



Brush-Cutting, Thinning, Shredding, and Crushing Attachments

Concept—This section includes brush cutting, precommercial thinning, shredding, and crushing attachments. Unlike integral machines, these attachments are readily removed and replaced with another attachment. They can be used on a variety of prime movers.

The equipment is categorized according to the attachment location and orientation of the shaft that the cutters revolve around:

- Equipment can be attached directly to the machine (usually to the lift arms), attached to the boom, or machine pulled.
- Shafts can be vertical or horizontal.
- In some cases, the equipment is available with more than one style of attachment device.

Comments—The Schmeiser Till n' Pak Culti-Packer was included at the suggestion of a Pacific Northwest Region Forest that used it as a brush crusher. A small machine shop may be able to fabricate something similar. Rockland also makes crushers of various kinds. Note that road-compaction equipment, in general, is too blunt for working in the woods. Forestry crushers have sharp edges to cut vegetation.

Although not listed, bidirectional tractors, feller-bunchers, and some extreme machines can use brush-cutting heads. Additional attachments that may be suitable for your prime mover are listed in the Extreme Machine Attachments section.

Other Manufacturers or Sources—In addition to those listed in the catalog, other sources of forestry attachments include: West Northwest Forestry, Ltd.; Rockland Manufacturing Co.; and Vrismo Distributing, Inc.

Besides the land-clearing blades listed in the catalog, other sources include: Rockland Manufacturing Co. and Sharpco, Inc.

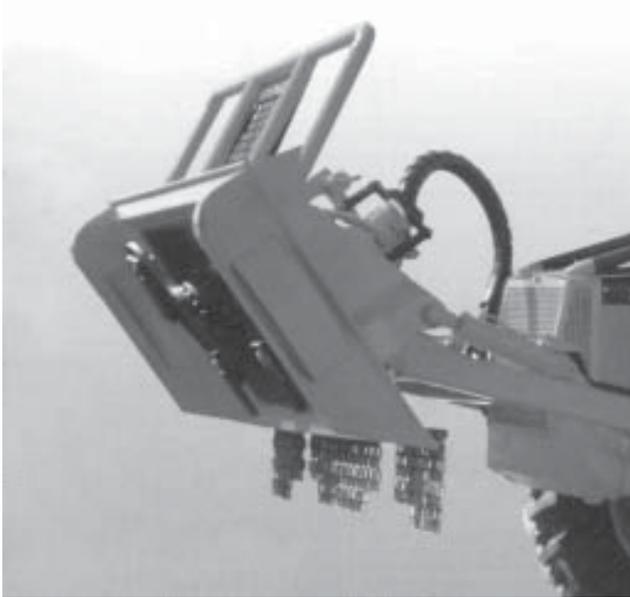
Many major manufacturers of tractors and excavators, such as Case Corp., Deere & Co. Construction Equipment, Komatsu America International Co., New Holland, and so forth, also make forestry attachments. See your local dealer for information.

Also check the Equipment Today annual attachments guide or the Timber West or Timber Harvesting annual buyer's guides for additional information on logging-related equipment (see Appendix B for details).

Brush-Cutting, Thinning, Shredding, and Crushing Attachments

Brush Cutter, Vertical Shaft, Machine Mounted

Brushco Cutting Heads: 8, 9, and 10 Ft



Make/Model	Brushco Cutting Heads: 8 ft; 9 ft; 10 ft
Manufacturer/Source	Quadco Equipment, Inc.
Distributor	Contact Quadco Equipment, Inc.
Price	Contact manufacturer
Status	In production
Preferred Prime Mover	150-hp carrier
Other Suitable Prime Movers	Rubber tired feller-bunchers, multipurpose tractors or converted skidders
Attachment Mount (lift arms/boom/3-point hitch/other)	Lift arms
Maximum Treatable Material Size	6 in
Cutting Mechanism	Dual rotor bars with two free-swinging knives each; dual disk with three free-swinging knives; or dual mulching discs
Cutting Width	8 ft: 96 in; 9 ft: 108 in; 10 ft: 120 in
Shaft (horizontal/vertical)	Vertical
Rotation Speed	Is matched to prime-mover horsepower and hydraulics to keep low-pressure machines (2,800 psi) at 1,500 rpm, or high pressure machines (3,500 to 4000 psi) at 1,398 rpm
Power Source Required	Is matched to prime-mover horsepower and hydraulics
Weight	8 ft is 3,300 lb; 9 ft is 3,530 lb; 10 ft is 3,750 lb
Other Attachments	Quadco also makes a 52-in horizontal model
Special Uses/Adaptations/Other Uses	Boom adapter or mounting lugs are designed and fabricated to fit specific base machine; a self-contained power pack can be engineered to install head on a machine with less capacity than normally required (i.e. low horsepower skidder)
Other Attachments Available	Optional lowering front skirting confines material inside longer, produces smaller chips
MTDC Coment	Hydraulic motor is spring mounted to give extra protection against load spikes.



Brush-Cutting, Thinning, Shredding, and Crushing Attachments

Brush Cutters, Horizontal Shaft, Machine Mounted

Seppi M Brush-Cutter Heads



Make/Model	Seppi M Brush-Cutter Heads: Midi Forest; Midi Forest dt; Forest; Forest M; Forest dt. Each comes in a variety of sizes.
Manufacturer/Source	Brush Technology Division; Carlson Tractor and Equipment Co.
Distributor	Carlson Tractor and Equipment Co.
Price	\$20,000 to \$126,000
Status	In production
Preferred Prime Mover	Any that can lift required weight and give required horsepower to cutting head: 60 to 300 hp
Other Suitable Prime Movers	Has been used on: Barko 685, 785, 785B, 885, 885B; New Holland TV140, 9030; Antonio Carraro 8400 HTM; Hydra-Mac Hydrostatic 3250 (125 hp)
Attachment Mount (lift arms/boom/3-point hitch/other)	Lift arms; 3-point hitch
Maximum Treatable Material Size	Midi Forest cuts and shreds up to 9 3/4-in trees; Midi Forest dt cuts and shreds up to 12-in trees; Forest chips and fells up to 15-in trees; Forest M cuts, shreds, mulches 15 3/4-in trees, brush, and branches; Forest dt fells and chips up to 18 in trees
Cutting Mechanism	Free-swinging or fixed-tooth, matched by manufacturer to proper application: Midi Forest, 20 to 42 hammers; Forest, 24 to 42 hammers; Forest M, 38 hammers; Forest dt, 42 to 53 hammers
Cutting Width	Working width: Midi Forest: 4 ft 1 in to 8 ft 3 in; Forest: 4 ft 11 in to 8 ft 3 in; Forest M: 7 ft 5 in; Forest dt: 6 ft 7 in to 8 ft 3 in
Shaft (horizontal/vertical)	Horizontal
Rotation Speed	1,900 to 2,000 rpm
Power Source Required	PTO, 60 to 300 hp; self-contained engine
Weight	Midi Forest: 1,750 to 3,070 lb; Forest: 3,175 lb to 5,950 lb; Forest M: 8,400 lb; Forest dt: 6,265 to 7,850 lb
Special Uses/Adaptations/Other Uses	Data not supplied.
Manufacturer's Comments Regarding Equipment Application	Slope limitation is 30 degrees (limited by ability of prime mover). Reliability and good longevity of equipment.

Brush-Cutting, Thinning, Shredding, and Crushing Attachments

Brush Cutters, Horizontal Shaft, Machine Mounted

Bull Hog Wood Shredders



Make/Model	Bull Hog Wood Shredder: BH80; BH100; BH120; BH150; BH250 (All models available with PTO or hydraulic drive)
Manufacturer/Source	Fecon Resource Recovery Equipment Systems
Distributor	Fecon Resource Recovery Equipment Systems
Price	Contact source
Status	In production
Preferred Prime Mover	Tractors with 3-point hitch; required power
Other Suitable Prime Movers	Fecon makes rubber tired, track- and excavator-type carriers (120 to 450 hp)
Attachment Mount (lift arms/boom/3-point hitch/other)	(Machine pulled; PTO units have 3-point hitch) BH80, BH100, BH120: Category II; BH150, BH250: Category III hydraulic models are mechanically mounted to match carrier
Maximum Treatable Material Size	Practical maximums: BH80, 8 in; BH100, 10 in; BH120, 10 in; BH150, 14 to 16 in; BH250, 16 to 20 in
Cutting Mechanism	Fixed hammers individually mounted on rotor: BH80, 30 hammers; BH100, 42 hammers; BH120, BH 150, BH250, 48 hammers
Cutting Width	BH80: 4 ft 10 in; BH100: 6 ft 6 in; BH120, BH150, BH250: 7 ft 6 in
Shaft (horizontal/vertical)	Horizontal rotor
Rotation Speed	BH80, BH100, BH150: 1,700 rpm; BH250: 1,300 rpm. Processing speed is directly related to hp.
Power Source Required	1,000 rpm for PTO models: BH80 is 80 to 100 hp; BH100, BH120 is 100 to 140 hp; BH150 is 140 to 200 hp; BH250 is 200 hp and up. Desirable hydraulic pressure is 4,500 psi: BH80 is 38 to 31 gpm; BH100, BH120 is 52 to 42 gpm; BH150 is 71 to 57 gpm; BH250 is 119 to 95 gpm
Weight	BH80: PTO is 2,700 lb; hydraulic is 2,300 lb; BH100: PTO is 3,800 lb; hydraulic is 3,300 lb; BH120: PTO is 4,416 lb; hydraulic is 3,800 lb; BH150: PTO is 5,800; hydraulic is 5,100 lb; BH250: PTO is 7,100 lb; hydraulic is 6,200 lb
Other Attachments	All BH models require hydraulic connections to the supply and return lines of the trap door cylinder and top link cylinder; hydraulic models also require connections for primary supply and return line, and a motor case drain; attachments available for excavators, rubber-tire and track machines of 80 to 500 hp
Special Uses/Adaptations/Other Uses	Fecon makes many brush-cutting machines for slash reduction, preplanting, land preparation, thinning, roadway clearing, stump grinding, transfer stations, brush and slash piles, yard waste recycling, land clearing, handling orchard prunings and pasture renovation
Manufacturer's Comments Regarding Equipment Application	Tool life in excess of 300 hours; tools can work in dirt; more aggressive flail machines; smaller particle size; safe operation



Brush-Cutting, Thinning, Shredding, and Crushing Attachments

Brush Cutters, Horizontal Shaft, Machine Mounted

Timberwolf DF 90 Brush-Cutter



Make/Model	Timberwolf Machine-Mounted DF 90 Brush-Cutter, Land Clearing/Thinning Machine
Manufacturer/Source	New Forest Technology, Inc.
Distributor	King Forestry Equipment, Inc.
Price	\$98,000
Status	Built upon order
Preferred Prime Mover	Tracked Loader
Other Suitable Prime Movers	Rubber tired loaders with 2 1/2-yard capacity and larger, Cat 973 tracked loader, Leibherr LR641 tracked loader
Attachment Mount (lift arms/boom/3-point hitch/other)	Lift arms
Maximum Treatable Material Size	16 in
Cutting Mechanism	22 to 36 free-swinging cutters
Cutting Width	55 to 90 in actual, 60 to 106 in operational
Shaft (horizontal/vertical)	Horizontal
Rotation Speed	1,200 to 2,200 rpm
Power Source Required	Self-contained 270-hp diesel engine
Weight	12,000 lb
Other Attachments	Timberwolf also makes a boom-mounted cutter
Special Uses/Adaptations/Other Uses	Land clearing, strip or selective thinning, hazard reduction; manufacturer will supply or install units on customer's preferred prime mover
Manufacturer's Comments Regarding Equipment Application	Very rugged, high-horsepower machines with high throughput capacity

Brush-Cutting, Thinning, Shredding, and Crushing Attachments

Brush Cutters, Horizontal Shaft, Machine Mounted

ROWMEC R.O.W. King 4010 DH



Make/Model	ROWMEC R.O.W. King 4010 DH
Manufacturer/Source	ROWMEC
Distributor	ROWMEC
Price	Contact manufacturer
Status	In production
Prime Mover	Loaders and other units capable of handling 6,000 lb
Attachment Mount (lift arms/boom.3-point hitch/other)	Standard universal bracket for front-end loaders; adaptable to other prime movers
Maximum Treatable Material Size	15 in
Cutting Mechanism	4 ft 10 in wide; rotor diameter of 16 in; 24 heat-treated alloy-steel cutters. Adjustable cutting height: ground level to 5 in
Shaft (horizontal/vertical)	Horizontal
Rotation Speed	1,800 rpm normal
Power Source Required	Self-powered, equipped with a 117-hp diesel engine
Weight	6,000 lb
Other Attachments	ROWMEC makes other brush-cutting attachments and systems: 4010H, 7010H, T-5, T-7, and GT-18. T-5 uses the 4010H head on a bidirectional tractor. The T-7 and GT-18 are included in this catalog.
Special Uses/Adaptations/Other Uses	Land clearing, strip or selective thinning, hazard reduction



Brush-Cutting, Thinning, Shredding, and Crushing Attachments

Brush-Cutters, Vertical Shaft, Boom Mounted

Slashbuster HD 422 Head

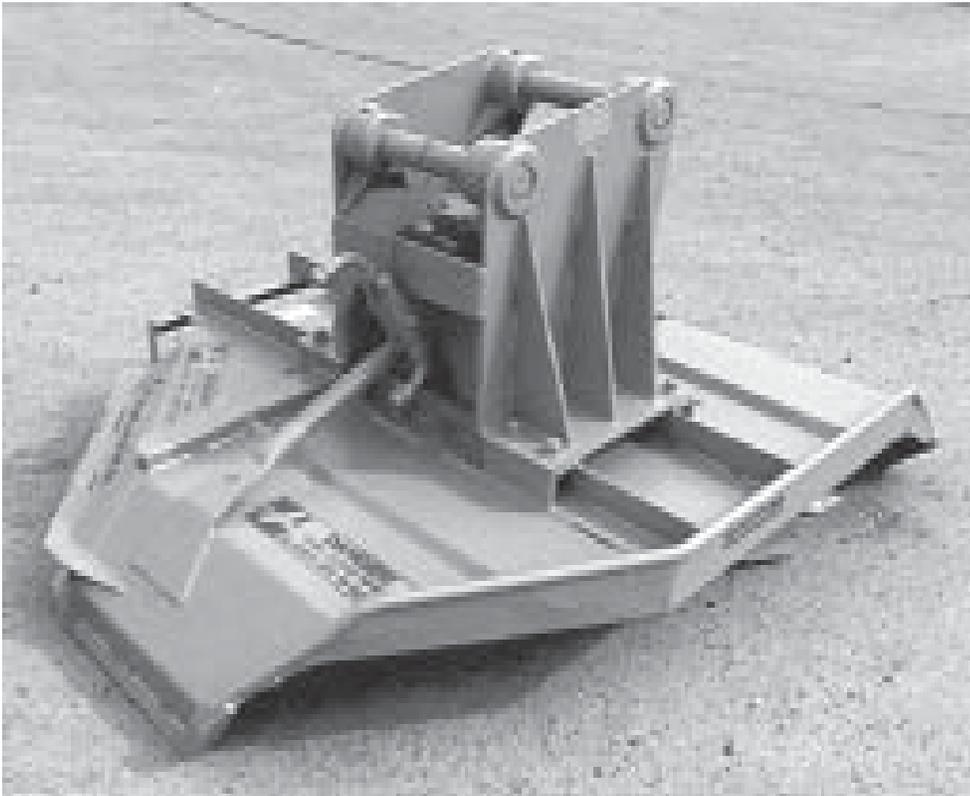


Make/Model	Slashbuster HD 422 Head (Slashbuster comes in many sizes and models, 36 in to 48 in, mini to heavy-duty, with and without third boom and grapple; HD 422 was chosen as a representative model)
Manufacturer/Source	D&M Machine Division, Inc.
Distributor	Contact D&M Machine Division, Inc.
Price	Approximately \$50,000, installed
Status	In production
Preferred Prime Mover	Adaptable to 30,000 to 100,000-lb excavators; recommended for long front or standard front excavator
Attachment Mount (lift arms/boom/3-point hitch/other)	Boom
Maximum Treatable Material Size	Up to 14 in
Cutting Mechanism	Hardened teeth on wheel; in shroud for mulching
Cutting Width	46-in cutting swath
Shaft (horizontal/vertical)	Vertical
Rotation Speed	350 to 450 rpm
Power Source Required	32 to 44 gpm; 3,600-psi. Cylinder circuit: intermittent service secondary flow of 15 to 20 gpm
Weight	2,300 lb
Other Attachments	Slashbuster also makes a stump grinder, stirring attachment and a 34-in mower for mini excavators
Special Uses/Adaptations/Other Uses	Optional tilt-mount available, 45 degrees either side of center
Manufacturer's Comments Regarding Equipment Application	Industry standard—smaller heads available for smaller excavators

Brush-Cutting, Thinning, Shredding, and Crushing Attachments

Brush-Cutters, Vertical Shaft, Boom Mounted

CH-55 Rotary Cutter



Make/Model	CH-55 Rotary Cutter
Manufacturer/Source	Gregory Manufacturing Co.
Distributor	Gregory Manufacturing Co.
Price	Contact manufacturer
Status	Customized to your excavator on order
Preferred Prime Mover	Excavators of all sizes
Attachment Mount (lift arms/boom/3-point hitch/other)	Boom-mounted
Maximum Treatable Material Size	5 in
Cutting Mechanism	Two free-swinging offset reversible blades
Cutting Width	66 in
Shaft (horizontal/vertical)	Vertical
Rotation Speed	1,350 rpm
Power Source Required	Hydraulic requirements include 3 gear options: 25 to 30 gpm; 30 to 55 gpm; 55 to 60 gpm
Weight	Approximately 1,725 lb
Other Attachments	None
Special Uses/Adaptations/Other Uses	Forward or reverse cutting; Gregory also makes brush cutter for graders
Manufacturer's Comments Regarding Equipment Application	Heavy, long-reach, hydraulic rotary brush cutter attaches to excavators in lieu of buckets, grapples and other attachments



