

Version 18, August 2017

Copyright® 2017 – The Toro Company, All Rights Reserved

Toro Part Number 02107SL

Revision History

Version Number	Changes
1	Original
2	Pages 48 and 50; Toro part numbers provided for air and fuel filters. dated 08/2002
3	Pages 2, 9, 27, and 34; Peugeot engine coolant has changed. The part number has changed from (93-7213) to (104-8606). dated 03/2010
4	Page 35; Incorrect part number for oil filter on GM 345. The correct number is FL-100-A. dated 03/2010
	Page 41; Workman 1100 tire pressure range change. dated 03/2010
5	All 2003 updates - dated 01/2003
6	All 2004 updates - dated 07/2004
7	All 2005 updates - dated 02/2005
8	All 2006 updates
9	All 2007 updates - includes increased oil change intervals newer units.
10	All 2008 updates - includes Toro oil part numbers at the end of the book.
11	All 2009 updates - includes Toro serial number locations
12	All 2010 updates - dated 02/2010
13	All 2010 updates - dated 06/2010
14	All 2011 updates - dated 02/2011
15	All 2012 updates - dated 1/14/2013
16	All 2013 and 2014 updates - dated 3/1/2014
17	All 2015 and 2016 updates - dated 05/1/2016
18	All 2017 updates - dated 08/25/2017



Table of Contents

Introduction	
Important Information on Consumable Items	
Finding Your Product's Model and Serial Number	
Reel Mowers	
Reelmaster 7000	
Reelmaster 7000-D	
Reelmaster 6500-D and 6700-D (2- and 4-Wheel Drive)	
Reelmaster 6500-D and 6700-D (2- and 4-Wheel Drive)	
Reelmaster 6500-D and 6700-D (2- and 4-Wheel Drive)	
Reelmaster 5010 Series (2- and 4-Wheel Drive)	
Reelmaster 5010-H	
Reelmaster 5410 and 5510 Series (2- and 4-Wheel Drive)	
Reelmaster 5410 and 5510	
Reelmaster 5410, 5510 and 5610 Series (2- and 4-Wheel Drive)	
Reelmaster 5610 (4-Wheel D)	
Reelmaster 5410-G and 5510-G (2- and 4-Wheel Drive)	
Reelmaster 5410-G and 5510-G (2- and 4-Wheel Drive)	
Reelmaster 5200-D and 5400-D (2- and 4-Wheel Drive)	
Reelmaster 5200-D and 5400-D (2- and 4-Wheel Drive)	
Reelmaster 5100-D and 5300-D (2- and 4-Wheel Drive)	
Reelmaster 5500-D (2- and 4-Wheel Drive)	
Reelmaster 5500-D (2- and 4-Wheel Drive)	
Reelmaster 4500-D	
Reelmaster 4000-D	
Reelmaster 4000-D	
Reelmaster 3100-D	
Reelmaster 3100-D	
Reelmaster 3100-D	
Reelmaster 3500-D	50
Reelmaster 3500-D	
Reelmaster 3550-D	54
Reelmaster 3555-D and 3575-D	
Reelmaster 2300-D and 2600-D	
Reelmaster 2000-D	60
Reelmaster 2000-D	62
Reelmaster Transport Frame	64
Grounds Pro 2000	65
Grounds Pro 2000-D	66
Greens Mowers	67

	Greensmaster 3250-D	
	Greensmaster 3250-D	
	Greensmaster 3250-D	72
	Greensmaster 3200-D	
	Greensmaster 3200	76
	Greensmaster 3150	78
	Greensmaster 3150	80
	Greensmaster 3100	82
	Greensmaster 3100	84
	Greensmaster 3120	86
	Greensmaster 3050	88
	Greensmaster 3050	
	Greensmaster 3300 and 3320	92
	Greensmaster 3400 and 3420	
	Greensmaster 1000, 1600, 2000, and 2600	96
	Greensmaster 1000 and 1600	98
	Greensmaster 1000 and 1600 1	00
	Greensmaster 1000 and 1600	02
	Greensmaster 800 1	04
	Greensmaster 800 1	06
	Greensmaster 800 1	80
	Greensmaster 500 1	10
	Greensmaster Flex 211	12
	Greensmaster Flex 18 and 211	14
	Greensmaster Flex 2100 and 1800 1	116
	Greensmaster Flex 1820 and 2120 1	18
	Greensmaster eFlex 1820 and 2120 1	20
Rota	ry Mowers1	123
	Groundsmaster 7200 and 7210 (through 2014) 1	24
	Groundsmaster 7200 and 7210 (2015 and newer) 1	26
	Groundsmaster 7210 (Tier 4)1	28
	Groundsmaster 360-D (2- and 4-Wheel Drive)1	130
	Groundsmaster 360 1	32
	Groundsmaster 5900 and 5910-D 1	34
	Groundsmaster 5900 and 5910 1	36
	Groundsmaster 580-D	38
	Groundsmaster 580-D	40
	Groundsmaster 580-D	42
	Groundsmaster 455-D	44
	Groundsmaster 4000-D	46
	Groundsmaster 4000-D	
	Groundsmaster 4000 and 4010-D	50

	Groundsmaster 4000 and 4010-D	
	Groundsmaster 4100-D	
	Groundsmaster 4100-D	
	Groundsmaster 4100 and 4110-D	
	Groundsmaster 4100 and 4110-D	160
	Groundsmaster 4300-D	162
	Groundsmaster 4300-D	
	Groundsmaster 4500 and 4700-D	
	Groundsmaster 4500 and 4700-D	
	Groundsmaster 4500 and 4700-D	
	Groundsmaster 4500-D and 4700-D	172
	Groundsmaster 3500-G	174
	Groundsmaster 3500-D	
	Groundsmaster 3505 and 3500-D	178
	Groundsmaster 3320	180
	Groundsmaster 225	182
	Groundsmaster 3000	184
	Groundsmaster 3000-D	186
	Groundsmaster 345	188
	Groundsmaster 325-D (2- and 4-Wheel Drive)	190
	Groundsmaster 328-D (2- and 4-Wheel Drive)	192
	Groundsmaster 328-D (2- and 4-Wheel Drive)	
	Groundsmaster 228-D (2- and 4-Wheel Drive)	196
	Groundsmaster 3280-D (2- and 4-Wheel Drive)	198
	Groundsmaster 3280-D (2- and 4-Wheel Drive)	200
	Groundsmaster 223-D (2- and 4-Wheel Drive)	202
	Groundsmaster 1000L	204
Vehic	cles	207
	Workman 1100	208
	Workman 2100	210
	Workman 2110	212
	Workman e2050	214
	Workman GTX	216
	Workman GTX (Electric)	218
	Workman MD	220
	Workman MDX	222
	Workman MDX-D	224
	Workman MD	226
	Workman 3100	228
	Workman 3100	230
	Workman 3120	232
	Workman 3130	234

	Workman 3300 and 4300-D	
	Workman 3300 and 4300-D	
	Workman 3200 and 4200	240
	Workman 3200 and 4200	242
	Workman HD	244
	Workman HDX	246
	Workman HDX-D	248
	Workman HDX-D	
	Workman HDX Kubota EFI	252
	Workman HDX-Auto	254
Cultiv	/ation	
	Greens Aerator	258
	ProCore 648 Aerator	260
	HydroJect 3000	262
	HydroJect 3010	264
	HydroJect 4000	266
	Aerators 864 and 1298	268
	Aerators 440, 660, 880	270
	Fairway Aerator	271
	ProCore Soil Relievers	272
	ProCore Processor and Hitches	274
Debri	is Products	277
	4800 Turf Sweeper	278
	Rake-O-Vac (Engine and PTO Drive)	280
	Pro Force Debris Blower	282
Spec	ialty Equipment	285
	Sand Pro 2020, 3020 and 5020	286
	Sand Pro 3040 and 5040	288
	Sand Pro 2040 Z	290
	Line Painter 1200	292
	Pro Stripe 560 Mower	294
	Pro Stripe 560 Mower	296
	GreensPro 1200 Greens Roller	298
	GreensPro 1240/1260 Greens Roller	300
Appli	cation Products	303
	Multi Pro 1100	304
	Multi Pro 1200 and 1250	306
	Multi Pro 1750	308
	Multi Pro 5500	310
	Multi Pro 5600	312
	Multi Pro 5700	314
	Multi Pro 5800	

	Foam Marker Kit	318
	Foam Marker Kit	320
	Top Dresser 1800	322
	Top Dresser 2300	324
	Top Dresser 2500	325
	MH 400 Material Handler	
	ProPass 200 Broadcast Spreader	328
Lubr	icants	
	Engine Oil Viscosity Charts (A through C)	332
	Engine Oil Viscosity Charts (D and E)	333
	Engine Oil Viscosity Charts (F thru H)	334
	Engine Oil Viscosity Charts (I thru K)	335
	Engine Oil Viscosity Charts (L and M)	336
	Engine Oil Viscosity Charts (N and O)	337
	Hydraulic Oil Viscosity Charts (P and Q)	338
	Hydraulic Oil Standards: Charts R though U	
	Toro Lubricant and Fluid Part Numbers	342
	American Petroleum Institute (API) Engine Oil Guide	343



Introduction

This book provides easy reference to information most commonly accessed. Every effort has been made to ensure that the information provided in this book is up to date.

Part numbers are provided for your convenience, but number changes are common. Toro part number changes are usually reflected on shipping invoices. However, non-Toro part number changes (Kohler, Briggs & Stratton, etc.) may occur without notification. To ensure accuracy, refer to the proper parts catalog for your machine before ordering parts.

All oils mentioned in this guide are based on Toro engineering specifications. Refer to your equipment's operator's manual for acceptable substitutes (if any). You may also refer to Toro's website for service bulletins regarding the use of biodegradable oils (listed under General Topics).

The charts indicated for many of the oil listings provide viscosity ratings for different operating temperatures. All charts are listed in the Lubricants section that begins on page 331.

All traction units have grease fittings that must be lubricated regularly with No. 2 general purpose lithium-based grease. If machinery is operated under severe conditions, lubricate all bearings and bushings more often than normal recommendations.

IMPORTANT NOTES:

Important Information on Consumable Items

The normal operating environment of Toro machines can be categorized as off-road, severe duty. In order for equipment to provide continuous service in this type of environment, regular cleaning and scheduled maintenance must be performed.

Components are designed to provide durability with a minimum amount of maintenance. Maintenance schedules are developed for each product in an effort to reduce unexpected failures and down-time. However, components that have constant contact with the turf environment (i.e., reels, bedknives, blades, rollers, caster wheels, etc.) are subject to a wide variety of detrimental influences that can accelerate the need for maintenance and/or repair prior to the recommended schedules. Because of this, these components (greaseable and non-greaseable) may require additional repairs as part of maintenance, and should be considered consumable items.

For additional information on consumable items, refer to the Toro Warranty statement inside the rear cover of the machine's operator's manuals.

Finding Your Product's Model and Serial Number





These are pictures of typical Toro model and serial number plates. You should be able to find a model and serial number plate that looks similar on your type of machine.

Review the following sections to help identify the location of the model and serial number plate on your machine.

Due to the various product configurations these plates may be placed in a somewhat protected area (not readily visible). Most plates will be attached to a main frame member.

Groundsmasters and Reelmasters

Placement varies based on model. Look first in the area directly behind the operator's left knee, on the firewall.



Another location is on the front frame extension to the left of the driver's feet.



Groundsmaster 360 is located directly in front of the steering column.



Riding Greensmowers

Locations vary on these machines based on vintage. Check under the seat area or on the main frame just above the rear steer wheel, or on the right-hand frame member near the wheel brake and somewhat behind and below the driver's right foot.



GreensPro Roller

The serial decal is located at the right rear corner of the machine.



Workman Vehicles

These plates are under the dashboard area and may be in the center (as shown) or on either the right or left-hand side.





Multi Pro 1750

Lift the seat and look for the plate on the left-front corner of the compartment on the chassis near the battery.



Sand Pro 2040Z

Locate the serial plate from the front left of the machine near the fuel filler cap



Sand Pro 3040/5040

The serial plate location is on the vertical plate forward of the left foot platform



Other Non-Riding Product

Look on the main frame structure in an open, yet damage-protected area.

The ProForce Blower is shown.



The ProCore 648 Aerator



ProPass is shown. Look on the front left-hand side of the machine



Reel Mowers

Reelmaster 7000	2
Reelmaster 7000-D	4
Reelmaster 6500-D and 6700-D (2- and 4-Wheel Drive)	6
Reelmaster 6500-D and 6700-D (2- and 4-Wheel Drive)	8
Reelmaster 6500-D and 6700-D (2- and 4-Wheel Drive)	10
Reelmaster 5010 Series (2- and 4-Wheel Drive)	12
Reelmaster 5010-H	
Reelmaster 5410 and 5510 Series (2- and 4-Wheel Drive)	16
Reelmaster 5410 and 5510	18
Reelmaster 5410, 5510 and 5610 Series (2- and 4-Wheel Drive)	20
Reelmaster 5610 (4-Wheel D)	22
Reelmaster 5410-G and 5510-G (2- and 4-Wheel Drive)	24
Reelmaster 5410-G and 5510-G (2- and 4-Wheel Drive)	26
Reelmaster 5200-D and 5400-D (2- and 4-Wheel Drive)	28
Reelmaster 5200-D and 5400-D (2- and 4-Wheel Drive)	30
Reelmaster 5100-D and 5300-D (2- and 4-Wheel Drive)	32
Reelmaster 5500-D (2- and 4-Wheel Drive)	34
Reelmaster 5500-D (2- and 4-Wheel Drive)	36
Reelmaster 4500-D	
Reelmaster 4000-D	40
Reelmaster 4000-D	42
Reelmaster 3100-D	44
Reelmaster 3100-D	46
Reelmaster 3100-D	48
Reelmaster 3500-D	50
Reelmaster 3500-D	52
Reelmaster 3550-D	54
Reelmaster 3555-D and 3575-D	
Reelmaster 2300-D and 2600-D	58
Reelmaster 2000-D	60
Reelmaster 2000-D	62
Reelmaster Transport Frame	64
Grounds Pro 2000	65
Grounds Pro 2000-D	66

Reelmaster 7000

Model 03708, 03708N, 03781 **Serial** 311000001 and Up

Engine Brand Kubota

Engine Oil Filter 104-5169

Breather Element axle......110-4815

Hydraulic Oil7.5 gal...... ISO VG 46

Hydraulic Filter 94-2621

Hydraulic Filter Chg......75-1310

Planetary Gear......Check Plug...... SAE 85W-140

Air Filter Precleaner 108-3814

Air Filter 108-3816

Fuel Filter Separator Spin-On*......110-9049

Engine Coolant......13 qt...... Ethylene Glycol, Water

(50/50 mix)

High Viscosity Index/Low Pour Point Anti-wear Hydraulic Fluid, ISO VG 46

Material Properties:

Viscosity Index ASTM 140 to 160

D2270

Pour Point, ASTM D97 -34°F to -49°F

Industry Specifications:

Vickers I-286-S (Quality Level), Vickers M-2950-S

(Quality Level), Denison HF-0

IMPORTANT NOTES:

^{*} Refer to Toro's parts catalog or Parts Viewer for bio-diesel fuel filter part numbers

Maintenance Service Interval	Maintenance Procedure
After the first 8 hours	Torque the wheel nuts.
After the first 50 hours	Change the engine oil and filter.
After the first 200 hours	Change the planetary gear drive oil. Change the rear axle lubricant. Change the hydraulic filters.
Before each use or daily	Check the engine oil level. Check the cooling system. Check the hydraulic fluid level. Check the tire pressure. Check the interlock switches. Check the interlock switches. Drain water or other contaminants from the water separator. Drain water or other contaminants from fuel filter/water separator. Remove debris from the engine area, oil cooler, and radiator. Inspect the hydraulic lines and hoses for leaks, kinked lines, loose mounting supports, wear, loose fittings, weather deterioration, and chemical deterioration.
Every 50 hours	Grease the bearings and bushings. Check the battery condition.
Every 100 hours	Check the condition and tension of the alternator belt.
Every 150 hours	Change the engine oil and filter.
Every 200 hours	Torque the wheel nuts. Clean the spark arrestor muffler.
Every 400 hours	Service the air cleaner. (Service the air cleaner earlier if the air cleaner indicator shows red. Service it more frequently in extremely dirty or dusty conditions.) Check the fuel lines and connections. Replace the fuel filter canister. Check the planetary gear drive oil level (sooner if external leakage is noticed). Check the rear axle lubricant level.
Every 800 hours	Drain and clean the fuel tank. Change the planetary gear drive oil. Change the rear axle lubricant. Check the rear wheel toe-in. Change the hydraulic fluid. Change the hydraulic filters.
Before storage	Drain and clean the fuel tank. Check the tire pressure. Check all fasteners. Grease or oil all grease fittings and pivot points. Paint chipped surfaces.
Yearly	Check the fuel lines and connections. Change the planetary gear drive oil.



