well, the Company manufactures bull hooks (straight, swivel and cross-eye), shackles (bull hook and butt rigging).

PRICE: 1988 base, plus Federal and Provincial taxes

	With Handle	Without Handle
Styro No. 2	\$36.00	\$26.00
Styro No. 4	\$40.00	\$28.00
Styro No. 8	\$42.00	\$30.00
Mudpack No. 1-0	\$32.00	\$24.00
Mudpack No. 2-0	\$34.00	\$25.00
Wide Screener Bars	\$2.00 extra	
Mattock c/w bolt	\$26.00 without handle (without bolt \$25.00) Mattock handles \$12.00	

## Particular Specifications

### Dibble

Alloy steel point  
711 mm (28 in.) Dee type, or 1219 mm (48 in.) straight handles  
Optional wide screener bars  
Dibbles are used to plant multipot and styroplug container seedlings. The size of the dibble tip closely matches the size of the container.

### Mattock

Alloy steel blade  
Adze handles for planting mattocks  
Mattocks and hoes are available in different shapes and sizes with the smaller and narrower used for planting container stock, while the larger wider heads are used mainly in bareroot planting.

All A. & M. forged picaroons, and planting tools, are heat treated.

### Picaroons

Weight, g (oz)	255 g to 595 g
Handle, cm (in.)	40.6 (16) to 91.4 (36)

### Other

Bull hooks	2.9 cm (1 1/8) to 6.4 cm (2 1/2 in.)
Swivel eye	2.9 cm (1 1/8) to 6.4 cm (2 1/2 in.)
Cross eye	2.9 cm (1 1/8) to 6.4 cm (2 1/2 in.)
Totem	2.9 cm (1 1/8) to 6.4 cm (2 1/2 in.)
Bull hook and Line shackles	1.9 cm (3/4) to 3.8 cm (1 1/2 in.)
Butt Rigging	1.6 cm (5/8) to 3.8 cm (1 1/2 in.)

## Operational Specifications

The choice of planting tool is usually based on type and size of planting stock, site conditions, preferences, planting method, and local planting considerations, such as regulations.

## MANUFACTURER:

A. & M. Steelcraft Ltd.  
8250 124th St.,  
Surrey, B.C.,  
V3W 3X9  
TEL: (604) 594-0615

## CARROT EXTRACTOR DIBBLE (HOLE PIPE)



*The Carrot Extractor creates a compaction free cavity, the exact size for the container seedling. A shock absorber reduces planter fatigue and injuries. Interchangeable heads are available in varied sizes.*

Carrot extractor is the term used for dibble hole pipes, which are manufactured by Nova Sylva. They are used to plant multipot and styroplug container seedlings with the size of the dibble tip closely matching that of the container.

PRICE: F.O.B. Montreal, Approx. \$30.00, immediate delivery, (1988)

### Particular Specifications

Length	1 m (39 in.)
Weight	2 kg (4.4 lb.)
Head	Heat treated carbon steel cutting edge

### Operational Specifications

An earth plug is removed when the extractor penetrates the soil, thus creating a compaction-free cavity. Higher production levels are achieved, because the tool penetrates the soil more easily than conventional dibles.

The hollow tip of the carrot extractor allows the soil in the cavity to be removed rather than displaced as in conventional dibles. However, the hole may clog under some conditions. This problem has been reduced by the N.S. Carrot Dibble by use of thin walls, and an even taper on the inside and outside surfaces of the tip.

### MANUFACTURER:

Nova Sylva Inc.,  
P.O. Box 1624,  
1587 Denault St.,  
Sherbrooke, Quebec  
J1H 5M4  
TEL: (819) 821-4617  
FAX: (819) 821-4671



*Silvicool and Econocool sacks provide an inexpensive method of controlling temperature and moisture levels during the stock handling process. They keep seedlings moist until the time of planting, using space blanket technology to reflect the sun's radiant heat while the draw string top reduces evaporation.*

Forestworld is a supplier of products required by the silviculture industry. They manufacture Econocool and Silvicool type tarps from woven polyethylene material bonded to a metallized polyester; Silvicool and Econocool sacks; SYE and Econo planting bags.

## Specifications

Two weights of Econocool material are available:  
Standard, light-weight 8x8 weave  
Medium-weight 14x14 weave

Silvicool consists of a white vinyl side out, to block the sun's radiant heat, while the bonded metallized Mylar layer, conducts internal heat through to the outer vinyl layer and the outside air.

Tarps are available in four standard sizes: 1.5 m (5 ft) x 2.1 m (6.75 ft), 1.9 m (6 ft) x 2.7 m (9 ft), 3 m (10 ft) x 4.1 m (13.5 ft) and 4.6 m (15 ft) x 5.5 m (18 ft) or in custom sizes.

SYE planting bags are available in three pouch, 33 cm (13 in.) depth and two or three pouch 38.1 cm (15 in.) depth. The bags feature fully padded shoulder straps and hip belts with one inch laminated foam padding and quick release buckles on the main belt. All critical stress areas are reinforced with extra stitching and feature double bottoms and double side walls.

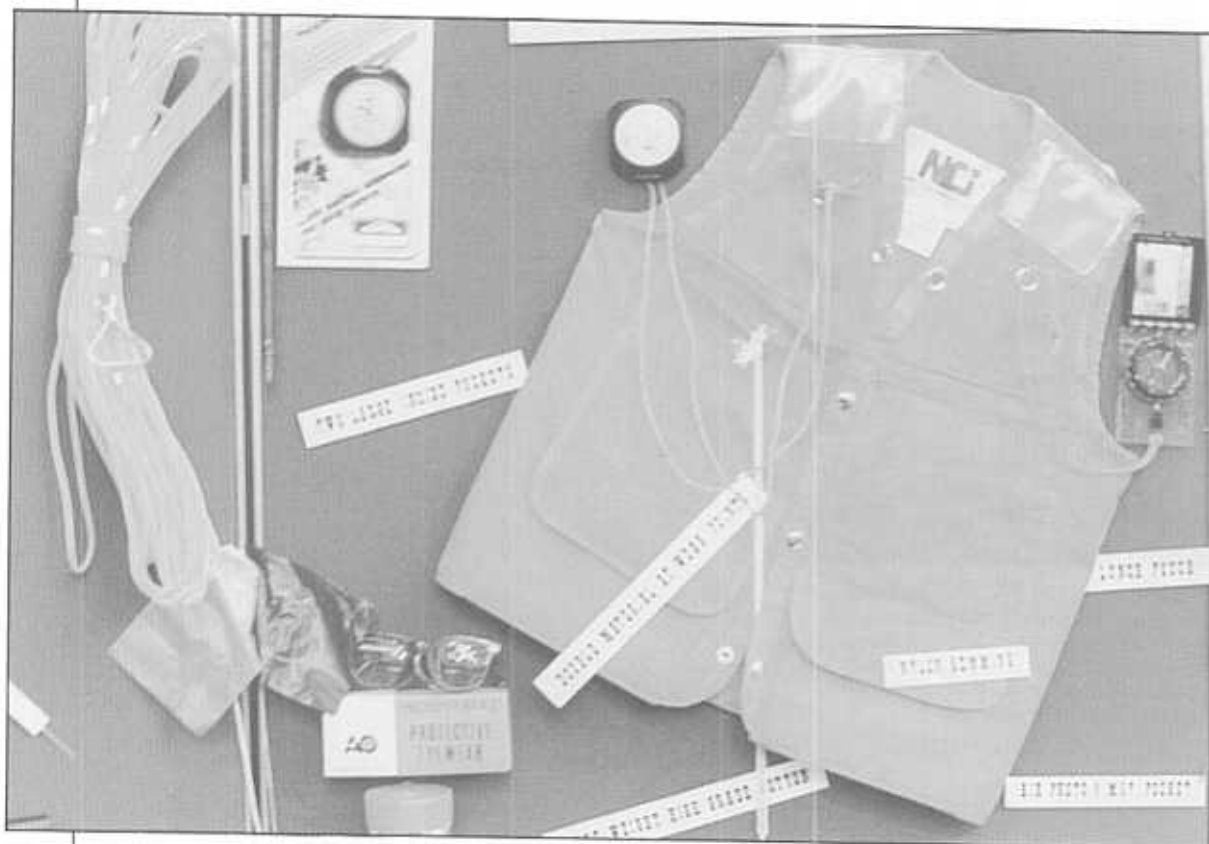
The Econo planting bags are constructed from a lighter material and generally recommended for the less aggressive or non-professional planters. They are available in three pouch 28 cm (11 in.) depth, medium only.

## MANUFACTURER:

Forestworld Supplies Ltd.

304 East Ave.,  
Vancouver, B.C.,  
V5T 1A9  
TEL: (604) 875-1444  
FAX: (604) 875-9233  
TELEX: 37-29218

## TREE PLANTING BAGS



NCI Vest with back pouch, outside and inside pockets, velcro flaps, zippered air photo pocket.

Neville Crosby is a forestry supplier, and manufacturer of Bare Root Bags, Individual Plug Pouches, Three Pouch Plug Bags, Web Duck Belts, Survey Vests and Hip Chains. A complete catalogue of forest, mining tools and supplies is available upon request.

PRICE: Tree Planting Bags \$75.00, Bare Root Bags \$19.95, Individual Plug Pouch \$7.50, Three Pouch Plug Bag \$22.50, Hip Chain-M25 \$115.00, NCI Vest \$55.00 F.O.B. Vancouver (1988).

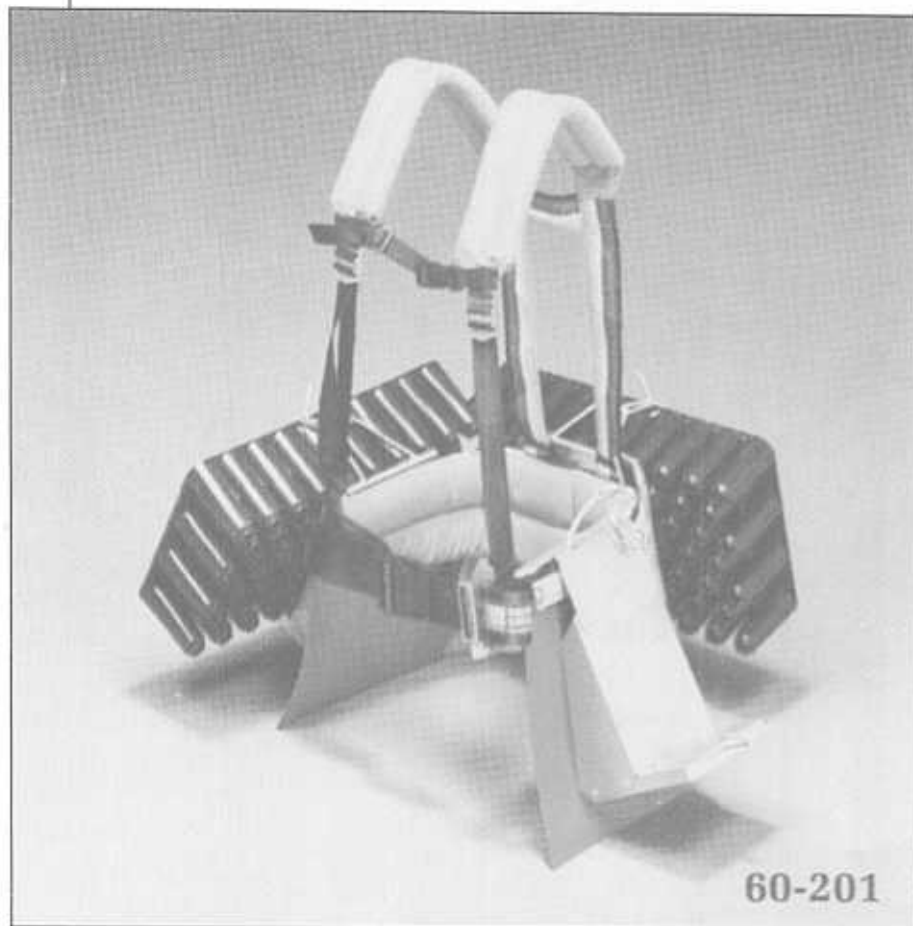
### Particular Specifications

Bare Root Bags cm (in.)	25x25x38 deep (10x10x15)
Capacity	Holds 400 - 100 seedlings
Individual Pouch Plug cm (in.)	10x10x15 deep (4x4x6)
Capacity	Holds 50 seedlings
Tree Planting Bag	"H" style harness with removable shoulder & hip pads
	Each pouch holds 50 seedlings
Three Pouch Plug Bag	Two units fit on belt

### MANUFACTURER:

Neville Crosby Inc.  
325 W 6th Ave.  
Vancouver, B.C.  
V5Y 1L1  
TEL: (604) 873-4343  
TELEX: 04-507762  
FAX: (604) 873-8166

## COMPONENT MULTIPOT HARNESS WITH CONTAINER HOLDER



60-201

*The Component Harness with three Multipot Container Holders, combines ergonomic comfort and ease of use.*

PRICE: F.O.B. Montreal (1988), Approx. \$60.00, immediate delivery

### Physical Specifications

The Component Harness has one inch thick, double density foam padding, covered with waterproof 410 denier nylon, and with quick release buckles.

The Multipot Container Holder is made of galvanized steel and molded polyethylene.

### Operational Specifications

The container is held in place by a metallic bracket and snap-hook, and rests on a moulded polyethylene form, so seedlings are secure. Ergonomic design eliminates leg irritation and discomfort.

A model for use with the Spencer-Lemaire Root-trainers is now available.

### MANUFACTURER:

Nova Sylva Inc.,  
P.O. Box 1624,  
1587 Denault St.,  
Sherbrooke, Quebec  
J1H 5M4  
TEL: (819) 821-4617  
FAX: (819) 821-4671

## NOVA SYLVA PLANTING BAGS



*The Nova Sylva component harness has detachable pouches used for carrying bare-root seedlings.*

### Particular Specification

The harness has a one inch thick, double density, foam pad, covered with waterproof 410 denier nylon. Quick release buckles.

The pouches are made of 18 oz./sq. yard, PVC covered, polyester scrim, with double bottom.

### Operational Specifications

The harness with three pouches allows the tree-planter to carry 300-800 seedlings, and distribute the weight between the waist, and the shoulders. White, water tight pouches will maintain moisture levels, and prevent heat build-up.

Component harness, with pouches (tree planting bags).

PRICE: F.O.B. Montreal (1988), Approx. \$70.00 immediate delivery

### MANUFACTURER:

Nova Sylva Inc.,  
P.O. Box 1624,  
1587 Denault St.,  
Sherbrooke, Quebec  
J1H 5M4  
TEL: (819) 821-4617  
FAX: (819) 821-4671

# SILVAPLANTERS MODELS PB II AND PB III



Silvaplant PB II (above), with dual planting heads and automatic magazine and feeders, mounted on a skidder. Silvaplant PB III (above) with scarifier, planting heads and feed carousels, mounted on a forwarder.

The Company produces for the nursery, protected seedling containers, and for the field, mechanized planting processes. It produces two containers, models Xylon I and Xylon II, in which seedlings grow, and two mechanical planters, models PB II and PB III which make high speed automated planting possible.

PRICE: Approx. (1988), both models: \$157,000 (\$95,000 without scarifier option).

## Operational Specifications

The Silvaplanters PB II and PB III are hydraulically-driven, intermittent spot planters.

The PB II is used for planting International Forestech's Xylon I seedling container, while the PB III is capable of planting most types of containerized seedling stock. These machines are designed for simple attachment to conventional forestry prime moving equipment.

Reported planting rate capability for both the PB II and PB III, is between 10-20,000 seedlings per 8 hour shift.

The scarifier option on each model eliminates the need for an independent machine for this type of site preparation, and its associated costs.

## MANUFACTURER:

International Forestech Systems Ltd.,

120-2620 Simpson Road,  
Richmond, B.C.  
V6X 2P9  
TEL: (604) 273-1243  
FAX: (604) 273-8852

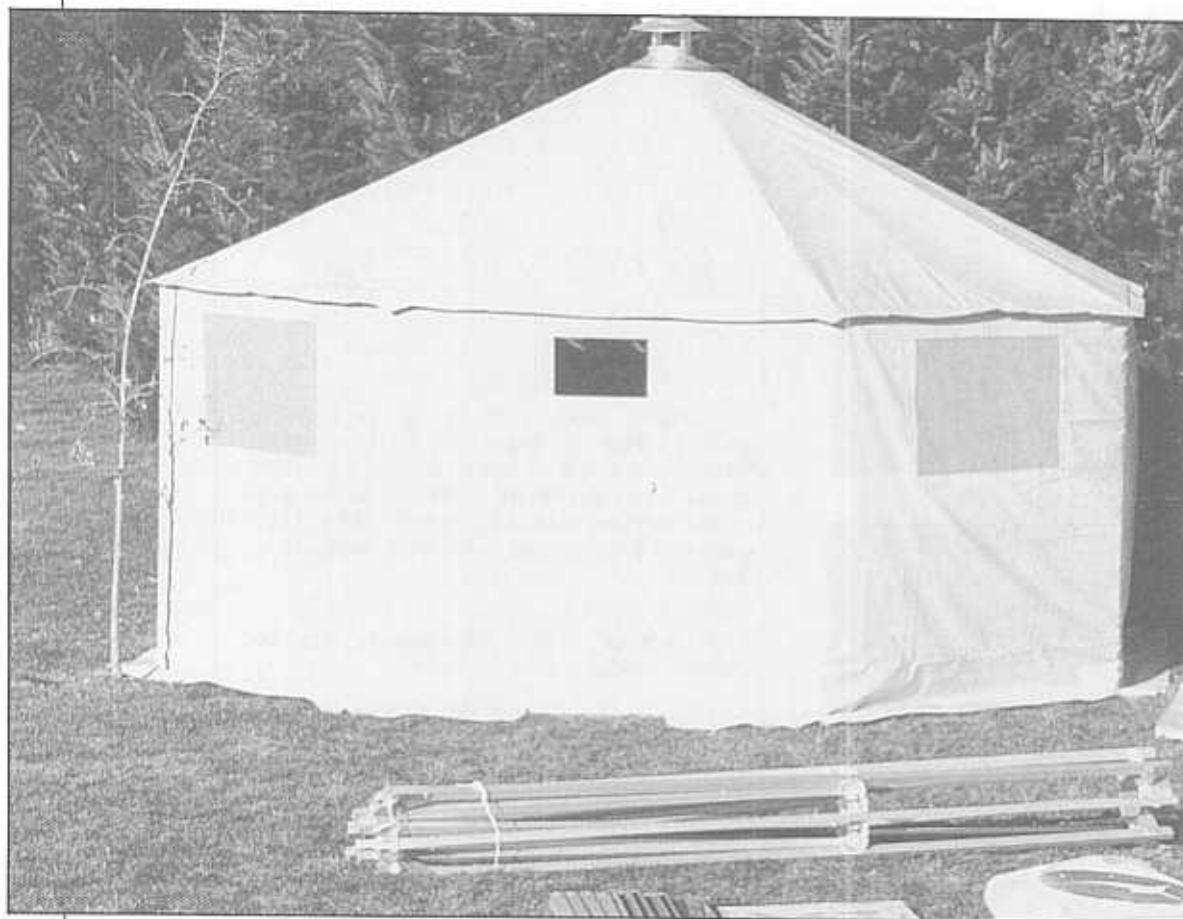
## Particular Specification

Model	PB II (JD440C Skidder)*	PBIII (TJ Forwarder)*
Overall Length mm (in.)	9544 (234)	8200 (323)
Maximum Width mm (in.)	2946 (116)	3400 (134)
Height mm (in.)	2840 (112)	3048 (120)
Ground Clearance mm (in.)	457 (18)	622 (24.5)
Weight kg (lb.)	1950 (4,300)	3357 (7,400)
(Planter and 2 magazines)		
Total weight varies with prime mover (ie. * PBIII planter mounted on the Timberjack 5 Ton forwarder, 12 928 kg (28,500 lb), and the PB II planter mounted on the John Deere 440C skidder, weight is 8 446 kg (20,825 lb).		

## Mechanical Specifications

Engine	JD 4cyl diesel	Cummings 4BT3-9 turbo diesel
Differential, front	full with hyd. lock	No-spin
rear	solid axle (no diff.)	No-spin
Transmission	6 speed forw. & 3 rev.	10 speed forw. & rev.
Hydraulics	94.6L/min (25 gpm) @ 2,200 rpm	98.1L/min (26 gpm US) @ 2,500 rpm

## DESIGN PORTABLE SHELTER SYSTEMS



*Octagonal Design Shelter, 3.7 m (12 ft)*

A series of portable camp cabins designed and developed to meet the growing needs of loggers, tree planters, cruisers, etc. for comfortable, reliable and easily transportable soft shelters.

The octagonal design Habitat series is available in 3.7 m (12 ft), 4.3 m (14 ft), 4.9 m (16 ft), 5.5 m (18 ft), and 6.1 m (20 ft) models. Also available are the Long Habitat series, in models:

4.0 m (13 ft) x 7.0 m (23 ft)

4.6 m (15 ft) x 8.2 m (27 ft)

5.2 m (17 ft) x 9.4 m (31 ft)

2.7 m (9 ft) x 10.7 m (35 ft)

### Particular Specifications

All Habitat shelters come with four large windows, and sewn-in, insect-proof netting, as well as weathertight, clear vinyl and privacy panels on the inside. Weather skirting is also standard on all models.

The covering material is 308 g/m<sup>2</sup> (13 oz/yd<sup>2</sup>) vinyl-laminated polyester. This material has a high resistance to tearing, ripping and abrasion damage. It is also fire resistant and cold resistant to -40°C (-40°F). It is treated with mildew and ultraviolet ray inhibitors.

The frames are built of rectangular anodized aircraft grade aluminum; the lightest, yet strongest material for this application.

The shelters are designed to be applicable under forest type working conditions.

### MANUFACTURER:

Design Shelter Systems

P.O. Box 1445 Sta. B

Mississauga, Ont.

L4Y 4G2

TEL: (416) 275-5586

# WEATHERHAVEN PORTABLE SHELTERS



*Weatherhaven Series 8 Shelters are used as cookhouses, washrooms, personnel accommodation, dry storage, maintenance shops, etc.*

**Weatherhaven Series 8 Structures:** The Company manufactures two standard models of shelter, the Weatherhaven and the Polarhaven. The Weatherhaven being the standard rugged model with a frame of high strength steel or aluminum, and a cover generally high-tech vinyls. The Polarhaven is a specially adapted model for arctic environments with a frame of high strength aluminum and a cover of high-tech nylon and insulation.

**PRICE:** Weatherhaven Series 8 Structures, approx. prices for 1988/89

Type A: cookhouses, washrooms, personnel accommodation. 4.9 (16) x 4.9 (16) x 2.9 (9.5) \$2,145, with inner liner \$2,420 to 4.9 (16) x 12.2 (40) x 2.9 (9.5) \$3,575 with inner liner \$4,150

Type B: maintenance structures  
6.1 (20) x 7.3 (24) x 4.7 (15.5) \$3,825 to 6.1 (20) x 14.6 (48) x 4.7 (15.5) \$6,375

## Particular Specifications

### Type A

Width, m (ft) 4.9 (16)  
Height, m (ft) 2.9 (9.5)  
Length, m (ft) Any length in increments of 2.4 (8)

### Type B

Width, m (ft) 6.1 (20)  
High, m (ft) 4.7 (15.5)  
Length, m (ft) Any length in increments of 2.4 (8)

Standard non-insulated units:

Vinyl coated polyester,  
gr (oz) 497 (16)  
559 (18) for 5.5 m (18 ft) wide

1 "C" door entry in end wall.

Heavy wall aluminum alloy frame, complete with spikes or lag bolts

Vinyl parts bag

Optional insulation package

## Operational Specifications

The Weatherhaven can be spiked, or lag-bolted to a surface, be it the ground, ice or a floor. The covers come as one top and two ends, providing for: modular use, the option of incorporating additional length, as well as the option of changing ends to match the job.

All structures are built to the customer's specific requirements.

The available options are: stove-pipe vents, cable vents, windows, doors, exhaust fans, connector flaps, selection of colors.

## MANUFACTURER:

Weatherhaven Resources Ltd.

1975 Triumph Street,  
Vancouver, B.C.  
V5L 1K6  
TEL: (604) 254-9022  
FAX: (604) 254-6676  
TELEX: 04-55551

## DIGITECH'S MEMO SYSTEM MICRO COMPUTER



*Memo System MD-3 hand-held micro-computer designed to protect programs and data for months.*

Memo MD-3 Hand-Held Micro-Computer with memory configurations up to one megabyte, used in forest inventory, scaling, maintenance, and other appropriate forest applications.

PRICE: F.O.B. (1988), Sainte-Foy, Que., MEMO, 256K \$2,545. MEMO, 512K \$4,125. MEMO, 1024K \$6,445. Additional 128K \$950.

### Operational Specifications

The hand-held micro-computer is user friendly for easier use by non-computer trained personnel. It is user programmable, utilizing choice of standard programming languages (ie. Basic, Cobol, Fortran, Pascal, etc.) The case is shock and weather proof.

The Memo system provides the control link between the office computer and the various forestry operations such as timber cruising, scaling, parts inventories, etc. Data can be collected, and downloaded into the Memo's large memory, stored for subsequent transfer to the PC computer or host computer in the woodlands office.

The advantages of the system are accurate data management, faster data communications and processing, eliminating redundant data handling and reducing administrative and related costs.

### Particular Specifications

Size, cm (in.)	22.3x9.5x4.5 (8.75x3.75x1.75)
Weight, kg (oz)	0.73 (25.75)
Processor	Z80 microprocessor (CMOS)
Memory	EPROM: 32K bytes cont. CP/M RAM: 256K bytes CMOS, expandable to 1 Megabyte
Display	LCD, 64 character alphanumeric
Power	Rechargeable Nickel Cadmium Bat.
Accessories	AC charger
Operating temp. environment	-30 deg C to 60 deg C (-22 deg F to 140 deg F)
Interface	15 pin TTL connector for external
Operating System	CP/M 2.2
Programming Languages	All CP/M supported programming languages

### MANUFACTURER:

#### DIGITECH

Member of ACSI Group Ltd.

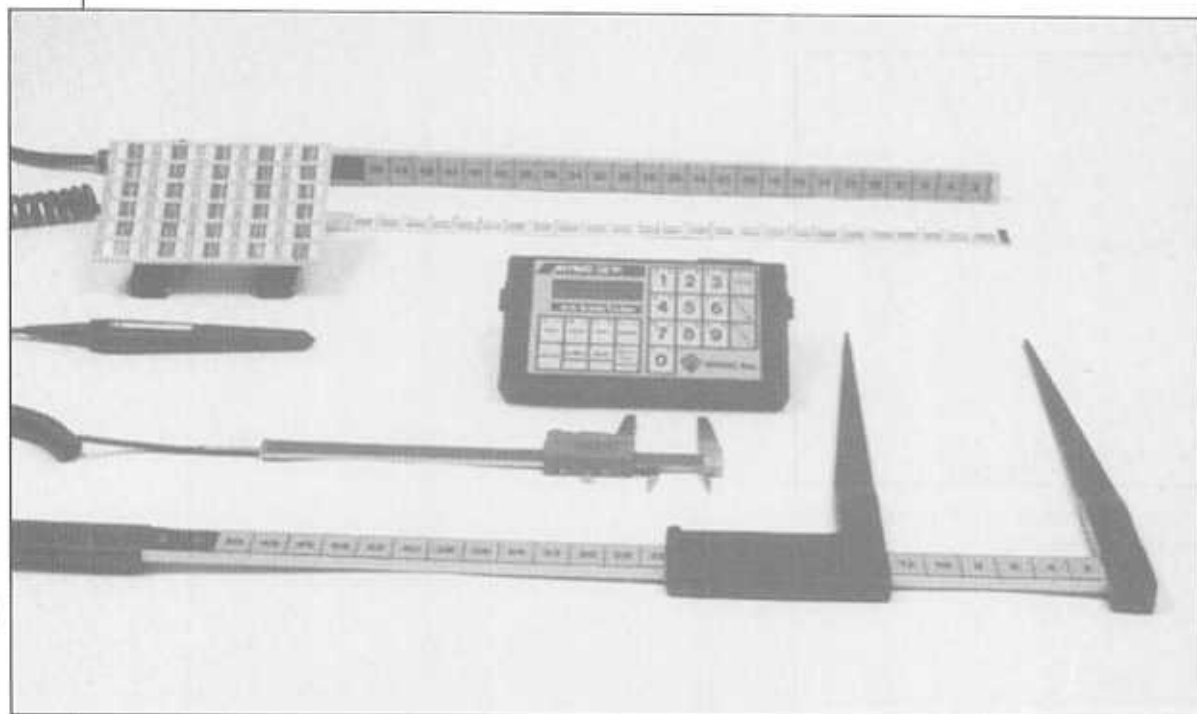
969, Route de l'Eglise  
Sainte-Foy, Que.,  
G1V 3V4

TEL: (418) 653-1662

FAX: (418) 653-8790

TELEX: 051-31646

## MYNIC AUTO SCALER/CRUISER



*Mynic IVth Auto-Scaler/Cruiser and accessories*

The Mynic IV auto/scaler/cruiser is a hand-held micro-computer, data recorder with available accessories for making scaling and cruising measurements.

### Operational Specifications

The fundamental objective in using a data recorder such as the Mynic, is direct data capture to eliminate the costs and delays of separate data entry/edit.

The data captured on the peripheral measuring and encoding devices, is stored in the data recorder, until it is convenient to upload it into the office computer.

The Mynic IV is utilized principally in data collection in scaling, cruising, silviculture, reforestation studies, inventory counting or nursery applications.

Scalers choose between an electronic rigid scale stick, or a flexible stick with an electronic data reader.

Cruisers can select the electronic caliper that best suits their application. Calipers range from the large 50 cm (20 in.) capacity, to small diameters available for nursery applications. Both metric and imperial devices are available.

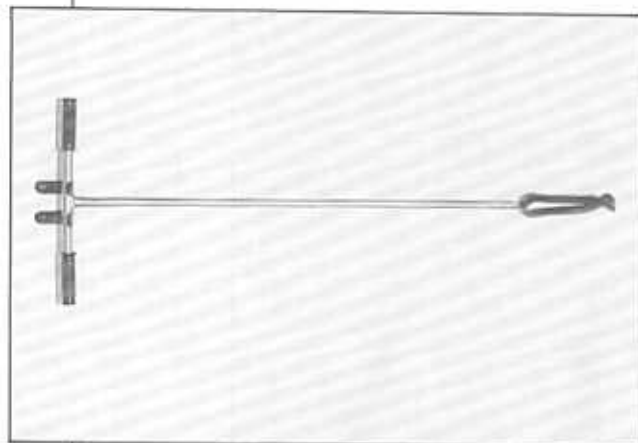
The Mynic IV combines rugged environmental sealing, and the ability to carry substantial amounts of data.

### MANUFACTURER:

Mynic Inc.

Incutech Complex  
Bag Service 69000  
Fredericton, N.B.  
E3B 6C2  
TEL: (506) 453-4606

## SOIL SAMPLING AUGER, DUTCH STYLE



*Soil sampling auger has stainless steel shaft, vinyl handle grips and heat treated cutting edge.*

Soil Sampler and shaft extensions for the soil sampling auger are available from the manufacturer.

PRICE: F.O.B. Montreal, (1988) is approx. \$ 71.00 with immediate delivery

### Particular Specifications

Handle:	
Height	1 m (39 in.)
Width	43 cm (17 in.)
Material	Stainless steel tubing 22 mm (7/8 in.)
Bit:	
Height	24 cm (9.5 in.)
Width	7.5 cm (3 in.)
Material	Carbon steel, heat treated

### Operational Specifications

The soil sampling dutch auger has an improved bit design, according to manufacturer specifications, for easy soil penetration and better sample retention. In addition, the long life, hardened cutting edge, and stainless steel construction, combine with durability and favourable aesthetics in this quality product.

### MANUFACTURER:

Nova Sylva Inc.,  
P.O. Box 1624,  
1587 Denault St.,  
Sherbrooke, Quebec  
J1H 5M4  
TEL: (819) 821-4617  
FAX: (819) 821-4671

## THE PACKRAT, MULTI-PURPOSE VEST



*The Packrat multi-purpose outdoor vest*

Outdoor Cruising vest accommodates the needs of Foresters, and also Geologists, Surveyors, and the natural science professions. The Company manufactures the Packrat, and other vests of single, or double-fill canvas.

### MANUFACTURER:

Kootenay Canvas  
Company Ltd.,

171 Dufferin Street South  
Unit 1, Alliston, Ont.,  
L0M 1A0  
TEL: (705) 435-2211  
FAX: (705) 435-7369

### Particular Specifications

Item	K.C.C. Packrat	Other Vests
Material	# 12 or army duck canvas Double ply twisted thread both directions Increased wear and resistance	Single or double-fill canvas Single thread both directions or double ply one direction
Water Repellancy	High levels	None to low
Pockets	20	8 to 17
Stitching	Double and triple	Single
Grommets	10 brass spur	Up to 5 plated sheet
Handwarming	Yes	No
Safety Stripe	3M optional at no cost	Some
Custom Embroidery	Logos and names	No
Warranty	2 years	No



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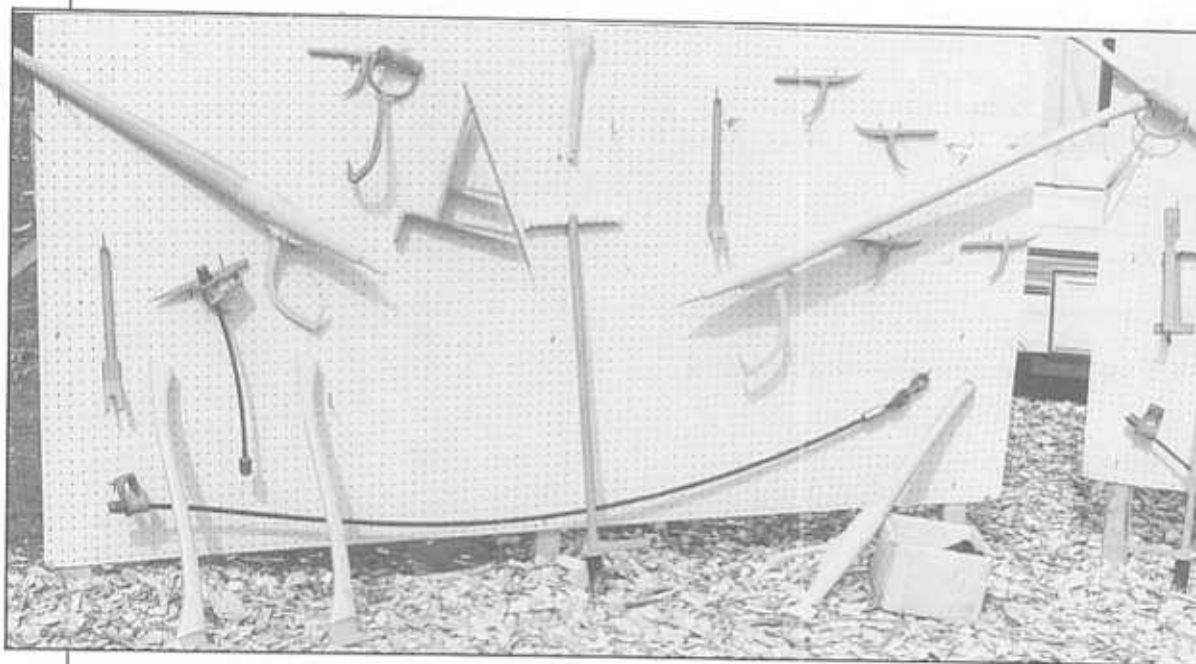
## LOGGING AND TRANSPORT: FELLING

### LOGGING AND TRANSPORT

#### Felling

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## FERMAX FORESTRY TOOLS



*Fermax forestry hand tools*

Fermax manufactures forestry hand tools, such as: Pulp hooks CD10-DL-3,5,1,R CBB-A-70, Log hooks CB-22-22, Cant Hooks PV-CH-00, Peaveys PV-30-00, Gaff heads with curve or straight pike GA-40-TC,TD, Pickaroons TPN-000, Grab Rods and ring for low bed CCC-111, LB-00-00

### Particular Specifications

Fermax Pulp hooks are made from one piece tool steel, 30 cm (12 in.) long, weighing approximately 0.5 kg (1 lb). They are available with replaceable tips.

Solid socket peaveys are manufactured with picks and hooks made from tool steel for strength and heavy usage. Handle diameters are from 5.7 cm (2.5 in.), weight from 3.4 kg (7.5 lb), and length from 0.9 m (3 ft).

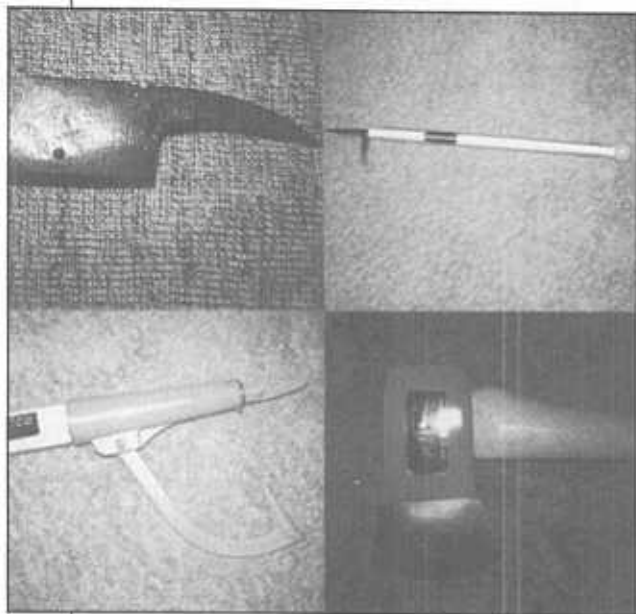
Cant hooks are available in lengths of: 51 cm (20 in.), 76 cm (30 in.), 91 cm (36 in.), 106 cm (42 in.). Replacement hooks for cant dogs, are also available.

### MANUFACTURER:

Fermax Inc.

616, 11th Avenue  
St. Zacharie, Beauce  
South  
Quebec G0M 2C0  
TEL: (418) 593-3224

# KEYSTONE FORESTRY TOOLS



1. Keystone hookaroon in light or standard forged steel, heat treated for strength and durability 2. Pike Poles of high strength aluminum/magnesium alloy, with innovative ribbed wall design 3. A 2 1/4 inch diameter steel socket, heavy hook, duck bill peavey. 4. Keystone axe.

Keystone manufactures forestry hand tools such as axes, peaveys, pike poles, hookaroons, cant hooks, pulaskis, sledge hammers, tow chains and other hand tools.

## Particular Specifications

**Hookaroons:** Light 0.45 kg (1 lb.) or heavy 0.8 kg (1 3/4 lb.) duty types.

Forged steel heads with no. 4 axe handle eyes (gauge 219) 61.0 cm (24 in.), 71.1 cm (28 in.), 81.3 cm (32 in.) or 91.4 cm (36 in.) handle lengths are available.

**Pike Poles:** Available in lengths ranging from 15.2 cm (6 in.) to 76.2 cm (30 in.) with carbon steel pike and hooks, heat treated. Handles are available in anodized, natural, heavy duty natural and ash hardwood finishes.

**Peaveys:** Duck bill design hooks made of carbon steel 1.1 cm (7/16 in.) x 2.2 cm (7/8 in.) x 30.5 cm (12 in.), designed to prevent hook backslap. Maple handles in lengths from 0.91 m (3 ft) to 1.52 m (5 ft).

**Axes:** Heads are forged from a solid bar of high carbon special alloy steel, heat treated for strength and wear resistance, finished with baked enamel and laquered for protection against rust. Available in single and double-bit Michigan pattern, chain saw Montreal pattern, pulaski and firefighting patterns.

## MANUFACTURER:

Keystone Supplies  
Company,  
11060 River Rd.,  
Richmond, B.C., V6X 1Z5  
TEL: (604) 273-4557  
FAX: (604) 273-1006  
TELEX: 043-55609

# PIONEER CHAIN SAWS



Pioneer chain saw line from 34 cc to 98 cc to meet forest users needs.

Pioneer Chain saws are available in models P12 (hobby saw), P14 (casual users saw), P39 (semi-pro model), P42 (pro model), P52+ (pro plus saw) and P62/P65 (top of the line saw, super pro model). Equipped with bars from 356 to 914 mm (14 to 36 inches), depending on model.

PRICE: P12 with 14 in. bar \$129  
P14 with 16 in. bar \$144  
P39 with 16 in. bar \$ 298  
Prices effective August 1, 1988 in U.S. dollars.  
P42 with 16 in. bar \$319  
P52+ with 20 in. bar \$349  
P62 with 36 in. bar \$406

## Operational Specifications

For the extra tough applications that require power, the Pioneer 52+ available with 40.6 cm (16 in.) to 91.4 cm (36 in.) bars, may be appropriate. The super pro, top-of-the-line Pioneer P62/P65 saws are built to handle professional applications. They feature a 98 cc engine, with a 40.6 cm (16 in.) to 102 cm (40 in.) bar, to meet the loggers demanding requirements.

## MANUFACTURER:

Emab Canada, Div. of  
Euroclean Canada Inc.  
P.O. Box 549,  
Canada Ave., Huron Park,  
Ontario, N0M 1Y0  
TEL: (519) 228-6514  
FAX: (519) 228-6124  
TELEX: 064-7181

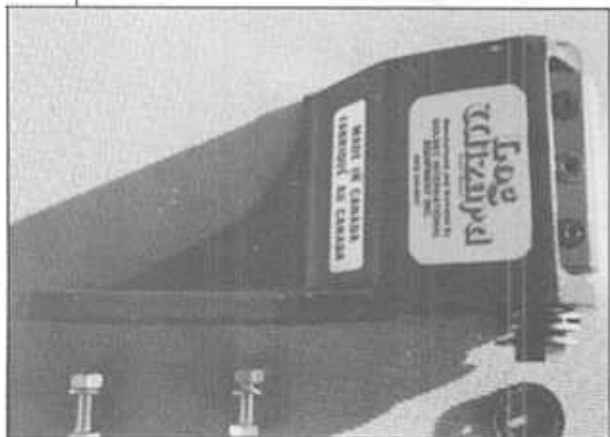
## Particular Specifications

Model	P12	P14	P39	P42	P52+	P62/P65
Cylinder Capacity c.c.	34	34	65	65	82	98
Top Engine Speed RPM	8.0	8.0	8.5	9.6	9.6	9.6
Fuel Capacity litres	0.3	0.3	0.77	0.77	9.4	9.4
Oil Capacity litres	0.12	0.12	0.37	0.37	0.41	0.41
Guide Bar, Standard	12"-16"	12"-16"	26"-24"	26"-32"	16"-36"	16"-40"
Chain Pitch	3/8" LP	3/8" LP	3/8	3/8	3/8"-404"	3/8"-404"
Weight* kg	4.0	4.2	7.0	7.5	8.2	8.5

\* Powerhead only.

All saws come equipped with chain brake, automatic oiler and electronic ignition. All saws except the P12 have antivibration damping. The P62/P65 can also be oiled manually.

# GOLDEC LOG WIZARD



*The Goldec Log Wizard chainsaw attachment makes the chainsaw into a tool used as a de-barker, router, planer and notcher.*

The Log Wizard is a chainsaw attachment which turns it into an effective de-barker, notcher, router and planer.

Goldec also manufactures the Nifty Feed Dispenser, Hamm's Tanks Storage Tanks, Tool Boxes, Skid Frames, Overhead Hoists, Mobile Home Frames, Custom Made Trailers, Bumpers, Truck Decks, and also undertakes Structural Fabricating Welding.

## Particular Specifications

Weight: Under 1.4 kg (3) lb.  
Planer Blades: Standard 8.3 cm (3¼ in.)  
Universal spline and sprocket system: sprockets accommodate all pitches of chain  
Adaptable to all chainsaws

## Operational Specification

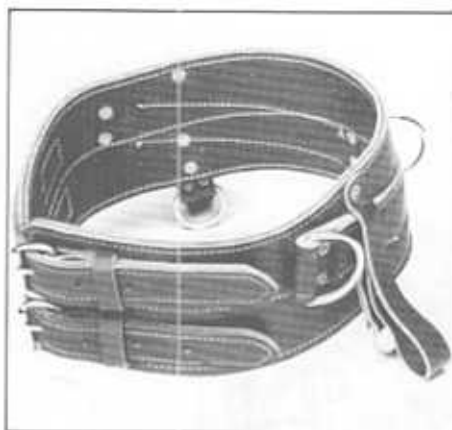
Most commonly used for construction of pole barns, rail fencing, log home building, to sharpen posts, wood debarking, and planing.

Simply attached through two bolts on the chain bar, it comes with a universal spline and sprocket system.

## MANUFACTURER:

Goldec International  
Equipment Ltd.  
6760 - 65th Ave.  
Red Deer, Alta., T4P 1A5  
TEL: (403) 343-6607  
FAX: (403) 340-0640

## OPSAL TREE CLIMBERS GEAR



*Opsal Steel's climbers gear consisting of a 1.3 cm (1/2") thick foam pad, spurs and 71 cm (28") English leather straps, climbers belt and 2.2 cm (7/8") hemp rope with steel wire core.*

Opsal manufactured logging equipment consists of the following: blocks, such as passline, haulback line, transfer, yarding, highlead, snatch, hoisting, general purpose types, used on cable logging systems; tree jack sheaves, supporting cables used on skyline systems; carriages; fairleads; and tree climbers gear for loggers and high riggers.

Tree climbers gear consists of: an aluminum pad with liner, model 600-010; spurs, model 600-025; straps, model 600-020; belt, model 600-015; rope, model 600-030.

### MANUFACTURER:

Opsal Steel Ltd.,  
97 E. Second Ave.,  
Vancouver, B.C., V5T 1B3  
TEL: (604) 879-1531  
FAX: (604) 879-6766

#### Particular Specifications

Climber's pad

Cast aluminum for strength and light weight  
Liner has 1.3 cm (1/2 in.) thick foam pads  
Fits Klein or Buckingham Spurs

Spurs

Gaffs, cm (in.)

Safety Rope, cm (in.)

8.9 (3 1/2) long, with adjustable lengths  
2.2 (7/8) Hemp with steel wire core  
(Workman's Compensation Board approved)

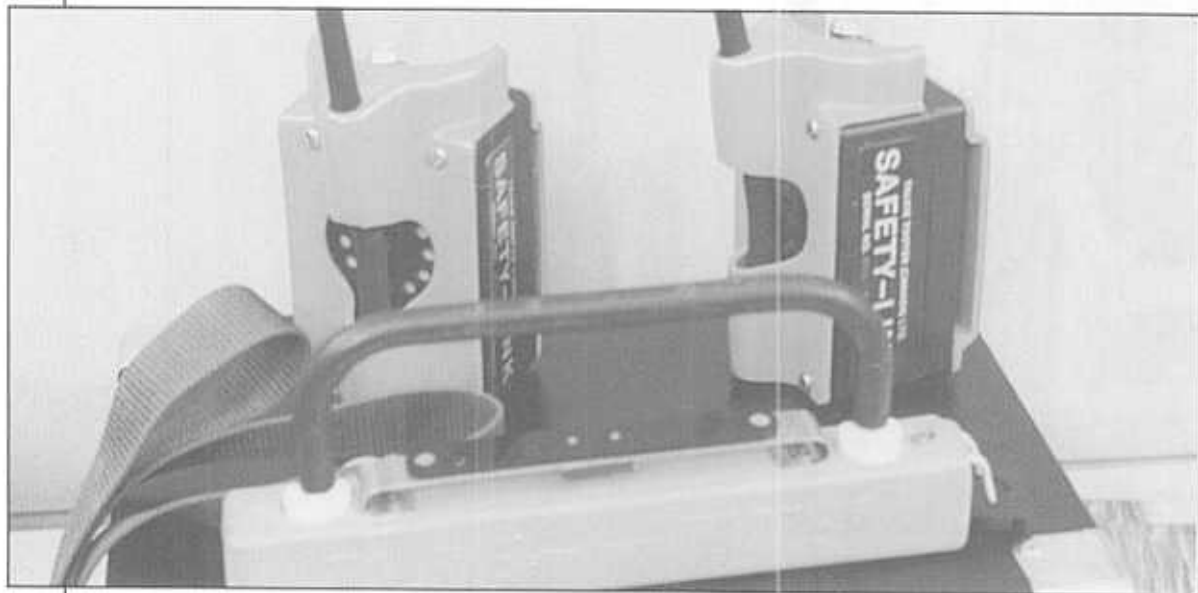
English Leather

straps, cm (in.)

Climber's belt, cm (in.)

71 (28) with heavy duty buckles for strength and safety  
13.3 cm (5 1/4) wide, premium grade leather, with h.d. buckles for strength and safety.

## SAFETY LINK, PERSONAL EMERGENCY ALARM BUDDY SYSTEM



*Safety-Link units, a buddy alarm system designed for dangerous forest working situations.*

### Particular Specifications

- 2-Way radio contact
- Range over 500 m (1,640 ft)
- Manual alarm push button switch
- Rugged, plastic case, water-resistant
- Rechargeable battery
- Alarm signal, 90dB beeps
- Flashing LED signals for O.K. status
- Operating Temp. Range, C -30 to 60 deg.

### Operational Specifications

The two-way transmitter constantly monitors the two fellers working out of sight of each other. If one man is in trouble, he presses the alarm button on the unit. Within seconds, the second man's unit sounds an alarm to let him know that help is required. Even if he is knocked unconscious, or can't reach the hot button, the internal motion sensor alerts the other man of trouble within a minute.

If a unit is malfunctioning, or the other man has gone out of range, a warning sounds in the other unit. For breaks, a rest mode temporarily inactivates the motion sensor, with a beep every 5 minutes reminding the user of the unit's rest status, it can, however, still send out a manual alarm.

The Company also handles the following products: radiowhistles, grapple yarder radios, industrial loud-hailers, custom emergency signalling systems, custom radio controls, communication headsets.

**PRICE:** Complete Safety-Link System \$2,495 F.O.B. Vancouver (1988)

Consists of: two safety links, two safety-link charges, one carrying case.

Components and Accessories: Safety-link \$1,247. Charger \$30.

### MANUFACTURER

Talkie Tooter (Canada) Ltd.

8264 St. George St.  
Vancouver, B.C., V5X  
TEL: (604) 327-9779  
FAX: (604) 327-9779

## FINNING TREE HARVESTER (FELLER BUNCHER)



*Modification of Caterpillar's model 227 Logger with Finning's full guarding package, boom and stick and choice of feller heads*

Custom engineered by Finning by modification of the Caterpillar Model 227 Logger. Available as Finning Tree Harvester Model FB227 Turbo Diesel and the Model FB219 Finning Tree Harvester.

### Particular Specifications

Caterpillar Undercarriage  
Reinforced 235 body  
D6 sealed track group,  
4.6 m (15 ft) length  
1.9 cm (3/4 in.) track roller bolts  
61 cm (24 in.) single grouser shoes  
61 cm (24 in.) ground clearance  
0 to 1 3/5 mph infinite control

Drawbar Pull: 23,938 kg (52,773 lb)  
Weight (less cutting head): 30,992 kg (68,324 lb)  
Finning / Approved Attachments:  
Cat shear head (side tilt saw head, 51 cm (20 in.) cut  
Koehring 56 cm (22 in.) front cut, side tilt saw head  
Koehring 51 cm (20 in.) side cut, side tilt saw head  
Harricana 51 cm (20 in.) front cut, side tilt saw head  
Forano (Tanguay) BJ20 shear head  
Weyerhaeuser W34 felling grapple with Finning improved heavy duty

### Mechanical Specifications

Pump drive  
Dedicated Vickers PC pump, for saw operation  
Main implement pump, underspeed valves  
235 Radiator and cooler  
Improved Rex Roth pilot controls  
W.C.B. door and rear escape window guards  
Improved FOPS structure and mounting  
25 percent heavier logging boom  
Custom guarding logging group  
Simultaneous swing and travel, swing and side tilt  
Finning built peaked roof house deflector  
Optional Equipment on the FB219 Tree Harvester:  
Rotosaw 46cm(18in) sawhead c/w tilt and collector arm  
Forano 51cm(20in) model 505-4 head c/w Finning head tilt  
Harricana CS500 sawhead c/w tilt and accumulator

### MANUFACTURER:

Finning Ltd.

555 Great Northern Way  
Vancouver, B.C., V5T 1E2  
TEL: (604) 872-4444  
FAX: (604) 872-2994  
TELEX: 04-508717

# KOEHRING FELLER BUNCHERS



The Koehring K625 feller buncher, specifically designed to handle large trees, as found in British Columbia, Canada

Koehring Canada is a manufacturer of pulp mill, logging and construction machinery. Its line of tree harvesting machinery products is as follows: tree harvesters, feller forwarders, feller skidders, feller bunchers, log load aligners, log loading cranes and yarders. The feller bunchers are available in models K628, K618 and K 625.

## Optional Equipment

All machines have optional automatic fire suppression systems, hydraulic oil heater and cab air conditioning.

Optional on all machines is the 510 mm (20") front or side cut saw with multiple tree capability, available with or without wrist action. Also optional on the model K625 is the 610 mm (24") shear and a 560 mm (22") disc saw, both with multiple tree capability, with or without wrist.

## Operational Specifications

The model 618 feller buncher weighs some 25850 kg (57,000 lb) featuring a heavy duty unitized carbody with D6D size track componentry, supporting a heavy duty, unitized, rotating upper structure. Ground pressures of 41.4 kPa (6 psi) have been achieved with the longer 3835 mm (151 in.) track frame and the use of 762 mm (30 in.) wide track shoes.

Designed in-track approach angle minimizes soft soil disturbance, by keeping tracks on top of the ground surface, as well as assisting with manoeuvrability over stumps, rocks and other obstacles, reducing loads on final drives, end idlers and other track componentry.

The final drive is powered by variable displacement piston pumps and motors, provides speeds up to 4 km/hr (2.5 mph) and a drawbar pull of 22,226 kg (49,000 lb).

Optimum cutting speed, and high productivity of the disc saw felling head, is maintained by the hydraulic saw drive circuit.

## Particular Specifications

Model	628	618	K625
Length mm (ft.)	5490 (18.0)	5100 (16.8)	5330 (17.5)
Max. Width mm (ft.)	3120 (10.3)	3070 (10.1)	3120 (10.3)
Height mm (ft.)	3300 (10.8)	3250 (10.7)	3300 (10.8)
Ground Clearance mm (ft.)	530 (1.8)	530 (1.8)	534 (1.9)
Weight kg (lb.)	33100 (73,000)	25850 (57,000)	31100 (68,500)

## Mechanical Specifications

Model	628	618	K625
Engine	Cummins 6CT8.3 154kW @ 2100 RPM (207 HP)	Cummins 6BTA5.9 126kW @ 2100 RPM (169 HP)	GM 4-71T 138kW @ 2000 RPM (185 HP), Optional CAT 3208T 149kW HP @ 2000 RPM (200 HP)
Cab	All machines are fully sound and temperature insulated.		
Felling Head	560 mm (22") front cut disc saw	510 mm (20") front cut disc saw	510 mm (20") shear

## MANUFACTURER:

Koehring Waterous, Division of Timberjack Inc.,

P.O. Box 490,  
Market St. South,  
Brantford, Ont.  
N3T 5P6  
TEL: (519) 752-6571,  
FAX: (519) 752-3413  
TELEX: 061-81117

# TIMBERJACK TIMBCO FELLER BUNCHERS



Timberjack Timbco Model 2518 Feller Buncher. One of three models of track type feller bunchers.

Timberjack is a world recognized name in the skidder industry, as well in the design and manufacture of mechanical logging equipment. Timberjack produces a wide range of forestry equipment: cable skidders, grapple skidders, clambunk skidders, log forwarders, mobile delimiters, feller bunchers and mining vehicles.

Track type feller bunchers are available in models 2515, 2518 and 2520.

## Optional Equipment

Long stick boom for use with the Timbco shear, in delimer applications, tropical cooling-full front engine radiator, and two, full-length, side oil coolers.

## Operational Specifications

The Timbco feller buncher is available in three models: the 2515 and 2518 with a short body and short tracks, and the 2520 with a longer body and long tracks for added stability on steep grades and rough ground, and dealing with big wood operations. The 2515 and 2518 have single speed drive, while the 2520 has two speeds for maximum tractive power.

Timbco track-type mechanical feller bunchers cut trees and lay them down in bunches. Tilting swing table facilitates steep slope operation on grades to 50%.

Lower limb delimbing capability, depending on felling attachment used.

## Particular Specifications

Model	2515	2518	2520
Overall Length* mm (in.)	4902 (193)	4902 (193)	5182 (204)
Maximum Width mm (in.)	2743 (108)	2794 (110)	3048 (120)
Height** mm (in.)	3658 (144)	3658 (144)	3658 (144)
Ground Clearance mm (in.)	673 (26.5)	673 (26.5)	673 (26.5)
Weight*** kg (lb.)	19369 (42,700)	21773 (48,000)	23134 (51,000)

\*Length does not include boom.

\*\* Less skylight.

