



# Greensmaster® TriFlex®

HYBRID & HYDRAULIC RIDING GREENSMOWERS

## FEATURES

### Advanced Cutting Performance

- Patent pending Double A-Arm Suspension for superior contour following
- Industry leading Flex technology and DPA cutting units for easy adjustment and precision
- Patented **Lift-In-Turn** feature provides a consistently level cleanup cut
- Enhanced clippings capture system for improved turf health

### Highly Productive and Versatile

- Powerful 21 hp (15.6 kW) Briggs & Stratton® Vanguard Gasoline or 24.8 hp (18.5kW) Kubota® diesel engine
- Ample power for a wide range of applications both on and off the greens
- 10mph transport speed to save time and improve productivity

### Innovative Maintenance Enhancements

- A Lift-Gate Footrest provides easy access to the center cutting unit for simplified maintenance and adjustments
- Tool-Free, Quick Change cutting units for greater versatility, simplified maintenance, and enhanced productivity
- Large, balloon-style tires ensure equal pressure on the turf to minimize tire marking and reduce scuffing in turns

### All-Electric Reel Technology (Hybrid models only)

- Custom designed, highly efficient electrical reel motors
- Electrical energy storage for peak power demands
- Sufficient power to verticut
- Energy savings mode for reduced fuel consumption
- Dial-In-Clip for consistent perimeter cut

## Setting a new standard by which all other riding greensmowers will be measured.

The Greensmaster TriFlex and TriFlex Hybrid models are the first riding greens mowers delivering the productivity of a rider and the precision of a walker. Combining the innovative, Double A-Arm Suspension System with industry-leading Flex technology, the cutting units float freely over even the most difficult terrain resulting in a superior quality of cut and aftercut appearance. And, superior cutting performance is only the beginning. A patented Lift-Gate Footrest and Tool-Free, QuickChange cutting units are just two of the many features that provide added versatility, simplified service, and ultimately, more productivity.

TriFlex Hybrid models feature a reliable all-electric reel circuit that was custom designed with ample power for your most demanding applications, on and off the green. Features that save time and energy, and enhance productivity and turf health combine to make the TriFlex Hybrid the first product to earn the EnergySmart™ label from Toro.

[toro.com/triflex](http://toro.com/triflex)



EdgeSeries™ Reels

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Call your Toro distributor at 800-803-8676