Reelmaster 7000-D

Model Tier 4 Diesel 03780, 03780A **Serial** 315000001 and Up

Engine Brand	Yanmar
Engine Oil 6 qt	SAE 15W-40 CJ-4 or higher
Engine Oil Filter	125-7025
Breather Element axle	110-4812
Hydraulic Oil8.25 gal	ISO VG 46/68
Hydraulic Filter	94-2621
Hydraulic Filter Chg	. 75-1310
Planetary GearCheck Plug	SAE 85W-140
Air Filter Precleaner	108-3814
Air Filter	108-3816
Fuel Filter Separator Spin-On*	125-2915
Tire Pressure	12–15 PSI (Front and Rear)
Engine Coolant9 qt	Ethylene Glycol, Water (50/50 mix)

IMPORTANT NOTES:

^{*} Refer to Toro's parts catalog or Parts Viewer for bio-diesel fuel filter part numbers.

Maintenance Service Interval	Maintenance Procedure
After the first 8 hours	Torque the wheel nuts.
After the first 200 hours	Change the planetary gear drive oil. Change the rear axle lubricant. Change the hydraulic filters.
Before each use or daily	Check the engine oil level. Check the cooling system. Check the hydraulic fluid level. Check the tire pressure. Check the interlock switches. Drain water or other contaminants from the water separator. Drain water or other contaminants from fuel filter/water separator. Remove debris from the engine area, oil cooler, and radiator. Inspect the hydraulic lines and hoses for leaks, kinked lines, loose mounting supports, wear, loose fittings, weather deterioration, and chemical deterioration.
Every 50 hours	Grease the bearings and bushings. Check the battery condition.
Every 100 hours	Check the condition and tension of the alternator belt.
Every 200 hours	Torque the wheel nuts.
Every 250 hours	Change the engine oil and filter.
Every 400 hours	Service the air cleaner. (Service the air cleaner earlier if the air cleaner indicator shows red. Service it more frequently in extremely dirty or dusty conditions.) Check the fuel lines and connections. Replace the fuel filter canister. Replace the engine fuel filter. Check the planetary gear drive oil level (Also, check if external leakage is observed). Check the rear axle lubricant level.
Every 800 hours	Drain and clean the fuel tank. Change the planetary gear drive oil. (Or yearly, whichever comes first) Change the rear axle lubricant. Check the rear wheel toe-in. Change the hydraulic fluid. Change the hydraulic fliters.
Every 6,000 hours	Service the diesel oxidation catalyst (DOC) (or as required)
Before storage	 Drain and clean the fuel tank. Check the tire pressure. Check all fasteners. Grease or oil all grease fittings and pivot points. Paint chipped surfaces.
Yearly	Check the fuel lines and connections.



Reelmaster 6500-D and 6700-D (2- and 4-Wheel Drive)

Model 03806, 03807, 03808 **Serial** 210000001 through 240999999

Engine Brand Kubota

Engine Oil Filter 108-3841

Hydraulic Oil (Chart R).....9 gal ISO VG 46

Hydraulic Filter 94-2621

Safety Air Filter......108-3813

Water Separator.......98-9764

Filter In-line Fuel* 98-7612 (2003-2007)

Planetary Gear Drive......32 oz...... SAE 85W-140

Rear Axle Oil......80 oz.......... SAE 80W-90

(Front and Rear)

Engine Coolant2.5 gal...... Ethylene Glycol, Water

(50/50 mix)

IMPORTANT NOTES:

^{*} Refer to Toro's parts catalog or Parts Viewer for bio-diesel fuel filter part numbers.



Maintenance

Note: Determine the left and right sides of the machine from the normal operating position.

Recommended Maintenance Schedule

Maintenance Service Interval	Maintenance Procedure
After first 10 hours	Check the fan and alternator belt tension.Torque the wheel lug nuts.
After first 50 hours	Change the engine oil and filter. Check the engine RPM (idle and full throttle).
After first 200 hours	Change the planetary gear oil Change the 4 WD rear axle lubricant.
Every 50 hours	 Lubricate all grease fittings. Check the air cleaner.¹ Check the battery fluid level and cable connections.
Every 100 hours	 Change the engine oil and filter. Inspect the cooling system hoses. Check the fan and alternator belt tension.
Every 200 hours	 Drain moisture from hydraulic tank. Drain moisture from fuel tank. Torque the wheel lug nuts.
Every 400 hours	 Service the air cleaner.¹ Replace the fuel/water separator filter. Replace the fuel filter. Inspect traction linkage movement Check the engine RPM (idle and full throttle). Check the planetary gear oil Check the 4 WD rear axle lubricant.
Every 800 hours	 Change the hydraulic filter. Change the hydraulic fluid Check rear wheel toe-in. Pack the 2WD rear wheel bearings. Change the planetary gear oil Change the 4 WD rear axle lubricant. Adjust valves
Every 1600 hours or every 2 years, whichever occurs first	 Replace all moving hoses. Replace interlock safety switches. Flush/replace the cooling system fluid. Drain/flush fuel tank. Drain/flush hydraulic tank.

¹Service air cleaner whenever indicator shows red

Important Refer to your engine operator's manual for additional maintenance procedures.

Reelmaster 6500-D and 6700-D (2- and 4-Wheel Drive)

Model 03806, 03807, 03808, 03809, 03810, 03811, 03812, 03813 **Serial** 250000001 and Up

Engine Brand	Kubota

Engine Oil (Chart A).......7.5 qt........... SAE 10W-30 CD (2005-2006)

Engine Oil (*Chart M*).........7.5 qt............ SAE 15W-40 (2007 and Up)

Engine Oil Filter 108-3841

Hydraulic Oil (Chart R).....9 gal...... ISO VG 46

Hydraulic Filter 94-2621

Air Filter......108-3812

Safety Air Filter......108-3813

Water Separator Element* 98-9764

Filter In-line Fuel* 98-7612 (2003-2007)

Planetary Gear Drive......16 oz SAE 85W-140

Rear Axle Oil......80 oz.......... SAE 80W-90

(Front and Rear)

Engine Coolant......2.5 gal...... Ethylene Glycol, Water

(50/50 mix)

IMPORTANT NOTES:

^{*} Refer to Toro's parts catalog or Parts Viewer for bio-diesel fuel filter part numbers.



Recommended Maintenance Schedule(s)

Maintenance Service Interval	Maintenance Procedure	
After the first 8 hours	Check the torque of the wheel nuts or bolts (after the first 1–4 hours of operation and then after 10 hours of operation).	
After the first 50 hours	Change the engine oil and oil filter.	
After the first 200 hours	Change the planetary gear drive oil. Change the rear axle lubricant.	
Before each use or daily	Check the engine oil level. Check and clean the cooling system. Check the hydraulic fluid level. Check the tire pressure. Check the reel to bedknife contact. Check the interlock switches. Drain the fuel filter/water separator. Remove debris from the rear screen, oil cooler, and radiator (more frequently in dirty conditions). Inspect the hydraulic lines and hoses for leaks, kinked lines, loose mounting supports, wear, loose fittings, weather deterioration, and chemical deterioration.	
Every 50 hours	Grease the bearings and bushings. Check the condition of the battery.	
Every 100 hours	Inspect and tighten the cooling system hoses and connections. Check the condition and tension of the alternator belt.	
Every 150 hours	Change the engine oil and oil filter.	
Every 200 hours	Check the torque of the wheel nuts or bolts.	
Every 400 hours	Service the air cleaner. (Service the air cleaner earlier if the air cleaner indicator shows red. Service it more frequently in extremely dirty or dusty conditions.) Check the fuel lines and connections. Replace the fuel filter canister. Replace the fuel pre-filter. Check the rear axle lubricant level.	
Every 800 hours	Change the planetary gear drive oil. Change the rear axle lubricant. Check the rear wheel toe-in. Change the hydraulic fluid.	
Yearly	Change the planetary gear drive oil.	
Every 2 years	Drain and clean the fuel tank. Drain and flush the cooling system. Replace all moving hoses. Drain/flush the hydraulic tank.	

Important: Refer to your engine Operator's Manual for additional maintenance procedures.



Reelmaster 6500-D and 6700-D (2- and 4-Wheel Drive)

Model 03800, 03801, 03802, 03803, 03804, 03805 **Serial** 51001 and Up

Engine Brand Peugeot

Engine Oil (Chart C)......5.3 qt.......... SAE 15W-40 CI,CI4

Engine Oil Filter 108-3837

Hydraulic Oil (Chart R).....9 gal...... ISO VG 46

Hydraulic Filter 94-2621

Air Filter......108-3812

Safety Air Filter......108-3813

Water Separator...... 76-5220

Planetary Gear Drive......32 oz........... SAE 85W-140

Rear Axle Oil..... 80 oz..... SAE 80W-90

Tire Pressure 15–20 PSI

(Front and Rear)

Engine Coolant (Special Requirement) Peugeot Antifreeze 3.5 gal

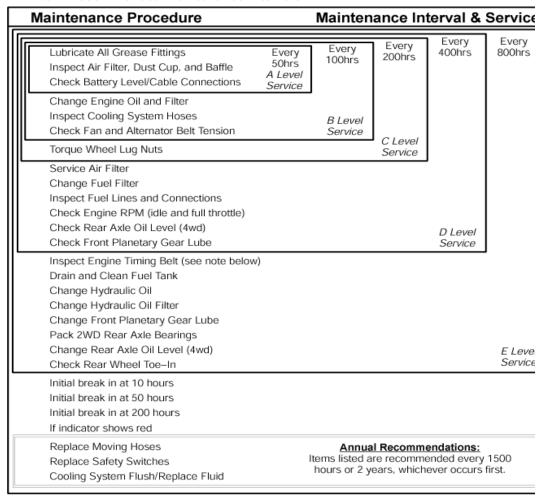
Toro Part # (104-8606)

IMPORTANT NOTES:



REELMASTER 6500-D/6700-D Maintenance Schedule

Minimum Recommended Maintenance Intervals



NOTE: Replace Timing Belt if worn, cracked or oil soaked. A new Timing Belt should be installed any time the Belt is removed or loosened.



Reelmaster 5010 Series (2- and 4-Wheel Drive)

Model All models including N models - Non Tier 4 **Serial** 260000001 and Up

Engine Brand Kubota

Engine Oil (Chart A)...... SAE 15W-40 CI-4

Engine Oil Filter 108-3841

Hydraulic Oil (Chart R)..... ISO VG 46

Hydraulic Filter 94-2621

Steering Valve Filter......86-3010

Air Filter (5210 - 5510) 108-3810

Air Filter (5610 Only) 108-3812

Fuel Filter Spin-On*......110-9049 (2008 and Up)

Engine Coolant...... Ethylene Glycol, Water (50/50 mix)

	5210	5410	5410-D	5510	5510-D	5610
Engine Oil in Quarts	3.5	5.5	5.5	5.5	5.5	5.5
Hydraulic Oil in Gallons	9	9	9	9	9	9
Coolant in Quarts	5.5	7	7	7	7	10

^{*} Refer to Toro's parts catalog or Parts Viewer for bio-diesel fuel filter part numbers

IMPORTANT NOTES:



Recommended Maintenance Schedule(s)

Maintenance Service Interval	Maintenance Procedure	
After the first hour	Torque the wheel lug nuts to 70 to 90 ft-lb (94 to 122 N·m).	
After the first 8 hours	Check the condition and tension of the alternator belt.	
After the first 10 hours	Torque the wheel lug nuts to 70 to 90 ft-lb (94 to 122 N·m).	
After the first 50 hours	Change the engine oil and filter. Check the engine RPM (idle and full throttle).	
Before each use or daily	Check the engine oil level. Check the cooling system. Check the hydraulic fluid level. Check the reel to bedknife contact. Check the operation of the interlock switches. Remove debris from the screen, oil coolers, and radiator (more frequently in dirty operating conditions). Check the hydraulic lines and hoses for leaks, kinked lines, loose mounting supports, wear, loose fittings, weather deterioration, and chemical deterioration.	
Every 50 hours	Grease the bearings and bushings. (Grease them immediately after every washing regardless of the interval listed.) Check the condition of and clean the battery. Check the battery cable connections.	
Every 100 hours	Inspect the cooling system hoses. Check the condition and tension of the alternator belt.	
Every 150 hours	Change the engine oil and filter.	
Every 200 hours	Drain moisture from the fuel and hydraulic fluid tanks. Check the reel bearing preload.	
Every 250 hours	Torque the wheel lug nuts to 70 to 90 ft-lb (94 to 122 N·m).	
Every 400 hours	 Service the air cleaner. (Service the air cleaner earlier if the air cleaner indicator shows red. Service it more frequently in extremely dirty or dusty conditions.) Check the fuel lines and connections for deterioration, damage, or loose connections. Replace the fuel filter canister. Check the engine RPM (idle and full throttle). 	
Every 800 hours	Drain and clean the fuel tank Check the rear wheel toe-in. Change the hydraulic fluid. Change the hydraulic fliters (sooner if the service interval indicator is in the Red zone). Pack the rear wheel bearings Adjust the engine valves (refer to the engine Operator's Manual)	
Before storage	Drain and clean the fuel tank	
Every 2 years	Flush and replace the cooling system fluid. Drain and flush the hydraulic tank. Replace all moving hoses.	

Reelmaster 5010-H

Model 03674

Serial 315000001 and Up

Engine Brand Kubota

Engine Oil (Chart A)......5.5 qt............. SAE 15W-40 CJ-4

Engine Oil Filter 104-5167

Hydraulic Oil (Chart R).....11 gal ISO VG 46/68 Specification Below

 Hydraulic Filter
 94-2621

 Charge Fluid Filter
 86-3010

 Air Filter
 108-3810

 Water Separator
 110-9044

 Fuel Filter Spin-On
 110-9049

Engine Coolant......5.5 qt......Ethylene Glycol, Water (50/50 mix)

sint Anti-waar Hydrau

High Viscosity Index/Low Pour Point Anti-wear Hydraulic Fluid, ISO VG 46

Material Properties:

Viscosity Index ASTM 140 to 160

D2270

Pour Point, ASTM D97 -34°F to -49°F

Industry Specifications:

Vickers I-286-S (Quality Level), Vickers M-2950-S

(Quality Level), Denison HF-0

IMPORTANT NOTES:



Recommended Maintenance Schedule(s)

Maintenance Service Interval	Maintenance Procedure	
After the first hour	Torque the wheel lug nuts to 70 to 90 ft-lb (94 to 122 N·m).	
After the first 8 hours	Check the condition and tension of the alternator belt.	
After the first 10 hours	Torque the wheel lug nuts to 70 to 90 ft-lb (94 to 122 N·m).	
After the first 50 hours	Change the engine oil and filter. Check the engine RPM (idle and full throttle).	
Before each use or daily	Check the engine oil level. Check the cooling system. Check the hydraulic fluid level. Check the reel to bedknife contact. Check the operation of the interlock switches. Remove debris from the screen, oil coolers, and radiator (more frequently in dirty operating conditions). Check the hydraulic lines and hoses for leaks, kinked lines, loose mounting supports, wear, loose fittings, weather deterioration, and chemical deterioration.	
Every 50 hours	Grease the bearings and bushings. (Grease them immediately after every washing regardless of the interval listed.) Check the condition of and clean the battery. Check the battery cable connections.	
Every 100 hours	Inspect the cooling system hoses. Check the condition and tension of the alternator belt.	
Every 150 hours	Change the engine oil and filter.	
Every 200 hours	Drain moisture from the fuel and hydraulic fluid tanks. Check the reel bearing preload.	
Every 250 hours	Torque the wheel lug nuts to 70 to 90 ft-lb (94 to 122 N·m).	
Every 400 hours	Service the air cleaner. (Service the air cleaner earlier if the air cleaner indicator shows red. Service it more frequently in extremely dirty or dusty conditions.) Check the fuel lines and connections for deterioration, damage, or loose connections. Replace the fuel filter canister. Check the engine RPM (idle and full throttle).	
Every 800 hours	Drain and clean the fuel tank Check the rear wheel toe-in. Change the hydraulic fluid. Change the hydraulic filters (sooner if the service interval indicator is in the Red zone). Pack the rear wheel bearings Adjust the engine valves (refer to the engine Operator's Manual)	
Before storage	Drain and clean the fuel tank	
Every 2 years	Flush and replace the cooling system fluid. Drain and flush the hydraulic tank. Replace all moving hoses.	