Brush-Cutting, Thinning, Shredding, and Crushing Attachments

Brush-Cutters, Vertical Shaft, Boom Mounted

Roanoke G-195 Bush Axe

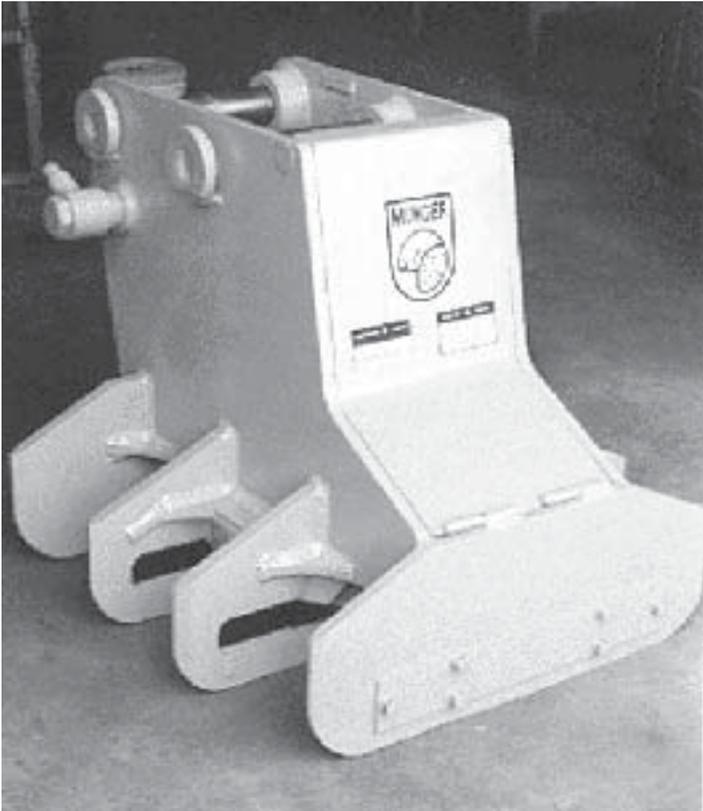


Make/Model	Roanoke G-195 Bush Axe
Manufacturer/Source	Gregory Manufacturing Co.
Distributor	Gregory Manufacturing Co.
Price	Contact manufacturer
Status	In production
Preferred Prime Mover	Tractors 100 hp and above
Attachment Mount (lift arms/boom/3-point hitch/other)	Boom-mounted
Maximum Treatable Material Size	5 in
Cutting Mechanism	Free-swinging offset reversible blades
Cutting Width	60 in with extra-heavy blade bar
Shaft (horizontal/vertical)	Vertical
Rotation Speed	1,350 rpm
Power Source Required	1,000 rpm PTO; has self-contained hydraulic system with pump
Weight	Operating weight is 2,785 lb
Other Attachments	Also makes axle-mount kits for all tractors; Category II and III quick hitches
Special Uses/Adaptations/Other Uses	Forward or reverse cutting; break-away boom with cutting reach of 18 ft 6 in, high reach of 16 ft 6 in; optional axle-mount stabilizer kit recommended—tractors 100 to 140 hp; Gregory Manufacturing also makes brush-cutters
Manufacturer's Comments Regarding Equipment Application	Heavy, long-reach, rear-mounted hydraulic cutter

Brush-Cutting, Thinning, Shredding, and Crushing Attachments

Brush-Cutters, Vertical Shaft, Boom Mounted

Munger Rotary Brush-Cutters



Make/Model	Munger Rotary Brush-Cutters: SMC-400; SMC-450; SMC-510; SMC-600R and SMC-600H
Manufacturer/Source	Produits Forestiers Mungers, Inc.
Distributor	Contact Produits Forestiers Mungers, Inc.
Price	SMC-400: \$15,200; SMC-450: \$13,200; SMC-510: \$16,800; SMC-600R: \$21,300; SMC-600H: \$22,600 (f.o.b. factory, not including taxes, U.S. dollars)
Status	In production
Preferred Prime Mover	Excavators with the following minimum horsepower: SMC-400 and SMC-450: 40 hp; SMC-510: 65 hp; SMC-600R and SMC-600H: 80 hp
Attachment Mount (lift arms/boom/3-point hitch/other)	Boom
Maximum Treatable Material Size	(Depending on species): SMC-400 and SMC-450: 4 in; SMC-510: 5 to 7 in
Cutting Mechanism	Rotor disc with two free-swinging blades
Cutting Width	SMC-400 and SMC-450: 23 in; SMC-510: 32 in; SMC-600R and SMC-600H: 34 in
Shaft (horizontal/vertical)	Vertical
Rotation Speed	SMC-400 and SMC-450: 2,600 rpm; SMC-510: 2,500 rpm; SMC-600R and SMC-600H: 2,300 rpm
Power Source Required	SMC-400: 13 gpm, 2,000 to 2,500 psi; SMC-450: 13 gpm, 2,300 to 2,500 psi; SMC-510: 19 gpm, 3,000 psi; SMC-600R and SMC-600H: 24 gpm, 3,000 psi
Weight	(Approx.): SMC-400, 645 lb; SMC-450, 700 lb; SMC-510, 1,100 lb; SMC-600R, 1,900 lb; SMC-600H, 2,600 lb
Other Attachments	Munger also makes flail mowers
Special Uses/Adaptations/Other Uses	SMC-400 capable of 360-degree rotation on lower frame to reach difficult areas
Manufacturer's Comments Regarding Equipment Application	Data not supplied

Brush-Cutting, Thinning, Shredding, and Crushing Attachments

Brush-Cutters, Vertical Shaft, Boom Mounted

Pro Mac Rotary Arm and Blade Brush-Cutters
Alamo Industrial's Grizzly Tree Cutter



Make/Model	Pro Mac Rotary Arm and Blade Brush-Cutters: 36A Low Pressure; 36C High Pressure; 52A Low Pressure; 52C High Pressure
Manufacturer/Source	Pro Mac Manufacturing, Ltd.
Distributor	Most O.E.M. excavator dealerships, such as Case, Caterpillar, Hyundai, John Deere, Kobelco, Komatsu, Line Belt, Samsung; Alamo Industrial distributes the Grizzly Tree Cutter
Price	\$7,440 to \$15,500 (Prices subject to change)
Status	In production
Preferred Prime Mover	Hydraulic excavator to suit specific size of cutter
Other Suitable Prime Movers	Hydraulic ram skidders with swing booms, like Morgan Silvatrack hydrastatic
Attachment Mount (lift arms/boom/3-point hitch/other)	Standard boom or long-reach boom special applications
Maximum Treatable Material Size	36A, 36C: 3.5 in; 52A, 52C: 6 in
Cutting Mechanism	36A, 36C light duty: blades; 52A, 52C heavy-duty: blades; 52: 3-blade disc
Cutting Width	36A, 36 C: 36-in swath; 52A, 52C: 52-in swath
Shaft (horizontal/vertical)	Vertical
Rotation Speed	1,800 rpm
Power Source Required	36A: 20 to 35 gpm; 2,700 psi; 36C: 16 to 35 gpm; 4,000 psi; 52A: 28 to 48 gpm; 2,700 psi; 52C: 24 to 42 gpm; 4,000 psi
Weight	36A, 36C: 600 lb; 52A, 52C: 1,400 lb
Other Attachments	Pro Mac makes a number of brush-cutters
Special Uses/Adaptations/Other Uses	Independent hydraulic ram; small rubber-tire backhoes
Manufacturer's Comments Regarding Equipment Application	Versatile in cut jobs; mulching ability
MTDC Comments	Specifications for Alamo Industrial's Grizzly Tree Cutter Models 36A, 36C, 52A and 52C are identical to Pro Mac products with the same model numbers

Brush-Cutting, Thinning, Shredding, and Crushing Attachments

Brush-Cutters, Vertical Shaft, Boom Mounted

Pro Mac Rotary Disc Brush-Cutters
Alamo Industrial's Grizzly Tree Cutter



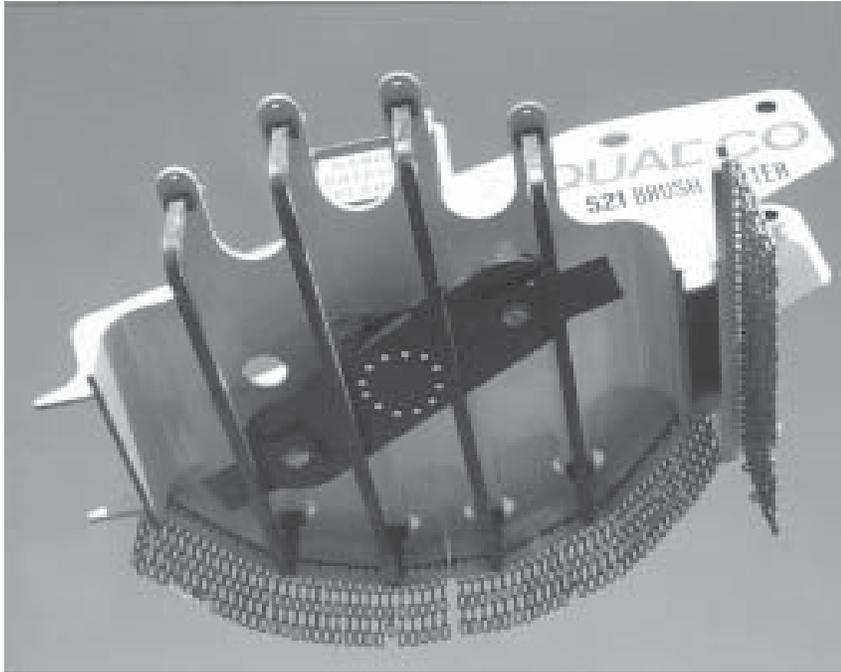
<p>Make/Model</p> <p>Manufacturer/Source</p> <p>Distributor</p> <p>Price</p> <p>Status</p> <p>Preferred Prime Mover</p> <p>Other Suitable Prime Movers</p> <p>Attachment Mount (lift arms/boom/3-point hitch/other)</p> <p>Maximum Treatable Material Size</p> <p>Cutting Mechanism</p> <p>Cutting Width</p> <p>Shaft (horizontal/vertical)</p> <p>Rotation Speed</p> <p>Power Source Required</p> <p>Weight</p> <p>Other Attachments</p> <p>Special Uses/Adaptations/Other Uses</p> <p>Manufacturer's Comments Regarding Equipment Application</p> <p>MTDC Comments</p>	<p>Pro Mac Rotary Disc Brush-Cutters: 36 AMP Low Pressure; 36 CMP High Pressure; 52 AMP Low Pressure; 52 CMP High Pressure; 66 AMP Low pressure; 66 CMP High Pressure</p> <p>Pro Mac Manufacturing, Ltd.</p> <p>Most O.E.M. excavator dealerships, such as Case, Caterpillar, Hyundai, John Deere, Kobelco, Komatsu, Line Belt, Samsung; Alamo Industrial distributes the Grizzly Tree Cutter</p> <p>\$12,500 to \$26,472 (Prices subject to change)</p> <p>In production</p> <p>Hydraulic excavator to suit specific size of cutter</p> <p>Hydraulic ram skidders with swing booms, like Morgan Silvatrack hydrastatic</p> <p>Standard boom or long-reach boom in special applications</p> <p>36 AMP and 36 CMP: 6 in; 52 AMP and 52 CMP: 8 in; 66 AMP and 66 CMP: 10 to 12 in</p> <p>Rotary disc with carbide-tipped cutters;cutter bits on all discs 36 AMP and 36 CMP: 36 in; 52 AMP and 52 CMP: 52 in; 66 AMP and 66 CMP: 66 in</p> <p>Both types available</p> <p>1,650 rpm</p> <p>36 AMP: 32 to 35 gpm; 4,000 psi; 36 CMP: 24 to 38 gpm; 4,000 psi; 52 AMP: 35 to 45 gpm; 4,000 psi; 52 CMP: 30 to 42 gpm; 4,000 psi; 66 AMP: 56 to 65 gpm; 4,000 psi; 66 CMP: 38 to 48 gpm; 4,000 psi</p> <p>36 AMP and 36 CMP: 1,100 to 1,300 lb; 52 AMP and 52 CMP: 2,000 to 2,700 lb; 66 AMP: 3,600 to 4,200 lb; 66 CMP: 4,000 lb</p> <p>Pro Mac makes a number of brush-cutters</p> <p>Independent hydraulic ram; smaller rubber-tired backhoes</p> <p>Good munching ability in larger stems</p> <p>Specifications for Alamo Industrial's Grizzly Tree Cutter Models 36 CMP, 52CMP and 66 CMP are identical to Pro Mac products with the same model numbers</p>
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Brush-Cutting, Thinning, Shredding, and Crushing Attachments

Brush-Cutters, Vertical Shaft, Boom Mounted

Brushco 52-Inch Cutting Head

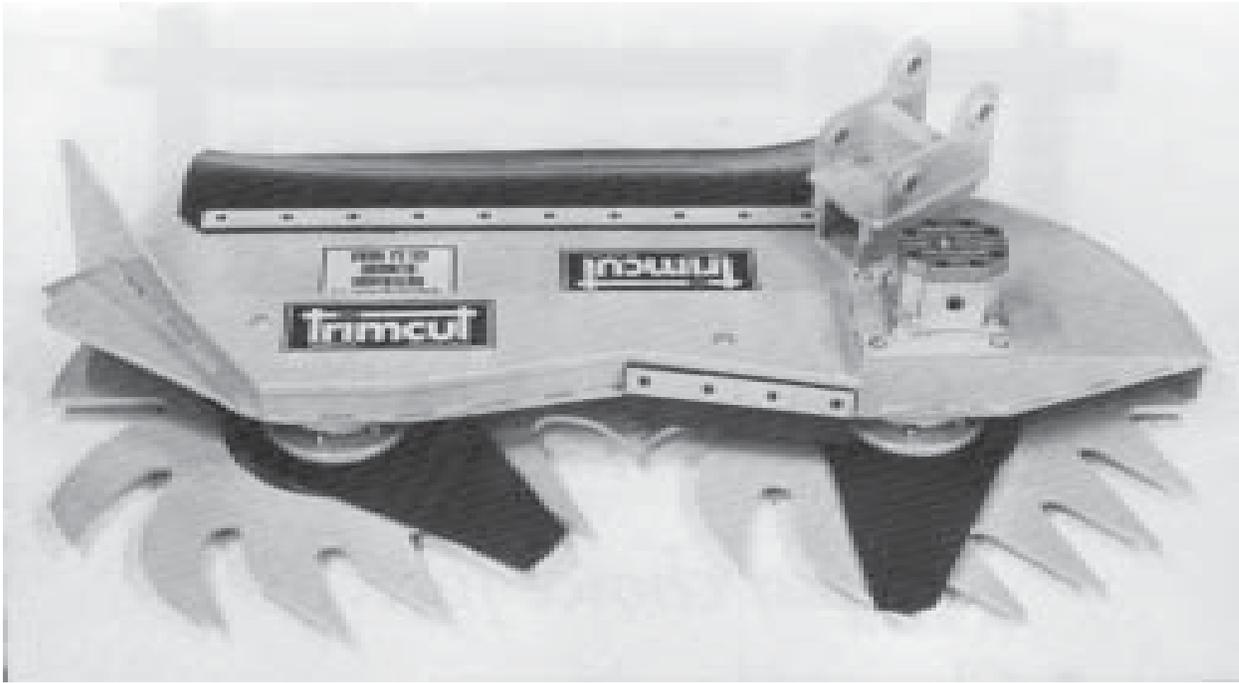


Make/Model	Brushco 52-Inch Cutting Head
Manufacturer/Source	Quadco Equipment, Inc.
Distributor	Contact Quadco Equipment, Inc.
Price	Contact manufacturer
Status	In production
Preferred Prime Mover	100 hp, 15-ton excavator
Other Suitable Prime Movers	Feller-bunchers
Attachment Mount (lift arms/boom/3-point hitch/other)	Boom
Maximum Treatable Material Size	6 in
Cutting Mechanism	Single rotor bar with two free-swinging knives, single disc with three free-swinging knives, or mulching disc
Cutting Width	52 in
Shaft (horizontal/vertical)	Vertical
Rotation Speed	Matched to prime mover's horsepower and hydraulics to keep low-pressure machines (2,800 psi) at 1,500 rpm, or high-pressure machines (3,500 to 4,000 psi) at 1,400 rpm
Power Source Required	Matched to prime-mover horsepower and hydraulics
Weight	2,660 lb
Other Attachments	Quadco also makes 8 ft, 9 ft, and 10 ft brush-cutters for loader arm machines
Special Uses/Adaptations/Other Uses	A boom adapter or mounting lugs are designed and fabricated to fit specific base machine; self-contained power pack that provides constant power can be engineered to install head on a machine with less capacity than normally required.
Manufacturer's Comments Regarding Equipment Application	Data not supplied
MTDC Comment	Hydraulic motor is spring mounted to give extra protection against load spikes

Brush-Cutting, Thinning, Shredding, and Crushing Attachments

Brush-Cutters, Vertical Shaft, Boom Mounted

Trimcut Cutter Heads



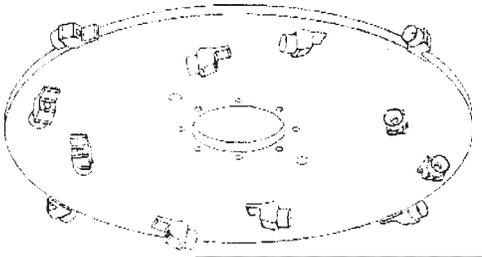
Make/Model	Trimcut Cutter Heads: EK 804; DK 890; DK 1502; DK 1503
Manufacturer/Source	Silvana Import Trading, Inc.
Distributor	Contact Silvana Import Trading, Inc.
Price	Contact source
Status	In production
Preferred Prime Mover	All types of wheel-mounted loaders
Attachment Mount (lift arms/boom/3-point hitch/other)	Boom
Maximum Treatable Material Size	EK models: 15 cm; DK models up to 8 cm
Cutting Mechanism	Single shaft (EK) or dual shaft (DK) with fixed cutting blade and countershear, double- or triple-edged cutting blades or circular saw
Cutting Width	EK 804: 32 in; DK 890: 67 in; DK 1502 and DK 1503: 55 in
Shaft (horizontal/vertical)	Vertical
Rotation Speed	2,000 to 2,500 rpm
Power Source Required	EK 804: 40 to 80 liters/min; DK models: 45 to 100 liters/min
Weight	EK 804: 160 kg; DK models: 300 kg
Other Attachments	Three types of cutter blades available
Special Uses/Adaptations/Other Uses	Separate cutting head can be adjusted to fit most extension-arm systems on the market
Manufacturer's Comments Regarding Equipment Application	Vertical cutting of stem branches is possible; cuts small trees, hedges, dense brush and grass; has been used for clearing roadways, power lines, and ski slopes