# Greensmaster® TriFlex®

## 3300/3320/3400/3420 Specifications\*

	GREENSMAS <sup>TM</sup> TER 3300 TriFlex, MODEL 04510	GREENSMAS <sup>TM</sup> TER 3320 TriFlex Hybrid, MODEL 04530	GREENSMAS <sup>TM</sup> TER 3400 TriFlex, MODEL 04520	GREENSMAS <sup>TM</sup> TER 3420 TriFlex Hybrid, MODEL 04540
<b>ENGINE</b>	Briggs & Stratton® Vanguard®, 21 HP (15.6 kW) @ 3600 rpm, 2-cylinder, air cooled, gasoline engine, governed to 2920 high idle, 1650 rpm low idle. Displacement: 38.3 cu-in. (627 cc)		Kubota® D902, Tier 4i, 24.8 HP (18.5 kW) @ 3600 rpm, 3-cylinder, liquid cooled, diesel engine, governed to 2880 high idle, 1560 rpm low idle. Displacement: 55.0 cu-in. (902 cc) Radiator: cooled with a 12-volt electric fan	
<b>FUEL CAPACITY</b>	6 gallons (22.7 liter) capacity.		6 gallons (22.7 liter) capacity. Biodiesel ready up to B20	
<b>TRACTION DRIVE</b>	2WD parallel hydrostatic or optional 3WD series-parallel piston pump closed loop system. Foot pedal forward and reverse; infinitely variable.			
<b>GROUND SPEED</b>	Forward-mowing speed is variable from 0-5 mph (0-8 km/h), adjusted by stop on pedal mechanism. Mow speed setting does not affect transport speed. Maximum Greensmaster TriFlex transport speed is 10 mph (16.1 km/h), may be reduced by adjusting stop in footrest pan without affecting mow speeds.			
<b>CUTTING UNIT DRIVE</b>	Single gear pump, valve block, series reel drive to 3 reel motors.	48V-5400 watt air-cooled brushless permanent magnet generator in parallel with 48V 9Ah battery set powers three 48V- 1100 watt brushless permanent magnet reel motors.	Single gear pump, valve block, series reel drive to 3 reel motors.	48V-5400 watt air-cooled brushless permanent magnet generator in parallel with 48V 9Ah battery set powers three 48V- 1100 watt brushless permanent magnet reel motors.
<b>AUTOMATIC CLIP CONTROL</b>	N/A	Yes	N/A	Yes
<b>STEERING</b>	Power steering. No-tool quick adjust steering arm position with power assist, allowing a wide range of operator sizes. Steering cylinder has a through shaft design for precise straight line tracking.			
<b>ELECTRICAL SYSTEM</b>	12-volt lead acid, group size U1, with 300 minimum cold cranking amps at 0° F and 34 minutes reserve capacity at 85° F/25 amps draw. 50 amp alternator. Ignition switch/key. Seat switch. Harness terminals and fuse slot available for optional lights installation.		Maintenance-free 12-volt battery with 585 minimum cold cranking amps at 0° F (-17.7° C) and 95 minutes minimum reserve capacity at 85° F (29.4° C) 60 amp alternator, circuit fused at 60 amps. Ignition switch/key. Seat switch. High temperature engine shut down. Harness terminals, fuse slot, and console switch location available for optional lights installation.	
<b>48-VOLT SYSTEM FOR ELECTRIC REELS</b>	N/A	4-12V 9Ah sealed, maintenance-free, VRLA batteries. 48-volt system is isolated from 12-volt including the frame/chassis.	N/A	4-12V 9Ah sealed, maintenance-free, VRLA batteries. 48-volt system is isolated from 12-volt including the frame/chassis.
<b>CONTROLS</b>	Ignition: Off/Run/Start. Throttle: Low - High Idle. Choke (AC only): Open /Closes choke plate. Parking Brake: Off - On. Traction Pedal: Rev/Neutral/Forward Joystick: Raises/lowers reels also tap off feature for clean up pass. Functional Control Lever sets neutral/mow/transport limits for traction pedal. Diagnostic Light: Indicates system faults to assist in resolving issues (04510 & 04520). InfoCenter™ Diagnostics (04530 & 04540).			
<b>GAUGES</b>	Hour meter. Low oil pressure warning light.	InfoCenter™: Onboard LCD shows gauges, alerts/faults, service reminders, electrical system diagnostics, low oil pressure, alternator, engine hours, engine rpm, voltage, functional control status, parking brake applied, reel speed setting, backlap control. Clip control setting.	Hour meter, low oil pressure warning light, alternator warning light (on if not charging), glow plug indicator, high engine temperature.	InfoCenter™: Onboard LCD shows gauges, alerts/faults, service reminders, electrical system diagnostics, low oil pressure, alternator, engine hours, engine rpm, voltage, functional control status, parking brake applied, reel speed setting, backlap control. Clip control setting.
<b>TIRES/WHEELS/PRESSURE</b>	Three, 19 x 10.5 x 8, 4-ply rating pneumatic tubeless and demountable. Smooth tread. Tire pressure recommended: 12 - 18 psi front and rear.			
<b>BRAKES</b>	Hand-actuated parking brake lever with two 6" (15.2 cm) diameter drum brakes mounted on the front wheel motors.			
<b>HYDRAULIC OIL</b>	6.8 gallon (25.7 liter) tank	5.5 gallon (20.8 liter) tank	6.8 gallon (25.7 liter) tank	5.5 gallon (20.8 liter) tank
<b>LEAK DETECTION</b>	Equipped with Turf Guardian™ Leak Detection System. System sounds an alarm and turns on a warning light with the loss of 3 to 5 ounces of hydraulic oil.	Optional		
<b>SOUND LEVEL</b>	80 dB(A) at operator's ear under normal conditions.		84 dB(A) at operator's ear under normal conditions.	
<b>OVERALL DIMENSIONS</b>	Wheel Track: 50.5" (128.3 cm) Wheel Base: 47" (119 cm) Length: 98" (249 cm) Width: 70.62" (179 cm) w/reels Height: 80.83" (205 cm)	Wheel Track: 50.5" (128.3 cm) Wheel Base: 47" (119 cm) Length: 98" (249 cm) Width: 70.84" (180 cm) w/reels Height: 80.83" (205 cm)	Wheel Track: 50.5" (128.3 cm) Wheel Base: 48.6" (123 cm) Length: 98" (249 cm) Width: 70.62" (179 cm) w/reels Height: 80.83" (205 cm)	Wheel Track: 50.5" (128.3 cm) Wheel Base: 48.6" (123 cm) Length: 98" (249 cm) Width: 70.84" (180 cm) w/reels Height: 80.83" (205 cm)
<b>WEIGHT</b>	1161 lbs. (526 kg)	1257 lbs. (570 kg)	1286 lbs. (586 kg)	1406 lbs. (638 kg)
<b>WIDTH OF CUT</b>	59" (150 cm)			
<b>GROUND CLEARANCE</b>	4.5" (11.4 cm)			
<b>CUTTING UNIT SUSPENSION</b>	Double A-arm suspension utilizing sealed ball joints allows free cutting unit motion in pitch, roll, and yaw. The basket is directly mounted to the cutting unit displacing weight evenly over both cutting unit rollers eliminating the carrier frame, roller and pull links. Lift in Turn: Provides a level cut from side to side of cutting units regardless of turning angle (patented).			
<b>QUICK CONNECT CUTTING UNITS</b>	Quick connect/disconnect feature for both the reel drive motor and cutting unit. No tools required.			
<b>REEL SPEED</b>	Approximately 2050 RPM at 2850 engine RPM. Adjustable.			
<b>BACKLAPPING</b>	Standard equipment.			
<b>OPTIONAL ACCESSORIES</b>	Canopy, verticutters, greens rollers, dethatchers, oil cooler.			
<b>CERTIFICATION</b>	Certified to meet ANSI specification B71.4 - 2004 and European CE standards.			
<b>WARRANTY</b>	Two-year limited warranty. Refer to the Operator's Manual for further details.			