Reelmaster 5410 and 5510 Series (2- and 4-Wheel Drive)

Model Tier 4 Diesel 03672, 03687 **Serial** 313000101 through 314999999

Engine Brand Yanmar

Engine Oil (Chart A)......5.5 qt............. SAE 15W-40 CJ-4

Engine Oil Filter 125-7025

Hydraulic Oil (Chart R)......15 gal ISO VG 46/68 Specification Below

 Hydraulic Filter
 94-2621

 Charge Fluid Filter
 86-3010

 Air Filter
 108-3810

 Water Separator
 125-2915

Engine Coolant......7 qt......Ethylene Glycol, Water

(50/50 mix)

High Viscosity Index/Low Pour Point Anti-wear Hydraulic Fluid. ISO VG 46

Material Properties:

Viscosity, ASTM D445 cSt @ 40°C 44 to 48

cSt @ 100°C 7.9 to 8.5

Viscosity Index ASTM 140 to 160

D2270

Pour Point, ASTM D97 -34°F to -49°F

Industry Specifications:

Vickers I-286-S (Quality Level), Vickers M-2950-S

(Quality Level), Denison HF-0

IMPORTANT NOTES:



Recommended Maintenance Schedule(s)

Maintenance Service Interval	Maintenance Procedure
After the first hour	Torque the wheel lug nuts to 94 to 122 N-m (70 to 90 ft-lb).
After the first 10 hours	Torque the wheel lug nuts to 94 to 122 N-m (70 to 90 ft-lb). Check the alternator belt tension.
Before each use or daily	Check the engine oil level. Check the cooling system. Check the hydraulic fluid level. Check the reel to bedknife contact. Check the operation of the interlock switches. Remove debris from the screen and radiator/oil cooler (more frequently in dirty operating conditions). Check the hydraulic lines and hoses for leaks, kinked lines, loose mounting supports, wear, loose fittings, weather deterioration, and chemical deterioration.
Every 50 hours	Grease the bearings and bushings. (Grease them immediately after every washing regardless of the interval listed.) Check the condition of and clean the battery. Check the battery cable connections.
Every 100 hours	Inspect the cooling system hoses. Check the alternator belt tension.
Every 200 hours	Check the reel bearing preload.
Every 250 hours	 Torque the wheel lug nuts to 94 to 122 N-m (70 to 90 ft-lb). Change the engine oil and filter.
Every 400 hours	 Service the air cleaner. (Service the air cleaner earlier if the air cleaner indicator shows red. Service it more frequently in extremely dirty or dusty conditions.) Replace the fuel filter canister. Replace the engine fuel filter. Check the fuel lines and connections for deterioration, damage, or loose connections.
Every 800 hours	Check the rear wheel toe-in. Change the hydraulic fluid. Change the hydraulic filters (sooner if the service interval indicator is in the Red zone). Pack the rear wheel bearings
Every 6,000 hours	Replace the DOC
Every 2 years	 Flush and replace the cooling system fluid. Drain and flush the hydraulic tank. Replace all moving hoses.



Reelmaster 5410 and 5510

Model 03675, 03675N, and 03676 **Serial** 315000001 and Up

Engine Brand......Kubota

Engine Oil.....5.5 qts......SAE 15W-40 CH-4, CI-4, or higher

Engine Oil Filter.....108-3841

Hydraulic Oil.......15 gal.....ISO VG 46/68

Hydraulic Filter......94-2621
Charge Fluid Filter.....86-3010
Air Filter......108-3810

Water Separator......110-9044 **Fuel Filter Spin-On**......110-9049

Tire Pressure......12-15 psi

Engine Coolant......7 qts.......Ethylene Glycol, Water (50/50 Mix)

High Viscosity Index/Low Pour Point Antiwear Hydraulic Fluid, ISO VG 46 Multigrade

Material Properties:

Viscosity, ASTM D445 CSt @ 40°C (104°F)

44 to 48

cSt @ 100°C (212°F)

7.9 to 9.1

Viscosity index, ASTM 140 D2270 visc

STM 140 or higher (high viscosity index indicates a

multiweight fluid)

Pour point, ASTM D97 -36.7°C to -45°C (-34°F to

-49°F)

Industry Specifications:

Vickers I-286-S, Vickers M-2950-S, Denison HF-0,

Vickers 35 VQ 25 (Eaton ATS373-C)

IMPORTANT NOTES:

Recommended Maintenance Schedule(s)

Maintenance Service Interval	Maintenance Procedure	
After the first hour	Torque the wheel lug nuts to 94 to 122 N-m (70 to 90 ft-lb).	
After the first 8 hours	Check the condition and tension of the alternator belt.	
After the first 10 hours	Torque the wheel lug nuts to 94 to 122 N-m (70 to 90 ft-lb).	
After the first 50 hours	Change the engine oil and filter. Check the engine speed (idle and full throttle).	
Before each use or daily	Check the engine-oil level. Check the cooling system. Check the hydraulic-fluid level. Check the reel-to-bedknife contact. Check the operation of the interlock switches. Remove debris from the screen, oil coolers, and radiator. (More frequently in dirty operating conditions). Check the hydraulic lines and hoses.	
Every 50 hours	 Grease the bearings and bushings (and immediately after every washing). Check the condition of and clean the battery. Check the battery cable connections. 	
Every 100 hours	Inspect the cooling system hoses. Check the condition and tension of the alternator belt.	
Every 150 hours	Change the engine oil and filter.	
Every 200 hours	 Drain moisture from the fuel tank and hydraulic-fluid tank. Check the reel bearing preload. 	
Every 250 hours	Torque the wheel lug nuts to 94 to 122 N-m (70 to 90 ft-lb).	
Every 400 hours	 Service the air cleaner. (Service the air cleaner earlier if the air cleaner indicator shows red. Service it more frequently in extremely dirty or dusty conditions.) Check the fuel lines and connections for deterioration, damage, or loose connections. (Or yearly, whichever comes first). Replace the fuel-filter canister. Check the engine speed (idle and full throttle). 	
Every 800 hours	 Drain and clean the fuel tank. Check the rear wheel toe-in. Change the hydraulic fluid. Change the hydraulic filters. (Or more often if the service-interval indicator is in the red zone). Pack the rear wheel bearings. Adjust the engine valves (refer to the engine operator's manual). 	
Before storage	Drain and clean the fuel tank.	
Every 2 years	Flush and replace the cooling system fluid. Drain and flush the hydraulic tank. Replace all moving hoses.	



Reelmaster 5410, 5510 and 5610 Series (2- and 4-Wheel Drive)

Model Tier 4 Diesel 03606, 03607, 03679 **Serial** 316000001 and Up

Engine Brand Yanmar

Engine Oil (Chart A)......5.5 qt............. SAE 15W-40 CJ-4

Engine Oil Filter 125-7025

Hydraulic Oil (Chart R).....8 gal ISO VG 46/68 Specification Below

 Hydraulic Filter
 94-2621

 Charge Fluid Filter
 86-3010

 Air Filter
 108-3810

 Water Separator
 127-3075

 Fuel Filter Spin-On
 125-8752

Engine Coolant......7 qt.... Ethylene Glycol, Water

(50/50 mix)

High Viscosity Index/Low Pour Point Anti-wear Hydraulic Fluid, ISO VG 46

Material Properties:

Viscosity, ASTM D445 cSt @ 40°C 44 to 50 cSt @ 100°C 7.9 to 8.5

Viscosity Index ASTM D2270 140 to 160

Pour Point, ASTM D97 -36.6°C (-34°F) to 9.4°C

(-49°F)

Industry Specifications:

Vickers I-286-S (Quality Level), Vickers M-2950-S (Quality

Level), Denison HF-0

IMPORTANT NOTES:



Recommended Maintenance Schedule(s)

Maintenance Service Interval	Maintenance Procedure	
After the first hour	Torque the wheel lug nuts to 94 to 122 N-m (70 to 90 ft-lb).	
After the first 10 hours	Torque the wheel lug nuts to 94 to 122 N-m (70 to 90 ft-lb). Check the alternator-belt tension.	
Before each use or daily	Check the cooling system. Check the hydraulic-fluid level. Check the reel-to-bedknife contact. Check the operation of the interlock switches. Check the engine-oil level. Drain water or other contaminants from water separator. Remove debris from the screen and radiator/oil cooler. (More frequently in dirty operating conditions). Check the hydraulic lines and hoses.	
Every 50 hours	Grease the bearings and bushings (and immediately after every washing). Clean the battery and check the condition of it. (Or weekly, whichever comes first). Check the battery-cable connections.	
Every 100 hours	Inspect the cooling-system hoses. Check the alternator-belt tension.	
Every 200 hours	Check the reel-bearing preload.	
Every 250 hours	 Torque the wheel lug nuts to 94 to 122 N-m (70 to 90 ft-lb). Change the engine oil and filter. 	
Every 400 hours	Service the air cleaner. (Service the air cleaner earlier if the air cleaner indicator shows red. Service it more frequently in extremely dirty or dusty conditions.) Replace the fuel-filter canister. Replace the engine-fuel filter. Check the fuel lines and connections for deterioration, damage, or loose connections. (Or yearly, whichever comes first).	
Every 800 hours	Check the rear wheel toe-in. Change the hydraulic fluid. Change the hydraulic filters. (Or more often if the service-interval indicator is in the red zone). Pack the rear wheel bearings.	
Every 6,000 hours	 Disassemble, clean, and assemble the soot filter of the DPF. or clean the soot filter if engine faults SPN 3720 FMI 16, SPN 3720 FMI 0, or SPN 3720 FMI 16 display in the InfoCenter. 	
Every 2 years	Flush and replace the cooling-system fluid. Drain and flush the hydraulic tank. Replace all moving hoses.	

Reelmaster 5610 (4-Wheel D)

Model 03678

Serial 315000001 and Up

Engine Brand......Kubota

Engine Oil.....5.5 qts.......SAE 15W-40 CH-4, CI-4, or higher

Engine Oil Filter.....108-3841

Hydraulic Oil......15 gal.....ISO VG 46/68

 Hydraulic Filter
 .94-2621

 Charge Fluid Filter
 .86-3010

 Air Filter
 .108-3812

 Water Separator
 .110-9044

 Fuel Filter Spin-On
 .110-9049

Tire Pressure......12-15 psi

Engine Coolant...10 qts....Ethylene Glycol, Water (50/50 Mix)

High Viscosity Index/Low Pour Point Antiwear Hydraulic Fluid, ISO VG 46 Multigrade

Material Properties:

Viscosity, ASTM D445 CSt @ 40°C (104°F)

44 to 48

cSt @ 100°C (212°F)

7.9 to 9.1

Viscosity index, ASTM 140 or higher (high

D2270 viscosity index indicates a

multiweight fluid)

Pour point, ASTM D97 -36.7°C to -45°C (-34°F to

-49°F)

Industry Specifications:

Vickers I-286-S, Vickers M-2950-S, Denison HF-0,

Vickers 35 VQ 25 (Eaton ATS373-C)

IMPORTANT NOTES:

Maintenance Service Interval	Maintenance Procedure
After the first hour	Torque the wheel lug nuts to 94 to 122 N·m (70 to 90 ft-lb).
After the first 8 hours	Check the condition and tension of the alternator belt.
After the first 10 hours	Torque the wheel lug nuts to 94 to 122 N·m (70 to 90 ft-lb).
After the first 50 hours	Change the engine oil and filter. Check the engine rpm speed (idle and full throttle).
Before each use or daily	Check the engine-oil level. Check the cooling system. Check the hydraulic fluid level. Check the reel to bedknife contact. Check the operation of the interlock switches. Drain water or other contaminants from water separator. Remove debris from the screen, oil coolers, and radiator (more frequently in dirty operating conditions). Check the hydraulic lines and hoses for leaks, kinked lines, loose mounting supports, wear, loose fittings, weather deterioration, and chemical deterioration.
Every 50 hours	 Grease the bearings and bushings. (Grease them immediately after every washing regardless of the interval listed.) Check the condition of and clean the battery. Check the battery cable connections.
Every 100 hours	 Inspect the cooling system hoses. Check the condition and tension of the alternator belt.
Every 150 hours	Change the engine oil and filter.
Every 200 hours	 Drain moisture from the fuel and hydraulic fluid tanks. Check the reel bearing preload.
Every 250 hours	Torque the wheel lug nuts to 94 to 122 N·m (70 to 90 ft-lb).
Every 400 hours	 Service the air cleaner. (Service the air cleaner earlier if the air-cleaner indicator shows red. Service it more frequently in extremely dirty or dusty conditions.) Check the fuel lines and connections for deterioration, damage, or loose connections. Replace the fuel filter canister. Check the engine rpm speed (idle and full throttle).
Every 800 hours	 Drain and clean the fuel tank. Check the rear wheel toe-in. Change the hydraulic fluid. Change the hydraulic filters (sooner if the service interval indicator is in the Red zone). Pack the rear wheel bearings. Adjust the engine valves (refer to the engine owner's manual).
Before storage	Drain and clean the fuel tank.
Every 2 years	Flush and replace the cooling system fluid. Drain and flush the hydraulic tank. Replace all moving hoses.



Reelmaster 5410-G and 5510-G (2- and 4-Wheel Drive)

Model 03673, 03689 **Serial** 313000101 and Up

Engine Brand Kubota EFI Gasoline

Engine Oil Filter 127-0511

Hydraulic Oil (Chart R).....15 gal ISO VG 46/68 See Specification Below

 Hydraulic Filter
 94-2621

 Charge Fluid Filter
 86-3010

 Air Filter
 108-3810

Fuel Filter in Tank 125-2902

Engine Coolant......7 qt...... Ethylene Glycol, Water (50/50 mix)

High Viscosity Index/Low Pour Point Anti-wear Hydraulic Fluid, ISO VG 46

Material Properties:

Viscosity Index ASTM 140 to 160

D2270

Pour Point, ASTM D97 -34°F to -49°F

Industry Specifications:

Vickers I-286-S (Quality Level), Vickers M-2950-S

(Quality Level), Denison HF-0

IMPORTANT NOTES:

Maintenance Service Interval	Maintenance Procedure
After the first hour	Torque the wheel lug nuts to 94 to 122 N-m (70 to 90 ft-lb).
After the first 10 hours	Torque the wheel lug nuts to 94 to 122 N-m (70 to 90 ft-lb). Check the alternator belt tension.
Before each use or daily	Check the engine oil level. Check the cooling system. Check the hydraulic fluid level. Check the reel to bedknife contact. Check the operation of the interlock switches. Remove debris from the screen and radiator/oil cooler (more frequently in dirty operating conditions). Check the hydraulic lines and hoses for leaks, kinked lines, loose mounting supports, wear, loose fittings, weather deterioration, and chemical deterioration.
Every 50 hours	Grease the bearings and bushings. (Grease them immediately after every washing regardless of the interval listed.) Check the condition of and clean the battery. Check the battery cable connections.
Every 100 hours	Inspect the cooling system hoses. Check the alternator belt tension.
Every 200 hours	Check the reel bearing preload.
Every 250 hours	 Torque the wheel lug nuts to 94 to 122 N-m (70 to 90 ft-lb). Change the engine oil and filter.
Every 400 hours	 Service the air cleaner. (Service the air cleaner earlier if the air cleaner indicator shows red. Service it more frequently in extremely dirty or dusty conditions.) Replace the fuel filter canister. Replace the engine fuel filter. Check the fuel lines and connections for deterioration, damage, or loose connections.
Every 800 hours	Check the rear wheel toe-in. Change the hydraulic fluid. Change the hydraulic filters (sooner if the service interval indicator is in the Red zone). Pack the rear wheel bearings
Every 6,000 hours	Replace the DOC
Every 2 years	Flush and replace the cooling system fluid. Drain and flush the hydraulic tank. Replace all moving hoses.