Brush-Cutting, Thinning, Shredding, and Crushing Attachments

Brush-Cutters, Vertical Shaft, Boom Mounted

Weldco-Beales ERC Rotary Cutter

ERC Rotary Disc, Cup-Tooth

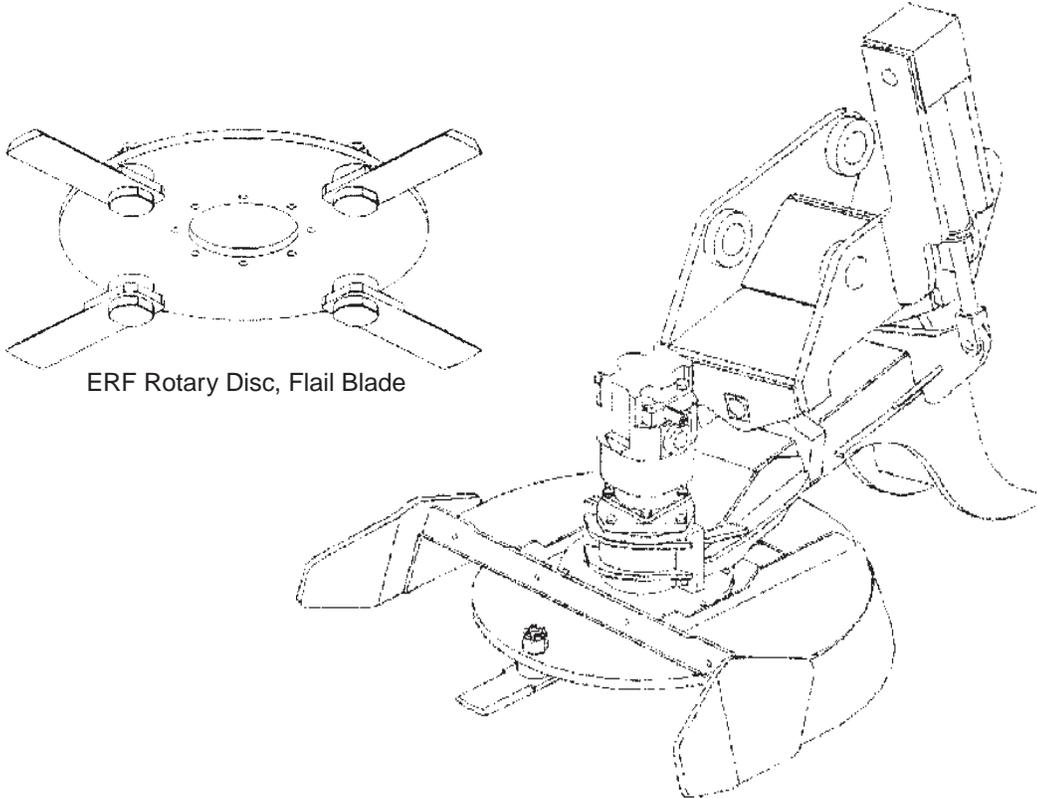


Make/Model	Weldco-Beales ERC Rotary Cutter: ERC 36; ERC 48; ERC 60
Manufacturer/Source	Weldco-Beales, Inc.
Distributor	Contact manufacturer for dealer information
Price	Contact manufacturer or dealer
Status	In production
Preferred Prime Mover	ERC 36: 1 ¹ / ₂ - to 1-yd excavators; ERC 48: 1- to 1 ¹ / ₄ -yd excavators; ERC 60: 1 ¹ / ₄ - to 2-yd excavators
Attachment Mount (lift arms/boom/3-point hitch/other)	Boom
Maximum Treatable Material Size	6 in
Cutting Mechanism	Rotary blade
Cutting Width	ERC 36: 36 in; ERC 48: 48 in; ERC 60: 60 in
Shaft (horizontal/vertical)	Vertical
Rotation Speed	ERC 36: 1,800 rpm; ERC 48: 1,400 rpm; ERC 60: 1,200 rpm
Power Source Required	Data not supplied
Weight	ERC 36: 650 lb; ERC 48: 1,100 lb; ERC 60: 1,320 lb
Other Attachments	Side-tilt extension is available
Special Uses/Adaptations/Other Uses	Moveable opening allows change to ERF wheel
Manufacturer's Comments Regarding Equipment Application	Handles larger diameter brush where mulch required; moveable opening allows operator choose direction of dispelled debris

Brush-Cutting, Thinning, Shredding, and Crushing Attachments

Brush-Cutters, Vertical Shaft, Boom Mounted

Weldco-Beales ERF Rotary Flails

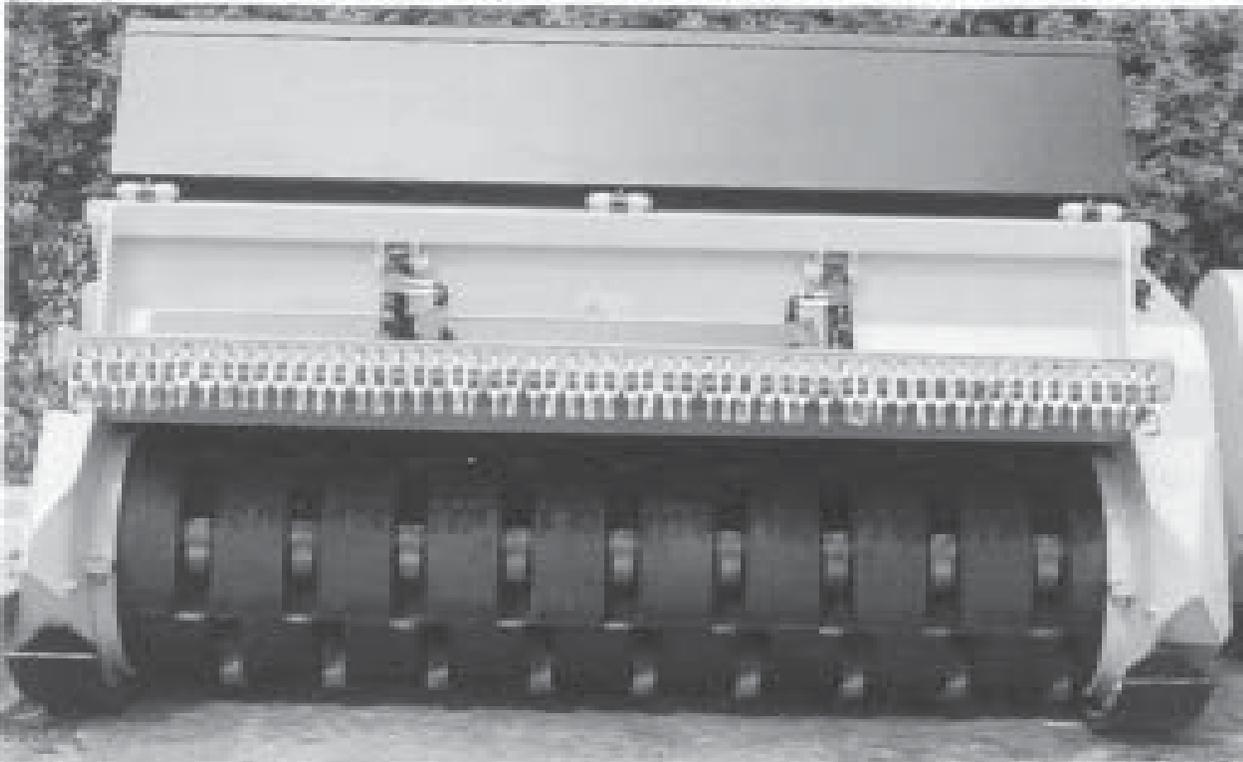


Make/Model	Weldco-Beales ERF Rotary Flails: ERF 36; ERF 48; ERF 60
Manufacturer/Source	Weldco-Beales Inc. Contact manufacturer for dealer information
Price	Contact manufacturer or dealer
Status	In production
Preferred Prime Mover	ERF 36: 1/2- to 1-yd excavators; ERF 48: 1- to 1 1/4-yd excavators; ERF 60: 1 1/4- to 2-yd excavators
Attachment Mount (lift arms/boom/3-point hitch/other)	Boom
Maximum Treatable Material Size	3 to 5 in
Cutting Mechanism	Blade with knives
Cutting Width	ERF 36: 36 in; ERF 48: 48 in; ERF 60: 60 in
Shaft (horizontal/vertical)	Vertical
Rotation Speed	ERF 36: 1,800 rpm; ERF 48: 1,400 rpm; ERF 60: 1,200 rpm
Power Source Required	Data not supplied
Weight	ERF 36: 680 lb; ERF 48: 1,400 lb; ERF 60: 1,800 lb
Other Attachments	Side-tilt extension is available
Special Uses/Adaptations/Other Uses	Moveable opening allows change to ERC wheel.
Manufacturer's Comments Regarding Equipment Application	Handles larger-diameter brush where mulch is required; moveable opening allows operator to choose direction of dispelled debris; use ERC models for trees.

Brush-Cutting, Thinning, Shredding, and Crushing Attachments

Brush-Cutters, Horizontal Shaft, Boom or Machine Mounted

Alamo Severe-Duty Shredder, FMH Series



Make/Model	Alamo Severe-Duty Shredder, FMH Series: 100 H;125 H; 200 E; 225 E; 250; 250 E
Manufacturer/Source	Alamo Industrial
Distributor	Contact manufacturer for dealer information
Price	Contact manufacturer or dealer
Status	In production
Preferred Prime Mover	FMH 100 H: 70-hp excavator; FMH 125 H: 90-hp excavator; FMH 200 E, FMH 225 E, FMH 250 E: 3-cubic-yard loader or larger; FMH 250: 170-hp tractor
Attachment Mount (lift arms/boom/3-point hitch/other)	FMH 100 H, FMH 125 H: hydraulic, excavator boom-mounted; FMH 200 E, FMH 225 E, FMH 250 E: engine-driven, loader-mounted; FMH 250: PTO driven, 3-point-hitch mount
Maximum Treatable Material Size	All models listed: up to 15 in
Cutting Mechanism	Drum with 14 to 40 free-swinging knives
Cutting Width	FMH 100 H: 3 ft 2 in; FMH 125 H: 4 ft; FMH 200 E: 6 ft 4 in; FMH 225 E: 7 ft 2 in; FMH 250 E: 7 ft 10 in; FMH 250: 7 ft 10 in
Shaft (horizontal/vertical)	Horizontal rotor
Rotation Speed	Data not supplied
Power Source Required	FMH 100 H: 70 hp; FMH 125 H: 90 hp; FMH 200 E, FMH 225 E, FMH 250 E come with 170- or 330-hp engines; FMH 250: 170 hp; PTO driven
Weight	FMH 100 H: 3,295 lb; FMH 125 H: 4,162 lb; FMH 250: 8,151 lb
Other Attachments	Alamo also sells the Grizzly Tree Cutter, Arm and Blade Models 36A, 36C, 52A, 52C; and Rotary Disc Models 36CMP, 52 CMP and 66 CMP (similar to Pro Mac tree-cutter series; see Pro Mac data); and FMM series medium-duty shredders (up to 10-in trees); and FML light-duty series (up to 6-in material)
Special Uses/Adaptations/Other Uses	Data not supplied
Manufacturer's Comments Regarding Equipment Application	Data not supplied

Brush-Cutting, Thinning, Shredding, and Crushing Attachments

Brush-Cutters, Horizontal Shaft, Boom Mounted

Seppi M Boom-Mounted Brush-Cutter



Make/Model	Boom-Mounted Brush-Cutter: BMS 100; BMS 125; BMS 150 Brush-Cutters
Manufacturer/Source	Brush Technology Division, Carlson Tractor and Equipment Co.
Distributor	Carlson Tractor and Equipment Co.
Price	Contact manufacturer
Status	In production
Preferred Prime Mover	Any excavator that can lift required weight and give required horsepower to cutting head
Attachment Mount (lift arms/boom/3-point hitch/other)	Boom
Maximum Treatable Material Size	Up to 8 in
Cutting Mechanism	Free-swinging or fixed-tooth, matched by manufacturer to proper application: BMS 100: 16 hammers; BMS 125: 120 hammers; BMS 150: 124 hammers
Cutting Width	Working width: BMS 100: 13 ft 3 in; BMS 125: 14 ft 1 in; BMS 150: 14 ft 11 in
Shaft (horizontal/vertical)	Horizontal
Rotation Speed	1,900 to 2,000 rpm
Power Source Required	Minimum hp: BMS 100: 140; BMS 125: 150; BMS 150: 160; 25 to 50 gpm; 6,000 to 4,000 psi. Maximum 120 hp
Weight	BMS 100: 12,225 lb; BMS 125: 12,730 lb; BMS 150: 13,300 lb
Other Attachments	Seppi makes a variety of brush heads
Special Uses/Adaptations/Other Uses	Data not supplied
Manufacturer's Comments Regarding Equipment Application	Reliability and longevity of equipment. New larger Model 150 d.t. cuts up to 18-in tree; new in May 2000. Has separate engine to operate cutter head.

Brush-Cutting, Thinning, Shredding, and Crushing Attachments

Brush-Cutters, Horizontal Shaft, Boom Mounted

Brontosaurus Brush Mower



Make/Model	Brontosaurus Brush Mower: Standard 3- and 4-ft models; 2.5 Model
Manufacturer/Source	John Brown & Sons, Inc.
Distributor	Contact John Brown & Sons, Inc.
Price	Standard packages, without options: 4 ft: \$26,500; 3 ft: \$26,500. With power pack rock, guards, and frame strengthening, \$72,500. 2.5 Model: \$22,500 (power pack not available)
Status	In production
Preferred Prime Mover	Designed for tracked or rubber-tired excavators in the 15- to 20-ton class using auxiliary power pack. Larger excavators (including some 20-ton machines) have sufficient hydraulics to power the head.
Other Suitable Prime Movers	Feller-bunchers, specialized carriers (Gradal, Badger) with telescoping booms
Attachment Mount (lift arms/boom/3-point hitch/other)	Articulating or telescoping boom
Maximum Treatable Material Size	(3 and 4 ft): Steady: 6-in hardwood, 8-in softwood; Random: 8-in hardwood, 10-in softwood; 2.5 Model: 4 to 5 inches
Cutting Mechanism	Horizontal drum shredder with free-swinging, high-carbon steel knives. Std. 4 ft: 24 knives; std. 3 ft: 20 knives; 2.5 Model: 16 knives
Cutting Width	Std. 4 ft: 48 in; std. 3 ft: 36 in; 2.5 Model: 30 in
Shaft (horizontal/vertical)	Horizontal
Rotation Speed	All models: 0 to 1,500 rpm
Power Source Required	Std. 4 ft: 3,500 to 5,000 psi, up to 50 gpm; std 3 ft: 3,500 to 5,000 psi, up to 50 gpm; 2.5 Model: 2,500 to 4,000 psi, 29 gpm
Weight	Std. 4 ft: 4,200 lb; Std. 3 ft: 3,600 lb; 2.5 Model: 3,000 lb
Other Attachments	3- and 4-ft models available with optional auxiliary power pack, John Deere 4045T, 117 hp
Special Uses/Adaptations/Other Uses	2.5 Model can be interchanged with railroad rotary track mowers; chips range from 2 to 6 in; by mowing a second time, chips can be made smaller
Manufacturer's Comments Regarding Equipment Application	Safety, durability, cleanliness of work site (uniform size mulch)

Brush-Cutting, Thinning, Shredding, and Crushing Attachments

Brush-Cutters, Horizontal Shaft, Boom Mounted

Timberwolf BM55 Boom-Mounted Cutter

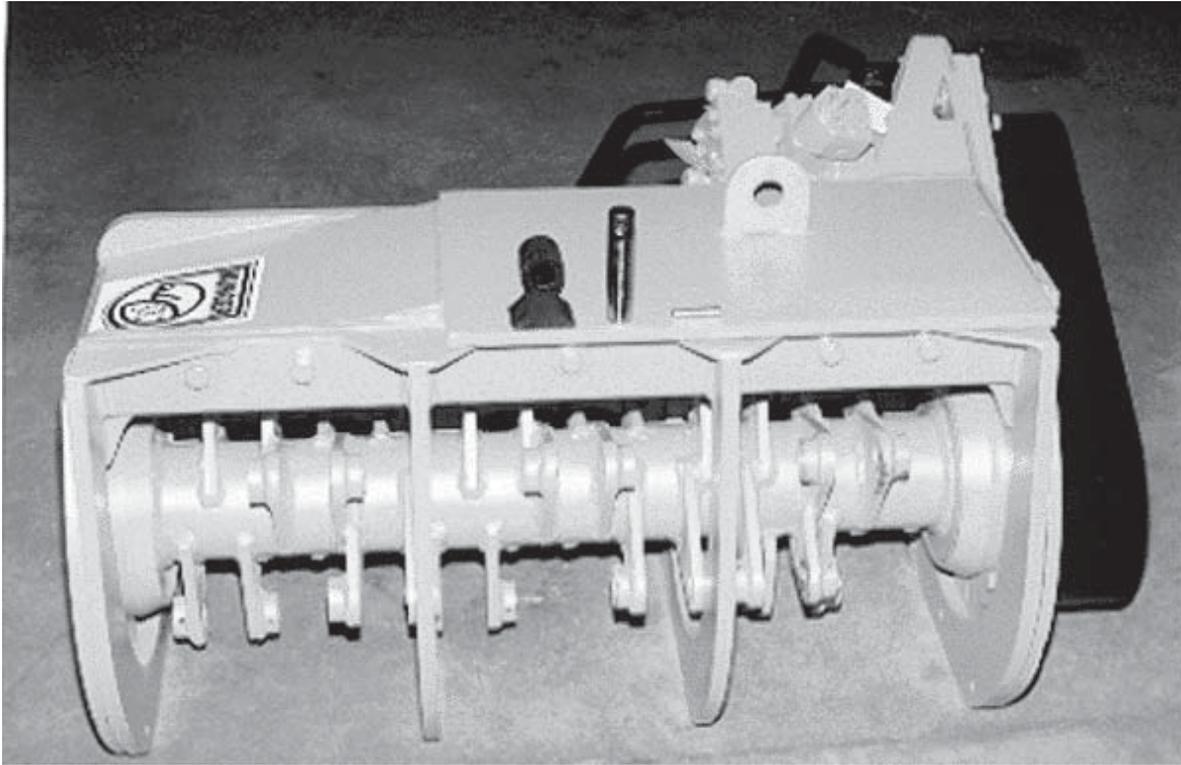


Make/Model	Timberwolf BM55 Boom-Mounted Cutter
Manufacturer/Source	New Forest Technology, Inc.
Distributor	King Forestry Equipment, Inc.
Price	\$53,000
Status	Built when ordered
Preferred Prime Mover	Tracked excavator
Attachment Mount (lift arms/boom/3-point hitch/other)	Boom
Maximum Treatable Material Size	16 in
Cutting Mechanism	22 to 36 free-swinging cutters
Cutting Width	55 to 90 in actual, 60-106 in operational
Shaft (horizontal/vertical)	Horizontal
Rotation Speed	1,200 to 2,200 rpm
Power Source Required	60 gpm; 5,000 psi
Weight	2,500 lb
Other Attachments	Timberwolf also makes a machine-mounted land-clearing device
Special Uses/Adaptations/Other Uses	Land clearing, strip or selective thinning, hazard reduction; manufacturer will supply or install units on customer's preferred prime mover
Manufacturer's Comments Regarding Equipment Application	Very rugged, high-horsepower machines with high throughput capacity