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# Greensmaster® TriFlex®

## 3300/3320/3400/3420 Accessories\*

	8-BLADE DPA CUTTING UNITS	11-BLADE DPA CUTTING UNITS	14-BLADE CUTTING UNITS
<b>DPA CUTTING UNITS</b>	Patented design allowing reel/bedknife behind centerline aggressiveness to maintain constant through the service life of the reel.		
<b>HEIGHT OF CUT (HOC) RANGE</b>	Cutting height is adjusted on front roller by two vertical screws and held by two locking cap screws. Bench HOC range is .062"-.297" (1.6-7.5 mm). With high HOC kit, range is .297-1.0" (7.5-25.4 mm). Effective HOC may vary depending on turf conditions and bedknife installed.		
<b>REEL WELDMENT</b>	Reels are 5" (13 cm) in diameter, 21" (53.3 cm) in length. <b>EdgeSeries™</b> Reels blades are welded to 5 stamped steel spiders, and heat treated. The reel is ground for diameter and concentricity, and relief grind.		
<b>REEL BEARINGS</b>	Two stainless steel ball bearings, 30 mm inside diameter slip fit onto reel shaft retained by internally splined threaded insert. Low drag seals/slingers for added protection with o-ring sealed motor and counterweight. Reel position maintained by a wave washer with no adjusting nut.		
<b>MAINTENANCE</b>	No grease zerks, sealed bearing design eliminates daily maintenance.		
<b>REEL DRIVE</b>	The reel weldment shaft is a 1.375" (35 mm) diameter tube with internally splined threaded insert.		
<b>FRAME</b>	Precision machined, die-cast aluminum cross member with two bolt-on die-cast aluminum side plates.		
<b>BEDKNIFE</b>	Replaceable single edged, EdgeMax™ Microcut Bedknife is standard on all cutting units.		
<b>BEDKNIFE ADJUSTMENT</b>	Dual screw, indexed "click" adjustment to the reel; detents correspond to .0007" (.018 mm) bedknife movement for each position.		
<b>FRONT &amp; REAR ROLLERS</b>	Front: Not included with cutting unit, purchased separately. Option between full, narrow-spaced and wide-spaced Wiehle roller. Rear: Steel full, 2" (5.1 cm) diameter with sealed bearings and through-shaft.		
<b>GRASS SHIELD</b>	Non-adjustable shield with adjustable cut-off bar to improve grass discharge from reel in wet conditions.		
<b>TOTAL WEIGHT</b>	8-blade: 80 lbs. (30.4 kg) with aluminum Wiehle Roller.    11-blade: 83 lbs. (37.7 kg) with aluminum Wiehle Roller. 14-blade: 86 lbs. (39 kg) with aluminum Wiehle Roller.		

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## GREENSMaster TRIFLEX ACCESSORIES

TRIFLEX TRACTION UNIT ACCESSORIES	
04716	Off-Greens Kit (Anti Bobbing)
04722	Tri-Roller Kit
04723	Spiker Kit
04714	3WD Kit
04730	Leak Detector
04554	Light Kit
137-7947	Front light mounting kit
131-2048	Rear Light Kit
04508	Seat Kit, Standard
04729	Seat Kit, Premium
121-3660	Armrest Kit - Standard
119-7105	Armrest Kit - Premium
119-1691	Hydraulic Oil Cooler Kit (Gas)
117-9314	Hydraulic Oil Cooler Kit (Diesel)
119-7129	2WD Weight Kit (Gas) (ANSI compliant)
121-6665	2WD Weight Kit (Diesel) (ANSI compliant)
120-5750	3WD Weight Kit (Gas) (ANSI compliant)
104-6540	Spark Arrestor Kit (Gas)
120-1951	Spark Arrestor Kit (Diesel)
138-8579	Canopy
137-8130	Utility Bag Kit
133-1308	Seat cover
121-3660	LH Armrest
115-4754	Wireless Hour Meter