Reelmaster 5410-G and 5510-G (2- and 4-Wheel Drive)

Model 03608, 03609 **Serial** 315000101 and Up

Engine Brand Kubota EFI Gasoline

Engine Oil Filter 108-3841

Hydraulic Oil (Chart R).....15 gal ISO VG 46/68 See Specification Below

 Hydraulic Filter
 94-2621

 Charge Fluid Filter
 86-3010

 Air Filter
 108-3810

Fuel Filter in tank...... 125-2902

Engine Coolant......7 qt......Ethylene Glycol, Water

(50/50 mix)

High Viscosity Index/Low Pour Point Anti-wear Hydraulic Fluid. ISO VG 46

Material Properties:

Viscosity, ASTM D445 CSt @ 40°C 44 to 48

cSt @ 100°C 7.9 to 8.5

Viscosity Index ASTM 140 to 160

D2270

Pour Point, ASTM D97 -34°F to -49°F

Industry Specifications:

Vickers I-286-S (Quality Level), Vickers M-2950-S

(Quality Level), Denison HF-0

IMPORTANT NOTES:

Maintenance Service Interval	Maintenance Procedure
After the first hour	Torque the wheel lug nuts to 94 to 122 N-m (70 to 90 ft-lb).
After the first 8 hours	Check the condition and tension of the alternator belt.
After the first 10 hours	Torque the wheel lug nuts to 94 to 122 N-m (70 to 90 ft-lb).
After the first 50 hours	Change the engine oil and filter. Check the engine RPM (idle and full speed).
Before each use or daily	Check the engine oil level. Check the cooling system. Check the hydraulic fluid level. Check the reel to bedknife contact. Check the operation of the interlock switches. Remove debris from the screen and radiator/oil cooler (more frequently in dirty operating conditions). Check the hydraulic lines and hoses for leaks, kinked lines, loose mounting supports, wear, loose fittings, weather deterioration, and chemical deterioration.
Every 50 hours	 Grease the bearings and bushings. (Grease them immediately after every washing regardless of the interval listed.) Check the condition of and clean the battery. Check the battery cable connections.
Every 100 hours	Inspect the cooling system hoses. Check the condition and tension of the alternator belt.
Every 200 hours	Change the engine oil and filter. Drain moisture from the hydraulic fluid tank. Check the reel bearing preload.
Every 250 hours	Torque the wheel lug nuts to 94 to 122 N-m (70 to 90 ft-lb).
Every 400 hours	 Service the air cleaner. (Service the air cleaner earlier if the air cleaner indicator shows red. Service it more frequently in extremely dirty or dusty conditions.) Replace the fuel filter. Check the fuel lines and connections for deterioration, damage, or loose connections. Check the engine RPM (idle and full speed).
Every 800 hours	Check the rear wheel toe-in. Change the hydraulic fluid. Change the hydraulic filters (sooner if the service interval indicator is in the Red zone). Pack the rear wheel bearings Adjust the engine valves (refer to the engine Operator's Manual)
Every 2,000 hours	Replace the spark plugs.
Every 2 years	 Flush and replace the cooling system fluid. Drain and flush the hydraulic tank. Replace all moving hoses.



Reelmaster 5200-D and 5400-D (2- and 4-Wheel Drive)

Model 03540, 03541, 03542, 03543, 03544 **Serial** 80001 through 240999999

Engine E	Brand	Kubota
-----------------	-------	--------

Transmission Oil (Chart T)....5 qt......... UTHF

Transmission Filter 110-4146

Front Axle Element...... 75-6340

Hydraulic Oil (Chart T)......8.5 gal...... UTHF

Hydraulic Filter 75-1310

Air Filter......108-3810

Water Separator**......98-9764

Fuel Filter In-line (If Used)** 98-7612

Pre Fuel Filter (If Used) 99-8358

Rear Axle, Models*.....SAE 80W-90

Steering knuckles - 0.35 qt

IMPORTANT NOTES:

^{*} Rear axle: Center section - 2.4 qt

^{**} Refer to Toro's parts catalog or Parts Viewer for bio-diesel fuel filter part numbers.

Maintenance

Note: Determine the left and right sides of the machine from the normal operating position.

Important Refer to your engine operator's manual for additional maintenance procedures.

Recommended Maintenance Schedule

Maintenance Service Interval	Maintenance Procedure	
After first 10 hours	Check the fan and alternator belt tension. Torque the wheel lug nuts. Change the transmission fluid. Replace the transmission filter.	
After first 50 hours	Replace the engine oil filter. Check the engine RPM (idle and full throttle).	
Every 50 hours	Check the battery fluid level. Check the battery cable connections. Lubricate all grease fittings. Change the engine oil. Inspect the air filter, dust cup, and baffle.	
Every 100 hours	Check the fan and alternator belt tension. Replace the engine oil filter. Inspect the cooling system hoses.	
Every 200 hours	 Torque the wheel lug nuts. Drain moisture from the hydraulic tank. Drain moisture from the fuel tank. Check the reel bearing preload. Lubricate the front axle bearings. 	
Every 400 hours	Service the air cleaner (when the indicator shows red). Replace the fuel/water separator filter. Replace the fuel filter. Inspect the traction linkage movement. Check the engine RPM (idle and full throttle).	
Every 800 hours	Change the hydraulic filter. Change the transmission fluid. Replace the transmission filter. Check rear wheel toe-in. Pack the bearings to both rear wheels (2WD). Change the rear axle lubricant (4WD). Adjust the valves (Kubota diesel engine).	
Every 1600 hours or 2 years, whichever occurs first	 Replace all moving hoses. Replace the interlock safety switches. Flush/replace the cooling system fluid. Drain/flush the fuel tank. Drain/flush the hydraulic tank. 	



Reelmaster 5200-D and 5400-D (2- and 4-Wheel Drive)

Model 03540 thru 03544 **Serial** 250000001 and Up

Engine Bra	nd		Kubota
Engine Oil	(Chart A)4 gt	SAE 10W-30 CI, CI4

 Breather Element
 98-9493

 Transmission Oil (Chart T)
 5 at
 UTHF

Transmission Filter 110-4146

Hydraulic Oil (Chart T)......7.5 gal...... UTHF

Hydraulic Filter 75-1310

Air Filter......108-3810

Pre Cleaner Filter......48-7430

Water Separator* 98-9764

Fuel Filter In-line* 98-7612

Rear Axle, Models**..... SAE 80W-90

Engine Coolant......2.4 gal...... Ethylene Glycol, Water (50/50 mix)

IMPORTANT NOTES:

^{**} Rear axle: Center section - 2.4 qt Steering knuckles - 0.35 qt

^{*} Refer to Toro's parts catalog or Parts Viewer for bio-diesel fuel filter part numbers.



Maintenance Service Interval	Maintenance Procedure
After the first operating hour	Torque the wheel lug nuts to 75 to 80 ft-lb (102 to 108 N⋅m).
After the first 8 operating hours	Check the condition and tension of the alternator belt. Check the condition and tension of the cooling fan belt.
After the first 10 operating hours	• Torque the wheel lug nuts to 75 to 80 ft-lb (102 to 108 N·m).
After the first 50 operating hours	Change the engine oil and filter. Check the engine RPM (idle and full throttle).
After the first 200 operating hours	Replace the transmission oil filter.
Before each use or daily	Check the engine oil level. Check the cooling system. Check the transmission fluid. Check the hydraulic fluid level. Check the rear axle lubricant (Model 03544 only). Check the rear axle lubricant (Model 03544 only). Check the reel to bedknife contact. Check the operation of the interlock switches. Inspect the air cleaner for damage and check the service indicator. If it is red, service the air cleaner. Check and clean out the air filter precleaner bowl (more often in dusty and dirty conditions). Drain water and other contaminants from the fuel filter/water separator. Remove debris from the screen, oil coolers, and radiator (more frequently in dirty operating conditions). Check the hydraulic lines and hoses for leaks, kinked lines, loose mounting supports, wear, loose fittings, weather deterioration, and chemical deterioration.
Every 50 hours	 Grease the bearings and bushings. Check the condition of and clean the battery. Check the battery cable connections.
Every 100 hours	 Inspect the cooling system hoses. Check the condition and tension of the alternator belt. Check the condition and tension of the cooling fan belt.
Every 150 hours	Change the engine oil and filter.
Every 200 hours	 Lubricate the front axle bearings. Drain moisture from the fuel and hydraulic fluid tanks. Check the reel bearing preload.
Every 250 hours	Torque the wheel lug nuts to 75 to 80 ft-lb (102 to 108 N⋅m).

Maintenance Service Interval	Maintenance Procedure
Every 400 hours	Check the fuel lines and connections for deterioration, damage, or loose connections. Replace the fuel filter canister. Replace the fuel prefilter. Check the traction linkage movement. Check the engine RPM (idle and full throttle).
Every 800 hours	Change the transmission fluid. Replace the transmission filter. Change the rear axle lubricant (Model 03544 only) Check the rear wheel toe-in. Change the hydraulic fluid. Change the hydraulic filter (sooner if the service interval indicator on the filter head is in the Red zone). Pack the rear wheel bearings (2-wheel drive only) Adjust the engine valves (refer to the engine Operator's Manual)
Every 2 years	Drain and clean the fuel tank. Flush and replace the cooling system fluid. Drain and flush the hydraulic tank. Replace all moving hoses. Replace the safety interlock switches

Important: Refer to your Engine Operator's Manual for additional maintenance procedures.



Reelmaster 5100-D and 5300-D (2- and 4-Wheel Drive)

Model All Models Serial 40001 and Up

Serial 40001 and Up	
Engine Brand	Mitsubishi
Engine Oil (<i>Chart I</i>)3.8 qt	SAE 10W-30 CI, CI4
Engine Oil Filter	108-3841 (5100-D) 93-4295 (5300-D)
Breather Element	98-9493
Transmission Oil (Chart T)5 qt	UTHF
Transmission Filter	75-1330
Front Axle Element	75-6340
Hydraulic Oil (Chart T)8 gal	UTHF
Hydraulic Filter	75-1310
Air Filter	27-7110
Pre Cleaner Filter	48-7430
Water Separator	63-8300
Fuel Filter In-line	43-2550
Rear Axle, Models*	SAE 80W-90
Tire Pressure	10-15 PSI (Front and Rear)

^{*} Rear axle: Center section - 2.4 qt

Steering knuckles - 0.35 qt

Engine Coolant......1.6 gal....... Ethylene Glycol, Water

IMPORTANT NOTES:

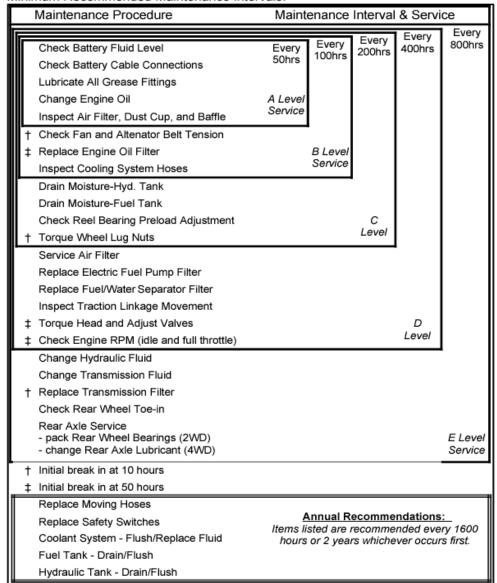
Part numbers, specifications, and lubricants listed herein are subject to change. For online Toro parts information, go to www.toro.com and then click Parts. To see the latest online version of this manual, go to www.toro.com and click Support, Education and Technical Reference, and then click Service Manuals. The most current API Service Grade of oil includes the service properties of earlier classifications. Refer to the American Petroleum Institute (API) Engine Oil Guide that begins on page 343 for further details.

(50/50 mix)



REELMASTER® 223-D, 5100-D, and 5300-D Maintenance Schedule

Minimum Recommended Maintenance Intervals:



(See Operator's and Service Manual for specifications and procedures)



Reelmaster 5500-D (2- and 4-Wheel Drive)

Model 03550 and 03551 **Serial** 210000001 through 240999999

Engine Brand Kubota

Engine Oil Filter 108-3841

Transmission Oil (Chart T).....5 qt........ UTHF

Transmission Filter 110-4146

Hydraulic Oil (Chart T)......8.5 gal...... UTHF

Hydraulic Filter 94-2621

Pre Cleaner Filter...... 48-7430

Water Separator* 98-9764

Rear Axle**......Check Plug....... SAE 80W-90

Engine Coolant......2.4 gal....... Ethylene Glycol, Water (50/50 mix)

IMPORTANT NOTES:

^{**} **Rear axle:** Center section - 2.4 qt Steering knuckles - 0.35 qt

^{*} Refer to Toro's parts catalog or Parts Viewer for bio-diesel fuel filter part numbers.

Maintenance

Note: Determine the left and right sides of the machine from the normal operating position.

Recommended Maintenance Schedule

Maintenance Service Interval	Maintenance Procedure
After first 10 hours	Check the fan and alternator belt tension. Torque the wheel lug nuts. Change the transmission fluid. Replace the transmission filter.
After first 50 hours	Change the engine oil and filter. Check the engine RPM (idle and full throttle). Torque the head and adjust valves.
After first 200 hours	Change the planetary gear oil
Every 50 hours	 Change the engine oil. Lubricate all grease fittings. Check the air cleaner.¹ Check the battery fluid level and cable connections.
Every 100 hours	Change the engine oil filter. Inspect the cooling system hoses. Check the fan and alternator belt tension.
Every 200 hours	 Drain moisture from hydraulic tank. Drain moisture from fuel tank. Torque the wheel lug nuts. Check the reel bearing preload.
Every 400 hours	 Service the air cleaner.¹ Replace the fuel/water separator filter. Replace the fuel filter. Inspect traction linkage movement Check the engine RPM (idle and full throttle). Torque the head and adjust valves.
Every 800 hours	 Change the hydraulic fluid Check rear wheel toe-in. Pack the 2 WD rear wheel bearings. Change the 4 WD rear axle lubricant. Change the transmission fluid.
Every 1600 hours or every 2 years, whichever occurs first	 Replace all moving hoses. Replace interlock safety switches. Flush/replace the cooling system fluid. Drain/flush fuel tank. Drain/flush hydraulic tank.

¹Service air cleaner whenever indicator shows red



Reelmaster 5500-D (2- and 4-Wheel Drive)

Model 03550 and 03551 **Serial** 250000001 and Up

Serial 250000001 and Up	
Engine Brand	. Kubota
Engine Oil (Chart A)4 qt	. SAE 10W-30 CI, CI4
Engine Oil (Chart M)	. SAE 15W-40 (2006)
Engine Oil Filter	. 108-3841
Breather Element	. 98-9493
Transmission Oil (Chart T)5 qt	.UTHF
Transmission Filter	. 110-4146
Front Axle Element	. 75-6340
Hydraulic Oil (Chart T)8.5 gal	.UTHF
Hydraulic Filter	. 94-2621
Air Filter	. 108-3810
Pre Cleaner Filter	. 48-7430
Water Separator*	. 98-9764
Fuel Filter In-line*	. 98-7612 (2002 and Up)
Rear Axle**	. SAE 80W-90
Tire Pressure	. 10–15 PSI (Front and Rear)
Engine Coolant2.3 gal	Ethylene Glycol, Water (50/50 mix)

^{**} **Rear axle:** Center section - 2.4 qt Steering knuckles - 0.35 qt

IMPORTANT NOTES:

^{*} Refer to Toro's parts catalog or Parts Viewer for bio-diesel fuel filter part numbers.



Maintenance Service Interval	Maintenance Procedure
After first 10 hours	Check the fan and alternator belt tension. Torque the wheel lug nuts.
After first 50 hours	Replace the engine oil and filter. Check the engine RPM (idle and full throttle).
After first 200 hours	Replace the transmission filter.
Every 50 hours	 Check the air cleaner.¹ Lubricate all grease fittings. Check the battery fluid level and cable connections.
Every 100 hours	Inspect the cooling system hoses.Check the fan and alternator belt tension.
Every 150 hours	Replace the engine oil and filter.
Every 200 hours	 Drain moisture from hydraulic tank. Drain moisture from fuel tank. Torque the wheel lug nuts. Check the reel bearing preload.
Every 400 hours	 Service the air cleaner.¹ Replace the fuel/water separator filter. Replace the fuel filter. Inspect traction linkage movement Check the engine RPM (idle and full throttle). Adjust the valves.
Every 800 hours or annually, whichever occurs first	Change the transmission fluid. Replace the transmission filter.
Every 800 hours	 Change the hydraulic fluid Check rear wheel toe-in. Pack the 2 WD rear wheel bearings. Change the 4 WD rear axle lubricant.
Every 1600 hours or every 2 years, whichever occurs first	 Replace all moving hoses. Replace interlock safety switches. Flush/replace the cooling system fluid. Drain/flush fuel tank. Drain/flush hydraulic tank.

¹Service air cleaner whenever indicator shows red

Important Refer to your engine operator's manual for additional maintenance procedures.