\*\*\* Does not include attachment.

## Mechanical Specifications

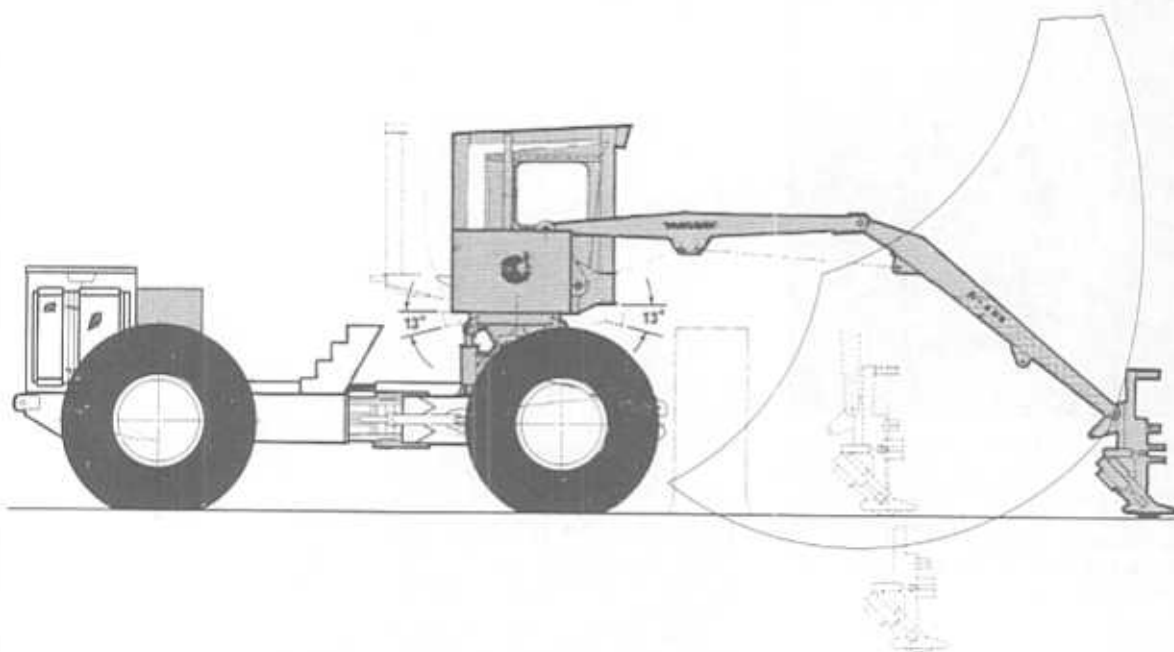
Engine	JD 6466T, 132 kW (177 HP) @ 2100 RPM Deere or Cummins turbo diesel engine.
Starting	Direct electric
Air Cleaner	Dry type
Power Train	Hydrostatic drive
Steering	Triple pump with disengagable double plate clutch

## MANUFACTURER:

Timberjack Inc.,  
925 Devonshire Ave.,  
P.O. Box 160  
Woodstock, Ont.,  
N4S 7X1  
TEL: (519) 537-6271  
FAX: (519) 539-4750  
TELEX: 064-74118

## TANGUAY MODEL A-200 FELLER BUNCHER MODULE

### A-200 FELLER-BUNCHER MODULE



*Tanguay model A-200 feller buncher module, turntable with heavy duty swing drive, cab with ROPS, hydraulic reservoir pumps and filters.*

Tanguay are manufacturers of slashers, log loaders, delimbers, feller bunchers and attachments.

The Tanguay A-200 feller-buncher module carrier is to be supplied by purchaser, with the recommended Koehring type carriers or equivalent, powered by Caterpillar 3306-T diesel engine, rated at 200 HP, where modifications required to the carrier are minimal.

#### Particular Specifications

The Tanguay model A-200 feller buncher module is specially designed to be installed on a Koehring chassis to provide a machine with high ground clearance, low ground pressure and efficient operating speeds. The standard felling head is the BJ-20 with spherical shear. Most popular shears and saw heads can however be used with this unit.

Rotation is on a 1372 mm (54in.) diameter turntable bearing. A piston type hydraulic motor provides smooth and precise control.

The unit is equipped with the unique Tanguay four-way tilt, providing 13 degrees tilt from the horizontal on four sides.

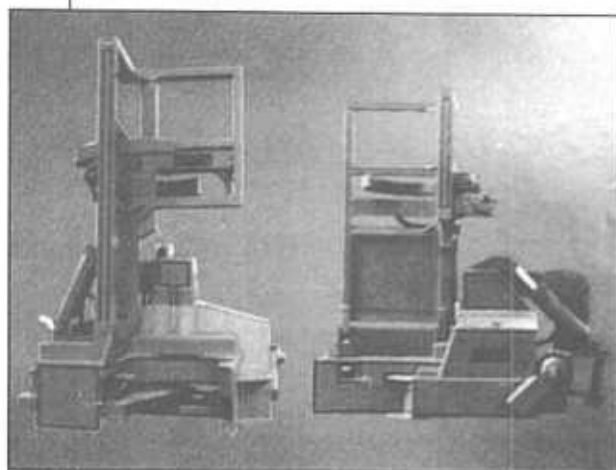
R.O.P.S. for cab, fully insulated, with pressurizer and comfortable seat, joystick controls for felling operation, travel and braking.

#### MANUFACTURER:

Tanguay Industries Inc.

2997 Watt St.,  
Quebec, Que.,  
G1X 3W1  
TEL: (418) 658-1315  
FAX: (418) 658-6747  
TELEX: 051-31676

# DIKA FELLER BUNCHER-DIRECTOR ATTACHMENT



The Dika Feller Buncher-Director attachment. The front view (left) of the 28 in. (71.1 cm) model with saw partially open. The slim anvil and the protective sheath protect the saw chain from damage in the fully open and closed positions. Side view (right) of 28 in. (71.1 cm) model showing grab arm, collector arm, side tilting tower and forward tilt mechanism.

Dika Models 21 in. (53.3 cm), 24 in. (61.0 cm), 28 in. (71.1 cm) and 36 in. (91.4 cm) feller buncher-director mounts on a tractor or loader, crawler or rubber undercarriage.

Dika Industries are manufacturers of feller-buncher attachments, land clearing and preparation equipment.

## Operational Specifications

Side tilting tower eliminates extra turning of the tractor. Combining the side tilt, with the forward tilt, results in placing trees anywhere in a 150 deg. arc to the front and to the left of the operator. Tower tilts 45 deg. to left, 15 deg. right, 36 deg. forwards and 15 deg. back.

Collector arm (optional) allows two or three smaller trees to be collected and dumped simultaneously.

## Particular Specifications

Model	21 in.	24 inch	28 inch	36 inch
Length, cm (in.)	168 (66)	178 (70)	178 (70)	
Width, cm (in.)	150 (59)	157 (62)	165 (65)	on application
Height, cm (in.)	224 (88)	244 (96)	254 (100)	
Weight, kg (lb.)	2268 (5000)	2631 (5800)	2948 (6500)	

## Mechanical Specifications

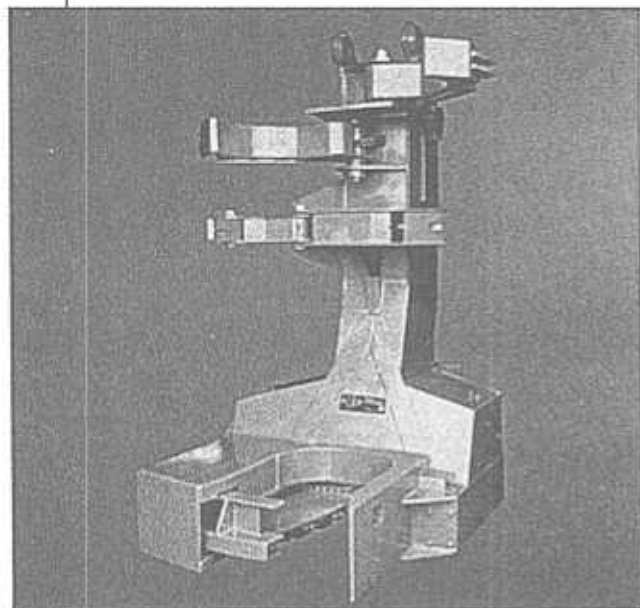
### Hydraulic requirements:

Saw Circuit,	3788 (50) to 4925 (65)	4925 (65) to 6440 (85)
m <sup>3</sup> /sec (gpm) @ 2650 psi	(21 & 24 in. models)	(28 & 36 in. models)
Grab & Feed Circuit,	1515 (20) to 1915 (25)	1915 (25) to 2652 (35)
m <sup>3</sup> /sec (gpm)		
5.7 cm (2 1/4 in.) kerf saw chain		
5.1 cm (2 in.) saw bar		

## Manufacturer:

Dika Industries Ltd.  
P.O. Box 117  
Rycroft, Alberta,  
T0H 3A0  
TEL: (403) 765-3894  
FAX: (403) 765-3001

# DIKA SUPERSAW, FELLER BUNCHER HEAD



*Dika Supersaw Feller Buncher Head with 5.7cm (2 1/4 in.) hydraulic chain saw equipped with tungsten carbide hardened chain cutters. Note the slim anvil and protective sheath. Note also the free-floating grab arms. Optional collector arm is available.*

Available in models 21 in. (53.3 cm), 24 in. (61.0 cm), and 28 in. (71.1 cm). The Feller buncher heads mount on backhoe-type carriers. Dika Industries also manufactures brush rakes and cutters, plows, root harrows, root rakes, swathers, and most recently has been developing the Dika 100 in. (254 cm) short log processor.

## Operational Specifications

The sawing cycle is automatic. Speed of the saw feed is governed by the load on the saw chain. If the saw stops while in operation, the saw will back out automatically until the chain starts, and then feed back to finish the cut. Indicator lights warn the operator of the condition.

The chain can be repaired, if damaged, with a hammer and punch. Chain teeth can be touched up with a small angle grinder.

The 5.7 cm (2 1/4 in.) hydraulic chain saw is used in both hard and soft wood, minimum 8.9 cm (3 1/2 in.) in diameter. The grab arms are designed to compensate for misalignment of trees and the feller attachment.

## Particular Specifications

Models	21 inch	24 inch	28 inch
Length, cm (in.)	168 (66)	178 (70)	188 (74)
Width, cm (in.)	150 (59)	157 (62)	188 (74)
Height, cm (in.)	249 (98)	254 (100)	259 (102)
Weight, kg (lb.)	2041 (4500)	2291 (5050)	2540 (5600)

## Mechanical Specifications

Hydraulic requirements:

Saw Circuit,

3788 (50) to 4925 (65)  
4925 (65) to 6440 (85)  
m<sup>3</sup>/sec (gpm) @ 2650 ps (21 & 24 in. models)

Grab & Feed Circuit,

1515 (20) to 1915 (25)  
1915 (25) to 2652 (35)  
m<sup>3</sup>/sec (gpm) @ 2200 psi

Chain saw kerf,

5.7 cm (2 1/4 in.)

Chain saw bar,

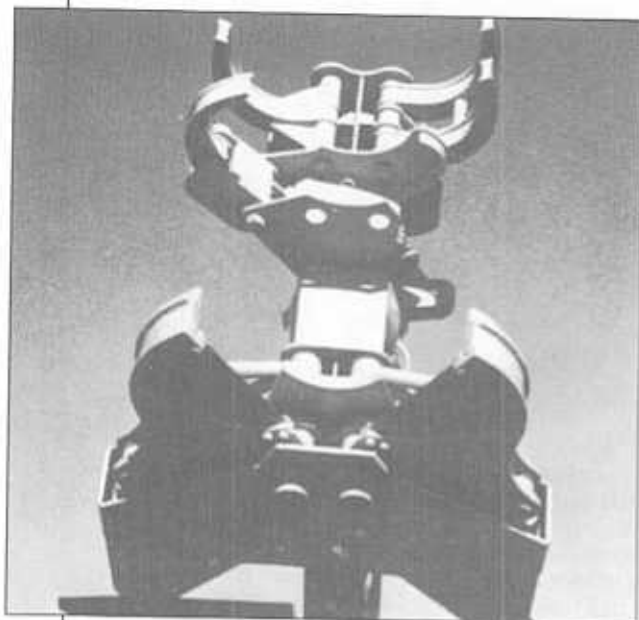
5.1 cm (2 in.)

## MANUFACTURER:

Dika Industries Ltd.

P.O. Box 117  
Rycroft, Alberta,  
T0H 3A0  
TEL: (403) 765-3894  
FAX: (403) 765-3001

# HARRICANA TREE FELLER-BUNCHER



The feller has a large cutting capacity, up to 50 cm (20 in.) in most species of softwood, a similar version of the feller is offered, specially adapted to hardwoods.

Harricana feller-buncher models 5012-STA, 5015-STA and 5018-STA are adaptable to all hydraulic excavators, and most wheeled or crawler loaders. They are available in three types: low, medium and high pressures.

## Operational Specifications

The knife blades are bolted on, and adjustable, positioned at a 6 deg. angle, which facilitates cutting into the tree's base and diminishes splitting. Trees cut this way meet the demands of many sawmills. The feller is also equipped with a side tilt device that facilitates cutting trees that are slanted or on hill-sides.

The accumulator option permits cutting more trees, in less manoeuvres, increasing significantly the feller's productivity in trees with average diameter less than 25 cm (10 in.).

## Particular Specifications

Base width, mm (in.)	1168 (46)
Height, mm (in.)	1880 (74)
Arm Opening, mm (in.)	1143 (45)
Max. Stem Diam. (softwood) mm (in.)	500 (20)
Side Tilting, deg.	17
Cutting Angle, deg.	6
Knife Thickness, mm (in.)	16 (5/8)
Weight (without accumulator), kg (lb)	1837 (4050)
(accumulator incl.)	2019 (4450)

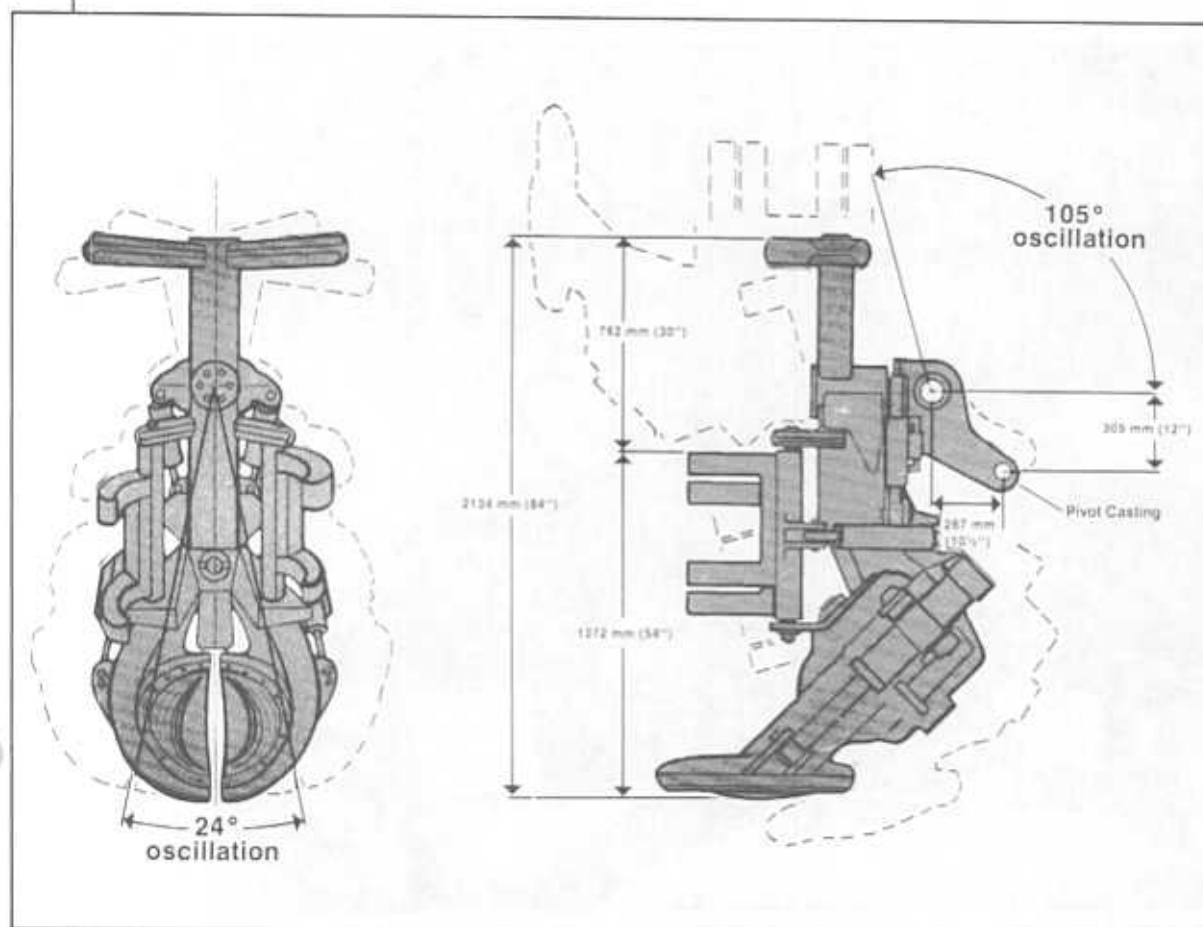
## Mechanical Specifications

Model	Pressure kPa (lbs/in. <sup>2</sup> )	Cylinder Knives mm (in.)	Pump Delivery l/min (gpm)	Close Time, sec
5012STA	28 000 (4000 and up)	127 (5)	151 (40)	2.04
5015STA	17 500 to 28 000 (2500-4000)	152 (6)	227 (60)	1.96
5018STA	17 000 or less (up to 2500)	179 (7)	302 (80)	2.00
Optional: Accumulator				
Tree feller-buncher for hardwoods				
Rigid type (without side tilt)				

## MANUFACTURER:

Harricana Metal Inc.  
P.O. Box 550, Amos, Que.  
J9T 3A8  
TEL: (819) 732-8381  
TELEX: 057-46647  
and also in Delta, B.C.,  
TEL: (604) 943-9692  
FAX: (604) 943-1565

# TANGUAY MODEL BJ-505-4 OSCILLATING FELLING HEAD



*Tanguay model BJ505-4 oscillating felling head.*

Tanguay are manufacturers of slashers, log loaders, delimbers, feller bunchers and attachments.

Felling heads are available in model BJ-505-4, with side oscillation, and model BJ-505, without oscillation. Both heads are reinforced for use on crawler carriers, but can also be used on almost any crawler or wheeled swing type carrier.

## Operational Specifications

Both felling heads are reinforced for use on crawler carriers. The heads can be adapted to almost any crawler, or wheeled swing type carrier.

The patented curved type blades offer minimum butt damage.

## Particular Specifications

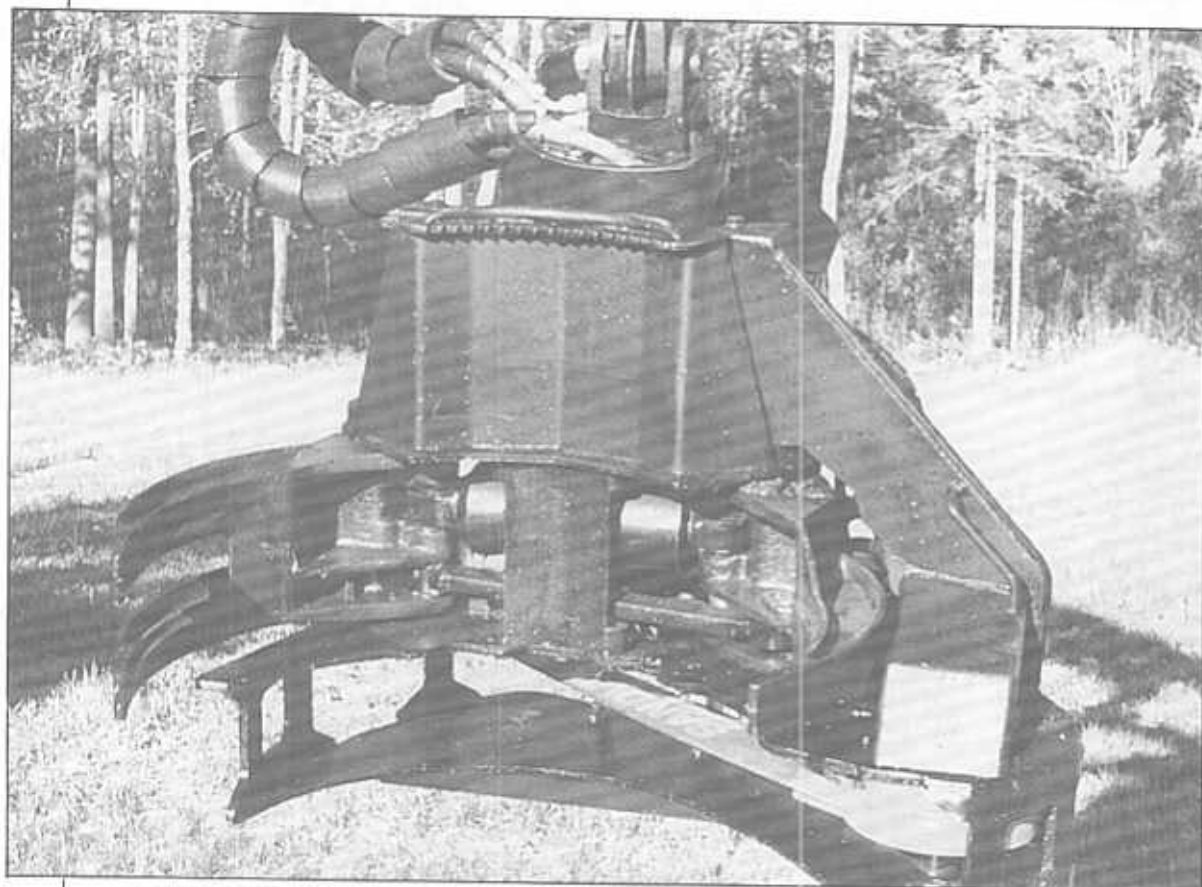
Hydraulics	
Shear	205 to 225 l/min (54 to 60 gpm.) 2 142 000 kg/m <sup>2</sup> (3000 psi.)
Tree Holder	105 to 120 l/min (28 to 32 gpm.) 1 428 000 kg/m <sup>2</sup> (2000 psi.)
Oscillation	24° for hillside cutting
Spherical Shear Blades	Capacity up to 508 mm (20 in.) tree diam.
Weight, kg (lb), BJ-505-4	1 546 (3,400)
BJ-505	1 364 (3,000)

## MANUFACTURERS

Tanguay Industries Inc.

2997 Watt St.,  
Quebec, Que.,  
G1X 3W1  
TEL: (418) 658-1315  
FAX: (418) 658-6747  
TELEX: 051-31676

## DENIS D-55 DIRECTIONAL FELLING HEAD



*The Denis Model D-55 directional felling head, employing the chain saw for mechanized felling.*

Le Groupe Equipements Denis Inc. designs, manufactures and markets equipment for the forestry industry, from silviculture and harvesting, to wood handling and processing operations. The Company is recognized as one of the largest manufacturers of delimiters in North America.

### Particular Specifications

Width	98 cm (38 1/2 in.)
Height	96 cm (37 3/4 in.)
Depth	86 cm (34 in.)
Weight	360 kg (794 lb.)
Felling Diameter	55 cm (21 1/2 in.)
Working Pressure	160 bars (2320 psi)
Required Flow	160 l/min (42 1/4 gpm)
Chain	0.404

### Operational Specifications

The Denis D-55 felling head directs the falling trees, and regroups them in such a way to facilitate subsequent skidding.

Because of its relatively small size, the head can work between trees with considerable ease. A rotor and two articulated axles ensure good positioning at the butt of the tree for felling. The D-55 is capable of felling at a rate of approximately 120-150 trees per hour.

The D-55 adapts to small excavators, 37.3kW(50hp) or more, working in a variety of situations: clearing operations, small wood lots, abundant snow, selective or partial cuts, uneven ground, and swampy terrain.

By locating the operator inside a protected cabin of the excavator, it greatly reduces accident risks, and health problems generally associated with the use of chain saws.

### MANUFACTURER:

Le Groupe Equipements  
Denis Inc.,

5110 Beaudry Street,  
St-Hyacinthe, Que., J2S

8A2

TEL: (514) 773-5454

FAX: (514) 773-3203

TELEX: 05-83051

# HARRICANA CIRCULAR SAW FELLING HEADS



*Harricana CS5000 STA high speed saw felling head. Its unique operating principle of grabbing the tree immediately after the cut, avoids stress damage and butt shatter.*

The Harricana circular saw felling heads are available in three models, CS5000 STA, CS5000 WL and CS6000 STA. The CS5000WL is specially designed for hydrostatic wheel loaders. The model CS6000 is a heavy duty felling head used for felling and handling large, tall trees.

The CS5000 model has been engineered and approved for use with all current excavators of 0.6/m<sup>3</sup>(¾yd<sup>3</sup>) capacity, and over.

## Operational Specifications

All the steps relating to the felling of the tree are controlled by the push of one button. After positioning the head at the tree, the operator thumbs the button, and the tree is cut and held automatically. Automatic one button operation is achieved by synchronizing the action of the boom, stick, tool and grab arm cylinders.

Cutting speed is extremely fast, at the blade rotation of 1,200 rpm, a 50cm(20in) tree can be sawed in a little over one second.

The saw blade is fully protected above and below. The underside protective plate, prevents rocks or other objects from damaging the saw. The top plate protects it from falling debris, and supports cut trees clear of the saw blade. With full blade protection, deep snow around the base of a tree can be penetrated. The felling head can also be used for leverage, to help move the machine, if bogged down.

The blade can easily be replaced, and the teeth rebuilt. A spare blade is supplied with each head. A carbide tipped saw option is also available. The full kerf carbide tips can be individually replaced.

## Particular Specifications

	Models		
	CS5000	CS5000WL	CS6000
Weight, kg (lb.)	2 137(4700)	2 335(5150)	3 039(6700)
Height,mm(in)	2 388(94)	2 400(94½)	2 743(108)
Base Width,mm(in)	1 727(68)	1 540(60¾)	1 708(67¼)
Diameter of Saw,mm(in)	1 391(54¾)	1 400(55)	1 450(58)
Thickness of Saw,mm(in)	12.7(½)	16(⅝)	15.7(⅝)
Kerf,mm(in)	47.6(1⅞)	51(2)	47.6(1⅞)
Side tilting,deg.	15	—	15

## Mechanical Specifications

Cutting Capacity,mm(in)	508(20)	508(20) one pass	559(22)
	711(28) Two pass		
Saw Motor Speed	1300 rpm max.	1350 rpm max.	1300 rpm max.
Size, cm <sup>2</sup> /Rev(in <sup>2</sup> /Rev)	110 to 186 (6.72-11.36)	Choice avail. accord to carrying mach.	110-186 (6.72-11.36)

Comfort option: Two control joysticks with rocker switches to control all felling head movements.

Side tilt optional

Carbide inserts optional

## Manufacturer:

Harricana Metal Inc.,

P.O. Box 550,  
Amos, Que.,  
J9T 3A8  
Tel.(819) 732-8381  
Telex 057-46647  
Delta, B.C.,  
Tel.(604) 943-9692  
Fax.(604) 943-1565

# KOEHRING DISC SAW FELLING HEADS



A variety of felling head models to choose from, for a wide range of front-end and knuckle-boom carriers. The disc saw felling head with multi-tree clamp arms is shown here. The bolt-on-saw blade is used on the disc saw felling head.

## Mechanical Specifications

**Disc Saw Drive:** Fixed or variable displacement piston saw motor coupled directly to saw shaft

**Hydraulic Requirement:** 25 gpm @ 4000 psi or 30 gpm @ 3000 to 3500 psi

**Clamp Arms:** Multiple tree collecting arms standard. Common 102mm (4") diameter cylinder for upper and lower sets of clamp arms (1 cylinder per set)

**Hydraulic Requirement:** 30 gpm @ 2500 to 3000 psi

**Optional Equipment:** Wrist (side tilt) attachment: Compact overall width of 89 mm (3.5 in.), inserts between standard felling head and bolt on boom adapter. Powered by 127 mm (5 in.) diameter cylinder (optional 152 mm (6 in.)), provides  $\pm 15$  deg. side tilt of felling head.

## Operational Specifications

The tree is grasped only after cutting, virtually eliminating butt damage caused by pre-severance clamping forces or machine movement during the cut. Grabbing the tree after cutting also results in reduced boom stresses common with shear-type felling heads.

Multiple tree accumulating arms allow several trees to be collected before bunching, a standard feature on all Koehring Waterous felling heads. Koehring Waterous disc saw felling heads are mounted on both wheel and track front-end vehicles, providing a compact, stable combination with low hydraulic flow requirements.

Koehring Canada is a manufacturer of pulp mill, logging and construction machinery. Its line of tree harvesting machinery products is as follows: Tree harvesters, feller forwarders, feller skidders, feller bunchers, log load aligners, and log loading cranes, yarders.

Disc saw felling heads are available in 508 mm (20"), and 559 mm (22") front and side cut models.

## Particular Specifications

	20 inch front end	20 inch front cut	20 inch side cut	22 inch front cut
Disc Saw Felling Head				
Weight Less Boom Adapter or Mounting Lugs kg (lb.)	2130 (4700)	2130 (4700)	2130 (4700)	2490 (5500)
Typical Weight of Boom Adapter or Mounting Lugs kg (lb.)	180 (400)	135 (300)	135 (300)	135 (300)
Weight-Optional Wrist	N/A	270 (600)	270 (270)	270 (600)
O/A Height mm (in.)	2950 (116)	2950 (116)	3070 (121)	3650 (144)
O/A Width mm (in.)	1620 (64)	1620 (64)	1620 (64)	1620 (64)
Disc Saw Blade				
O/A Diameter mm (in.)	1400 (55)	1400 (55)	1400 (55)	1400 (55)
Speed RPM (avg.)	1100	1100	1100	1100
Kerf Thick. mm (in.)	57 (2.3)	57 (2.3)	57 (2.3)	57 (2.3)

## MANUFACTURER:

Koehring Waterous, Div. Timberjack Inc.,

P.O. Box 490, Market St. South, Brantford, Ont. N3T 5P6  
TEL: (519) 752-6571  
FAX: (519) 752-3413  
TELEX: 061-81117

## ACRA CUT SAW SHARPENER



*The Acra Cut Saw Sharpener assures that the Koehring bolt-on disc saw teeth are uniformly sharpened to specifications.*

The Acra Cut Sharpener is designed to sharpen the teeth on a disc saw, particularly as found on the Koehring bolt-on disc saw, which is popular on feller bunchers.

The Company also manufactures manual tree planters.

PRICE: \$3,000 F.O.B. Plaster Rock, N.B., (1988), (subject to change)

### Particular Specifications

Height mm (in.)	1524	(60)
Length mm (in.)	1727	(68)
Width mm (in.)	914	(36)
Total Weight kg (lb.)	136	(300)
Angle Grinder	Not Included	

### Operational Specifications

The Acra Cut Saw Sharpener is designed to sharpen the teeth on the Koehring bolt-on disc saw blade, which is popular on many feller bunchers and feller-forwarders. Until now, there was no way to insure that every tooth was sharpened to a uniform height, and at the specified angles. This has meant that the disc saw blade was not operating at peak efficiency.

The Acra Cut Saw Sharpener is designed to be used with an angle grinder, that is mounted on a self-lubricating linear ball bearing slide assembly, that ensures accurate angles on the saw teeth. The saw is mounted on a swinging frame that enables the operator to swing the saw horizontally, either side, for hard facing build up of the segments prior to sharpening. The hardness of the saw cutting edge is increased from 360 to 430 brinell hardness by the preliminary hard facing. This results in up to 50 percent longer operating time, before sharpening is necessary again.

Because there is no need to remove the segments, build up hard facing and sharpening is reported to be possible in 2 to 4 hours, which means significant maintenance savings.

### MANUFACTURER:

Victoria Machine Shop,  
P.O. Box 509, Plaster Rock,  
N.B.,  
E0J 1V0  
TEL: (506) 356-2651

## LOGGING FRONTS AND MACHINE GUARD GROUPS



*Logging fronts, and machine guard groups, shown mounted on the Hitachi Model UH-123 Loader. This includes cab riser for max visibility; side panels for extra protection from trees; underguarding; swivel guard; track and roller guards; walkways; cab guard; boom, stick and heeling rack; counterweighting*

Balderson manufactures various combinations of cab risers, guarding groups, special booms and sticks, and various log handling grapples, which convert excavators into log loaders, or feller bunchers. Each package is custom designed to fill a particular end user situation. The packages are designed and installed on the machine by Balderson, at their facilities in Edmonton, Alta.

**PRICE:** Package prices vary; consult manufacturer. Deliveries range up to 20 weeks.

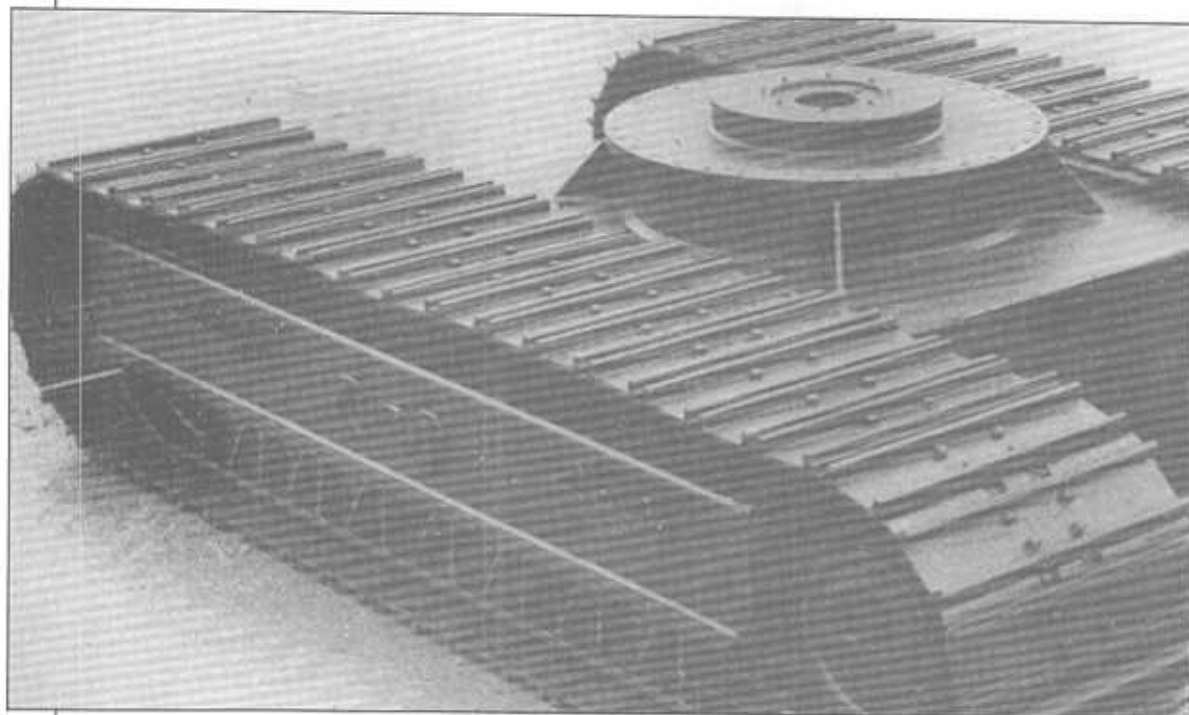
### Particular Specification

The custom designed, extra protection logging front conversions, provide comfort and safety while maximizing the total machine investment in the form of better productivity. The logging fronts are built from the ground up to keep the operator and equipment protected.

### MANUFACTURER:

Balderson Canada Ltd.,  
6400-30 St.,  
Edmonton, Alta.  
T6P 1J6  
TEL: (403) 469-9185  
FAX: (403) 469-9256

# WELDCO HEAVY DUTY WOODLAND UNDERCARRIAGE



*Weldco Heavy-Duty Woodland Undercarriage*

The Company are specialists in the design and manufacture of machines and attachments for the forest industry with a wide range of forest products.

The undercarriage size produced is equivalent to the D6, or old D7.

## Particular Specifications

Overall Length, m (ft)	4.3 (14.25)
Overall Width (24 in. pads) m (ft)	3.0 (9.88)
Height (Top to bearing flange) m (ft)	1.1 (3.62)
Underbody Clearance, cm (in.)	45.7 (18)
Undercarriage Weight (Depends on pads chosen) kg (lb.)	12,247 (27,000)

## Mechanical Specifications

Drive System	Linde GK-60V with auto brakes, 2-speed motor & counterbalance valve
Drawbar Pull, kg (lb.)	24948-33113 (55,000-73,000)
Bottom Rollers	8 per side
Two-Speed Travel, kmph (mph)	2.4-4.5 (1.5-2.8)
Gradeability, %	70
Optional:	Four-way tilt, 10 degrees Two-way tilt fore and aft, 10 deg. Two-way tilt side to side, 10 deg.

## Operational Specifications

Made from high-tensile steel, with motors and planetary drive units embedded inside the track frame.

Slider type guides are used, instead of idlers, which can freeze or break. The floatation chain guide functions to support the pads, and guide the chain, thus adding to the service life of the track group.

There is direct access to the service locations for simplified maintenance.

## MANUFACTURER:

Weldco-Beales

#410 - 6450 Roberts St.  
Burnaby, B.C., V5G 4E1  
TEL: (604) 294-2222  
FAX: (604) 294-1292  
TELEX: 04-55103



# **LOGGING AND TRANSPORT: OFF-ROAD** **LOGGING AND TRANSPORT** **Off-Road Transport**

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## LOGGING AND TRANSPORT: OFF-ROAD, SMALL-SCALE OPERATIONS



## M.P.C. PORT-A-LOG SULKY



*Standard Port-A-Log with wheels, also available with skis and snowmobile towing bar.*

### Particular Specifications

The Port-A-Log uses the lever principle, permitting one man to lift loads of 225 kg (500 lb.) easily. Loads of 450 kg (1000 lb.) have been lifted. The Port-A-Log will lift anything that fits between its wheels, i.e. hydraulic cylinders, crates, logs, poles, timbers, sewer pipes, I beams. It can also be used to remove manhole covers and carry tar buckets.

In the winter time, the Port-A-Log can be quickly converted into a sled sulky. There is also a snowmobile hitch attachment available, for effortless towing of even the heaviest loads. Removing the wheels and installing the Port-A-Log skis takes only a few minutes using a socket wrench.

A quick snap hitch for use with garden tractors, A.T.V.'s etc. is available.

The sulky is particularly suitable for harvesting small volumes of timber with a minimal investment. Its rugged construction, with few moving parts, allow it to last for years. It can be easily transported in a car.

Montreal Precision Crafting manufactures the Port-A-Log Model 500, standard with wheels, and optional with skis.

### MANUFACTURER:

Montreal Precision  
Crafting Ltd.,

797 Lajoie,  
Dorval, Que., H9P 1G7  
TEL: (514) 636-0825 FAX:  
(514) 631-0996

# EZI-HAUL 1 MINI-FORWARDER



*The Ezi-Haul 1 Mini-Forwarder suited for skidding and hauling applications in forestry, fire fighting, utilities, or as a recreational vehicle for the sportsman.*

## Physical Specifications

Length: mm (in.)	1778 (70)
Width: mm (in.)	1219 (48)
Height: mm (in.)	1295 (51)
Weight: kg (lb.)	276 (610)
Undercarriage: 2 moulded rubber tracks:	
	3149X419 (124X16.5) mm (in.)

## Operational Specifications

The Ezi-Haul mini-forwarder has a towing capacity of 1588 kg (3500) lb, or it can support and carry a 544 kg (1200) lb load. The low track pressures, make it particularly applicable to environmentally sensitive sites.

The forwarder can be disassembled into two units for easier transportation into remote areas using small aircraft.

In operation, the operator walks in front of the vehicle in the forward or reverse directions. The forwarder is manoeuvred by simply moving the drawbar handle to the left or to the right for steering, and moving the upper handle front or back for forward, or reverse motion.

## Mechanical Specifications

Engine: kW (hp)	6(8) Honda
Drive:	2 Sundstrand variable displacement axil piston pumps, and 2 Char-Lynn H-Series hydraulic motors
Steering:	Infinitely variable, full pivot turns
Undercarriage:	Bogie wheel suspension
Speed: km/hr (mph)	0 to 6.6 (0-4.2)
Optional Attachments:	Winch—manual or hydraulic
Other Options:	Pulpwood bunk—for 1.2 m (4) ft pulpwood
	Load box—capacity 544 (1200) kg (lb.)
	Wood splitter—hydraulic
	Trailer—rubber tires or sleigh runners
	Honda, Wisconsin, Briggs and Stratton engines

## MANUFACTURER

Ezi-Haul Inc.  
1530 Dawson Road  
Thunder Bay, Ontario  
P7B 5E3  
TEL: (807) 767-4285

# DION F-4 FLEXIBLE TRACK FORWARDER



*The F4-DION, articulated, flexible tracked forwarder, loader equipped, with full reversing opposite seats for easier loading and driving.*

The Dion Model F4 flex-track forwarder, available with forwarder mounted, hydraulic loader, with bunks in the pulpwood/log configuration, or with hydraulic dumper for loose material transport.

## Particular Specifications

Length mm (in.)	8000	(315)
Width mm (in.)	1702	(67)
Height mm (in.)	1980	(78)
Ground Clearance mm (in.)	305	(12)
Weight kg (lb.) loaded	4218	(19,000)
Track Area cm <sup>2</sup> (in <sup>2</sup> )	39 490	(6 120)
Ground Pressure, empty	0.21	(3)
kg/cm <sup>2</sup> (psi) loaded	0.45	(6.4)

## Mechanical Specifications

Engine	F4L-912 Deutz Diesel 60kW(80 HP) @ 2700 RPM
Transmission	4-speed

## Operational Specifications

Load Capacity	7.2 m <sup>3</sup> (2 cords), or 4536 kg (10,000 lb.)
Climbing Ability	65% to 85% slope
Side Hill Ability	40% slope
Speed @ 2700 RPM	
Low	3.4 km/hr (2.1 mph)
High (4th)	22.4 km/hr (13.9 mph)
Optional loader capacity	1.360 kg (3,000 lb.)
Grapple capacity	0.45 m <sup>3</sup> (1/8 yd <sup>3</sup> )
Hyd. dumper* capacity	2.3 m <sup>3</sup> (3 yd <sup>3</sup> )

\*The dumper must be bought installed on the adapted vehicle.

The F4 forwarder can carry either pulpwood or logs to a maximum of 4.9 m (16 ft.) in length. It is only 1702 mm (67 in.) wide, and particularly suited for use in selection cutting. With full power on its four tracks, and low ground pressures, it can be applied on both rough and swampy ground.

## MANUFACTURER:

A. Vohl & Fils Ltee.  
P.O. Box 28  
Portneuf County, Que.  
G0A 4B0  
TEL: (418) 268-3527

# RAIDTRAC 1800 LIGHT TRACTOR



*Raidtrac model 1800 flexible track forwarder, particularly suited to low ground pressure applications.*

The Raidtrac is available with two tracks: 46cm (18in) and 76cm (30in) widths

PRICE: Approx. \$ 20,000 FOB Drummondville, Que., (1988). 1 month delivery.

## Mechanical Specifications

Engine	Citroen M-28, 26 kW (35HP) @ 5750 RPM
Gearbox	4 speed forward all synchronized, 1 reverse
Final Drive	Heavy duty roller chains 3/4 pitch
Track Drive	High quality rubber sprockets
Suspension	16 aluminum wheels with solid tires mounted in double tandems

## Optional Equipment

Also available with 914 mm (36 in.) wide tracks, made with four endless rubber straps. Available with electric front or rear winch; rear utility box; track trailer 2743 mm (9ft.) long, short or long winter cab, rear double seat and hour meter.

## Operational Specifications

This is a light forwarder with wide tracks, exerting low ground pressures. Ground surface contact with 457 mm (18 in.) track at 152mm (6 in.) depth is 19045 cm<sup>2</sup> (2952 sq.in.) with a ground pressure of 51 g/cm<sup>2</sup> (0.72 psi). The ground surface contact with 914 mm (36 in.) track at 152 mm (6 in.) depth is 38090 cm<sup>2</sup> (5904 psi) with a ground pressure of 30 g/cm<sup>2</sup> (0.42 psi).

The approximate maximum speed is 30 km/hr (18 mph).

## Physical Specifications

Overall Length mm (in.)	2550	(100)
Maximum Width mm (in.)	1520	(60)
Height mm (in.)	1950	(77)
Ground Clearance mm (in.)	360	(14)
Weight kg (lb.)	975	(2150) (Standard 457 mm (18 in.) track)
	1135	(2500) *

\* With optional 760 mm (30in.) track.

## MANUFACTURER:

Raidtrac Vehicules Inc.,  
C.P. 223, 2200 Louis Felt  
Drummondville, Que.  
J2B 6V7  
TEL: (819) 477-0262

## ISLAND LOGGER



*Island Logger Cable System which can be used in running*

The P.E.I. Department of Energy and Forestry designed and built the prototype Island Logger cable system, and under its extension services provided through the Canada-P.E.I. Technology Transfer Program, makes the construction plans to manufacture the cable equipment available on request.

Price: Approx \$ 10,000.00 F.O.B. Montague, P.E.I., 1988, utilizing used parts, when available locally.

### Physical specifications

Trailer Frame : 1.5 X 2.1 m ( 5 X 7 ft ) , 12.7 cm channel iron  
Tires : 8 X 14.5 on single trailer  
Tower : 1cm thick, 12.7 X 12.7 steel , 3.7 m ( 12 ft ) long  
Overall Height: 4.3 m ( 14 ft )

### Mechanical Specifications

	Cable Diam.	Drum Cap.	Avg. Speed
Haulback:	0.95cm (3/8")	366m (1200')	244/305m/min (800/1000ft.min)
Mainline:	1.11cm (7/16")	183m (600)	152/213m/min (500/700ft.min)
Power Requirements : Minimum 26 Kw (35 HP) prime mover			
Drum Brakes: Disc type			

### Operational Specifications

Primarily designed and built by the staff of the P.E.I. Department of Energy and Forestry to extract wood from environmentally sensitive areas. Tests show it also performs well on steep slopes and rough ground.

Machine design makes optimum use of locally available parts.

Average set-up time is 25 min., with an average reported production of 5.4 to 7.2 m<sup>3</sup> (1.5 to 2 cords) per hour. A tractor of some 37kW (50 hp) has given the best results when serving as the power source. A light duty truck can be used for towing the yarder on the road to site.

### MANUFACTURER:

Units are fabricated by user or by local welding/machine shops. To obtain the construction plans to build a copy of the equipment contact:

Prince Edward Island  
Department of Energy and Forestry  
P.O. Box 2000  
Charlottetown, P.E.I.  
C1A 7N8  
Mr. Douglas Mac Master,  
Fabricator  
(902) 838-3465



*Capital Teletransporteur, TL3000, cable extraction system especially suited to steep and inaccessible terrain, environmentally sensitive sites, and where protection of the advance regeneration during harvest, is prescribed.*

Two models of the Capital Teletransporteur cable systems are available: TL 2000 and TL 3000. The Company also manufactures electric winches: Models CD300 (300 kg), CD500 (500 kg), CD700 (700 kg), EC1000 (1000 kg), EC1350 (1350 kg). Hydraulic winches: Models 304 (6800 kg), 306 (7000 kg).

## Particular Specifications

Height, m (ft)	1.20 (3.9)
Length, m (ft)	1.50 (4.9)
Width, m (ft)	0.8 (2.6)
Weight, kg (lb.)	1000 (2205)

## Mechanical Specifications

Carriage Speed, m/min (fpm)	61 (200)
Max Extraction Distance, m (ft)	914 (3000)
Operating Slope, degrees	60
Main Cable, Min. Diameter, cm (in)	1.9 (3/4)
Capacity of Winch, kg (lb.)	2722 (6,000)
Winch Speed, m/min. (fpm)	31 (100)

Radio Control, Double function  
Command Teletransporteur  
Communications, 2-operators  
Engine, Gas or Diesel

## Operational Specifications

Of the two models available, the TL 2000, with a capacity of 2000 kg at 40 m/min., is powered by a 18.5 kW (25hp) engine, operating some 300m of principal cable of 19mm diameter. The TL 300, the higher capacity model, delivers 3000 kg at 60 m/min, is powered by a 26 kW (35hp) diesel engine, operating 19mm cable over 1000m.

## MANUFACTURER:

Treuil de la Capitale Inc.  
34 Boul. Johnny Parent  
Loretteville, Que.,  
G2B 1T3  
TEL: (418) 842-8641  
FAX: (418) 694-9679  
TELEX: 051-3786

## J M S ALL-TERRAIN VEHICLE TRAILER



*The J.M.S. tandem dumping trailer, used to take an ATV, on the road to the forest, and in less than a minute, converts to a forest trailer for wood transport.*

The JMS Trailer transforms quickly from road, all terrain, vehicle transporter, to wood transporting forest trailer, with the addition of a steel loading cart, or side stakes.

### Particular Specifications

Dimensions	114 cm (45") X 1.9 m (6'4")
Wheel Base	109 cm (43")
Charging Capacity	775 kg (1500 lb.)
Total Weight	150 kg (320 lb.)
Road Tires	570-8 tandem wheels
Wagon Configuration	Dimensions vary from 1.2 m (4 ft.) to 2.4 m (8 ft.) long and 109 cm (43 in.) wide

### Operational Specifications

The trailer is adapted for quick unloading by the tilt frame feature. Tandem wheels permit crossing of obstacles, and lessen pulling resistance. The trailer can be utilized by ATVs, autos or small tractors.

### MANUFACTURER:

La Forge J.M.S. Inc.,  
240 Route 285,  
L'Islet Sud., Que.  
G0R 2C0  
TEL: (418) 247-5510

## ATC UTILITY TRAILER



ATC Trailer with integrally mounted wood splitter, which can be built by the user to specifications provided under the Canada-New Brunswick Technology Transfer Program.

The Forest Extension Service, Department of Natural Resources, makes the construction plans, to manufacture the ATC utility trailer as well as a variety of optional accessories, available on request. This is an information service aimed at the small woodlot operators to meet their operating needs, provided through the Canada-New Brunswick Technology Transfer Program.

PRICE: approximately (1988), built by woodlot operator:

Basic Trailer, material cost, \$295.00  
 Estim. time to build: 22 hours  
 Hydraulic Tank, material cost, \$135.00  
 Estim. time to build: 10 hours  
 Motor/Hydraulic Pump, material cost, \$760.00  
 Estim. time to build: 8 hours  
 Valve and Hoses, material cost, \$350.00  
 Estim. time to build: 4 hours  
 Wood Splitter, material cost, \$630.00  
 Estimated time to build: 28 hours

### Operational Specifications

ATC\* bikes equipped with a low gear range are preferable for use with the ATC trailer. Most ATC's in the 200cc or larger category are suitably adapted for on or off-road use of the trailer. Mobility may be limited on soft ground, and on sites with pronounced pits and mounds.

The winch can normally be operated with its 30.5m (100ft) of cable requiring trail layout from 30.5m to 61.0m (100 to 200 ft).

The equipment is designed with the small woodlot owner in mind, with low cost, multiple use, and relative ease of operation and maintenance, as principal considerations.

\* the term ATC refers here to any three or four wheeled all-terrain motorcycles.

### Particular Specifications

Dual bogie wheels	30.5 cm (12 in.) wheel barrow tires
Powered By:	3.7 kW (5 hp) Honda engine, or similar
Use:	Forwarding Tree Sections, and Splitting Firewood
Capacity:	1.2 m <sup>3</sup> (0.33 cords) or 454 kg (1000 lb.)
Optional Trailer Accessories:	<ul style="list-style-type: none"> <li>Wood splitter</li> <li>Pesticide sprayer</li> <li>Skidding/yarding winch</li> <li>Christmas Tree Baler</li> </ul>

### MANUFACTURER:

Units are fabricated by user or by local welding/machine shops. To obtain construction plans to build a copy of the equipment contact:

Province of New Brunswick  
 Department of Natural Resources  
 Forest Extension Service Branch  
 Hugh John Flemming  
 Forestry Centre  
 R.R. #10, Fredericton, N.B.  
 E3B 6H6  
 TEL: (506) 453-3711

## LOGGING ARCH



*Log Arch which can be built to specifications with the small woodlot owner in mind.*

The Forest Extension Service, Department of Natural Resources, makes the construction plans, to manufacture the logging arch available on request. This is an information service aimed at the small woodlot operators to meet their operating needs, through the Canada-New Brunswick Technology Transfer Program

### Particular Specifications

Powered by: ATV bike, 200 cc or larger are suitable  
 Use: Skidding Tree Sections  
 Capacity: 0.5 m<sup>3</sup> (18 cu. ft.)  
 Winch Capacity: 453 kg (1000 lb.)  
 Trailer coupler for 1 7/8 in dia. ball, 907 kg (2000 lb.) capacity  
 ATV hubs, Tires and Axles  
 Width: 99.1 cm (39 in.)  
 Material: HSS 1 1/2 in x 1 1/2 in X 1/8 in

### MANUFACTURER:

Units are fabricated by users or local welding/machine shops. To obtain construction plans to build a copy of the equipment contact:

Province of New Brunswick  
 Department of Natural Resources  
 Forest Extension Service Branch  
 Hugh John Flemming Forestry Centre  
 R.R. #10, Fredericton, N.B. E3B 6H6  
 TEL: (506) 453-3711

## LOGGING AND TRANSPORT: COMMERCIAL OPERATIONS

# CATERPILLAR WHEELED SKIDDERS

Caterpillar offers a complete line of production machines for the woods and mills: road construction and reforestation, cable and grapple skidding, felling and bunching, delimbing and bucking, loading and unloading, chip and finished product handling. The team advantage is emphasized, matching machines for cost-efficient production.

The following wheeled skidders are offered: Models 508 (cable & grapple versions), 518 (cable & grapple versions), and 528 (cable & grapple versions).

## Operational Specifications

The Cat 508 wheeled skidder, 72kW(95), is best utilized when the operation doesn't require the added size and power of the larger 518 and 528 models. Available in cable and grapple models to suit the logging system. The grapple model is teamed with a feller buncher for optimum production.

The spring-loaded winch control lever automatically returns to "brake on" during frequent changes. Drag adjustment knob prevents winch drum over-spinning.

Cat grapple features load sensing hydraulics that control the tongs, A-frame boom and swiveling to keep logs in the grapple during transport.

For all Cat skidders, CAT Plus services include preventive maintenance programs, parts and components exchange, computerized parts location and other services to meet operators needs.

## Particular Specifications

	Model 508	Model 518	Model 528
Tires, mm (in.) (standard)	23.1x26	18.4x34	24.5x32
Tread, mm (in.)	2100 (82.7)	2070 (81.5)	2310 (91)
Width over tires mm (in.)	2687 (106)	2510 (95)	2920 (115)
Clearance at hitch pin, mm (in.)	521 (20.5)	610 (24)	700 (27.5)
Operating Wt, kg (lb)	7770 to 9490 (17,130 to 20,920)	9662 (21,300)	12,470 (27,500)
Winch, Line pull, kN (lb)	Cat 508 121 (27,225)	Gearmatic 119 14520 (32,000)	Cat 528 18140 (40,000)
Line speed, m/min (fpm)	61 (200)	71 (234)	70 (229)
Capacity cable, m (ft)			
13mm (1/2 in.)	75 (246)		
16mm (5/8 in.)	49 (161)	72 (235)	
19mm (3/4 in.)	34.5 (131)		
Grapple Opening cm (in.)	193 (76)	varies with model selected	53 (175)



Cat 72kW(95hp) grapple, wheeled skidder, that shares the performance of the larger Cat skidder machines.

#### Mechanical Specifications

	Model 508	Model 518	Model 528
Engine, kW (hp) (flywheel @ 2400RPM)	Cat 3204 diesel 72 (95)	Cat 3304 diesel 89 (120)	Cat 3306 Turbo d. 130 (175)
Transmission	Power shift with torq. conv. 83.7 18,833)	Power shift with torq. conv.	Power shift with torq.c.
Max Drawbar pull at stall, kN (lb)	30 deg.: ± 15 deg. 66 (25.2)	28 deg.: ± 14 deg. 96 (25.2)	28 deg.: ± 14 deg. 117 (31)
Front axle oscil.			
Hyd. System, output l/min (gpm)			
Axles	No spin dif., f/r	No spin dif., f/r	No spin dif, f/r
Brakes	Caliper disc	Driv.disc + F.W.disc	Calip. disc
Standard		ROPS canopy	ROPS canopy
Optional, may vary. Consult dealer.			
Optional (main items)	Axle, float. tires Cab, ROPS incl. doors Counterweight Fire Sup. Syst. Lighting Syst. Tires, 66x43x25, 10PR Grapple (req. opt. axle) A frame Grapple	H.D. Brake Syst. Fairlead trol. Lighting Syst. ROPS cab (screen/glazed) Tires (req. opt. axle)	Lighting Sys Tires Grapple

#### MANUFACTURER:

CATERPILLAR OF  
CANADA LTD.  
100 Sandelwood Parkway  
W.,  
Brampton, Ont.,  
L6V 3Y4  
TEL: (416) 846-3222  
FAX: (416) 846-5725  
TELEX: 06-97725

# RANGER SKIDDERS

The F-Series Ranger Skidders from VME, are available in cable and grapple configurations, in three models: F665, F666, F667.

