# **TORO**<sub>®</sub>

# SETTING A NEW STANDARD BY WHICH ALL OTHER RIDING GREENS MOWERS 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 after-cut appearance. And superior cutting performance is only the beginning. A patented lift-gate footrest and tool-free, quick-change 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<sup>™</sup> label from Toro.



EdgeSeries<sup>®</sup> reels

# toro.com/triflex

# 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 clean-up cut
- Enhanced clippings capture system for improved turf health

#### Highly productive and versatile

 Powerful 15.6 kW (21 hp) Briggs & Stratton<sup>®</sup> Vanguard petrol or 18.5kW (24.8 hp) Kubota<sup>®</sup> diesel engine

- Ample power for a wide range of applications both on and off the greens
- 10 mph transport speed to save time and improve productivity

#### Innovative maintenance enhancements

- A lift-gate footrest provides easy access to the centre cutting unit for simplified maintenance and adjustments
- Tool-free, quick-change cutting units for greater versatility, simplified maintenance and enhanced productivity
- Large, balloon-style tyres ensure equal pressure on the turf to minimise tyre 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.

GRE	ENSMASTER® TRIFL	EX® 3300/3320/3400	0/3420 SPECIFICATI	ONS*
	GREENSMASTER 3300 TriFlex, MODEL 04510	GREENSMASTER 3320 TriFlex <b>Hybrid</b> , MODEL 04530	GREENSMASTER 3400 TriFlex, MODEL 04520	GREENSMASTER 3320 TriFlex <b>Hybrid</b> , MODEL 04530
ENGINE	Briggs & Stratton® Vanguard®, 15.6 kW air-cooled, petrol engine, governed to 2, Displacement: 627 cc (38.3 in³).	(21 hp) @ 3,600 rpm, 2-cylinder, 920 high idle, 1,650 rpm low idle.	Kubota® D902, Tier 4i, 18.5 kW (24.8 hp liquid-cooled, diesel engine, governed t Displacement: 902 cc (55.0 in³) radiator	o 2.880 high idle. 1.560 rpm low idle.
FUEL CAPACITY	22.7 l capacity.		22.7 L capacity. Biodiesel ready up to B20	
TRACTION DRIVE	2WD parallel hydrostatic or optional 3W	D series-parallel piston pump closed-loop	system. Foot pedal forward and reverse; ir	finitely variable.
GROUND SPEED			hanism. Mow speed setting does not affect	
	Maximum Greensmaster TriFlex transpo		justing stop in footrest pan without affectin	• ·
CUTTING UNIT DRIVE	Single-gear pump, valve block, series reel drive to three reel motors.	48 V, 5,400 watt air-cooled brushless permanent magnet generator in parallel with 48 V 9Ah battery set powers three 48 V-1100 watt brushless permanent magnet reel motors.	Single-gear pump, valve block, series reel drive to three reel motors.	48 V, 5,400 watt air-cooled brushless permanent magnet generator in parallel with 48 V 9Ah battery set powers three 48 V-1,100 watt brushless permanent magnet reel motors.
AUTOMATIC CLIP CONTROL	N/A	Yes	N/A	Yes
STEERING	Power steering. No-tool quick adjust ste	ering arm position with power assist, allow	wing a wide range of operator sizes.	
ELECTRICAL SYSTEM	Steering cylinder has a through-shaft design for precise straight-line tracking.   12-volt lead acid, group size U1, with 300 minimum cold cranking amps at -18°C and 34 minutes reserve capacity at 29°C/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 -18°C and 95 minutes minimum reserve capacity at 29.4°C. 60 amp alternator, circuit fused at 60 amps. Ignition switch/key. Seat switch. Harness terminals and fuse slot available for optional lights installation.			
48-VOLT SYSTEM FOR ELECTRIC REELS	N/A	4–12 V 9 Ah sealed, maintenance-free, VRLA batteries. 48-volt system is isolated from 12-volt including the frame/chassis.	N/A	4–12 V 9Ah sealed, maintenance-free, VRLA batteries. 48-volt system is isolated from 12-volt including the frame/chassis.
CONTROLS	Ignition: Off/Run/Start. Throttle: Low-High ide. Choke (AC only): Open/Close choke plate. Parking brake: Off/On. Traction pedal: Rev/Neutral/Forward joystick: Raises/Lowers reels, and 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 and 04520). InfoCenter™ diagnostics (04530 and 04540).			
GAUGES	Hour meter. Low oil pressure warning light.	InfoCenter: On-board 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 and 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: On-board 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 and backlap control. Clip control setting.
TYRES/WHEELS/PRESSURE	Three, 19 x 10.5-8, 4-ply rating, pneuma	tic tubeless and demountable. Smooth trea	d. Tyre pressure recommended: 0.83–1.03	bar (12–18 psi) front and rear.
BRAKES	Hand-actuated parking brake lever with	two 15.2 cm (6") diameter drum brakes m	ounted on the front wheel motors.	
HYDRAULIC OIL	25.7 l tank	20.8 l tank	25.7 L tank	20.8 l tank
LEAK DETECTION	Equipped with Turf Guardian™ leak detection system. System sounds an alarm and turns on a warning light with the loss of 88–147 ml of hydraulic oil.	Optional		