Brush-Cutting, Thinning, Shredding, and Crushing Attachments

Brush-Cutters, Horizontal Shaft, Boom Mounted

Munger Flail Cutters



Make/Model	Munger Flail Cutters: SMC-050L; SMC-050R; SMC-060
Manufacturer/Source	Produits Forestiers Mungers, Inc.
Price	Contact Produits Forestiers Mungers, Inc. SMC-050L: \$19,700; SMC-050R: \$21,300; SMC-060: \$24,300 (f.o.b. factory, not including taxes, U.S. dollars)
Status	In production
Preferred Prime Mover	SMC-050L: carriers 65 hp and up; SMC-050R: carriers 80 hp and up; SMC-060: carriers 85 hp and up
Attachment Mount (lift arms/boom/3-point hitch/other)	Boom
Maximum Treatable Material Size	Data not supplied
Cutting Mechanism	Open rotor with knives: SMC-050L, SMC-050R = 18 knives; SMC-060 = 24 knives
Cutting Width	SMC-050L, SMC-050R: 41 in; SMC-060: 54 in
Shaft (horizontal/vertical)	Horizontal
Rotation Speed	2,300 rpm
Power Source Required	SMC-050L, SMC-050R: 18 to 30 gpm; 3,000 psi; SMC-060: 24 to 30 gpm; 3,000 psi
Weight	SMC-050L is approximately 1,200 lb; SMC-050R is approximately 1,695 lb; SMC-060 is approximately 1,980 lb
Other Attachments	Munger also makes rotary cutters
Special Uses/Adaptations/Other Uses	Chips range from 6 to 12 in; optional breaking devices available
Manufacturer's Comments Regarding Equipment Application	Safety: heavy-duty frames; flywheels on brush-cutters; low operational costs and excellent reliability

Brush-Cutting, Thinning, Shredding, and Crushing Attachments

Brush-Cutters, Horizontal Shaft, Boom Mounted

Pro Mac Flail Hammer Brush-Cutters

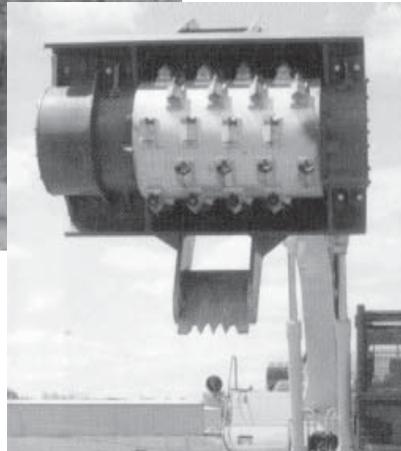


Make/Model	Pro Mac Flail Hammer Brush-Cutters: 34 Light Duty; 34 Standard Duty; 34 Extreme Duty; 48 Light Duty; 48 Standard Duty; 60 Standard Duty
Manufacturer/Source	Pro Mac Manufacturing, Ltd.
Distributor	Most original equipment manufacturer excavator dealerships, such as Case, Caterpillar, Hyundai, John Deere, Kobelco, Komatsu, Line Belt, Samsung
Price	\$17,000 to \$19,800 (Prices subject to change)
Status	In production
Preferred Prime Mover	Hydraulic excavator to suit specific size of cutter
Other Suitable Prime Movers	Hydraulic ram skidders with swing booms, like Morgan Silvatrack hydrastatic
Attachment Mount (lift arms/boom/3-point hitch/other)	Standard boom or long reach boom special applications
Maximum Treatable Material Size	Smaller-sized finished product in stems up to 4-in diameter
Cutting Mechanism	Standard-duty flail hammer, free-swinging: 34-in models is 14 teeth or hammers; 48-in models is 18 teeth or hammers; 60-in models is 24 teeth or hammers
Cutting Width	34 light, standard, and extreme duty: 34 in; 48 light and standard duty: 48 in; 60 standard duty: 60 in
Shaft (horizontal/vertical)	Horizontal
Rotation Speed	2,300 rpm
Power Source Required	34 light duty and 34 std. duty is 16 to 35 gpm; 34 extreme duty is 30 to 48 gpm; 48 light duty is 30 to 42 gpm; 48 std. duty is 30 to 48 gpm; 60 std. duty is 32 to 48 gpm. All are 2,700 to 4,000 psi
Weight	34 light duty: 1,250 lb; 34 standard duty: 1,500 lb; 34 extreme duty: 2,600 lb; 48 light duty: 1,300 lb; 48 standard duty: 1,800 lb; 60 standard duty: 2,400 lb
Other Attachments	Pro Mac makes many brush-cutting devices
Special Uses/Adaptations/Other Uses	Independent hydraulic ram; smaller rubber-tire backhoes
Manufacturer's Comments Regarding Equipment Application	Smaller-sized finished product in stems up to 4-in diameter

Brush-Cutting, Thinning, Shredding, and Crushing Attachments

Brush-Cutter, Horizontal Shaft, Boom Mounted

Shinn Cutter Models SC-Lite, SC-2, and SC-3



Make/Model	Shinn Cutter Models SC1-Lite, SC-2, and SC-3
Manufacturer/Source	Shinn Cutter Systems
Distributor	Shinn Cutter Systems
Price	SC-Lite: \$159,000; SC-2: \$190,000; SC-3: \$285,000. Prices include installation of power pack and grinding head; customer pays shipping of excavator both ways.
Status	In production
Preferred Prime Mover	360-degree tracked or wheeled excavator. SC-Lite: min. 33,000-lb excavator; SC-2: min. 48,000-lb excavator; SC-3: min. 60,000-lb excavator
Maximum Treatable Material Size	Unlimited
Cutting Mechanism	Fixed
Cutting Width	36 in
Shaft (horizontal/vertical)	Horizontal
Rotation Speed	SC1-Lite: 1,750 rpm; SC-2, SC-3: 1,375 rpm
Attachment Power Supply	Self-contained. Power unit (Caterpillar or Cummins) is mounted to the back of excavator. SC-Lite: 245 to 255 hp; SC-2: 310 to 320 hp; SC-3: 525 to 600 hp
Weight	Depends on power unit and excavator
Special Uses/Adaptations/Other Uses	Row maintenance, first-cut roads, storm debris cleanup, firebreak establishment, large tracts
Manufacturer's Comment	Versatile, cost effective, with ability to grind trees of any diameter to manageable, environmentally friendly mulch. One machine, one operator.

Brush-Cutting, Thinning, Shredding, and Crushing Attachments

Brush-Cutter, Machine Pulled

Brown Tree Cutters



Woods Boss
rubber-tired
tractor



Brown
Tree Cutter

Make/Model	Brown Tree Cutters: TCO-2515C, TCO-2615C, TCF-2615, TCO-2620C, TCF-2620 (other optional models that run at different rpm's are available)
Manufacturer/Source	Brown Manufacturing Corp.
Distributor	Brown Manufacturing Corp.
Price	TCO-2515C: \$4425; TCO-2615C: \$4665; TCF-2615: \$5470; TCO-2620C: \$6255; TCF-2620: \$7335
Status	In production
Preferred Prime Mover	Tractor with 3-point hitch and sufficient PTO horsepower
Attachment Mount (lift arms/boom/3-point hitch/other)	3-point hitch
Maximum Treatable Material Size	TCO-2515C, TCO-2615C, TCF-2615: 6 in; TCO-2620C, TCF-2620: 8 in
Cutting Mechanism	Four free-swinging blades mounted on a circular disc
Cutting Width	TCO-2515C: 60 in; TCO-2615C, TCF-2615, TCO-2620C and TCF-2620: 72 in
Shaft (horizontal/vertical)	Vertical
Rotation Speed	810 rpm
Power Source Required	TCO-2515C: 50 to 90 hp; TCO-2615C: 60 to 90 hp; TCF-261570: to 90 hp; TCO-2620C: 70 to 100 hp; TCF-2620: 80 to 100 hp
Weight	TCO-2515C is 1,700 lb; TCO-2615C is 2,050 lb; TCF-2615 is 2,315 lb; TCO-2620C is 2,250 lb; TCF-2620 is 2,600 lb
Other Attachments	Brown also makes smaller tree cutters and brush mowers. Vegetative Mowing Equipment (Marietta, GA) makes a special right-of-way tractor called the Woods Boss that is a well-guarded, rubber-tired tractor that can pull the Brown Tree Cutter.
Special Uses/Adaptations/Other Uses	Right-of-way clearing
Manufacturer's Comments Regarding Equipment Application	Data not supplied

Brush-Cutting, Thinning, Shredding, and Crushing Attachments

Brush-Cutters (Land-Clearing Blade), Machine Mounted

Rome K/G Clearing Blades: KGB and KGBA Series



Make/Model	Rome K/B Clearing Blades: KGB and KGBA Series
Manufacturer/Source	Rome Plow Company
Distributor	Caterpillar dealer network
Price	Contact dealer
Status	In production
Preferred Prime Mover	Models to fit Caterpillar D5 to D9 tractors
Attachment Mount (lift arms/boom/3-point hitch/other)	Machine mount
Height	4 ft 4 ¹ / ₂ in to 5 ft 4 ³ / ₄ in
Length	Trunnion to stinger tip is 19 ft 2 in to 22 ft 8 in
Width	10 ft 9 ¹ / ₂ in to 13 ft
Weight	3,520 to 16,360 lb
Cutting Mechanism	Serrated blades of tough T-1 steel; shears small trees and vegetation off at ground level and windrows them to the side in one continuous pass. Complete control over falling trees.
Power Source Needed	Host dozer
Other Attachments	RV-Series Vee-Blade cutters with center-mounted "stinger," Rome tree pusher, root plow, dozer rake, and disk harrows
Special Uses/Adaptations/Other Uses	Builds forest roads and firebreaks
Manufacturer's Comments Regarding Equipment Application	Data not supplied

Brush-Cutting, Thinning, Shredding, and Crushing Attachments

Brus-Cutters (Land-Clearing Blade), Machine Mounted

Savannah 1000-Series V-Shear, Land-Clearing Blades



Make/Model	Savannah 1000-Series V-Shear, Land-Clearing Blade: Models 1020; 1030; 1040
Manufacturer/Source	Savannah Forestry Equipment, LLC
Distributor	Contact Savannah Forestry Equipment, LLC
Price	1020 is \$29,000; 1030 is \$24,500; 1040 is \$22,500
Status	In production
Preferred Prime Mover	1020: 250- to 300-hp dozers; 1030 : 200- to 250-hp dozers; 1040: 150- to 180-hp dozers
Attachment Mount (lift arms/boom/3-point hitch/other)	Machine mount
Height	51 in
Length	24 ft from stinger to sidearm trunion cap
Width	9 ft 10 in
Weight	6.3 tons
Cutting Mechanism	Apron with sharpened serrated blade has a wedge design that is presented at an angle to tree stump, allowing small amounts of force to give considerable cutting effect; cuts 28-in stump
Power Source Needed	Host dozer
Other Attachments	Savannah also makes a rolling chopper, and forestry bedding and subsoiling plows
Special Uses/Adaptations/Other Uses	Front stinger can split large trees or stumps and weaken them to allow cutting right through
Manufacturer's Comments Regarding Equipment Application	Data not supplied
MTDC Comment	Rockland and Sharpco also make land-clearing blades. Their products are not shown in this report, but their addresses are in Appendix B.

Brush-Cutting, Thinning, Shredding, and Crushing Attachments

Brush-Cutters (Rolling Choppers), Machine Pulled

Marden Heavy-Duty Brush-Cutter: SB and B Series



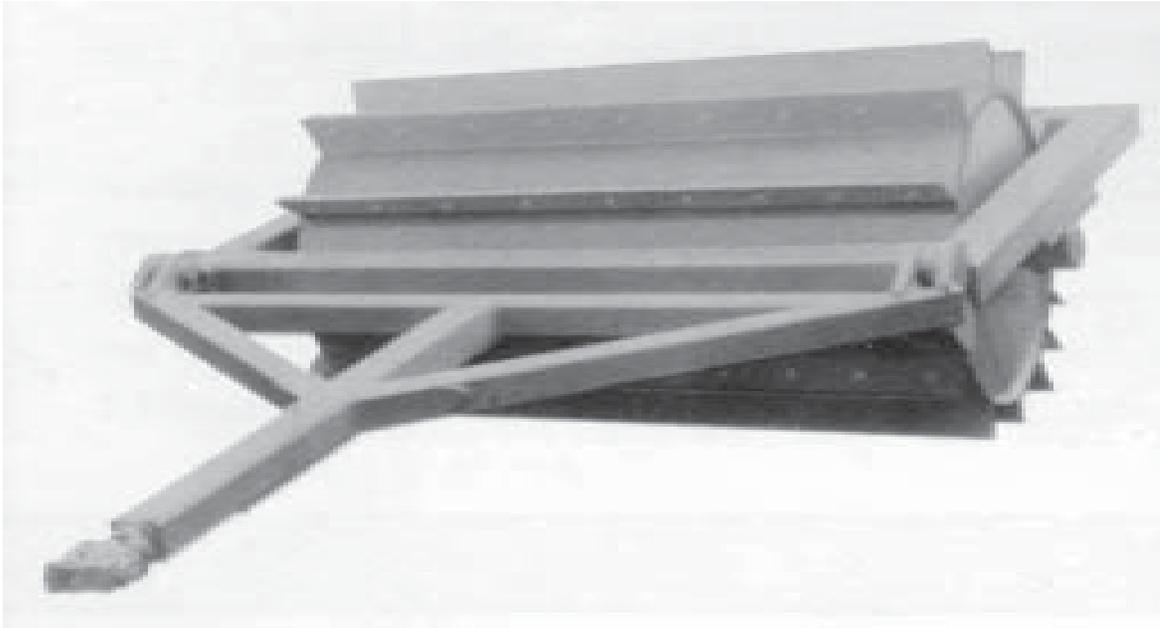
SB10-GK 10-foot Brush-Cutter.

Make/Model	Marden Heavy-Duty Brush-Cutter: SB and B Series—SB10-GK 10-ft brush-cutter shown
Manufacturer/Source	Marden Industries, Inc.
Distributor	Marden Industries, Inc.
Price	Contact manufacturer
Status	In production
Preferred Prime Mover	Cat D-6 or equivalent
Attachment Mount (lift arms/boom/3-point hitch/other)	Rear draw or winch cable with optional rear hydraulic wheel lift
Maximum Treatable Material Size	Up to 4 in
Cutting Mechanism	12 fixed 1 in x 10 in x 10 ft
Cutting Width	10 ft
Shaft (horizontal/vertical)	Horizontal
Rotation Speed	3 to 5 mph
Power Source Required	175-hp drawbar
Weight	17,000 lb empty, 28,500 lb filled
Other Attachments	Marden makes 12 other heavy-duty models designed for crawler tractors, four medium- and light-duty models designed for rubber-tired tractors; drum widths 5 to 12 ft; 2,000 to 38,000 lb; and requiring 20 to 250 drawbar horsepower
Special Uses/Adaptations/Other Uses	Can be attached to winch cable and released downhill, then winched back up to prime mover
Manufacturer's Comments Regarding Equipment Application	Weight and durability
MTDC Comment	SB models have a single drum and B models have a tandem set of drums.