The Ranger line is ruggedly built to withstand a world of abuse from adverse terrain.



Ranger F666 Cable Skidder with high flotation tire option. VME makes available, a wide range of tire options, to suit particular needs.

## Optional Equipment:

Cab, Canopy and Related Options: OPS cab enclosed for winter operations. Standard OPS canopy includes doors, mesh, front screen mesh. General optional equipment: engine air pre-cleaner, dual battery kit, engine block heater, cable cutter, suction fan kit, optional fairlead (8" higher, 4" further back from rear axle includes 4th roller), work light kit, fairlead fourth roller, secondary steering, steering wheel, hand throttle, tow hook, wheel wrench, wheel wrench handle.

## Operational Specifications

The ROPS/FOPS Ranger canopy, heavy screens, brush guards and canopy sweeps offer good operator protection. A shielded rear discharge muffler directs heat and noise away from the operator.

The wide front blade can handle the rigors of pushing and decking in the woods, and at the landing.

The rugged Ranger frame is solid steel plate. Keel shaped belly guards, provide full length protection for drive train components.

The three speed powershift transmission, with on-the-go shifting capability between speed ranges, has directional clutch modulation, providing smooth, full power, on-the-go forward, and reverse shifts, without braking.

The torque converter drives the winch, and regulates line pull, and line speed, to match load and operating conditions.

The planetary axles feature durable, single piece, cast steel housings, bolt-on spindle for maximum strength and ease of service. Front and rear no spin differentials keep the machines moving through mud, snow and adverse terrain.

## Particular Specifications

	F665	F666	F667
Model: Cable Skidder			
Height mm (in)	2946 (116)	3162 (125)	3162 (125)
Overall Length mm (in)	5588 (220)	6248 (246)	6248 (246)
Blade Width mm (in)	2134 (84)	2134 (84)	2134 (84)
Track, Rear Width mm (in)	2127 (84)	2182 (86)	2182 (86)
Width Over Tires mm (in)	2636 (104)	2817 (111)	2817 (111)
Ground Clearance mm (in)	523 (21)	450 (18)	450 (18)
Tire Size (standard)	18.4-34	23.1-26	23.1-26
Total Weight kg (lb.)	7384 (16280)	9847 (21710)	9970 (21980)

## Mechanical Specifications

	F665	F666	F667
Model			
Engine (Cummins turbo)	4BTA 3.9	6BT 5.9	6BT 5.9
Flywheel kW (hp)	77 (104)	98 (132)	118 (159)
Torque Converter	2.29:1	2.728:1	2.728:1
Winch (Clark)	WD-200	WD-310	WD-410
kN (lbf)	100 (22400)	130 (29200)	148 (33400)
at m/min (fpm)	at 90 (294)	at 122 (400)	at 92 (303)
Drum Capacity mm-m (in-ft)	15.7-84.1 (0.62-276)	19.1-65.8 (0.75-216)	19.1-65.8 (0.75-216)
Tires (optional)	Flotation tires are also available; 24.5-32, 30.5L-32 require heavy duty axles.		
Transmission	3 speed, full reversing Clark powershift with modulation		

## MANUFACTURER:

VME Equipment of Canada  
(St. Thomas Plant),  
25 Michigan Blvd.,  
St. Thomas, Ont., N5P 1H2  
TEL: (519) 631-9420 FAX:  
(519) 631-9420  
TELEX: 064-73550

# RANGER GRAPPLE SKIDDERS

The F-Series Ranger skidders from VME, are available in cable and grapple configurations, in three models: F665, F666, F667. The grapple skidders



Ranger F666 with A Frame, Swing-Up Grapple (above), with 1778mm grapple head, capable of continuous bi-directional rotation.

Ranger 666 with Parallelogram, 360 deg. grapple (below), with 2667mm grapple head.

equipped with Ranger 178 cm (70 in.) swing-up grapple, and the 267 cm (105 in.) single cylinder grapple. The grapple skidders can be converted to cable skidders, by using the standard three roller fairlead, with the grapple arch.

## Particular Specifications

Model/Grapple Skidder	F665	F666	F667
Total Weight kg (lb.)	8800 (19401)	10269 (22640)	1894 (26220)

## Optional Equipment:

The 267cm (105") grapple utilizes a single hydraulic cylinder and synchronizing bar to control line movement for effective log bunching action. An accumulator maintains hydraulic pressure in the grapple circuit. High clamping forces combined with the accumulator, aid in preventing load loss while skidding (optional on F666, standard on F667).

Ranger 178cm (70") swing-up grapple on F665, F666.

## Operational Specifications

The F665 and F666 can convert easily from a grapple skidder to a cable skidder. The operator merely swings and pins the grapple up and out of the way. The arch has built-in fairlead rollers, and the WD-200 and WD-310 are ready for efficient cable skidding.

**F665, F666 Grapple**—Clark/Ranger with 1778mm (70 in.) grapple head capable of continuous, bi-directional rotation.

**Grapple Head:** Reversible hydraulic motor with chain reducer and friction disc snubber; head is capable of continuous, bi-directional rotation.

**Arch:** Tubular construction; mounted on rear frame with 50.8mm (2 in.) pins in spherical bushings. Integral fairlead with two 101.6mm (4 in.) diameter side rollers and a 215.9mm (8.5 in.) diameter main roller.

**F666 (optional), F667 Grapple**—Clark/Ranger with 2667mm (105 in.) grapple with 360 deg. rotating hydraulic motor driven head; reversible.

**Grapple Head:** Bi-directional hydraulic motor with chain reducers and friction disc snubbers; 360 deg. continuous rotation.

**Arch:** Tubular construction; mounted on rear frame with 51mm (2 in.) dia. pins in spherical bushings, with built-in fairlead; main roller and two guide rollers.

## Mechanical Specifications

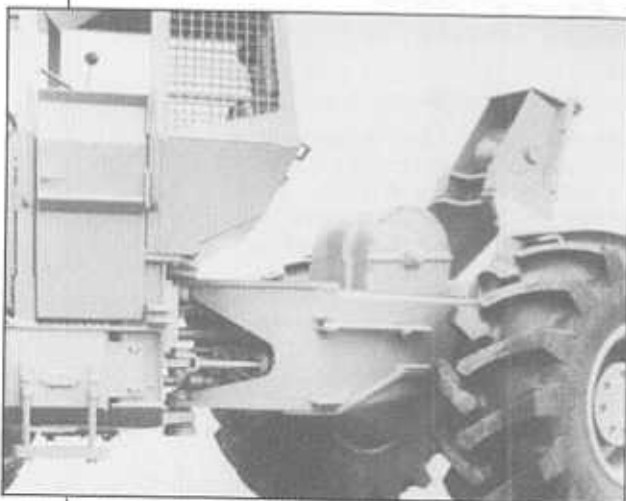
Model: Grapple Skidder	F665	F666	F667
Tires: Standard	23.1-26 10PR	23.1-26, 10PR	24.5-32, 12PR
Optional	18.4-34, 18.4-26 28L-26, 67-34-26 24.5-32 Flotation tires also available	24.5-32*, 28L-26 30.5L-32* *Requires HD axle	28L-26, 30.5L-32 Flotation tires also available

## MANUFACTURER:

VME Equipment of Canada  
(St. Thomas Plant),

25 Michigan Blvd.,  
St. Thomas, Ont.,  
N5P 1H2  
TEL: (519) 631-9420  
FAX: (519) 631-9420  
TELEX: 064-73550

# TIMBERJACK CABLE SKIDDERS



Timberjack Model 450B Cable Skidder with 177 kN (40,000 lb.) winch, powered by an aftercooled 130 kW (174 HP) Cummins turbo engine. This is one of seven Timberjack cable skidder models.

Timberjack is a recognized name in the skidder industry, as well in the design and manufacture of mechanical logging equipment. Timberjack produces: cable skidders, grapple skidders, clambunk skidders, log forwarders, mobile delimiters, feller bunchers and mining vehicles. Cable skidders are available in models 225A, 230A, 240A, 380B, 450B, 480B and 550B.

## Operational Specifications

Four wheel drive, articulated, rubber-tired choker skidders for skidding trees/logs off-road from the stump area, over adverse terrain, to the landing where further processing takes place.

A Lexan weather enclosure is optional, as well as extra heavy duty axles. The latter is particularly important, if wide floatation tires are being utilized.

## Particular Specifications

	Smallest	Largest
Model	225A	550B
Overall Length mm (in.)	5690 (224)	6578 (259)
Maximum Width mm (in.)	2388 (94)	3238 (259)
Height mm (in.)	2718 (107)	3124 (123)
Ground Clearance mm (in.)	533 (21)	610 (24)
Weight kg (lb.)	6736 (14,850)	13658 (30,110)

## Mechanical Specifications

Model	Smallest	Largest
Engine	225A GM 3-53N 69 kW (92 HP) @ 1800 RPM GM naturally aspirated and turbo, Cummins turbo and Deutz naturally aspirated, depending on model.	550B GM 6V-53N 150 kW (201 HP) @ 1500 RPM
Starting	Direct electric	
Air Cleaner	Dry type	
Power Train	Four wheel drive with mechanical and powershift transmission, depending on model.	
Steering	Hydraulic articulation	
Winch	Model T20	Model T50
Line Pull	Bare Drum 89 kN (20,000 lb.)	Bare Drum 222 kN (50,000 lb.)

## MANUFACTURER:

Timberjack Inc.,  
925 Devonshire Ave.,  
P.O. Box 160,  
Woodstock, Ont., N4S 7X1  
TEL: (519) 537-6271  
FAX: (519) 539-4750  
TELEX: 064-74118

# TIMBERJACK GRAPPLE SKIDDERS



Timberjack Model 380B single-arch Grapple Skidder powered by a 110 kW (148) Turbo Cummins engine.

Timberjack is a recognized name in the skidder industry, as well in the design and manufacture of mechanical logging equipment. Timberjack produces: cable skidders, grapple skidders, clambunk skidders, log forwarders, mobile delimbers, feller bunchers and mining vehicles. Grapple Skidders available in models 240A, 380B, 450B and 480B.

## Particular Specifications

	Smallest 240A	Largest 480B
Model		
Overall Length mm (in.)	5768 (227)	6477 (255)
Maximum Width mm (in.)	2845 (112)	3048 (120)
Height mm (in.)	2797 (110)	3226 (127)
Ground Clearance mm (in.)	561 (22)	609 (24)
Weight kg (lb.)	9149 (20,170)	14565 (32,110)

## Operational Specifications

Four wheel drive, articulated, rubber-tired grapple skidders for skidding trees/logs from stump to landing. To optimize production these machines are often utilized in conjunction with feller bunchers. Equipped with high-flotation tires, they are capable of operating under conditions of low ground bearing capacity, as well as on steep slopes.

## Mechanical Specifications

	Smallest 240A	Largest 480B
Model		
Engine	Cummins 4BTA3.9 87 kW (116 HP) @ 1600	Cummins 6BTA5.9 128 kW (174 HP) @ 1500
Winch	T20 (Optional T30)	T30
Line Pull	Bare Drum 89 kN (20,000 lb.)	Bare Drum 133 kN (30,000 lb.)
Tires		
Standard	28Lx26	30.5x32
Optional	23.1x26, 24.5x32 (reversing rim) 30.5x32, 67/34x26 (extra H.D. axles)	35.5x32, 73/44x32
Transmission	Powershift full reversing 6 forward and 6 reverse	Powershift full reversing 4 forward and 4 reverse
Arches	Single	Single and Dual
Grapples		
Sorting Heads	72"	72"/82"/86"/100"/104"
Bunching Heads		110"/120"/124"

## MANUFACTURER:

Timberjack Inc.,  
925 Devonshire Ave.,  
P.O. Box 160,  
Woodstock, Ont.,  
N4S 7X1  
TEL: (519) 537-6271  
FAX: (519) 539-4750  
TELEX: 064-74118

# BALDERSON STEEP SLOPE GRAPPLE SKIDDER



*Balderson steep slope grapple skidder combines high lift, with close-in towing, permitting the operator to reach over loads, lift to break them free, and then balance the machine for operating on steep slopes.*

For log skidding on hilly or steep terrain, this attachment is made for the Cat. D5H custom skidder and Cat. D6H track-type tractor (currently available only for Cat. D6H). Grapples available in two models: basket type, for small diameter wood, and ice-long type, for large diameter wood.

**PRICE:** List \$65,000 F.O.B. Edmonton, Alta. (1988), delivery 8 to 10 weeks. Price for package includes a hydraulic add-on package, but does not include guarding modifications for the tractor itself.

## Operational Specifications

The two piece boom provides good lift for breaking loads free in snowy conditions, and has a long rearward reach, giving extra grip on logs. Wide butt rack squares logs and keeps them from riding up on the tracks. Compact hydraulic winch has a 11340 kg (25,000 lb.) line pull, and does not interfere with the grapple. Both grapples feature constant line pressure, 250 degree rotation and a mechanical snubber. Competitive manufactured grapples, can also be adapted to this machine.

## Particular Specifications

Model	D5H	D6H
Boom-Pin Height Raised mm (in.)	3150 (124.0)	3327 (131)
Reach-Boom Lowered mm (in.)	2388 (94.0)	2443 (96.2)
Ground Clearance mm (in.)	1092 (43.0)	1092 (43.0)
Ground Clearance @ Max. Reach mm (in.)	305 (12.0)	203 (8.0)
Grapple Capacity m <sup>2</sup> (sq. ft.)	1.02 (11.0)	1.34 (14.5)
Dealer Relocation of Rear Idler mm (in.)	N/A	236 (9.28)

## MANUFACTURER:

Balderson Canada Ltd.,  
6400-30 St.,  
Edmonton, Alta.,  
T6P 1J6  
Tel.(403) 469-9185  
Fax.(403) 469-9256

# KMC HIGH SPEED, STEEL TRACKED SKIDDERS



KMC, formerly FMC, high speed steel tracked skidders: Models 220CA, the steep slope alternative and FT-180, built to work in the woods.

PRICE: Model 220CA, approx. \$200,000 distributor retail, F.O.B. Nelson, B.C., available as of January 1989.

Model FT-180 approx. \$133,000 distributor retail, F.O.B. Nelson, B.C., available as of January 1990.

The Company, a Canadian manufacturer, has obtained the rights to manufacture the former FMC tracked skidder line in Canada. Former FMC models 180; FT-180CA, choker type, and FT-180AG grapple version; FMC models 200/220; 220CA, choker type, and the 220AG, grapple version.

The Company also manufactures a 6-way hydraulic angle tilt brush blade for the KMC 200 series machine, for use in site preparation.

## Physical Specifications

Model	220CA	FT180
Height m (ft.)	3.15 (10.33)	2.79 (9.17)
Overall Length m (ft.)	6.35 (20.92)	5.69 (18.67)
Width m (ft.)	2.62 (8.58)	2.44 (8.0)
Ground Clearance m (ft.)	0.48 (1.58)	0.41 (1.33)
Dry Weight kg (lb.)	13926 (30,700)	10823 (23860)

## Mechanical Specifications

Model	220CA	FT180
Engine	Detroit Diesel 6V53N 212 HP @ 2600 RPM	Detroit Diesel 53T 118 HP @ 2600 RPM
Electrical	12 v. 225 amp hr. battery with 65 amp hr. alternator	12 v. 225 amp hr. battery with 42 amp hr. alternator
Air Cleaner	Both models have Donaldson 2 stage dry element type	
Powertrain	Clark HR28420-E 4 speed power shift transmission with integral torque converter.	Clark 18326 3 speed power shift transmission with integral torque converter
	Both models have differential controlled steering and planetary final drives	
Winch	Clark WD-413-1	Clark WD-200
Line Pull	13926 kg (40,000 lb.)	10318 kg (22,748 lb.)

## Operational Specifications

Model	220CA	FT180
Payload kg (lb.)	15876 (35,000)	8165 (18,000)
Maximum Speed km/hr (mph)	23.33 (14.5)	24.14 (15.0)
Fuel Capacity L (gal.)	189.25 (50)	189.25 (50)
Ground Pressure kPa (psi)	@ 0 soil penetration 42.64 (6.17) 41.58 (6.03) @ 152mm (6") penetration 36.61 (5.31) 27.24 (3.95)	

The KMC 220CA and FT180 are particularly applicable as logging skidders in environmentally sensitive soils, in places where severe terrain mobility is required, in applications where fast travel speeds are needed and in marshy, wet, or tropical areas. Although the 220CA is more powerful than the FT 180, both machines are capable of performing over long distances and in slope conditions of between 30 and 60% grade.

## MANUFACTURER:

Kootenay Tractor and Supply Ltd. (Mfg. Div.),  
323 Vernon Street  
Nelson, B.C. V1L 4E3  
TEL: (604) 352-5301  
FAX: (604) 352-5302  
TELEX: 041-522

# TIMBERJACK 230 FORWARDER



*Timberjack 230 8-Ton Forwarder for up to 4.9 m (16 ft.) wood lengths. Powered by 100 HP Cummins Turbo engine. Loader capacity 400 lb. at 10 ft., max reach 17 ft. Also available in 5-Ton shortwood version.*

Timberjack is a recognized name in the skidder industry, as well in the design and manufacture of mechanical logging equipment. Timberjack produces: cable skidders, grapple skidders, clambunk skidders, log forwarders, mobile delimiters, feller bunchers and mining vehicles.

Pulpwood/Log Forwarders, are available in 230-5T (5 ton), and 230-8T (8 ton) models.

## Operational Specifications

Four-wheel drive, articulated, rubber-tired pulpwood/log forwarders for transporting pulpwood/logs from stump to landing. Self loading with hydraulic knuckleboom loader mounted on rear frame.

## Particular Specifications

Model 230	5 Ton	8 Ton
Overall Length mm (in.)	6845 (270)	9335 (368)
Maximum Width mm (in.)	2752 (108)	3035 (120)
Height mm (in.)	3607 (142)	3683 (145)
Ground Clearance mm (in.)	533 (21)	597 (24)
Weight kg (lb.)	9090 (20,040)	10 718 (23,630)

## Mechanical Specifications

Model 230	5 Ton	8 Ton
Engine	Cummins 4BT 3.9	Cummins 4BT 3.9
	75 kW (100 HP) @ 1700 RPM	75 kW (100 HP) @ 1700 RPM
Transmission	Both have 5-speed synchromesh full reversing	
	10 forward, 10 reverse speeds	
Loader	Serco 4000	Serco 4000
Tires Standard	23.1x26	24.5x32
Optional	18.4x34	28Lx26, 30.5x32, 7/34x26*
	28Lx26	66/43x26* * Consult factory
Wood Bunk Capacity	Up to 2.5 m (8 ft.)	Up to 4.9 m (16 ft.)
Wood Bunk Load	4536 kg (10,000 lb.)	7258 kg (16,000 lb.)

## MANUFACTURER:

Timberjack Inc.,  
925 Devonshire Ave.,  
P.O. Box 160,  
Woodstock, Ont.,  
N4S 7X1  
TEL: (519) 537-6271 FAX:  
(519) 539-5282  
TELEX: 064-74118

# CRABE FORWARDER



Crabe Short-wood Forwarder. Note the forward/backward facing seat to facilitate loading-transport.

## Particular Specifications

Width, m (ft. in.)	2.5 (8'3")
Length, m (ft. in.)	7.0 (23'1")
Height, m (ft. in.)	3.0 (9'10")
Ground Clearance, m (ft. in.)	0.6 (2'0")
Wheelbase length, m (ft. in.)	3.2 (10'4")

Weight, kg (lb)	front	rear	total
empty	3720 (8100)	1820 (4000)	5540 (12,100)
full	4100 (9000)	5450 (12,000)	9550 (21,000)

## Mechanical Specifications

Motor	4-cylinder Cummins diesel, 4BTA3.9 86.4 kW (116 HP) at 2500 RPM
Hydrostatic transmission	variable, reversible
No-spin differential	ratio 5.38:1
Articulation, deg.	55
Oscillation, deg.	25
Tires, standard	16.9 x 30 nylon, Forestry type
optional	18.4 x 30 nylon, Forestry type
Loader	Rotobec model 40F
reach, m (ft. in.)	5.65 (18'6")
grapple	continuous rotation
open, m (in)	1.7 (68)
closed, cm (in)	15 (6)
capacity, kg (lb)	740 (1540)
Operators cabin	heating/air conditioning
Options	accumulator on the principal cylinder wheel chains

## Operational Specifications

Four wheel drive, articulated pulpwood/log forwarders for transport of pulpwood/logs off-road, with an integrally mounted Rotobec hydraulic knuckle boom loader mounted on the rear frame.

Maximum off-road speed is 10 k mph (6 mph) with an approx. load capacity of 4037 kg (8,900 lb).

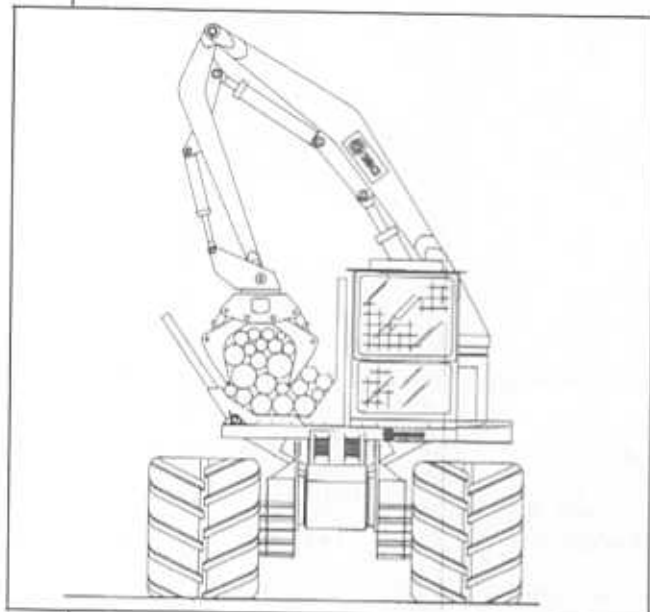
Protege-Sol manufactures two models of the Crabe Forwarder. The Company also manufactures the Le Crabe Forestry Harrow. This disc harrow, in contrast to others on the market, has each disc mounted on a separate arm, thus providing good ability to negotiate stumps and boulders.

## MANUFACTURER:

Les Entreprises Protege-Sol, Inc.

621, Joncas  
Laval, Que.,  
H7X 2R2  
TEL: (514) 386-8461

# CANRON FORWARDER



The Canron Side Loading Forwarder is an innovative wood transporter designed by FERIC.

The modular harvesting system is the result of five years of investigation, field observations, analysis of equipment by the Forest Engineering Research Institute of Canada (FERIC).

This wood harvesting technology was designed and developed by FERIC, and transferred to the Mechanical Division of Canron Inc. for manufacture. Available now is the Canron model C-180 forwarder.

## Particular Specifications

Tires:	four 69/50 X 32 wide tires with flanged type wheels and filled with a flat-guard product.
Brakes:	service braking is achieved by the hydro-static system
Swing drive:	235 degree rotation on a 76 cm (30 in) diam. slew ring
Weight, no load, kg (lb)	18 000 (39,600)
nominal load, kg (lb)	5 455 (12,000)

## Mechanical Specifications

Engine:	Cummins 6BT5.9 four stroke, turbocharged diesel
Rated power, kW (hp)	113 (152) @ 2500 r.p.m.

## Hydraulic System Drive:

Two closed circuit, variable displacement piston pumps, power four wheel-motors. One pump feeds the right side, the other powers the left side.

Max flow of each pump @ 2500 r.p.m.	4546 cm <sup>3</sup> /sec (601 gal/min)
System pressure	421.8 kg/cm <sup>2</sup> (6000 psi)
Final Drive	81:1

## Loader and Auxiliary Functions:

The flow coming from two load sensing variable displacement piston pumps is combined to feed the loader functions, the dumper cylinders and the tilt cylinder. The entire flow is available for each function and every function is independent and equipped with a pressure compensator.

Loader functions are operated by two joysticks. The drive system is controlled by two friction type levers mounted on the side of the operators seat.

## Operational Specifications

<b>Drive</b>	
Top speed @ 5% R.R	4.8 (3) low displacement
km/hr (mph)	12.8 (8) high displacement
Max. tractive effort at stall	19 505 kg (43,000 lb)
	low displ.
	11 794 kg (26,000 lb)
	high displ.
<b>Lifting Capacities</b>	
Reach 6.1 m (20 ft)	2 268 kg (5,000 lb)
3.0 m (10 ft)	4 037 kg (8,900 lb)
Grapple capacity	0.6 m <sup>3</sup> (0.16 cord) @
	2.4 m (8 ft)
	(107 cm (42 in)
opening weight	680 kg (1500 lb)

The side loading system is a feature of the Canron C-180 forwarder. Full-trees or tree-lengths are carried instead of being hauled, giving better tree cleanliness at the road side, as well as minimizing damage to the forest sites.

The knuckle-boom loader permits trees to be picked up from both sides. The loader is equipped with a heel arm for better tree handling when manoeuvring in restricted areas.

Payload capacity does not depend on a clamp-bunk dimension, but is rated by the vehicle weight capacity. Dumper posts are easily adjustable to accommodate various dimensions and species of trees, or to receive delimbed or full trees.

Each wheel is powered by its own independent wheel-motor. Each side of the vehicle is fed by an independent, variable displacement, closed circuit, pump. Steering is achieved by changing the flow on each pump.

A high ground clearance and a good wheel displacement gives excellent manoeuvrability in tough off-road forest conditions.

The very short turning radius of the skid steer system combined to the unique suspension system, and the tilt mechanism eliminates many time consuming and complicated movements such as half-turns with a heavy load.

The specifications herein described are preliminary, with the manufacturer reserving the right to make changes as required.

## MANUFACTURER:

Canron Inc.  
Mechanical Division  
227 St. Maurice,  
Trois-Rivières, Que., G9A  
5E5  
TEL: (819) 371-8207 FAX:  
(819) 378-0535  
TELEX: 05-837229

## BALDERSON/FLECO A-FRAME GRAPPLE

The A-Frame grapple was designed for the Cat 518 skidder or equivalent. Available with 254cm(100in) or 305cm(120in) tongs; Balderson models BHG518A/120 and BHG518A/100



A-Frame Grapple features 360 deg. continuous rotation, good operator visibility, and no exposed hoses to break.

### Operational Specifications

The grapple is an integral part of mechanized logging operations. Grapple skidding is used in conjunction with feller bunchers during harvesting.

With the Balderson A-Frame Grapple, the 254 cm (100 in.) and 305 cm (120 in.) tongs can be interchanged to meet specific job requirements. Ice-tongs are also available, as well as a hydraulic accumulator for constant tong pressure, built-in fairlead rollers to permit cable skidding, full fender assembly to accommodate most tire sizes, including high-flotation tires.

### Particular Specifications

Model	BHG518A/120	BHG518A
Depth, below ground mm (in.)	930 (36.6)	777 (30.6)
Clamp force @ tong tip to tip kg (lb.)	4900 (2223)	2495 (5500)
Hydraulic grapple head rotation	360 degree continuous	
Weight of grapple assembly complete with fenders kg (lb.)	1930 (4250)	
Cylinders	Tong (1)	Arch (2)
Bore mm (in.)	140 (5.5)	102 (4.0)
Operating Pressure, kg/cm <sup>2</sup> (psi)	176 (2500)	

### MANUFACTURER:

Balderson Canada Ltd.  
6400 30th Street,  
Edmonton, Alta., T6P 1J6  
TEL: (403) 469-9185  
FAX: (403) 469-9256

## DENIS SKIDDER BLADE GRAPPLE



The Denis skidder blade grapple is simply welded at one end of the skidder blade, and hydraulically powered. The standard max. grapple capacity is 60 cm (24 in.), with 35 cm (14 in.) optional.

Le Groupe Equipements Denis Inc. designs, manufactures and markets equipment for the forestry industry, from silviculture and harvesting, to wood handling and processing operations. It is recognized as one of the largest manufacturers of delimiters in North America.

### Operational Specifications

The Denis skidder blade grapple can hold four or five trees depending upon their diameter. In recovering stems lost during normal skidding operations, an increase in daily skidder production of 7 to 10 percent has been recorded. In addition, the grapple is simple, reliable and sturdy, a multi-purpose tool in forest harvesting operations.

### Particular Specifications

Standard Model	60 cm	(24 in.)
Height	117.5 cm	(46 1/4 in.)
Width	67.9 cm	(26 3/4 in.)
Depth	49.5 cm	(19 1/2 in.)
Weight	239 kg	(525 lb.)
Maximum Capacity	61 cm	(24 in.)
Cylinder	10.2 cm	(4 in.)
Options	Right or left grapple	

### MANUFACTURER:

Le Groupe Equipements  
Denis Inc.,

5110 Beaudry Street,  
St-Hyacinthe, Que.,  
J2S 8A2

TEL: (514) 773-5454

FAX: (514) 773-3203

TELEX: 05-83051

# HYDRAWRAP GRAPPLE ATTACHMENTS FOR CABLE SKIDDERS



The Hydrawrap 138 grapple on skidders up to 134Kw (180hp). The heavier structure and larger capacity 155 grapple is recommended for skidders over 100Kw (135hp).

Two sizes of Hydrawrap grapple attachments, Model 138 and Model 155, which can be fitted on any cable skidder as manufactured. The attachment consists of an arch straddling the fairlead, a rotator and grapple arms.

**PRICE:** Suggested retail, excluding installation, varies from \$22,000.00 to \$25,000.00 F.O.B. Swan, Man. (1988)

## Operational Specifications

The grapple attachments give skidder operators the option of grapple skidding, or cable skidding with the grapple head in place. The grapple head can also be removed in less than 15 minutes for long periods of cable skidding.

Reported operations with a model 138 grapple on the Timberjack 450 skidder, the production averaged 26/m<sup>3</sup> SMH (10.8 cords/SMH), with load sizes approx. 2.4/m<sup>3</sup> (1cd) per turn.

The advantages of the Hydrawrap, over grapple skidders are as follows:

- It is able to grasp one tree at a time with less chance of loss.

- The skidder can still be used for cable skidding.

- The grapple head can be removed in 15 minutes.

- The operator has the ability to momentarily release the weight of the drag, and gain extra traction by the technique known as feathering, which is particularly useful up grades and over swampy ground.

- It is an inexpensive solution offering skidder owners a choice of converting a cable operation to a grapple/feller-buncher type.

## Particular Specifications

Models	138	155
Open span, cm(in)	328 (129)	368 (145)
Min. tree diam., cm (in)	5.1 (2)	5.1 (2)
Max. tree diam., cm (in)	122 (48)	152 (60)
Grapple cylinder, cm (in)	13x51 (5x20)	15x61 (6x24)
Weight, kg (lb)	998 (2200)	1134 (2500)

## MANUFACTURER:

Hydrawrap Canada  
P.O. Box 2968  
Kenora, Ontario P9N 4C8  
TEL: (807) 468-5330

## JOHNSON SKIDDING GRAPPLE



*The Johnson Skidding Grapple adapts to existing skidder arches and uses the main skidder winch to close the grapple and a second winch to open and position it.*

### Particular Specifications

Grapple Opening: cm (in)	279 (110)
Grapple Closing: cm (in)	13 (5)
Weight: Kg (lb)	726 (1600)
Closing Lines: cm (in)	1.9 to 2.5 (0.75 to 1)
Single valve control system	
Short profile grapple	

### Operational Specifications

The grapple is easy to remove from the skidder for choker skidding, when it is advantageous to do so in a particular setting.

The double closing-line allows the grapple to gather and build a turn in hand felled wood, as well as pick up a turn of prebunched wood. The jaw tip configuration permits a turn to be dropped on adverse terrain, then winched in without losing any logs.

A variety of opening-line fairlead attachments are available to fit onto conventional skidder arches, trailer arches, hydraulic boom attachments and the FMC 220 arch.

Johnson model S110 grapple mounts on rubber-tired skidders, trailer arches and track skidders. Johnson also manufactures cable grapples, choker grapples, slack pulling carriages, radio-released chockers.

### MANUFACTURER:

Johnson Industries Ltd.  
8500 River Road  
Richmond, B.C., V6X 1Y4  
TEL: (604) 273-3737 FAX:  
(604) 273-9654  
TELEX: 04-357554

# WELDCO SKIDDER GRAPPLES



Weldco Model W.P. 600 Parallelogram Grapple

Weldco skidding grapples come in models W.P. 600 Parallelogram Grapple, W.P.G. 550 skidder grapple.

The Company specializes in the design and manufacture of machines and attachments for the forest industry, with a wide range of products.

## Operational Specifications

The W.P.600 grapple is particularly suited to the Clark 668-C skidder or similar, and the W.P.G 550 for the Cat 518 or similar.

The parallelogram grapple provides four way control of the grapple for lifting, lowering, reaching and pulling. Each of these operations can be performed independently of the other three, so that the grapple can be positioned on the load without moving the skidder. The lateral movement of the parallelogram allows the operator to reach over obstacles and load logs buried in mud and snow. The load can be positioned forward to transfer the weight to the rear wheels for better traction and stability.

## Particular Specifications

	Model W.P. 600	Model WPG550
Reach(Maximum height)cm(in)	142(56)	133(52.5)
Reach(Tongs open at ground level,cm(in)	279(110)	224(88)
Height(Max.)cm(in)	376(148)	250(98.5)
Reach(Below ground)cm(in)	83(33)	83(33)
Clearance(Max.open)	145(57)	
Opening(Max.)	305(120)	279(110)
Closing(Min.)	15(6)	14(5.5)
Power Head Rotation,Degrees	240	270
Fore and Aft Travel cm(in)	152(60)	
Hydraulic Cylinders (4) cm (in.)	11.4 (4.5)	10.2(4)
Grapple Cylinders (1) cm (in.)	16.5 (6.5)	16.5(6.5)
Weight, kg (lb)	2336 (5150)	2291(5050)

## MANUFACTURER:

Weldco-Beales

#410 - 6450 Roberts St.  
Burnaby, B.C., V5G 4E1  
TEL: (604) 294-2222  
FAX: (604) 294-1292  
TELEX: 04-55103

## BALDERSON LOGGING ARCH AND FENDERS



The arch shown in the photo, is an integral arch with back stays, mounted on a Carco winch, on a D4H Caterpillar tractor.

The Balderson line of arches are available to fit a variety of winches, in a variety of machine sizes and brands. They are designed particularly for the Cat. D5H and D4H custom skidders, as well as the Cat. D6H, D5H and D4H track type dozers, or equivalent.

**Price:**

**Arch** List \$4850 F.O.B. Edmonton, (1988), with delivery 3 to 4 weeks for common versions, and 8 to 10 weeks for specials.

**Fenders** List per pair for D4H is \$3100 F.O.B. Edmonton, (1988), with delivery of 4 weeks.

### Particular Specifications

**Logging Arch:**

Four roller fairlead  
Large diameter main roller (straight)  
Sealed, self aligning, roller bearings

**Fenders:**

Box section construction, to reduce weight

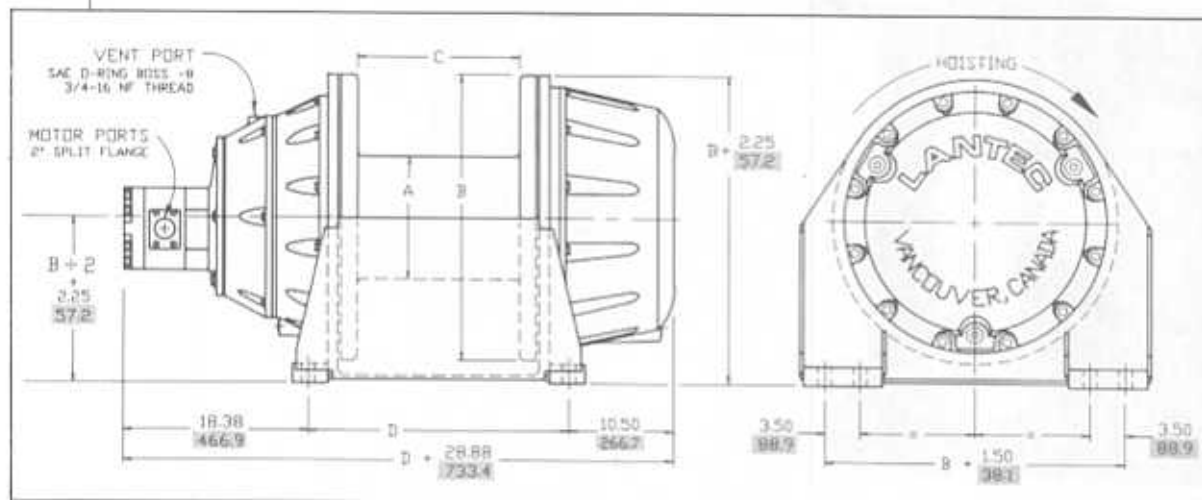
Lightweight alloy; steel box construction  
Under 363 kg (800 lb.) total added weight

Adapters welded to track frames, allow easy bolting and unbolting of fenders  
Individually mounted to the track frames, thereby reducing the tendency to pinch debris

### MANUFACTURER:

Balderson Canada Ltd.,  
6400-30 St.  
Edmonton, Alta., T6P 1J6  
Tel. (403) 469-9185  
Fax. (403) 469-9256

# LANTEC HYDRAULIC WINCHES



Lantec builds winches to meet particular requirements, incorporating off-the-shelf components. Shown is the Lantec Model 540 Hydraulic Planetary Winch.

Lantec specializes in manufacturing winches, hoists and drives. Lantec winch models 200, 540, 750, hydraulic planetary winches. Line pulls available from 907 to 68 040 kg (2,000 to 150,000 lb.) depending on model. Forestry applications, in skidding and cable systems.

Lantec planetary drive models D200 with output torque up to 22 000 Nm (195,000 lb. in.). Lantec Model 100MB, 200MB Brakes.

Lantec marine winches and hoists such as windless type, remotely operated vehicle and barge winches.

## MANUFACTURER:

Lantec Industries Inc.,  
5827 Production Way,  
Langley, B.C., V3A 4N5  
TEL: (604) 530-0737 FAX:  
(604) 530-2889

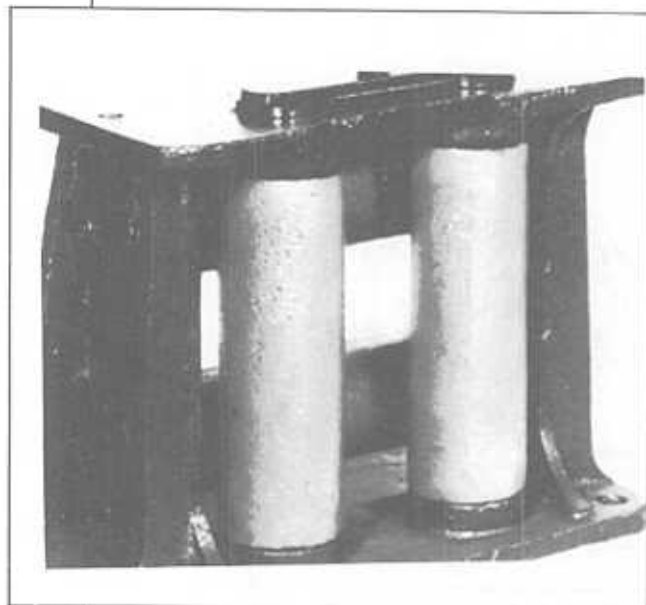
## Particular Specifications

Model	540	750
Line pulls to, kg(lb)	45 800 (101,000)	61 690 (136,000)
Fully hydraulic-single lever control		
Brake-automatic failsafe multidisc		
Heat treated steel planetary gear reductions		
High capacity roller bearings		
Fabricated steel cable drum and winch base		

Lantec models 200, 540, and 750 series include a hydraulic gear motor, automatic failsafe multidisc brake with overrunning clutch and two (200 series), three (540 and 750 series) planetary gear reductions. They are power in/power out winches, with equal speeds in both directions.

Lantec winch products are covered by a two year factory approved warranty. The company specializes in custom design and manufacture to meet exact application needs in forestry.

# OPSAL FAIRLEADS



*Opsal Fairleads, roller type; self aligning type-360 deg.*

Oscos logging equipment includes: blocks such as passline, haulback, transfer, yarding, highlead, snatch, hoisting, general purpose types, used on cable logging systems; tree-jack sheaves, supporting cables on skyline systems; carriages; fairleads; tree climbers gear for loggers and high riggers.

The Fairleads are: self aligning, 360 degree swivel head type, roller.

## MANUFACTURER:

Opsal Steel Ltd.,  
97 E. Second Ave.,  
Vancouver, B.C.,  
V5T 1B3  
TEL: (604) 879-1531  
FAX: (604) 879-6766

### Particular Specifications

#### Fairlead, Self Aligning Type

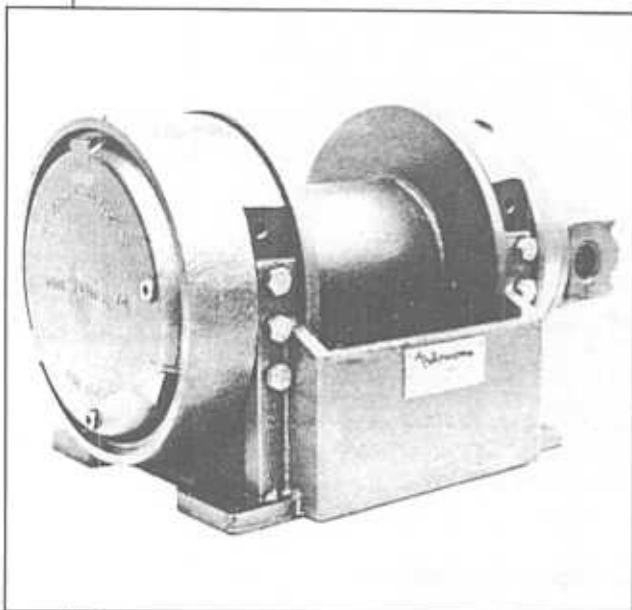
Model	Type	Wire rope cm (in)	Sheaves cm (in)	Weight kg (lb)
10	Mainline	2.5 (1)	30.5 (12)	245 (540)
1	"	3.1 (1 1/4)	35.6 (14)	370 (815)
8	"	3.8 (1 1/2)	35.6 (14)	635 (1400)
2	Haulback	1.9 (3/4) - 2.2 (7/8)	25.4 (10)	132 (290)
15	Strawline	1.3 (1/2) - 1.6 (5/8)	17.8 (7)	57 (125)

#### Fairlead, Roller Type

Model	Wire Rope cm (in)	Rollers cm (in)	Opening cm (in)	Weight kg (lb)
4	2.5 (1)	10 (4) x 30.5 (12)	5.7 (2.25)	132 (290)
5	1.6 (5/8)	7.6 (3) x 22.9 (9)	5.1 (2)	64 (141)
6	1 (3/8)	5.1 (2) x 17.8 (7)	5.1 (2)	29.5 (65)

The Oscos fairleads are manufactured in a variety of sizes and types, and special fairleads can also be made to customer specifications.

# PULLMASTER PLANETARY WINCHES



The Pullmaster Model M10F planetary winch with a hydraulically actuated free spool function, for winch operations such as skidding, where the wire rope has to be pulled off the cable drum by hand.

Three types of planetary winches are manufactured by the Pullmaster Winch Corp.

The PL and M Series, including seven basic models with capacities from 907 kg (2000 lb) to 22 680 kg (50,000 lb) line pull, and choice of drum size, choice of hydraulic motors, external brake release, free spooling, controlled free fall, drum grooving are available.

The H series, four models with capacities from 3 175 kg (7,000 lb) to 22 680 kg (50,000 lb) line pull are available with the rapid reverse feature.

The R series recovery winches are of the same design concept as hoisting winches.

## Operational Specifications

On the Model M10F winch, free spooling is achieved by a disconnect between the cable drum, and the planetary gear train. An adjustable drag mechanism keeps the drum from over-running, when the winch is in the free spool operation.

## Particular Specifications

Model	Bare drum		Full Drum	
	Line Pull kg (lb)	Line Speed m/min (fpm)	Line Pull kg (lb)	Line Speed m/min (fpm)
M10-3-50-1	5454 (12000)	30 (100)	3182 (7000)	53 (175)
M5-3-10	2722 (6000)	19 (63)	1856 (4091)	30 (98)
PL7-3-30	3176 (7000)	32 (122)	2264 (5210)	50 (164)
PL4-3-10	1815 (4000)	21 (70)	1370 (3000)	28 (92)

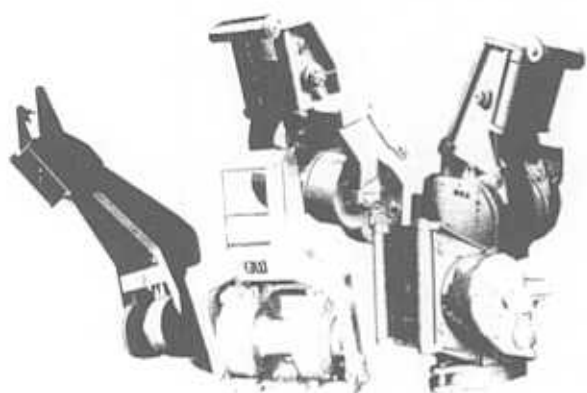
Model M10 can be supplied with: cable drums of various sizes  
grooved drums  
ratchet and pawl as an integral part  
external brake release

## MANUFACTURER:

Pull Master Winch Corporation

8247-130 Street  
Surrey, B.C., V3W 7X4  
TEL: (604) 594-4444  
TELEX: 04-54436

# WELDCO-BEALES INTEGRAL ARCHES, FAIRLEADS



*Weldco-Beales Arches and Fairleads manufactured for all sizes of tractors and winches.*

Weldco Arch/Fairlead Models No. A75A, E&F, A75B, A75C, A75D, A75G Integral Arches; Arch/Fairlead Models No. A100A, A100B; Top Mounted Winch Arches, Model A200, A300 Integral Arches; Models F75, F100, F200, F300 Fairleads; Double Fairlead Integral Arch, Snorkel Fairlead. Special arches are manufactured to the purchasers specifications

## Operational Specifications

Models A75 are lightweight integral arches built for 45-67 kW (60-90 hp) tractors. Models A100 are top winch mounted fairleads for intermediate logging operation applications. Models A200 - A300 are heavy duty integral arches for 67 to 261 kW (90 to 350 hp) tractors.

The top (A100) mounted winch-arches are designed for easy removal, mounted directly on top of the winch. The model (A100) may be easily customized to fit most arch/winch combinations, regardless of tractor model or manufacture. Three or four roller configurations are available.

## Particular Specifications

Arch/Fairlead Model No.	Fairlead Opening A x B cm(in)	Winch	Description	Approx. Wt. kg (lb)
A75A,E,F	24x21.6 (9.5x8.5)	Gearmatic 19	Legs straddle winch brackets	284 (625)
A75B	24x21.5 (9.5x8.5)	Rome,Carco C28, C36	Attaches to winch adapt.	227 (500)
A75C	24x21.5 (9.5x8.5)	Komatsu D31	Direct to top of winch	195 (430)
A75D	24x21.5 (9.5x8.5)	Carco C28, C36	same as 75B ex. rol. conf.	227 (500)
A75G	24x21.5 (9.5x8.5)	Cat 54	Legs straddle winch brackets	286 (630)
A100A	25.4x17.8 (10x7)	Carco E30 Hyster W5A	Adapt lugs to top of winch	327 (720)
A100B	25.4x16.5 (10x6.5)	Carco 50, 60 Hyster W6E	Adapt lugs to top of winch	295 (650)
A200	34x19 (13.5x7.5)	Cat 55,Carco 50, 60 Hyster D6D, D6E Hy W6E&F, Cat 56		567 (1250)
A300	34x29 (13.5x11.5)	Car G80, Car J120, Hy W8K, D7F, Cat 58, 59		635 (1400)

## MANUFACTURER:

Weldco-Beales

#410 - 6450 Roberts St.  
Burnaby, B.C., V5G 4E1  
TEL: (604) 294-2222  
FAX: (604) 294-1292  
TELEX: 04-55103

## JACKSON R.O.P.S. CANOPY



*The R.O.P.S. meet all roll-over and falling object protection requirements (SAE J1040C, J231). ROPS are designed to provide easy installation and removal for machine maintenance.*

Jackson Manufacturing custom designs and produces R.O.P.S., F.O.P.S. protective structures for skidders, loaders and dozers; the Company also undertakes general fabricating and tube bending.

### Particular Specifications

The custom built canopy provides the required protection, sufficient elbow room, and a good view.

They are presently being utilized by several major forest equipment manufacturers on their forest equipment line. In addition the Company does custom manufacturing to meet forest operators needs for equipment protection.

### MANUFACTURER:

Jackson Manufacturing  
and Machinery Ltd.

518 North Broadway  
Tillsonburg, Ont., N4G 3S7  
TEL: (519) 842-5941  
FAX: (519) 842-2116

## WELDCO R.O.P.S. CANOPIES, AND CABS



*Weldco cabs are designed to be compatible with factory ROPS to keep the operator safe, comfortable, and productive.*

### Particular Specifications

#### Weldco-Beales Model D8L Low Profile ROPS

Width, cm(in)	192 (75.75)
Overall Height, m (ft)	3.6 (11.73)
Deck to Canopy Top, cm (in)	147 (57.75)
Canopy Length, cm (in)	152 (60.0)
(FOPS rated)	
ROPS Canopy, kg (lb)	671 (1480)
Sweeps, kg (lb)	268 (590)
Side Screens & Posts, kg (lb)	82 (180)
Rear Screen, kg (lb)	39 (85)
Tank Guard, kg (lb)	508 (1120)
Enclosure Kit, kg (lb)	340 (750)

#### Optional Logging Package:

Includes sweeps, extra post, side screens, rear screens, tank guards.

#### Optional Accessories:

Front sweep arms, rear screen, side screens, extra side column, enclosure kit, noise suppression kit, hydraulic air conditioner, heater (33,000 BTU), cab pressurizer, windshield wiper kit.

### Operational Specifications

The overall height is 38.1 cm (15in), lower than the factory model. This decrease in height can be critical when moving from one logging job to another.

ROPS meets all rollover and falling object protection requirements, SAE J1040C.J231

Standard ROPS can be installed on factory mounts or special Weldco-Beales mounts.

For complete environmental control, a cab enclosure kit is available with heating, air conditioning, sound suppression and pressurization options.

Weldco canopies and cabs for Cat 950B, 966D, 980C, 950E, 966E; Komatsu D31, D65E, and other loaders and dozers, including older models; Cat D8L Low Profile O/ROPS and E/ROPS; ROPS for 941, 951, 955L, 977L and 983

### MANUFACTURER:

Weldco-Beales

#410 - 6450 Roberts St.  
Burnaby, B.C., V5G 4E1  
TEL: (604) 294-2222  
FAX: (604) 294-1292  
TELEX: 04-55103

## BOUCHOOK END BELL



*Bouchook End Bell, increases skidder mainline life over conventional end bell types.*

### MANUFACTURER:

Victoria Machine Shop  
Ltd.

P.O. Box 509  
Plaster Rock, N.B., E0J  
1W0  
TEL: (506) 356-8639

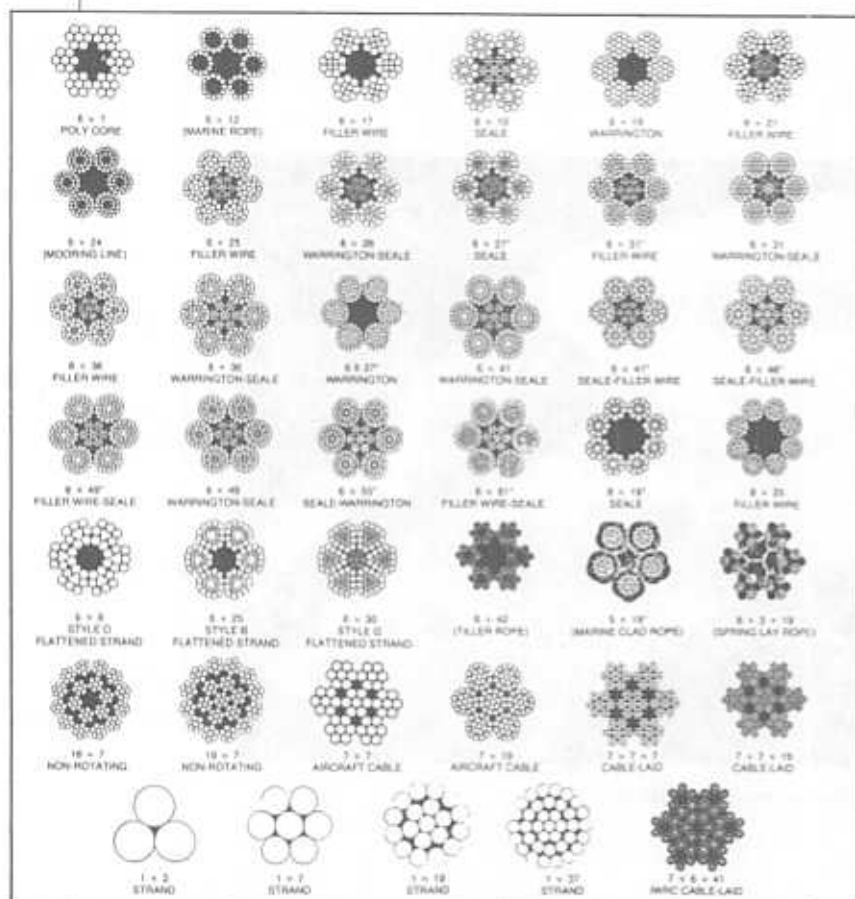
#### Particular Specifications

Hardened alloy steel casting  
Replaceable roller with bronze bushing and grease fitting  
Tested to over 11 340kg (25,000lb)

#### Operational Specifications

Roller increases skidder mainline life over conventional end bells, with less fraying on mainline under rugged field applications. In terms of winches, it results in reduced wear, decreased incidence of fire hazard and less equipment downtime.

# COMOR WIRE ROPE AND RIGGING



Comor Supplies Wire Rope Cross Sections

## MANUFACTURER:

Comor Supplies Ltd.,  
7800 Anvil Way,  
Surrey, B.C., V3W 4H7  
TEL: (604) 591-1131  
FAX: (604) 591-1088  
TELEX: 04-55749

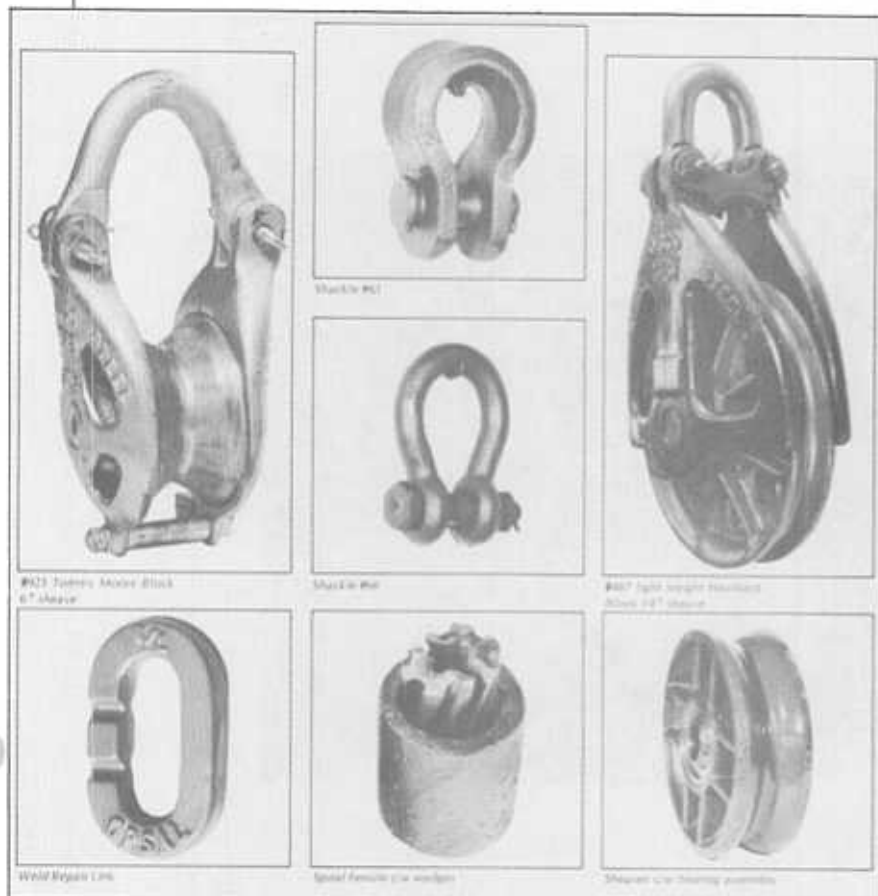
Comor are specialists in wire rope and rigging for logging, construction and marine.

