

RIGHT-OF-WAY WORKHORSES: EQUIPMENT BUILT FOR TOUGH JOBS

Right-of-way clearance and maintenance equipment ranks among the heaviest of duty workhorses in the Green Industry. The hours, conditions, and job at hand are the most challenging from endurance and stress standpoints. You simply can't take standard equipment and force it to the tolerances needed for right-of-way work and receive reasonable maintenance or endurance results.

Consequently, manufacturers have developed a family of equipment specifically designed to meet right-of-way wear and tear. Some members of this family are presented in this article as submitted by manufacturers. The price tags on such equipment may be higher than conventional turf or tree equipment, but they return the difference in durability and longer life.

Flail mowers

The Model 7HD from Mathews Co. cuts an 84-inch width with its heavy-duty lift-type flail shredder mower. It contains 34 sets of curved knife blades made of high carbon grader blade material heat treated for toughness. The blades are mounted to swing on a U-shaped rod which provides double hinging to reduce shock loads when hitting foreign objects.

A Category 1, 3-point hitch has built-in floating links for following contours. This combined with rugged gauge roller lets you cut close without scalping. The rotor and knife assembly are balanced to operate smoothly. The 7HD requires a 40- to 50-horsepower tractor with a PTO of 540 rpm. It weighs 1,400 pounds.

Other models from Mathews cut 120 and 144 inches and weigh 1,790 and 2,050 pounds respectively. All machines chop up prunings, shred stalks, and mow in difficult conditions. (Circle 200 on free information card).

Side-mounted "hammer knife" mowers on the Mott Interstater are free to float, following the contour of the ground. They may be held at varying heights and angles of tilt above the ground to mow over objects, soft areas, water, and holes without needing ground contact for support.



Mathews 7HD 84-in. flail.

The side-mounted mowers are Mott 74 or 88 cutters that are structurally modified. They attach singly or together to a Model 88 rear-mounted mower to make a two or three unit fully integrated tractor-mounted gang mower. Swaths of the three-unit gangs are 18 feet, 10 inches with 74-inch side mowers, and 21 feet, 2 inches with 88-inch side mowers.

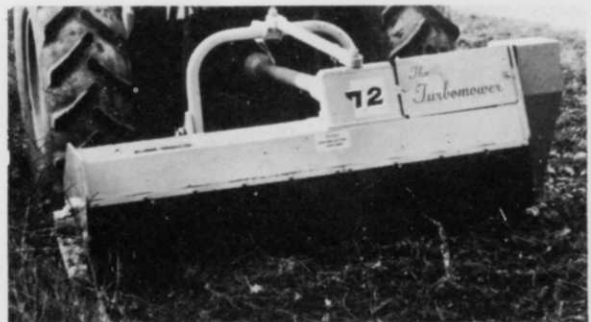
A "hydra-dynamic" power system transmits energy from the tractor engine to the mowers. (Circle 201 on free information card).

The 72 HD Turbomower from Turner International Ltd. has been designed with two features that enable it to work for a long time and cut grass and scrub in difficult conditions. A floating link suspension allows the mower to follow the contours of undulating ground to reduce wear on linkage points. An ability to offset up to 20 inches to the left allows cutting close to walls and other barriers.

The mower's 5½-inch diameter steel rotor has a ⅜-inch thick wall and is dynamically balanced and fitted with spring steel cutters attached by spring steel shackles. It adjusts for height from ¾ to 4¾ inches. The heavy-duty, double-sealed, and self-



Mott Interstater side-mounted flail.



Turner 72-in. Turbomower.

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aligning rotor bearings have a diameter of 2½ inches. Drive is through a heavy-duty bevel gearbox and a cross shaft with double universal coupling to four final drive v-belts with self-adjusting tensioning.

The cowl is made from ¼-inch mild steel plate; end plates are from ½-inch mild steel plate. For



safety, the machine has 12 independent front steel flaps in ¼-inch mild steel plate. A full width guard of heavy-duty, fabric-reinforced rubber is fitted at the rear.

The mower works well behind a tractor because its 72-inch width is approximately tractor size. This helps it maneuver well in confined spaces. (Circle 202 on free information card).

There are many other types of flail mowers to choose. These include Brillion Iron Works (203), Excel Industries (204), FMC, Agricultural Machinery Div. (205), Ford Motor Co., Tractor Operations (206), Hefty Tractor Co. (207), Hesston, Woods Div. (208), International Harvester (209), John Deere & Co. (210), and Vemco Co. (211).

Clearing devices

A fence row trimmer attachment on the Klearway, made by Kershaw, completely clears and mulches material growing in and above fences. It reaches straight up to 15½ feet or straight out 7 feet. With its powerful, high-speed rotary drum, it clears and mulches material 4 inches in diameter.

While the trimmer attachment clears fences above, the frontmounted cutter head clears brush and timber flush against the fence. The trimmer throws the mulched debris downward for safe discharge. Its side-mounted position gives the operator a complete view from his cab to do smooth, safe, and fast work.