Reelmaster 4500-D

Model All models including N models **Serial** 30101 and Up

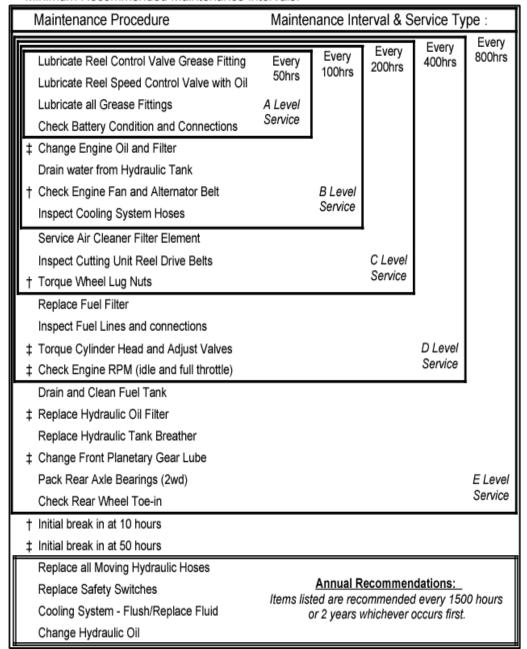
Engine Brand	Mitsubishi
Engine Oil (Chart A)6.9 qt	SAE 10W-30 CI,CI4
Engine Oil Filter	108-3835
Planetary Gear30 oz	SAE 80W-90
Hydraulic Oil (Chart R)9.3 gal	ISO VG 46
Hydraulic Filter	86-6110
Air Filter	108-3833
Pre Cleaner Filter	48-7430
Water Separator Fuel Filter	60-5470
Tire Pressure	13 PSI (Front) 15 PSI (Rear)
Engine Coolant3.7 gal	Ethylene Glycol, Water (50/50 mix)

IMPORTANT NOTES:



REELMASTER® 450-D and 4500-D Maintenance Schedule

Minimum Recommended Maintenance Intervals:



See Operator's and Service Manual for specifications and procedures)

QUICK SERVICE REFERENCE

Reelmaster 4000-D

Model 03706, 03707 **Serial** 80101 through 240999999

Engine Brand		Kubota
---------------------	--	--------

Engine Oil (Chart A)......8 qt SAE 10W-30 CI, CI4

Engine Oil Filter 104-5169

Hydraulic Oil (Chart S).....9.3 gal...... ISO VG 68

Hydraulic Filter 86-6110

Air Filter -Safety...... 108-3813

Water Separator* 98-9764 (2002 and Up)

Fuel Filter In-line* 98-7612 (1998 - 2001)

Fuel Filter In-line* 99-8358 (2002 - 2003)

(see operator's manual for tire pressures for various turf conditions)

Engine Coolant...........3.7 gal....... Ethylene Glycol, Water (50/50 mix)

IMPORTANT NOTES:

^{*} Refer to Toro's parts catalog or Parts Viewer for bio-diesel fuel filter part numbers.

Maintenance

Note: Determine the left and right sides of the machine from the normal operating position.

Recommended Maintenance Schedule

Maintenance Service Interval	Maintenance Procedure
After first 10 hours	Check the fan and alternator belt tension. Torque the wheel lug nuts.
After first 50 hours	 Change the engine oil and filter. Check the engine RPM (idle and full throttle). Change the hydraulic filter. Adjust valves Change the front planetary gear lube
Every 50 hours	 Lubricate all grease fittings. Check the air cleaner.¹ Check the battery fluid level and cable connections. Lubricate reel control valve grease fitting Lubricate reel speed valve with oil
Every 100 hours	 Change the engine oil and filter. Drain water from hydraulic tank Inspect the cooling system hoses. Check the fan and alternator belt tension.
Every 200 hours	Torque the wheel lug nuts. Inspect cutting unit reel drive belts
Every 400 hours	 Service the air cleaner.¹ Replace the fuel filters. Check the engine RPM (idle and full throttle). Inspect fuel lines and connections
Every 800 hours	 Drain and clean fuel tank Change the hydraulic filter Change hydraulic tank breather Check rear wheel toe-in. Pack the 2WD rear wheel bearings. Change the front planetary gear lube Adjust valves
Every 1600 hours or every 2 years, whichever occurs first	Replace all moving hoses. Replace interlock safety switches. Flush/replace the cooling system fluid. Drain/flush hydraulic tank.

¹Service air cleaner whenever indicator shows red

Important Refer to your engine operator's manual for additional maintenance procedures.



Reelmaster 4000-D

Model 03706 and 03707 **Serial** 250000001 through 310999999

Engine Brand	Kubota
---------------------	--------

Engine Oil Filter 104-5169

Hydraulic Oil (Chart S)......9.3 gal...... ISO VG 68

Hydraulic Filter 86-6110

Air Filter -Safety...... 108-3813

Water Separator* 98-9764 (2002 and Up)

Water Separator* 76-5220 (2001 and Older)

Fuel Filter In-line* 98-7612 (1998-2001)

Fuel Filter In-line* 99-8358 (2002-2003)

(see operator's manual for tire pressures for various turf conditions)

Engine Coolant.......3.7 gal Ethylene Glycol, Water (50/50 mix)

IMPORTANT NOTES:

^{*} Refer to Toro's parts catalog or Parts Viewer for bio-diesel fuel filter part numbers.

Maintenance Service Interval	Maintenance Procedure
After first 10 hours	Check the fan and alternator belt tension.
	Torque the wheel lug nuts.
	Change the engine oil and filter.
	Check the engine RPM (idle and full throttle).
After first 50 hours	Change the hydraulic filter.
	Adjust valves
	Change the front planetary gear lube
	Lubricate all grease fittings.
	Check the air cleaner.
Every 50 hours	Check the battery fluid level and cable connections.
	Lubricate reel control valve grease fitting
	Lubricate reel speed valve with oil
	Drain water from hydraulic tank
Every 100 hours	Inspect the cooling system hoses.
	Check the fan and alternator belt tension.
Every 150 hours	Change the engine oil and filter.
Every 200 hours	Torque the wheel lug nuts.
Livery 200 flours	Inspect cutting unit reel drive belts
	Service the air cleaner. ¹
Every 400 hours	Replace the fuel filters.
Every 400 flours	Check the engine RPM (idle and full throttle).
	Inspect fuel lines and connections
	Drain and clean fuel tank
	Change the hydraulic filter
	Change hydraulic tank breather
Every 800 hours	Check rear wheel toe-in.
	Pack the 2WD rear wheel bearings.
	Change the front planetary gear lube
	Adjust valves
Every 1600 bours or	Replace all moving hoses.
Every 1600 hours or every 2 years,	Replace interlock safety switches.
whichever occurs first	Flush/replace the cooling system fluid.
	Drain/flush hydraulic tank.

¹Service air cleaner whenever indicator shows red

Important Refer to your engine operator's manual for additional maintenance procedures.



Reelmaster 3100-D

Model All Models Serial 90001 through 240999999

Engine Brand Kubota

Engine Oil (Chart A)......4 qt.......... SAE 10W-30 CI, CI4

Engine Oil Filter 108-3841

Breather Element.......98-9493

Hydraulic Oil (Chart R)......3.5 gal ISO VG 46

Hydraulic Filter 54-0110

Water Separator* 98-9764

Fuel Filter In-line* 98-7612

Tire Pressure......14–18 PSI

(Front and Rear)

Engine Coolant......1.5 gal...... Ethylene Glycol, Water

(50/50 mix)

IMPORTANT NOTES:

^{*} Refer to Toro's parts catalog or Parts Viewer for bio-diesel fuel filter part numbers.



Maintenance

Note: Determine the left and right sides of the machine from the normal operating position.

Recommended Maintenance Schedule

Maintenance Service Interval	Maintenance Procedure
After first 10 hours	Check Fan and Alternator Belt Tensions
	Change Hydraulic Filter
	Torque Wheel Lug Nuts
After first 50 hours	Change Engine Oil Filter
Arter ilist 50 flours	Check Engine RPM (idle and full throttle)
	Inspect Air Filter, Dust Cup, and Burp Valve
	Lubricate All Grease Fittings
Every 50 hours	Change Engine Oil
Lvery 50 flours	Check Battery Cable Connections
	Check Fan and Alternator Belt Tensions
	Check Battery Fluid Level
Every 100 hours	Change Engine Oil Filter
Lvery 100 flours	Check Traction Belt
	Change Air Filter
Every 200 hours	Change Hydraulic Filter
	Torque Wheel Lug Nuts
	Change Hydraulic Fluid
	Change Fuel/Water Separator Filter
Every 400 hours	Change Fuel Pre Filter
Lvery 400 flours	Inspect Traction Cable Movement
	Inspect Spider Coupling for Wear
	Check Engine RPM (idle and full throttle)
Every 800 hours	Adjust valves
	Replace Moving Hoses
	Replace Safety Switches
Every 1000 hours	Coolant System – Flush/Replace Fluid
	Fuel Tank – Drain/Flush
	Hydraulic Tank – Drain/Flush



Reelmaster 3100-D

Model All Models Serial 250000001 through 280999999

Engine Brand Kubota

Engine Oil (Chart M)......4 qt............ SAE 15W-40 CH-4

Engine Oil Filter 108-3841

Hydraulic Oil (Chart R)......3.5 gal ISO VG 46

Hydraulic Filter 54-0110

Air Filter...... 108-3811

Water Separator* 98-9764 (1999-2007)

Fuel Filter In-line* 98-7612 (1999-2007)

Tire Pressure......14–18 PSI

(Front and Rear)

Engine Coolant......1.5 gal...... Ethylene Glycol, Water

(50/50 mix)

IMPORTANT NOTES:

^{*} Refer to Toro's parts catalog or Parts Viewer for bio-diesel fuel filter part numbers.

Maintenance Service Interval	Maintenance Procedure
	Check Fan and Alternator Belt Tensions
After first 10 hours	Change Hydraulic Filter
	Torque Wheel Lug Nuts
After first 50 hours	Change Engine Oil and Filter
Alter mat oo nodra	Check Engine RPM (idle and full throttle)
	Inspect Air Filter, Dust Cup, and Burp Valve
	Lubricate All Grease Fittings
Every 50 hours	Check Battery Cable Connections
	Check Fan and Alternator Belt Tensions
	Check Battery Fluid Level
Every 100 hours	Check Traction Belt
Every 150 hours	Change Engine Oil and Filter
	Change Air Filter
Every 200 hours	Change Hydraulic Filter
	Torque Wheel Lug Nuts
	Change Hydraulic Fluid
	Change Fuel/Water Separator Filter
Every 400 hours	Change Fuel Pre Filter
Every 100 modio	Inspect Traction Cable Movement
	Inspect Spider Coupling for Wear
	Check Engine RPM (idle and full throttle)
Every 800 hours	Adjust valves
	Replace Moving Hoses
	Replace Safety Switches
Every 1000 hours	Coolant System – Flush/Replace Fluid
	Fuel Tank – Drain/Flush
	Hydraulic Tank – Drain/Flush



Reelmaster 3100-D

Model All Models Serial 290000001 and Up

Engine Brand Kubota

Engine Oil (Chart M)......4 qt............. SAE 15W-40 CH-4

Engine Oil Filter 108-3841

Breather Element.......98-9493

Hydraulic Oil (Chart R).....3.5 gal...... ISO VG 46

Hydraulic Filter 54-0110

(Front and Rear)

Engine Coolant......1.5 gal....... Ethylene Glycol, Water

(50/50 mix)

IMPORTANT NOTES:

^{*} Refer to Toro's parts catalog or Parts Viewer for bio-diesel fuel filter part numbers.

Maintenance Service Interval	Maintenance Procedure
After the first hour	Torque the wheel nuts.
After the first 10 hours	Torque the wheel nuts. Check the condition and tension of all belts. Change the hydraulic filter.
After the first 50 hours	Change the oil and oil filter.
Before each use or daily	Check the engine oil level. Check the engine coolant level. Check the hydraulic fluid level. Check the tire pressure. Check the reel-to-bedknife contact. Check the interlock system. Drain the water separator. Clean the radiator and oil cooler. Check the hydraulic lines and hoses.
Every 25 hours	Check the electrolyte level. (If machine is in storage, check every 30 days.)
Every 50 hours	Lubricate all bearings and bushings. (Lubricate all bearings and bushings daily when conditions are dusty and dirty.)
Every 100 hours	Check the condition and tension of all belts.
Every 150 hours	Change the oil and oil filter.
Every 200 hours	Torque the wheel nuts. Service the air cleaner (More frequently in extreme dusty or dirty conditions) Check the parking brake adjustment. Change the hydraulic filter.
Every 400 hours	Check the fuel lines and connections. Replace the fuel filter canister. Change the hydraulic fluid.
Every 500 hours	Grease the bearings in the rear axle.
Yearly	Apply a liberal coating of grease to the check valve pins.
Every 2 years	Drain and clean the fuel tank.

▲ CAUTION

If you leave the key in the ignition switch, someone could accidently start the engine and seriously injure you or other bystanders.

Remove the key from the ignition before you do any maintenance.



Reelmaster 3500-D

Model 03603 Serial 40001 and Up

Engine Brand Peugeot

Engine Oil (Chart C)......5.3 qt.......... SAE 15W-40 CI, CI4

Engine Oil Filter 108-3837

Hydraulic Oil (Chart S).....6.5 gal....... ISO VG 68

Hydraulic Filter 86-3010

Front And Rear Axle...... SAE 80W-90

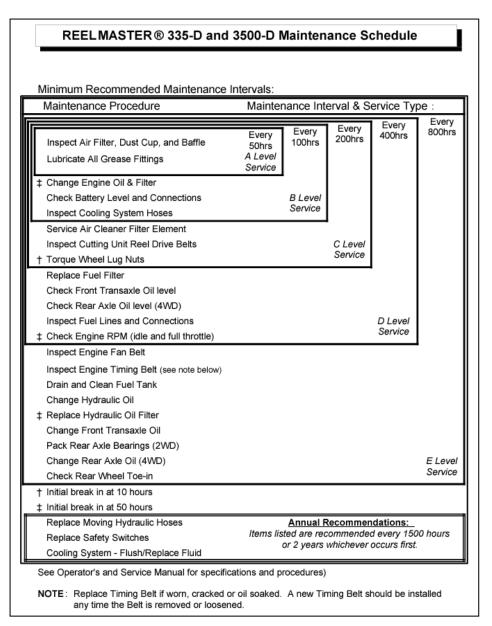
(Front and Rear)

Engine Coolant (Special Requirement) .. Peugeot Antifreeze 3.5 gal

Toro Part # (104-8606)

Front Axle oil 128 oz Rear Axle oil 80 oz

IMPORTANT NOTES:





Reelmaster 3500-D

Model 30807, 30839, 30843, and 30849 **Serial** 312000001 and Up

Engine Brand Kubota

Engine Oil (Chart C)......4.0 qt......... SAE 15W-40 CI, CI4

Engine Oil Filter 104-5167

*30807 108-3841

Hydraulic Oil (Chart S).....6.0 gal...... ISO VG 68

Hydraulic Filter 86-3010

Front And Rear Axle...... SAE 80W-90

Air Filter...... 108-3810

*30807108-3811

*30807 110-9049

Tire Pressure......14-18 PSI

(Front and Rear)

Engine Coolant6.0 qt Ethylene Glycol, Water

(50/50 mix)

IMPORTANT NOTES:

QUICK SERVICE REFERENCE

Maintenance Service Interval	Maintenance Procedure
After the first hour	Torque the wheel-lug nuts.
After the first 10 hours	Torque the wheel-lug nuts. Check the condition and tension of all belts. Change the hydraulic filter.
After the first 50 hours	Change the engine oil and engine-oil filter.
Before each use or daily	Check the tire pressure. Check the safety-interlock system. Check the engine-oil level. Drain the water separator. Check the engine-coolant level. Clean debris off the radiator and oil cooler (clean them more frequently in dirty conditions). Check the hydraulic-fluid level. Check the hydraulic lines and hoses. Check the blade stopping time.
Every 25 hours	Check the electrolyte level. (If the machine is in storage, check it every 30 days.)
Every 50 hours	Lubricate all of the bearings and bushings. Remove the air-cleaner cover and clean out the debris. Do not remove the filter.
Every 100 hours	Check the condition and tension of all belts.
Every 150 hours	Change the engine oil and engine-oil filter.
Every 200 hours	 Torque the wheel-lug nuts. Service the air-cleaner filter. (More frequently in extreme dusty or dirty conditions) Check the parking-brake adjustment. Change the hydraulic filter.
Every 400 hours	Replace the fuel filter. Change the hydraulic fluid.
Every 500 hours	Grease the bearings in the rear axle.
Every 1,000 hours	Drain and clean the fuel tank.
Every 2 years	Drain and clean the fuel tank.

QUICK SERVICE REFERENCE

Reelmaster 3550-D

Model All Models

Serial 290000001 and Up

Engine Brand Kubota

Engine Oil Filter 108-3841

Breather Element.......98-9493

Hydraulic Oil6 galISO VG 46/68 See Specifications Below

Fuel Filter Spin-On 110-9049

Tire Pressure......14–18 PSI

(Front and Rear)

Engine Coolant..........1.5 gal....... Ethylene Glycol, Water

(50/50 mix)

140 to 160

High Viscosity Index/Low Pour Point Anti-wear Hydraulic Fluid. ISO VG 46

Material Properties:

Viscosity, ASTM D445 CSt @ 40°C 44 to 48

cSt @ 100°C 7.9 to 8.5

Viscosity Index ASTM

D2270

Pour Point, ASTM D97 -34°F to -49°F

Industry Specifications:

Vickers I-286-S (Quality Level), Vickers M-2950-S

(Quality Level), Denison HF-0

IMPORTANT NOTES:

Maintenance Service Interval	Maintenance Procedure
After the first hour	Torque the wheel nuts.
After the first 10 hours	Torque the wheel nuts. Check the condition and tension of all belts. Change the hydraulic filter.
After the first 50 hours	Change the oil and oil filter.
Before each use or daily	Check the engine oil level. Check the engine coolant level. Check the hydraulic fluid level. Check the tire pressure. Check the interlock system. Drain the water separator. Clean debris off of the radiator and oil cooler. Check the hydraulic lines and hoses.
Every 25 hours	Check the electrolyte level. (If machine is in storage, check every 30 days.)
Every 50 hours	Lubricate all bearings and bushings. (Lubricate all bearings and bushings daily when conditions are dusty and dirty.)
Every 100 hours	Check the condition and tension of all belts.
Every 150 hours	Change the oil and oil filter.
Every 200 hours	Torque the wheel nuts. Service the Air Cleaner (More frequently in extreme dusty or dirty conditions) Check the parking brake adjustment. Change the hydraulic filter.
Every 400 hours	Check the fuel lines and connections. Replace the fuel filter canister. Change the hydraulic fluid.
Every 2 years	Drain and clean the fuel tank.