PRICE: The prices for new and used wire rope are per 100 ft. FOB Surrey, B.C.

### Particular Specifications

Comor Supplies Ltd. manufactures standard ferrule and lightweight choker hooks, spiral quickway and zinc type ferrules, wire rope clips, shackles for anchors, chains and rigging, wire rope staples, tractor (bull) hooks, rafting dogs, travelling and medium duty snatch blocks, Morse Starrett wire rope cutters and parts, track spikes, drew marlin spikes, anodized aluminum pike poles, peavies and coil and anchor chain.

## OPSAL CABLES, BLOCKS AND SHEAVES



Osco # 487 light weight Haulback Block 14", sheave (right) and # 925 Tommy Moore 6", sheave (left).

Osco logging equipment: Blocks such as passline, haulback, transfer, yarding, highlead, snatch, hoisting, general purpose types, used on cable logging systems; Tree jack sheaves, supporting cables on skyline systems.

Carriages; Fairleads.

### Particular Specifications

Opsal Steel Ltd. products are known for their strength, endurance, dependability, precise machine work, careful fitting and assembly.

The Company produces models, styles and sizes of blocks and sheaves to suit particular requirements in forestry, as well as in mining, construction and fishing.

Haulback Blocks Series 407, 408 and 409, light weight for high speed and light duty work such as haulback lines on forest applications.

Haulback Blocks Series 427 and 428, light weight for high speed and medium duty. These blocks are ideal for haulback work in the forest.

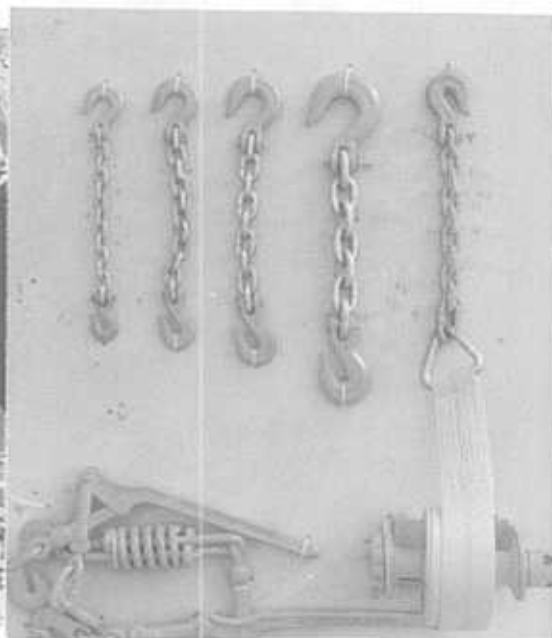
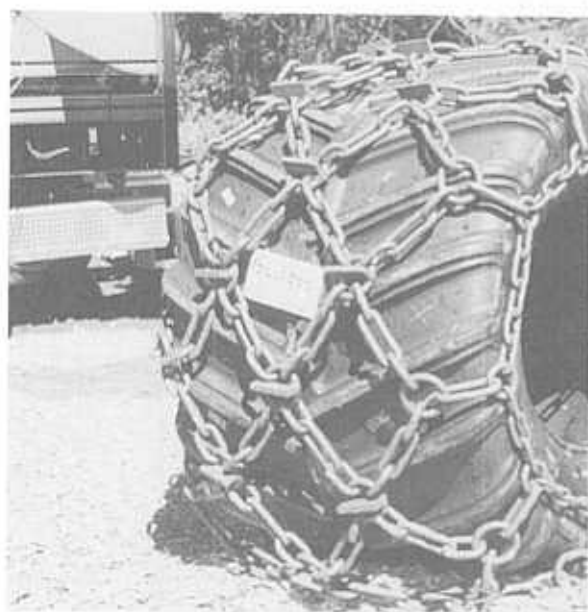
Haulback Block Series 415, light weight for high speed, and heavy duty work in the forest; and Series 412, 414 and 416 for high speed, and heavy duty, tough, dependable service forest applications.

Haulback Blocks Series 518 and 519 for high speed and heavy duty haulback work. Block Series 524 often used as a back spar block. Tommy Moore Passline Block Series 925 and 925A designed for line rigging with a safe working load of 2722 kg (6 tons).

### MANUFACTURER:

Opsal Steel Ltd.,  
97 E. Second Ave.,  
Vancouver, B.C., V5T 1B3  
TEL: (604) 879-1531  
FAX: (604) 879-6766

## QUEBEC TRACTION FORESTRY TIRE CHAINS



*Quebec Traction Chains, high floatation, extra wide, tire net chain (left), and chain accessories for load retainment (right)*

Quebec Traction Chains are manufacturers of chain derived products such as load retainers, chain-hooks and forestry tire chains.

Forestry tire chains are available in models MR-4000 (net chain type, multi-ring chain, regular ring chain, diamond type chain), MR-1000 and MR-2000 tire chains.

**PRICE:** Tire chain price depends on dimension of tire and chain type required.

### Specifications

Chain Links	15.9 or 19.0 mm (5/8 or 3/4 in.) diameter, grade 70 tempered steel Applicable to all, except MR-1000, which is 9.5 or 11.1 mm (3/8 or 7/16 in.) diameter.
Weight	All models are between 227 to 454 kg (500 to 1000 lb.)
Fits Tire Sizes	16.9x30, 18.4x30, 18.4x34, 23.1x26, 28.1x26, 24.5x32, 30.5x32, 35.5x32 (Regular and multi-ring); and also 73x44x32 (net chain type, MR-4000); and 37.5x39, 43.5x39, 24.5x32 (diamond type); 12.4x24, or 18.4x25 (MR-1000)

### MANUFACTURER:

Les Chaines de Traction  
Quebec Ltd.,

9751, blvd Parkway  
Ville d'Anjou, Quebec  
H1J 1P3  
TEL: (514) 353-9210  
FAX: (514) 353-2593

# CYPRESS YARDER



*Cypress mobile swing yarder with tractor type undercarriage and self-lowering gantry, which allows the machine to move without disassembly.*

Cypress model 7280 mobile swing yarder. The Company also manufactures the Model 7230 cable log loader

PRICE: \$850,000. F.O.B. Cypress yard, Delta, B.C. (1988) (Grapple and lines are extra)

## Operational Specifications

The 7280 is a high horsepower mobile swing yarder designed to function as a grapple or carriage yarder over distances up to 457 m (1500 ft). The 21 m (70 ft) boom height improves lift, the mechanically regenerative winch yields the high line speeds and pulls, giving smooth, precise control. The rugged tractor-type undercarriage is hydraulically powered through a triple reduction planetary final drive.

Central greasing, modular design, standardization of components, ergonometically designed cab and controls, all add to simplified maintenance and ease of operation.

## Physical Specifications

Height: m (ft)	11.6 (38)
O'A Length: m (ft)	5.5 (18)
Width: m (ft)	3.9 (12.83)
Weight: kg (lb) Dry-no rigging	73 483 (162,000)
Weight: kg (lb) (Less boom & gantry)	61 236 (135,000)

## Mechanical Specifications

Engine: kW (Hp)	GM Diesel 12V71N 354(475)
Torque Converter:	Twin Disc 11,500 Series
Transmission:	Twin Disc 2880, 2-speed
Winch drums:	2 Main : 366m(1200ft) of 2.5cm(1in) wire capacity(each)
Haulback:	1250m(4100ft) of 2.2cm(.875in) wire
Strawline:	914m(3000ft) of 1.1cm(.438in) wire
Controls:	Single lever hydraulic servo
Turntable:	S18cm(86in) O.D.
Boom:	19.8m(65ft) w/3 bullseye fairleads
Undercarriage:	Model 8300
Crawler:	81cm(32in) double grouser shoe
	D8K idlers and sprockets, 245 rollers
	Extra wide fairlead, 20x61cm(8x24in)
Options:	Track guides, Boom Guard Kit, Rigging Box
	Air Conditioning, 24 to 12 volt radio conv.
	Fire Suppression Kit
	Yarding grapples, Dropline Carriage
	Dual wipers, Racor fuel filters

## MANUFACTURER:

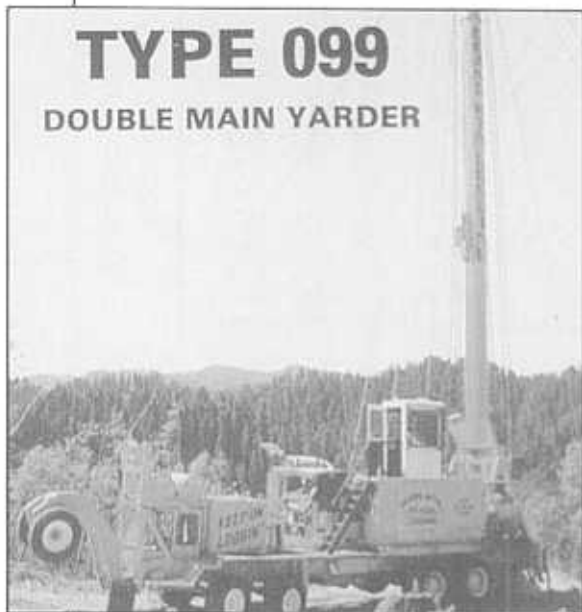
Cypress Equipment Co.  
Ltd.

8760 River Road  
Delta, B.C., V4G 1B5  
TEL: (604) 946-1171  
FAX: (604) 946-1319

# MADILL DOUBLE MAIN YARDER

## TYPE 099

### DOUBLE MAIN YARDER



S. Madill Type 099 double main yarder.

S. Madill are specialists in the manufacture of cable logging equipment. The Madill Type 099 double main yarder, model 4-525.

#### Operational Specifications

The two main drums have the same ratio to the converter output shaft. During the yarding cycle, the holding and closing lines connected to the two drums, will be driven at the same speed. The differential between main and haulback line speeds during the yarding cycle is achieved through the gear drive incorporated in the gear train.

A three stage hydraulic torque converter automatically selects the optimum engine torque multiplication to suit any yarding condition.

Optional engine available - G.M. 12V71/TV, with torque converter, twin disc type MS340.

#### Particular Specifications

	Two Main	Haulback	Straw
Drum			
Dimensions mm (in.)			
Flange	1 118 (44)	1 016 (40)	1 016 (40)
Core	508 (20)	508 (20)	292 (11.5)
Core Length	737 (29)	737 (29)	191 (7.5)
Operating Capacity	853 (2800)-25(1)	1 219 (4000)-19 (.75)	1 158 (3800)-11 (.44)
m (ft.) mm (in.)	579 (1900)-32 (1.25)	884 (2900)-22 (.88)	884 (2900)-13 (.5)
	457 (1500)-35 (1.38)	701 (2300)-25 (1)	701 (2300)-14 (.56)
Line Pull kg (lb.)			
Bare	48 444 (106,800)	17 736 (39,100)	12 587 (27,750)
Mid	33 929 (74,800)	12 247 (27,000)	5 833 (12,860)
Full	26 082 (57,500)	9 390 (20,700)	3 797 (8370)
Max. Line Speed			
m/min (fpm)			
Bare	187 (614)	511 (1676)	294 (964)
Mid	267 (877)	739 (2424)	639 (2080)
Full	347 (1140)	967 (3171)	974 (3196)

#### MANUFACTURER:

S. Madill Ltd.,  
P.O. Box 4300,  
Nanaimo, B.C., V9R 5M6  
TEL: (604) 758-5255  
TELEX: 044-6544

## MADILL TYPE 171 MOBILE YARDER



Model 171T crawler mounted, five-drum, mobile, highlead/skyline yarder.

S. Madill are specialists in the manufacture of cable logging equipment. The Madill Type 171 five drum yarder is available in Types 171T on M4A3 tracked carrier, and 171R on 071 rubber tired carrier. Model 5-400 includes haulback, main, skyline, tagline and strawline.

### Particular Specifications

O/A Length with tower lowered m (ft.)	16.5 (54)
O/A Height with tower lowered m (ft.)	5.0 (16.5)
O/A Width m (ft.)	3.1 (10.25)
O/A Height with tower raised m (ft.)	21.3 (70)
Weight kg (lb.)	46 267 (102,000)

### Mechanical Specifications

Type 171 Five Drum Yarder includes haulback, main, skyline, tagline and straw drum.

Engine	Cummins NTA855C rated at 400 HP
Converter	Twin disc 11500 MS 340 three-stage hydraulic torque converter

### Operational Specifications

High speed yarding uphill or down, skyline or highlead. Cab controlled, powered guylines with a telescopic tower that extends and tilts hydraulically.

This machine is provided with a low pressure air system for all clutch, brake and engine controls. This ensures that the majority of components are interchangeable with truck systems.

The cab is split so that the upper half can be removed for highway transportation.

The 171 track carrier is capable of a speed up to 8 kmh (5 mph), with a gradability of up to 30%.

Utilized in clear cut or selective logging, sanitizing and yum-yarding of short logs or tree lengths.

### MANUFACTURER:

S. Madill Ltd.,  
P.O. Box 4300,  
Nanaimo, B.C., V9R 5M  
TEL: (604) 758-5255  
TELEX: 044-6544

# MADILL INTERLOCK SWING YARDER



The Madill 122 Interlock Swing Yarder mounted on the 087 Carrier

S. Madill are specialists in the manufacture of cable logging equipment. The Madill Type 122, 143 and 144 interlock swing yarders are available in model 4-525 on hydraulic and mechanical carriers, or model 4-425 on 087 hydraulic carrier.

## Operational Specifications

**The Winch:** The Madill interlock system has the main drums arranged one behind the other. When the clutches are applied and as the load is coming in, the haulback, main, and slackpuller shafts are locked together. The power going into the haulback from the interlock clutch will equalize the tension in the main and haulback lines.

The interlock ratio, which is the result of a full main drum and empty haulback drum is held to a minimum. This means minimal slippage takes place on the interlock clutch, less horsepower turned into heat, minimal wear on the frictions, and as a result, the line speed increases to give greater productivity and lower fuel consumption.

The interlock clutches are water cooled to eliminate any heat build up. The winch is readily serviceable with the gears and clutches located on the outside of the winch frame.

**The Carrier:** The 047 mechanically driven carrier features a rubber-mounted roller suspension to give a smooth ride, thereby increasing the life of all other track components. The mechanical drive allows travelling speeds up to 7.25 km/hr (4.5mph). The overall size assures maximum stability.

The 087 hydraulically drive carrier features rollers mounted on a rubber suspension. The planetary drives may be removed from the side frames as separate units to simplify maintenance procedures. The triple grouser track shoes can be supplied in different widths to suit ground conditions.

In reported operational tests on the westcoast of Canada, it was found that the main factor influencing yarding profitability was turn size, with yarding distance having a lesser influence.

## Particular Specifications

Model	122	143	144
O/A Length m (ft.)	5.5 (18)	6.1 (20)	7.3 (23.8)
O/A Height m (ft.)	16.5 (54)	21 (69)	21.3 (70)
O/A Width m (ft.)	3.7 (12)	4.0 (13)	4.0 (13)
Weight kg (lb.)	52 300 (1150,00)	77 111 (170,000)	89 630 (197,600)
Ground Pressure kg/cm <sup>2</sup> (psi)	0.81 (11.5)	1.03 (14)	1.55 (22)

## Mechanical Specifications

Model	122	143	144
Engine	G.M. 8V92TA 425 HP	G.M. 12V71TV Cummins KTA-1150 Cat. 3408	G.M. 12V71TV Cummins KTA-1150 Cat. 3408
Converter	Twin-disc type 4 hydraulic with MS475 blading	Both models have twin-disc 11500 series with MS340 blading	
Transmission	Twin-disc 2800 series	Both models have two speed twin-disc, power shift model 2800	

## MANUFACTURER:

S. Madill Ltd.,  
P.O. Box 4300,  
Nanaimo, B.C., V9R 5M6  
TEL: (604) 758-5255  
TELEX: 044-6544

# THE SKYLEAD M35 YARDER



Skylead M35 4-drum Cable Yarder shown here mounted on Timberjack 240 Super E Skidder.

Skylead M35 Cable Yarder mounted on a conventional rubber tired skidder.

PRICE: Approx. \$130,000.00 F.O.B. Enderby, B.C., (1988)

## Operational Specifications

The Skylead M35 Yarder is ideally suited for commercial thinning, selective logging or clear cut logging on steep slopes or other environmentally sensitive areas.

The yarder can handle an average turn up to 2 722kg (3 tons) and will yard tree lengths up to 7.32m (24') in length.

Mounted on a conventional rubber tired skidder, it is very effective and economical for isolated pockets of wood, blow downs and rough terrain.

The suggested crew size is as follows:

- 1 man operating yarder & unhooking
- 1 man setting chokers
- 1 man falling
- 1 man skidding away from yarder & loading
- 1 man bucking & delimbing

Experienced crews can expect to get 4-5 highway truckloads production per day on average uphill clear cut sites.

## Particular Specifications

O/A Length with tower lowered m (ft.)	10.67 (35.0)
O/A Height with tower lowered m (ft.)	3.43 (11.25)
O/A Width m (ft.)	2.44 (8.0)
O/A Height with tower raised m (ft.)	10.67 (35.0)
Weight kg (lb.)	12 701 (28,000)

## Mechanical Specifications

Requires 100 to 120 HP power source.

Skyline 19mm (3/4") - 520 m (1700 ft.) or 16 mm (5/8") - 730 m (2400 ft.)

Mainline and Haulback

12 mm (1/2") - 335 m (1100 ft.) or 11 mm (7/16") - 460 m (1500 ft.)

Strawline

9 mm (3/8") - 580 m (1900 ft.)

Guyline

5 mm (3/16") - 760 m (2500 ft.)

19 mm (3/4") - 73 m (240 ft.)

## MANUFACTURER:

Skylead Logging Equipment Corp.,

P.O. Box 880,  
Enderby, B.C., V0E 1V0  
TEL: (604) 838-6845,  
TELEX: 048-85360

# JOHNSON CHOKER GRAPPLES



*Johnson Choker grapple for small and bunched wood.*

Johnson grapples models Y-116, Y-106H, Y-106, Y-86H and Y-86. Also manufactures skidding grapples, slack pulling carriages and radio released chockers.

## Operational Specifications

Production features double jaw reeving for greater closing force. Tensioned choker cable action cinches the logs in the jaws, and the live closing cable works with log movement. It opens at the landing without slacking the haulback line. Easily rigged with yo-yo block for equal mainline pull. Incorporates a three-way slider to prevent line twisting.

## Physical and Mechanical Specifications

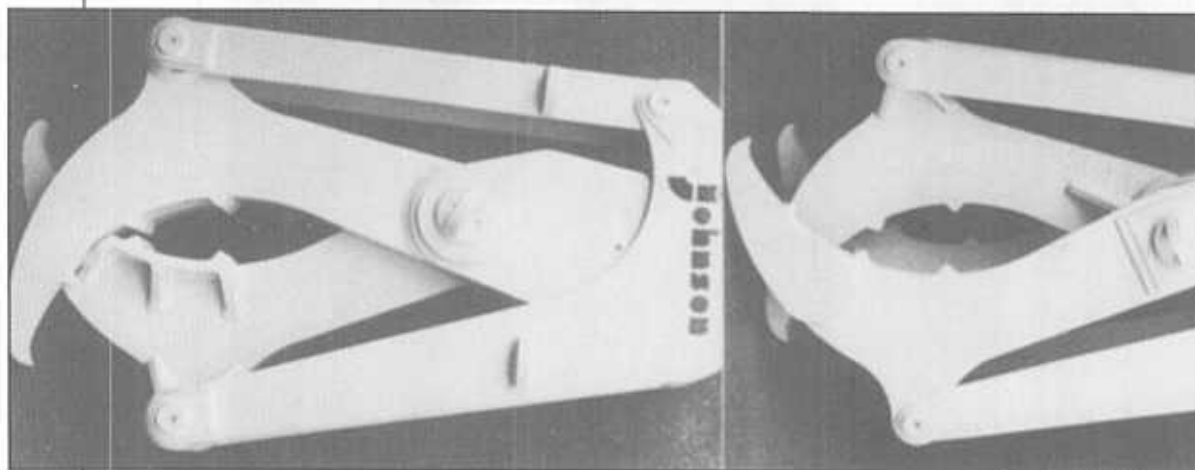
Model	Jaw Thick cm (in.)	Max Cable Size cm (in.)	Length Close Cab. m (ft)	Jaw open. cm (in.)	Basic Dim. Height cm(in)	Thick cm(in)	Total Weight Car.&Grap kg(lb)
Y-116	6.4 (2.5)	2.9 (1.13)	8.1 (26.5)	294 (116)	223 (88)	152 (60)	1383 (3050)
Y-106H	6.4 (2.5)	2.5 (1)	7.3 (24)	269 (106)	208 (82)	142 (56)	1306 (2880)
Y-106	5.1 (2)	2.5 (1)	7.3 (24)	269 (106)	208 (82)	142 (56)	1161 (2560)
Y-86H	5.1 (2)	2.2 (0.875)	6.6 (21.5)	218 (86)	193 (76)	107 (42)	884 (1950)
Y-86	4.4 (1.75)	2.2 (0.875)	6.6 (21.5)	218 (86)	193 (76)	107 (42)	834 (1840)

Options: include heavier jaws, manganese chains, larger sheaves and custom carriage features.

## MANUFACTURER:

Johnson Industries Ltd.  
8500 River Road  
Richmond, B.C., V6X 1Y4  
TEL: (604) 273-3737  
FAX: (604) 273-9654  
TELEX: 04-357554

# JOHNSON CABLE LOG GRAPPLES



Johnson Cable Log grapples. Two-point (left) for heel-boom loading; three-point (right), for multi-log handling.

Johnson two-point, and three-point cable grapples, models L260, L272, L360 and L372. Johnson also manufactures choker grapples, skidding grapples, slack pulling carriages, and radio released chockers.

## Operational Specifications

The grapples are light weight and balanced, with hardened steel bushings and pins, large closing sheaves, replaceable cable wear inserts and all wear points lubricated. The cable wear guide is manganese steel.

The two-point cable grapples are for heel-boom loading, and right-of-way snorkeling. The three-point grapples are best applied with the long boom, and general multiple log handling.

## MANUFACTURER:

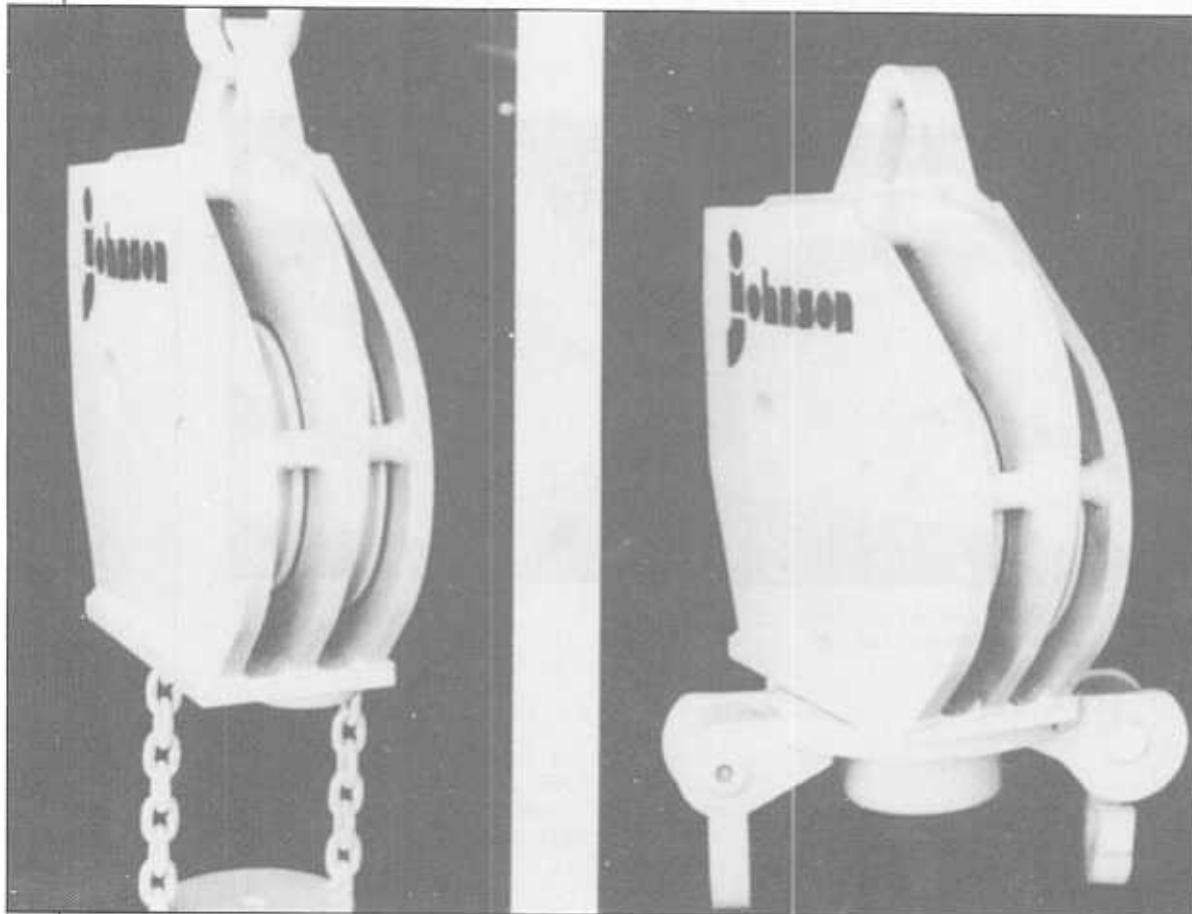
Johnson Industries Ltd.  
8500 River Road  
Richmond, B.C., V6X 1Y4  
TEL: (604) 273-3737  
FAX: (604) 273-9654  
TELEX: 04-357554

## Physical and Mechanical Specifications

Grapple Style Model	Sheave Dia. cm(in)	Cable Dia. cm(in)	Dimensions cm(in) Grap. Open.	Dimensions cm(in) Thick	Height	Weight kg(lb)
2 PNT L260	36 (14)	1.9-2.2 (0.75-0.875)	152 (60)	31 (12)	213 (84)	898 (1980)
L272	41 (16)	2.5-2.9 (1-1.125)	183 (72)	33 (13)	229 (90)	1007 (2220)
3PNT L360	36 (14)	1.9-2.2 (0.75-0.875)	152 (60)	51 (20)	213 (84)	1002 (2210)
L372	41 (16)	2.5-2.9	183 (72)	56 (22)	229 (90)	1157 (2550)

# JOHNSON SLACK PULLING CARRIAGE

Johnson carriage models SPC092C, SPC102C, SPC092G and SPC102G. Johnson also manufactures choker grapples (Models Y-116, Y-106H, Y106, Y-86H, Y-86), cable grapples (Models L260, L272, L360, L372), radio released chockers, and the cable grapples for skidders.



The Johnson slack pulling carriage. Standard dropline carriage (left) and combination dropline/grapple carriage (right).

## Operational Specifications

The SPC092G carriage is used with the Y76, Y86 and Y88 yarding grapples, and the SPC 102G carriage is used with the Y96, Y106 and Y108 yarding grapples.

The slack pulling carriages are of the open self-cleaning design, with heavy duty roller bearings, low-friction pressure roller easy to reeve and service.

## Physical and Mechanical Specifications

Model	Main Lines cm(in)	Drop Line cm(in)	Nominal Slack m(ft)	Length cm(in)	Dimensions Width cm(in)	Thickness cm(in)	Weight kg(lb)
SPC092C	1.6-1.9	1.9-2.2	38	66(26)	74(29)	25(10)	254(560)
SPC102C	2.2-2.5	2.5-2.9	46	81(32)	86(34)	61(24)	399(880)
SPC092G	1.6-1.9	1.9-2.2	38	66(26)	74(29)	91(36)	413(910)
SPC102G	2.2-2.5	2.5-2.9	46	81(32)	86(34)	107(42)	562(1240)

## MANUFACTURER:

Johnson Industries Ltd.  
8500 River Road  
Richmond, B.C., V6X 1Y4  
TEL: (604) 273-3737  
FAX: (604) 273-9654  
TLX: 04-357554

# JOHNSON ELECTRONIC CHOKER SYSTEM



*Johnson Radio Released Choker System uses up to nine remotely unhooking 1.6 cm (5/8 in) or 1.9 cm (3/4 in) chokers at one time.*

The Johnson electronic choker system consists of: nine radio released choker bells, one keypad-programmable transmitter installed in yarder cab, one yarder operator remote control keypad, one transmitter magnetic-mount antenna, one charger for overnight recharging on nine bells, cables and hardware for 2 hour installation, and complete installation, operation and service manual.

## Operational Specifications

In the "two-handed" electronic choker system, the bell can be cocked and latched by the chokersetter before he sets the choker. This system is adaptable to most highlead cable yarding and ground skidding settings. It may also be used in combination with a grapple and slack-pulling carriage and a two or three man crew, by using the grapple wherever possible and using the electronic chokers to clean up the remaining wood.

Installation is a simple process requiring up to one hour to mount the transmitter and remote keypad in the operator's cab, tie the system into the machine's power supply, put the magnetic base antenna on the cab roof, program the chokers at hand into the transmitter and subsequently to check out the system.

Each choker bell has one of 256 distinct digital release codes programmable at the machine to suit up to nine chokers. As chokers are rotated, the ones in use must be programmed into the transmitter. For cable yarding, the chokersetters cock each bell, using either the choker nubbin or their thumbs, rotate the latch arm onto the latch pin in the choker body, find a good choker-hole and set each choker as if it were a conventional bell.

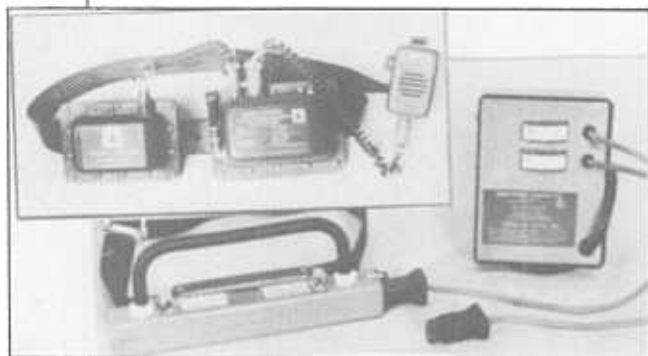
## Particular Specifications

Chokers cm (in)	1.6 (5/8) or 1.9 (3/4)
No. chokers/system	Nine radio released choker bells
Electronic choker bells	High-strength alloy steel and Al.
Choker Bell Weight	Approx. 4.5 kg (10 lb)
Color coded	Individual, or simultaneous release
Number of choker release codes	256
Transmitter operating frequency	72.24 MHz
Accessories: Battery tester/booster	
Transmitter, field strength meter	
Bench receiver, range calibration jig	
Options: Johnson slack-pulling carriages	
Combination Johnson grapple/slack pulling carriage for a two-man yarding crane	
Portable programmable transmitter	
Mechanical puller/pusher and other tools for servicing the system	

## MANUFACTURER:

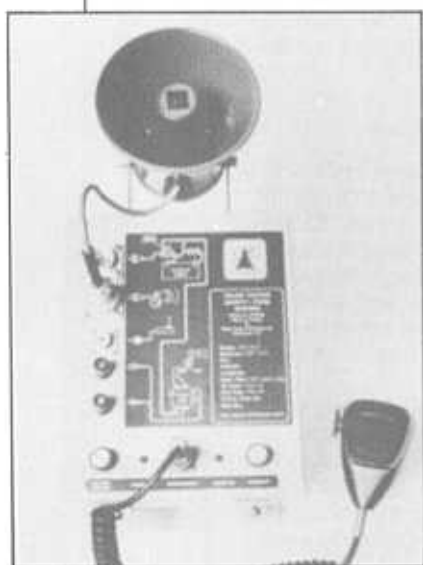
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8500 River Road,  
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FAX: (604) 273-9654  
TELEX: 04-357554

# TALKIE TOOTER GRAPPLE RADIOWHISTLE SYSTEM



Talkie Tooter manufactures UHF-FM Radio Signaling & Control Systems. Complete UHF-2 (one way voice with whistles), and UHF-4 (two way voice with whistles) grapple yarder radiowhistle systems. The Company also manufactures the AH15A 15 Watt Loud Hail System, and Personal Emergency Alarm Buddy System.

PRICE: Approximate 1988 for the UHF-2 System, \$6,950.00; UHF-4 System, \$11,095; AH15A Hail System, \$550, all F.O.B. Vancouver, B.C.



The Talkie Tooter UHF-4 Grapple Yarding System. Two-Way Radio System with the UHF-RT3 Transceiver, UHF-RT4 Transceivers, RT4 Battery Charger, Hook-up Cables, Speaker, RT4 Antenna and Battery Cable.

## Operational Specifications

With the UHF-4 grapple yarder radio system, the spotter wears a waterproof, belt mounted UHF-RT4 transceiver with a waterproof speaker/microphone. He receives voice transmissions, and transmits both voice and whistle signals. The yarder operator has a UHF-RT3 transceiver to receive voice and whistles, and transmit voice.

This system brings the reliability and safety of radiowhistles to the two way radio communications in grapple yarding operations.

With the UHF-2 grapple yarder radio system, the hook-tender wears a belt-mounted transmitter with a hand-held microphone, for voice and whistle transmission. The yarder operator can receive the voice and whistle signals with the cab-mounted receiver. He talks back to the woods or landing with a high power loud hail. Optional switching is available to allow radio-transmissions to be broadcast over the loud hail for ground crew communication during rigging.

The AH15A 15watt loud hail system speeds up production with clear communication between the operator and ground crew on yarders, loaders, graders, trucks and other heavy equipment.

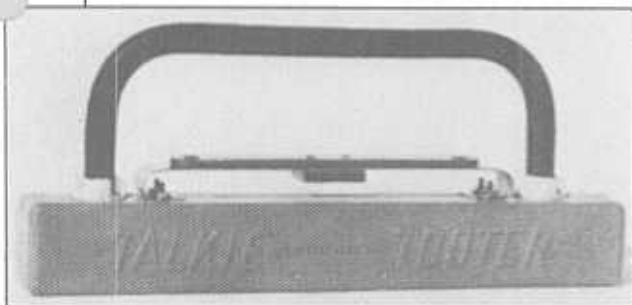
## Particular Specifications

System	UHF-4	UHF-4
	One RT3 UHF Base Transceiver	One R2 UHF Base Receiver
	Two RT4 UHF Portable Transceivers	Two T2 UHF Portable Transmitter
	Three RT4 Battery Packs	One 2D Speaker Assembly
	One Battery Charger	One Mag. Antenna Assembly
	One 2D Speaker Assembly	Two T2 Microphones
	One Magnetic Antenna	Three T2 Microphone Cords
	One RT3 Microphone	One T2 Battery Charger
	Three RT4 Speaker Microph.	One Installation Kit
	Three Battery Cables	
	One Installation Kit	
	UHF-RT4, RT3 Transceivers	
	UHF-T2 Transmitter & UHF-R2 Receiver	
	Frequency, 450 to 470 Mhz	
	RF Power, 250 mW	
	AH15A 15 Watt hailing system	
	Range, m (ft) 153 (500)	
	Frequency Response, Hz 275 to 14 kHz	
	Sound Pressure Level, db 121 db @ 4 ft on axis with rated input @ 1000 Hz	

## MANUFACTURER:

Talkie Tooter (Canada) Ltd.  
8264 St. George St.  
Vancouver, B.C., V5X 3S5  
TEL: (604) 327-8339  
FAX: (604) 327-9779

# TALKIE TOOTER VHF RADIOWHISTLE SYSTEMS



*The Talkie Tooter VHF radiowhistle system used for cable logging communication.*

The Talkie Tooter model 2D Radio Whistle System consists of: one 2D receiver with speaker, two 3BC transmitters, one 110 volt battery charger, whistle cable, power cable, magnetic mount antenna, set of instructions.

Also available is the UHF-4 Talkie Tooter Grapple Radiowhistle System and the Talkie Tooter UHF-2 Grapple Yarding Communication System.

PRICE: Approx price (1988) for complete 2D Radio Radiowhistle System \$4,950 F.O.B. Vancouver, B.C. Components price: 2D Receiver \$2,350; 3BC Transmitter \$1,275.

## Operational Specifications

The "safety tone" prevents accidental cross-signaling between systems.

The system components are enclosed in rugged waterproof construction, with heavy duty cables.

The systems are available with voice communication for emergency situations, and are D.O.C. and F.C.C. approved. The 2D receiver is mounted inside the yarder cab, and uses a speaker and externally mounted magnetic antenna.

## Particular Specifications

3BC Transmitter	
Power output	250 Milliwatts
Carrier frequency	150 to 180 MHz
Modulation	16F2
Size, cm (in)	3.8x10x28 (1.5x4x11)
Weight, g (oz)	481 (17)
Type 2 battery charger	110V AC, 60Hz, 30 Watts max.
2D VHF Receiver	
Power requirements	11 to 35 volts DC at approx. 155 mA
Operating Temp., C	-30deg. to +60deg.

## MANUFACTURER:

Talkie Tooter (Canada) Ltd.

8264 St. George St.  
Vancouver, B.C., V5X 3S5  
TEL: (604) 327-8339  
FAX: (604) 327-9779



## LOGGING AND TRANSPORT: PROCESSING LOGGING AND TRANSPORT

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# DENIS TELESCOPIC DELIMBERS



*The Denis Delimber features a telescopic boom, T, K or KS pivot head, equipped with delimbing grapple, and double topping knives with optional topping saw, measuring device and trimming butt saw.*

Le Groupe Equipements Denis Inc. designs, manufactures and markets equipment for the forestry industry, from silviculture and harvesting, to wood handling and processing operations. It is recognized as one of the largest manufacturers of delimiters in North America.

The 3000 series delimiters are available in models to suit various types of forests. Model T for short trees of Eastern forests, model K for larger trees as found in the West, and model KS for forests with trees of various sizes.

**PRICE:** Model D-3200-T with 26in. funnel type base boom \$72,450.00 U.S.

Model D-3300-T with 32 in. funnel type base boom \$ 74,785.00 U.S.

F.O.B. St-Hyacinthe, Que. (1988)

## Operational Specifications

The Denis Telescopic Delimber, a horizontal boom delimeter type, delimbs trees on or off the road.

In addition to serving the usual purposes of delimbing, topping, sorting and piling, it also allows the trimming, and the slashing of the logs, depending on the options chosen by the customer.

The Delimber can be installed on all major makes of carrier ( wheeled, track or truck mounted)

The Denis telescopic delimeter comes with a kit of replacement parts. If other parts should be required, the Company guarantees delivery anywhere in Canada or U.S., usually within 24 to 48 hours. In addition, a trouble-shooting team is ready to solve problems on the site.

## Particular Specifications

Overall Length	retracted 13.1 m (43 ft.) extended 21.64 m (71 ft.)
Overall Height	1.07 m (42 1/2 in.) (without pivot)
Overall Width	depends on model
Weight	4500 kg (10,000 lb.)
Delimbing Stroke	continuous 16.46 m (54 in.) unlimited with ring or deflector
Max. Delimbing Diameter	60.96 m (24 in.)
Topping Diameter	with knives 20.32 cm (8 in.) with saw 55.88 cm (22 in.) depends on carrier
Hydraulic Motor	
Working Pressure	
Denis Bolted Type	
Cylinders	
Carrier	all known makes
Options:	topping saw, measuring device, trimming butt saw

## MANUFACTURER:

Le Groupe Equipements  
Denis Inc.,

5110 Beaudry Street,  
St. Hyacinthe, Que.,  
J2S 8A2  
TEL: (514) 773-5454  
FAX: (514) 773-3203  
TELEX: 05-83051

# DENIS ONE-PIECE BOOM DELIMBER



The Roger delimeter features a one-piece boom, funnel-type pivot and swing away butt plate, head equipped with delimbing grapple and topping knife, with an optional topping saw, measuring device and trimming butt saw.

## Particular Specifications

Overall Length	15.84 m (52 ft.) 18.89 m (62 ft.)
Overall Height	1.21 m (48 in.) (without pivot)
Overall Width	depends on model
Weight	4600 kg (10,000 lb.)
Delimbing Stroke	continuous depending on length of boom unlimited with funnel
Funnel Diameter	66 cm (26 in.) 76.2 cm (30 in.)
Max. Delimbing Diameter	66 cm (26 in.)
Topping Diameter	with knife 15.24 cm (6 in.) with saw 55.88 cm (22 in.)
Hydraulic Motor	
Working Pressure	depends on carrier
Denis Bolted Type	
Cylinders	
Carrier	all known makes

## Operational Specifications

With varied boom and funnel sizes available, the Roger delimeter can be adapted to specific operating conditions and type of operation. The funnel type pivot located directly under the carriage allows for speed when positioning and delimbing very tall trees. When delimbing small trees, a swing-away butt plate speeds up operations. The twin holding arms are simple to manoeuvre and allow a tight grip on heavy trees. The topping knife is equipped with an automatic return feature to reduce the risk of operation errors, which often result in breakage of the trees.

With the purchase of a delimeter, Denis offers on-site operator training, a kit of replacement parts, 24 to 48 hour delivery of other parts, on-site follow-up, with a trouble-shooting team always available on call to go on site.

Le Groupe Equipements Denis Inc. designs, manufactures and markets equipment for the forestry industry, from silviculture and harvesting, to wood handling and processing operations. It is recognized as one of the largest manufacturers of delimeters in North America.

The one-piece resilient steel, boom delimeter, also known as the Roger Delimeter, is built to delimb large trees quickly.

PRICE: F.O.B. plant, St-Hyacinthe, Que., (1988)

Model D-322-M50	50ft. one-piece boom delimeter	with 26 in. funnel type base, \$73,270.00 U.S.
Model D-3300-M50	50ft. one-piece boom delimeter	with 32 in. funnel type base boom \$75,600.00 U.S.
Model D-3300-M60	60 ft. one-piece boom delimeter	with 32 in. funnel type base boom \$74,500.00 U.S.
Model D-3300-M60	60 ft. one-piece boom delimeter	with 32 in. funnel type base boom \$76,800.00 U.S.

## MANUFACTURER:

Le Groupe Equipements  
Denis Inc.,

5110 Beaudry Street,  
St-Hyacinthe, Que.  
J2S 8A2  
TEL: (514) 773-5454  
FAX: (514) 773-3203  
TELEX: 05-83051

# HARRICANA DELIMBER AND DELIMBER PROCESSOR



The Harricana delimeter-processor is an efficient one-man system, whose functions include butt-trim, delimb, top at measured diameter, buck to predetermined log lengths, sort and pile. A computerized counter coupled to a photocell provides digital readings and auto signal light for bucking.

Harricana models 1290-40 and 1290-50 delimeters, and the model 1290-50TP tree processor. Harricana offers a choice of standard 12.2 m (40 ft) and 15.2 m (50 ft) solid boom delimeter models, as well as the standard 15.2 m (50 ft) delimeter-processor.

The Company also manufactures a line of special-purpose wood handling attachments for logging and millyard.

## Operational Specifications

Easily mounted directly on any carrier of 0.5 m<sup>3</sup> (3/4 yd) capacity or more. The standard delimeters are available in 12 m (40 ft) and 15 m (50 ft) models. The shorter model HM 1290-40, gives big tree capacity on a small carrier, and is especially suited for large heavy limbed trees, where power of stroke is more important than length. The longer model HM 1290-50, is most productive in smaller diameter wood where most trees can be delimbed in a single stroke.

Like the limber, the tree processors handle stems up to 60 cm (24 in) diameter in any length, and can be mounted on any carrier 0.5 m<sup>3</sup> (3/4 yd) capacity and up on tracks or wheels. It easily handles large, heavily limbed trees on a production basis, plus fast sorting and high piling in tight areas.

The Company provides a forestry package whereby complete or partial assemblies are available to convert excavators for use as logging equipment. This ensures correct mounting to the carrier of choice.

## Physical Specifications

	Standard Delimeter	Delimeter Processor
Weight, kg (lb)	5000 (11,000) 5455 (12,000)	5910 (13,000)
Length, m (ft)	12.52 (41.1) 15.57 (51.1)	15.57 (51.1)
Height, m (ft)	1.98 (6.5)	1.98 (6.5)
Width, m (ft)	2.1 (7)	2.1 (7)

## Mechanical Specifications

	60 cm (24 in) butt diam. No length limit	60 cm (24 in) butt diam. No length limit
Capacity	No length limit	No length limit
Motor cc (in <sup>3</sup> /rev)	745 (45) 935 (60)	935 (60)
Cylinders	5	6
Flow rate, L/min (gpm)	151 (40)	151 (40)
Pressure, kPa (psi)	17225 (2500)	17225 (2500)
4 grab arms, 1 topping knife		4 grab arms, 2 saw bars

## MANUFACTURER:

Harricana Metal Inc.,  
P.O. Box 550,  
Amos, Que., J9T 3A8  
Tel. (819) 732-  
8381 Telex 057-46647  
or also Delta, B.C., Tel.  
(604) 943-9692  
Fax (604) 943-1565

# PRO PAC DELIMBER AND DELIMBER PROCESSOR



The Pro Pac delimeter is adaptable to most commercial carriers.

Pro Pac model 453 and 513 electronic delimeter processors. Also available are the Pro Pac model PP42 and PP48 delimeters with 12.8 m (42 ft.) boom for heavy tree handling, and the 14.6 m (48 ft.) boom for single stroke delimbing.

## Operational Specifications

A computerized system is available to set the length of logs to provide accurate log measurements.

The topping saw provides a fast clean cut of up to 208 mm (20 in.) in a few seconds.

Models PP42 or PP48 may be converted from an upright working position to a horizontal transportation position, in a few minutes.

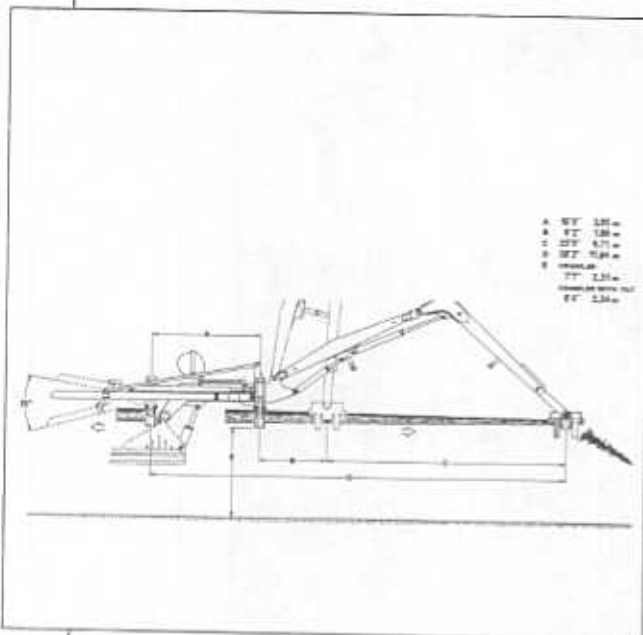
## Physical Specifications

Model	Delimeter Processor				PP Delimer			
	453		513		PP42		PP48	
Length m (ft.)	138	(45.3)	156	(51.3)	138	(45.3)	156	(51.3)
Width cm (in.)	1219	(48)	1219	(48)	914	(36)	914	(36)
Height cm (in.)	1219	(48)	1219	(48)	1219	(48)	1218	(48)
Boom Length m (ft.)	128	(42)	146	(48)	128	(42)	146	(48)
Weight* kg (lb.)	7156	(16,700)	8045	(17,700)	5454	(12,000)	5909	(13,000)
Maximum Grapple Opening cm (in.)	68	(27)	68	(27)	68	(27)	68	(27)
Maximum Delimbing Diameter cm (in.)	61	(24)	61	(24)	61	(24)	61	(24)
Delimeter attachment only								

## MANUFACTURER:

Pro Pac Industries,  
415 route Kennedy,  
Linière, Que., G0A 1J0  
TEL: (418) 685-2050 F  
(418) 685-3296

# TANGUAY MODEL E200 KNUCKLE BOOM DELIMBING ATTACHMENT



The Tanguay Model E-200 delimeter/processor attachment.

Tanguay are manufacturers of slashers, log loaders, delimeters, feller bunchers and attachments. In addition to the Tanguay model E200 delimbing attachment, also available is the Tanguay DL221SM delimeter, with optional "Denis KS" or "Harricana" delimbing attachments.

## Mechanical Specifications

Operating Pressure 1 757 750 kg/m<sup>2</sup> (2500 psi)  
Options

Processing device, including measuring device with digital readout in the operator's cab, two chain saws on the delimbing head, one for topping and one for butt trimming and diameter indicator on delimbing head.

## Operational Specifications

This delimbing/processing device offers flexibility. It can operate as a loader, and lift trees, even if they are very close to the unit. Small or large trees can also be processed easily at basically the same speed.

Its limited number of moving parts allow for superior mechanical availability and minimum maintenance.

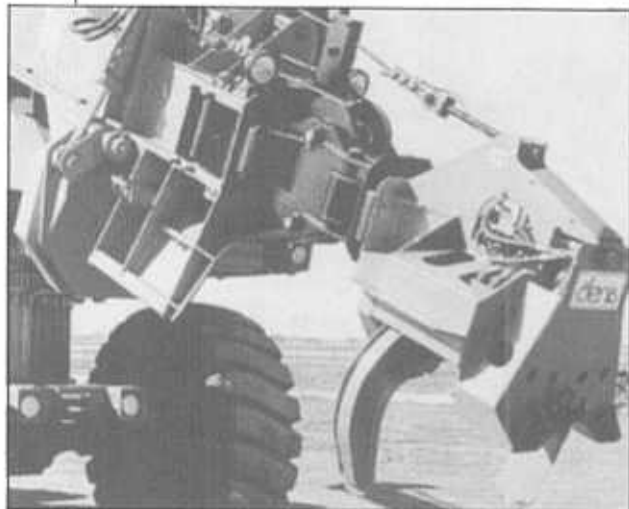
## Particular Specifications

A m (ft.)	3.05 (10.0)
B m (ft.)	1.88 (6.17)
C m (ft.)	6.71 (22.0)
D m (ft.)	11.64 (38.17)
E m (ft.) (Crawler)	2.31 (7.58)
Delimbing Head	Two way delimbing knives 152 mm (6 in.)
Delimbing Force	6350 kg (14,000 lb.)
Delimbing Length	Total stroke of boom and rear sliding extension is 9.75 m (32 ft.)
Head Capacity	560 mm (22 in.) diameter
Tree Holding Capacity	660 mm (26 in.) diameter
Weight	4990 kg (11,000 lb.)

## MANUFACTURER:

Tanguay Industries Inc.,  
2997 Watt St.,  
Quebec, Que.,  
G1X 3W1  
TEL: (418) 658-1315  
FAX: (418) 658-6747  
TELEX: 051-31676

## TIMBERJACK C-90 DELIMBER



*Timberjack C-90 rubber-tired mobile delimeter. Replaces slow track-mounted delimiters, and can be economically roaded up to 15 miles to serve several logging sites.*

Timberjack is a recognized name in the skidder industry, as well in the design and manufacture of mechanical logging equipment. Timberjack produces: cable skidders, grapple skidders, clambunk skidders, log forwarders, mobile delimiters, feller bunchers and mining vehicles. The TJ C-90 is an articulated, rubber-tired, mobile delimeter incorporating the Denis delimeter attachment.

### Particular Specifications

Overall Length	13385 mm (527 in.)
Maximum Width	3505 mm (138 in.)
Height	4623 mm (182 in.)
Ground Clearance	635 mm (25 in.)
Weight	31 752 kg (70,000 lb.)

### Mechanical Specifications

Engine	GM 4-71N65, 116 kW (155 HP) @ 2100
Tires	29.5 x 25 (28 PR)
Cab	Fully enclosed, heated
Delimeter	"Denis" Model T

### Operational Specifications

There are three "Denis" delimbing attachments, which is chosen depends on the length of the trees. All have 610 mm (24 in.) butt capacity, and provide single step delimbing to 17.1 m (56 ft.). All can top to 152 mm (6 in.) and can delimb multiple smaller stems.

Model T: Offers maximum production in trees less than 17.1 m (56 ft.) merchantable length. Butts are aligned for easy scaling, slashing and loading. A deflector allows unlimited length delimbing.

Model K: Is the choice where trees are consistently over 17.1 m (56 ft.). Here the fixed butt plate is replaced with a retaining ring which allows fast cycle time in long wood.

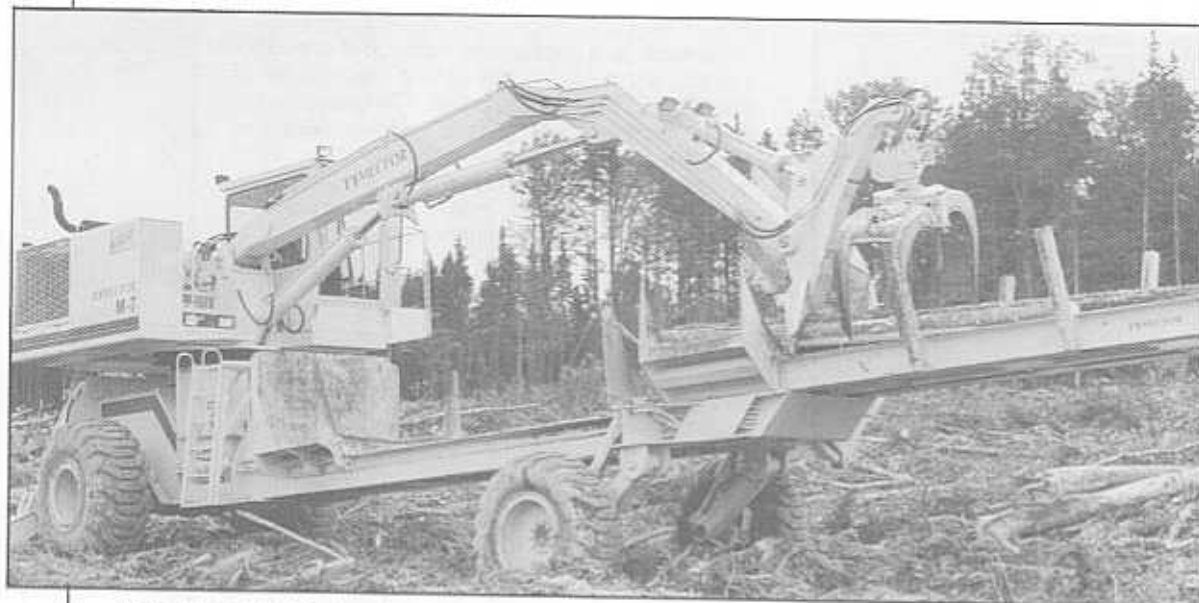
Model KS: With both a retaining ring and hydraulically controlled butt plate, is preferred where tree sizes vary from under 56 ft. to over 56 ft. This would be the best choice for a machine in mixed stands and for one that will be moved to different areas.

The Timberjack C-90 carrier is a four wheel drive 116 kW (155 HP) off-road production vehicle. Large tires, high ground clearance, wide track, long wheelbase, articulated steering and an oscillating power-frame axle combine to provide the mobility required around the delimbing site and over unimproved roads. The wheeled delimeter has been shown to have advantages over the tracked models particularly in its relocation time between sites as well as in its maintenance costs.

### MANUFACTURER:

Timberjack Inc.,  
925 Devonshire Ave.,  
P.O. Box 160,  
Woodstock, Ont.  
N4S 7X1  
TEL: (519) 537-6271  
FAX: (519) 539-4750  
TELEX: 067-74118

## MECFOR MOBILE SLASHER



*Mecfor M-7 Mobile Slasher with articulated chassis, for enhanced off-road manoeuvrability.*

Mecfor manufactures the standard model M-7, and the 4 x 4, also model M-7 with automatic feed conveyor.

### Particular and Mechanical Specifications

Hydraulic Saw Diameter, cm (in)	152.4 (60)
Slashing range, m (ft)	1.3 (4.125) to 5.1 (16.67)
Engine	Diesel: John Deere, Cummins, Caterpillar
Transmission	Powershift, 4-speed
Brakes	Automatic actuated park
Rear wheels	23.5 x 25
Articulated Chassis	
Electrical	24 Volts, with 65 amp alternator
Tare Weight, kg (lb), Standard	21 546 (47,500)
Auto feed	22 453 (49,500)

#### Options:

- Hydraulic front wheel drive
- Automatic, 107 cm (42 in) feed conveyor
- Floatation tires
- Choice of diesel motors
- Measuring system
- Ejection system
- The loader cabin tilts for easier transport on tri-axle float.

### MANUFACTURER:

Mecfor Inc.  
452 Principale  
St-Prime, Que., G0W 2W0  
TEL: (418) 251-8283 FAX:  
(418) 251-8259

## PRO PAC MOBILE SLASHER



*Pro Pac mobile slasher, working at a landing, with an integrally mounted hydraulic loader.*

The Company manufactures delimbers and delimeter processors, as well as mobile slashers.