SOUND LEVEL	80 dB(A) at operator's ear under normal	conditions.	84 dB(A) at operator's ear under normal	conditions.
OVERALL DIMENSIONS	Wheel track: 128.3 cm (50.5") Wheel base: 119 cm (47") Length: 249 cm (98") Width: 179 cm (70.62") w/ reels Height: 205 cm (80.83")	Wheel track: 128.3 cm (50.5") Wheel base: 119 cm (47") Length: 249 cm (98") Width: 180 cm (70.84") w/ reels Height: 205 cm (80.83")	Wheel track: 128.3 cm (50.5") Wheel base: 123 cm (48.6") Length: 249 cm (98") Width: 179 cm (70.62") w/ reels Height: 205 cm (80.83")	Wheel track: 128.3 cm (50.5") Wheel base: 123 cm (48.6") Length: 249 cm (98") Width: 180 cm (70.84") w/ reels Height: 205 cm (80.83")
WEIGHT	526 kg (1,161 lb)	570 kg (1,257 lb)	586 kg (1,286 lb)	638 kg (1,406 lb)
WIDTH OF CUT	150 cm (59")			
GROUND CLEARANCE	11.4 cm (4.5")			
CUTTING UNIT SUSPENSION	Double A-arm suspension utilising sealed ball joints allows for 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 and 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).			
QUICK-CONNECT CUTTING UNITS	Quick-connect/disconnect feature for both the reel drive motor and cutting unit. No tools required.			
REEL SPEED	Approximately 2,050 rpm at 2,850 engine rpm. Adjustable.			
BACKLAPPING	Standard equipment.			
OPTIONAL ACCESSORIES	Canopy, verticutters, greens rollers, dethatchers, oil cooler.			
CERTIFICATION	Certified to meet ANSI specification B71.4-2004 and European CE standards.			
WARRANTY	· · · · · · · · · · · · · · · · · · ·	Two-year 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
DPA CUTTING UNITS	Patented design allowing reel/bedknife behind centreline aggressiveness to remain constant throughout the service life of the reel.
HEIGHT-OF-CUT (HOC) RANGE	Cutting height is adjusted on front roller by two vertical screws and held by two locking cap screws. Bench HOC range is 1.6–7.5 mm (0.062"–0.297"). With high HOC kit, range is 7.5–25.4 mm (0.297"–1.0"). Effective HOC may vary depending on turf conditions and bedknife installed.
REEL WELDMENT	Reels are 13 cm (5") in diameter, 53.3 cm (21") in length. EdgeSeries™ reel blades are welded to five stamped steel spiders, and heat treated. The reel is ground for diameter and concentricity, and relief grind.
REEL BEARINGS	Two stainless steel ball bearings, 30 mm(1.18") inside diameter, slip-fit onto reel shaft retained by internally splined threaded insert. Low drag seals/slingers for added protection with 0-ring sealed motor and counterweight. Reel position maintained by a wave washer with no adjusting nut.
MAINTENANCE	No grease zerks, sealed bearing design eliminates daily maintenance.
REEL DRIVE	The reel weldment shaft is a 35 mm (1.375") diameter tube with internally splined threaded insert.
FRAME	Precision-machined, die-cast aluminium cross member with two bolt-on, die-cast aluminium side plates.
BEDKNIFE	Replaceable single-edged, EdgeMax™ Microcut bedknife is standard on all cutting units.
BEDKNIFE ADJUSTMENT	Dual screw, indexed "click" adjustment to the reel; detents corresponding to 0.018 mm (0.0007") bedknife movement for each position.
FRONT AND REAR ROLLERS	Front: Not included with cutting unit, purchased separately. Option between full, narrow-spaced and wide-spaced Wiehle roller. Rear: Steel full, 5.1 cm (2") diameter with sealed bearings and through-shaft.
GRASS SHIELD	Non-adjustable shield with adjustable cut-off bar to improve grass discharge from reel in wet conditions.
TOTAL WEIGHT	8-blade: 36.3 kg (80 lb) with aluminium Wiehle roller. 11-blade: 37.7 kg (83 lb) with aluminium Wiehle roller.

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### GREENSMASTER® TRIFLEX® 3300/3320/3400/3420 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, 2 mm thickness	
117-6824	Individual dynaBLADE, 1.2 mm thickness	
117-6839	Replacement dynaBLADE kit, 1.2 mm thickness (36 blades)	
117-6840	Replacement dynaBLADE kit, 2 mm 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™ 11-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	5 cm (2") rear Wiehle roller (cast iron)	
125-5180	Rear roller extension kit	
120-9600	High height-of-cut kit (0.35–0.94)	
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 1.58–3.18 mm)	
93-4263	Tournament bedknife (HOC range 3.2–6.35 mm)	
93-4264	Low-cut bedknife (HOC range 6.35 mm 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	1,000-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, 18.9 l	
119-2158	Bio-hydraulic fluid, 208.2 l	
133-8086	Premium hydraulic fluid, 18.9 l	
133-8087	Premium hydraulic fluid, 208.2 l	
121-6393	Premium engine oil SAE 30, 18.9 l	
121-6392	Premium engine oil SAE 30, 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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The Greensmaster® TriFlex™ is manufactured in Tomah, WI ISO 9002 Certified Plant.





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#### Count on it.