Reelmaster 3555-D and 3575-D

Model 03820 and 03821 **Serial** 316000001 and Up

Engine Brand Kubota

 Hydraulic Filter
 86-3010

 Air Filter
 108-3811

 Fuel Filter Spin-On
 110-9049

20 PSI (03821) (Front and Rear)

Engine Coolant......6 qt...... Ethylene Glycol, Water

(50/50 mix)

High Viscosity Index/Low Pour Point Antiwear Hydraulic Fluid, ISO VG 46 Multigrade

Material Properties:

Viscosity, ASTM D445 cSt @ 40°C (104°F)

44 to 48

cSt @ 100°C (212°F)

7.9 to 9.1

Viscosity index, ASTM 140 or higher (high

D2270 viscosity index indicates a

multiweight fluid)

Pour point, ASTM D97 -36.7°C to -45°C (-34°F to

-49°F)

Industry Specifications:

Vickers I-286-S, Vickers M-2950-S, Denison HF-0,

Vickers 35 VQ 25 (Eaton ATS373-C)

IMPORTANT NOTES:

Maintenance Service Interval	Maintenance Procedure
After the first hour	Torque the wheel nuts.
After the first 10 hours	Torque the wheel nuts. Check the condition and tension of all belts. Change the hydraulic filter.
After the first 50 hours	Change the oil and oil filter.
Before each use or daily	Check the level of the engine oil. Check the coolant level of the engine. Check the level of the hydraulic fluid. Check the tire pressure. Check the interlock system. Drain the water separator. Clean debris off of the radiator. Check the hydraulic lines and hoses.
Every 25 hours	Check the electrolyte level (if machine is in storage, check every 30 days).
Every 50 hours	 Lubricate all bearings and bushings (daily when conditions are dusty and dirty).
Every 100 hours	Check the condition and tension of all belts.
Every 150 hours	Change the oil and oil filter.
Every 200 hours	 Torque the wheel nuts. Service the air cleaner (more frequently in extremely dusty or dirty conditions). Check the adjustment of the parking brake. Change the hydraulic filter.
Every 400 hours	Check the fuel lines and connections. Replace the fuel filter canister. Change the hydraulic fluid.
Every 2 years	Drain and clean the fuel tank.



Reelmaster 2300-D and 2600-D

Model All Models **Serial** 60001 and Up

Engine Brand Perkins

Engine Oil (*Chart M*)......3 *qt*............ SAE 10W-30 CI

Engine Oil Filter......85-4930

Hydraulic Oil (Chart R)......3.3 gal ISO VG 46

Hydraulic Filter 54-0110 **Air Filter** 108-3811

Fuel Filter Perkins-130336040

(Front and Rear)

Engine Coolant......1.3 gal...... Ethylene Glycol, Water

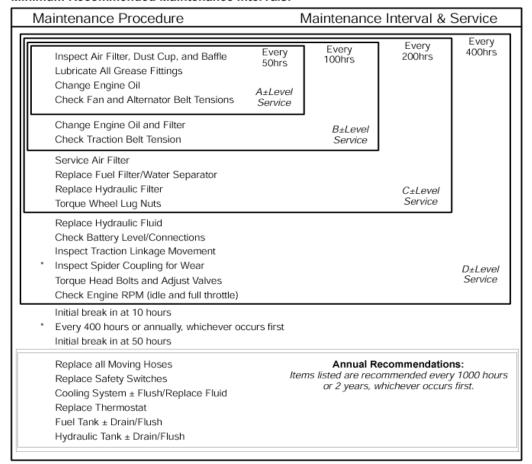
(50/50 mix)

IMPORTANT NOTES:



REELMASTER 2300±D/2600±D Maintenance Schedule

Minimum Recommended Maintenance Intervals:



(See Operator's and Service Manuals for specifications and procedures.)



Reelmaster 2000-D

Model 03428

Serial 220000001 through 250999999

Engine Brand Briggs & Stratton/Daihatsu

Engine Oil (Chart G)......3.5 qt.......... SAE 10W-30 CI

Engine Oil Filter 108-3842

Hydraulic Oil (Chart R).....3.3 gal ISO VG 46

Hydraulic Filter 54-0110

Air Filter......108-3811

Water Separator* 63-8300

(Front and Rear)

Engine Coolant......1.3 gal...... Ethylene Glycol, Water

(50/50 mix)

IMPORTANT NOTES:

^{*} Refer to Toro's parts catalog or Parts Viewer for bio-diesel fuel filter part numbers.

Maintenance

Note: Determine the left and right sides of the machine from the normal operating position.

Recommended Maintenance Schedule

Maintenance Service Interval	Maintenance Procedure
After first 10 hours	 Change the engine oil. Check the engine belt tension. Change the engine oil filter. Check the traction belt tension. Replace the hydraulic filter. Torque the wheel lug nuts.
After first 50 hours	Check the engine RPM (idle and full throttle).
Every 50 hours	 Inspect the air filter, dust cup, and burp valve. Lubricate all grease fittings. Check the engine belt tension.
Every 100 hours	 Change the engine oil filter. Check the traction belt tension. Change the engine oil.
Every 200 hours	 Service the air filter. Replace the fuel filter/water separator. Replace the hydraulic filter. Torque the wheel lug nuts.
Every 400 hours	 Replace the hydraulic fluid. Check the battery level and connections. Inspect the traction linkage movement. Check the engine RPM (idle and full throttle).
Every 1000 hours or 2 years, whichever occurs first	 Replace moving hoses. Replace the safety switches. Flush the cooling system and replace the hoses. Replace the thermostat. Drain and flush the fuel tank. Drain and flush the hydraulic tank.

Important Refer to your engine operator's manual for additional maintenance procedures.



Reelmaster 2000-D

Model 03431

Serial 260000001 and Up

Engine Brand Briggs & Stratton/Daihatsu

Engine Oil Filter 108-3842

Hydraulic Oil (Chart R)......3.3 gal ISO VG 46

Hydraulic Filter 54-0110

 Fuel Filter Spin-On
 63-8300

 Tire Pressure
 16-20 PSI

(Front and Rear)

Engine Coolant......1.3 gal...... Ethylene Glycol, Water

(50/50 mix)

IMPORTANT NOTES:

^{*} Refer to Toro's parts catalog or Parts Viewer for bio-diesel fuel filter part numbers.



Maintenance

Note: Determine the left and right sides of the machine from the normal operating position.

Maintenance Service Interval	Maintenance Procedure	
After the first hour	Torque the wheel lug nuts to 45 to 65 ft-lb (61 to 88 N-m).	
After the first 5 hours	Change the hydraulic oil filter.	
After the first 8 hours	Check the condition and tension of the alternator belt. Check the condition and tension of the hydraulic pump belt.	
After the first 10 hours	Torque the wheel lug nuts to 45 to 65 ft-lb (61 to 88 N-m).	
After the first 50 hours	Change the engine oil and filter. Check the engine RPM (idle and full throttle).	
Before each use or daily	Check the engine oil level. Check the cooling system. Check the hydraulic fluid level. Check the tire pressure. Check the reel to bedknife contact. Check the operation of the interlock switches. Drain water from the water separator. Remove debris from the screen, oil coolers, and radiator. (Clean more frequently in dirty operating conditions.)	
Every 25 hours	Check the electrolyte level and clean the battery. Check the battery cable connections.	
Every 50 hours	Grease the bearings and bushings. (Grease immediately after every washing regardless of the interval listed.) Check the condition and tension of the alternator belt.	
Every 100 hours	Check the condition and tension of the hydraulic pump belt.	
Every 150 hours	Change the engine oil and filter.	
Every 200 hours	Service the air cleaner. (Service it more frequently in extremely dirty or dusty conditions.) Change the hydraulic oil filter.	
Every 250 hours	Torque the wheel lug nuts to 45 to 65 ft-lb (61 to 88 N-m).	
Every 400 hours	Check the fuel lines and connections for deterioration, damage, or loose connections. Replace the fuel filter canister. Change the hydraulic fluid. Check the engine RPM (idle and full throttle). Inspect the traction linkage movement.	
Every 1,000 hours	Flush and replace the cooling system fluid and hoses. Drain and flush the hydraulic tank (contact your local Toro distributor). Replace all moving hoses. Replace the thermostat. Drain and flush the fuel tank. Drain and flush the hydraulic tank.	



Reelmaster Transport Frame

Model All Models **Serial** 40001 and Up

Hydraulic Fluid (Chart R)......2 gal....... ISO VG 46

Gear Case Cutting Unit.....15-21 oz..... SAE 80W-90

Grease NO. 2 G/P Lithium Base

Friction Points SAE 30 Oil

Transport Frame Tires24–28 PSI

Tire Pressure Cutting Units......35 PSI

IMPORTANT NOTES:



Grounds Pro 2000

Model All Models Serial 80001 and Up

Engine Brand	. Briggs & Stratton
Engine Oil (<i>Chart K</i>)1.75 qt	SAE 30 SH, SJ
Engine Oil Filter	. 107-7817
Hydraulic Oil (Chart P)5 qt	SAE 10W-30
Hydraulic Filter	. 54-0110
Air Filter Main	. 107-7817
Air Filter Wrapper	.*272490
Fuel Filter In-line	. 38-8000
Tire Pressure	.12–18 PSI (Front and Rear)

^{*} Indicates Briggs & Stratton part number

IMPORTANT NOTES:



Grounds Pro 2000-D

Model 02003 Serial 90001 and Up

Engine Brand Briggs & Stratton/Daihatsu

Engine Oil (Chart G).......3.5 qt.......... SAE 30 CI, CI4

Engine Oil Filter 108-3842

Hydraulic Oil (*Chart P*)......5 *qt* SAE 10W-30

Hydraulic Filter 54-0110

Water Separator...... 63-8300

(Front and Rear)

Engine Coolant Ethylene Glycol, Water

(50/50 mix)

IMPORTANT NOTES:



Greens Mowers

Greensmaster 3250-D	68
Greensmaster 3250-D	70
Greensmaster 3250-D	72
Greensmaster 3200-D	74
Greensmaster 3200	76
Greensmaster 3150	78
Greensmaster 3150	80
Greensmaster 3100	82
Greensmaster 3100	84
Greensmaster 3120	86
Greensmaster 3050	88
Greensmaster 3050	90
Greensmaster 3300 and 3320	92
Greensmaster 3400 and 3420	
Greensmaster 1000, 1600, 2000, and 2600	96
Greensmaster 1000 and 1600	98
Greensmaster 1000 and 1600	100
Greensmaster 1000 and 1600	102
Greensmaster 800	104
Greensmaster 800	106
Greensmaster 800	108
Greensmaster 500	
Greensmaster Flex 21	112
Greensmaster Flex 18 and 21	
Greensmaster Flex 2100 and 1800	116
Greensmaster Flex 1820 and 2120	118
Greensmaster eFlex 1820 and 2120	120



Greensmaster 3250-D

Model 04383

Serial 200000001 through 240999999

Engine Brand Briggs & Stratton/Daihatsu

Engine Oil (Chart E)......3.5 qt........... SAE 10W-30 CI, CI4

Engine Oil Filter 108-3842

Hydraulic Oil (Chart R)......5.5 gal ISO VG 46

Hydraulic Filter75-1310 (2002 and Older)

Hydraulic Filter 107-9531 (2003 and Up)

Air Filter...... 108-3811

Fuel/Water Separator Element 100-3192 (2000-2006)

8-15 PSI (Rear)

Engine Coolant......3.6 qt...... Ethylene Glycol, Water

(50/50 mix)

IMPORTANT NOTES:

Maintenance

Note: Determine the left and right sides of the machine from the normal operating position.

Recommended Maintenance Schedule

Maintenance Service Interval	Maintenance Procedure
After first 8 hours	Change the engine oil. Check the fan/alternator belt tension. Replace the engine oil filter.
After first 50 hours	Replace the hydraulic oil filter. check the engine RPM (at idle and full throttle)
Every 50 hours	 Check the battery electrolyte level. Check the battery cable connections. Service the air filter. Lubricate all grease fittings. Change the engine oil. Check the fan/alternator belt tension.
Every 100 hours	Replace the engine oil filter.
Every 200 hours	Replace the air filter element. Torque the wheel lug nuts.
Every 800 hours	 Replace the hydraulic oil. Replace the hydraulic oil filter. Check the engine RPM (idle and full throttle) Replace the fuel filter/water separator canister.
Every 2000 hours or 2 years	Replace moving hoses. Replace safety switches. Drain/flush the fuel tank. Drain/flush the hydraulic tank. Drain/flush the cooling system.

Important Refer to your engine operator's manual for additional maintenance procedures.



If you leave the key in the ignition switch, someone could accidently start the engine and seriously injure you or other bystanders.

Remove the key from the ignition and disconnect the wire from the spark plug before you do any maintenance. Set the wire aside so that it does not accidentally contact the spark plug.



Greensmaster 3250-D

Model 04383

Serial 250000001 and Up

Engine Brand Briggs & Stratton/Daihatsu

Engine Oil Filter 108-3842

Hydraulic Oil (Chart R).....5.5 gal ISO VG 46

Fuel/Water Separator Element*...... 100-3192 (2000-2006)

Fuel/Water Filter Element*......112-9188 (2007 and UP)

Tire Pressure...... 8–12 PSI (Front)

8-15 PSI (Rear)

Engine Coolant......3.6 qt...... Ethylene Glycol, Water

(50/50 mix)

IMPORTANT NOTES:

^{*} Refer to Toro's parts catalog or Parts Viewer for bio-diesel fuel filter part numbers.

Maintenance

Note: Determine the left and right sides of the machine from the normal operating position.

Recommended Maintenance Schedule(s)

Maintenance Service Interval	Maintenance Procedure
After the first hour	Check the torque of the wheel nuts.
After the first 8 hours	Change the engine oil and filter. Check the tension on the alternator belt.
After the first 10 hours	Check the torque of the wheel nuts.
After the first 50 hours	Change the hydraulic oil filter. Check the engine RPM (at idle and full throttle).
Before each use or daily	Check the engine oil. Clean debris off of the radiator screen and radiator. Clean hourly if conditions are extremely dusty and dirty. Check the hydraulic fluid level. Check the reel-to-bedknife contact. Check the hydraulic lines and hoses.
Every 25 hours	Check the battery electrolyte level. (If the machine is in storage, check every 30 days.)
Every 50 hours	Service the air cleaner foam pre-cleaner (more frequently when operating conditions are dusty or dirty). Change the engine oil. Check the battery cable connections.
Every 100 hours	Change the engine oil filter.
Every 200 hours	Check the torque of the wheel nuts. Service the air cleaner cartridge (more frequently when operating conditions are dusty or dirty). Check the reel bearing preload adjustment.
Every 800 hours	Replace the filter element. Change the hydraulic oil and filter. Check the engine RPM (at idle and full throttle). Check the valve clearance.
Every 2 years	Check the fuel lines and connections. Replace moving hoses.

Important: Refer to your engine operator's manual for additional maintenance procedures.

A

If you leave the key in the ignition switch, someone could accidently start the engine and seriously injure you or other bystanders.

Remove the key from the ignition.



Greensmaster 3250-D

Model 04384

Serial 312000001 and Up

Engine Brand Kul	oota
------------------	------

Engine Oil Filter 115-8189

Hydraulic Oil5.5 gal......ISO VG 46

Hydraulic Filter 107-9531

Air Filter......108-3811

Fuel/Water Separator Element*......110-9049

Fuel Filter Element inline......110-8806

Tire Pressure......8–12 PSI (Front)

8-15 PSI (Rear)

Engine Coolant......3.6 qt..... Ethylene Glycol, Water

(50/50 mix)

High Viscosity Index/Low Pour Point Anti-wear Hydraulic Fluid, ISO VG 46

Material Properties:
Viscosity, ASTM D445 cSt @ 40°C 44 to 48
cSt @ 100°C 7.9 to 8.5
Viscosity Index ASTM
D2270
140 to 160
Pour Point, ASTM D97 -34°F to -49°F
Industry Specifications:
Vickers I-286-S (Quality Level), Vickers M-2950-S
(Quality Level), Denison HF-0

IMPORTANT NOTES:

^{*} Refer to Toro's parts catalog or Parts Viewer for bio-diesel fuel filter part numbers.