### Particular Specifications

Overall Length mm (ft)	8738	(28.67)
Maximum Width mm (in)	2590	(120)
Height mm (ft)	3048	(10)
Hydraulic Pressure System	Depends on the carrier	
Total Weight kg (lb)	3629	(8000)

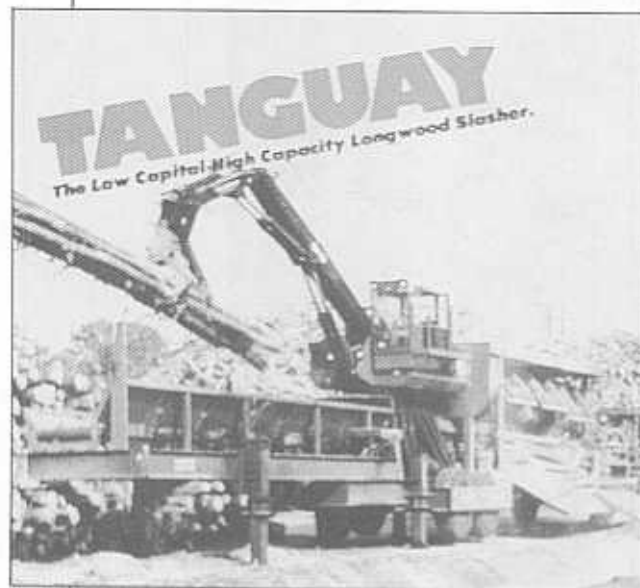
### Operational Specifications

Slasher circular saw of 1524 mm (60 in) diameter, with carbide teeth. The slasher is designed to slash 1.2 m (4 ft), 2.4 m (8 ft), 3.66 m (12 ft), 4.9 m (16 ft) logs.

### MANUFACTURER:

Pro Pac Industries,  
415 route Kennedy,  
Liniere, Que., G0A 1J0  
TEL: (418) 685-  
2050 FAX: (418) 685-  
3296

# TANGUAY MOBILE SLASHERS



The Tanguay slasher is designed to meet customer specifications. The diagram shows Tanguay model CC-5100 free-length, mobile slasher, using the multiple swing saw system to cut two, three, or up to four pulpwood lengths.

Tanguay are manufacturers of slashers, log loaders, delimbers, feller bunchers and attachments.

Slashers are available in mobile models CC125-B, TS200, TS250, CC-5100, and also in the stationary model CC-6100.

## Operational Specifications

The model TS 250 is a new slasher combining the versatility of a small one man slasher and the efficiency of a large custom built unit with roller case conveyor. It offers a semi-automated system operating one complete slashing cycle. This is done while the operator is unloading and reloading the conveyor.

System production depends on the type of wood processed and the sorting requirements. Nominal design capacity is based on 18 to 20 cords per hour in 2590 mm (8.5 ft.) pulpwood (theoretical).

The CC-5100 Tree Length Slasher uses multiple swing saw systems to cut two, three or up to four pulpwood lengths. This allows the slashing of wood within a minimum period of time because of the fast action of the swing saw and kicker mechanism. The rugged design gives a high mechanical availability, together with high performance. Wide rollicase conveyor with independent drives assures a constant feed to the slasher. Outfeed system is customized as per customer's requirements.

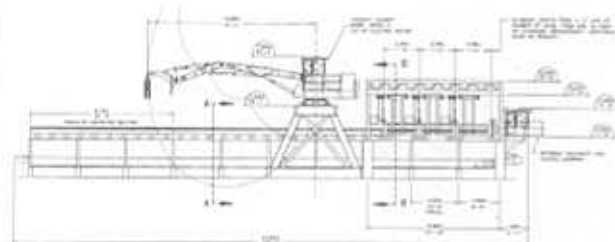
## Mechanical Specifications

Model	TS200	TS250	CC125-B
Engine	Cat 3208	Cat 3208D(T	Cat 3208
Power kW (HP)	147 (197)	168 (225)	95 (128)
Lift Capacity kg (lb.)	5440 (12,000)	5440 (12,000)	3180 (7000)
at 7.62 m (25 ft.) reach			
Hydraulic System Operating			
Pressure kPa (psi.)	17237 (2500)	17237 (2500)	17237 (2500)
Estimated Weight kg (lb.)	29050 (64,000)	39475 (87,000)	17800 (39,500)
Controls	All loader functions are operated by two hydraulic joysticks. Two electric pedals control the saw tilt and butt plate. Saw 1524 mm (60 in.) diameter, 40 carbide tipped teeth driven at 900 RPM by a hydraulic motor.		
Model	CC-5100		
Overall Transport Width, m (ft.)	3.8 (12.6)		
Engine, kW (lb.)	3306-T Cat 186(250) @ 2200 rpm		
Alternate	3406-DITA 280(375) or more power		
Infeed loader	T-14030-CH		
Capacity, kg (lb.)	6350(14000) at 9.1m(30ft)reach		
Swing Saw Slashing Mech., mm (in.)	1524(60) diam. saws, hyd. power		
2 or 3 saws /pulpwood length from 1270 mm (50 in) up to 3048 mm (120 in) as per customer requirements			
Optional	T-16030-CH loader, with TL-8 grapple, rotation limited to 300 deg.		

## MANUFACTURER:

Tanguay Industries Inc.,  
2997 Watt St.,  
Quebec, Que.,  
G1X 3W1  
TEL: (418) 658-1315  
FAX: (418) 658-6747  
TELEX: 051-31676

# TANGUAY STATIONARY SLASHERS



The Tanguay stationary slasher is custom designed to meet customer specifications. Diagram shows Tanguay model CC-6100 stationary slasher.

Tanguay are manufacturers of slashers, log loaders, delimbers, feller bunchers and attachments.

The high capacity, custom design, stationary slasher, model CC-6100.

## Operational Specifications

The Tanguay slasher is available as a one man operation, or in the higher production two-man configuration. It can also be fed with a live deck.

## Mechanical Specifications

Infeed conveyor,cm(in)  
Saws,cm(in)

Power unit;Electric  
Infeed loader,

Lifting Capacity kg(lb)

Max. reach,m(ft)

Grapple capacity,m<sup>3</sup>(cd)

Options

Feed deck

Debris conveyor

Auto. slash syst.

Smaller version: 106.7(42) rollcase conveyor and 152.4 cm(60in) dia. saws

152(60) wide rollcase,modular hyd. drive with RC-140 chain transfer  
183(72) diam., hyd. driven swing type arm, hyd. actuated  
Up to 4 saws on stand. arrangements  
Subject to number of saws  
T-16030 electric, 93.2kW (125hp)  
7258(16,000) at 9.1m(30ft)  
STD: 10.7(35) OPT: 12.2(40)  
3.6(1) tree lengths

## MANUFACTURER:

Tanguay Industries Inc.

2997 Watt St.,  
Quebec, Que.

G1X 3W1

TEL: (418) 658-1315

FAX: (418) 658-6747

TELEX: 051-31676

# NICHOLSON WOODFUEL PROCESSOR



*The Nicholson woodfuel processor: uses brush to solid wood( ie large logs, whole trees )*

Nicholson produces mobile chipper and chip conveying systems, producing high quality wood fuel chips, and acceptable quality pulp chips.

## Operational Specifications

Fuel and pulpwood chips are produced from the broadest range of materials using a single, high volume machine.

1. Peak production capacity,kg(green tons)/hr. 60 960(60) (Branches and orchard prunings)
2. Production up to 121 920 kg (120 green tons)/hr. (Large trees, whole trees)

A unique feature of the fuelwood processor is its ability to produce fuel chips in their final required shape. Chip size is controlled by a baffle screen set on the underside of the drum.

The low conveyor can be loaded by many types of equipment.

## Particular and Mechanical Specifications

Conveyor length,m(ft)	5.8(19)
Conveyor width,mm(in)	1626(64)
Chipper opening,cm(in)	162.6(64) x 91.4(36)
Power,kW(hp)	460(617) GM Detroit 12V92T diesel
Powered crush roll with air cyl. pressure control	
Max. whole log diam.,cm(in.)	softwood 46(18) hardwood 40.6(16)
Feed rate,m(ft)/min.	14(46)

## MANUFACTURER:

Nicholson Manufacturing Ltd.

327 Harbour Road,  
Victoria, B.C.  
V9A 3S2  
TEL: (604) 385-6757  
FAX: (604) 385-6454  
TELEX: 04-97215

# BEAVER WOODEATER



Beaver Woodeater set up with fully-portable live deck, and standard fire wood conveyor.

The Beaver Woodeater comes in five models: the Beaver Cub, Beaver, Super Beaver III, Super Beaver II, and the Otter.

## Operational Specifications

Standard pick-up trucks are normally required to transport the processing equipment. The Beaver and Otters come equipped with hitches, electric brakes, and trailer lights.

**Winches:** A winch package is offered with the Beaver Woodeater systems only. It allows the machine to be faced into a log deck and the logs to be winched straight in.

**Multi-Split Knives:** A multitude of knife arrangements are available, to match log species with market demands.

The new Beaver Cub Super Beaver III firewood processors, are applicable for both production operations, or for part-time users. They are simple to operate and less expensive to use.

Price: Approx 1988

Firewood Conveyors 20' std.	\$4850
30' std.	\$5850
30' x-wide	\$7300

Live Decks-Fully Portable

2 arms - 20' x 8'	\$5500
3 arms - 8 x 20'	\$7000

	Beaver Cub	Super Beaver III	Otter
Price/unit	\$24,900.00	\$37,500.00	\$72,500.00
Winch & Fairlead	\$1,375.00	\$1,625.00	N/A
Saw Bars	\$140	\$140	\$375
Sprockets	\$85	\$85	\$150

## Physical Specifications

Model	Beaver Cub	Super Beaver III	Otter
Log Size Capacity mm (in.)	457 (18)	508 (20)	914 (36)
Weight kg (lb.)	1451.5 (3200)	2495 (5500)	4536 (10000)
Trailer Braking	Electric	Electric	Electric
No. of Axles	single axle	double axle	triple axle
Saw Chain	.404 pitch	.404 pitch	.75 pitch
Firewood Lengths mm (in.)	All models cut 305 (12) to 610 (24) lengths		

## Mechanical Specifications

Model	Beaver Cub	Super Beaver III	Otter
Engine Standard	13.4kW (18HP)B&S(gas)	27.6kW (37HP)Kubota (diesel)	48.4kW (65HP)Kubota (diesel)
Optional:			
3 Phase Elec.	N/A	\$ 3125 less	\$ 4400 less
25 HP Onan (gas)	\$ 1200	N/A	N/A
25 HP Kubota (diesel)	\$ 3125	N/A	N/A
Split	4 way	8 way	Sized to suit
Electric Eye	N/A	Std.	Std.
Rams 3.5x30 std.	1 pc	2 pc.	2 stage
4x30 opt.	\$ 190	\$ 400	splitting system

## MANUFACTURER:

Eaglewood Industries Ltd.

P.O. Box 609,  
Salmo, B.C.  
V0G 1Z0  
TEL: (604) 357-2414

# CORDKING COMPACT FIREWOOD PROCESSOR



Compact Cordking Mobile Firewood Processor, Circular Splitter with 10-Way Splitter

## Mechanical Specifications

Engine:	56Kw ( 75 Hp ) diesel or PTO driven
Hydraulic Oil Tank:	416 L ( 110 US Gal.)
Splitter:	10 - way standard, 35500 kg (35 t), 6-8 second cycle
Options:	61 cm (24 in.) in-feed conveyor, custom splitter blades rear stabilizer jacks, solid state automatic controls, 6.1 to 12.2 m ( 20 to 40 ft) off-loading conveyor, carbide saw teeth, hydraulic trailer brakes

## Operational Specifications

Cordking Mobile Firewood Processor with a capacity of 15.2 to 58.4 cm ( 6 to 23 in ) log diameter, and 30.5 to 61.0 cm (12 to 24 in ) block lengths.

The infeed conveyor will handle logs up to 9.1 m (30 ft) in length. Folding live deck is present for ease of mobility, as well as 5.9cm ( 2 5/16 in ) ball coupler.

Anticipated production is as follows:

Physical Specifications		Log Diam. cm(in)	M <sup>3</sup> / Hour @ 65 % Efficiency	Cords/Hour*
Trailer:	Tandem axle, 2.6 m (8.5 ft) wide, 6.7 m (22 ft) long, 3 m (10 ft) high	20(8)	5.7	2.0
Trailer Weight:	5080 kg (5 t)	25.4(10)	10.9	3.0
Saw:	137 cm ( 54 in ) diameter, 4-6 gauge with steel teeth (Style 2-1/2)	30.5(12)	15.2	4.2
Live Deck:	2.4 by 3.1 m (8x10 ft)	35.6(14)	21.4	5.9
Conveyor:	4.9 m (16 ft) long	40.6(16)	28.3	7.8
		45.8(18)	35.5	9.8
		50.8(20)	46.4	12.0
		55.9(22)	52.6	14.5
		61.0(24)	63.1	17.4

## MANUFACTURER:

Fusiontech & Machine Inc.

3 Greig St.  
Smith Falls, Ont.  
K7A 1L9  
Tel: (613) 283-9106  
FAX (613) 283-0918

# DESJARDINS FIREWOOD PROCESSOR



*Desjardin Firewood Processor using P.T.O. from a tractor with a minimum power of 33.6 kW (45 hp).*

Desjardins Firewood Processor, P.T.O. powered type.

PRICE: Approx. \$14,000.00 F.O.B. St-Andre, Que. (1988).

## Operational Specifications

This system can be operated by one man. Depending upon wood size, system production is approximately one cord per hour.

## Particular and Mechanical Specifications

Dimensions	78 x 84 in x length variable according to system set-up
Weight	2900 to 3900 lb depending on set-up
Power	P.T.O. with a minimum of 33.6 kW (45 HP)
Saw	864 mm (34 in) diameter with teeth inserts
Conveyor	406 mm wide x 4.6 m long (16 in wide x 15 ft long)

## MANUFACTURER

Les Industries Desjardins Ltée,

79 rue Principale, St-Andre  
Quebec G0L 2H0  
TEL: (418) 493-2114 FAX: (418) 493-2432

## DESJARDINS P.T.O. BENCH SAW



*Desjardins P.T.O. bench saw.*

Desjardins are manufacturers of farm and sawmill equipment and attachments.

PRICE: Approx: \$1495.00 F.O.B. St-Andre, Que. (1988)

### Particular and Mechanical Specifications:

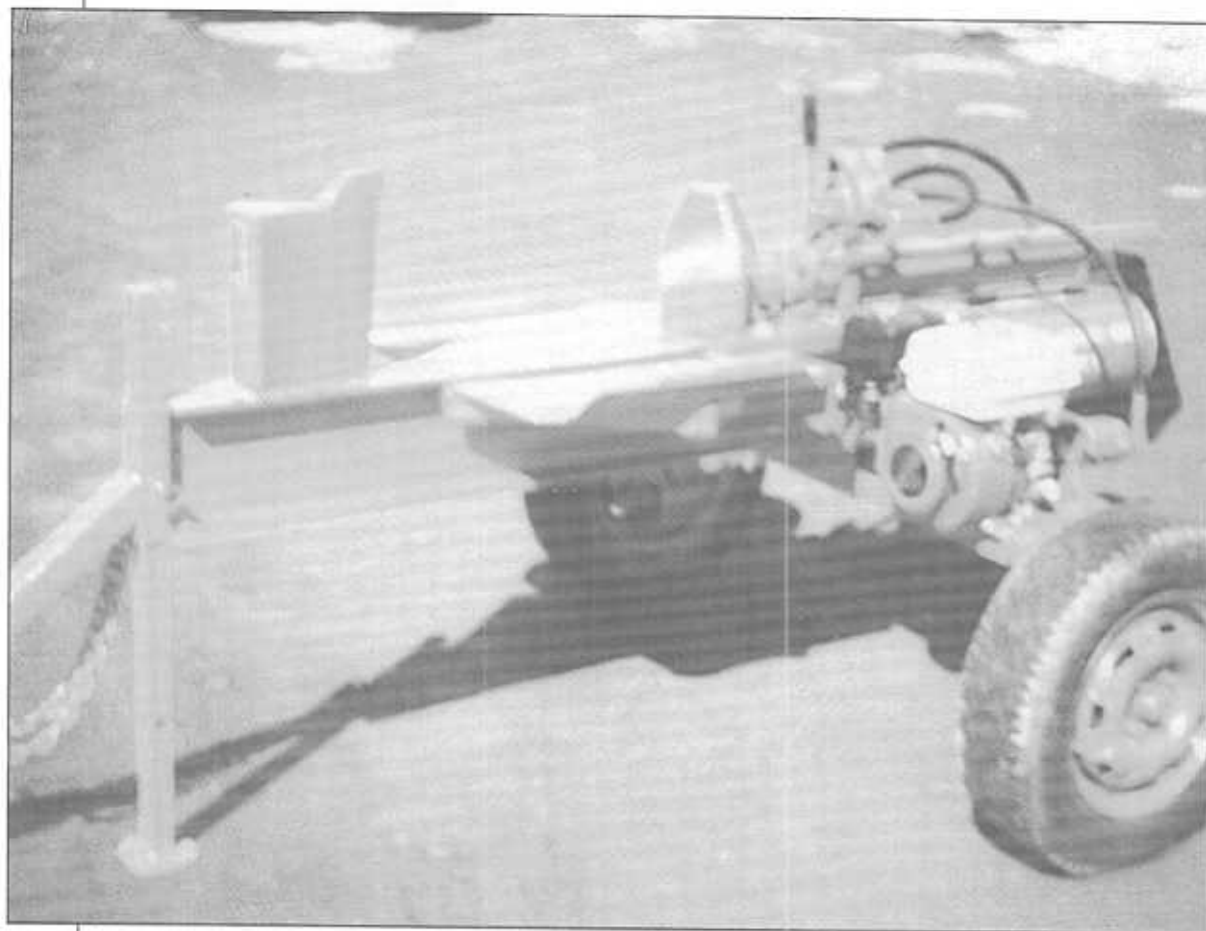
Dimensions	1854 x 1321 x 1067 mm high (73 x 52 x 42 in. high)
Weight	170 kg (375 lb.)
Power requirements	18.6 kW (25 HP)
Attaches to a three point tractor hitch with P.T.O.	
Cuts sticks up to 408 mm (16 in.) in diameter	

### MANUFACTURER:

Les Industries Desjardins  
Ltée,

79 rue Principale, St-  
Andre  
Quebec, G0L 2H0  
TEL: (418) 493-2214 FAX:  
(418) 493-2432

# HALL'S WOOD SPLITTER



*Hall's log splitter with three-point hitch to facilitate movement to site.*

Three-point hitch models are also available.

PRICE: Approx. \$ 1995.00 F.O.B. Centerville, N.S.,(1988)

## Particular Specifications

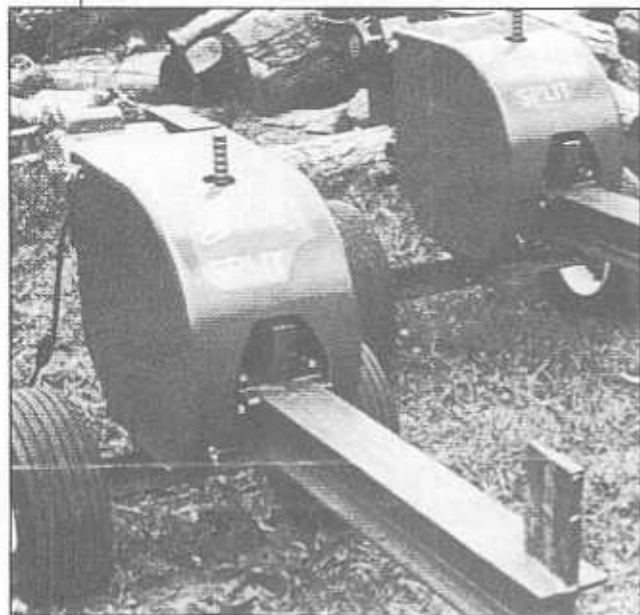
Splitting Force, kg (tons)	16256 (16)
Firewood Lengths, mm (in.)	max. 610 (24)
Engine	3.7kW(5 HP) Honda
Hydraulics	2 stage pump with 10 second return time
Clearance	508mm (20")
Options	Four way cutting blade 762mm (30") cylinder

## MANUFACTURER

Hall's Maritime Welding Ltd.,

RR#2 Centerville,  
King's Co., N.S.  
B0P 1J0  
TEL: (902) 678-6559

# SUPER SPLIT LOG SPLITTER



Splitter is available with a 3 HP gasoline or a 1 HP electric motor. Motors interchange in 5 minutes using household tools.

Available in both the 100, 200 regular and super duty models.

## Operational Specifications

Super Split utilizes the rack and pinion flywheel-drive principle to produce a two-second cycle and one half-second recovery time. The two-second cycle is up to 15 times faster than hydraulic splitters. Interchangeable gas or electric motors are quiet and easy to start. Case hardened rack and gear ram develops an impact force of 9.072 to 12.7 tonnes (10 to 14 tons).

The Super Split principle is based on the kinetic energy stored in a revolving flywheel firmly secured to a one piece shaft gear providing a tremendous power advantage.

PRICE:	Model	Engine	Price (1988)
	100	1 HP electric	\$ 2150.00
	200	3 HP B&S gas	\$ 2150.00
	100HD	1 1/2 HP electric	\$ 2425.00
	200HD	5 HP B&S 1/C gas	\$ 2425.00

## Particular Specifications

Overall Length mm (in.)	1829 (72)
Width mm (in.)	711 (28)
Overall Height mm (in.)	864 (34)
Weight kg (lb.)	127 (280) (approx.)
Shipping Weight kg (lb.)	134 (295) (approx.)
Wedge Height mm (in.)	152 (6)
Log Length mm (in.)	648 (25 1/2)
Wheels:	10" x 4" hard rubber
Optional	Wide flotation 15X6X6 4.80x8 road wheels trailer coupling for 1 7/8 ball

## Mechanical Specifications

Cycle Time	2 sec. (approx)
Recovery Time	1/2 sec. (approx.)
Split Force tonne (tons)	9.072 (10) - 12.7 (14)
Power Options: Standard	3 HP Briggs & Stratton gas engine or 1 HP electric 110/220 v AC
Super Duty	5 HP Briggs & Stratton gas engine or 1 1/2 HP electric motor
Split Cycle Action	Lift handle to engage Cycle interruptable

## MANUFACTURER:

Super Split Industries,  
474 Bank St.,  
Ottawa, Ontario  
K2P 1Z3  
TEL: (613) 235-5111

## LOGGING AND TRANSPORT: LOADING LOGGING AND TRANSPORT

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# KOEHRING LOADERS



The Koehring K525 loader, with 1.5 cord shortwood grapple, and optional three-piece boom.

Koehring Canada is a manufacturer of pulp mill, logging and construction machinery. Tree harvesting machinery consists of the following product line: Tree harvesters, feller forwarders, feller skidders, feller bunchers, log load-aligner, log loading cranes and yarders.

Koehring loaders are available in K525 wheeled, or 630 tracked models. Both available in shortwood, or tree-length configurations.

## Operational Specifications

Independent hydrostatic drive system front and rear, with two-speed power shift transmission, plus three shift, on-the-go hydraulic ranges.

Dedicated piston swing system and hydraulic circuit design allows simultaneous operation of all machine functions.

Optional fire suppression system is available on model 630; with (2) or (4) 14kg (30lb.) tank, 10 nozzle dry chemical powder system with (5) sensors in critical areas - automatic discharge.

## Particular Specifications

Model	K525	630
Overall Length mm (ft.)	8179 (26.8)	5490 (18.0)
Overall Width mm (ft.)	4140 (13.6)	3660 (12.0)
Height(top of cab) mm (ft.)	4115 (13.5)	4520 (14.8)
Track mm (ft.)	3404 (11.2)	2920 (9.6)
Ground Clearance mm (ft.)	580 (1.9)	580 (1.9)
Horizontal Reach (ground) mm (ft.)	9754 (32.0)	9754 (32.0)
Weight kg (lb.)	36061 (79,500)	37200 (82,000)

## Mechanical Specifications

Model	K525	630
Engine	Cummins 6CT8.3 rated at 154kW(207HP) @ 2000 RPM Optional Cat 3280T rated at 200 HP @ 2000 RPM	Cummins 6CT8.3 rated at 154kW(207HP) @ 2100 RPM
Cab	Both machines are fully sound and temperature insulated.	
Grapples:	Koehring butt and top tree-length grapple.	
Tree Length	Various types available.	
Shortwood	Optional shortwood three-piece boom 9754mm (32') reach allows close-in piling capability.	
Boom		

## MANUFACTURER:

Koehring Waterloo, Div. of Timberjack Inc.,

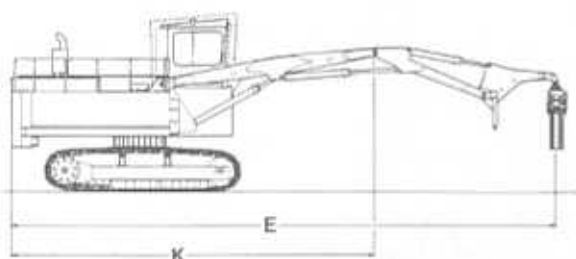
P.O. Box 490,  
Market St. South,  
Brantford, Ont.  
N3T 5P6  
TEL: (519) 752-6571  
FAX: (519) 752-3413  
TELEX: 061-81117

# TANGUAY LOG LOADERS

## "Y" Type, 10.6 m/35 feet of reach.

E 46'0" 14.02 m

K 31'1" 9.47 m



The Tanguay model LL231, tracked log loader with Caterpillar D7L undercarriage, with heavy duty guarding.

Tanguay are manufacturers of slashers, log loaders, delimbers, feller bunchers and attachments.

Log loaders are available in LL231 tracked types, or 12025 AC, and LL228 wheeled types.

### Optional Equipment

Booms with optional sticks for butt'n top (BT), heel type (Y), and short wood (S) loading. Different grapples from various manufacturers for all applications ie. Tanguay TL-3 grapple, Rotobec 584 grapple.

Heavy duty guarding package, including FOPS canopy and side window screens. Main and stick boom cylinder guards. Central fire suppression system. High visibility cab with rear sloping windshield. The air conditioner is not available with FOPS canopy.

### Particular Specifications

Model	LL231	LL228	LL12025 AC
Height mm (in.)	4570 (180)	4670 (184)	4100 (149)
Width mm (in.)	3560 (140)	2620 (103)	4242 (167)
Ground Clearance mm (in.)	650 (25)	460 (18)	400 (16)
Weight, kg (lb.)	38465 (84,800)	32545 (71,750)	21778 (48,000)

### Mechanical Specifications

Model	LL231	LL228	LL12025 AC
Engine	Cat. 3306	Cat. 3206	Cat. 3208 NA
Power	175(235) @ 2200 RPM	131(176) @ 2600 RPM	119(160) @ 2400
Drive	2 speed forward hydraulic drive	6 speed forward and reverse transmission	2 speed hydro- static drive
Weight, kg (lb.)	38465 (84,800)	32545 (71,750)	21778 (48,000)

(Weight does not include FOPS or grapple)

### Operational Specifications

Model	LL231	LL228	LL12025 AC
Lift capacity, kg (lb.)*	21000 (46,500)	21000 (46,500)	10726 (23,640)
at a reach of m (ft.)	3.65 (12)	3.65 (12)	4.57 (15)

\* (Lift capacity is net at end of boom, weight of grapple is to be deducted. Based on standard Y type heel boom.)

\*(S and BT capacities are slightly higher.)

## MANUFACTURER

Tanguay Industries Inc.

2997 Watt St.,

Quebec, Que.

G1X 3W1

TEL: (418) 658-1315

FAX: (418) 658-6747

TELEX: 051-31676

# ROTOBEC BOOM LOADER



*Rotobec Model 120 truck-mounted boom loader.*

Rotobec model 120 truck-mounted, boom loader. The Company also specializes in designing and manufacturing continuous rotation grapples, pulpwood grapples, log grapples, log/pulpwood grapples and rotors.

## Operational Specifications

Often mounted by contractors on low cost used trucks, of adequate capacity, this loader is particularly mobile, enabling the loading of scattered loads of pulpwood and/or logs from landings or woodlots.

## Particular Specifications

Boom reach,m(ft)	7.01(23)		
Height reach* ,m(ft)	10.2(33.5)		
Boom structure,mm(in)	178x229(7x9) high resist. steel		
	689 MPa(100,000 psi)		
Weight, kg(lb) less grapple & acces.	4535(10,000)		
Lift Capacity			
3.05	4.57	6.10	7.01 m
(10)	(15)	(20)	(23) ft
4921	3243	2402	1995 Kg
10,850	7,150	5,300	4,400 lb

\*Specifications are based on chassis of truck on which the loader is mounted which is some 1016 mm(40in) above ground level.

## Mechanical Specifications

Rotation System			
2 motors, at 7-8 rpm, and 151 L/min(40 U.S.gal/min)			
Stabilizers			
Width of Spread m(ft),	4.27(14)		
Hydraulic System			
Reservoir,litres(U.S.gal.)	433(114)		
Triple Pump,L/min(USgal/min)	132.5/132.5/68 (35/35/18)		
Recommended Grapples:			
Rotobec Model 144, 4542, 6609			
Options: Telescopic stabilizer, sound enhanced cabin			

## MANUFACTURER:

Rotobec Inc.  
200 Industrielle,  
P.O. Box 189  
Ste-Justine, Que.  
G0R 1Y0  
TEL: (418) 383-3002  
FAX: (418) 383-5334  
TELEX: 05-833559

## COMACT FRONT-END LOADERS



*The Comact CR 7000 front-end loader can perform different operations in a sawmill yard depending on attachment, whether it is chip loading, snow removal or lumber loading. Its lift height of 4.3 m (14 ft.) and reach of 1.8 m (5.83 ft.) makes it particularly versatile.*

Comact front-end loaders are available in models CR 7000 and CR 8000, with quick-coupling attachments such as buckets, forks, forks with top clamps.

### Particular Specifications

Wheelbase, m (ft)	3 (9.9)
Total length, m (ft)	7.6 (25)
Width, m (ft)	2.6 (8.7)
Height, m (ft)	3.2 (10.4)
Weight, kg (lb)	10 206 (22,500) CR-7000 12 020 (26,500) CR-8000

### Mechanical Specifications

CR 7000	
Engine	Ford 363T, 112 kW (150 HP) @ 2500 RPM
Transmission	Funk 2000, 3 forward and 3 reverse
Tires	17.5-25 (L2)
Rear axle oscillation	± 12 deg
Steering	Char-Lyn, 2 double action, 8.9 cm (3½ in) diam.
Hyd. pump	Vickers
Options:	
Forks m (ft)	1.5, 1.8, 2.1, 2.4 (5, 6, 7, 8)
Motors	Ford 380, 89.4 kW (120 HP)
Transmission	GM 453T, 123.0 (165 HP)
Cabin	Clark F.O.P.S. R.O.P.S. —insulated

### Other:

Counterweight, quick coupling system, side shift with/without grapple, snow or chip bucket, air dryer, safety lock valve, others on request.

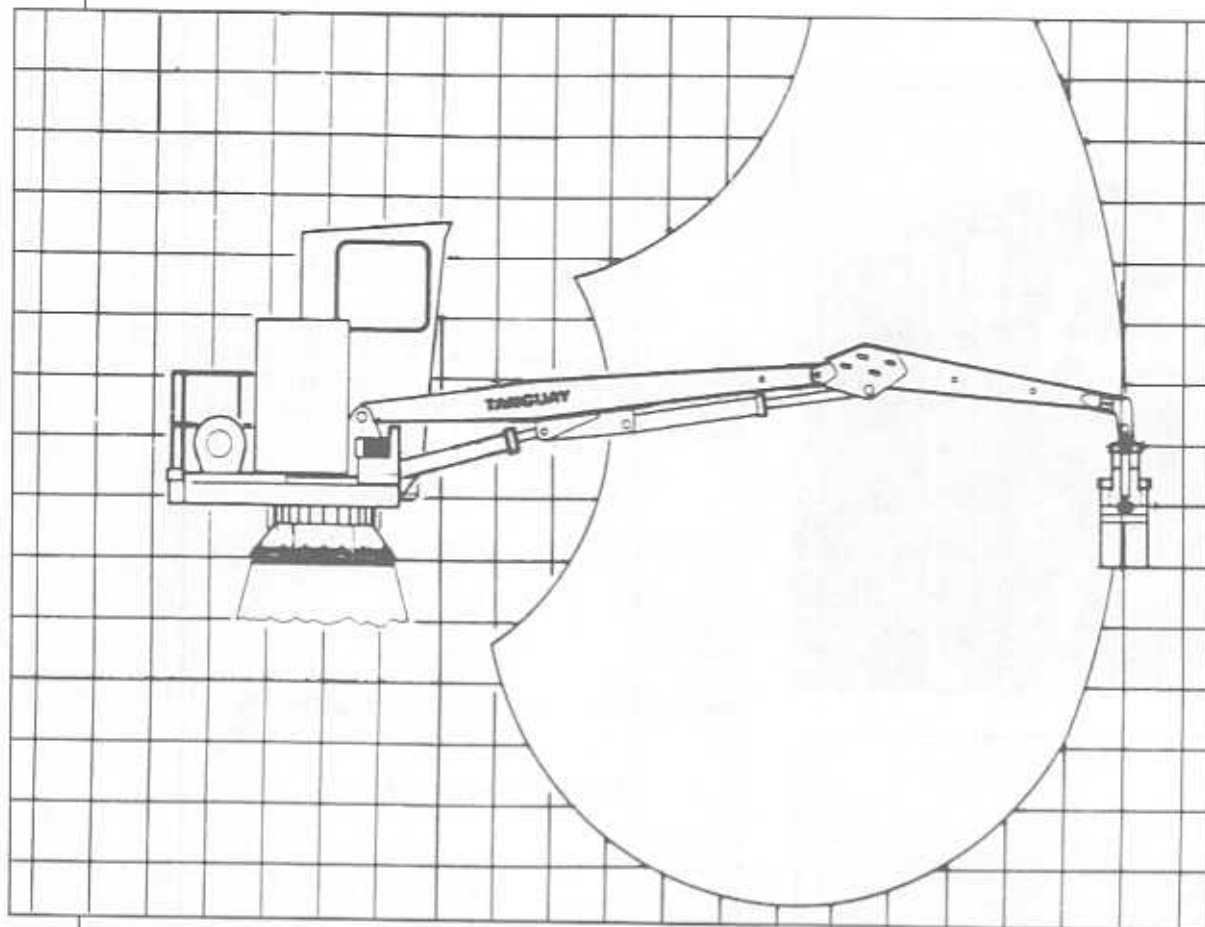
### Operational Specifications

Loading is facilitated with a lift height of 4.3 m (14 ft), and a reach of 1.8 m (5.8 ft). The machine can do many different operations in a sawmill yard with quick coupling attachments, as well as perform in chip loading or snow removal.

### MANUFACTURER:

Comact Machineries Inc.  
4000, 40e rue, St-Georges  
ouest  
Beauce-Sud, Que. G5Y 5K6  
Tel. (418) 228-  
8911 Telex 05-833510

# TANGUAY PEDESTAL LOADERS



Tanguay model PL216 ES-28 pedestal loader.

Tanguay are manufacturers of slashers, log loaders, delimbers, feller bunchers and attachments.

Tanguay pedestal loaders are available in models PL228, PL220, PL216 and PL5025.

## Optional Equipment

Roof type air conditioner complete with built-in heater, swing limiting device with adjustable switches, electric swivel for continuous rotation, electric remote control and diesel engine, instead of electric motor.

The cab is engineered for safety and comfort with fully adjustable seat, handrails and steps for easy access, good visibility with safety glass and protective screens.

## Mechanical Specifications

Model	PL216	PL220	PL228	PL5025
Engine	Electric	Electric	Electric	Electric
Power kW (HP)	56 (75)	75 (100)	93 (125)	45 (60)
Hydraulic System:	276 (73)	383 (101)	408 (108)	182 (48)
One double vein pump and one single vein pump to deliver				
L/min (gpm.)				
Weight kg (lb.)	8750 (19,000)	15075 (33,500)	10800 (24,000)	2268 (5000)
Booms	Forestry designed booms with optional sticks and grapples for pulpwood and tree length applications.			
Mounting Basis	Two heavy duty mounting basis with shock pads available for pedestal or conveyor mounting applications.			

## MANUFACTURER:

Tanguay Industries Inc.,  
2997 Watt St.,  
Quebec, Que.  
G1X 3W1  
TEL: (418) 658-1315  
FAX: (418) 658-6747  
TELEX: 051-31676

# CYPRESS LOG LOADER (CABLE)



The Cypress 7685 carrier provides mobility to model 7230R cable loader. The Model 7230C on hydraulic tractor undercarriage for maneuverability.

Cypress model 7230 cable log loader uses the same turntable bearing as the Model 7280B grapple yarder. Cypress 7685 rubber-tired carrier, available as model 7230R.

PRICE: Model 7230C @ \$644,700. ; Model 7230R @ \$ 733,500

(Grapple and lines are extra) F.O.B. Cypress yard, Delta, B.C. (1988)

## Operational Specifications

This high performance cable log loader's main and tag drums are American 7220 components. The mechanical boom hoist is powered up and down by simple air clutches, eliminating sprags and lifters. Only 4 gears are used in the entire winch and there are no bushings to grease. The 242Kw(325hp) engine coupled to a high output 3-stage converter makes heavy lifting possible. The high line speed is particularly good for long snorkle work.

## Physical Specifications

Model	7230C	7230R
Height:m(ft)	9.4(31)	9.8(32)
O/A Length (Crawler): m(ft)	5.5(18)	8.5(28.5)
Width: m(ft)	4.2(13.67)	3.5(11.3)
Weight: kg(lb.) Complete	65772 (145,000)	
Weight: kg(lb.) Less Boom & Gan.	56700 (125,000)	56700 (125,000)
Weight: kg(lb.) dry-no rigging		65772 (145,000)

## Mechanical Specifications

Model	7230C	7230R
Engine: kW/hp	GM 6V92T -242(325)	same
Torque Converter	Twin Disc 10000 series	same
Drums	1 Main line, 1 Tag line	same
Controls	Single lever,hyd. servo	same
Turntable:cm(in)	218(86) O.D. internal gear	same
Cab	Full vision	same
Boom:m(ft)	11(35) Bohemian	same
Undercarriage	Model 8300	same
Crawler	81cm(32in) double grouser shoe D8K idlers and sprockets 245 rollers.	

Carrier	Model 7685
Engine: kW/hp	GM6V92 268(360)
Transmission:	Allison 5633-7
Axles: front	Rockwell FV910
rear	Clark BD91000
Speed: km/hr(mph)	42(26)
Gradeability:	30%

## MANUFACTURER:

Cypress Equipment Co. Ltd.

8760 River Road  
Delta, B.C.  
V4G 1B5  
TEL: (604) 946-1171  
FAX: (604) 946-1319

# KOEHRING K4 LOADER/FORWARDER



Koehring Model K4 loader/forwarder

## Particular Specifications

Overall Length	14400 mm	(47'-4 1/2")
Overall Width	4650 mm	(15'-7")
Overall Height (top of cab)	6400 mm	(21'-0")
Track	3800 mm	(12'-6")
Ground Clearance	890 mm	(2'-11")
Horizontal Reach (ground)	8230 mm	(27'-0")
Weight	50000 kg	(110,000 lb.)

Koehring Canada is a manufacturer of pulp mill, logging and construction machinery. The tree harvesting machinery consists of the following product line: Tree harvesters, feller forwarders, feller skidders, feller bunchers, log load aligner, log loading cranes and yarders. The loader forwarder is available in shortwood and tree-length configurations.

## Operational Specifications

Vehicle is built to perform the functions of loading/unloading, and forwarding shortwood or tree-length depending on configuration. Diesel powered hydrostatic driven carrier with rotating upper, loader-type boom and wood bunk. The vehicle features centre joint oscillation and articulation.

## Mechanical Specifications

Engine	Cat 3306 DITA—rated at 201 kW (170 HP) @ 200 RPM
Power Train	Manual or powershift transmissions
Cab	Fully sound and temperature insulated
	Optional air conditioner
Controls	Hydraulic joystick hydra-sponse controls
Fire Suppression System	Engine compartment protection consisting of two manually actuated 14 kg (30 lb.) dry chemical extinguishers, nitrogen powered heat sensors, nozzles and alarm bell in cab.
Grapples:	
Tree-Length	Koehring butt and top tree-length grapple with integral rotating heel
Shortwood	Various types available.

## MANUFACTURER:

Koehring Waterous, Div. of  
Timberjack Inc.,  
P.O. Box 490, Market St.  
South,  
Brantford, Ont., N3T 5P6  
TEL: (519) 752-6571 FAX:  
(519) 752-3413  
TELEX: 061-81117

# HARRICANA BUTT'N TOP ROTATING GRAPPLE



The Harricana Butt'N Top rotating grapple has full rotation for fast loading/unloading of tree-length wood in either direction.

Choice of Harricana grapples models up to 7.2 m<sup>3</sup> (2 cords) grapple capacity; models RM-85-XS, 100-XS, 125-XS, 150-XS, 175-XS, 200-XS. Installed without modification on excavator boom, whether machines are on wheels, or on machines with boom and stick.

## Operational Specifications

The grapple capacity is determined by the type of carrier, and by the working conditions.

Stabilizers establish the balanced load, with the balance being enhanced by the retaining cylinder and the interlocking jaws. Continuous rotation system increases flexibility and speed of the machine in handling and sorting of tree-length wood, either at the landing or the millyard. Particularly useful for loading and unloading butt and top tree-length wood.

Most often it handles tree-length wood, but it can also be used in other applications.

## Particular Specifications

Models	Opening mm(in)	Capacity m <sup>3</sup> /cords	Weight kg/lb.	Rotating output Torque, Nm(in/lb)
RM-85-XS	1707(67)	3.17 7/8	1088 2400	8333 (74,000)
RM-100-XS	1727(68)	3.6 1	1406 3100	12612 (112,000)
RM-125-XS	1829(72)	4.5 1 1/4	1814 4000	16576 (147,200)
RM-150-XS	2032(80)	5.4 1 1/2	1859 4100	16576 (147,200)
RM-175-XS	2184(86)	6.3 1 3/4	2812 6200	22105 (196,300)
RM-200-XS	2388(94)	7.2 2	2983 6200	22105 (196,300)

## MANUFACTURER

Harricana Metal Inc.,  
P.O. Box 550  
Amos, Que.  
J9T 3A8  
Tel. (819) 732-8381  
Telex 057-46647  
or in Delta, B.C.,  
Tel. (604) 943-9692  
Fax. (604) 943-1565

# HARRICANA PARALIFT BOOM & GRAPPLE



The Harricana Paralift boom and grapple system, mounted on a front-end, wheel loader, lifts, carries, loads, unloads and stacks 4ft., 8ft. and 16 ft. wood.

Harricana rotating grapple models RM-150-2, and RM-225-2, are often utilized in loading operations. The company also manufactures a complete range of continuous rotation grapples for use with the paralift boom for handling 1.2 m (4 ft), 2.4 m (8 ft) or 4.9 m (16 ft) log lengths.

## Operational Specifications

The paralift boom and grapple can be mounted on most popular wheel loaders. Its parallelogram geometry provides good stability, while handling 1.2 to 4.9 m (4 to 16 ft.) logs in a variety of positions, with full lift at maximum reach.

All wheel loaders equipped with Paralift boom systems, can be quickly reconverted to their original attachment.

The Paralift builds high piles of wood with controlled release to prevent log scattering. The height of the wood piles varies with the make of the loader.

## Particular Specifications

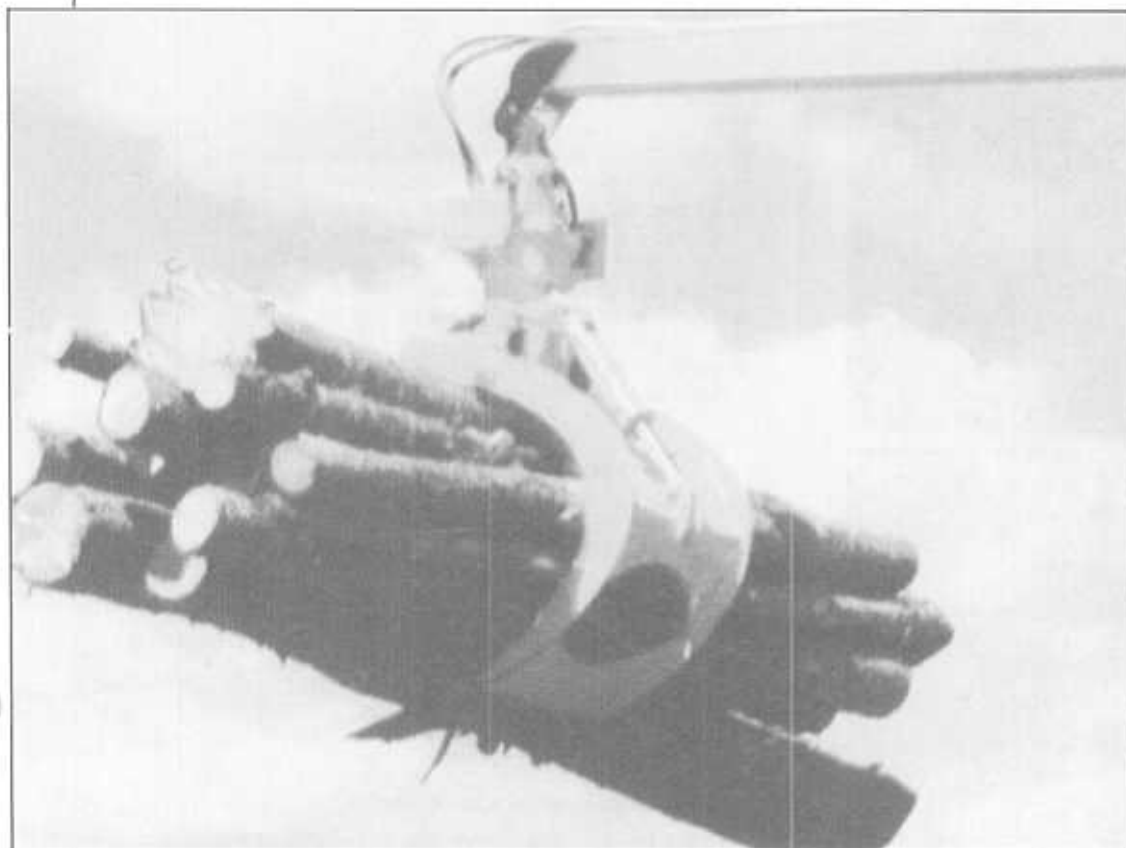
### Harricana Rotating Grapples:

	RM-150-2		RM-225-2	
	mm	(in.)	mm	(in.)
Width (open)	3658	144	4470	176
Width I.D. (closed)	1860	73 1/4	2292	90 1/4
Capacity, m <sup>3</sup> (cd)	5.4	1 1/2	8.2	2 1/4
Weight, kg (lb)	1860	4,100	2812	6,200
Loader				
Grapple Models	RM-150-2, RM-150-4		RM-225-2	
Max. Height, mm (ft)	3.1 m <sup>3</sup> (4 yd <sup>3</sup> ) 7874 (25.875)		3.8 m <sup>3</sup> (5 yd <sup>3</sup> ) 8458 (27.75)	
Max. Reach, mm (ft)	3302 (10.83)		3937 (12.92)	
Weight (grapple included) kg (lb)	4785 (10,550)		8890 (19,600)	

## MANUFACTURER:

Harricana Metal Inc.,  
P.O. Box 550,  
Amos, Que., J0T 3A8  
Tel. (819) 732-8381  
Telex 057-46647  
or in Delta, B.C.,  
Tel. (604) 943-9692  
Fax. (604) 943-1565

# ROTOBEC CONTINUOUS ROTATION GRAPPLES



*Rotobec Continuous Rotation Grapples are adaptable to many models of loader and forest application.*

Rotobec specializes in designing and manufacturing continuous rotation grapples. Pulpwood Grapples, models 184 to 1004 (11 capacities), Log Grapples, models 3537 to 9082 (13 different capacities), Log/Pulpwood Grapples models 4207 to 7606 (6 different capacities), Forwarder grapples models 6140, 7245, Rotors, models 3250, 9150, 24000, and 26000, 40000.

## MANUFACTURER:

Rotobec Inc.

200 Industrielle,  
P.O. Box 189  
Ste-Justine, Que.,  
G0R 1Y0  
TEL: (418) 383-3002  
FAX: (418) 383-5334  
TELEX: 05-833559

Model	Type	Particular Specifications		Grapple Opening cm(in)	Weight kg(lb)
		Capacity m <sup>3</sup> (cd)			
		4ft	8ft		
184	Pulpwood	0.45(0.125)	0.91(0.25)	142(56)	340(750)
to					
1004		3.6(1)	7.2(2)	406(160)	1452(3200)
3537	Log Grap.	0.11(0.93)	0.22(0.06)	94(37)	302(665)
to					
9082		1.2(0.32)	2.3(0.64)	208(82)	771(1700)
4207	Log/Pulp	0.27(0.075)	0.15(0.54)	107(42)	193(425)
to					
7606		0.9(0.25)	1.8(0.5)	193(76)	767(1690)
6140	Forwarder Grap.	0.3(0.95)	0.7(0.19)	154(60.5)	340(750)
7245	Forwarder Grap.	0.5(0.135)	1(0.27)	182(71.5)	374(825)

# ROTATING GRAPPLES, TREE-LENGTH AND PULPWOOD



Butt and Top Grapple (top) for tree length loading, and the Pulpwood (8 and 16 foot) Rotating Grapple (above).

Weldco-Beales are specialists in the design and manufacture of machines and attachments for the forest industry, with a wide range of products.

Weldco-Beales manufactures the 360 Degree, Tree Length, Rotating Grapples; Butt and Top Type, and the 8 / 16 Foot Pulpwood Rotating Grapple. Models XG85 through XG200, Butt and Top Grapples, and Models PG65-2 through PG225-2 Pulpwood (8 Foot) Types and PG100-4 through PG200-4 Pulpwood (16 Foot) Types.

## Particular Specifications

### TREE LENGTH BUTT & TOP GRAPPLE

Model	Opening cm(in)	Closing Jaw cm(in)	Stabil. Cyl. cm(in)	Tool Cyl. cm(in)	Rotation	Weight kg(lb.)
XG85	137(54)	25(10)	10(4)	10(4)	Cont.	1089(2400)
XG100	140(55)	33(13)	10(4)	13(5)	Cont.	1406(3100)
XG125	157(62)	38(15)	13(5)	13(5)	Cont.	2087(4600)
XG150	165(65)	43(17)	13(5)	13(5)	Cont.	2132(4700)
XG175	183(72)	48(19)	13(5)	13(5)	Cont.	2812(6200)
XG200	208(82)	56(22)	13(5)	13(5)	Cont.	3992(8800)

## Operational Specifications

The 360 degree, tree-length, rotating grapple for butt and top loading is designed for off-road log loading operations. Picking and placement control of tree-lengths, is achieved with the 360 degree rotating grapple. Individually controlled outriggers and powerful grab arms facilitate all tree-length handling. The units operate on all sizes of excavators.

The pulpwood rotating grapple has 360 deg. continuous rotation for easy pick-up and placement of wood.

### PULPWOOD ROTATING GRAPPLE: 8 & 16 FOOT PULPWOOD TYPE

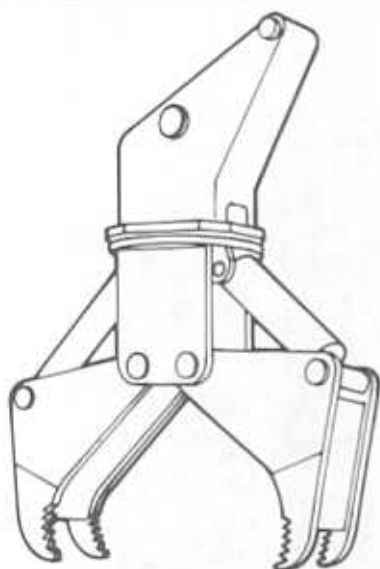
Model	Opening cm(in)	Closing cm(in)	Width cm(in)	Jaw Cyl. m(cds)	Capacity	Weight kg(lb.)
<b>8 FOOT PULPWOOD</b>						
PG65-2	229(90)	127(50)	91(36)	4	2.3(0.625)	862(1900)
PG75-2	254(100)	137(54)	91(36)	4	2.7(0.75)	953(2100)
PG100-2	279(110)	152(60)	91(36)	5	3.6(1)	1520(3350)
PG125-2	305(120)	168(66)	91(36)	5	4.5(1.25)	1792(3950)
PG150-2	330(130)	183(72)	91(36)	5	5.4(1.5)	1950(4300)
PG200-2	406(160)	213(84)	107(42)	6	7.2(2)	2790(6150)
PG225-2	437(172)	229(90)	107(42)	6	8.2(2.25)	2948(6500)
<b>16 FOOT PULPWOOD</b>						
PG100-4	226(89)	114(45)	107(42)	4	3.6(1)	1270(2800)
PG125-4	226(89)	127(50)	107(42)	4	4.5(1.25)	1406(3100)
PG150-4	254(100)	137(54)	122(48)	5	5.4(1.5)	1497(3300)
PG200-4	279(110)	152(60)	122(48)	5	7.2(2)	1950(4300)

## MANUFACTURER:

Weldco-Beales

#410 - 6450 Roberts St.  
Burnaby, B.C.  
V5G 4E1  
TEL: (604) 294-2222  
FAX: (604) 294-1292  
TELEX: 04-55103

## POWER GRAPPLES WITH 360 DEGREE ROTATION



Power Grapples 360 degree rotation used to lift logs without heeling.

Weldco-Beales are specialists in the design and manufacture of machines and attachments for the forest industry with a wide range of products.

Weldco-Beales power grapple models 15PG27, 25PG33, 25PG36, 35PG48, 35PG52. Models 15PC36 and 25PC44 Power Cant (timber) Grapples. Models 25CD25, and 35CD35 Compact/Driver, Multi-Use, Tool-Pile Driver- Pavement and Concrete Breakers. Models 10RF, 15RF, 25F, 35RF Brush Cutters.

### Operational Specifications

Exceptional dexterity is achieved by combining the grapple tilting cylinder with the rotary turning system. The result, duplicates the action of the human hand, lifting logs without heeling, pushing, and pulling without swinging free.

Particularly suited for log deck sorts and saw mill in-feeds.

### Particular Specifications

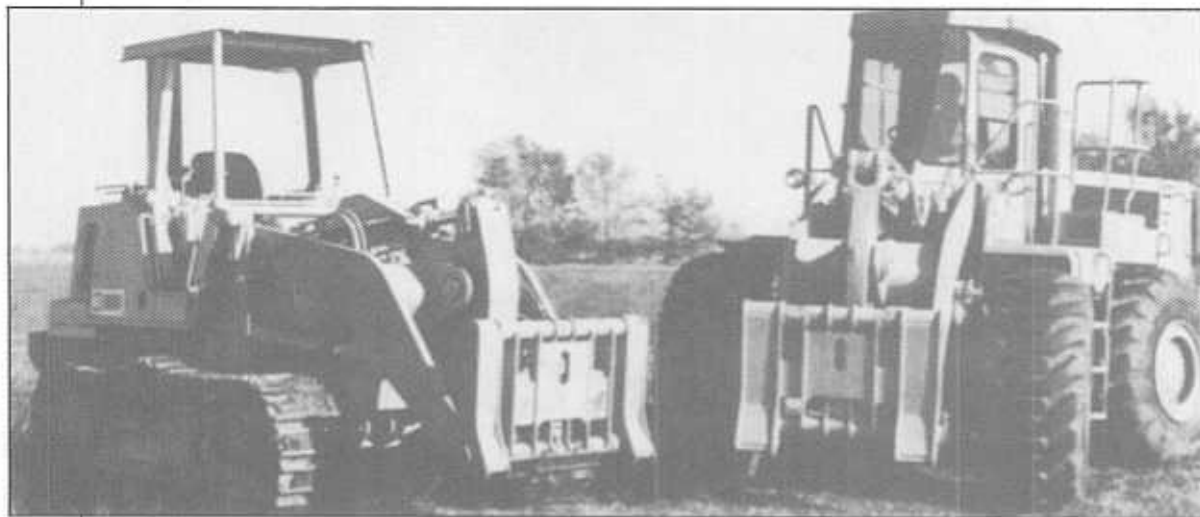
Machine Size m <sup>3</sup> /yd <sup>3</sup>	Model	Opening cm(in)	Closing cm(in)	Width cm(in)	Weight kg(lb)
0.47 to 0.57	15PG27	69(27)	11(4.5)	37(14.5)	748(1650)
0.76 to 0.96	25PG33	84(33)	11(4.5)	38(15)	1043(2300)
	25PG36	91(36)	11(4.5)	38(15)	1043(2300)
1.02 to 1.34	35PG48	122(48)	20(8)	38(15)	1179(2600)
	35PG52	132(52)	20(8)	38(15)	1179(2600)

## MANUFACTURER

Weldco-Beales

#410 - 6450 Roberts St.  
Burnaby, B.C.  
V5G 4E1  
TEL: (604) 294-2222  
FAX: (604) 294-1292  
TELEX: 04-55103

## BALDERSON QUICK COUPLER ATTACHMENTS



*Balderson Quick Coupler used on most models, has a wedge-style locking system to ensure a tight, secure fit between the Quick-Coupler and the attachment.*

Balderson manufactures the Quick Coupler and a number of different Quick Coupler attachments consisting of: forks, booms, blades, plows for snow removal, railcar coupler, 5th wheel and hooks.