Brush-Cutting, Thinning, Shredding, and Crushing Attachments

Brush-Cutters (Rolling Choppers), Machine Pulled

Rockland Rolling Choppers



Make/Model	Rockland Rolling Chopper: C-6; C-7; C-8; C-10; C-12; C-14; and C-16
Manufacturer/Source	Rockland Manufacturing Co.
Distributor	Contact construction equipment dealers
Price	Contact construction equipment dealers
Status	In production
Preferred Prime Mover	Data not supplied
Attachment Mount (lift arms/boom/3-point hitch/other)	Draw pull
Maximum Treatable Material Size	Single-drum models (d.b.h. = drawbar horsepower): C-6: 35 to 50 d.b.h.; C-7: 50 to 75 d.b.h.; C-8: 97 to 130 d.b.h.; C-10: 130 d.b.h. and up; C-12: 185 d.b.h. and up; C-14: 230 d.b.h. and up; C-16: 268 d.b.h. and up
Cutting Mechanism	C-6: 10 blades; C-7: 10 blades; C-8: 12 blades; C-10: 12 blades; C-12: 12 blades; C-14: 12 blades; C-16: 16 blades
Cutting Width	C-6: 6 ft; C-7: 7 ft; C-8: 8 ft; C-10: 10; C-12: 12 ft; C-14: 14 ft; C-16: 16 ft
Shaft (horizontal/vertical)	Horizontal drum
Rotation Speed	Draw pull
Power Source Required	Draw pull
Weight	C-6: 4,700 to 8,200 lb; C-7: 8,100 to 15,500 lb; C-8: 12,100 to 22,190 lb; C-10: 14,600 to 29,700 lb; C-12: 17,400 to 36,100 lb; C-14: 20,000 to 40,400 lb; C-16: 33,600 to 68,700 lb
Other Attachments	Single drum or multiunits available; multidrum models have 2 extra blades on the rear drum to prevent tracking. They also make a tree shear for a dozer.
Special Uses/Adaptations/Other Uses	Data not supplied
Manufacturer's Comments Regarding Equipment Application	Data not supplied

Brush-Cutting, Thinning, Shredding, and Crushing Attachments

Brush-Cutters (Rolling Choppers), Machine Pulled

Savannah Model 1110 Chopper Roller



Make/Model	Savannah Model 1110 Chopper Roller
Manufacturer/Source	Savannah Forestry Equipment, LLC
Distributor	Contact Savannah Forestry Equipment, LLC
Price	\$27,750
Status	In production
Preferred Prime Mover	For heavy debris: 250- to 300-hp dozer, large 4x4 tractor or skidder
Attachment Mount (lift arms/boom/3-point hitch/other)	Hydraulic offset drawbar with swivel pull
Maximum Treatable Material Size	Data not supplied
Cutting Mechanism	5-ft-diameter roller
Cutting Width	10 ft
Shaft (horizontal/vertical)	Horizontal
Rotation Speed	Draw pull
Power Source Required	Draw pull
Weight	Empty: 6.9 tons; with outside tanks full: 10 tons; with all ballast included: 11.6 tons
Other Attachments	Comes in 10- or 12-ft single units or dual 8-ft models in tandem
Special Uses/Adaptations/Other Uses	Can be built with three water ballast compartments to give four weight options to suit field conditions
Manufacturer's Comments Regarding Equipment Application	Data not supplied

Brush-Cutting, Thinning, Shredding, and Crushing Attachments

Brush-Cutter (Crusher), Machine Mounted

Meri Crusher Heavy-Duty Mulcher and Rototiller



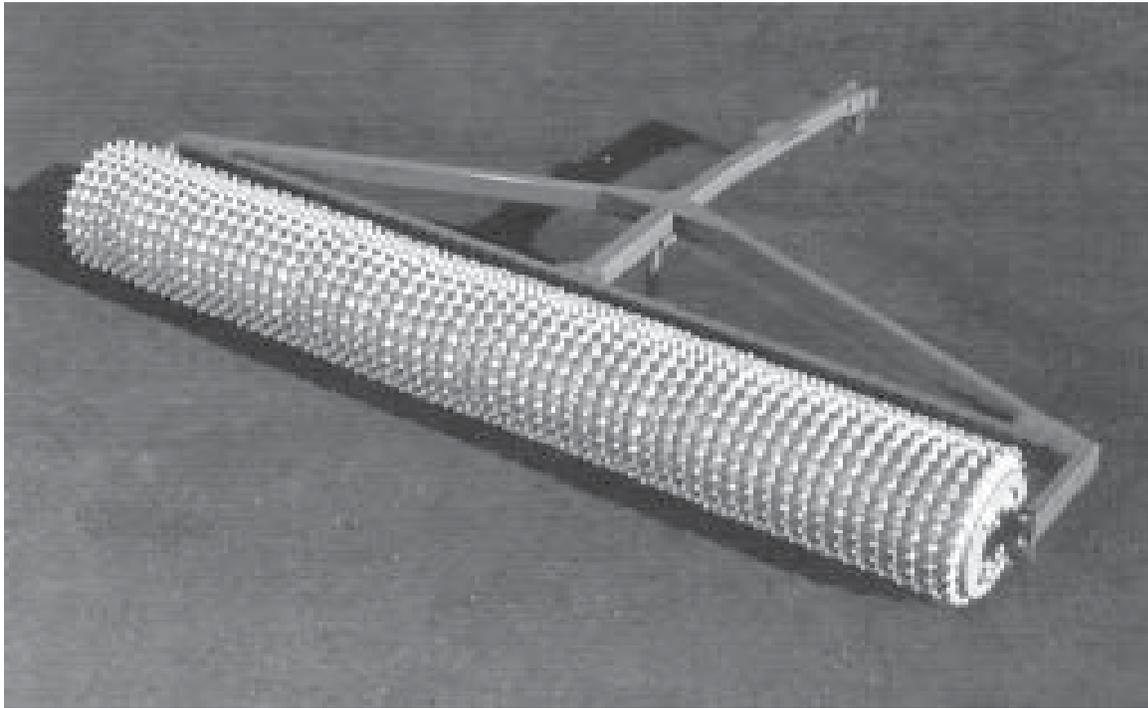
Make/Model	Meri Crusher Heavy-Duty Mulcher and Rototiller: MJ-1.8; MJ-2.3; MJS-2.0 DT; and MJS-2.5 DT
Manufacturer/Source	Suokone Oy
Distributor	Hakmet USA
Price	\$15,500 to \$34,700
Status	In production
Preferred Prime Mover	Mainly dependent upon application—generally tractors, excavators, bulldozers: MJ-1.8: 65 to 180 hp; MJ-2.3: 80 to 180hp; MJS-2.0 DT: 110 to 180 hp; MJS-2.5 DT: 120 to 180 hp
Attachment Mount (lift arms/boom/3-point hitch/other)	Front or rear-mount mechanical or hydraulic mounting (3-point hitch, boom, and so forth)
Maximum Treatable Material Size	Depends upon speed operated: slash and limbs 2 to 3 in
Cutting Mechanism	Fixed carbide-tipped in holders welded to crusher drum: MJ-1.8: 64 cutters; MJ-2.3: 85 cutters; MJS-2.0 DT: 74 cutters; MJS-2.5 DT: 93 cutters
Cutting Width	Working width: MJ-1.8: 5 ft 11 in; MJ-2.3: 7 ft 7 in; MJS-2.0 DT: 6 ft 7 in; MJS-2.5 DT: 8 ft 2 in
Shaft (horizontal/vertical)	Drum is horizontal, no shafts for cutters; cutters are vertical
Rotation Speed	540 rpm on all models except the MJS-2.0 DT and MJS-DT, which are 380 rpm
Power Source Required	1,000-rpm PTO preferred, 540 optional
Weight	MJ-1.8: 1,686 to 2,117 lb; MJ-2.3: 1,918 to 2,459 lb; MJS-2.0 DT: 2,745 lb; MJS-2.5 DT: 2,999 lb
Length	5 ft 5 in to 5 ft 9 in
Height	4 ft 3 in to 4 ft 7 in
Other Attachments	Smaller models
Special Uses/Adaptations/Other Uses	Dust control, reconditioning and maintaining roads, ground preparation of tough soil, elimination of pruning debris, stump grinding, and so forth; capable of working where the prime mover able to operate; can be used with an hydraulic roller or felling frame
Manufacturer's Comments Regarding Equipment Application	Shreds wood, grinds stumps, pulverizes hard soil and incorporates chips to desired depth (0-10 in); doesn't throw material outside the implement



Brush-Cutting, Thinning, Shredding, and Crushing Attachments

Crusher (Culti-Packer), Machine Pulled

Schmeiser Till an' Pak Culti-Packer



Make/Model	Schmeiser Till an' Pak Culti-Packer
Manufacturer/Source	T.G. Schmeiser Co., Inc.
Distributor	Contact for manufacturer for nearest dealer
Price	List \$1,000 to \$13,000 depending on size
Status	In production
Preferred Prime Mover	Varies with size, tractor with draw-bar hitch
Attachment Mount (lift arms/boom/3-point hitch/other)	Draw pull or 3-point hitch
Maximum Treatable Material Size	Unknown; used in forests, duck preserves
Cutting Mechanism	Attachment consists of tubes with approximately rings of curved teeth per foot of width, available in 8-, 10-, 12-, and 14-in diameters; can be used singly or in squadrons
Cutting Width	Custom made in lengths from 2 to 24 ft
Shaft (horizontal/vertical)	Horizontal tubes
Rotation Speed	Draw pull
Power Source Required	Draw pull
Weight	Weight is per foot, depending upon ring and tube size; average is 200 lb/ft
Special Uses/Adaptations/Other Uses	Designed to break clods and pulverize soil, seal in fertilizer or fumigants, turn and mulch soil, pack soil (in pack mode)
Manufacturer's Comments Regarding Equipment Application	Data not supplied

Small-Tree Cutting/Processing Heads

Concept—Equipment for this section was selected on the basis of the size of material the equipment could handle. Heads were limited to handling material up to about 14 inches in size. These small attachments can be used by some carriers that are not built specially for them.

Comments—The Risley Slingshot was included because it is a relatively low-cost, single-grip, stroke-type harvester that combines felling, accumulating, limbing, and processing into a single harvesting operation at the stump.

Other Manufacturers or Sources—In addition to those listed in the catalog, other sources of tree shears that fit on skid steers as well as other machines include:

- E-Z Implements, Inc. (nonpowered, uses two free-spinning sharpened steel discs)
- Agra Axe International, Inc.
- Gregory Manufacturing Co.

Felling and processing heads are quite common. While other manufacturers may not make heads as small as those featured in this catalog, other manufacturers include:

- Case Corp.
- Denharco, Inc.
- Hultdins, Inc.
- Deere & Co. Construction Equipment
- Timbco Hydraulics, Inc.
- Timberjack, Inc.

Check your local dealers or see the Equipment Today annual attachments guide, Canadian Forest Industries semiannual harvesting heads issue, or the Timber West or Timber

Harvesting annual buyer's guides for additional information on logging-related equipment (see Appendix B for details).

Other unconfirmed sources of felling and harvesting heads of many types and sizes listed in Timber West 1999/2000 Buyer's Guide & Directory include:

- AFM-Forest, Ltd.
- Barko Hydraulics, LLC
- Bell Equipment N.A., Inc.
- Blondin, Inc.
- Blount, Inc.
- Caterpillar Inc.
- Danzco
- Dika Industries, Ltd.
- Foresteri Patu
- Franklin Equipment Co.
- Gilbert-Tech, Inc.
- Harvest Systems, Inc.
- Hytec Manufacturing, Inc.
- Lakewood Mechanical
- Lako Oy
- Log Max
- Loggtech AB
- McIntee Forest Products
- MQP, Inc.
- Neuson
- Partek Forest, Inc.
- Pierce Pacific Manufacturing Co.
- Pensee USA, Inc.
- Quadco Equipment, Inc.
- Rotobec USA, Inc.
- Second Growth, Inc.
- Tigercat Industries, Inc.
- Votech Innovation, Ltd.
- Waratah Forestry Attachments

Small Tree-Cutting/Processing Heads

Tree Shears for Skid Steers, Wheel Loaders, and Other Machines

Dymax Tree Shears



Make/Model	Dymax Tree Shears: 10-in and 14-in Land-Clearing Shears; 14-, 16-, and 20-in Forestry Tree Shears
Manufacturer/Source	New Dymax, Inc.
Distributor	Bobcat, ASV Posi-Track, New Holland, Gehl, Caterpillar, and Case dealers
Price	Contact dealer for current models and prices
Status	In production
Preferred Prime Mover	Minimum 40-hp skid steer; ASV Posi-Track
Other Suitable Prime Movers	Skid steers, small wheel loaders, hydraulic excavators (14- and 20-in shears)
Attachment Mount (lift arms/boom/3-point hitch/other)	Lift arms
Maximum Treatable Material Size	10 to 20 in
Cutting Mechanism	10-in shear: 1 steel shear blade; 14-in shears: 2 steel shear blades
Overall Width	10-in land-clearing shear: 68 in; 14-in models: 63 in
Power Source Required	10-in land-clearing shear: 10 to 18 gpm, 1,700 to 3,000 psi; 14-in land-clearing shear and 14-in forestry tree shear: 13 gpm, 2,500 to 3,000 psi
Weight	10-in land-clearing shear: 720 lb; 14 in land-clearing shear: 1,300 to 1,420 lb; 14 in forestry shear: 1,810 to 1,950 lb; 16-in forestry shear: 2,380 to 2,950 lb; 20-in forestry shear: 5,350 to 6,110 lb
Other Attachments Available	14-in land-clearing shear has optional push bar; 14-in forestry tree shear has optional accumulator, and/or double grapple arms in forestry tree shear is also available.
Special Uses/Adaptations/Other Uses	Small operator thinning, rights-of-way maintenance and utility cutting
Manufacturer's Comments Regarding Equipment Application	Cost-effective method of small-operator thinning, clearing, and maintenance

Small Tree-Cutting/Processing Heads

Tree Shears for Skid Steers, Wheel Loaders, and Other Machines

“Big Red” Little Mite Tree Cutter



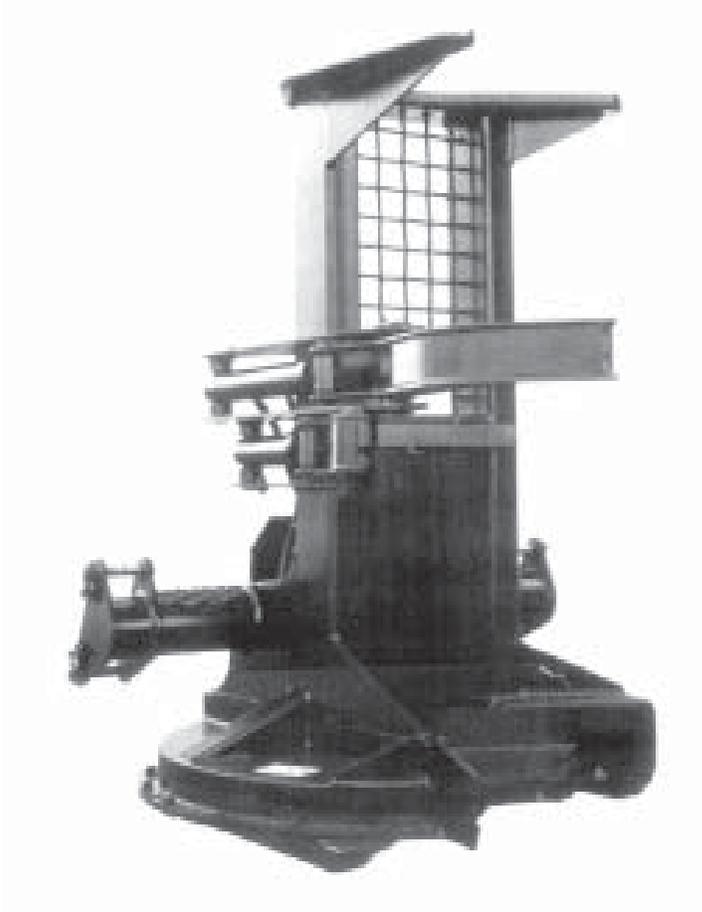
Make/Model	“Big Red” Little Mite Tree Cutter
Manufacturer/Source	Taylor Machine Works, Inc.
Distributor	Contact Taylor Machine Works, Inc.
Price	\$6,500
Status	In production
Preferred Prime Mover	Minimum 50-hp farm tractor, front-end loader, or skid steer
Attachment Mount (lift arms/boom/3-point hitch/other)	Lift arms
Maximum Treatable Material Size	12-in softwood, 6-in hardwood
Cutting Mechanism	Clamp and blade
Cutting Width	Full-open clamp: 21 in; full-open blade: 24 in
Overall Width	80 in
Power Source Required	Tractors with minimum 50 hp. Requires one hydraulic function on tractor and two quick-disconnect hydraulic outlets.
Weight	1,450 lb
Other Attachments Available	“Little Red” Logger (3-point hitch grapple)
Special Uses/Adaptations/Other Uses	Data not supplied
Manufacturer's Comments Regarding Equipment Application	Data not supplied



Small Tree-Cutting/Processing Heads

Feller Disc Saw Head

Davco QC 1200 Feller-Buncher

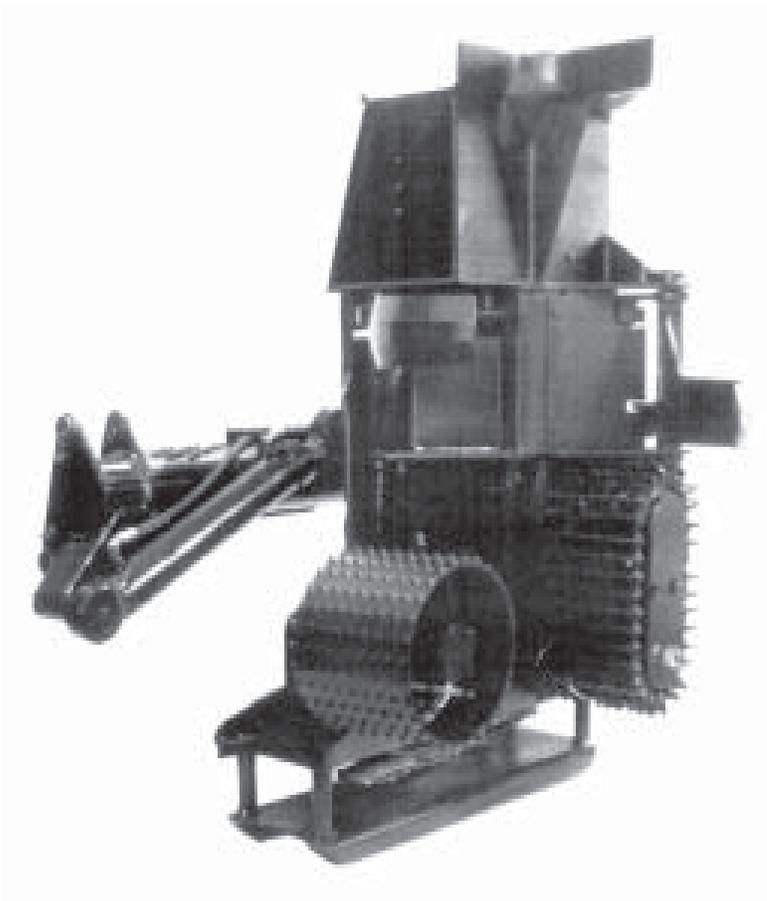


Make/Model	Davco QC 1200 Feller-Buncher
Manufacturer/Source	Davco Manufacturing, Ltd.
Distributor	Davco Manufacturing, Ltd., or Posi-Track dealers
Price	Contact dealers
Status	In production
Preferred Prime Mover	Posi-Track HD4500 or Posi-Track HD4520
Other Suitable Prime Movers	Suitable for small boom type carrier
Attachment Mount (lift arms/boom/3-point hitch/other)	Fixed mount
Maximum Treatable Material Size	14-in single cut
Cutting Mechanism	36-in diameter hot saw with high speed 1 5/8 square rotatable teeth
Overall Width	42 in
Rotation Speed	1,800 rpm
Power Source Required	2,750 psi; 25 to 30 gpm
Weight	1,100 lb
Other Attachments Available	Davco also makes a small processor head and brush-cutter
Special Uses/Adaptations/Other Uses	Data not supplied
Manufacturer's Comments Regarding Equipment Application	All Davco attachments are user friendly with a short operator learning period