Maintenance Service Interval	Maintenance Procedure
After the first hour	Check the torque of the wheel nuts.
After the first 8 hours	Check the tension on the alternator belt.
After the first 10 hours	Check the torque of the wheel nuts.
After the first 50 hours	Change the engine oil and filter. Change the hydraulic oil filter. Check the engine RPM (at idle and full throttle).
Before each use or daily	Check the engine oil. Clean debris off of the radiator screen and radiator. Clean hourly if conditions are extremely dusty and dirty. Check the hydraulic fluid level. Drained any water from the fuel filter Check the reel-to-bedknife contact. Check the hydraulic lines and hoses.
Every 25 hours	Check the battery electrolyte level. (If the machine is in storage, check every 30 days.)
Every 50 hours	Lubricate the bearings and bushings Check the battery cable connections.
Every 150 hours	Change the engine oil and filter.
Every 200 hours	 Check the torque of the wheel nuts. Service the air cleaner filter (more frequently when operating conditions are dusty or dirty).
Every 800 hours	Replace the fuel filter. Change the hydraulic oil filter and tank breather. Check the engine RPM (at idle and full throttle). Check the valve clearance.
Yearly	Burnish the brakes
Every 2 years	Check the fuel lines and connections. Drain and flush cooling system Replace moving hoses.



Greensmaster 3200-D

Model 04381 **Serial** 60474 and Up

Engine Brand Perkins

Engine Oil (*Chart M*)............3 *qt*............. SAE 10W-30 CI

Engine Oil Filter 85-4930

Hydraulic Oil (Chart R)......5.5 gal ISO VG 46

Hydraulic Filter 75-1310

Air Filter...... 108-3811

Fuel Filter Perkins 130336040

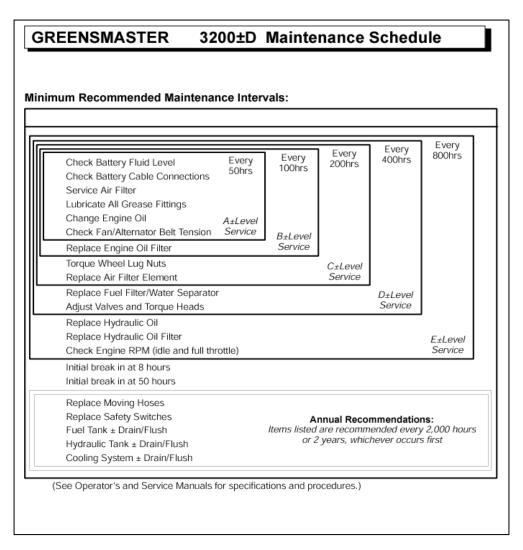
Tire Pressure...... 8–12 PSI (Front)

8-15 PSI (Rear)

Engine Coolant......5 qt...... Ethylene Glycol, Water

(50/50 mix)

IMPORTANT NOTES:





Model 04380 Serial 60001 and Up

Engine Brand Briggs & Stratton/Daihatsu

Engine Oil (Chart E).......3.2 qt....... SAE 10W-30 SH, SJ

Engine Oil Filter.....*491056

Hydraulic Oil (Chart R)......5.5 gal ISO VG 46

Fuel Filter In-line 94-2690

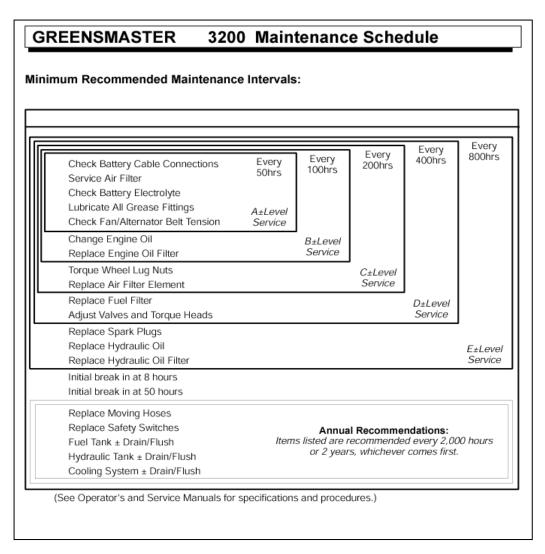
Tire Pressure...... 8–12 PSI (Front)

8-15 PSI (Rear)

(50/50 mix)

IMPORTANT NOTES:

^{*} Indicates Briggs & Stratton part number





Model 04357

Serial 220000001 and Up

Engine Brand Briggs & Stratton Vanguard

Engine Oil (Chart K)......1.75 qt....... SAE 30 SH, SJ

Engine Oil Filter (Toro) 107-7817

Engine Oil Filter*492932

Hydraulic Oil (Chart R).....8.5 gal ISO VG 46

Hydraulic Filter 107-9531

Air Filter.....*394018S

Air Filter-Safety.....*272490S

Fuel Filter In-line94-2690

Tire Pressure......8–12 PSI (Front)

8-15 PSI (Rear)

IMPORTANT NOTES:

^{*} Indicates Briggs & Stratton part number

Maintenance Service Interval	Maintenance Procedure
After the first hour	Check the torque of the wheel nuts.
After the first 10 hours	Check the torque of the wheel nuts.
After the first 25 hours	Change the engine oil and filter.
After the first 50 hours	Change the hydraulic filter. Check the engine RPM (at idle and full throttle).
Before each use or daily	Check the engine oil. Check the hydraulic fluid level. Check the safety interlock system. Inspect and cleanup after mowing. Check the hydraulic lines and hoses.
Every 50 hours	 Grease the machine (immediately after every washing). Service the air cleaner foam pre-cleaner (more frequently when operating conditions are dusty or dirty). Check the battery electrolyte level. Check the battery cable connections.
Every 100 hours	Service the air cleaner cartridge (more frequently when operating conditions are dusty or dirty). Change the engine oil and filter.
Every 200 hours	Check the torque of the wheel nuts. Check the reel bearing preload adjustment.
Every 800 hours	 Replace the spark plugs. Replace the fuel filter. Change the hydraulic oil. Change the hydraulic filter. Check the engine RPM (at idle and full throttle). Check the valve clearance.
Every 2 years	Check the fuel lines and connections. Replace moving hoses.



Model 04358

Serial 312000001 and Up

Engine Brand Briggs & Stratton Vanguard

Engine Oil (Chart K).......1.5 qt.......... SAE 30 SG, SH, SJ

Engine Oil Filter (Toro) 107-7817

Engine Oil Filter.....*492932

Hydraulic Oil (Chart R).....8.5 gal ISO VG 46

Hydraulic Filter 107-9531

Air Filter.....*394018S

Air Filter-Safety.....*272490S

Fuel Filter In-line 94-2690

Tire Pressure......8–12 PSI (Front)

8-15 PSI (Rear)

IMPORTANT NOTES:

^{*} Indicates Briggs & Stratton part number

Maintenance Service Interval	Maintenance Procedure
After the first hour	Torque the wheel nuts.
After the first 10 hours	Torque the wheel nuts.
After the first 25 hours	Change the engine oil and filter.
After the first 50 hours	 Ensure that the battery hold-down fasteners are tight. Change the hydraulic-fluid filter. Check the engine speed (at idle and full throttle).
Before each use or daily	Check the safety-interlock system. Inspect and cleanup after mowing. Check the engine oil. Check the tire pressure. Check the hydraulic fluid level. Check the hydraulic lines and hoses. Check the reel-to-bedknife contact.
Every 50 hours	 Grease the machine. (Immediately after every washing) Service the air-cleaner foam element (more frequently when operating conditions are dusty or dirty). Check the battery electrolyte level. Check the battery cable connections.
Every 100 hours	 Service the air-cleaner paper element (more frequently when operating conditions are dusty or dirty). Change the engine oil and filter.
Every 200 hours	Torque the wheel nuts.
Every 800 hours	 Replace the spark plugs. Replace the fuel filter. (Sooner if the fuel flow is restricted) Change the hydraulic fluid, filter, and tank breather. Check the engine speed (at idle and full throttle). Check the valve clearance.
Every 2 years	Check the fuel lines and connections. Replace moving hoses.

QUICK SERVICE REFERENCE

Greensmaster 3100

Model 04356

Serial 200000001 through 220999999

Engine Brand Briggs & Stratton Vanguard

Engine Oil (Chart K)......1.75 qt....... SAE 30 SH, SJ

Engine Oil Filter......107-7817

Hydraulic Oil (Chart R)......8.5 gal ISO VG 46

Hydraulic Filter 74-3570

Air Filter.....*394018S

Air Filter-Safety.....*272490S

Fuel Filter In-line 94-2690

Tire Pressure......8–12 PSI (Front)

8-15 PSI (Rear)

IMPORTANT NOTES:

^{*} Indicates Briggs & Stratton part number

Maintenance Schedule

nintenance Procedure		Maintenar	nce Interval & S	Service
Check battery fluid level Check battery cable connections Service the air filter pre-cleaner Lubricate all grease fittings †Change the engine oil	Every 50 hours	Every 100 hours	Every 200 hours	Every 800 hours
†Replace the engine oil filter Replace the air filter element				
Check the reel bearing preload adju Torque the wheel lug nuts	ıstment			
Replace the spark plugs Replace the fuel filter Check valve clearance Check the engine RPM (idle and for	ull throattle)			
the engine RPM (idle and future) The initial break in at 8 hours	iii throttie)			
Replace moving hoses Replace safety switches Fuel tank—drain and flush Hydraulic tank—drain and flush Replace the hydraulic oil Recommendations Items are recommended every 2000 hours or 2 years, whichever occurs first.				



Model 04356

Serial 230000001 and Up

Engine Brand Briggs & Stratton Vanguard

Engine Oil (Chart K)......1.75 qt......... SAE 30 SH, SJ

Engine Oil Filter 107-7817

Hydraulic Oil (Chart R).....4.5 gal ISO VG 46

Hydraulic Filter 74-3570

Air Filter.....*394018S

Air Filter-Safety.....*272490S

Fuel Filter In-line94-2690

Tire Pressure......8–12 PSI (Front)

8-15 PSI (Rear)

IMPORTANT NOTES:

^{*} Indicates Briggs & Stratton part number

Maintenance Service Interval	Maintenance Procedure
After the first hour	Check the torque of the wheel nuts.
After the first 8 hours	Change the engine oil and filter.
After the first 10 hours	Check the torque of the wheel nuts.
After the first 50 hours	Check the engine RPM (at idle and full throttle).
Before each use or daily	Check the engine oil. Check the hydraulic fluid level. Check the safety interlock system. Inspect and cleanup after mowing. Check the hydraulic lines and hoses.
Every 50 hours	Grease the machine (immediately after every washing). Service the air cleaner foam pre-cleaner (more frequently when operating conditions are dusty or dirty). Change the engine oil. Check the battery electrolyte level. Check the battery cable connections.
Every 100 hours	Service the air cleaner cartridge (more frequently when operating conditions are dusty or dirty). Change the engine oil filter.
Every 200 hours	Check the torque of the wheel nuts.
Every 800 hours	Replace the spark plugs. Replace the fuel filter. Check the engine RPM (at idle and full throttle). Check the valve clearance.
Every 2,000 hours	Change the hydraulic oil and filter
Every 2 years	Check the fuel lines and connections. Replace moving hoses.



Model 04355

Serial 316000001 and Up

Engine Brand Briggs & Stratton Vanguard

Engine Oil (Chart K)......1.5 qt............ SAE 30 SG, SH, SJ

Engine Oil Filter 107-7817

Hydraulic Oil (Chart R).....5 gal ISO VG 46

Hydraulic Filter 74-3570

Air Filter.....*394018S

Air Filter-Safety.....*272490S

Fuel Filter In-line 94-2690

Tire Pressure......8–12 PSI (Front)

8-15 PSI (Rear)

IMPORTANT NOTES:

^{*} Indicates Briggs & Stratton part number

Maintenance Service Interval	Maintenance Procedure
After the first hour	Check the torque of the wheel nuts.
After the first 10 hours	Check the torque of the wheel nuts.
After the first 25 hours	Change the engine oil and filter.
After the first 50 hours	 Ensure that the battery hold-down fasteners are tight. Change the hydraulic filters. Check the engine speed (at idle and full throttle).
Before each use or daily	Check the engine oil. Check the hydraulic-fluid level. Check the safety-interlock system. Inspect and cleanup after mowing. Check the hydraulic lines and hoses.
Every 50 hours	 Grease the machine. (Immediately after every washing) Service the air-cleaner foam element (more frequently when operating conditions are dusty or dirty). Check the battery electrolyte level. Check the battery cable connections.
Every 100 hours	 Service the air-cleaner paper element (more frequently when operating conditions are dusty or dirty). Change the engine oil and filter.
Every 200 hours	Check the torque of the wheel nuts.
Every 800 hours	 Replace the spark plugs. Replace the fuel filter (sooner if the fuel flow is restricted). Change the hydraulic fluid. Change the hydraulic filters Check the engine speed (at idle and full throttle). Check the valve clearance.
Every 2 years	Check the fuel lines and connections. Replace moving hoses.



Model 04351

Serial 70001 through 200999999

Engine Brand Briggs & Stratton Vanguard

Engine Oil (Chart K)......1.75 qt......... SAE 30 SH, SJ

Engine Oil Filter*492932

Hydraulic Oil (Chart R).....4.5 gal ISO VG 46

Hydraulic Filter 74-3570

Air Filter.....*394018S

Air Filter-Safety.....*272490S

Fuel Filter In-line 94-2690

Tire Pressure...... 8–12 PSI (Front)

8-15 PSI (Rear)

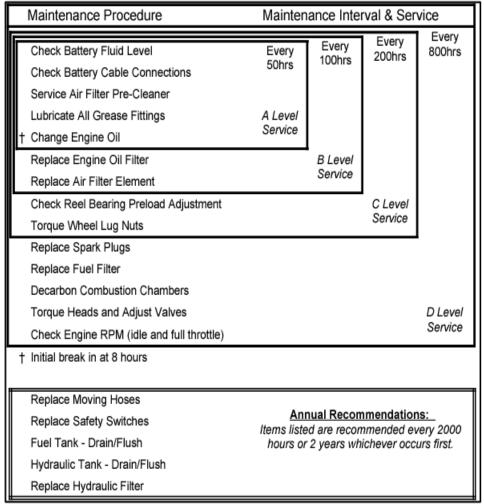
IMPORTANT NOTES:

^{*} Indicates Briggs & Stratton part number



GREENSMASTER ® 3100/3050 Maintenance Schedule

Minimum Recommended Maintenance Intervals:



(See Operator's and Service Manual for specifications and procedures)



Model 04351

Serial 210000001 and Up

Engine Brand Briggs & Stratton Vanguard

Engine Oil (Chart K)......1.75 qt......... SAE 30 SH, SJ

Engine Oil Filter 107-7817

Hydraulic Oil (Chart R)......8.5 gal ISO VG 46

Air Filter.....*394018S

Air Filter-Safety.....*272490S

Fuel Filter In-line 94-2690

Tire Pressure...... 8–12 PSI (Front)

8-15 PSI (Rear)

IMPORTANT NOTES:

^{*} Indicates Briggs & Stratton part number



Maintenance Service Interval	Maintenance Procedure
After the first hour	Check the torque of the wheel nuts.
After the first 8 hours	Change the engine oil and filter.
After the first 10 hours	Check the torque of the wheel nuts.
Before each use or daily	Check the engine oil. Check the hydraulic fluid level. Check the safety interlock system. Inspect and cleanup after mowing. Check the hydraulic lines and hoses.
Every 50 hours	Grease the machine (immediately after every washing). Service the air cleaner foam pre-cleaner (more frequently when operating conditions are dusty or dirty). Change the engine oil. Check the battery electrolyte level.
Every 100 hours	Service the air cleaner cartridge (more frequently when operating conditions are dusty or dirty). Change the engine oil filter.
Every 200 hours	Check the torque of the wheel nuts.
Every 800 hours	Replace the spark plugs. Replace the fuel filter. Check the engine RPM (at idle and full throttle). Check the valve clearance.
Every 2,000 hours	Check the fuel lines and connections. Drain and flush the fuel tank. Change the hydraulic oil and filter. Drain and flush the hydraulic tank. Replace moving hoses.