**PRICE:** The price for the coupler conversion kit, for a Cat 966E loader or equivalent is \$ 3,950.00 list F.O.B. Edmonton, Alta (1988). Delivery is 2 to 3 weeks.

### Particular Specifications

The Quick-Coupler converts any loader, wheel or track into a multi-purpose machine. The Coupler allows changing attachments on the front of the machine, in a matter of seconds, without leaving the cab.

A wide range of attachments is available to go along with the coupler concept. Nearly every attachment manufactured for loaders & can be ordered with the quick coupler option. Such versatility, for instance, allows one machine to service a small mill, by loading logs, handling finished products, doing clean up work and removing waste products.

### MANUFACTURER:

Balderson Canada Ltd,  
6400 - 30th Street,  
Edmonton, Alta,  
T6P 1J6  
TEL: (403) 469-9185  
FAX: (403) 469-9256

## VALLEE CUSTOM ATTACHMENTS



*The Vallee Quick coupler system (top), adaptable to nearly all track or wheeled loaders. The combined grapple (above), for handling logs or lumber with horizontally or laterally adjusting forks, or wide load top clamp.*

Les Industries Vallee manufacture lift trucks and light material buckets, heavy material buckets, quick couplers, combined grapples, as well as custom attachments made to measure.

### Particular Specifications

The quick coupler system is adaptable to any front-end loader. All that is required to order the appropriate coupler, is the loader model, year of manufacture and unit serial number.

The combined grapple used for handling logs and lumber is offered with various options such as horizontally or laterally adjusting forks or wide load top clamps. Five models are available with fork lengths of 120.98 cm (48 in.), grapple opening of 274.32 cm (50 in.) and a hydraulic cylinder of 10.16x38.1 cm (4x15 in.) dimensions.

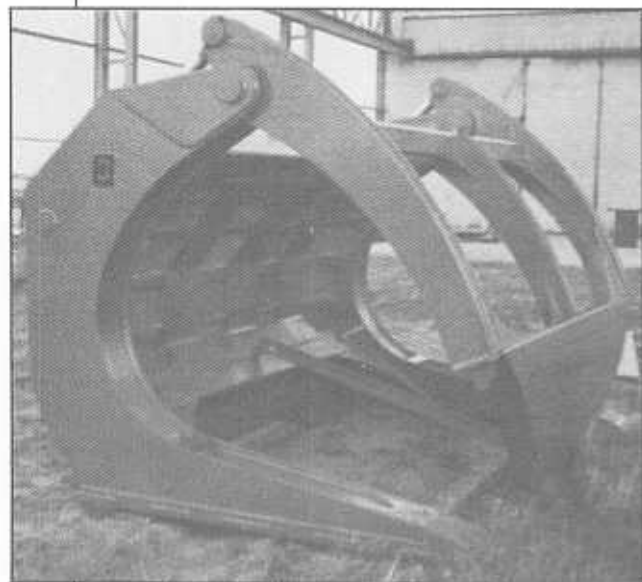
Heavy material buckets are available in 11 models having capacities to the rim from 0.736 m<sup>3</sup> to 5.345 m<sup>3</sup> (26 to 189 cu.ft.). They are available with quick or standard couplers. The light material bucket is available in 15 models having capacities from 0.064 m<sup>3</sup> to 9.163 m<sup>3</sup> (2.3 to 323 cu.ft.).

The Company offers a wide variety of non-standard, rugged, custom, attachments, for the front-end loader, for the specific applications. These attachments can utilize the quick coupler for optimal production of the loader.

### MANUFACTURER

Les Industries Vallee Inc.  
310 rue Principale,  
St. Alban, Quebec  
G0A 3B0  
TEL: (418) 268-8955  
FAX: (418) 268-5626

# BALDERSON TREE-LENGTH LOG FORK



Balderson tree-length log forks, enable the operator to utilize the capabilities of the wheeled loader.

Manufactured by Balderson for all makes and sizes of rubber-tired and track-type loaders. The Balderson FTL series forks, and FMY model, available as an option.

PRICE: On loaders equivalent to the Cat 966E, current list price is \$15,000 F.O.B. Edmonton Alta. (1988). Delivery is 3 to 4 weeks.

## Operational Specifications

The FTL series forks are built wide, for use on longer logs where the wide grip is necessary to hold logs securely. The narrower FMY model is built for application in millyards and around bins, available as an option.

The fabricated box beam streamlines the fork-back, increasing visibility, while maintaining strength. Concealed hoses eliminate the need for excessive guarding, however operator and machine guarding is recommended for machines used in forestry and land clearing operations.

## MANUFACTURER:

Balderson Canada Ltd.  
6400 30th Street  
Edmonton, Alta.  
T6P 1J6  
TEL: (403) 469-9185  
FAX: (403) 469-9256

## Particular Specifications

Fork Model	FTL20	FTL16	FTL14	FTL12	FTL11
Curve height,cm(in)	193(76)	153(60)	147(58)	133(52)	130(51)
Min. Opening, cm(in)	66(26)	51(20)	38(15)	48(19)	43(17)
Tine Opening,cm(in)	251(99)	221(87)	211(83)	183(72)	192(76)
Curve Width,cm(in)	175(69)	151(59)	145(57)	137(54)	124(49)
Surface Area, m <sup>2</sup> (ft <sup>2</sup> )	1.8(19.8)	1.4(15.5)	1.2(13.3)	1.1(12)	1.1(12)
Weight, kg(lb)	3629 (8000)	2336 (5150)	1905 (4200)	1769 (3900)	1723 (3800)

Options: FMY 16 Millyard Fork.

# BALDERSON WOODCHIP ATTACHMENTS



Balderson offers a complete line of woodchip handling attachments, including buckets for Cat wheel and track loaders, U-blades and chip scoops. Photo shows Cat D9L with Balderson BD9US-20 U-blade of 57.3 m<sup>3</sup> (74.9 yd<sup>3</sup>) capacity.

Balderson manufactures woodchip buckets for Cat wheel loaders, models 988B through 910; Balderson models B88-23S rated at 17.6 m<sup>3</sup> (23 yd<sup>3</sup>) to B10-3S at 2.9 m<sup>3</sup> (3.8 yd<sup>3</sup>) capacity. Woodchip U-Blade for Cat track-type tractors, models D10 to D6H; Balderson BD10 US-24 with a capacity of 116 m<sup>3</sup> (152 yd<sup>3</sup>) to BD 6 US-14 of 15 m<sup>3</sup> (20 yd<sup>3</sup>) capacity. Chip Scoop for Cat wheel-type tractors, models 834B to 814B; Balderson scoop models B34-45S, B24-30S, B14-20S at capacities 30.6 m<sup>3</sup> (40 yd<sup>3</sup>), 22.3 m<sup>3</sup> (30 yd<sup>3</sup>) and 15.3 m<sup>3</sup> (20 yd<sup>3</sup>).

**PRICE:** For Fiat FR35 size or equivalent woodchip bucket, the price is \$ 20,300.00 list F.O.B. Edmonton, Alta (1988). Delivery for the smaller common buckets is 4 to 5 weeks, and the larger buckets is 6 to 8 weeks.

**U-Blade Price:** for the D8N Caterpillar size or equivalent is \$ 20,000.00 list F.O.B. Edmonton, Alta (1988).

**Price for the D8N Caterpillar or equivalent sized scoop** is \$75,000.00, list F.O.B. Edmonton, Alta (1988). Delivery 10 to 12 weeks.

## Operational Specifications

Woodchip buckets are designed to take advantage of the wheel loaders capability to lift and carry chips. They are of large capacity, but of light weight. Their application is complicated by the variations of wood species, chip moisture content, climate and ground conditions. A large variety of buckets is therefore available to meet particular needs.

Chip scoops are designed to increase the chip handling capability of wheel dozers by partially carrying, and partially pushing loads. These scoops have limited capability to lift chips and dump into chutes.

The woodchip U-blades are of large capacity, light weight, designed to utilize all the capability of the prime mover to push a maximum amount of chip payload.

## Particular Specifications

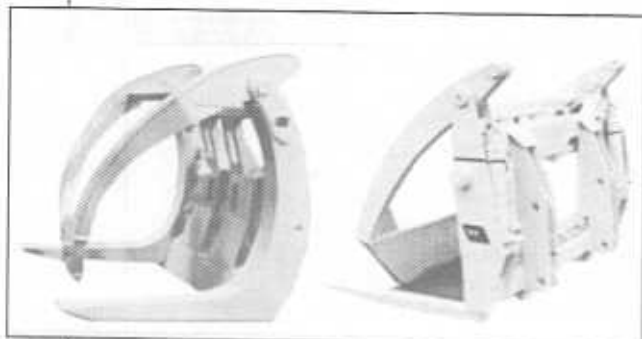
Model Chip Scoop	B34-45S	B24-30S	B14-20S
Lift & Carry Cap. (m <sup>3</sup> (yd <sup>3</sup> ))	34.4(45)	22.3(30)	15.3(20)
Doze Cap., m <sup>3</sup> (yd <sup>3</sup> )	68.8(90)	49.7(65)	30.6(40)
Width,mm(in)	6096(240)	4013(158)	3734(147)
Height,mm(in)	2794(110)	2540(100)	2540(100)
Depth,mm(in)	2845(112)	3277(129)	2540(100)
Dump angle,deg.	50	60	55
Weight, kg(lb)	9072(20,000)	7561(16,670)	5486(12,095)

## MANUFACTURER

Balderson Canada Ltd.

6400 30 St.  
Edmonton, Alta.  
T6P 1J6  
TEL: (403) 469-9185  
FAX: (403) 469-9256

# WELDCO-BEALES LOG AND PALLET FORKS



*The Weldco-Beales grapple is performance matched to loader capabilities for forest landing or mill yard production*

The Company specializes in the design and manufacture of machines and attachments for the forest industry, with a wide range of products to suit individual needs.

Weldco-Beales Front-end Loader Forks, Clamps, and Grapples. Weldco-Beales Models FHS-48-80 to FHC110-132 High Capacity Log Forks, FLP48-70 to FLP66-108 Semi-Low Profile Log Fork, FHCB 48-80 to FHB 60-108 Baled Top Clamp, FTL 48-70 to FTL 66-108 Tree Length Fork, PF 48-70 to PF 84-112 Pallet Fork, PFTC 48-70 to PFTC 84-112 Pallet Fork with Top Clamps.

## Operational Specifications

The high capacity log fork is designed for handling large loads, with independent operating overarms, and reinforced overarm pivot points.

The operator's line of sight and visibility has been greatly enhanced with the semi-low profile fork by reducing overall height. This attachment is popular among sawmill and lumber yards.

The overarms of the baled top clamp fork provide tight clamping action for short logs and small diameter single log operations.

The tree-length fork was specially designed for single log, tree length logging. The unique grapple configuration assures a positive grip, especially necessary for rough terrain transportation.

Log grapples are available for most makes and models of front-end loaders. The grapple is constructed of alloy steel, assuring low stress with less weight, while allowing large capacities. The grapples being matched to the loader capabilities, allow full utilization of the equipment.

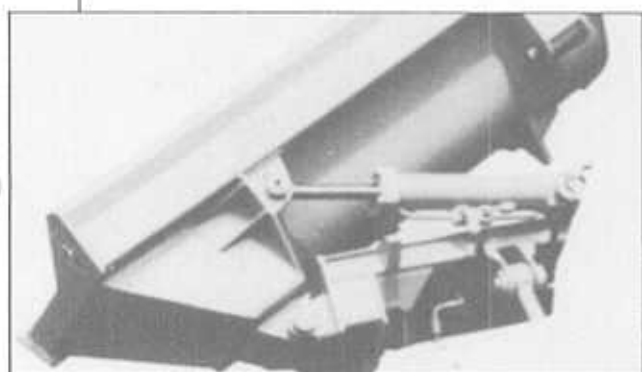
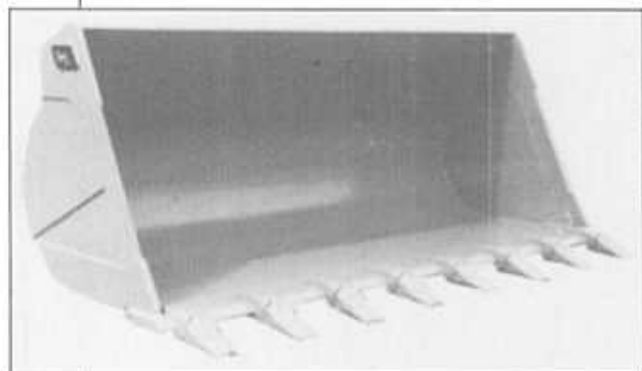
## Particular Specifications

Type	Model	Opening cm(in)	Approx. Weight kg(lb)
Log Grapple	M5 to M139	160(63) 287(113)	560(1,235) 5897(13,000)
Plywood Peeler Fork with top	65-10 to 65-25	234(92) 272(107)	1043(2300) 2087(4600)
Pallet Forks	PF5 to PF40	152(60) 229(90)	442(975) 4990(11,000)
High Capacity Log Fork	FHS 48-80 to FHC 110-132	246(97) 457(180)	1383(3,050) 5579(12,000)
Baled Top Clamp	FHCB 48-80 to FHCB 60-108	213(84) 264(115)	1428(3,150) 2105(4,640)
Tree-Length Fork	FTL 48-70 to FTL 66-108	203(80) 292(115)	1306(2,880) 2631(5,800)

## MANUFACTURER:

Weldco-Beales  
#410 - 6450 Roberts  
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Burnaby, B.C.  
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FAX: (604) 294-1292  
TELEX: 04-55103

# WELDCO-BEALES LOADER BUCKETS



Weldco buckets with various widths and capacities can be used for the different materials.

Weldco-Beales manufactures general purpose (GP) buckets, light material (LGP) buckets, heavy material (HGP) buckets, wood chip (CHP) buckets, standard and (CHBB) chip bonus buckets. Weldco-Beales models: RB, rock bucket; RBS, rock bucket spade nose; RTB, tire bucket; MPB, multi-purpose bucket; STB and SLB, slip on buckets.

The Company are specialists in the design and manufacture of machines and attachments for the forest industry with a wide range of products.

## Operational Specifications

The two styles of chip buckets, standard and bonus are available. The bonus type incorporates a unique lugging design which moves the center of gravity closer to the loader, increasing carry capacity and stability.

## Particular Specifications

Type	Model	SAE Rated Capacity m <sup>3</sup> (yd <sup>3</sup> )	Approx. Wt. kg(lb)
General Purpose Bucket	GP 75	0.57(3/4)	299(650)
	to GP10	7.6(10)	4468(9,850)
Light Material G.P. Bucket	LP2	1.5(2)	599(1,320)
	to LP12	9.2(12)	3720(8,200)
Heavy Duty G.P. Bucket	HGP4.5	3.4(4-1/2)	1882(4,150)
	to HGP8	6.1(8)	3890(8,575)
Chip Buckets Std.	CHB3.5	2.7(3-1/2)	658(1,450)
	CHB10	7.6(10)	1746(3,850)
	CHB30	23(30)	5080(11,200)
Chip Bucket Bonus Multi-Purpose Bucket	CHBB3.5	2.7(3-1/2)	644(1,420)
	CHBB45	34.4(45)	7371(16,250)
	MPB.75	0.57(3/4)	585(1,290)
	to MPB5	3.8(5)	4445(9,800)

## MANUFACTURER:

Weldco-Beales

#410 - 6450 Roberts S  
Burnaby, B.C.  
V5G 4E1  
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TELEX: 04 - 55103

## LOGGING AND TRANSPORT: SECONDARY TRANSPORT LOGGING AND TRANSPORT

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## FREIGHTLINER LOGGING TRUCKS



*Freightliner Conventional Logging Truck with special logging specifications for forestry applications (Class III).*

Freightliner are custom builders, and one of North American leaders in the manufacture of trucks.

Crafted to the purchasers specifications, the Freightliner Logger is designed and built for off and on-road requirements. It starts with the Freightliner Conventional Logging Truck, with additional specifications available for logging applications (Class III).

### Particular Specifications

Specifications required for logging applications include: Special service packages with heavy duty cab kit, underslung cross members at rear engine mounts, rear brake dust shields, dual suction and return fuel lines, fiberglass hood, steel C-channel web-mounted cross members with rear cab mount tied to C-channel web, 5 mm (3/16 in.) cab decks, heavy duty door frame stiffeners, logger bumper of 9.5 mm (3/8 in.) steel, heavy duty air tank brackets, 8 mm (5/16 in.) rear cross member with A-frame, extra air line to end of frame with dash valve, steel boxed tail/stop/back-up lights, cold weather roof and wall insulation, insulated cab doors, double thick floor insulation, tool box seat with back rest.

The company lets the customer design the logging truck from a wide range of high performance, and application options to better meet the particular needs.

### MANUFACTURER:

Freightliner of Canada Ltd.,

3880 Nashua Drive,  
Mississauga, Ont.  
L4V 1M5

TEL: (416) 677-4961  
FAX: (416) 677-0813



*Paystar 5000 Series trucks can be equipped with a wide variety of on/off highway, single and tandem axles from Dana, Rockwell and Eaton, with ratings from 10433 kg (23000 lb.) to 29484 kg (65000 lb.).*

## Particular Specifications

### Series 5000

Wheelbases available, cm (in)

371 (146), 417 (164), 462 (182), 508, 539 (200, 212), 508, 554 (200, 218), 584, 600, 615 (230, 236, 242)

Front Axles and Suspension, kg (lb.)

7258 (16,000), 8165 (18,000), 9072 (20,000), 9526 (21,000)

Rear Axles, cm (in)

10433 (23,000), 18144 (18,000), 19958 (44,000), 20866 (46,000), 26309 (58,000), 29,484 (65,000)

Rear Suspensions, kg (lb.)

10433 (23,000), 17237 (38,000), 19958 (44,000), 22680 (50,000)

GVW/GCW ratings up to 63504 (140,000 lb.)

## Mechanical Specifications

### Series 5000

Engines, kW (hp)

International DT-466 - 157.5 (210); DT1-466 - 157.5 (210)

Detroit Diesel 6V-92 TA - 225 (300); 6V-92 TTC - 225 (300); 6V-92 TA 262.5 (350)

Cummins 110 - 180 (240); L10 - 180, 202.5 (240, 270); PT-240 - 180 (240), PT-270 - 202.5 (270); NTC-300 - 225 (300), NTCC-350 - 262.5, 300 (350, 400)

Main Transmissions 5-Speed Fuller, 5-Speed Allison Auto., 9-Speed Fuller, 10-Speed Fuller, 13-Speed Fuller, 15-Speed Fuller.

Auxiliary Transmissions 2-Speed Fuller, 4-Speed Spicer

## Operational Specifications

The Company offers "FOCUS," a series of computer analysis programs, available at no cost or obligation through their dealer network, to help interested individuals make informed business decisions on the specifications, operation and maintenance of the truck options. The weight distribution analysis program helps the purchaser analyze truck, body, and payload weights in order to maximize loads and meet requirements. Another program called TCAPE, helps the purchaser specify the most suitable engine and drivetrain combination to assure maximum performance, fuel economy and gradeability for the job.

International Paystar 5000 Series: F-5050SB, F-5070SB (6x4); F-5050SF, F-5070SF (6x4); 5050SB, 5070SB (4x4); F-5050SB, F-5070SB (6x6); F5070WW (6x4); International Premium Conventional 9300 Series.

A complete choice of chassis configurations permits the purchaser to specify the most efficient and productive model for the job.

## MANUFACTURER:

Navistar International Corp.(Canada)

120 King St.W.,  
P.O. Box 2020  
Hamilton, Ont., L8N 3S8  
TEL: (416) 528-7700

# WESTERN STAR TRUCKS



The Western Star 6900 Series severe service truck, used in off-highway logging applications.

Western Star models 3800, 4800, 4900, with over-the-road and off-road capabilities; 6900 and 7900 heavy-duty, severe service, off-road trucks.

## Operational Specifications

Western Star builds trucks to suit the particular needs of operators, with customization, and many option offerings for on and off road applications.

The 6900 series trucks are for severe off-highway duty, available with many heavy duty options and engine offerings up to 331kW, making them particularly suited to many logging transport applications.

## Particular Specifications

	Truck Models			
	364S	4864S,F	4964S,F	6964
Engines, kW (hp)	179-224 (240-300)	179-331 (240-444)	224-331 (300-444)	298-331 (400-444)
Bumper to B.O.C. dimension, cm (in.)	277 (109)	277 (109)	312 (123)	335 (132)
Front Axle Capacity kg (lb.)	5443-9072 (12000-20,000)	5443-9072 (12000-20,000)	5443-9072 (12000-20,000)	9072 (20,000)
Rear Axles, Single	9526 (21,000)	10433 (23,000)	10433 (23,000)	20866 (46,000)
kg (lb.), Tandem	18144 (40,000)	22680 (50,000)	22680 (50,000)	40824 (90,000)
G.V.W. Rating, Max kg (lb.)	27217 (60,000)	31752 (70,000)	31752 (70,000)	49896 (110,000)
G.C.W. Rating, Max kg (lb.)	36288 (80,000)	77112 (170,000)	77112 (170,000)	113400 (250,000)
Type:	Short nose Conventional	Short nose Convent.	Long nose Convent.	Long nose Convent. to severe service

## MANUFACTURER:

Western Star Trucks Inc.  
2076 Enterprise Way,  
Kelowna, B.C., V1Y 6H8  
TEL: (604) 860-3319  
FAX: (604) 860-1252  
TELEX: 048-5153

## WEST COAST CHALLENGER TRUCKS



*The New West Coast Challenger Truck for off-road logging applications.*

West Coast Challenger Trucks were designed by a truck logger with the assistance of a former Hayes Engineer, stressing durability and ease of maintenance, and with emphasis on economical operation.

### Particular Specifications

The engine slides out on an inner frame with radiator still full of antifreeze and transmission integrally mounted.

Other features are: High capacity 2000 litre (531 gal) water tank

Oil bath compensator with air lock operated from the cab

Hinged fenders and grided guard for easy access

Large outside tool box

9-foot turntable

1 3/4 U-bolts

2.7m (9ft) turntable

### MANUFACTURER:

Challenger Manufacturing  
Ltd.

Box 1298

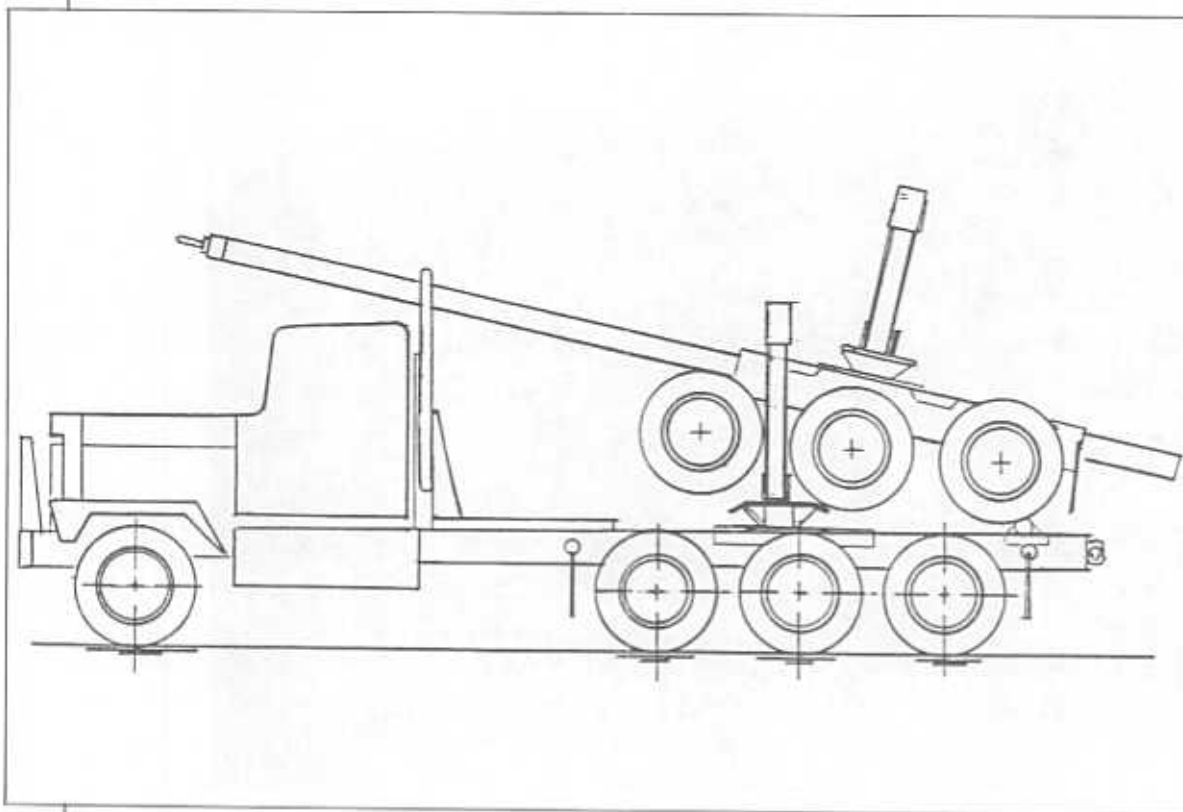
Port Alberni, B.C.,

V9Y 7M2

TEL: (604) 724-3731

FAX: (604) 724-1112

## TRIDEM LOGGER TRAILER



*Tridem Development Logger*

Knight Trailer is actively engaged in the development of the Tridem Logger. It is not yet legal for B.C. highways, but was shown at Wood Expo 88, Vancouver, in order to determine tridem logger standards for future highways regulations.

### Particular Specifications

Highway GCW to 54432 kg (120,000 lb.)  
Payload to 40824 kg (90,000 lb.)  
Trailer capacity to 30480 kg (30 tons)  
Tridem axles on trailer  
Knight mechanical suspension  
Walking beam type stability  
Integrated leaf spring cushion  
Low profile fixed stake bunk

### Operational Specifications

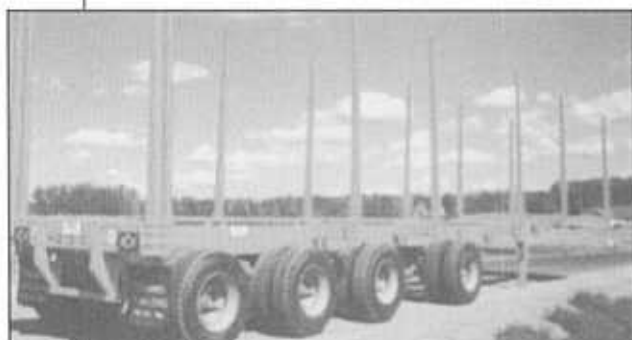
Tests are being conducted by the manufacturer on the Tridem Logger to determine steering, stability, onswing and other characteristics before the new RTAC regulations are set.

## MANUFACTURER:

Knight Trailer Company Inc.

A subsidiary of  
Goodbrand  
International Inc.  
5770 Production Way  
Langley, B.C. V3A 4N4  
TEL: (604) 530-9555  
FAX: (604) 530-2206

# TIMMINS LOGGING TRAILERS



The 14.6 m (48ft)-3 Axle-6 Bunk, Drop Deck Logging Trailer, Timmins Model DDL48-3A-TAL

Timmins standard and drop deck loggers, standard and drop deck pulp trailers, Timmins chip van and B-train trailers, low bed trailer, flat deck trailers and B-train, Timmins air lift and Timmins heavy duty, and extra heavy duty spring suspension

PRICE: 14.6 m (48ft)-3 Axle-6 Bunk Drop Deck Logging Trailer, \$46,705, F.O.B. Timmins (1988). Price varies with specifications.

## Operational Specifications

Tires and rims are available in choice of sizes and styles, tubeless and tube types. Axle capacity may be increased to 11340 kg (25,000 lb.) or 13608 kg (30,000 lb.). Load securing devices such as winches, load binders, cables, and chains are available.

As much of the trailer equipment is custom manufactured, contact manufacturer for additional information.

## Particular Specifications

Model DDL48-3A-TAL	
Length, m (ft)	14.63 (48)
Width, m (ft)	2.59 (8.5)
Height, m (ft)	4.11 (13.5)
Main Frame, cm (in)	40.64 (16) fab. hi-tensile steel
Weight, kg (lb.)	10400 (22,928)
Bunks, m (in)	15x20 (6x8) tubing
Pickets, length m (ft)	2.74 (9) & 3.05 (10) of CNT 100 steel
Body Type	Drop deck logger

## Mechanical Specifications

Suspension, cm (in)	Timmins Spring Type, model TSS-28 3 axle choices of 137 (54), 152 (60) 163 (64), 185 (73) & 196 (77) spreads
Axles, capacity kg (lb.)	10206 (22,500), 196 cm (77 in) track
Tires	11R24.5 XZY Mich-16 Ply

## MANUFACTURER:

Porcupine Trailers Ltd.  
2090 Riverside Dr.  
P.O. Box 1487  
Timmins, Ont., P4N 7W  
TEL: (705) 267-7195  
FAX: (705) 268-4723

## TEMISKO TRAILERS



*Temisko semi-trailers, come in a variety of chip, pulp and tree-length types. Shown here is the heavy-duty, off-road logger with extending bunks, and telescopic piquets.*

Temisko specializes in the manufacture of semi-trailers with lead emphasis on the forest industry. The Company manufactures semi-trailers such as the heavy duty, off-road logger, with extending bunks and telescopic posts; multiple tandem models, for butt and top loading; dump-through B-train chip models, ultra-lights, tree-length haulers and hydraulic fifth wheel models; walking floor (self loader and unloader); heated and refrigerated vans.

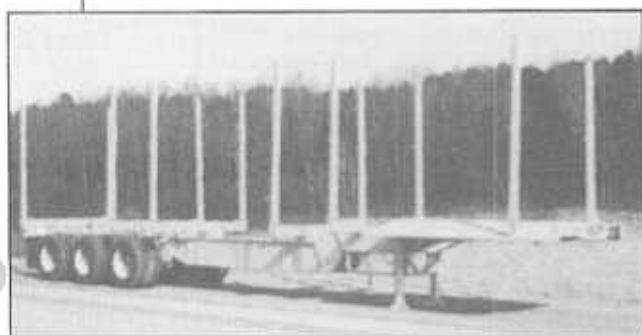
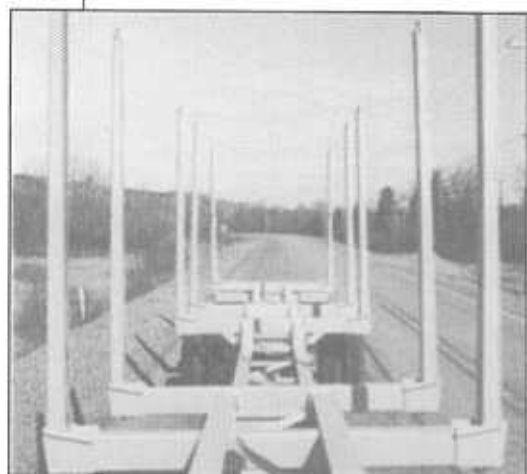
### Particular Specifications

Temisko semi-trailers are built to handle wood chips, bark, sawdust, pulpwood and tree length-logs, according to customers particular needs.

### MANUFACTURER:

Temisko (1983) Inc.,  
P.O. Box 460,  
Notre-Dame du Nord, Que.,  
J0Z 3B0  
TEL: (819) 723-2416  
FAX: (819) 723-2827

# RODECK LOGGING TRAILERS



*Rodeck Model 21 semi trailer, is built for forest use, as well as highway transportation. In spite of its light weight of 9979 kg (20,000 lb.), the semi-trailer can haul four tiers of 3 m (10 ft) or 3.7 m (12 ft) of logs, or three tiers of 4.9 m (16 ft) logs.*

Rodeck, the forest division of Manac, manufactures the following trailers: Model 26, off highway semi-trailer for butt & top loading; Model 21, logging semi-trailer, in multiple lengths; Model 50, low bed; Model 36, chip van and Model 10, flatbed.

## Operational Specifications

In the Rodeck model 21 multiple length logging trailer, the elimination of the conventional floor prevents the accumulation of ice or wood debris.

In the Rodeck Model 50 low bed semi-trailer, the trailer capacities vary from 45,360 kg (100,000 lb.) to 90,720 kg (200,000 lb.) and are specially designed for the transport of heavy equipment on highways or forest roads. They are designed with a detachable goose neck, without ground support, and equipped with two high capacity cylinders allowing the lowering or raising of the platform, depending on road conditions.

The Rodeck Model 26 allows a net load of 119 750 kg (264,000 lb.), equivalent to approx. 46 cunits of wood. The trailer is equipped with a Rodeck fifth wheel, permitting the attachment of a second trailer for A-train operations.

## Particular Specifications

	Model 21	Model 26	Model 36
Length, m (ft)	14 (46) or 15 (48)	16 (52)	
Width, cm (in.)	102 (259)	4 (13)	
Load height, m (ft)	4.1 (13.5)	5.5 (18)	
Weight, kg (lb.)	9 979 (20,000)		
Capacity chips, m <sup>3</sup> /ft <sup>3</sup>			116 (4,100)

## Mechanical Specifications

Suspension  
model 21

Three combinations of suspensions are available:  
Twin axle mechanical type, spread on 153 cm (60 in.) or 183 cm (72 in.), plus air suspension on sliding supports, allowing displacement to rear for forest, and to front, for highway operation.

Tri-axle mechanical type, spread on 153 cm (60 in.) with an air suspension axle at 254 cm (100 in.).  
Double-axle Rodeck suspension, spread on 183 cm (72 in.), combined with two air suspensions of 254 cm (100 in.) centre to centre

Suspension  
model 26

Two pivot mounted Rodeck suspensions, with a capacity of 68 040 kg (150,000 lb.) each. This semi-trailer is equipped with 16 1400x25 tubeless tires.

## MANUFACTURER:

Manac

Rodeck Forest Division  
2275, 107e Rue.,  
St-Georges, Beauce  
Quebec G5Y 2C9  
TEL: (418) 228-2018  
FAX (418) 227-3344  
TELEX: 05-833531

## FLOATS AND TILTING TRAILERS



The Rem Fab Special Double-Axle Float for machinery transport.

Rem Fab are specialists in the manufacture of floats, and tilting trailer models: R3, Tilting Double-Axle Float; R16, Special Double-Axle Float; R17, Double-Axle Float; RD80, Tri-Axle Float; RD80FP, Tri-Axle Beam Float; RD80, Super Light Tri-Axle Float; R3T, Hydraulic Tilting Tag-along-Trailer.

### Operational Specifications

The Rem Fab tri-axle trailer is available in four versions depending on particular needs:

1. The Super Light Tri-Axle Float with special rear light slope. Weight with 100,000 lb. steel is 30 percent lighter than the standard model.
2. The Super Light Tri-Axle Float without the rear light slope, with standard lighting system that meets safety regulations.
3. Tri-Axle Beam Float
4. Tri-Axle Float.

### Particular Specifications

Models	R3	R3T	R16	R17	R8
Capacity	9072-22680	13608-36287	18144-45359	18144-45359	36287-113935
kg (ton)	(10-25)	(15-40)	(20-50)	(20-50)	(40-125)
Width	2.4-3.7	2.4-3.7	2.4-3.7	2.4-3.7	3.0-3.7
m (ft)	(8-12)	(8 to 12)	(8-12)	(8-12)	(10-12)
Height	76-107	76-107	66-76	66-76	61-76
cm (in.)	(30-42)	(30-42)	(26-30)	(26-30)	(24-30)
Decks	4.3-7	7.9 or X	12-16	5.5-7	6.7-7.6
m (ft)	(14-23)	(26 or X)	(40-51)	(18-23)	(22-25)
Floor	3.5 Oak	3.5 or 5.7	3.4 Oak	5.7 Oak	5.7 Oak
cm (in.)	(13/8)	(1.3-2.3)	(13/8)	(2 1/4)	(2 1/4)
Lighting	To reg.	To reg.	To reg.	To reg.	To reg.
Brakes	Air	Air	Air	Air	Air
Axle Cap.	10206	10206	10206	10206	10206
each kg/lb.	(22,500)	(22,500)	(22,500)	(22,500)	(22,500)
Tires	8/trailer	8/trailer	8/trailer	8/trailer	12/trailer
cm (in.)	38 or 51 dia (15 or 20)	38 or 51 dia (15 or 20)	51 or 56 or 61 (20-22-24)	51 or 56 or 61 (20-22-24)	51-56-61 (20-22-24)
Other		hyd. tilt. hyd. ramp	hyd. winch hyd. ramp		
Options	Extens.	Extens.	Extens.	Extens.	
cm (in.)	31 (12)/side	31 (12)/side	31 (12)/side	31 (12)	

### MANUFACTURER:

Les Remorques Rem Fab Inc.

3500, 2e Rue.  
Saint-Hubert, Que.,  
J3Y 5S9  
TEL: (514) 445-2120  
FAX: (514) 445-6196  
TELEX: 05-25134MTL

## LARDINE LOGGING TRAILERS



*Lardine 30-ton tri-axle trailer.*

Lardine custom manufactures logging trailers for the forest industry. The Company manufactures: the 20 ton logging trailer c/w 30-ton capacity dog logger, 30-ton tri-axle long log trailer c/w truck equipment, Super B-Train Loggers.

PRICES: Ranges from \$ 20,000. to \$ 90,000. F.O.B. Surrey, B.C. (1988)

### Particular Specifications

As much of the equipment is custom manufactured, it is recommended the potential purchaser contact Lardine for particular specifications and options which are available to best meet their needs in logging.

### MANUFACTURER:

Lardine Truck and Trailer Ltd.

19325 B 96th Ave.,  
Surrey, B.C., V3T 4W2  
TEL: (604) 888-4433  
FAX: (604) 888-0834

# CTS LOG AND PULP TRAILERS



1. CTS log and pulp trailer (upper). 2. CTS pulp trailer with optional hydraulic loader (middle) 3. CTS tree-length trailer with hydraulic sliding rear bunk

CTS provides contracting and fabricating services; also manufactures containers, and truck trailers available in pulpwood and tree-length models.

PRICE: Log and pulp trailer, F.O.B Dartmouth plant - approx. \$29,500. Log trailer with hydraulic bunk F.O.B Dartmouth plant - approx. \$34,500. (1988)

## Operational Specifications

CTS custom manufactures trailers to suit individual logging requirements. CTS also produces trailers for the smaller scale forest operations; to work with an agricultural tractor as the prime mover.

## Physical Specifications

	Pulpwood	Tree Length 8' pulpwood	Hydraulic Bunk Tree length
Height m (ft.)	4.1 (13.5)	4.1 (13.5)	4.5 (13.5)
Length m (ft.)	13.1 (43.0)	13.1 (43.0)	13.1 (43.0)
Width m (ft.)	2.4 (8.0)	2.4 (8.0)	2.4 (8.0)
Weight kg (lb.)	2.6 (8.5)	2.6 (8.5)	2.6 (8.5)
	6200 (13,670)	6690 (14,750)	6580 (14,500)

## Mechanical Specifications

Suspension	Reyco Model 21B, 70, 73, 74, 83, others available
Axles	12.7 cm (5") O.C. round rating 10 227 kg (22,500 lb.), 11 340 kg (25,000 lb.)
Tires	Bridgestone 16 ply
Electrical	12 volt

## MANUFACTURER:

Container and Trailer  
Services Ltd.,  
120 Joseph Zatsman Dr.,  
Dartmouth, N.S. B3B 1M4  
TEL: (902) 464-1960  
FAX: (902) 468-2072

# BWS LOGGING TRAILERS



*BWS Flatbed Logging Trailer*

BWS manufactures wood chip trailers, models 45CT102A and 45CT102S; drop bed type model DB50; tilt top model TT15; tag-a-long models TA21, TA10. BWS trailer capacities from 6000 kg to 100 000 kg (6 to 100 ton). BWS hopper spreaders from 1.5 cu. yds. for pick-up trucks, to 14 cu. yds. for heavy duty trucks. Snow clearing equipment such as vee-plows, reversible plows and wings.

## Operational Specifications

Wood chip trailers are available in model 45CT102 open top, straight frame open top, and closed top type.

All trailers are constructed of high tensile steel and comply with Section 13 of the Canadian Motor Vehicle Safety regulations.

## Particular Specifications

	Model 45LF102	Model 48LF102HD
Main Frame	6.4 m (21 ft) @ 55 WF	6.4 m (21 ft) @ 68 WF
Side Rail	20 cm (8 in.) Channel	20 cm (8 in.) Channel
Crossills	15 cm (6 in.) JRI beam	15 cm (6 in.) JRI Beam

## Mechanical Specifications

Suspension	Reyco Model 21B	Reyco Model 74C
Landing Gear	54 432 kg Holland (100,000 lb)	81 648 kg Holland (180,000 lb)
Axles	10 433 kg (23,000 lb)	10 433 kg (23,000 lb)
Flooring	3.2 cm (1 1/4 in.) Oak	3.2 cm (1 1/4 in.) Oak

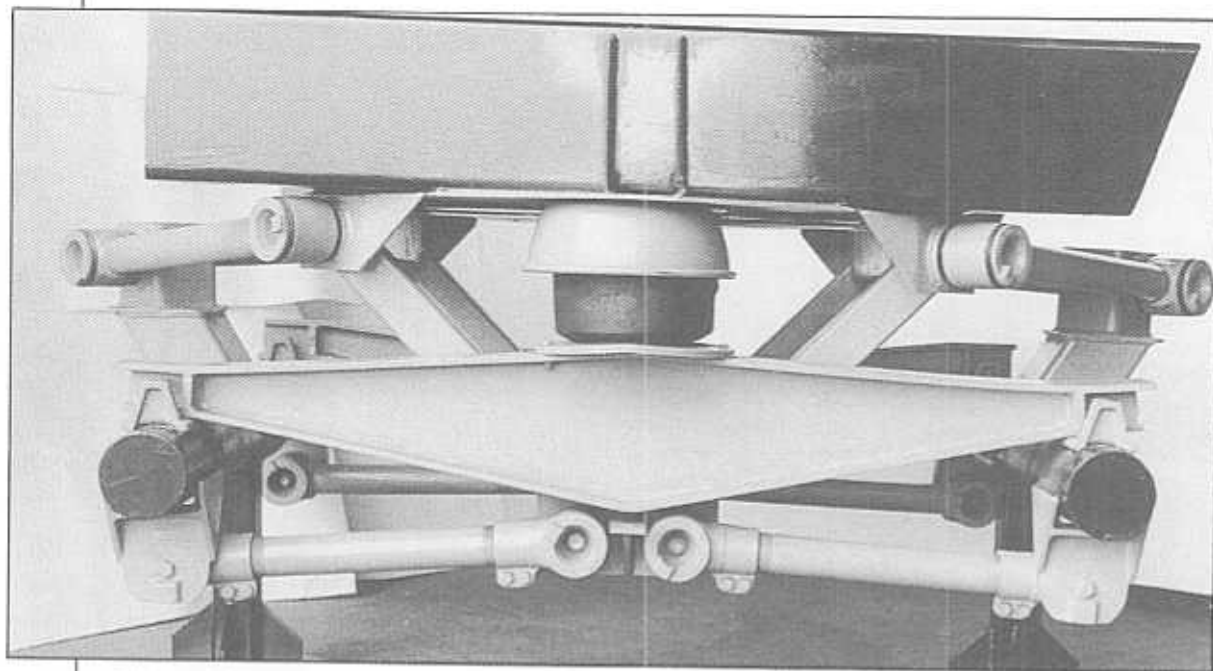
## Options

Tires, suspension, decks, axle configuration, stake configuration, air and spring lift axles, headboard, fifth wheel pin centres and paint color.

## MANUFACTURER:

BWS Manufacturing Ltd.  
10 Montana St.  
P.O. Box 420  
Centerville, N.B., E0J 1H0  
TEL : (506) 276-4567  
FAX : (506) 276-4380

## CHALMERS TANDEM TRAILER SUSPENSIONS



*Chalmers 700 series, rubber spring, tandem trailer suspensions.*

Chalmers tandem trailer suspensions are available in two models: 700 and 800 series.

### Particular Specifications

The Chalmers suspension uses two widely spaced Chalmers "Loadguard" rubber springs, which are mounted outboard of the vehicle's frame. These carry the load in conjunction with floating equalizing beams which bear on the axles for frictionless movement and articulation.

The suspension is equally suitable for highway and paved road service, or off-highway operations calling for extreme axle articulation. Capacities are from 20000 kg (44,000 lb.) to 29500 kg (65,000 lb.).

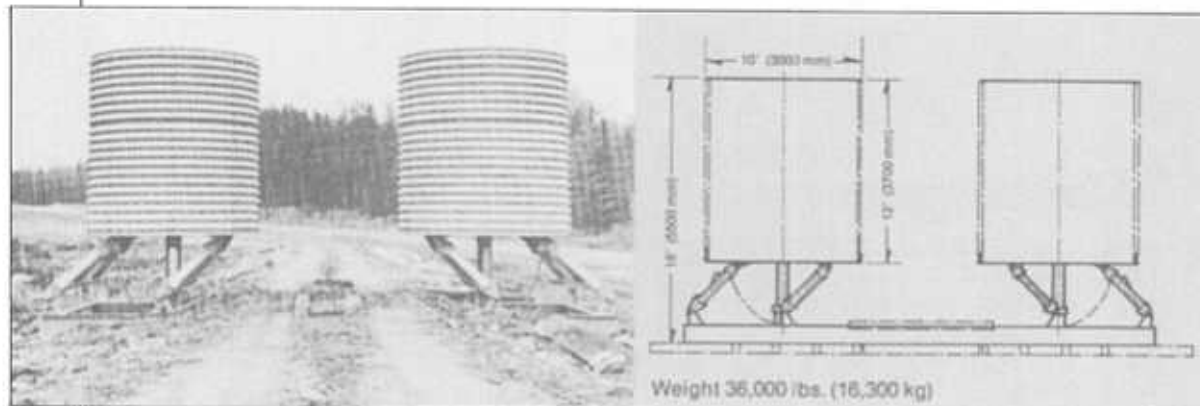
Less weight, a cushioned ride, coupled with excellent stability and freedom from maintenance are its features.

### MANUFACTURER:

Chalmers Suspensions Int. Ltd.,

P.O. Box 1000,  
Brampton, Ontario L6V 2L9  
Tel. (416) 451-1312  
Telex 06-97527

# KOEHRING PULPWOOD LOAD ALIGNER



The Koehring Pulpwood Load Aligner straightens 2.4 m (8 ft.) pulpwood loaded crosswise on haul vehicles.

Koehring Canada is a manufacturer of pulp mill, logging and construction machinery. Tree harvesting machinery consists of the following product line. Tree harvesters, feller forwarders, feller skidders, feller bunchers, log load aligner, log loading cranes and yarders.

## Particular Specifications

Drum Height mm (ft.)	3700	(12)
O/A Height mm (ft.)	5500	(18)
Diameter mm (ft.)	3000	(10)
Weight kg (lb.)	16300	(36,000)

## Operational Specifications

The Koehring pulpwood load aligner consists of two 3 m (10 ft.) diameter steel drums mounted on hinged arms. As the hauler passes through the aligner, friction of the load rotates the drums. The weight of the drums forces in protruding logs, assuring a load of minimum width and uniformity. This simple concept allows even lengthy haulers to be processed in less than 20 seconds, without the need of an operator or a power source.

## MANUFACTURER

Koehring Waterous,  
Division of Timberjack  
Inc.,

P.O. Box 490  
Market St. South,  
Brantford, Ont., N3T 5P6  
TEL: (519) 752-6571  
FAX: (519) 752-3413  
TELEX: 061-81117

## CANADIAN TRUCK FIBERGLASS BODIES



*The CT service body is constructed of polyester resin, reinforced with an inner layer of coremat or wood. The exterior finish is long lasting gelcoat.*

Canadian Truck Equipment manufactures truck service bodies, models CT83, CT96, CT108, CT167, Toppers, Cutoff-vans; all are custom built to buyer specifications.

### Particular Specifications

The fiberglass and service bodies, as used in forest support applications, are custom built to the purchasers specifications.

They include the following standard features: gel-coat finish with custom color, moulded, reinforced fiberglass sides and doors, stainless steel latches, chrome plated hinges, cell bulb type door seals, aluminum drip moulding and trim, lighting, complete steel under structure, deck and bulkhead.

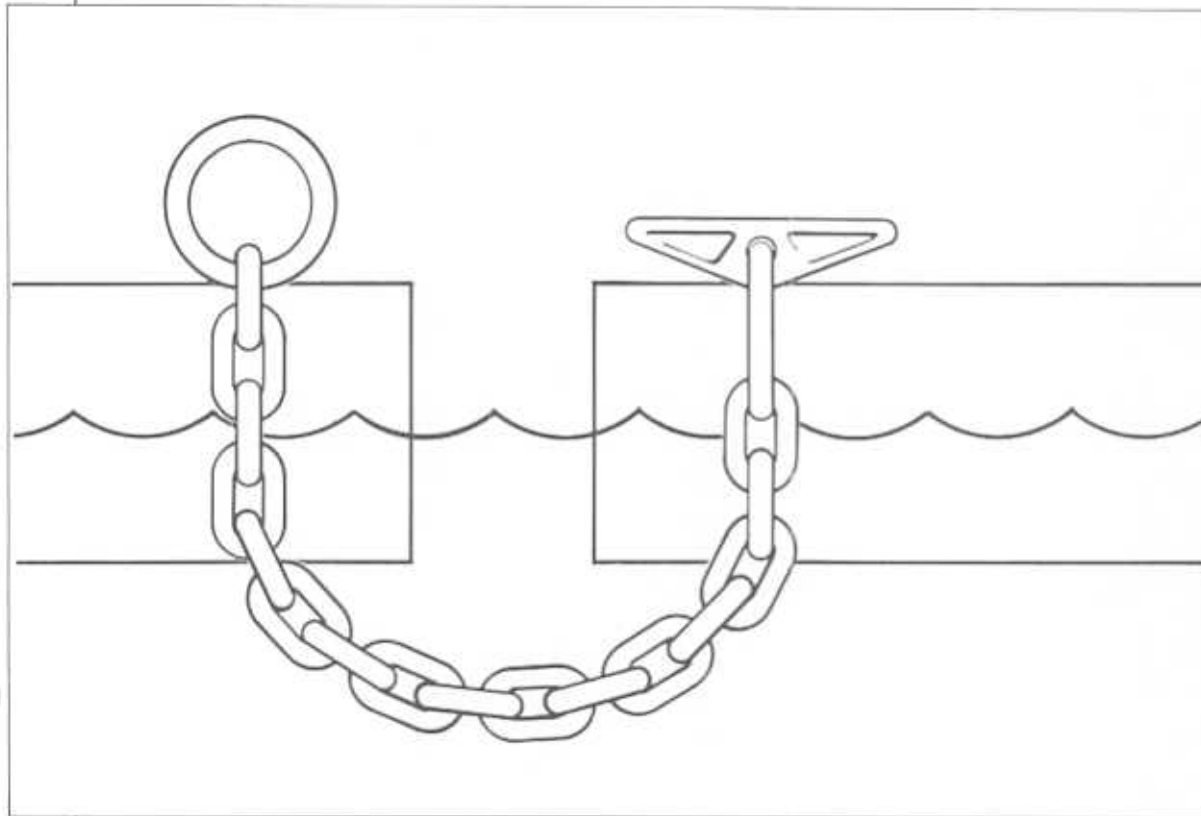
The optional body equipment includes: side entry, pull-out drawers, transverse compartment, shelf for transverse compartment, 9 to 18 drawer cabinet, tail-gates and treadplate/gripstop bumpers, etc.

### MANUFACTURER:

Canadian Truck  
Equipment Inc.

5648 - Burleigh Cres., S.E.  
Calgary, Alta. T2H 1Z8  
TEL: (403) 253-9118  
FAX: (403) 253-2163

# LISTER CHAINS , BOLTS AND FORGINGS



Lister Log Boom Chain available in the Columbia River Pattern and Pacific Coast Pattern in various diameters and lengths.

Lister manufactured chains range from 16 mm ( $\frac{5}{8}$  in.) diam. to 50 mm (2 in.) diam. bar size, in oval link (short and long) configurations, round ring, stud link, of carbon, alloy, and stainless steel.

## Operational Specifications

In-house heat treating, tapping, drilling, milling and cleaning is available at Lister Bolt & Chain.

## Particular Specifications

Log Booming Chain	
nominal diam., cm (in.)	1.9 ( $\frac{3}{4}$ in.) to 2.9 (1 $\frac{1}{8}$ )
carbon steel and alloy	
avg breaking strength, kg (lb)	22680 (50,000 to 49896 (110,000)
approx. Weight, kg (lb)	17 (37) to 51 (113)
Log Link Alloy Sawmill Conveyor Chain	
diameter, cm (in.)	1.9 ( $\frac{3}{4}$ ) to 3.8 (1 $\frac{1}{2}$ )
breaking load, kg (lb)	29484 (65,500) to 110678 (244,000)
Thermolink Kiln Chain Shackles	2.2 cm ( $\frac{7}{8}$ in.) to 2.9 (1 $\frac{1}{8}$ in.)
Buoy Chain	
overall length, m (ft)	27.4 (90)
diameter, cm (in.)	1.9 ( $\frac{3}{4}$ ) to 5.4 (2 $\frac{1}{8}$ )
Hot Forged Bolt Products	
bolts, screws, inserts	Standard bolt grades.
shackles, nuts	

## MANUFACTURER:

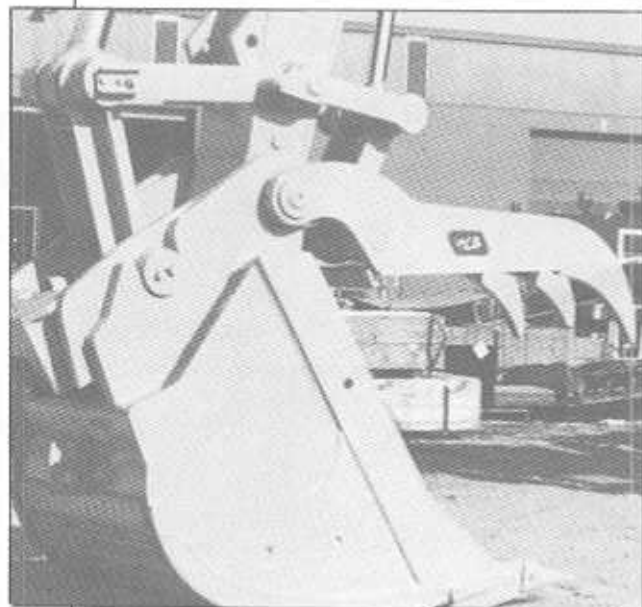
Lister Bolt & Chain Ltd.  
1771 Savage Road  
Richmond, B.C., V6V 1R7  
TEL: (604) 273-5411  
FAX: (604) 273-5495  
TELEX: 043-55637



## LOGGING AND TRANSPORT: CONSTRUCTION AND MAINTENANCE LOGGING AND TRANSPORT

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# FINNING ROADBUILDER



The Cat 235 Series C Roadbuilder with 1.3 m<sup>3</sup> (1 3/4 yd<sup>3</sup>) payload per cycle, and with 107 cm (42 in.) bucket.



The Caterpillar 235 Series C Roadbuilder, and the Caterpillar RB EL 300 Roadbuilder, equipped by Finning, with the Finning Roadbuilder package.

## Standard Roadbuilder package: (RBEL300)

- Standard upper guarding
- Turntable pans, 795 L (175 imp. gal) counterweight and fuel tank
- Bucket cylinder line guards
- Finning heavy-duty 102 cm, 1.15 m<sup>3</sup> (42 in., 1 yd<sup>3</sup>) bucket
- Additional light group, cab door guard, emergency escape, window guard
- Auto engine speed control

## Roadbuilding package options: (RBEL300 & RB235C)

- Fire suppression system
- Bucket rippers, 163 cm (64 in.), clean-up bucket
- Finning wedge-type coupler for bucket
- Track shoe support track roller guards,
- Hydraulic bucket clamps (thumbs)
- Air conditioning

## Standard Roadbuilder Package: (RB235C)

- Standard upper guarding, turntable pans
- 795L (175 imp. gal) counterweight and fuel tanks
- Idler guards, lab, sprocket guards, bucket cyl. line guards
- Finning heavy-duty 102 cm (42 in.) bucket
- Remote mounted muffler, add. light group, auto. lube system

## Physical Specifications

	RB235C	RBEL300
Operating Weight: kg (lb)		
With standard 76 cm (30 in.), triple grouser shoes, 2.9 m (9.5 ft) stick	45 814 (101,000)	
With standard 81 cm (32 in.) triple grouser shoes, 2.9 (9.5 ft) stick		35 335 (77,900)
Track ground contact area, m <sup>2</sup> (in. <sup>2</sup> )	6.6 (10,292)	6.2 (9,792)

## Mechanical Specifications

	RB235C	RBEL300
Engine Caterpillar, kW (hp)	186 (250)	139.3 (187)
Drive: Full Hydrostatic		
Max. drawbar pull, kg (lb)	32 000 (70,500)	23 995 (52,900)

## Operational Specifications

	RB235C	RBEL300
Model		
Digging Range		
Ground level reach, m (ft)	11.1 (36.5)	10.9 (35.83)
Digging depth, m (ft)	7.3 (24.0)	7.0 (23.0)
Max vertical wall, m (ft)	5.3 (17.5)	5.9 (19.33)
Max dump height, m (ft)	6.4 (20.83)	6.9 (22.75)

## MANUFACTURER:

Finning Ltd.  
555 Great Northern Way  
Vancouver, B.C., V5T 1E2  
TEL: (604) 872-4444  
FAX: (604) 872-2994  
TELEX: 04-508717

## BALDERSON BUCKET CLAMP



Balderson excavator bucket clamp used in conjunction with virtually any bucket, where gripping material is required.