Small Tree-Cutting/Processing Heads

Small Single-Grip Harvester Heads

Davco TP 1000 Tree Cutter

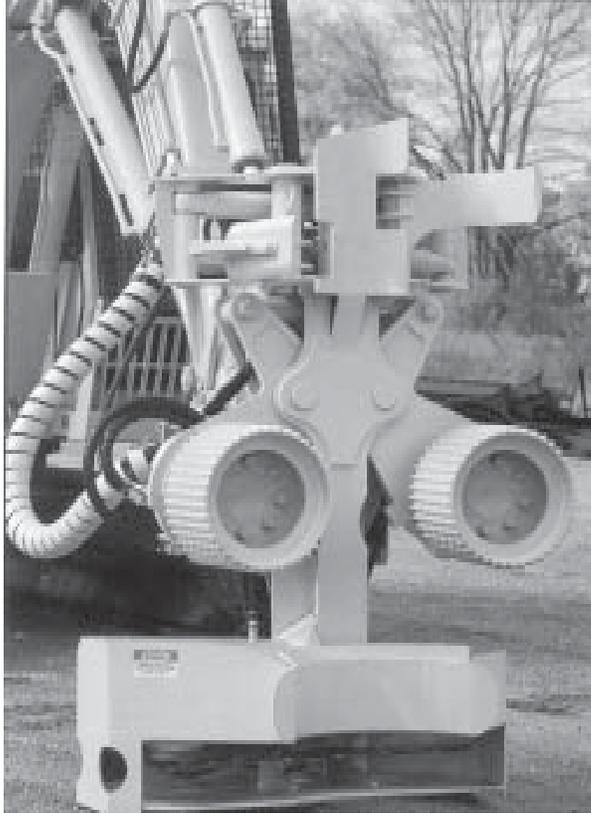


Make/Model	Davco TP 1000 Tree Processor
Manufacturer/Source	Davco Manufacturing, Ltd.
Distributor	Davco Manufacturing, Ltd., or Posi-Track dealers
Price	Contact dealers
Status	In production
Preferred Prime Mover	Posi-Track HD4500 or Posi-Track HD4520
Other Suitable Prime Movers	Suitable for small loader-type carrier with approval
Attachment Mount (lift arms/boom/3-point hitch/other)	Fixed mount
Maximum Treatable Material Size	12 in
Cutting Mechanism	Bar saw
Overall Width	49 in
Power Source Required	2,750 psi; 25 to 30 gpm
Weight	1,100 lb
Other Attachments Available	Davco also makes a small feller-buncher head and a brush-cutter
Special Uses/Adaptations/Other Uses	Fells, limbs; has computerized measuring with 4 presets, track drive on tree
Manufacturer's Comments Regarding Equipment Application	All Davco attachments are user friendly with short operator learning period

Small Tree-Cutting/Processing Heads

Small Single-Grip Harvester Heads

Fabtek Series 2000 13-Inch Processor Head



Make/Model	Fabtek Series 2000 13-in Processor Head
Manufacturer/Source	Fabtek, Inc.
Distributor	Contact manufacturer for dealer information
Price	Contact dealer
Status	In production
Preferred Prime Mover	Carrier with minimum weight of 16,000 lb and minimum 55 hp
Attachment Mount (lift arms/boom/3-point hitch/other)	Boom
Maximum Treatable Material Size	Maximum 15 in between rollers, prefer 13 in
Cutting Mechanism	34-in saw bar
Overall Width	Data not supplied
Rotation Speed	Saw chain speed is 3,000 fpm; Limb speed is 8 to 13 fps
Power Source Required	Minimum 29 gpm; 4,100 psi; supplemental cooling may be required
Weight	Operating weight is 2,400 lb
Other Attachments Available	Fabtek makes a variety of forestry equipment
Special Uses/Adaptations/Other Uses	Rubber rollers for sensitive wood processing
Manufacturer's Comments Regarding Equipment Application	Dependable, economical, tough; this is a heavy-duty head for this purpose

Small Tree-Cutting/Processing Heads

Small Single-Grip Harvester Head

Keto 51 Harvester Head



Make/Model	Keto 51 Harvester Head
Manufacturer/Source	Forestry Equipment, Inc.
Distributor	Contact Forestry Equipment, Inc. for a local retailer
Price	\$50,000 with computer measuring system
Status	In production
Preferred Prime Mover	Boom-type excavator mount with 60 to 90 hp; 13,000 to 20,000 lb
Other Suitable Prime Movers	Kobelco Model 60
Attachment Mount (lift arms/boom/3-point hitch/other)	Boom
Maximum Treatable Material Size	Maximum about 12-in tree, fell and process
Cutting Mechanism	17-in saw bar
Overall Width	Data not supplied
Rotation Speed	Chain drive-sprocket speed approximately 6,000 rpm
Power Source Required	42 to 66 gpm; maximum system pressure is 3,800 psi; maximum flow, pressure and horsepower may not be allowed to take place simultaneously
Weight	880 lb
Other Attachments Available	Hakmet makes models for 8- to 50-ton carriers
Special Uses/Adaptations/Other Uses	Good for small wood thinning
Manufacturer's Comments Regarding Equipment Application	Track-feed system gives more positive grip, less damage to tree than a wheel machine, does bigger limbs, stiffer trees



Small Tree-Cutting/Processing Heads

Small Single-Grip Harvester Heads

Hahn HSG 140 Single-Grip Harvester



Make/Model	Hahn Single-Grip Harvester: HSG 140
Manufacturer/Source	Hahn Machinery, Inc.
Distributor	Contact Hahn Machinery, Inc.
Price	\$50,750
Status	In production
Preferred Prime Mover	Large skid steers and mini excavators
Other Suitable Prime Movers	Mini excavators, 3- or 4-wheeled carriers
Attachment Mount (lift arms/boom/3-point hitch/other)	Boom, lift arms
Maximum Treatable Material Size	14 in
Cutting Mechanism	24-in barsaw
Overall Width	38 $\frac{1}{2}$ in
Rotation Speed	Feed Rate: High speed (motors in series) 32 gpm; 11 fps; 3,300 psi; Low speed (motors in parallel) 32 gpm; 5 fps; 3,300 psi. Rotor motor: HSG 140 is 630cc
Power Source Required	Maximum system pressure is 3,300 psi
Weight	1,850 lb
Other Attachments Available	Hahn also makes the HSG 160, a single-grip harvester that cuts 16-in trees, big tree processors and merchandising machines
Special Uses/Adaptations/Other Uses	First thinning
Manufacturer's Comments Regarding Equipment Application	Electronic length-measuring system standard; diameter indicator optional

Small Tree-Cutting/Processing Heads

Small Single-Grip Harvester Head

Risley Slingshot Single-Grip Stroke Harvesters



Make/Model	Risley Slingshot Single-Grip Stroke Harvesters: S18R; S21R; S24B
Manufacturer/Source	Risley Equipment
Distributor	Contact Risley Equipment
Price	Contact dealer
Status	In production
Preferred Prime Mover	Excavators/carriers over 80 hp
Attachment Mount (lift arms/boom/3-point hitch/other)	Boom
Maximum Treatable Material Size	Maximum cut capacity: S18R: 18 in; S21R: 21 in; S24B: 24 in
Cutting Mechanism	18- or 21-in circular cutting disc or 24-in barsaw
Overall Width	Stroke length all models: 110 in
Rotation Speed	Limb power: 10,000 lb; limbing speed, 7 ft/second; side rotation, 220 degrees
Power Source Required	S18R: 60+ gpm/3,000 psi; S21R: 80+ gpm/3,000 psi; S24B: 40+ gpm/3,000 psi
Weight	S18R: 5,000 lb; S21R: 5,800 lb; S24B: 4,100 lb
Other Attachments Available	Data not supplied
Special Uses/Adaptations/Other Uses	Unique single-grip, stroke-type harvester that combines felling, accumulating, limbing, and processing into a single harvesting operation at the stump; can leave all limb debris in front of carrier as ground pressure cushion
Manufacturer's Comments Regarding Equipment Application	Effectively limbs difficult hard and soft woods



Slash-Piling Attachments

Concept—The primary benefit of a grapple is to reduce hook and unhook times when handling material. Grapples move with a clamshell-type action and are available with single-opposed teeth for skidding and log handling. The multitoothed grapples are useful for manipulating biomass (moving and stacking slash and brush).

Comments—Log grapples and log forks are not included in this report because they are common. A sample of other types of grapples, grapple saws, rakes, and brush-handling equipment commonly available is included.

For purposes of this report, we define grapple variations as follows:

- A grapple has one tooth on one side, one or more teeth on the other side.
- A grapple rake has two or more teeth on one side, and two or more teeth on the other side.
- A grapple brush rake is a grapple rake that is designed specifically for brush.

Common grapple configurations include those that are rigidly attached (pin on) and those that provide a link or knuckle connection for a less rigid stance (dangle). Some grapples have added rotational abilities (up to 360°) with continuous or partial rotation. They are attached to the end of the boom by a pin-on attachment, dangle attachment, or by a moveable linkage that allows the rotating body to articulate.

Specialized grapples for higher levels of production are also available. Common examples include:

- IMAC Design Group, Limited's Powerclam grapple.
- Jewell Manufacturing Incorporated's heavy-duty grapple rake, rotating clamshell grapple rake, and hydraulic logging grapple.
- Komatsu America International Co.'s rotary grab and HDR, TW, and TR series grapples.
- LaBounty's HDR series grapples, TR series grapples, and RGS-Series grapples.
- ACS Industries' heavy-duty grapples (pin-on, dangling, and rotating), MHG and MRG series (sold under Mann trade name) and their PXG series excavator/backhoe grapples (sold under PAC trade name).
- PSM Corporation's continuous rotating grapples and free-hanging clamshell.
- Rockland Manufacturing Co.'s grapples and grapple forks
- Shamrock Steel Fabricators, Inc.'s Piranha-Series grapples.



Clamshell grapple rake by Jewell Manufacturing.



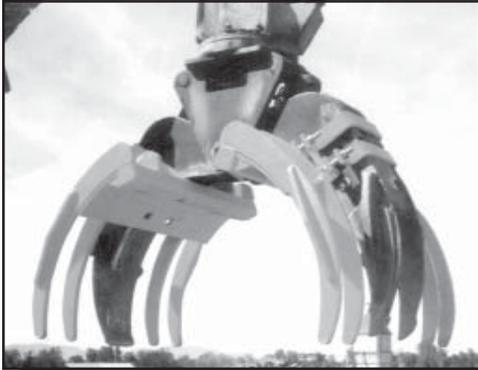
PSM Corporation's articulating grapple.



Piranha-Series grapple by Shamrock Steel Fabricators, Inc.



- ❑ Stan Leach Timber Inc.'s custom-made grapple brush-rake attachments.
- ❑ Young Corporation's 3 x 2 grapples, log grapples, and brush grapples; skidding grapples; and orange-peel grapples designed for large amounts of loose material.



One type of grapple brush-rake attachment made by Stan Leach Timber, Inc.



Brush grapple by Young Corp.

Some heavy-equipment manufacturers also offer buckets and thumbs that are useful for site preparation and slash/brush piling. The IMAC Design Group recommends combining half a bucket and half a grapple rake or thumb for added

flexibility at the job site. Buckets are useful for constructing fireline in units for prescription fires. With a thumb opposed, the bucket could also be used to move debris, but it is not as efficient as a clamshell rake.

Other Manufacturers or Sources—Grapples, whether designed specifically for logging or for general contract work, are commonly available. Many major heavy-equipment manufacturers make grapples of one type or another for different types and sizes of machines.

Check your local dealers, or see the Equipment Today annual attachments guide, or the Timber West or Timber Harvesting annual buyer's guides for additional information on logging-related equipment (see Appendix B for details).

A variety of grapples are pictured. In addition to sources listed in the catalog, some other sources of log, skidding, pulp, and yarding grapples include:

- Amulet Manufacturing Co.
- Deere & Co. Construction Equipment
- Global Forest Equipment, Ltd.
- ImpleMax
- Kumatsu America International Co.
- Mack Manufacturing
- PSM Corp.
- Risley Equipment, Ltd.
- Rockland Manufacturing Co.
- Ross Corp.
- Shamrock Steel Fabricators, Inc.
- Stan Leach Timber, Inc.
- Young Corp.

Other unconfirmed sources of grapples listed in Timber West 1999/2000 Buyer's Guide & Directory include:

- Attachments International
- Barko Hydraulics, LLC



- Blount, Inc.
- Brigden Manufacturing, Inc.
- Cameco Industries
- Caterpillar, Inc.
- Crane Equipment Manufacturing
- CWS Industries, Inc.
- Danzco
- Eagle Log Loader/IMT, Inc.
- Esco Corp.
- Forestry Suppliers, Inc.
- Johnson Industries, Ltd.
- Lane Equipment Co.
- Multitek, Inc.
- New Dymax, Inc.
- Partek Forest, Inc.
- Pierce Pacific Manufacturing Co.
- Progress Industries, Inc.
- Ramey Sales & Service
- Risley Equipment, Ltd.
- Robotec , Inc.
- S&R Industries, Inc.
- Tigercat Industries, Inc.
- Two Harbors Machine
- Waratah Forestry Attachments
- Weldco-Beales, Inc.

In addition to those listed in the catalog, other sources for rakes of various kinds (skidder, dozer, bucket, and so forth) include:

- Amulet Manufacturing Co.
- Deere & Co. Construction Equipment
- Hensley Attachments
- Rockland Manufacturing Co.

Other unconfirmed sources of rakes listed in Timber West 1999/2000 Buyer's Guide & Directory include:

- Attachments International
- IMAC Design Group, Inc.
- Shamrock Steel Fabricators, Inc.
- Stan Leach Timber, Inc.

Thumb and claws for buckets are relatively common. In addition to those listed in this catalog, other sources of bucket thumbs and claws include:

- ACS Industries, Inc.
- Amulet Manufacturing Co.
- Mann Corp.
- Progressive Attachments Corp.
- Rockland Manufacturing Co.

Logging forks are very common. In addition to those listed in the catalog, some other sources of logging forks include:

- IMAC Design Group, Inc.
- Rockland Manufacturing Co.
- Young Corp.

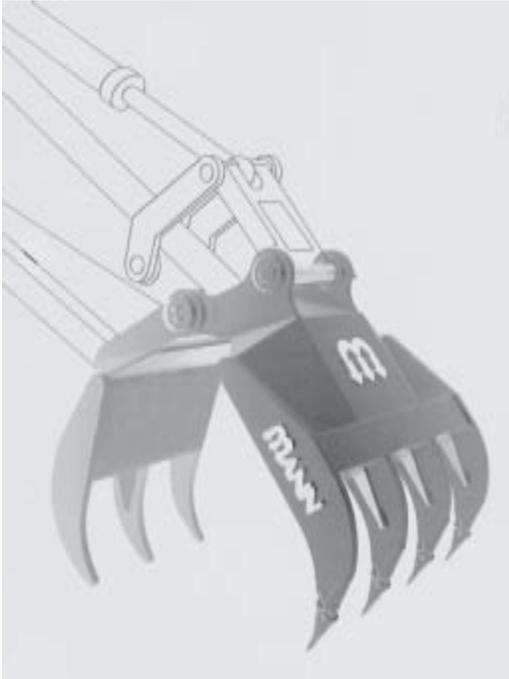
Other unconfirmed sources of logging forks listed in the Timber West 1999/2000 Buyer's Guide & Directory include:

- Attachments International
- Medford Fabrication
- Multitek, Inc.
- PSM Corp.
- Shamrock Steel Fabricators, Inc.
- Weldco-Beales, Inc.
- Young Corp.