OPTIONAL TRIFLEX ACCESSORIES	
04720	Thatching Reel - TriFlex (set of 1)
119-1128	Individual dynaBLADE, 2mm thickness
117-6824	Individual dynaBLADE, 1.2mm thickness
117-6839	Replacement dynaBLADE kit, 1.2mm thickness (36 blades)
117-6840	Replacement dynaBLADE kit, 2mm thickness (36 blades)
121-6674	Individual Spring Steel Blade
121-6675	Replacement Spring Steel Blade Kit (36 pcs)
04722	Greens Tri-Roller - TriFlex (set of 1)
04723	Greens Spiker - TriFlex (set of 1)

TRIFLEX DPA CUTTING UNITS	
04651	EdgeSeries™ 8-Blade Cutting Unit
04653	EdgeSeries™ 11-Blade Cutting Unit
04655	EdgeSeries™ 14-Blade Cutting Unit

TRIFLEX DPA CUTTING UNIT ROLLERS	
04257	Full Roller DPA (set of 1)
04255	Narrow Wiehle Roller DPA (set of 1)
04256	Wide Wiehle Roller DPA (set of 1)
04249	Full Split Roller
04250	Wiehle Split Roller
04628	Solid Steel Roller Kit (Front Wide Wiehle, Rear Full)
04716	Anti Bobbing Kit
71-1550	2" Rear Wiehle Roller (cast iron)
125-5180	Rear Roller Extension Kit
120-9600	High Height of Cut Kit (.35 - .94)
04258	Extended Wiehle Roller
04267	Narrow Wiehle Roller (for paspalum)

TRIFLEX DPA CUTTING UNIT ROLLER SCRAPERS / BRUSHES / COMBS	
04646	Rear Roller Scraper (Spring Loaded)
125-3503	Front Wiehle Roller Scraper - Narrow
125-3504	Front Wiehle Roller Scraper - Wide
125-3505	Front Roller Scraper - Full
115-7377	Front Wiehle Roller Scraper Brush - Narrow
115-7378	Front Wiehle Roller Scraper Brush - Wide
115-7379	Front Roller Scraper Brush - Full
115-7380	Front Wiehle Roller Scraper Comb - Narrow
115-7381	Front Wiehle Roller Scraper Comb - Wide
115-7382	Front Roller Scraper Comb - Full
107-9561	Anti Bobbing Roller - Scraper Kit (Front and Rear)
121-2260	Rear Roller Scraper - Adjustable

TRIFLEX DPA CUTTING UNIT ACCESSORIES	
04648	Universal Groomer Drive
04802	Groomer Reel - Twin Tipped
04270	Grooming Brush, Soft
04271	Grooming Brush, Stiff
04650	Rotating Rear Roller Brush
115-1880	EdgeMax™ Microcut Bedknife
115-1881	EdgeMax™ Tournament Bedknife
93-4262	Microcut Bedknife (HOC Range 1.58mm - 3.18mm)
93-4263	Tournament Bedknife (HOC Range 3.2mm - 6.35mm)
93-4264	Low Cut Bedknife (HOC Range 6.35mm and higher)
94-6392	Bedknife - High Cut
108-4303	Extended Microcut Bedknife
108-4302	Extended Tournament Bedknife
63-8610	Bedknife - Fairway
99-3794-03	DPA Bedbar, Aggressive (optional)
106-2648-01	DPA Bedbar, Less Aggressive (standard equipment)
137-0879	EdgeMax™ Fairway Bedknife
139-4320	EdgeMax™ Short Microcut Bedknife
139-4321	EdgeMax™ Short Tournament Bedknife

TRIFLEX SERVICE KITS	
44969	1000 hour filter Maintenance Kit - Greensmaster TriFlex 3300 / 3320
44970	400 hour filter Maintenance Kit - Greensmaster TriFlex 3400 / 3420

BIO-HYDRAULIC FLUID / HYDRAULIC FLUID / OIL	
119-2157	Bio-Hydraulic Fluid, 5 gal. (18.9 L)
119-2158	Bio-Hydraulic Fluid, 55 gal. (208.2 L)
133-8086	Premium Hydraulic Fluid, 5 gal. (18.9 L)
133-8087	Premium Hydraulic Fluid, 55 gal. (208.2 L)
121-6393	Premium Engine Oil SAE 30, 5 gal. (18.9 L)
121-6392	Premium Engine Oil SAE 30, 55 gal. (208.2 L)

TOOLS	
04399	Turf Evaluator
125-5610	Paper - Reel
140-5531	Shim - Reel
94-9010	Height of Cut Bar Assembly

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