Balderson custom designed, or standard models are available. Models ABT-W, BBT-W, CBT-W, DBT-W, EBT-W, FBT-W, GBT-W in wide style, with links. Models ABT-N, BBT-N, CBT-N, DBT-N, EBT-N, FBT-N, GBT-N in narrow style, with no links.

PRICE: For UH172 Hitachi, wide version with linkage, list at \$11,950 F.O.B. Edmonton, Alta. (1988). Delivery of 4 to 6 weeks.

### Particular Specifications

Model	Style	Links	Weight kg (lb)
ABT-W	wide	yes	442 (975)
BBT-W	wide	yes	476 (1050)
CBT-W	wide	yes	552 (1150)
DBT-W	wide	yes	567 (1250)
EBT-W	wide	yes	862 (1900)
FBT-W	wide	yes	1792 (3950)
GBT-W	wide	yes	1996 (4400)
ABT-N	narrow	no	354 (780)
BBT-N	narrow	no	404 (890)
CBT-N	narrow	no	417 (920)
DBT-N	narrow	no	476 (1050)
EBT-N	narrow	no	567 (1250)
FBT-N	narrow	no	1202 (2650)
GBT-N	narrow	no	1452 (3200)

Optional: Bucket teeth

### Operational Specifications

The Balderson Bucket clamp is available in wide or narrow designs depending upon the application. Optional linkage gives greater range of motion to allow for gripping of material while moving the bucket. Optional relief valve allows bucket to overpower thumb control, while gripping a load for positioning.

### MANUFACTURER:

Balderson Canada Ltd.  
6400 30th Street,  
Edmonton, Alta., T6P 1J6  
TEL: (403) 469-9185  
FAX: (403) 469-9256

## BALDERSON TILT BUCKET



*Balderson tilt bucket easily adjusts for slope requirements, with cylinders located for power and protection.*

**PRICE:** For the Komatsu PC400 excavator, 167 cm (66 in.) wide bucket, list \$13,600 F.O.B. Edmonton, Alta. (1988). Delivery in 4 to 6 weeks.

### Particular Specifications

Bucket width, cm(in)	152(60) to 244(96)
Degrees of power tilt	45
Dual cross-over relief valve and heavy duty cylinders	
Compact design, open bucket profile and lateral skid bars	
Options:	
Bolt on cutting edge	
Bolt on side cutter	
Quick coupler	
Hydraulic kits for most machines	

### Operational Specifications

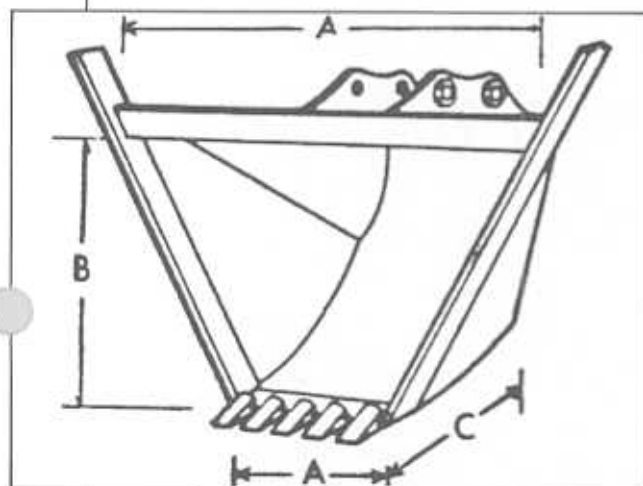
The Balderson tilt bucket is available for a wide variety of machine sizes and brands. Various bucket widths between 152 cm (60 in.) and 243 cm (96 in.) can be ordered, depending on application.

Balderson tilt buckets, for excavators, are used where a cross slope is desired, as when cleaning irrigation ditches, landscaping mountain sides, or maintaining drainage ditches.

### MANUFACTURER:

Balderson Canada Ltd.  
6400 30th Street,  
Edmonton, Alta., T6P 1J6  
TEL: (403) 469-9185  
FAX: (403) 469-9256

# DITCHING BUCKETS



Weldco Clean-Up Bucket (top), ideal for any ditch work, and Trapezoidal Bucket (below) to dig, clean and shape ditches in one pass.

Weldco-Beales ditching and clean-up buckets and trapezoidal buckets, models EBD8A48, EBD9B54, EBD14C60, to EBD40E72; and EBT8A24 to EBT26E48.

The Company specializes in the design and manufacture of machines and attachments for the forest industry, with a wide range of products.

## Operational Specifications

The clean-up buckets are used for any ditch work and for loading soft or loose materials. The draft design allows for cohesive materials to empty completely without sticking. Drainage holes are optional.

The trapezoidal buckets allow ditches to be dug, cleaned and shaped in one pass. Extended side cutting edges are available. Custom build of tapers and base widths.

## Particular Specifications

Machine Size kg (lb)	Model	Capacity m <sup>3</sup> (yds <sup>3</sup> )	Width cm (in.)	Weight kg (lb)
<b>Ditch &amp; Clean Buckets</b>				
6804 to 9979 (15 to 22 000)	EBD8A48	0.76 (1)	122 (48)	386 (850)
11 340 to 15 876 (25 to 35 000)	EBD9B54	0.86 (1.125)	137 (54)	499 (1100)
18 144 to 24 948 (40 to 55 000)	EBD12B66	1.1 (1.5)	168 (66)	590 (1300)
27 216 to 36 288 (60 to 80 000)	EBD14C60	1.34 (1.75)	152 (60)	907 (2000)
38 556 to 58 968 (85 to 130 000)	EBD20C72	1.9 (2.5)	183 (72)	1021 (2250)
	EBD20D66	1.9 (2.5)	168 (66)	1452 (3200)
	EBD28D72	2.7 (3.5)	183 (72)	1610 (3550)
	EBD32E72	3.1 (4)	183 (72)	2041 (4500)
	EBD40E72	3.8 (5)	183 (72)	2177 (4800)
<b>Trapezoidal Buckets</b>				
6 804 to 9 979 (15 to 22 000)	EBT8A24	0.76 (1)	61-203 (24-80)	771 (1 700)
11 340 to 15 876 (25 to 35 000)	EBT10B36	0.96 (1.25)	91-208 (36-82)	862 (1900)
18 144 to 24 948 (40 to 55 000)	EBT11C36	1.1 (1.33)	91-208 (36-82)	930 (2050)
27 216 to 36 288 (60 to 80 000)	EBT16D24	1.5 (2)	61-432 (24-170)	1814 (4000)
38 556 to 54 432 (85 to 120 000)	EBT26E48	2.5 (3.25)	122-366 (48-144)	2177 (4800)

## MANUFACTURER:

Weldco-Beales

#410 - 6450 Roberts St.  
Burnaby, B.C., V5G 4E1  
TEL: (604) 294-2222  
FAX: (604) 294-1294  
TELEX: 04-55103

# HYDRAULIC CLAM SHELL BUCKETS



Excavator attachment- Weldco-Beales Hydraulic Clam Shell Bucket

The Company specializes in the design and manufacture of machines and attachments for the forest industry with a wide range of products.

Weldco-Beales hydraulic clam shell bucket models CSB4B, CSB6B, CSB8C, CSB12D, PCSB7D32, PCSB8D42, PCSB9E42, PCSB10E48.

Hydraulic clam shell buckets have 360 deg. continuous rotation and horizontal cylinder mountings, with stabilizer bars that synchronize the closing action. Two-, four- and six-foot extensions can be added to permit greater working depths.

The clam shell allows the logger to build roads, trim banks, handle logs and stumps. Available with or without 360 degree power rotation.

Also available are grading and backfilling blades. An added feature, if combined with a Weldco Kwik-A-Tach System, permits the changing from bucket to blade in minutes.

The Kwik-A-Tach Coupler increases the versatility of every excavator, and is adaptable to all attachments. A wedge locks all implements securely into position, eliminating expensive manual change-overs.

## Particular Specifications

### HYDRAULIC CLAM SHELL BUCKET

Machine Size  
kg (lb)

6804 to 9979 (15 to 22,000)  
11 340 to 15 876 (25 to 35,000)  
18 144 to 24 948 (40 to 55,000)  
27 216 to 38 556 (60 to 85,000)  
27 216 to 36 288  
(60 to 80 000)  
38 556 to 56 700  
(85 to 125,000)

### KWIK-A-TACH COUPLER

Machine Size  
kg (lb)

11 300 to 15 876  
(25 to 35,000)  
18 144 to 24 948  
(40 to 55,000)  
27 216 to 38 556  
(60 to 85,000)

Model	Capacity m <sup>3</sup> (yd <sup>3</sup> )	Width cm (in.)	Weight kg (lb)
CSB4B	0.38 (0.5)	71 (28)	1100 (2,425)
CSB6B	0.57 (0.75)	81 (32)	1701 (3750)
CSB8C	0.76 (1.0)	107 (42)	1860 (4100)
CSB12D	1.1 (1.5)	122 (48)	2835 (6250)
PCSB7D32	0.67 (0.88)	81 (32)	1962 (4325)
PCSB8D42	0.76 (1.0)	107 (42)	2109 (4650)
PCSB9E42	0.86 (1.13)	107 (42)	2155 (4750)
PCSB10E48	0.96 (1.25)	122 (48)	2495 (5500)

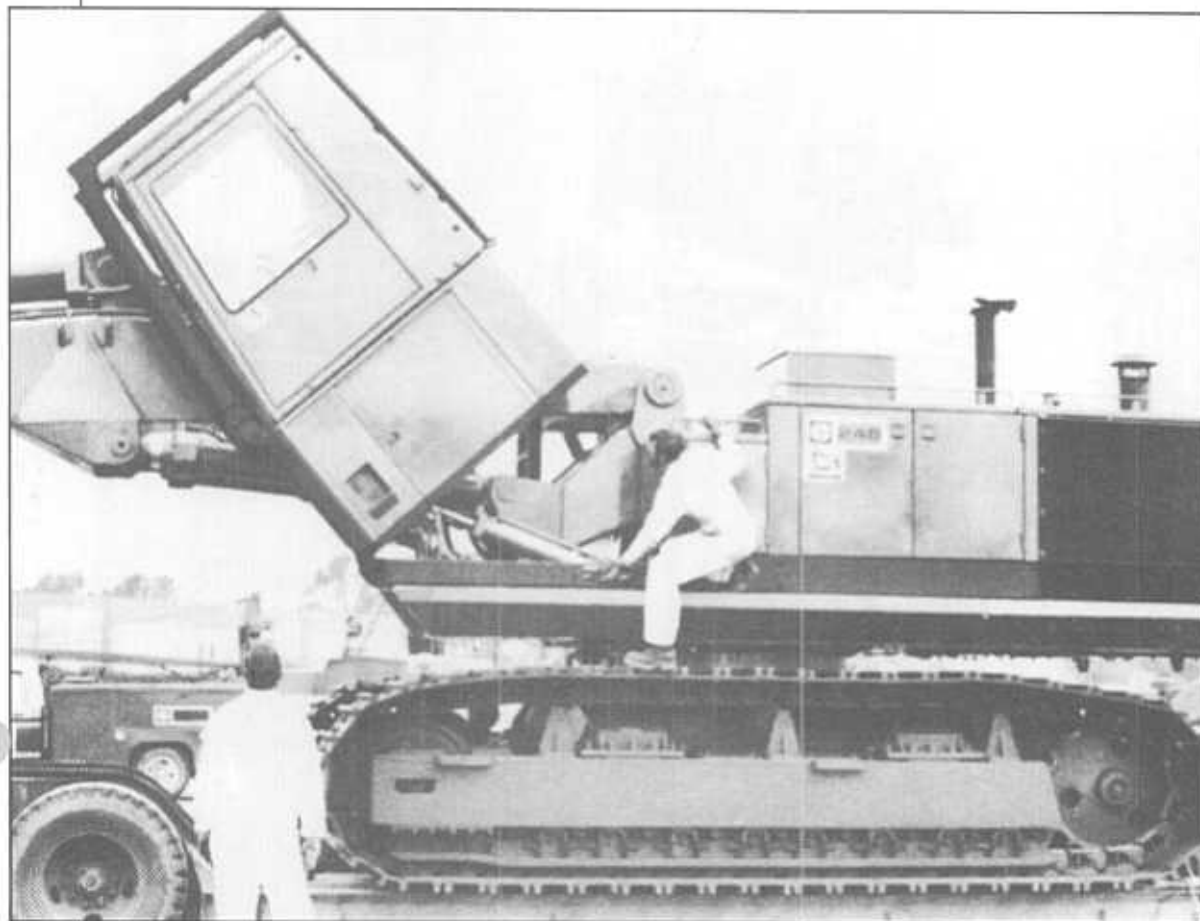
Model kg (lb)	Weight kg (lb)
EKC15	95 (210)
EKC25	113 (250)
EKC35	143 (315)

## MANUFACTURER:

Weldco-Beales

#410 - 6450 Roberts St.  
Burnaby, B.C., V5G 4E1  
TEL: (604) 294-2222  
FAX: (604) 294-1292  
TELEX: 04-55103

# WELDCO-BEALES EXCAVATOR CAB RISERS



*Weldco Excavator, Vertical, Hydraulic Cab Risers*

## Particular Specifications

Height: cm (in.)	61 (24), 91 (36), 107 (42), 112 (44), 122 (48), 137 (54), 152 (60)
Tilt Style:	Mechanical or hydraulic
Shipping Kit Weight: kg (lb)	930 (2050)
Amount of Hydraulic Lift from the Operator's Seat provided by Twin Cylinders: cm (in.)	107(42)
Base and Manifold	Included with kit
Optional:	
Riser Extension Hoses	
Cab Guarding of All Types	
Extra Lift Height	

## Operational Specifications

The cab raises or lowers in less than five minutes. It is complete with self contained 24 volt hydraulic power pack. All pilot line hoses are included. Cab can be moved 20 cm (8 in.) forward.

The company specializes in the design and manufacture of machines and attachments for the forest industry with a wide range of products.

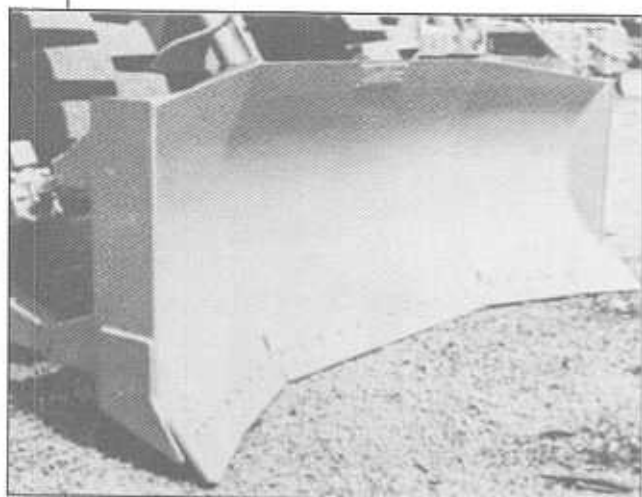
Weldco-Beales excavator cab risers manufactured in fixed or tilting style, with mechanical or hydraulic tilt available.

## MANUFACTURER:

Weldco-Beales

#410 - 6450 Roberts St  
Burnaby, B.C., V5G 4E  
TEL: (604) 294-2222  
FAX: (604) 294-1292  
TELEX: 04-555103

## WELDCO-BEALES U-BLADES



Weldco-Beales U-Blades for crawler tractors and rubber-tired dozers

Weldco-Beales heavy duty material U-blades for crawler tractors and rubber-tired dozers, light material U-blade, wood chip U-blade, and sanitary land fill U-blade. Models HM-2 to HM-9, LM-2 to LM-9, SL-2 to SL-9 and WCB-2 to WCB-9 (100 hp to 410 hp tractors).

### Operational Specifications

Weldco-Beales U-Blades are designed to have the live rolling action of a straight blade and the cutting action of an angle blade.

The heavy duty blade is used for severe dozing operations requiring maximum strength and durability. The heavy cutting edge and corner bits are replaceable.

The light material blade features the same rolling and gathering abilities of the heavy duty type, but is designed for loose-bulk material. Cutting edges and end bits are replaceable.

The jumbo size wood chip blades have extra blade height and wing angle. The live-roll curvature blade design provides full blade rolling action.

### Particular Specifications

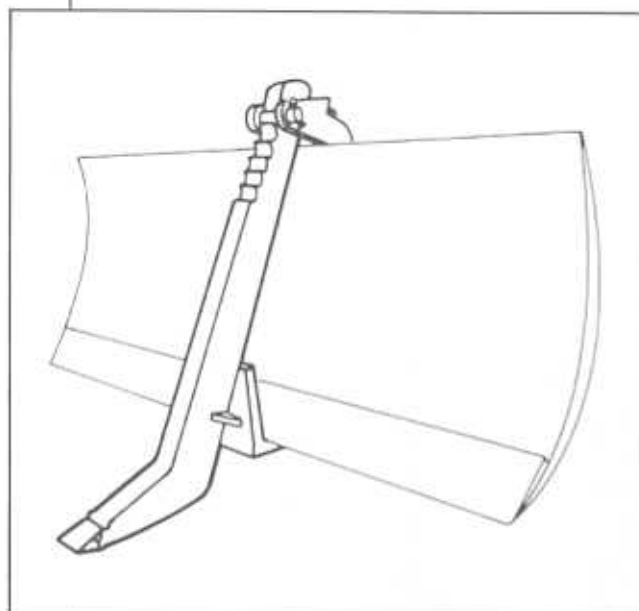
Tractor kW (hp)	Blade Model	Capacity m <sup>3</sup> (yd <sup>3</sup> )	Length cm (in.)	Center Ht. cm (in.)	Weight kg (lb.)
Heavy Duty Material U-Blade: (rock, dirt, road pioneering, etc.)					
74-306 (100-410)	HM-2,3,4,5,6, 7,8,9	4.9-18 (6.5-23)	335-478 (132-188)	117-183 (46-72)	1497-4,808 (3300-10,600)
Light Material U-Blade: (loose bulk material, coal, salt, etc.)					
74-306 (100-410)	LM-2,3,4,5 6,7,8,9	6.7-27 (8.7-35)	381-610 (150-240)	127-198 (50-78)	1520-4748 (3350-10450)
Wood Chip U-Blade:					
74-306 (100-410)	WCB-2,3,4,5 6,7,8,9	8.8-34 (11.5-45)	381-610 (150-240)	147-229 (58-90)	1542-4967 (3400-10950)

### MANUFACTURER:

Weldco-Beales

#410 - 6450 Roberts St.  
Burnaby, B.C., V5G 4E1  
TEL: (604) 294-2222  
FAX: (604) 294-1292  
TELEX: 04-55103

# WELDCO-BEALES DETACHABLE RAKE TOOTH



Weldco-Beales detachable rake tooth

The Company specializes in the design and manufacture of machines and attachments for the forest industry with a wide range of products. Weldco-Beales Models DRT-2 to DRT-6 detachable rake tooth to fit tractor models D3 to D8 or equivalent.

## Operational Specifications

The WB detachable tooth rake is a low cost ripping tool which may be mounted on any dozer blade within minutes, by one man.

Tractor Model No.	Tooth Model No.	Particular Specifications			
		Fits Dozer Blade Height cm (in.)	Digging Depth cm (in.)	Tooth Thickness Weight cm (in.)	Approx. kg (lb.)
D3, TD7+8, D20 JD350/450, Ca350, Case 450	DRT-2	51 to 58 (20 to 23)	25 (10)	3.8 (1.5)	25 (55)
	DRT-3	61 to 86 (24 to 34)	33 (13)	5 (2)	45 (100)
D4, TD9, FA8 Case 850, JD550	DRT-4	76 to 102 (30 to 40)	38 (15)	5 (2)	88 (195)
D45/50, 1150, D5/D6 TD15, FA10, 1450 D55/60	DRT-5	91 to 117 (36 to 46)	43 (17)	6.4 (2.5)	152 (335)
D65, FA14, JD850 D7F, TD20E, D814A 8220, FA16 JD750	DRT-6	107 to 132 (42 to 52)	51 (20)	8 (3)	234 (515)

## MANUFACTURER

Weldco-Beales

#410 - 6450 Roberts S  
Burnaby, B.C., V5G 4E  
TEL: (604) 294-2222  
FAX: (604) 294-1292  
TELEX: 04-55103

# CHAMPION GRADERS



The Champion 730A motor grader, is one of Champion's line of 16 grader models sold in 88 countries around the world.

Champion is known for its grader line, Series 700, and attachments from dozer blades to snow equipment (vee plows, snow wings, plows), h.d. rippers, h.d. scarifiers, dozer blades, and push blocks. Champion Grader Models 710/710A, 720/720A, 730/730A, 740/740A, 780/780A, 4+2 All-Wheel-Drive.

## Particular Specifications

### Model 730/730A\*

Overall length	843.3 cm	332 in.
Overall width	255.3 cm	100.5 in.
Overall height	335.3 cm	132 in.
Wheelbase	607.1 cm	239 in.
Tread width	212.1 cm	83.5 in.
Blade base(max)	279.4 cm	110 in.
Weight	14588 kg	32160 lb.

\*A denotes articulated

### Options/Attachments

Tire options, 17.50x25		
12 pr. on 14 in. rims	409kg	900 lb.
Scarifier	703 kg	1550 lb.
4+2 All wheel drive	685 kg	1511 lb.
Wheel weights(set of 6)	680 kg	1500 lb.
Cab pressurizer	101 kg	222 lb.
Suspension seat	33 kg	73 lb.
Blade lift accumulator	15 kg	33 lb.
Optional cab structures available.		

## Mechanical Specifications

### Model 730/730A

Engine	Cummins 6CT8.3
Flywheel	139 kW 187HP @ 2100 RPM
Transmission	Gearco 8400

## Operational Specifications

Champion's frame has a first owner lifetime warranty. Champion offers both conventional, and articulated frames.

A unique safety feature, is Champion's overload relief valve, which cushions the shock of severe blade impact, thereby minimizing damage to the blade circle system.

The modular power train system is designed to facilitate removal of the engine or transmission or final drive.

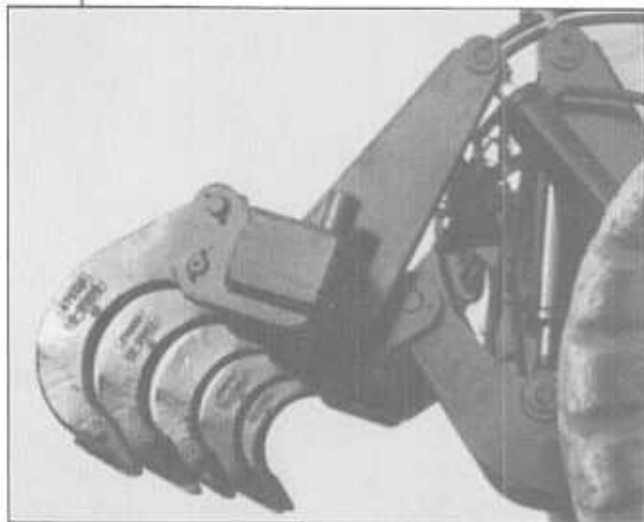
Champion attachments are available: heavy duty dozer blade, push block, scarifier, vee snow plow, one way snow plow, front mounted snow wing, rear mounted snow wing, ripper scarifier, windrow eliminator.

## MANUFACTURER:

Champion Road Machinery Ltd.

220 Huckins Street  
Goderich, Ontario  
N7A 4C8  
TEL: (519) 524-2601  
FAX: (519) 524-5175  
TELEX: 069-55175

# CHAMPION ATTACHMENTS, RIPPER / SCARIFIER



Champion attachments: the rear mounted ripper/scarifier (left), and scarifier mounted behind the front wheels (right).



Champion specializes in building motor graders; Series 700, and a custom line of attachments from dozer blades to snow equipment (vee plow, snow wing, plow), h.d. rippers, h.d. scarifier, dozer blades, and push blocks. The attachments increase the versatility and productivity of the grader line. Champion attachments are made by specialists to meet the unique performance characteristics required in grader applications.

## Particular Specifications

<b>Ripper/Scarifier</b>	
Standard Weight, kg (lb.)	953(2100)
No. Ripper shanks	3
Ground clearance, cm (in.)	52 (20.50)
Max. penetration, cm (in.)	30.5 (12)
Width of cut, cm (in.)	218.4 (86)
No. scarifier teeth, max.	9
No. ripper teeth, max.	5
<b>Scarifier</b>	
Weight, kg (lb.)	640(1410)
Ground clearance, cm (in.)	teeth instal.
	31.1 (12.25)
Max. penetration, cm (in.)	24.8 (9.75)
Width of cut, cm (in.)	121.9 (48)
No. of teeth	11
Tooth angle adjust.	manual

## Mechanical Specifications

<b>Ripper/Scarifier</b>	
Hydraulic controls type	power hyd. system
Controls	electric over hyd.
Lift cylinders	2
Tilt cylinders	2
Deg. of tilt	27
Attachment to machine	direct to frame
<b>Ripper</b>	
Hydraulic controls type	power hyd.
Controls	lever in cab
Lift cylinder	double acting

## Operational Specifications

The rear mounted ripper/scarifier is equipped with 3 ripper shanks as standard, and optional scarifier teeth. Manual or hydraulic tooth angle is available with 3 manual tilt settings or completely variable hydraulic tilt option. The attachment allows trouble free rock removal, asphalt ripping, stump removal and road surface loosening.

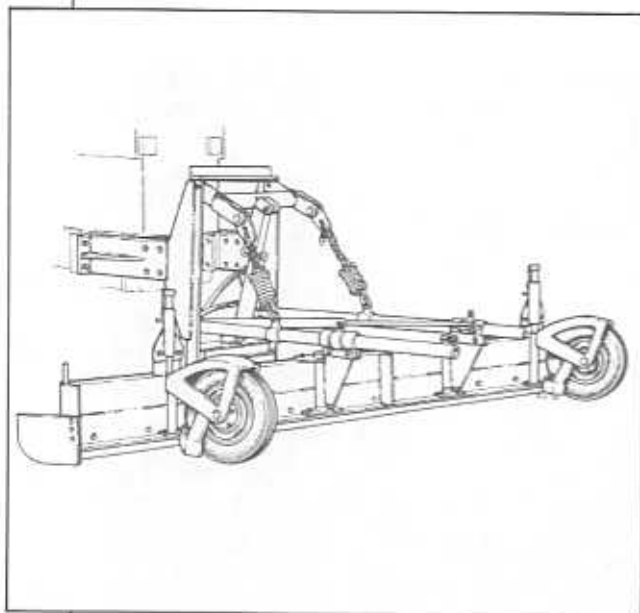
Mounted behind the front wheels, the scarifier is used for breaking up compacted material, asphalt, rocky subgrade and ice to facilitate grading. Eleven adjustable, replaceable teeth are standard, allowing a 121 cm (48 in.) cut.

## MANUFACTURER:

Champion Road Machines Ltd.

220 Huckins Street  
Goderich, Ontario  
N7A 4C8  
TEL: (519) 524-2601  
FAX: (519) 524-5175  
TELEX: 069-55175

# CHAMPION ATTACHMENTS, WINDROW ELIMINATOR



*Champion attachment, windrow eliminator, which eliminates the need for an extra pass to spread the windrow on the forest access road.*

## Particular Specifications

Blade length, m (ft)	3.96 (13)
Depth (incl. Cutting edge), cm (in.)	30.5 (12)
Width of cut (@ 35 deg. angle), m (ft)	3.2 (10.5)
Discharge side	Right or Left
Cutting edge width, cm (in.)	22.9 (9)
Thickness, mm (in.)	12.7 (1/2)
Material	SAE 1080 Carbon Steel
Wheels, Tire size	4.00 x 8
Mounting	Swivel Caster
Drawbar type	Dual, Double X pipes
Weight, kg (lb.)	590 (1300)

## Mechanical Specifications

Lift frame type	Parallel lift slider
Controls, raising or lowering	Hydraulic
Spreading depth	Manual adjustment

## Operational Specifications

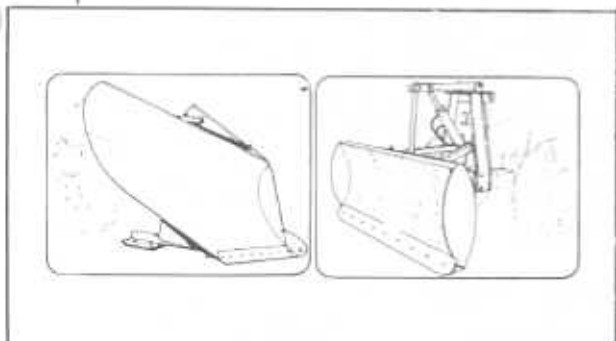
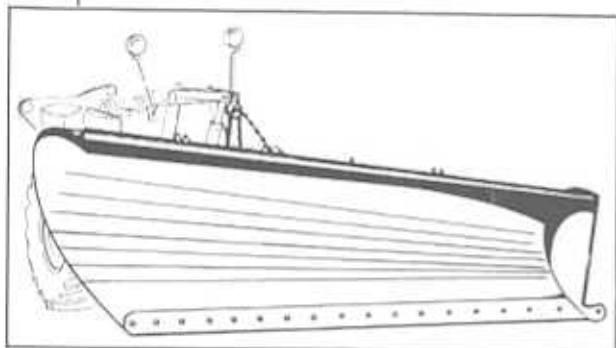
Eliminates the need for extra passes in order to spread windrows, and saves time and fuel, while providing a safe surface for traffic.

Champion specializes in building motor graders; series 700, and a custom line of attachments from dozer blades to snow equipment (vee plow, snow wing, plow), h.d. rippers, h.d. scarifier, dozer blades, and push blocks. The attachments are designed to increase the versatility and productivity of the grader line. Champion attachments are made by specialists to meet the unique performance characteristics required in grader applications.

## MANUFACTURER:

Champion Road Machinery Ltd.  
220 Huckins Street  
Goderich, Ontario  
N7A 4C8  
TEL: (519) 524-2601  
FAX: (519) 524-5175  
TELEX: 069-55175

# CHAMPION ATTACHMENTS, PLOWS AND DOZER BLADES



Champion attachments, rear mounted(left), and front mounted(right) snow wings.

Champion specializes in building motor graders; Series 700, and a custom line of attachments from dozer blades to snow equipment( vee plow, snow wing, plow), h.d. rippers, h.d. scarifier, dozer blades, and push blocks. The attachments increase the versatility and productivity of the grader line. Champion attachments are made by specialists to meet the unique performance characteristics, required in grader applications.

## Particular Specifications

One way plow	
Blade width,m(ft)	2.74(9)
Height at tip,m(ft)	1.57(5.17)
Height at nose, m(ft)	0.84(2.75)
Plow angle	35deg.
Weight, kg (lb.)	998(2200)
Mounting	To grader nose plate
Vee plow	
Width,m(ft)	2.7(9) or 3.1(10)
Height at tips,m(ft)	2.74(9) 2.13(7)
	3.05(10) 2.18(7.2)
Height at mast,m(ft)	2.7(9) 1.32(4.3)
	3.1(10) 1.32(4.3)
Skid shoes	Adjustable replacable
Mounting	To grader nose plate
Dozer blade	
Length,m(ft)	2.4(8)
	2.7(9) opt.
Depth, cm(in)	106.7 (42)
Thickness, mm(in)	4.7(3/16)
Blade weight, kg(lb.)	726(1600)
Mounting	H.D. A-frame on grader nose
Hydraulic valve controls operated from cab	

## Operational Specifications

The Champion heavy duty dozer blade is applied for any work requiring heavy loading or high impact, such as spreading, clearing bush, backfilling, and snow removal.

The high carbon steel edge is reversible for longer wear. The blade is curved to move more material. End plates minimize spillage. Tilt angle is adjustable. Parallel lift mechanism maintains tilt angle throughout the range of motion.

The Vee plow features crimped snow repellent design. Adjustable skid shoes allow proper plow positioning for all applications. The reversible high carbon steel edges, allow for double edge life.

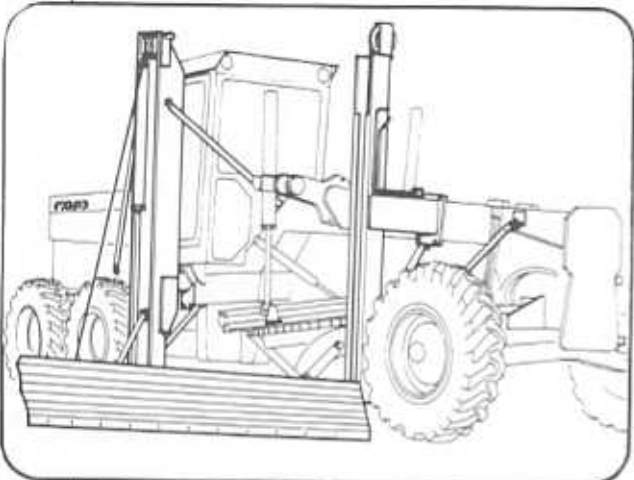
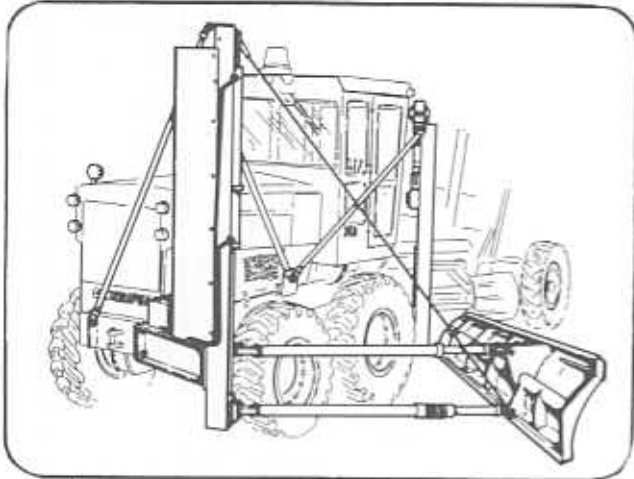
## MANUFACTURER:

Champion Road Machine Ltd.

220 Huckins Street  
Goderich, Ontario  
N7A 4C8

TEL: (519) 524-2601  
FAX: (519) 524-5175  
TELEX: 069-55175

## CHAMPION ATTACHMENTS, PLOWS AND DOZER BLADES



Champion attachments, One way plow, vee plow, heavy duty dozer blade.

Champion specializes in building motor graders: Series 700, and a custom line of attachments from dozer blades to snow equipment (vee plow, snow wing, plow), h.d. rippers, h.d. scarifier, dozer blades, and push blocks, to increase the versatility and productivity of the grader line. Champion attachments are made by specialists to meet the unique performance characteristics, required in grader applications.

### Particular Specifications

Length at cutting edge, m (ft)	3.8 (12.5)
Height Front, cm (in.)	61 (24)
Rear, cm (in.)	83.8 (33)
Weight, kg (lb.)	1406 (3100)
Torque tube wing construction	
Two 76mm(3in) diam. adjustable standoff arms with shock absorbers	
Two heavy duty masts with max. wing height of 121.9 cm (48 in.) front, and 296 cm (116.5 in.) rear	

### Operational Specifications

With the rear mounted wing design, the moldboard can be utilized in conjunction with the wing, offering a wider clearing width per pass. The design allows the machine freedom of movement around obstacles encountered at high speed. The machine absorbs more shock from impact encountered by forward mounted wings.

With the front mounted wing, it requires less horsepower as the load never stops moving as snow continuously flows from plow to wing.

There is also improved maneuverability, better control and improved visibility.

### MANUFACTURER:

Champion Road Machinery Ltd.

220 Huckins Street  
Goderich, Ontario  
N7A 4C8  
TEL: (519) 524-2601  
FAX: (519) 524-5175  
TELEX: 069-55175

# WELDCO-BEALES MOTOR GRADER SNOW WING



*The Weldco-Beales snow wing, standard or heavy duty, with cable boom accessory, which aids in lifting blade tip in ditch cleaning and high wing applications.*

The Company specializes in the design and manufacture of machines and attachments for the forest industry with a wide range of products.

Weldco-Beales attachment models SW-12S-F, D, R, H standard, and models SW-12H-FC, R, and D heavy duty, designed to match the performance rating of the motor grader.

## Operational Specifications

Wing height adjustment for bank sloping is accomplished from the cab. The wing will sweep from 25 to 55 degrees, and can work in unison with grader blade angles to 45 degrees. With the wing raised to transport position, the grader can be operated straight on, crabbed, or articulated in any direction. This is particularly useful in tight spots, or along the highway.

## Physical Specifications

Model	Blade Length m (ft)	Blade Thick. cm (in.)	Blade Ht. cm (in.) (w/o edge)	Blade Lift m (ft) @Heel @Outer	Weight kg (lb.)
STANDARD SW-12SF*, SW-12SR, SW-12SH, SW-12SD	3.7 (12)	0.19 (3/16)	89 (35)	1.5 (5) 3.0 (10)	1339 (2952)
Heavy Duty SW-12HFC, SW-12HR, SW-12HD	3.7 (12)	0.64 (1/4)	89 (35)	1.5 (5) 3.0 (10)	1640 (3616)

\*F = Fixed, R = Ripper mounted, H = Hyd. Elevating

### Options:

Cable boom which aids in lifting the blade

Left hand configurations

4.3 m (4-foot) blade

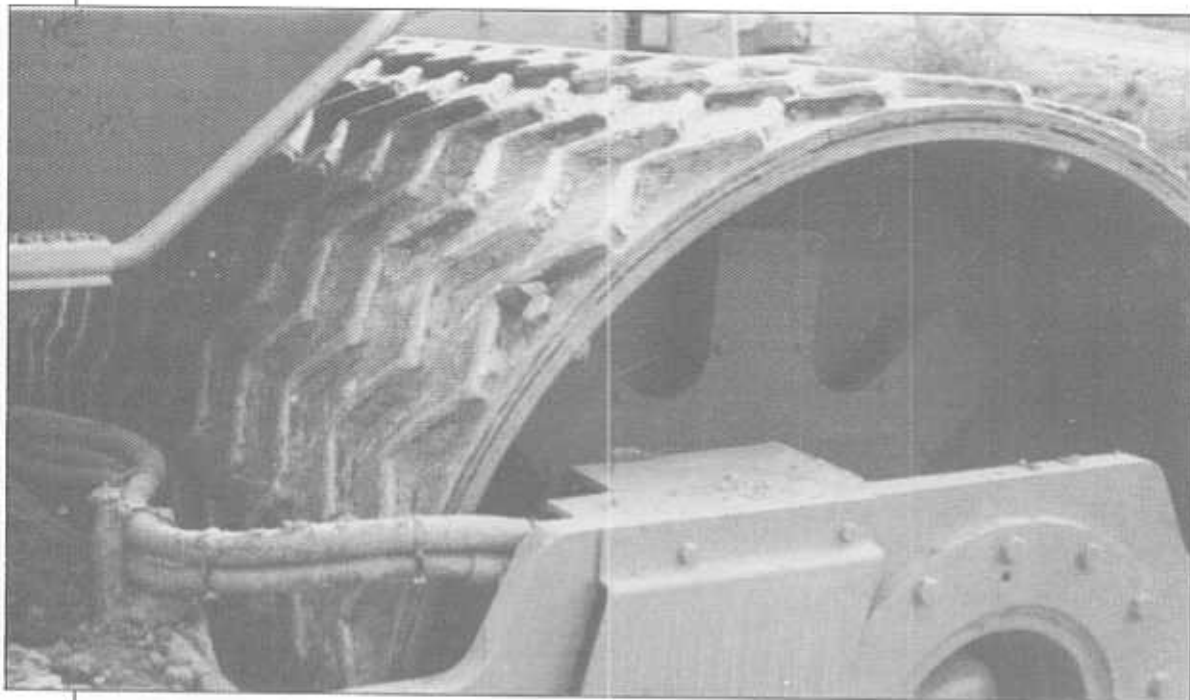
Rear reinforcing struts when operating with wing

## MANUFACTURER:

Weldco-Beales

#410 - 6450 Roberts  
Street  
Burnaby, B.C.  
V5G 4E1  
TEL: (604) 294-2222  
FAX: (604) 294-1292  
TELEX: 04-55103

## BALDERSON GRID-PAK COMPACTOR



*The Grid-Pak is attached to a vibratory compactor to enhance the machine's rock crushing capability. It is manufactured in six segments for easy identification.*

Balderson Grid-Pak compactor can be adapted to most manufacturers vibratory compactors.

**PRICE:** The price for CAT CS553 size machine is \$12,300.00 list F.O.B. Edmonton, Alta. (1988). Delivery is 4 to 5 weeks.

### Operational Specifications

The Grid-Pak is used in logging road maintenance applications. Gravel that has moved to the ditch, can be reclaimed without fear of leaving rocks on the road to damage truck tires. The grids compact dirt and rock to a hard even grade, crushing even river rock to form part of the road service.

In a typical application, a motor grader is used to pull gravel back from the shoulder and ditch on the first pass. During subsequent passes, large rocks are normally graded off to the side of the road, often taking valuable gravel along with them. The Grid-Pak eliminates the waste of valuable aggregate by compacting it in place. Large rocks are simply crushed on the spot. In soft spots rocks are punched into the surface, and gravel is packed, creating a hard, stable, travel surface.

### MANUFACTURER:

Balderson Canada Ltd.  
6400 30th Street,  
Edmonton, Alta., T6P 1J6  
TEL: (403) 469-9185 FAX:  
(403) 469-9256

# BOSS SNOWPLOW



The 2.8m(9'2") Model snowplow is perfect for dual wheel, 1-ton trucks. The centre hinge blade assembly permits blade to be placed in the vee, angle, carry and straight positions for different applications.

Designed and built by Canadian Snow Boss for the 1/2 ton, 1 ton-dual wheel and sport utility vehicles. Available in 2.3 m (7'6") Model, 2.5 m (8'2") Model and 2.8 m (9'2") Model.

## Operational Specifications

The in-cab truck-to-plow connect/disconnect, permits the operator to drive into the plow and lock it.

The blade is adapted to weather conditions, in the straight, V and carry position from inside the cab.

## Particular Applications

Model	7'6"	8'2"	9'2"
Length of mold board, m (ft)	2.3 (7.5)	2.5 (8.17)	2.8 (9.17)
Thickness, gauge	11	11	11
Height, cm (in.)	64 (25.5)	75 (29.5)	75 (29.5)
Blade edge, cm (in.)	1 (3/8)x15 (6)	1.3 (1/2)x15 (6)	1.3 (1/2)x15 (6)
Reinf. ribs	6	6	6
T-Frame	10 (4)x5 (2)x.3 (5/16) rec. tube	12.7 (5)x7.6 (3)x.6 1/4 rec. tube	
Weight, kg (lb.)	306 (675)	420 (925)	431 (925)

## Mechanical Specifications

Hydraulics	heavy duty, under hood installation, internal gear type		
Pump,	2048 (125)	2048 (125)	2048 (125)
Reservoir, cm <sup>3</sup> (in. <sup>3</sup> )			

## MANUFACTURER:

Canadian Snow Boss Inc.  
188C Parc Industriel  
P.O. Box 467  
Beloeil, Que.  
J3G 6B6  
TEL: (514) 464-4090

## BWS MODEL 2010 PICK-UP SPREADER SANDER



BWS Model 2010 Pick-up Spreader

BWS manufactures a full line of hopper spreaders: models 2010, 2011, 2012, 2020, 2030, 2040, 2050, 2060, 2070 from 1.2m<sup>3</sup> (1.5yd<sup>3</sup>) to 10.7m<sup>3</sup> (14yd<sup>3</sup>) to fit a pick-up or heavy duty truck with hydraulic drive or self-contained gas engine.

### Particular Specifications

MODEL	2010	2070
Capacity, m <sup>3</sup> (yd <sup>3</sup> )	1.2(1.5)	10.7(14)
Length m(in.)	1.8(72)	3.7(144)
Width m(in.)	1.4(56)	2.4(92)
Body Height cm(in.)	91(36)	173(68)
Body Material	14ga	High-Tensile Low Alloy
Conveyor Width cm(in)	36(14)	61(24)

Options:  
Complete light package, rear bumper, hopper heat system, automatic metering device and fenders. Two warning lights are standard on the model 2070.

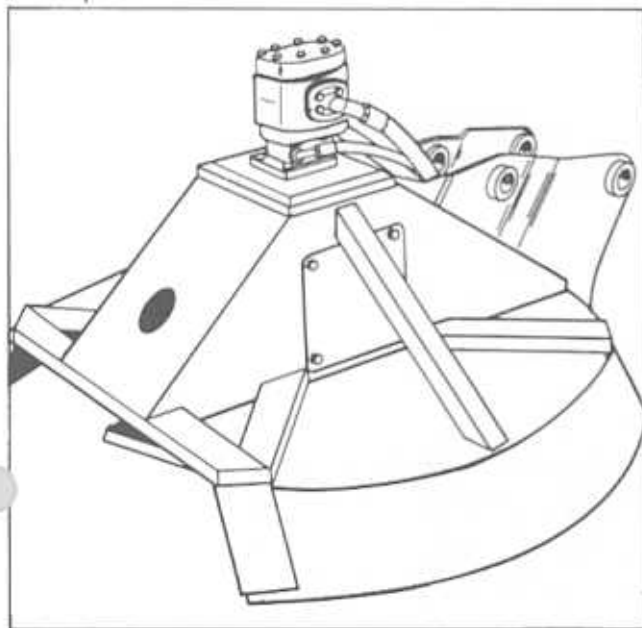
### MANUFACTURER:

BWS Manufacturing Ltd.

10 Montana St.  
P.O. Box 420  
Centerville, N.B.  
E0J 1H0

TEL: (506) 276-4567  
FAX: (506) 276-4380

# WELDCO-BEALES ROTARY FLAIL & ROTARY CUTTERS



Weldco-Beales Model ERF Rotary Flail Brush Cutter

The Company specializes in the design and manufacture of machines and attachments for the forest industry with a wide range of products.

Weldco-Beales model ERF series rotary flail, and Model ERC series rotary cutter. W.B. brush cutters are available for most models and makes of back-hoes and excavators. Larger Brush Cutters (over 152 cm(60in) ) are available upon request. Installation is available at extra cost.

## Operational Specifications

The Weldco-Beales rotary flail cuts small trees, grass, as well as dense bush. Cutter blades are made from heat treated alloy steel mounted on a circular disc, and are replaceable. Knives can swing back after hitting a solid object to minimize damage.

Rotary cutter teeth on the edge and bottom of the cutting disc provide downward mulching. Secondary shredding and hauling is not required. Movable opening allows the operator to choose the direction of dispelled debris and allows the cutting of 15 cm(6 in.) stems. Flywheel action of the cutter allows storage of cutting energy, providing more effective cutting power with less available energy.

Used for maintaining logging and rural roads, bridge approaches, railway grades, and power right-of-ways. Allows cutting within 13 cm (5 in.) of obstacles. Cuts and shreds brush and trees up to 15 cm (6 in.) in diameter.

## Physical Specifications

Machine Size Capacity m(yd)	Model	BLade Dia. cm(in)	Weight kg (lb.)
0.34 to 0.57 (3/8 to 3/4)	ERF36	91(36)	308(680)
0.57 to 0.91 (3/4 to 1)	ERF52	132(52)	635(1400)
0.91 to 1.82 (1 to 2)	ERF60	152(60)	816(1800)
0.34 to 0.57 (3/8 to 3/4)	ERC36	91(36)	295(650)
0.57 to 0.91 (3/4 to 1)	ERC48	122(48)	499(1100)
0.91 to 1.82 (1 to 2)	ERC60	152(60)	599(1320)

## Mechanical Specifications

	Model ERF	Model ERC
Operating Speed, r.p.m.	1200	400
Brush Cutter Sizes	Vary according to machine power and lift capacity weight requirements	
Options	Tilt	Tilt on long or short extension arms

## MANUFACTURER:

Weldco-Beales  
#410 - 6450 Roberts  
Street,  
Burnaby, B.C., V5G 4E1  
TEL: (604) 294-2222 FAX:  
(604) 294-1292  
TELEX: 04-55103

## TERRAFIX AND TERRATRACK GEOTEXTILE FABRIC



*Terratrack 2415 being placed on road subgrade.*

TerraFix: non-woven geotextiles ranging from a thin 2.3 mm model 200R, to models 240R, 270R, 360R, 370RS, 800R at 5.0 mm thickness; up to 1600R at 6.5 mm. Terratrack: woven geotextiles, ranging from model 400 at 0.75 mm thickness, to model 200 at 0.72 mm, 24-15 at 0.45 mm, and 24-11 at 0.51 mm thickness.

### Operational Specifications

Geotextile fabric uses are primarily for soil stabilization, and hydraulic engineering, such as subdrainage, road underlay, gabion protection, rip rap channel lining, shore protection and containment. TerraFix is a non-woven, needle-punched, composite mat, whereas Terratrack is a woven geotextile.

Non-woven geotextiles are long lasting, rot-proof, not subject to degradation in the field, of high strength at high elongation, and have stable permeability.

The woven geotextiles require lower capital expenditure, with filtration and drainage characteristics typically lower than the TerraFix non-woven geotextiles. They offer soil stabilization solutions with low initial costs.

### MANUFACTURER:

TerraFix Geosynthetics Inc.

69 Westmore Drive  
Unit 3

Toronto, Ontario

M9V 3Y7

TEL: (416) 745-7290

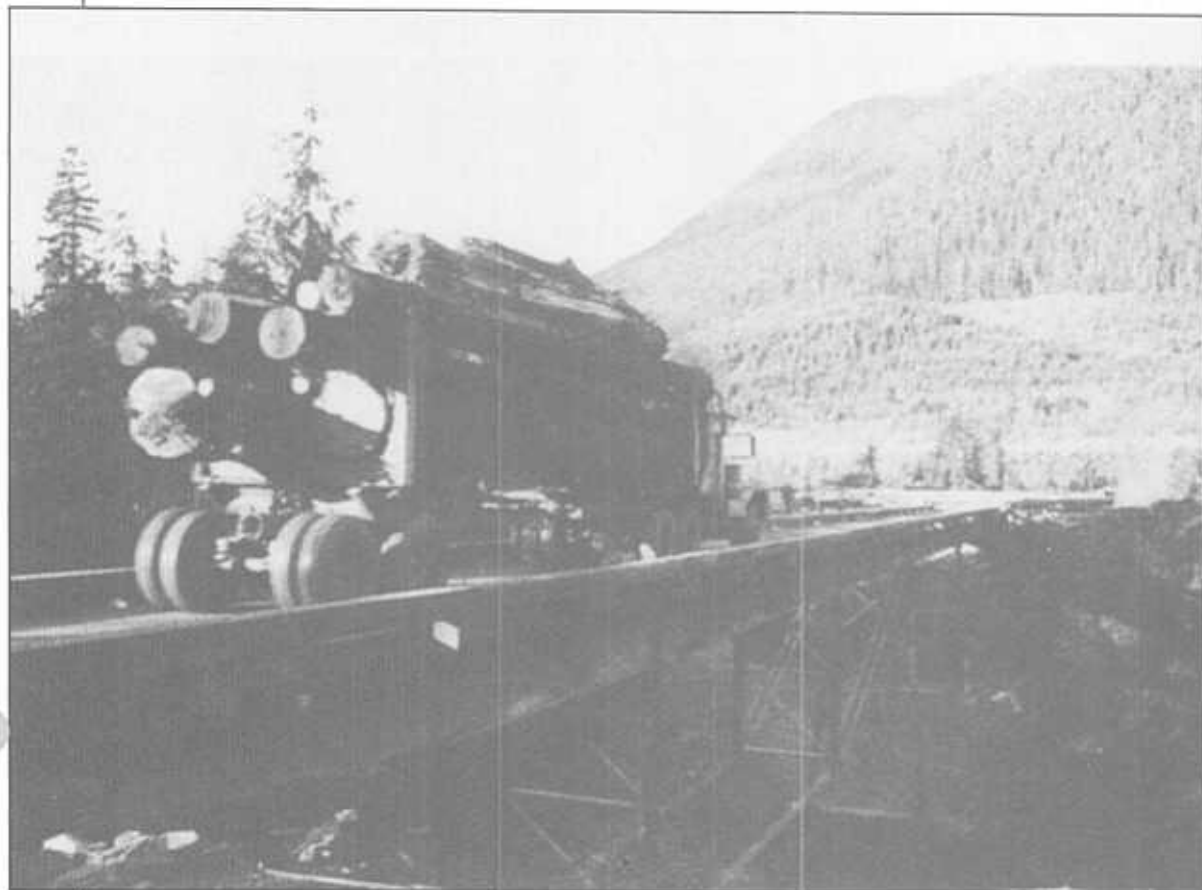
FAX: (416) 748-8240

TELEX: 06-989136

### Particular Specifications

	TerraFix	Terratrack
Mass (g/m <sup>2</sup> )	200 to 470	106 to 228
Thickness (mm)	2.3 to 4.0	0.51 to 0.75
Grab Tensile (N)	400 to 1000	697 to 1400
Ball Burst (N)	1100 to 2350	710 to 3400
Standard Roll	3.3x150 to 3.75x50	4.57x100 to 4.27x100
Sizes, m	4.4x150	5.3x100
Standard Roll		
Weight (kg)	100 to 90	55/60 to 100

## MODULAR BRIDGES



*Modular's 283-foot Davie River Crossing*

MBS offers fixed bridge designs, portable bridge systems and fabricated modular steel structures built to specifications. The Company also offers site inspections, custom engineering to suit the requirements of the site, component fabrication, delivery of the structure to the site, development of the sub-structure and complete installation.

### Particular Specifications

Modular Bridge Systems offer portable bridge designs, and fabricated modular steel structures built to meet particular specifications of site. The Company has developed a system using precast concrete deck panels, which are easy to install, give long service and require almost no maintenance.

### MANUFACTURER:

Modular Bridge Systems  
Division of Surespan  
Construction  
8035 Alexander Road  
Delta, B.C.  
V4G 1C5  
TEL: (604) 946-7547  
FAX: (604) 946-1514





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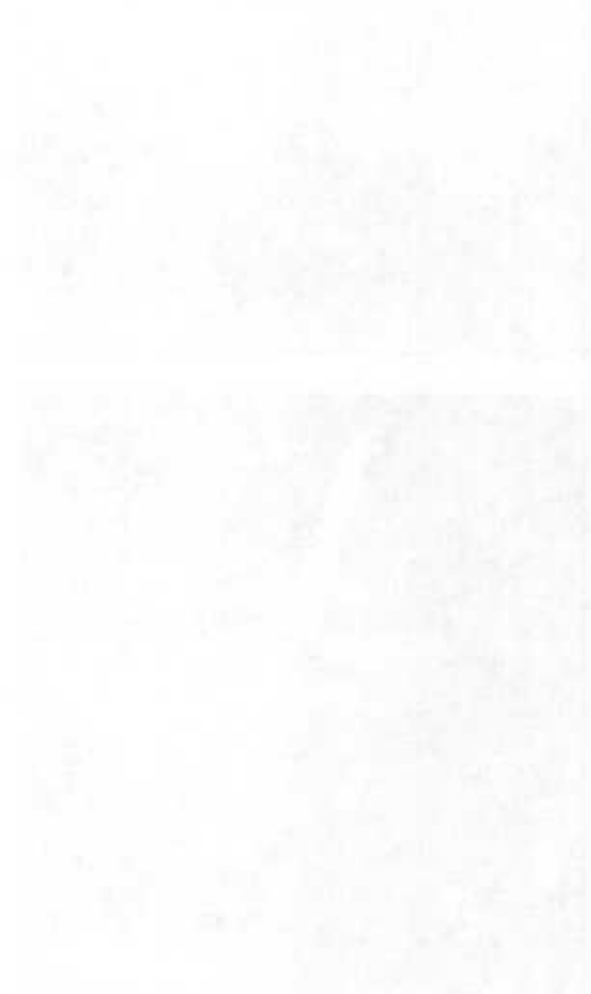
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## FORESTRY SUPPORT: FIRE PROTECTION



# CONAIR F27 FIREFIGHTER AIR TANKER



*The F27 Firefighter is a turbine-powered, high-capacity, air tanker for use in aerial forest fire fighting.*

Conair F27 Firefighter high capacity air tanker. Conair also manufactures the Conair Firecat, and Turbo Firecat medium capacity air tankers; Conair Helitankers and Conair Aerial Spray and Aerial Fertilizer Systems.