Slash-Piling Attachments

General Pin-On Grapple Rake

Mann MHG-Series Heavy-Duty Grapples

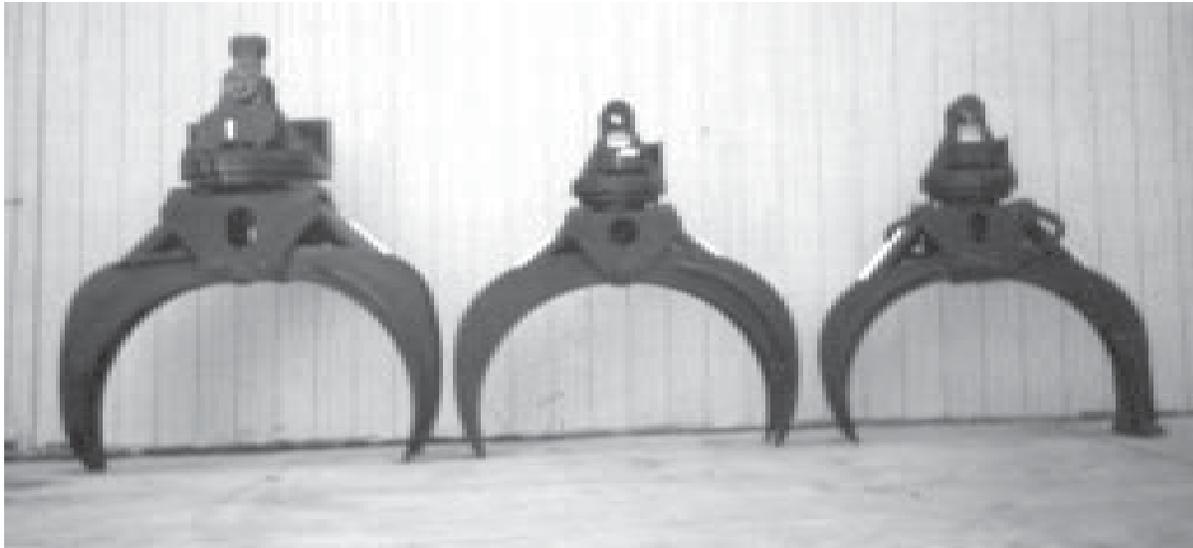


Make/Model	Mann MHG Series Heavy-Duty Grapples: MHG 5; MHG 10; MHG 15; MHG 20; MHG 25; MHG 30; MHG 35; MHG 40; MHG 45
Manufacturer/Source	ACS Industries, Inc.
Distributor	Contact ACS Industries, Inc.
Price	Contact ACS Industries, Inc.
Status	In production
Preferred Prime Mover	Excavators: MHG 5: to 20,000 lb; MHG 10 : 21 to 28,000 lb; MHG 15: 29 to 36,000 lb; MHG 20: 37 to 48,000 lb; MHG 25: 49 to 60,000 lb; MHG 30: 61 to 75,000 lb; MHG 35: 76 to 90,000 lb; MHG 40: 91 to 125,000 lb; MHG 45: 126 to 165,000 lb
Attachment Mount (lift arms/boom/3-point hitch/other)	Boom
Height	Data not supplied
Length	Tooth length: MHG 5: 11 in; MHG 10: 13 in; MHG 15: 16 in; MHG 20: 18 in; MHG 25: 19 in; MHG 30: 20 in; MHG 35: 22 in; MHG 40: 24 in; MHG 45: 24 in
Width	MHG 5: 25 in; MHG 10 : 36 in; MHG 15: 40 in; MHG 20: 44 in; MHG 25: 50 in; MHG 30: 54 in; MHG 35: 58 in; MHG 40: 58 in; MHG 45: 62 in
Weight	(Approximate): MHG 5 is 600 lb; MHG 10 is 1,000 lb; MHG 15 is 2,000 lb; MHG 20 is 2,500 lb; MHG 25 is 3,000 lb; MHG 30 is 3,700 lb; MHG 35 is 4,600 lb; MHG 40 is 5,500 lb; MHG 45 is 8,500 lb
Opening Specifications	MHG 5 is 62 in; MHG 10 is 75 in; MHG 15 is 94 in; MHG 20 is 106 in; MHG 25 is 113 in; MHG 30 is 122 in; MHG 35 is 132 in; MHG 40 is 141 in; MHG 45 is 150 in
Rake Tooth Specifications	Number of teeth top/bottom: MHG 5, MHG 10, MHG 15, MHG 20: 4/3; MHG 25, MHG 30, MHG 35, MHG 40, MHG 45: 5/4
Tooth Spacing, (CL to CL)	MHG 5: 8 in; MHG 10: 12 in; MHG 15: 13 in; MHG 20: 14 in; MHG 25: 12 in; MHG 30: 13 in; MHG 35: 14 in; MHG 40: 14 in; MHG 45: 15 in
Power Source Needed	Host excavator
Other Attachments Available	ACS Industries makes a large variety of brush-handling equipment
Manufacturer's Comments Regarding Equipment Application	Longer, stronger, open tooth design, with tooth length approximately 1/3 of grapple side
MTDC Comment	There are many more pin-on-type grapples listed in the Slash Piling Attachments introduction

Slash-Piling Attachments

General Dangle Grapple

Rotobec Grapple: Model 4642-9150



Make/Model	Rotobec Grapple: Model 4642-9150 (over 60 different models available)
Manufacturer/Source	Rotobec Western Sales
Distributor	Most dealers
Price	Contact dealer
Status	In production
Preferred Prime Mover	All with appropriate weight/power specifications
Attachment Mount (lift arms/boom/3-point hitch/other)	Boom
Height	Open: 54 ¹ / ₂ in; closed: 62 in (measurements include rotation)
Length	Data not supplied
Width	14 ³ / ₄ in
Weight	820 lb
Opening Specifications	Opens 42 in; closes 4 ¹ / ₂ in
Rake Tooth Specifications	Grapple tines: bypass type
Power Source Needed	Host excavator
Other Attachments	Rotobec makes the following grapples: continuous rotation (free-swinging and positioned), pulpwood, combination log/pulpwood, log sorting/loading, heavy-duty logging, forwarder, Butt 'n' Top, multipurpose (butting tines) and multipurpose brush (bypass); Rotobec also makes clamshell buckets, hydraulic log loaders, harvesting heads, forwarder, and heel packages for excavators
Special Uses/Adaptations/Other Uses	Data not supplied
Manufacturer's Comments Regarding Equipment Application	Any number of log or multipurpose grapples will work depending upon the application and host machine
MTDC Comment	There are many more dangle-type grapples listed in the Slash-Piling Attachments introduction

Slash-Piling Attachments

Rotary Grapple Saw (Special Variant)

Hultdins Grapples With Supersaw 550S



Make/Model	Hultdins Grapples TL430 and TL480 with Supersaw 550S
Manufacturer/Source	Hultdins, Inc.
Price	Contact dealer
Status	In production
Preferred Prime Mover	12- to 30-ton machines: forwarders, excavators, loaders, knuckleboom loaders, shovel loaders
Attachment Mount (lift arms/boom/3-point hitch/other)	Boom
Height	From tip of open grapple arm to top of rotator: TL430/550S: 55.7 in; TL480/550S: 60.4 in
Length	From outer arm to outer arm: TL430/550S: 53.8 in; TL480/550S: 60 in;
Width	TL430/550s: 17.5 in; TL480/550s: 20 in
Weight	TL430/550S: 1,450 lb; TL480/550S: 1,700 lb
Opening Specifications	Maximum opening: TL430/550S: 43 in; TL480/550s: 48 in Minimum gripping diameter: TL430/550S: 4.22 in; TL480/550S: 5 in
Cutting Mechanism	39-in saw bar; maximum saw-cutting diameter: 27 ¹ / ₂ in
Lifting Capacity	56,200-lb load capacity
Power Source Needed	32 to 58 gpm; 2,300 to 4,500 psi; recommended 48 gpm; 3,600 psi
Other Attachments	Also available without saw as "Super Grip" grapple TL Series (for tree-length work) and SG Series (for shortwood)
Special Uses/Adaptations/Other Uses	Continuous rotation
Manufacturer's Comments Regarding Equipment Application	Blowdown, crosscutting, trimming, limbing, shovel logging, topping, merchandising



Slash-Piling Attachments

Rotary Bucket Saw (Special Variant)

IMAC Combination Blowdown Saw and Powerclam Bucket or Grapple



Make/Model	IMAC Combination Blowdown Saw and Powerclam Bucket or Grapple
Manufacturer/Source	IMAC Design Group, Ltd.
Distributor	S&R Industries, Inc.
Price	Contact manufacturer for price: depends on application and prime mover
Status	In production
Preferred Prime Mover	25,000- to 170,000-lb excavators with grapple jaws
Attachment Mount (lift arms/boom/3-point hitch/other)	Boom
Height	Varies by host excavator requirements
Length	36-in bar on saw
Width	Varies by host excavator requirements
Weight	Saw assembly, approximately 245 lb
Cutting Mechanism	36-in bar on saw
Lifting Capacity	Varies by host excavator requirements
Power Source Needed	25 to 50 gpm; 2,500 to 4,000 psi; also requires three extra spools or valve-in-head option
Other Attachments	IMAC suggests mating half a Powerclam bucket with half a Powerclam grapple rake for added versatility; saw attachment available for all IMAC Powerclam Buckets; IMAC also makes Powerclam buckets, brush rakes, and grapples for loading/sorting and shortwood/pulpwood
Special Uses/Adaptations/Other Uses	360° rotation, can cut off rootball in any position; bucket can be used to limb, bunch, pile, sort, remove stumps, load, forward, scarify, rehabilitate sites, build or deactivate roads, ditch, place culverts, make waterbars, log rights-of-way
Manufacturer's Comments Regarding Equipment Application	Low profile gives increased breakout force and more lift height; lighter weight yields more payload; versatile tool

Slash-Piling Attachments

General Add-On Brush-Rake Arms
Jewell Quick-Change Brush-Rake Arms



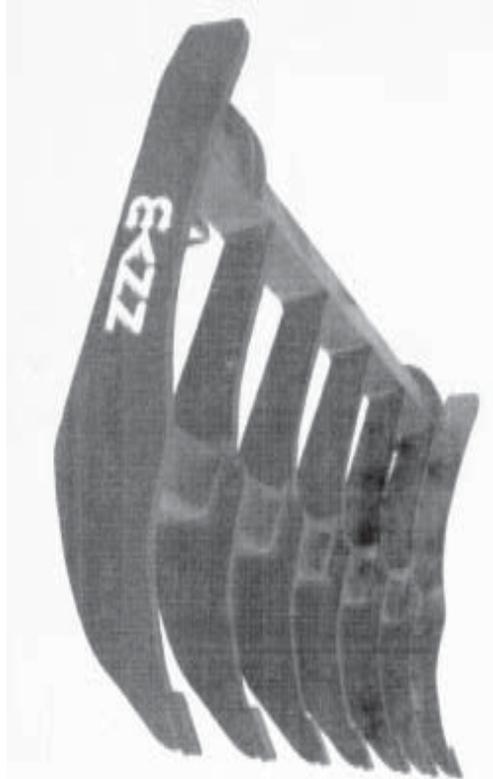
Make/Model	Jewell Quick-Change Brush-Rake Arms for All Sizes, Makes, and Models of Hydraulic Logging Grapples
Manufacturer/Source	Jewell Manufacturing, Inc.
Distributor	Equipment dealers
Price	Contact manufacturer
Status	In production
Attachment Mount (lift arms/boom/3-point hitch/other)	Grapple
Height	Designed to fit standard grapples
Length	Designed to fit standard grapples
Width	Designed to fit standard grapples
Weight	Designed to fit standard grapples
Rake Tooth Specifications	Data not supplied
Lifting Capacity	Designed to fit standard grapples
Power Source Needed	Relies on grapple's hydraulics
Other Attachments	Jewell makes a full line of attachments for material handling
Special Uses/Adaptations/Other Uses	Designed for rugged applications
Manufacturer's Comments Regarding Equipment Application	Arms can be changed in minutes using mounting lugs



Slash-Piling Attachments

General Pin-On Skidder Rake

Mann Pin-On Skidder Rakes



Make/Model	Mann Pin-On Skidder Rakes: MSR-1; MSR-2; MSR-3; and MSR-4
Manufacturer/Source	ACS Industries, Inc.
Distributor	Contact ACS Industries, Inc.
Price	Contact ACS Industries, Inc.
Status	In production
Preferred Prime Mover	MSR-1: skidder to 9,000 lb; MSR-2: 10- to 15,000-lb skidder; MSR-3: 16- to 25,000-lb skidder; MSR-4: 26- to 40,000-lb skidder
Attachment Mount (lift arms/boom/3-point hitch/other)	Blade mount
Height	Blade height plus tooth penetration
Length	Data not supplied
Width	Standard (six teeth) rake is 6 in less than tire width; wide rake (seven teeth) is to outside of cutting blade; extrawide rake is to outside of tires
Weight	Approximate: MSR-1: 500 lb; MSR-2: 750 lb; MSR-3: 1,000 lb; MSR-4: 1,500 lb
Rake Tooth Specifications	Distance between teeth: MSR-1: 15 in; MSR-2: 15 ¹ / ₂ in; MSR-3: 16 in; MSR-4: 16 ¹ / ₂ in Tooth penetration: MSR-1, MSR-2: 13 ¹ / ₂ in; MSR-3, MSR-4: 14 ¹ / ₂ in Tooth thickness (outside/inside): MSR-1: 1 ¹ / ₂ to 1 ¹ / ₄ in; MSR-2: 1 ¹ / ₂ in; MSR-3: 1 ³ / ₄ to 1 ¹ / ₂ in; MSR-4: 2 to 1 ³ / ₄ in
Lifting Capacity	Depends upon host excavator
Power Source Needed	Host machine
Other Attachments	ACS Industries makes a full line of attachments
Special Uses/Adaptations/Other Uses	Log bunks designed into outer arms
Manufacturer's Comments Regarding Equipment Application	Data not supplied

Slash-Piling Attachments

General Loader Bucket Rake

PAC PBR Bucket Rake



Make/Model	PAC PBR Bucket Rake: different sizes to fit on buckets up to 4k, 4-7k, 7-12k, 12-16k, 16-22k
Manufacturer/Source	ACS Industries, Inc.
Distributor	Contact ACS Industries, Inc.
Price	Contact ACS Industries, Inc.
Status	In production
Preferred Prime Mover	Front-end loader, backhoe, skid steer
Attachment Mount (lift arms/boom/3-point hitch/other)	Bucket
Height	Depends on bucket size
Length	Depends on bucket size
Width	Depends on bucket size
Weight	Depends on bucket size
Rake Tooth Specifications	Data not supplied
Lifting Capacity	Depends on bucket size
Power Source Needed	Mounted on bucket
Other Attachments	ACS Industries makes other rakes, thumbs, and similar attachments
Special Uses/Adaptations/Other Uses	Converts bucket into a rake; loader bucket becomes a multitask attachment
Manufacturer's Comments Regarding Equipment Application	Data not supplied



Slash-Piling Attachments

General Loader Grapple Rake

Mann MLG-Series Loader Grapple Rakes



Make/Model	Mann MLG-Series Loader Grapple Rakes: MLG-0; MLG-1; MLG-2; MLG-3
Manufacturer/Source	ACS Industries, Inc.
Distributor	Contact ACS Industries, Inc.
Price	Contact ACS Industries, Inc.
Status	In production
Preferred Prime Mover	Model MLG-0: wheel loaders to 18,000 lb; MLG-1: wheel loaders 19,000 to 30,000 lb; MLG-2: wheel loaders 31,000 to 43,000 lb; MLG-3 data not supplied
Attachment Mount (lift arms/boom/3-point hitch/other)	Blade mount
Height	MLG-0: 60 ³ / ₄ in; MLG-1: 65 in; MLG-2: 86 ¹ / ₂ in; MLG-3: 93 ¹ / ₄ in
Length	Data not supplied
Width	MLG-0: 77 ³ / ₄ in; MLG-1: 94 in; MLG-2: 111 in; MLG-3: 120 in
Weight	MLG-0: 2,189 lb; MLG-1: 2,955 lb; MLG-2: 5,707 lb; MLG-3: 8,454 lb
Opening Specifications	Data not supplied
Rake Tooth Specifications	Tooth length: MLG-0: 18 in; MLG-1: 21 in; MLG-2: 26 in; MLG-3: 31 in Tooth separation: MLG-0, MLG-1: 14 ¹ / ₂ in; MLG-2, MLG-3: 14 ¹ / ₄ in Tooth thickness outside/inside: MLG-0: 1 ¹ / ₄ to 1 in; MLG-1: 1 to 1 ¹ / ₄ in; MLG-2: 1 ³ / ₄ to 1 ¹ / ₂ in; MLG-3: 2 ¹ / ₄ to 2 in
Lifting Capacity	Depends upon host
Power Source Needed	Data not supplied
Other Attachments	ACS Industries makes a full line of attachments
Special Uses/Adaptations/Other Uses	Piling grapple for on-site pickup and cleanup; sort, salvage, sift and pick up wood waste, stumps and demolition debris
Manufacturer's Comments Regarding Equipment Application	Loader blade becomes a multitask attachment

Skid-Steer Attachments

Concept—Skid steers are common machines, but specialized attachments for them can be difficult to locate. We have included a representative selection of brush-cutting and handling equipment useful for this project. Log grapples, log forks, and similar equipment for skid steers are quite common and beyond the scope of this report. We have generally listed a representative model of each.

Comments—Although rubber-tired vehicles often have an advantage of greater travel speed and more efficient skidding, they have the disadvantage of higher ground pressures and less traction than their tracked counterparts. Over-the-tire tracks were included as a way to increase wheeled-machine traction on steeper slopes and uneven terrain, and to redistribute weight. The Small Tree-Cutting/Processing Heads section contains many tree-harvesting heads that would work well with skid steers.

Other Manufacturers or Sources—Skid-steer attachments, in general, are commonly made by the manufacturers of skid steers. Contact your local skid-steer dealer. ASV has information on companies that make skid-steer attachments that fit on the ASV Posi-Track. Hydra-Mac also makes skid-steer loader attachments.

In addition to sources listed in the catalog, other sources for over-the-tire tracks include:

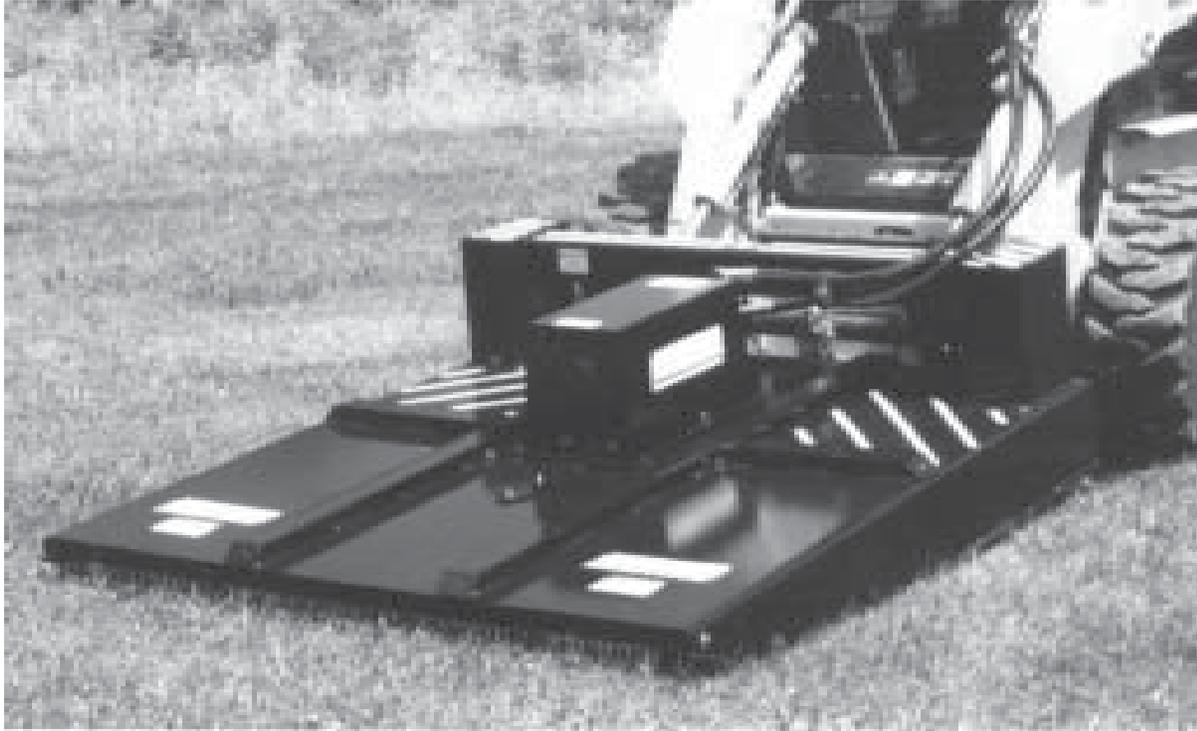
- Grouser Products
- Hultdins, Inc.
- New Holland
- Omnitrack, LLC (rubber over-the-tire tracks).