When not in use, the fence row trimmer stows on top of the Klearway without disturbing the machine's stability or balance. (Circle 212 on free information card).

Bombardier Limitee, Industrial Equipment Div., makes the Muskeg Brush Cutter to clear and maintain rights-of-way where exceedingly soft terrain and swamps stop other types of vehicles. The large bearing area of the tracks provides a low ground pressure to allow this vehicle to work the year round over any type of terrain.

The Muskeg carries a 4-cylinder Detroit Diesel engine with a 212.4-cubic-inch displacement and 120 horsepower at 2,500 rpm. Power steering comes through controlled differential. Sixteen solid rubber wheels on tracks of rubber belts with steel crosslinks move the brush cutter.

The machine is 16 feet, 7 inches long, 100½ inches wide, and 90¼ inches high. Its ground clearance is 14 inches and frame height is 32 inches. (Circle 213 on free information card).

Woodsman Model 6003-DH enables one operator to clear 3 acres of land to ground level in one day. The Royer Foundry & Machine Co. land clearer cuts through heavy brush, trees to 6 inches in diameter, and trash lumber, then chips the cut wood into a mulch. It leaves the land ready for immediate use since there is no need for on-site burning or hauling debris to a landfill.

This Woodsman features a diesel engine with

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Muskeg Brush Cutter (top) by Bombardier Limitee. In the middle is the **Kershaw Klearway** also enables over-the-fence cutting. **The Woodsman** by Royer.

hydrostatic drive which protects the engine from shock loads at the rotor. A remote control panel mounts on the prime mover and provides the operator with convenient controls for starting, speed selection, rotor disengaging, and stopping.

Other features include adjustable skids, tree pushers, and a 60-inch wide rotor assembly. The skids permit cutting from ground level to 5 inches high and the tree pushers protect the operator and direct trees into the cutting path. The rotor assembly consists of 20 19-inch-diameter discs and 38 heat-treated, alloy steel cutters which are double-edged, freeswinging, and easily reversed or replaced.

The machine measures 7 inches long by 78 inches wide by 53 inches high. It attaches to front-end loaders and other equipment which can handle 6,000 pounds. A GM 4-53N, 4-cylinder, 117-horsepower diesel engine drives it. (Circle 214 on free information card).

Other manufacturers of right-of-way brush cutters are Bombardier Ltd. (215), FMC, Agricultural Machinery Div. (216), National Hydro-Ax, Inc. (217), NFI, Inc. (218), Pettibone Corp., Ala. Div. (219), Rhino by Athens & Servis, Austin Prod. (220), and Washington Industrial Resources (221).

Miscellaneous

To top trees, cut fence rows, and reach limbs that are too distant for most equipment, a ZZZ-CUT works well. It cuts and removes limbs with a boom-mounted cutter head that is hydraulically controlled from inside the cab.

The cab of this trimmer, made by Products for Energy Inc., is completely enclosed so an operator can work in rain, cold, or heat. It drives over ditches, up hills, and through mud to get to any site. No-spin axles add traction to the four-wheel drive.

The ZZZ-CUT can travel 40 to 45 mph on the open road and does not have to be hauled to a different work location. (Circle 222 on free information card).

Excel Industries, Inc. makes a Hustler 402 mower that cuts 72 inches out front and works on sloping terrain while the operator remains comfortably upright. The self-leveling cab maintains level operator station and engine platform even on slopes to 27 degrees. Weight distribution stays balanced on high and low drive wheels.

The four-wheel drive mower crawls in and out of ditches, climbs banks, and turns on slopes. Dual hydrostats operate the drive wheels independently and twin hand levers steer at a touch to control both direction and speed. With its low center of gravity, the mower climbs and turns a full circle while it continues to cut grass and weeds.

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A choice of mowing decks includes the heavy-duty 72-inch rotary and a 60-inch flail mower, both with rear discharge that is effective for places debris is concealed by heavy grass and weeds. (Circle 223 on free information card).

After all the cutting is done, a log fork from Tube-Lok Products may be used to carry out loads. Every log fork is box-welded for increased carrying strength to handle large single or multiple-log loads in one

pass. The manufacturer claims that carrying capacity meets or exceeds the actual lifting capacity of all lift vehicles.

Log forks are constructed of high-strength alloy steel, with extra large heat-treated pins and hardened steel bushings. Wear bars are hard faced to extend tine life. The spacing of fork cross-members gives the operator good visibility for productivity and safety. (Circle 224 on free information card).



Hustler highway rotary mower.
Log fork from Tube-Lok Products.



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over weeds. If a few weeds do appear, removal by hand can help keep the problem from becoming serious by preventing spread of weed seed.

These basic principles of good management to reduce weed encroachment are not new, but need to be re-emphasized. Too much dependence has been placed on using herbicides to cover up what may be the result of bad management. When a chemical such as silvex is lost, we can be faced with a weed problem which may only be solved by complete renovation of the area.

Also, a weed problem which is solved temporarily by herbicides is certain to return if bad management continues. Good management will certainly not eliminate the need for herbicide applications, but it will greatly reduce the seriousness of weed problems that could eventually occur.

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