## Operational Specifications

The Conair F27 Firefighter features an advanced delivery system for the aerial control of forest fires. The aircraft is capable of delivering chemical retardant, water and foam suppressants.

The F27 Firefighter offers the benefits of turbine power together with retardant delivery effectiveness. It has multi-role capabilities including aerial spraying, transportation of equipment and personnel, pararescue or ambulance operations.

## Physical and Mechanical Specifications

Maximum Takeoff Weight, kg (lb.)	20412 (45,000)
Retardant Payload, kg (lb.)	6731 (14,800)
Endurance (Full Payload), Hours	3.4
Normal Cruise Speed, Knots	227
Normal Drop Speed, Knots	125
Retardant Delivery System	
Total Useful Volume, L (l. gal)	6365 (1,400)
Loading Rate, L (l. gal)/min.	1514 (333)
Number of Compartments & Doors	8
Retardant Coverage Levels, mm (l. gal)	0.2 to 4.0 (0.4 to 8) thickness
Average Width of Retardant Line, m (ft)	9 (30)
Microcomputer Door Control Time Between Door Openings, sec.	0.1 to 0.99
Optional Foam Injection System	

## MANUFACTURER:

Conair Aviation Ltd.

P.O. Box 220  
Abbotsford, B.C.  
V2S 4N9  
TEL: (604) 863-1171  
FAX: (604) 853-9017  
TELEX: 04-363529

# CONAIR FIRECAT & TURBO FIRECAT AIR TANKERS



The Firecat (top) features a technologically advanced 3,295 litre retardant delivery system. The Turbo Firecat (bottom) is a turbine-powered conversion. Over 30 Firecats have been converted for forest fighting operations (1988).

Conair Firecat and Turbo Firecat medium capacity air tankers. Conair also manufactures the Conair F27 Firefighter (High Capacity) Air Tanker, Conair Helitankers and Conair Aerial Spray and Aerial Fertilizer Systems.

## Operational Specification

The Conair Firecat is a medium-capacity air tanker used for the aerial control of forest fires. The aircraft is capable of delivering chemical retardant, and water-foam suppressants. The retardant delivery system is computer-controlled for maximum drop efficiency. The Conair Turbo Firecat is an extensive modification of the piston engined Firecat and features Pratt and Whitney PT6A-67AF turbine engines, a single-point pressure refueling system, a new stall warning system, and a completely updated cockpit and aircraft systems.

## Physical & Mechanical Specifications

Model	Firecat	Turbo Firecat
Maximum Takeoff Weight, kg (lb.)	11818 (26,000)	12443 (27,500)
Operating Empty Weight, kg (lb.)	6895 (15,200)	6900 (15,250)
Endurance, Full Payload, Hrs.	4.5	5.1
Minimum Field Length, m (ft)	914 (3,000)	700 (2,300)
Cruise Speed, Knots	175	220
Normal Drop Speed, Knots	120	120
<b>Retardant Delivery System</b>		
Normal Retardant Load, L (gal)	3295 (725)	
Foam Concentrate Load, L (gal)	173 (38)	
Tank Length, cm (in.)	325 (128)	
Tank Width, cm (in.)	127 (50)	
Tank Depth, cm (in.)	87 (34.3)	
Number of Compartments	4	
Weight of Tank, kg (lb.)	328 (725)	
Door Sequencing	4-single-door drops 2 two-door salvoes 1 four-door salvo	

## MANUFACTURER:

Conair Aviation Ltd.

P.O. Box 220  
Abbotsford, B.C.  
V2S 4N9  
TEL: (604) 853-1171  
FAX: (604) 853-9017  
TELEX: 04-363529

# CONAIR HELITANKERS



A Conair B212 Helitanker (top), demonstrates the canopy penetration provided by its 1360 litre, rigid-door firefighting tank. The Conair AS350B1 Helitanker (bottom) is shown taking in water with its hover-fill tank system.

Conair manufactured firefighting systems are available for the Bell 205, Bell 212, Aerospatiale AS 350B1 Ecuirel, Aerospatiale SA 315B Lama Helitankers and several other helicopter types. These systems can consist of the retardant delivery tank, a self loading system for tank filling, a foam injection system, a off-load system to fill ground tanks, and a rappelling system to lower firefighters directly into a fire area.

## Operational Specifications

Conair Helicopters are versatile and effective firefighting tools. In addition to the retardant delivery tank, the systems feature a self loading system for tank filling during a hover at remote water sources, a foam injection system and an off-load system. The self loading system can operate in as little as one half metre of water.

## Physical and Mechanical Specifications

Model	SA330*	BELL 205/212	SA315B	AS350B1
Water Load, L (l. gal)	2400 (545)	1360 (309)	900 (205)	800 (182)
Foam Concentrate Load, L (l. gal)	150 (34)	175 (40)	80 (18)	75 (17)
Tank Length, cm (in.)	210 (83)	419 (165)	358 (141)	303 (119)
Tank Width, cm (in.)	90 (35)	127 (50)	127 (50)	140 (55)
Tank Depth, cm (in.)	154 (61)	43 (17)	39.5 (16)	34.5 (14)
Weight of Tank, kg (lb.)	280 (617)	145 (320)	145 (320)	155 (342)
Number of Doors	2	2	2	2
Door Actuation	Hydraulic	Hydraulic	Hydraulic	Hydraulic
Drop Speed, Knots	40-80	40-80	40-80	40-80
Normal Drop Height m (ft)	50 (164)	20-30.5 (66-100)	20-30.5 (66-100)	20-30.5 (66-100)
Tank Removal Time, Hours	8	0.25	0.25	0.25

\*SA330 tank system consists of upper cabin section and lower chute section. Length and width refers to cabin tank; depth refers to dimension over both upper and lower sections.

## MANUFACTURER:

Conair Aviation Ltd.

P.O. Box 220  
Abbotsford, B.C.  
V2S 4N9  
TEL: (604) 863-1171  
FAX: (604) 853-9017  
TELEX: 04-363529

## WAJAX FIRE CONTROL UNIT TFG503



*Portable, low-cost, self-contained, trailer-mounted, fire control unit. Optional fender mounted tool and accessory boxes are also available.*

Wajax manufactures centrifugal fire pumps Mark series models 26, 3, B1-11, BB-4, 40, 40D, 75. Wajax also manufactures Wajax hand pumps, pump unit accessories (valves, couplings, threaded accessories, hose line accessories) fire control hand tools, high pressure fire hose and repair equipment, fire hose testing equipment and self-contained trailer mounted fire control units. Tank sizes available are in 75, 125, 200 U.S. gal. Other pumps are available for slip-on tanks.

### Particular Specifications

Model TFG503  
1890 L (400 imp. gal.)  
Mark 3 Fire pump, c/w fuel tank  
Manual fire hose reel with friction brake  
Length 30 m (100 ft.), size 25 mm (1 in.)  
Combination nozzle 25 mm (1 in.)  
Pump priming system for overboard drafting  
Tank outlet valve, lower mounted  
Plumbing assembly for overboard drafting  
Vibration base for pump mounting  
Easy-to-read clear-tube water level indicator  
Suction hose and footvalve  
Four-wheel heavy duty trailer:  
    Overall Length 388 cm (11 in.)  
    Overall Width 187 cm (6.5 in.)  
    Four wheel electric brakes  
    Heavy duty jack  
    Heavy duty construction  
    Individual wheel springs  
    Walking beam action  
    Electric tail-stop and turn indicators  
    Three position ball hitch  
    One spare tire mounted on rim  
    Two 1360 kg (3000 lb.) axles 2722 kg (6000 lb.)  
    Flat top fenders can be used for hose storage, etc.  
    Tanks can also be made to the buyers specifications in fiberglass or stainless steel.

### MANUFACTURER:

Wajax Manufacturing Ltd.  
110 Norman St.,  
Suite 200,  
Lachine, Que.  
H8S 1A6  
TEL: (514) 637-5572  
FAX: (514) 637-3985  
TELEX: 05-823654

# WAJAX FIRE PUMPS



*Wajax, high pressure portable fire pump plus in line accessories, fire hose and complete forest fire control system including foam and eductors*

Wajax manufactures centrifugal fire pumps Mark series, models 26, 3, B1-11, BB-4, 40, 40D, 75.

Wajax also manufactures Wajax hand pumps, pump unit accessories (valves, couplings, threaded accessories, hose line accessories, fire control hand tools, high pressure fire hoses and hose repair equipment, fire hose testing equipment and self-contained trailer mounted fire control units.

## Operational Specifications

The pump engine and water valve controls have been kept simple, and to a minimum, in order to make the unit operable by unskilled operators. All major components of the centrifugal pumps have been manufactured from high tensile strength, corrosion resistant alloys. The pump shaft is made from stainless steel.

Wajax offers a 24 hour service to assist its customers in time of emergency.

Noise reduction kits are available for areas requiring sound level reduction.

Full control panel for models BB-4 and B1-11 is optional, and includes panel light and switch, choke lever, starter button, kill switch, primer control, pressure gauge, hour meter and power cable (battery) connection.

## Particular Specifications

Model Pump	Starting	Weight kg (lb.)	Length	Dimensions cm (in.)	
				Width	Height
Mark 26	Manual	17.2 (38)	48 (19)	28 (11)	35.5 (14)
Mark 3	Manual	25.0 (55)	56 (22)	30.5 (12)	40.5 (16)
Mark B1-11	Electric	55.0 (121)	71 (28)	55 (22)	51 (20)
Mark BB-4	Electric	75.0 (165)	86 (34)	48 (19)	48 (19)
Mark 40	Manual	84.0 (185)	86 (34)	57 (22.5)	53 (21)
Mark 40D	Electric	154.0 (340)	89 (35)	77 (30.5)	56 (22)
Mark 75	Electric	114.0 (250)	96.5 (38)	61 (24)	72 (28.5)

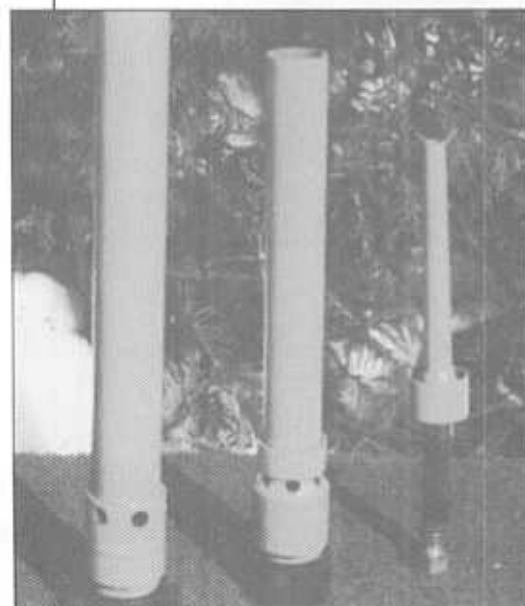
## Mechanical Specifications

Model Pump	Power	Discharge (Free Flow) L/min (Imp. gal/min)	
Mark 26	5.0 HP		318 (70)
Mark 3	9.0 HP		341 (75)
Mark BB-4	16.0 HP @ 3600 RPM		355 (78)
Mark B1-11	11.0 HP @ 3600 RPM		227 (50)
Mark 40	14.2 HP @ 3000 RPM		820 (180)
	16.2 HP @ 4000 RPM		
Mark 40D	Not available		700 (154)
Mark 75	38.0 HP @ 5300 RPM		1590 (350)

## MANUFACTURER:

Wajax Manufacturing Ltd.,  
110 Norman St.,  
Suite 200,  
Lachine, Que.  
H8S 1A6  
TEL: (514) 637-5572  
FAX: (514) 637-3985  
TELEX: 05-823654

# BLIZZARD WIZARD FOAM NOZZLES



Blizzard Wizard Fire Foam Nozzles, incorporating a foam making device, also enhances the reach of the liquid stream.

Co-Son Industries manufactures the model B foam mixer, a companion product to the foam nozzles and used with Wajax Mk.3 pump or adaptable to most other makes of pump. The Blizzard Wizard Foam Nozzles are available in Models LF-5, MF-16, HF-32, HF-32M; other coupling sizes and types are also available from Co-Son on request.

## Operational Specifications

Blizzard Wizard nozzles are of the air aspirating type and generate a fire-fighting foam of small homogeneous bubbles, which are slow draining, preventing the fuel from igniting due to radiant heat. These nozzles make high energy foam, without sacrificing the reach of the stream.

The foam can be used in direct attack on a forest fire or can be applied as a fire barrier on trees, structures or grasses.

The Model B Foam Mixer, a foam liquid eductor, uses two sections of garden hose to connect it to the fire pump, which together with a high quality stainless steel seated metering valve, permits mixing of the concentrate from 0 to 0.8% depending on water flow. This is a companion product to the foam nozzles.

Silv-Ex is a concentrate that combines foaming and wetting agents specifically formulated to extinguish forest fires. The Silv-Ex extinguishant is shipped as a concentrate, which can be used with a Co-Son injection system, as an in-line inductor.

## MANUFACTURER:

Co-Son Industries  
1493 Sieveright Road  
Gloucester, Ont.  
K1T 1M5  
TEL: (613) 733-5348  
FAX: (613) 526-5905

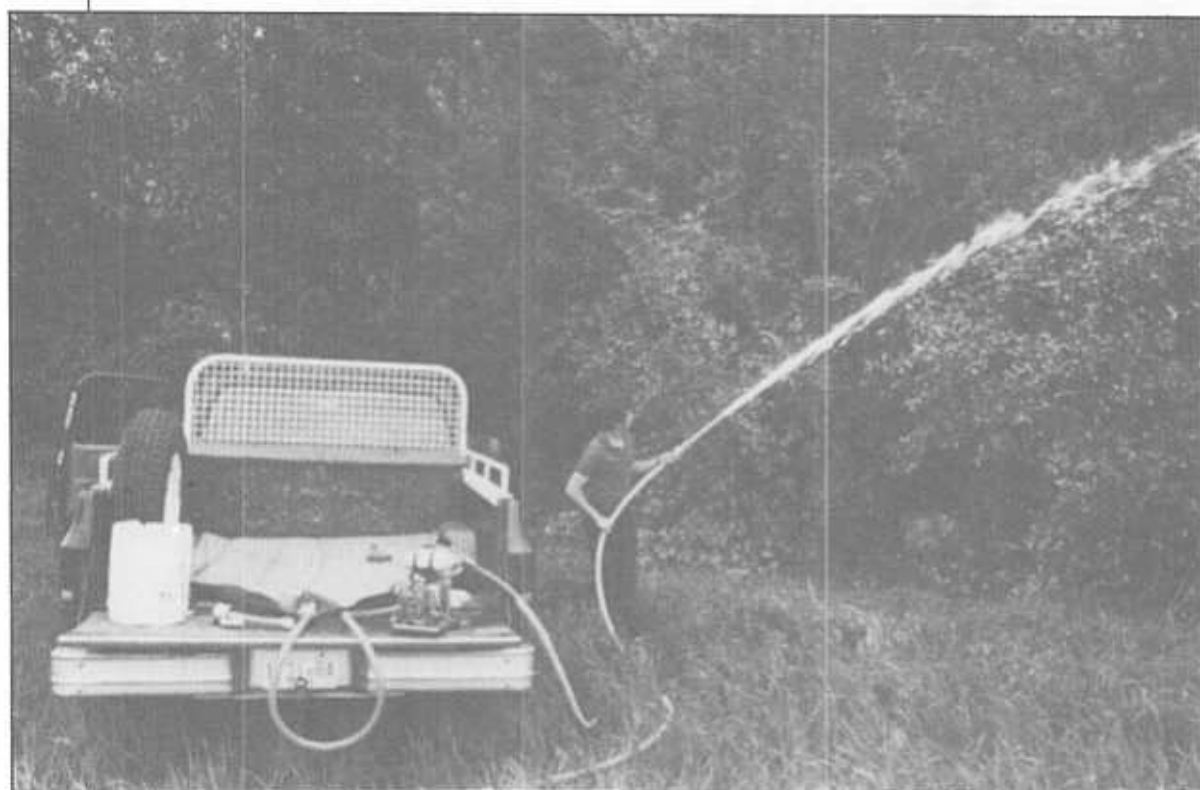
## Particular Specifications

### Fire Foam Nozzles

Models	LF-5	MF-16	HF-32	HF-32M
Operating pressure, p.s.i. (bar)				
Min. Recommended	5.8(85)	5(70)	5(70)	5(70)
Max. Recommended	12(175)	14(200)	14(200)	14(200)
Foam/Water Flow @ 85 p.s.i.	23(5)	73(16)	146(32)	146(32)
L/min (l.g.p.m.)				
Quantity of Foam prod. @ 85 p.s.i.	182(40)	727(160)	1455(320)	1745(384)
l/min(l.g.p.m.)				
Reach of Stream @ 85 p.s.i. m(ft)	5(16)	25(80)	30(100)	15(50)
Coupling Size, cm (in)	1.9(3/4)	3.8(1 1/2)	3.8(1 1/2)	3.8(1 1/2)
	N.P.T.	Fire Hose	Fire Hose	Fire Hose

Option: Other coupling sizes and types are available

## FIREFLEX PICK-UP TRUCK TANK



*Fireflex Pick-up truck tank for fire fighting or potable water transportation.*

Fireflex are manufacturers of portable fuel and water tanks, made of abrasion, tear and puncture resistant fabrics. Available in Flex-pac Backtanks, Fireflex Pick-up Truck Tanks, Fireflex Water Reservoirs, Fireflex Draughting Tank, Stilwell Fireflyer Model 60, and 110 liquid containers, and helicopter Rapattack 300.

### Operational Specifications

The PT 90 is designed for small pick-up or 3/4 ton trucks, and the PT 150 for standard 3/4 ton or larger. Used in firefighting and potable water transport. Highly compact, and folds in seconds, using minimal space.

### Particular Specifications

#### Fireflex Pick-Up Truck Tanks

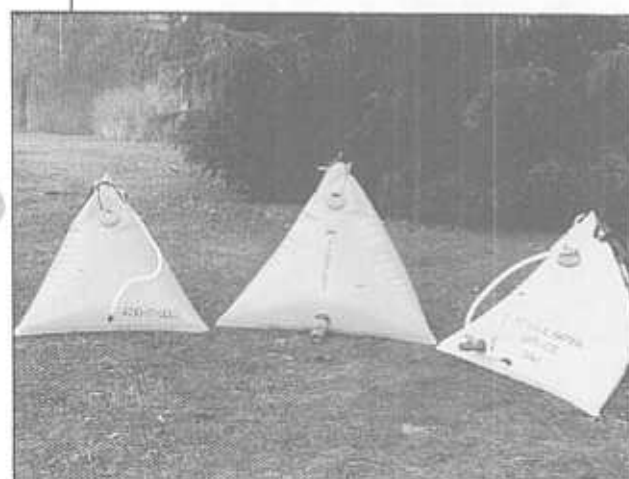
Models	PT90	PT 150
Capacity litres (U.S. Gal.)	432(108)	720(180)
Dimensions (folded) (in.)	80x60x10	90x62x12
Filler collar	4 in. diameter filler cap c/w floatation	
Drainage	1 1/2 in. PVC ball valve	
Fabric	Heavy duty rip-stop industrial fabric	
Tie down	Four x # 2 grommets	Six x # 2 grommets
Baffled design for transport full, or part loads		
Tank dimensions are based on North American standard bed pick-up trucks. These specifications can be altered according to truck bed size.		

### MANUFACTURER:

Fireflex Manufacturing Ltd.,

#204-20628 Mufford Cres  
RR #4  
Langley, B.C.  
V3A 4A7  
TEL: (604) 533-4268  
FAX: (604) 530-6969

# FIREFLEX PORTABLE RESERVOIRS



Fireflex on-site water reservoir (top), self-inflating and self-supporting; and Fireflex portable stilwells (bottom), multifunctional helicopter tanks.

Fireflex are manufacturers of portable fuel and water tanks, made of abrasion, tear and puncture resistant fabrics. Available in Flex-pac Backtanks, Fireflex Pick-up Truck Tanks, Fireflex Water Reservoirs, Fireflex Draughting Tank, Stilwell Fireflyer Model 60, and 110 liquid containers, and helicopter Rapattack 300.

## Mechanical Specifications

Fully self-supporting, self inflating water reservoirs  
Tank discharge through 7.6 cm (3 in.) or 10.2 cm (4 in.)

Material: PVC coated, woven polyester fabric

Rip stop construction

All welded construction

Flexible, and folds into packages

Dynamic cold crack of -67 deg. F.

## Operational Specifications

The water reservoirs are for setting on remote level sites, and are often filled with fire-retardant chemicals in water. No steel braces are required as the tank is totally self-supporting.

Tank can be deployed, and filled by one person. It is deep enough to completely fill most standard size helicopter buckets, minimizing use of helicopter time. Multi-point D-ring tie down system, secures tank from rotor wash.

The Stilwell Flyers are adaptable to helicopter long-line delivery for fire delivery systems, potable water delivery, as well as fuel storage, foams, retardants. The design eliminates twisting and residual bounce in flight.

## Particular Specifications

Fireflex Water Reservoirs	500	1000	1500	2500	4000	5000
Fireflex Models						
Collapsed						
Dimension in.	15x24x33	21x21x3	29x30x32	21x29x40	23x34x36	26x32x36
Weight kg (lb.)	14.5 (32)	21.8 (48)	29.5 (65)	38.1 (84)	49.9 (110)	59 (130)
Filled O.D. m (in.)	1.9 (75)	3.0 (120)	3.4 (133)	4.2 (164)	4.8 (188)	5.3 (208)
Collar I.D. m (in.)	1.5 (60)	1.5 (60)	1.5 (60)	2.7 (108)	3.4 (134)	3.6 (142)
Height m (in.)	1.0 (40)	1.0 (40)	1.2 (48)	1.2 (49)	1.1 (44)	1.5 (60)
U.S. gallons	500	600	1500	2500	4000	5000
Outlets	2-3"FNTP	2-3"FNTP	2-3"FNTP	2-3"FNTP	4-3"FNTP	4-3"FNTP
Fireflex Stilwell Fireflyers						
Model		Stilwell 60 Fireflyer			Stilwell 110 Fireflyer	
Capacity litres (U.S. gal.)		273 (72)			134 (500)	
Dimensions Filled (in.)		45 width x 39 height			53 width x 43 height	
Collapsed (in.)		19x24x5			24x24x5	
Weight Filled kg (lb.)		227 (610)			505 (1112)	
Empty kg (lb.)		4.5 (10)			5.5 (12)	
Discharge		5/8 inch male garden hose thread				
Filler		4 inch diameter				

## MANUFACTURER:

Fireflex Manufacturing Ltd.,

#204-20628 Mufford Cr

RR #4

Langley, B.C.

V3A 4A7

TEL: (604) 533-4268

FAX: (604) 530-6969

## FIREFLEX HELICOPTERABLE 300 TANK



*Fireflex Helicopterable 300 Tank, flown by a Bell model 212*

Fireflex are manufacturers of portable fuel and water tanks, made of abrasion, tear and puncture resistant fabrics. Available in Flex-pac Backtanks, Fireflex Pick-up Truck Tanks, Fireflex Water Reservoirs, Fireflex Draughting Tank, Stilwell Fireflyer Model 60, and 110 liquid containers, and helicopter Rapattack 300.

### Operational Specifications

The tank capacity is 1363 litres (300 l.gal, 360 U.S. Gal.). Flown by the Bell 212, or equivalent helicopter, to rappel or ground crews.

Designed for steep slopes without water resources. Secured by a sling around a tree or stump, and attached to two large D rings on the uphill side. Also used as an all-terrain relay tank.

### Particular Specifications

Collapsed Dimensions,cm(in)	76.2(30) x 58.4(23) x 28(11)
Filled,cm(in)	183(72) diam. x 50.8(20) ht.
Empty weight, kg (lb.)	15.9(35)
Discharge suction discharge hose	3.8cm (1 1/2in) x 0.61m(2ft)
Filler,cm(in)	10.2(4)

### MANUFACTURER:

Fireflex Manufacturing  
Ltd.,  
#204-20628 Mufford Cres  
RR #4  
Langley, B.C.  
V3A 4A7  
TEL: (604) 533-4268  
FAX: (604) 530-6969

## FIREFLEX FLEX-PAK BACKTANK



*Fireflex Flex-Pak Backtank for fire fighting*

Fireflex are manufacturers of portable fuel and water tanks, made of abrasion, tear and puncture resistant fabrics. Available in Flex-pac Backtanks, Fireflex Pick-up Truck Tanks, Fireflex Water Reservoirs, Fireflex Draughting Tank, Stilwell Fireflyer Model 60, and 110 liquid containers, and helicopter Rapattack 300.

### Particular Specifications

Tough nylon exterior, with three-way adjustable harness  
Capacity, 18.9 litre (5 US Gal.) with 1.9 cm (3/4 in.) discharge  
Filler inlet, 10.2 cm (4 in.) complete with built-in screen  
Empty weight of tank, complete with pump is 1.6 kg (3.5 lb.)  
Tubular design for maximum ventilation.  
All welded construction  
Flapper-valve designed pump eliminates clogging  
Compactable

### Operational Specifications

The tank is tubular in design for maximum ventilation. Findings have shown that the prime cause of fatigue among forest fire fighters, to be lack of body ventilation.

### MANUFACTURER:

Fireflex Manufacturing Ltd.,

#204-20628 Mufford Cr.

RR #4

Langley, B.C.

V3A 4A7

TEL: (604) 533-4268

FAX: (604) 530-6969



## FORESTRY SUPPORT: FIRE MONITORING

## FTS 6100 FIRE WEATHER STATION



*FTS WR 62 fire weather recorder is a battery powered electronic recorder designed to automatically collect weather data for use in the calculation of the Fire Danger Rating System.*

The FTS 6100 Fire Weather Station meets Canadian forest fire danger rating system standards. The station consists of a WR62 fire weather recorder, TH61 temperature and humidity sensor, RG61 rain gauge, WS61 wind speed sensor, WD61 wind direction sensor, MP61 mast package (10 m), SS61 wind sensor support, SH instrument shelter, ST61 shelter stand and SP61 solar panel package.

PRICE: N/A FOB Victoria, on request.

### Particular Specifications

#### WR 62 Weather Recorder

The recorder is housed in a rugged aluminum case, with all critical electronic components sealed against moisture. The recorder and all the required sensors and accessories, are available as a complete turnkey package. The recorder is designed to be used without detailed instructions by field operators. All weather records are displayed in metric values for direct use in fire danger calculation. The recorder comes complete with an external connector to interface with a printer, telephone or telemetry system.

Power	8 D. Cells
Battery Life	5 weeks
Temperature Range	0-50 deg. Celcius
Case Dimensions	
Length	32 cm
Depth	13 cm
Width	25 cm
Weight	3.5 kg

#### FTS 6100 Fire Weather Station

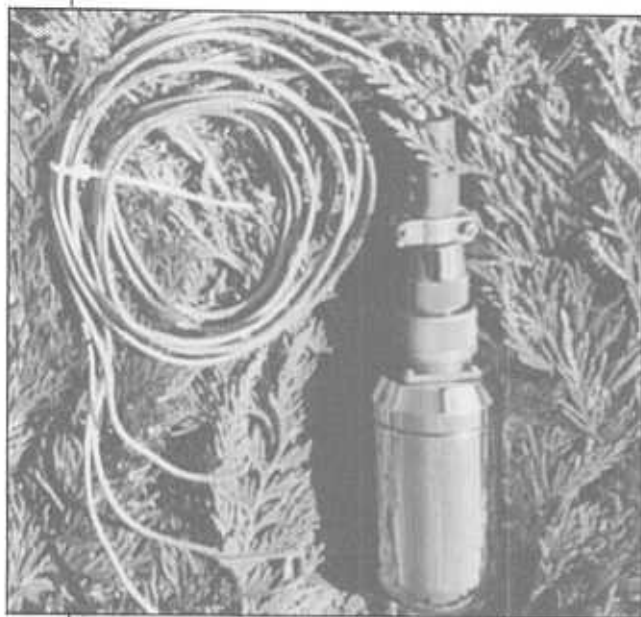
Temperature	$\pm .5$ deg. Celsius from 0-40 deg. Celsius
Humidity	2% from 10-90%
Wind Speed	$\pm$ nearest 0.1 kmh over 10 minutes
Wind Direction	45 deg. increments of greatest duration over 10 minutes
Rainfall	resolution 0.1 mm
Measurement Capacity	one month of daily readings always in storage

### MANUFACTURER:

Forest Technology  
Systems Ltd.,

841 Goldstream Ave.,  
Victoria, B.C.  
V9B 2X8  
TEL: (604) 478-5561  
FAX: (604) 478-8579

# FTS THERMOLOGGER



The FTS thermologger consists of a small cylindrical body 15x16 cm (6x2.5 in.), and one set of three thermocouple probes. One IBM-PC compatible computer, with a serial port, is needed to collect the data from any number of FTS Thermologger units.

## Particular Specifications

Size cm (in.)	15 x 6 (6 x 2.5), cylindrical
Weight kg (lb.)	1.1 (2.4)
Temperature	For Thermologger body: 0-85 deg. C. (32-185 deg. F.)
Thermocouples	Type K, Inconel overbraided, Ceramic fiber insulated, 0-1200 deg. C. (32-2192 deg. F.)
Accuracy	5 deg. C. from 15- 1200 deg. Celsius
Data Storage	8 K RAM, expandable to 32 K RAM

## Operational Specifications

In typical use, the FTS Thermologger units are buried (within 1 month prior to a forest fire burn) in the expected path of the flame front. Two probes are buried at user selected depths, while the other probe remains exposed to air. Each unit starts to log temperature data as soon as the probe exposed to air exceeds 70 deg. Celsius (158 deg. F.). The air temperature probe logs data every 10 seconds, while the buried probes log their temperatures every minute. Each FTS Thermologger unit can record up to 16.5 hours of "in-five" conditions, including re-burns. Within 10 days after the fire, the FTS Thermologger units are exhumed and their time/temperature data uploaded into the portable computer.

FTS Thermologger is a high temperature data acquisition system. It is a small, rugged, data logger, designed to collect data on the behavior and impact of forest fires.

## MANUFACTURER:

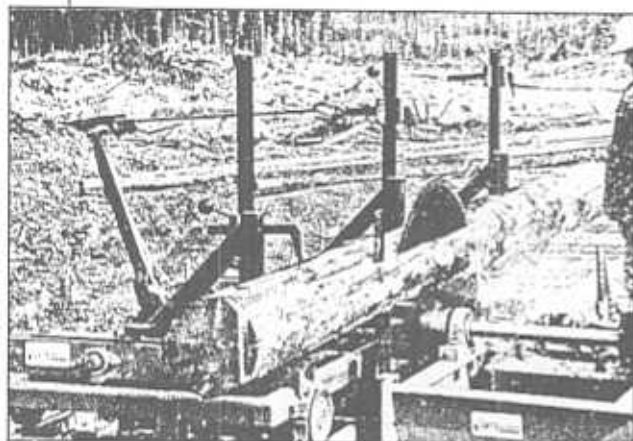
Forest Technology  
Systems Ltd.,

841 Goldstream Ave.,  
Victoria, B.C.  
V9B 2X8  
TEL. (604) 478-5561  
FAX. (604) 478-8579



## FORESTRY SUPPORT: PORTABLE SAWMILLS

# ALMAC PORT-A-MILL PORTABLE SAWMILL



The standard model 28-48-S Port-A-Mill available with optional tow bar and wheels for transport between sites by 3/4 ton truck or ag-tractor. If tractor is used, it can also power the unit through the p.t.o.

The standard Model 28-48-S Almac portable sawmill, and the high performance Model 28-48-HP. Designed as a portable or a stationary sawmill unit. Almac purchased the former Coutts Machinery Company, and now manufactures the sawmilling line: sawmills and carriages, edgers, scrag mills, cut-off saws, resaws, trimsaws, log turners, transfers and conveyors, log sorters, sawtooth grinders, planers, feedtables, saw collars, burner bearings and cutter heads.

## Operational Specifications

The standard model 28-48-S comes with mechanical networks, mechanical dogs, hydraulic feed system, capacity up to 23.6 m<sup>3</sup> (10 MBF) per 8 hour shift( depending on power, log diameter, and accessory equipment).

The high performance model 28-48-HP comes with hydraulic networks, hydraulic dogs, upgraded hydraulic feed, capacity up to 59/m<sup>3</sup> (25 MBF) per 8 hour shift.

In addition to the portable option, as stationary units, the sawmill can be set on a skid base, a low bed or on a stationary deck and the logs brought to the mill. A tractor or independent power unit, can provide the power.

The mill is available as a tie-mill or long log operation. The tie-mill requires the short carriage and the short track extensions 2.4 m (8 ft). The long log sawmill requires the carriage trailer attached to the tie-mill carriage, and the longer end track extensions 3.7 to 4.9 m (12 to 16 ft).

## Particular Specifications

Model	S	HP
Saw Diameter, cm (in.)	122 (48)	122 (48)
Track length, m (ft)	9.8 to 14.6 (32 to 48)	9.8 to 14.6 (32 to 48)
Width, m (ft)	1.2 (4)	1.2 (4)
Weight, kg (lb)	1814 (4000)	2268 (5000)
Application log size, cm (in.)	30 to 71 (12 to 28)	30 to 71 (12 to 28)

## Mechanical Specifications

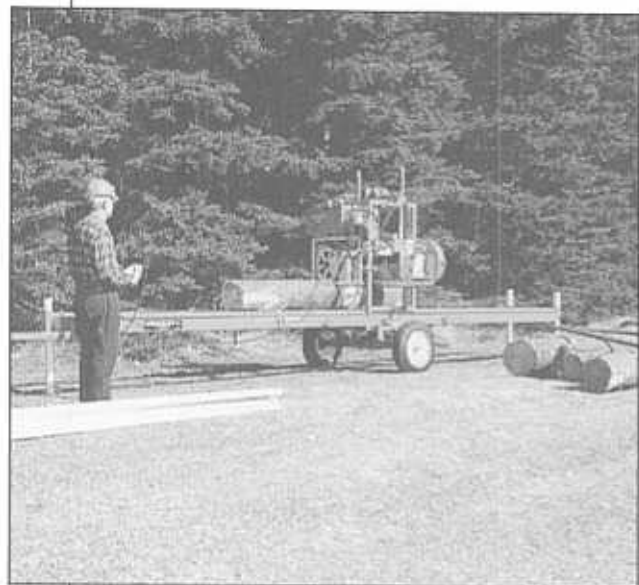
Power requirement, kW (hp)	67 to 149 (90 to 200)	
Carriage and Track		
Networks with pedestal mounted		
clock type rule	mechanical Tubular steel	hydraulic
Feedworks	hydraulic	hydraulic

## MANUFACTURER:

Almac Machine Works Ltd.

9539 - 56 Ave.  
Edmonton, Alta.,  
T6E 0B2  
TEL: (403) 434-3402  
FAX: (403) 437-3507

# SILVA-SAW PORTABLE BAND SAWMILL



*The Silva-Saw portable band sawmill, easily operated by one man, enables log sawing on site, thus saving time and transportation costs.*

Enercraft manufactures Models 24, 30 and 30H portable band sawmills, as well as optional equipment such as frame extensions to increase log capacity, winch and ramps for log handling, shingle, bevel siding attachments, and blade sharpeners.

PRICE: Silva-Saw 24 Manual, FOB Barrie(1988)\$ 6,970.00

Silva-Saw 30 Manual, FOB Barrie(1988)\$ 8,930.00

Silva-Saw 30 Hydraulic, FOB Barrie(1988) \$13,860.00

Note: Portable sawmills are subject to additional Federal and Provincial sales tax.

## Operational Specifications

ENERCRAFT manufactures three models of portable band sawmills that can be operated manually, or by hand held remote controls. These sawmills can be towed to a site behind a small truck, and set up in ten minutes ready to saw logs.

## Physical Specifications

Model	24	30H
Overall Length m (ft.)	7.5 (24.5)	7.5 (24.5)
Frame (ft.)	2 of 2'x6' rectangular steel tubing	2 of 3'x6' rectangular steel tubing
Blades cm (in.)	both models 3.2 (1.25) x 0.107 (0.042)	
Cutting capacity m (ft.)	Raker style-1.9 (3/4) Pitch Hook type blade	
Weight kg (lb.)	0.61 (2.0) dia. x 5.0 (16.5)	0.67 (2.5) dia. x 5.0 (16.5)
	622 (1460)	975 (2150)

## Optional Equipment

Blade sharpener, frame extensions to increase log length capacity from 4.9m (16') to 12.2m (40'), winch and ramps, shingle and bevel siding attachments.

## Mechanical Specifications

Model	24	30 H
Engine	Honda 8.2kW(11 HP) gasoline 4 cycle	Kohler 15kW(20 HP) gasoline c/w electric start
Controls	Not available with Electro-Hydraulic controls	Available without Electro-Hydraulic controls

## MANUFACTURER:

ENERCRAFT MFG.,  
Division of Elabern Ltd.,  
474 Welham Road, Barrie,  
Ontario, L4M 4S7  
TEL: (705) 734-1855  
FAX: (705) 734-1857

# THE BOARD BANDIT PORTABLE SAWMILL



The Board Bandit portable band sawmill. Carriage moves down track. Saw blade cuts horizontally through the log in any dimension.

The Board Bandit portable sawmill is available in four models: model 20-16, 26-20, 28-20 and 30-20

PRICE: From approx. \$ 7000.00 to \$ 11,000.00 F.O.B., Marmora, Ont. (1988). Model 20-16, \$7,000., Model 26-20, \$7,500., Model 28-20, \$10,000. Model 30-20, \$10,500.00

## Mechanical Specifications

Model	20-16	26-20	28-20
Engine	11 HP	11 HP	Briggs & Stratton
	Honda	Honda	18 HP
Options	8.2 kW	8.2 kW	13.4 kW
Shake jig, bevel siding jig, track extension, lighting package, electric hoist, steel ramps, steel skidway.			

## Operational Specifications

These sawmills are reported to be up to 90% accurate. They will cut paper thin material or any dimensioned lumber. The sawmills will also adapt to cut shingles, shakes and bevel siding.

The board bandit provides at least 30% more lumber from a log, compared to a conventional circular sawmill. Reported operating costs of \$20-25 per M bd. ft. (2.36/m<sup>3</sup>) (blades and gas). Blades last up to 3-M bd. ft. (7.1/m<sup>3</sup>) and cost \$20-26 each.

Operated by one man, it is capable of producing 2.36 m<sup>3</sup> (1M bd. ft.) to 9.44 m<sup>3</sup> (4M bd. ft.) per day.

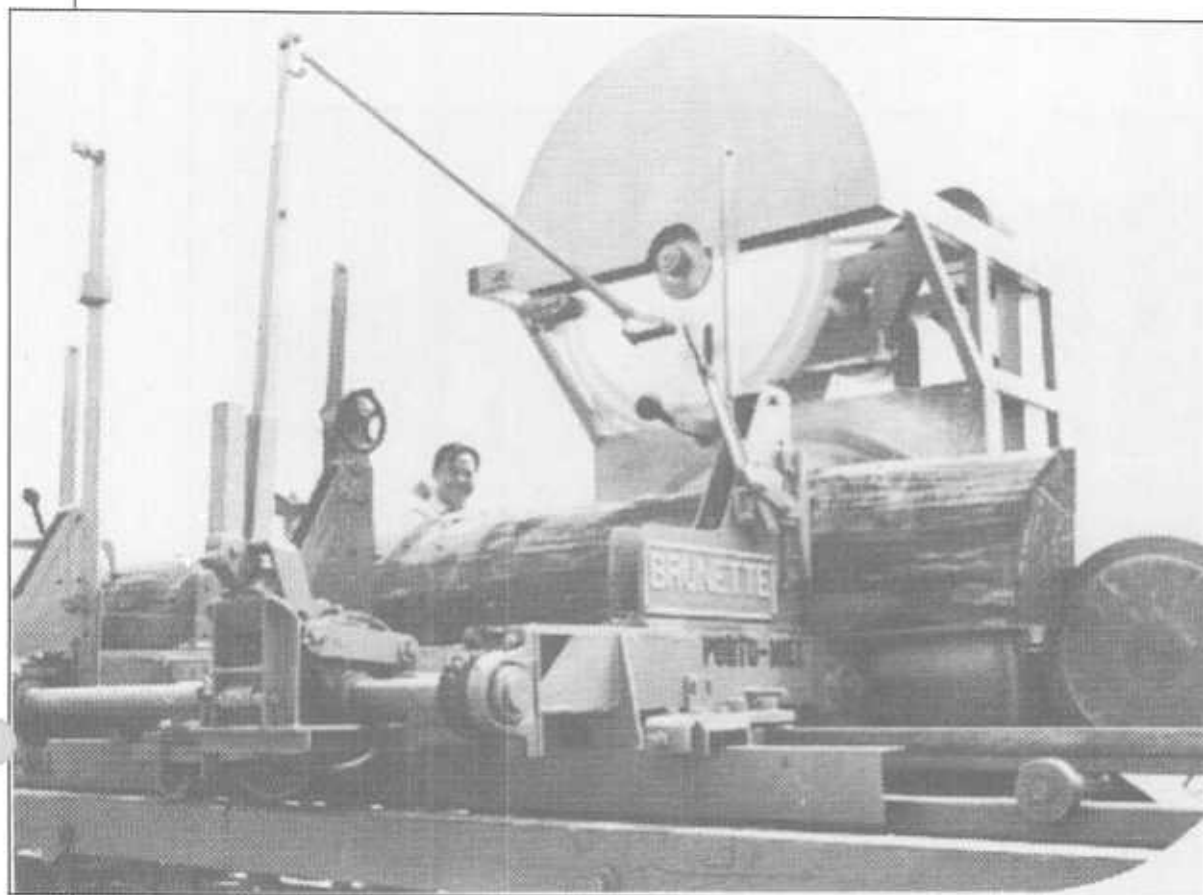
## Physical Specifications

Model	20-16	26-20	28-20
Height mm (ft.)	1981 (6.5)	2073 (6.8)	2032 (6.7)
Length mm (ft.)	7315 (24)	8534 (28)	8534 (28)
Width mm (ft.)	1880 (6.2)	1981 (6.5)	2134 (7)
Log Size mm (in.)	508X4884 (20x192.3)	660x6104 (22x240.3)	711x6104 (28x240.3)
Weight kg (lb.)	839 (1850)	907 (2000)	998 (22,000)
Model 30-20 will accept log size 813x6104 mm (32x240.3 in.)			

## MANUFACTURER:

Bonter Midway Mfg. Inc.  
Hwy. #7, 1/2 Mile West  
Marmora  
Marmora, Ont.  
K0K 2M0  
TEL: (613) 472-2122

## BRUNETTE PORTO-MILL PORTABLE SAWMILL



*Brunette Porto-Mill portable sawmill with time-proven Webb & Gifford friction type feed works for trouble-free operation in any climate.*

Brunette Porto-Mill portable circular sawmill. The Company also manufactures other sawmill equipment, i.e. Brunette Ring Debarkers.

### Particular Specifications

**Frame:** One piece heavy duty all steel formed frame, incorporating one flat rail (front), one vee rail (rear), mounted on tandem type axles complete with towing bar and lumber clearing rolls.

**Carriage and Blocks:** Three block, three truck axles 45 mm (1.8") dia. mounted in spherical roller, self-aligning bearings. 600 mm (23.6") opening with block spacing for logs 2.4 m (7.9ft.) to 5 m (16.4ft.) long. Fitted with hand operated dogs, hand operated dogs, hand operated networks and powered block receder. Infinitely variable hydraulic feed type drive. Hydraulic motor coupled directly to cable drum (integral with mainframe) providing 9 to 20 m/min (29.5 to 98.4 ft/min) feed speed. Hydraulic pump, vee-belt driven from jackshaft. Friction feed optional, at additional cost.

**Saws:** Top and bottom 1370 mm (54") standard, maximum 1525 mm (60"). Saws with replaceable shanks and bits for rugged service and easy maintenance, 203 mm (8") collars standard.

**Saw Guides:** Replaceable plug-type guides - adjustable by a hand wheel.

**General:** All necessary jacks and tools such as saw wrenches are provided along with maintenance, parts and operator's manuals.

### MANUFACTURER:

Brunette Machine Works Ltd.,

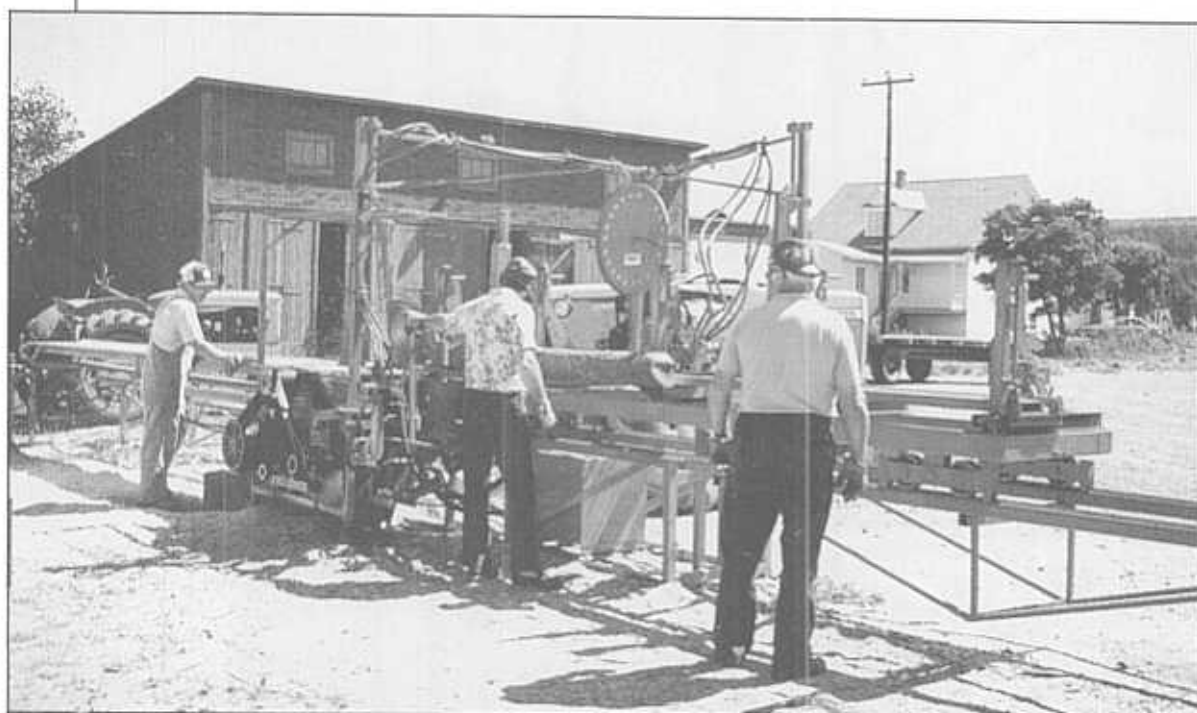
330 Edworthy Way, New Westminster, B.C. V3L 5V3L 5G5

TEL: (604) 522-3977

FAX: (604) 522-6806

TELEX: 04-351189

## DESJARDIN P.T.O. PORTABLE SAWMILL



*Desjardin portable sawmill powered through the P.T.O. of a M.F. 255 tractor or equivalent.*

Desjardin portable sawmill model Kamouraska, portable or stationary mill.

PRICE: Approx. \$ 17,500.00 F.O.B. St-Andre, Que. (1988)

### Particular and Mechanical Specifications

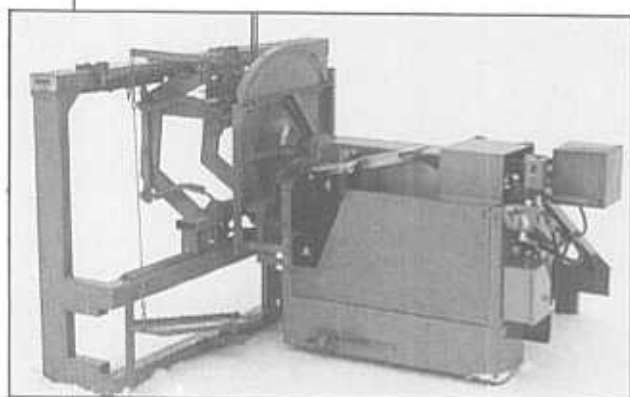
Mill Capacity	Cuts logs 1.2 m(4ft) to 5.5 m(18ft) with max. diam. of 20 in.
Carriage	4.3(14) long with two 3 m(10) extensions for the rails.
Saw Arbor	6.2 cm(2 7/16 in.) diameter, driven by tractor P.T.O. @ 540 RPM On all hazardous places
Security Guards	96.5 cm(38 in.) diameter requiring 41 kW(55 HP) or using 112 cm(44 in.) diameter, requiring 56 kW(75 HP)
Saw	96.5 cm(38 in.) diameter, requiring 22.3 kW(30 HP) or 112 cm(44 in.) diameter, requiring 37.3 kW(50 HP)
Tractor P.T.O.	Included with the mill
Electric Motor	1588 kg (3500 lb.) (varies with optional equipment)
Saw Dust Blower	Approx. 1219-2438 m(4000-8000 ft) of wood per eight hour shift
Total Weight	Hydraulic log turner, hydraulic log ejector, hydraulic post dog (2) controls
Production Capacity	
Options	

### MANUFACTURER:

Les Industries Desjardin Ltée,

79 rue Principale,  
St-Andre, Quebec  
G0L 2H0  
TEL: (418) 493-2114  
FAX: (418) 493-2432

# DESJARDINS SHINGLE MILL



*Desjardins shingle mill, a one-man operated machine*

Desjardins Shingle Mill is available with power take-off attachment, making it possible to use the 540 RPM P.T.O. from any medium size tractor. Also available in regular model RE86X, or hydraulic model HY81 versions.

PRICE: Approx. \$ 8500.00 F.O.B. St-Andre, Que. (1988)

## Operational Specifications

The mill makes finished shingles from green round blocks cut 406 or 457 mm (16 or 18 in.) long, at the rate of 20 shingles per minute or 6-7 bundles per hour. One cord of scrap tip logs can be processed into approximately 20-25 bundles of shingles per eight hour shift.

## Particular and Mechanical Specifications

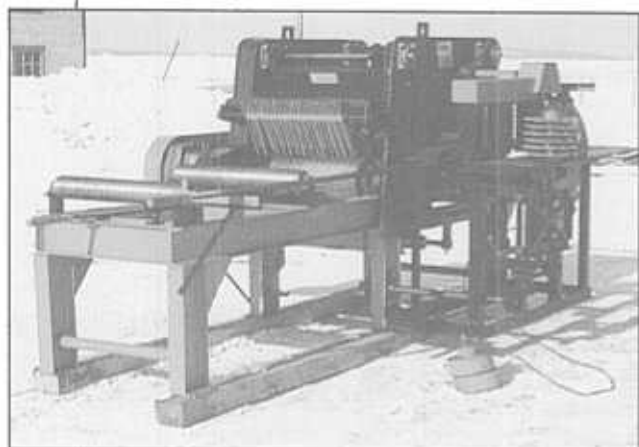
Physical Measurements of Mill	2.6x2.3x1.7 m high (8.5x7.5x5.5 ft. high)
Weight of mill	1361 kg (3000 lb.)
Diameter of edger saw	914 mm (36 in.)
Diameter of shingle saw	965 mm (38 in.)
Power required	18.6 kW (25 HP)
Speed of main and edger shaft	1500 RPM
Options	For making 1/2 and 3/4 in. thick butts on shingles; also for making mine wedges up to 1 1/4 in. thick. Special heavier spurs 1 1/2, 1 9/16 and 1 5/8 in. are available Special ratchet wheel with five teeth for 5/8 in. thick or six teeth for 1/2 in. thick shingles

## MANUFACTURER:

Les Industries Desjardins Ltée,

79 rue Principale,  
St-Andre, Quebec  
G0L 2H0  
TEL:(418) 493-2114  
FAX:(418) 493-2432

# DESJARDINS EDGERS



Desjardins stationary edger in the 37.3 kW (50 HP) class (left); Model Kamouraska (right) edger for use with a portable sawmill.

The Desjardins Kamouraska model is available as a portable, to work in conjunction with a portable sawmill. A larger mobile or stationary model is also available where higher production is required.

## Particular and Mechanical Specifications

### Edger for Portable Sawmill - Model Kamouraska

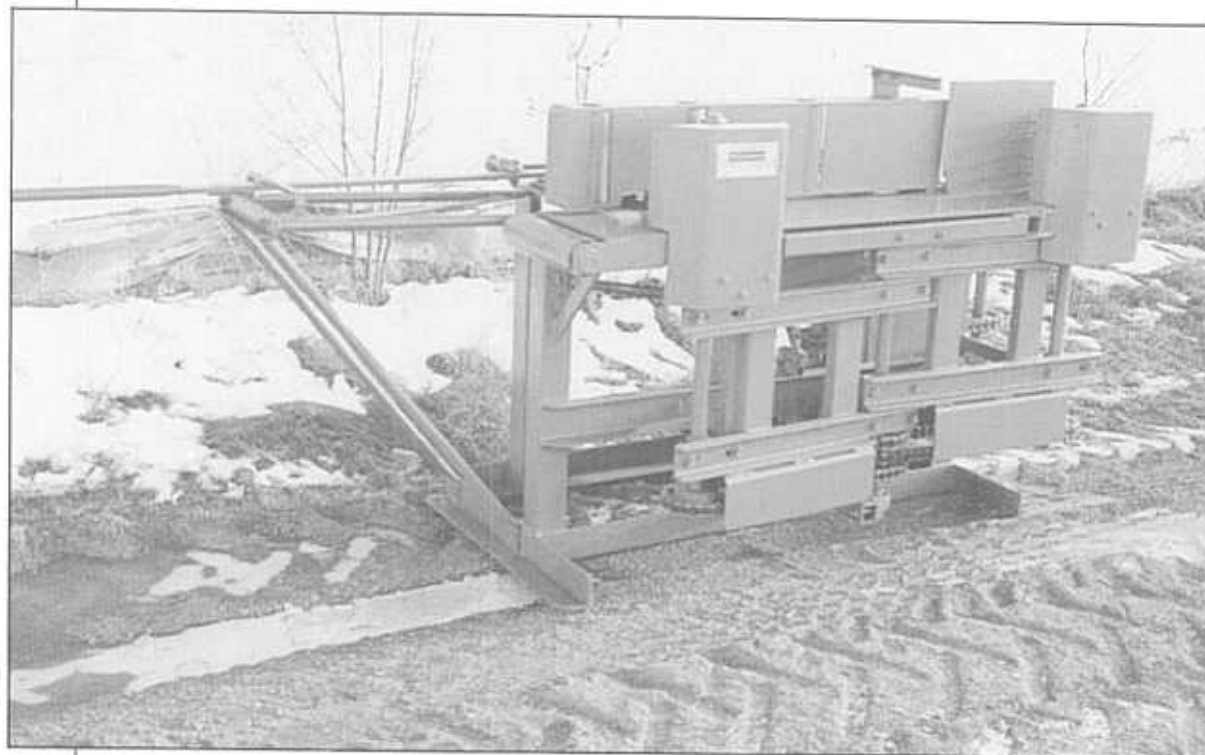
Power	22.4 kW (30 HP) if P.T.O. of tractor 11.2 kW (15 HP) by electric motor and V-belt pulley
Saws	Two inserted teeth saws of 356 mm (14 in.) diameter, one moveable, one fixed
Operating Capacity	Optional saws 406 or 457 mm (16 or 18 in. diameter)
Production Capacity	102 mm (4 in.) thick by 305 mm (12 in. wide) (356 mm (14 in.) diameter saw) 127 to 152 mm (5 to 6 in.) thick optional 406 or 457 mm (16 or 18 in.) diameter saw minimum of 1219 m (4000 ft.) output in 8 hours
Options	Moveable saw can be operated by hydraulic system Transport wheels are optional
Edger (portable or stationary)	
Dimensions	3048x1524x1727 to 1981 mm (120x60x68 to 78 in.)
Weight	1588 kg (3500 lb.)
Power	37.3 kW (50 HP)
Saws	One fixed and one moveable
Operating Capacity	152 mm (6 in.) thick by 406 mm (16 in.) wide
Controls	Manual, or optional hydraulic type

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FAX:(418) 493-2432

## DESJARDINS INDIVIDUAL RESAW



*Desjardins individual resaw*

Desjardins Resaw is available in two models: mechanical or hydraulic types

PRICE: Approx. \$ 6,795.00 F.O.B. St-Andre, Que. (1988)

### Particular Specifications

Height, cm(in)	132(52)
Length, cm(in)	183(72)
Width, cm(in)	81.3(32)
Weight, kg(lb)	794(1750)

### Mechanical Specifications

Power req., kW(hp)	22.4(30)
Variable speed (on the hydraulic model)	71(28) to 81.3(32)
Insert tooth saw, cm(in)	
Capacity, cm(in)	1.9(<) to 15.2(6)

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## LOGGING AND TRANSPORT: COMMERCIAL OPERATIONS

TO: Industry, Trade and Technology Branch  
Forestry Canada  
351 St. Joseph Blvd., 20th Floor,  
Hull, Que. K1A 1G5  
Attn: Mr. D. V. Myles, R.P.F.

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