Also see the Equipment Today annual attachments guide, or the Timber West or Timber Harvesting annual buyer's guides for additional information on logging-related equipment (see Appendix B for details).

Skid-Steer Attachments

Brush-Cutters, Vertical Shaft

Ambusher Rotary Brush-Cutters



Make/Model	Ambusher Rotary Brush-Cutters: AM480; AM601; and AM720
Manufacturer/Source	Ambusher, Inc.
Distributor	Contact manufacturer for dealer information
Price	Contact dealer
Status	In production
Preferred Prime Mover	Skid loaders
Other Suitable Prime Movers	Can be used by skid steers with 42 gpm flow
Attachment Mount (lift arms/boom/3-point hitch/other)	Lift arms
Maximum Treatable Material Size	Up to 3 in
Cutting Mechanism	Rotary cutter: AM480: 2 blades; AM601: 2 or 4 blades; AM720: 2 or 4 blades
Cutting Width	AM480: 48 in; AM601: 60 in; AM720: 72 in
Overall Width	Not much wider than cutting width
Weight	AM480: 800 lb; AM601: 940 lb; AM720: 1,140 lb
Shaft (horizontal/vertical)	Vertical
Rotation Speed	Approximately 850 rpm
Power Source Required	AM480: 11 to 25 gpm; AM601: 13 to 25 gpm; AM720: 15 to 25 gpm
Special Uses/Adaptations/Other Uses	Bidirectional cutting
Manufacturer's Comments Regarding Equipment Application	Maneuverability; mulches; operator can see what is being cut

Skid-Steer Attachments

Brush-Cutters, Vertical Shaft

Brushcat Rotary Cutter



Make/Model	Brushcat Rotary Cutter
Manufacturer/Source	Bobcat Co.
Distributor	Check website for dealer information
Price	\$4,900
Status	In production
Preferred Prime Mover	700- and 800-series Bobcat loaders
Other Suitable Prime Movers	Data not supplied
Attachment Mount (lift arms/boom/3-point hitch/other)	Lift arms
Maximum Treatable Material Size	3 in
Cutting Mechanism	Two blades on rotating disc
Cutting Width	60 in
Overall Width	62 in
Weight	1,350 lb
Shaft (horizontal/vertical)	Vertical
Rotation Speed	11,190 fpm at 13 gpm; 24,100 fpm at 28 gpm
Power Source Required	Minimum 13 gpm; 2,500 to 3,000 psi; best flow range: 1,500 to 2,500 psi
Other Attachments	Bobcat makes numerous other dedicated attachments that may address forestry needs
Special Uses/Adaptations/Other Uses	Bidirectional cutter rotation possible; can be operated traveling forward and reverse
Manufacturer's Comments Regarding Equipment Application	Even cutting height; ability for deck to float avoid scalping ground

Skid-Steer Attachments

Brush-Cutters, Vertical Shaft

Brown 5601-A Heavy-Duty Hydraulic Mower



Make/Model	Brown 5601-A Heavy-Duty Hydraulic Mower
Manufacturer/Source	Brown Manufacturing Corp.
Distributor	Brown Manufacturing Corp.
Price	\$5,600
Status	In production
Preferred Prime Mover	ASV Posi-Track or LMC Trackmaster
Other Suitable Prime Movers	Data not supplied
Attachment Mount (lift arms/boom/3-point hitch/other)	Lift arms
Maximum Treatable Material Size	3 to 4 in diameter
Cutting Mechanism	Two 1/2 x 6-in ultra-KOR reversible (free-swinging blades)
Cutting Width	66 in
Overall Width	76 in
Weight	1,225 lb
Shaft (horizontal/vertical)	Vertical
Rotation Speed	900 rpm
Power Source Required	2,500 psi, 30 gpm
Other Attachments	Data not supplied
Special Uses/Adaptations/Other Uses	Data not supplied
Manufacturer's Comments Regarding Equipment Application	Data not supplied

Skid-Steer Attachments

Brush-Cutters, Vertical Shaft

Davco BC 705 and 604 Brush-Cutters



Make/Model	Davco BC 705 and BC 604 Brush-Cutters
Manufacturer/Source	Davco Manufacturing, Ltd.
Distributor	Davco Manufacturing, Ltd., or Posi-Track dealers
Price	Contact dealer
Status	In production
Preferred Prime Mover	Posi-Track HD4500 or Posi-Track HD4520 or 4810
Other Suitable Prime Movers	Suitable for small loader-type carrier with approval
Attachment Mount (lift arms/boom/3-point hitch/other)	Quick attach
Maximum Treatable Material Size	4 in
Cutting Mechanism	4 replaceable, free-swinging knives
Cutting Width	BC 705: 70 in; BC 604: 60 in
Overall Width	BC 705: 74 in; BC 604: 64 in
Weight	BC 705: 1,500 lb; BC 604: 1,300 lb
Shaft (horizontal/vertical)	Twin disc, vertical
Rotation Speed	700 rpm
Power Source Required	2,750 psi; 25 to 30 gpm
Other Attachments	Davco also makes felling and processing heads
Special Uses/Adaptations/Other Uses	Brushing along roads, ditches and regrowth
Manufacturer's Comments Regarding Equipment Application	All Davco attachments are user friendly with a short operator learning period

Skid-Steer Attachments

Brush Shredder, Horizontal Shaft

Loftness BMO-Series Orchard/Brush Shredders

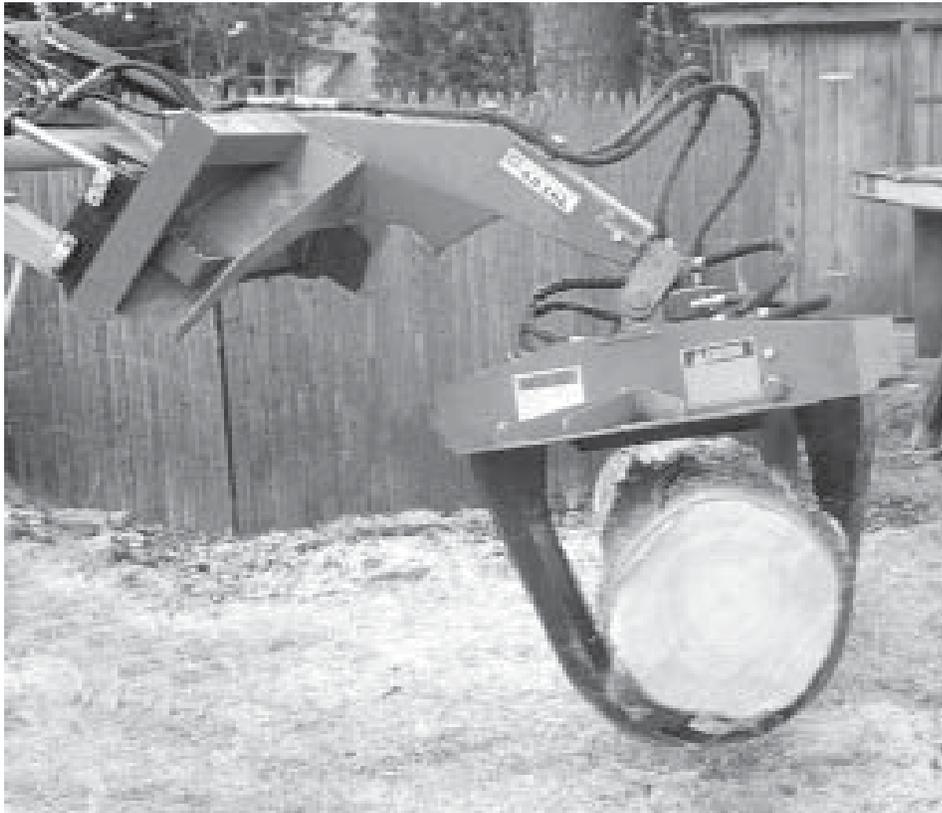


Make/Model	Loftness BMO-Series Orchard/Brush Shredders: 42 BMO; 42 BMOH; 60 BMO; 60 BMOH; 72 BMO; 72 BMOH; 84 BMO; 84 BMOH; 96 BMO (All BMO models come in either PTO driven or hydraulic-driven (BMOH) except 96 in, which is only available as PTO-driven)
Manufacturer/Source	Loftness Specialized Farm Equipment, Inc.
Distributor	Contact manufacturer for dealer information
Price	\$4,999 to \$6,599
Status	In production
Preferred Prime Mover	Skid steers with 25 to 40 gpm; track vehicles or tractors with 3-point hitch
Other Suitable Prime Movers	Data not supplied
Attachment Mount (lift arms/boom/3-point hitch/other)	Category I or II free link or quick hitch, or 3-point hitch
Maximum Treatable Material Size (in/cm)	1½-in continuous; 3-in-diameter maximum
Cutting Mechanism	3-lb forged knives on rotor: 42 BMO, 42 BMOH: 16 knives; BMO, 60 BMOH: 20 knives; 72 BMO, 72 BMOH: 20 knives; 84 BMO, 84 BMOH: 24 knives; 96 BMO: 28 knives
Cutting Width (in/cm)	42 BMO, 42 BMOH: 42 in; 60 BMO, 60 BMOH: 60 in; 72 BMO, 72 BMOH: 72 in; 84 BMO, 84 BMOH: 84 in; 96 BMO: 96 in
Overall Width (in/cm)	Approximately 16 in wider than cutting width
Weight (lb/kg)	42 BMO = 1,250 lb, 42 BMOH = 1,200 lb; 60 BMO = 1,450 lb, 60 BMOH = 1,400; 72 BMO = 1,690 lb, 72 BMOH = 1,650 lb; 84 BMO = 1,740 lb, 84 BMOH = 1,650 lb; 96 BMO = 1,790 lb
Shaft (horizontal/vertical)	Horizontal
Rotation Speed (rpm)	2,100 rpm
Power Source Required	42 BMO: 35 hp, 42 BMOH: 24 to 32 gpm; 60 BMO: 35 hp, 60 BMOH: 24 to 37 gpm; 72 BMO: 40 hp, 72 BMOH: 24 to 42 gpm; 84 BMO: 50 hp, 84 BMOH: 28 to 42 gpm; 96 BMO: 60 hp
Other Attachments	Rake teeth, swivel wheels in lieu of full-length gauge roller
Special Uses/Adaptations/Other Uses	Data not supplied
Manufacturer's Comments Regarding Equipment Application	Data not supplied
MTDC Comment	Seppi makes a skid-steer-sized drum shredder that should be considered, too. Contact Brush Technology Division, Carlson Tractor Co.

Skid-Steer Attachments

General Skid-Steer Grapple

ImpleMax Grapples



Make/Model	ImpleMax: 4836L Pro Grapple; 4836Lw Pro Grapple/Winch
Manufacturer/Source	ImpleMax
Distributor	ImpleMax
Price	4836L: \$5,870; 4836Lw: \$7,643 (f.o.b. Bozeman, MT)
Status	In production
Preferred Prime Mover	Any skid-steer loader with a quick coupler that has lift capacity of greater than 1,500 lb
Other Suitable Prime Movers	Also fits on tractor loader arms with modified coupler
Attachment Mount (lift arms/boom/3-point hitch/other)	Loader arms
Overall Width	Length: 53 in; width: 48 in; Maximum opening: 48 in
Weight	4836L: 640 lb; 4836Lw: 800 lb
Power Source Required	Maximum rating: 3,000 psi; 4836Lw: 10 to 21 gpm; 4836L: unlimited gpm
Other Attachments	ImpleMax also makes tractor models (with and without winches) that attach to tractors with a Category I or II 3-point hitch
Special Uses/Adaptations/Other Uses	4836Lw comes with a 9,000-lb hydraulic winch built into boom, 8-in drum, max. 148 ft of 3/8-in cable with reel speed of 72 fpm at 15 gpm
Manufacturer's Comments Regarding Equipment Application	Works in narrow spaces, grabs from difficult angles, excellent visibility, low capital investment, reduces manhours



Skid-Steer Attachments

General Skid-Steer Stacking Forks

Dymax Heavy-Duty Stacking Fork

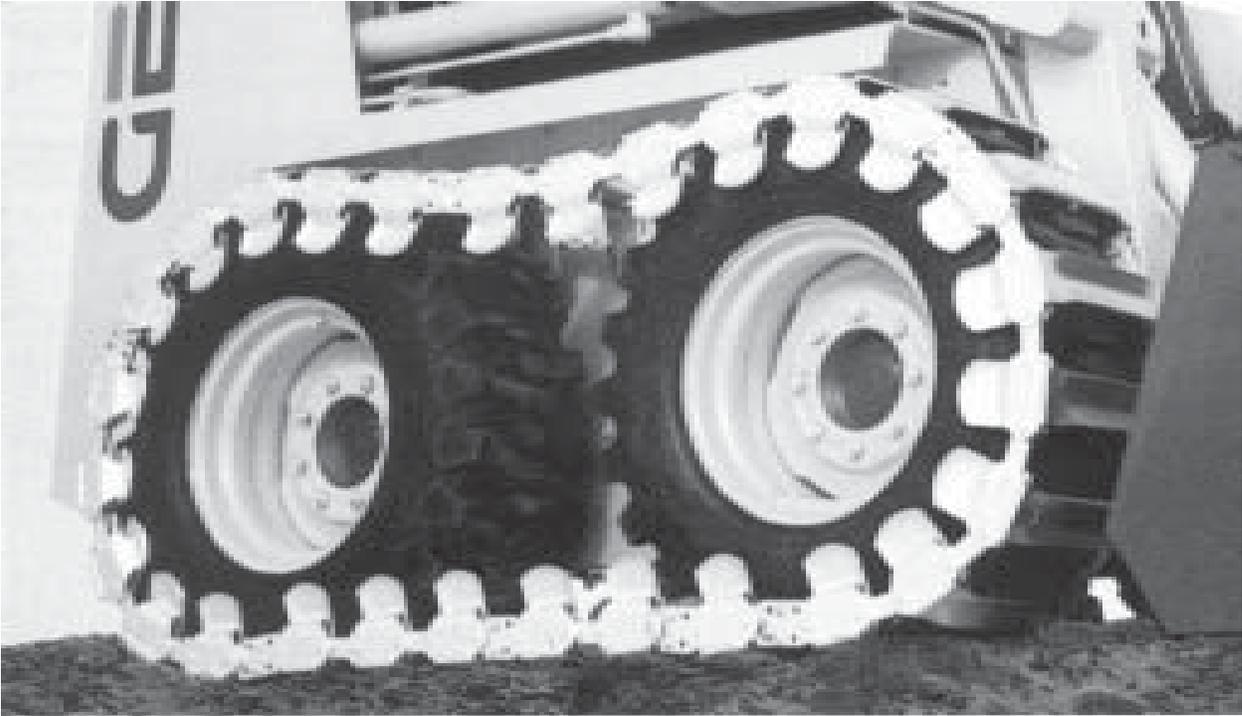


Make/Model	Dymax Heavy-Duty Stacking Fork
Manufacturer/Source	New Dymax, Inc.
Distributor	Bobcat, ASV Posi-Track, New Holland, Gehl, Case dealers
Price	Heavy duty: \$3,460
Status	In production
Preferred Prime Mover	Skid steers
Other Suitable Prime Movers	Small wheel loaders and telescopic handlers
Attachment Mount (lift arms/boom/3-point hitch/other)	Lift arms
Maximum Treatable Material Size	Rake has five tines, 39 in usable length; heavy-duty model is ideal for thicker brush, limbs and small trees
Overall Width	66 in
Weight	960 lb
Power Source Required	Additional hydraulics may be required
Other Attachments	Standard model is also available
Special Uses/Adaptations/Other Uses	Used for brush/slash piling
Manufacturer's Comments Regarding Equipment Application	Data not supplied

Skid-Steer Attachments

General Over-the-Tire Skid-Steer Track

Loeering Over-the-Tire Steel Track: Trail Blazer



Make/Model	Loeering Over-the-Tire Steel Track: Trail Blazer
Manufacturer/Source	Loeering Manufacturing, Inc.
Distributor	Contact Loeering
Price	Contact distributor for current models and prices
Status	In production
Preferred Prime Mover	Trail Blazer for skid steers up to 120 hp
Other Suitable Prime Movers	Designs for Bobcat, Case, Caterpillar, John Deere, Gehl, Mustang, New Holland, Thomas, and other skid-steer loaders
Attachment Mount (lift arms/boom/3-point hitch/other)	Tires
Overall Width	Trail Blazers: 4-in-wide pads
Weight	Depends upon series
Other Attachments	The Eliminator rake; Mud Bucket; over-the-tire steel tracks available for other types of equipment
Special Uses/Adaptations/Other Uses	Traction and flotation
Manufacturer's Comments Regarding Equipment Application	More traction, most pad-to-ground contact for greater flotation; machine friendly; easier skid steering
MTDC Comment	Other companies to check besides the original equipment manufacturer would be Grouser and Omnitrac—some offer nonmetallic tracks.