QUICK SERVICE REFERENCE

Greensmaster 3300 and 3320

Model 04510, 04530 **Serial** 311000101 and Up

Engine Brand	. Briggs & Stratton Vanguard
Engine Oil	. SAE 10W30 SJ or higher

Hydraulic Oil6 gal...... ISO VG 46 see below

 Air Filter
 *692519

 Fuel Filter In-line
 121-2583

Fuel Filter94-2690

Tire Pressure......8-12 PSI (Front)

8-15 PSI (Rear)

High Viscosity Index/Low Pour Point Anti-wear Hydraulic Fluid, ISO VG 46

Material Properties:

Viscosity, ASTM D445 CSt @ 40°C 44 to 48

cSt @ 100°C 7.9 to 8.5

Viscosity Index ASTM 140 to 160

D2270

Pour Point, ASTM D97 -34°F to -49°F

Industry Specifications:

Vickers I-286-S (Quality Level), Vickers M-2950-S (Quality Level), Denison HF-0

IMPORTANT NOTES:

^{*} Indicates Briggs & Stratton part number

Maintenance Service Interval	Maintenance Procedure
After the first hour	Check the torque of the wheel nuts.
After the first 8 hours	Check the torque of the wheel nuts.
After the first 25 hours	Change the engine oil and filter.
After the first 50 hours	Change the hydraulic oil filter. Check the engine RPM (at idle and full throttle).
Before each use or daily	Check the engine oil. Check the hydraulic fluid level. Check the reel-to-bedknife contact. Check the safety interlock system. Inspect and cleanup after mowing. Check the hydraulic lines and hoses.
Every 50 hours	Service the air cleaner foam pre-cleaner (more frequently when operating conditions are dusty or dirty). Check the battery electrolyte level. Check the battery cable connections.
Every 100 hours	Service the air cleaner cartridge (more frequently when operating conditions are dusty or dirty). Change the engine oil and filter.
Every 200 hours	Check the torque of the wheel nuts.
Every 400 hours	Grease the machine.
Every 800 hours	Replace the spark plugs. Replace the fuel filter. (Replace sooner if the fuel flow is restricted.) Change the hydraulic oil, filter, and tank breather. Check the engine RPM (at idle and full throttle). Check the valve clearance.
Every 2 years	Check the fuel lines and connections. Replace moving hoses.



Greensmaster 3400 and 3420

Model 04520, 04540 **Serial** 311000001 and Up

Engine Brand Kubota

Engine Oil3.9 qt SAE 10W--30 CH-4 or higher

Engine Oil Filter 100-1892

Hydraulic Oil5 gal...... ISO VG 46 see below

 Hydraulic Filter
 108-5194

 Air Filter
 108-3811

 Fuel Filter Spin-On
 110-9049

Fuel Filter Separator......110-9044

8-15 PSI (Rear)

High Viscosity Index/Low Pour Point Anti-wear Hydraulic Fluid, ISO VG 46

Material Properties:

Viscosity, ASTM D445 CSt @ 40°C 44 to 48

cSt @ 100°C 7.9 to 8.5

Viscosity Index ASTM 140 to 160

D2270

Pour Point, ASTM D97 -34°F to -49°F

Industry Specifications:

Vickers I-286-S (Quality Level), Vickers M-2950-S

(Quality Level), Denison HF-0

IMPORTANT NOTES:



Maintenance Service Interval	Maintenance Procedure	
After the first hour	Check the torque of the wheel nuts.	
After the first 8 hours	Check the torque of the wheel nuts. Check the tension on the alternator belt.	
After the first 50 hours	Change the engine oil and filter. Change the hydraulic oil filter. Check the engine RPM (at idle and full throttle).	
Before each use or daily	Check the engine oil. Clean debris off of the radiator screen and radiator. Clean hourly if conditions are extremely dusty and dirty. Check the hydraulic fluid level. Drain water from the fuel filter. Check the reel-to-bedknife contact. Check the hydraulic lines and hoses.	
Every 25 hours	Check the battery electrolyte level. (If the machine is in storage, check every 30 days.)	
Every 50 hours	Check the battery cable connections.	
Every 150 hours	Change the engine oil and filter.	
Every 200 hours	Check the torque of the wheel nuts. Service the air cleaner filter (more frequently when operating conditions are dusty or dirty).	
Every 400 hours	Grease the generator belt tensioner.	
Every 800 hours	 Replace the fuel filter. Change the hydraulic oil, filter, and tank breather. Check the engine RPM (at idle and full throttle). Check the valve clearance. 	
Every 2 years	Check the fuel lines and connections. Replace moving hoses. Drain and flush the cooling system.	



Greensmaster 1000, 1600, 2000, and 2600

Model 04052, 04060

Serial 10001 through 210999999

Engine Brand Kawasaki

Engine Oil (Chart B)......16 oz SAE 30 SH, SJ

Air Filter:

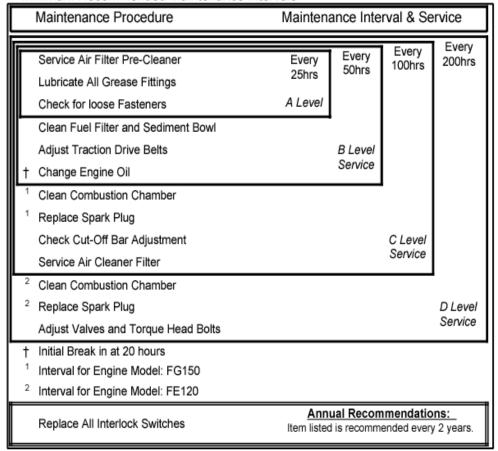
Tire Pressure...... 15 PSI

IMPORTANT NOTES:



GREENSMASTER® 1000 Maintenance Schedule

Minimum Recommended Maintenance Intervals:



(See Operator's and Service Manual for specifications and procedures)



Greensmaster 1000 and 1600

Model 04052, 04060 **Serial** 220000001 through 25099999

Engine Brand Kawasaki

Engine Oil (Chart B)......20 oz....... SAE 30 SH, SJ

Air Filter:

IMPORTANT NOTES:

QUICK SERVICE REFERENCE

Recommended Maintenance Schedule

Maintenance Service Interval	Maintenance Procedure
	Air filter pre-cleaner—service
25 Hours	Grease fittings—lubricate
	Fasteners—check and tighten
	Fuel filter and sediment bowl—clean
50 Hours	Traction drive belts—adjust
	Engine oil—change ¹
100 Hours	Cut-off bar—check adjustment
	Air cleaner filter—service
200 Hours	Combustion chamber—clean
	Spark plug—replace
	Valves—adjust
	Head bolts—torque
Every 2 years	Interlock switches—replace

¹Initial break in at 20 hours

Important Refer to your engine operator's and service manuals for additional maintenance procedures.



Greensmaster 1000 and 1600

Model 04052, 04060 **Serial** 260000001 through 312000101

Engine Brand Kawasaki

Engine Oil (Chart B)......20 oz....... SAE 30 SH, SJ

Air Filter:

 Element
 93-8636

 Pre-Cleaner
 93-8637

 Fuel Filter
 94-6826

IMPORTANT NOTES:



Maintenance Service Interval	Maintenance Procedure
After the first 8 hours	Change the engine oil.
After the first 25 hours	Clean the fuel filter.
Before each use or daily	Check the interlock switch operation. Check the engine oil level.
Every 25 hours	Grease the machine. Clean and oil the air cleaner foam element. (More often in dirty or dusty conditions)
Every 50 hours	Change the engine oil. (More frequently in dusty or dirty conditions) Clean the fuel filter.
Every 100 hours	Clean or replace the paper air filter element. (More often in dirty or dusty conditions) Check the spark plug.
Every 200 hours	Decarbon the engine.
Every 300 hours	Change the air filter paper element Check the condition and tension of belts.
Before storage	Paint chipped surfaces. Refer to the Storage Section for additional information

Important: Refer to your Engine Operator's Manual for additional maintenance procedures.



Greensmaster 1000 and 1600

Model 04055, 04056 **Serial** 312000001 and Up

Engine Brand Subaru

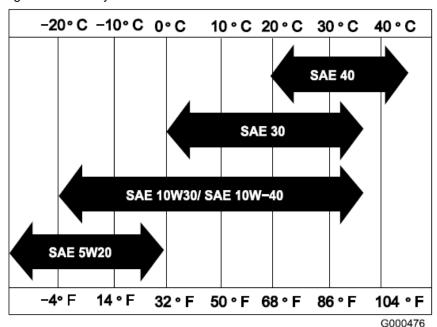
Engine Oil21 oz API certified SJ or higher

Air Filter:

Element 121-0618

Fuel Filter 121-0685

Engine oil viscosity recommendation



IMPORTANT NOTES:



Maintenance Service Interval	Maintenance Procedure
After the first 20 hours	Change the engine oil. Clean the fuel filter and cup.
Before each use or daily	Check the interlock switch operation. Check the engine oil level.
Every 25 hours	Grease the machine. (Grease the fittings immediately after every washing regardless of the interval listed.)
Every 50 hours	Change the engine oil. (More frequently in dusty or dirty conditions) Clean and oil the air cleaner foam element. (More often in dirty or dusty conditions)
Every 100 hours	 Replace the paper air filter element. (More often in dirty or dusty conditions) Check the spark plug. Clean the fuel filter and cup.
Every 500 hours	Check intake and exhaust valves. Adjust as necessary. Clean the carburetor.
Every 1,000 hours	replace the fuel line. Check the transmission drive belts. Check the transmission bearings.

Important: Refer to your Engine Operator's Manual for additional maintenance procedures.



Greensmaster 800

Model 04048, 04048TE **Serial** 80001 through 210999999

Engine Brand Kawasaki

Engine Oil (Chart B)......16 oz SAE 30 SH, SJ

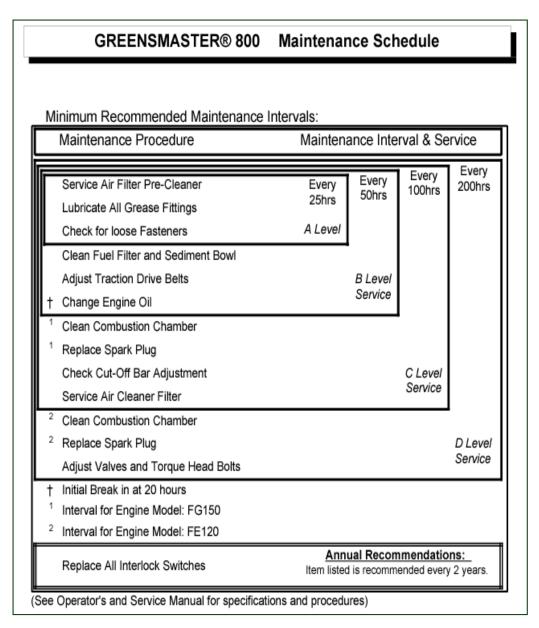
Air Filter:

 Element
 93-8636

 Pre-Cleaner
 93-8637

 Fuel Filter
 94-6826

IMPORTANT NOTES:





Greensmaster 800

Model 04048, 04048TE **Serial** 220000001 through 312000101

Engine Brand Kawasaki

Air Filter:

 Element
 93-8636

 Pre-Cleaner
 93-8637

 Fuel Filter
 94-6826

1 del 1 litei 94-002

Tire Pressure...... 15 PSI

IMPORTANT NOTES:

QUICK SERVICE REFERENCE

Recommended Maintenance Schedule

Maintenance Service Interval	Maintenance Procedure
25 Hours	 Air filter pre-cleaner—service Grease fittings—lubricate Fasteners—check and tighten
50 Hours	 Fuel filter and sediment bowl—clean Traction drive belts—adjust Engine oil—change¹
100 Hours	Cut-off bar—check adjustment Air cleaner filter—service
200 Hours	 Combustion chamber—clean Spark plug—replace Valves—adjust Head bolts—torque
Every 2 years	Interlock switches—replace

¹Initial break in at 20 hours

Important Refer to your engine operator's and service manuals for additional maintenance procedures.



Greensmaster 800

Model 04054

Serial 312000001 and Up

Engine Brand Subaru

Engine Oil21 oz API certified SJ or higher

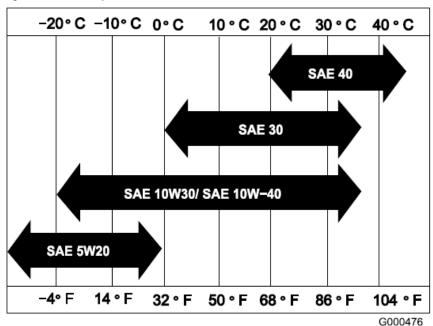
Air Filter:

Element 121-0618

Fuel Filter 121-0685

Tire Pressure...... 15 PSI

Engine oil viscosity recommendation



IMPORTANT NOTES:



Maintenance Service Interval	Maintenance Procedure	
After the first 20 hours	Change the engine oil. Clean the fuel filter and cup.	
Before each use or daily	Check the interlock switch operation. Check the engine oil level.	
Every 25 hours	Grease the machine. (Grease the fittings immediately after every washing regardless of the interval listed.)	
Every 50 hours	Change the engine oil. (More frequently in dusty or dirty conditions) Clean and oil the air cleaner foam element. (More often in dirty or dusty conditions)	
Every 100 hours	Replace the paper air filter element. (More often in dirty or dusty conditions) Check the spark plug. Clean the fuel filter and cup.	
Every 500 hours	Check intake and exhaust valves. Adjust as necessary. Clean the carburetor.	
Every 1,000 hours	replace the fuel line. Check the transmission drive belts. Check the transmission bearings.	

Important: Refer to your Engine Operator's Manual for additional maintenance procedures.



Greensmaster 500

Model All Models **Serial** 30001 and Up

Engine Brand Kawasaki

Engine Oil (Chart B)......20 oz SAE 10W-30 SH, SJ

Transaxle......SAE 90

Air Filter:

 Element
 93-8636

 Pre-Cleaner
 93-8637

Fuel Filter 94-6826

Tire Pressure...... 15 PSI

IMPORTANT NOTES:

Minimum Recommended Maintenance Intervals

Service the air filter foam element Check for loose fasteners Lubricate all grease fittings	Every 25 hours	Every 50 hours	Every 100 hours	Every 200 hours
†Change the engine oil filter †Adjust the traction drive belts Clean the fuel filter and bowl Check the transmission oil level				
Check the spark plug Service the air cleaner filter				
Clean the combustion chamber Replace the spark plug Adjust valves and torque the head bolts				
†Initial break in at 10 hours ‡Initial break in at 25 hours				
Adjust the reel drive chain			commendation reel drive chair	



Greensmaster Flex 21

Model 04021

Serial 210000001 through 240000001

Engine Brand Kawasaki

Engine Oil (Chart B)......20 oz....... SAE 10W-30 SH, SJ

Air Filter:

IMPORTANT NOTES:



Maintenance Service Interval	Maintenance Procedure
	Change the engine oil.
After first 20 hours	Clean the fuel filter.
	Change the transmission fluid.
Every 5 hours	Check the engine oil.
Fivery OF heave	Service the foam air filter pre-cleaner.
Every 25 hours	Check for loose fasteners.
	Clean the fuel filter and sediment bowl.
Every 50 hours	Change the engine oil.
	Check the transmission fluid level.
Even 100 have	Check the cut-off bar adjustment.
Every 100 hours	Service the air cleaner paper element.
	Clean the combustion chamber.
Every 200 hours	Replace the spark plug.
	 Adjust the valves and torque the head bolts.
Even, 2 veers	Replace safety interlock switch.
Every 2 years	Change the transmission fluid.

Important Refer to your engine operator's manual for additional maintenance procedures.



Greensmaster Flex 18 and 21

Model 04018 thru 04024 **Serial** 260000001 and Up

Engine Brand Kawasaki

Engine Oil (Chart B)......20 oz SAE 10W-30 SH, SJ

Transmission......94 oz................. Dexron III ATF

Air Filter:

IMPORTANT NOTES:

Maintenance Service Interval	Maintenance Procedure	
After the first 8 hours	Change the engine oil.	
After the first 25 hours	Clean the fuel filter. Change the transmission fluid.	
Before each use or daily	Check the engine oil level.	
Every 25 hours	Clean the air cleaner (more often in dirty or dusty conditions).	
Every 50 hours	Change the engine oil. Clean the fuel filter. Check the transmission fluid level.	
Every 100 hours	Clean or replace the paper air filter element (more often in dirty or dusty conditions). Check the spark plug. Inspect belts and check belt tension	
Every 800 hours	Change the transmission fluid. (Or 2 years, whichever occurs first)	
Before storage	Paint chipped surfaces.	

Important: Refer to your engine operator's manual for additional maintenance procedures.



Greensmaster Flex 2100 and 1800

Model 04040 and 04041 **Serial** 312000001 through 315999999

Engine Brand Subaru

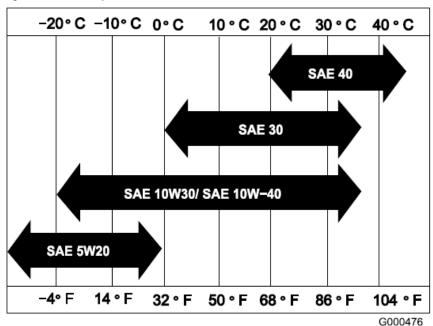
Air Filter:

Element 121-0618

Fuel Filter 121-0685

Tire Pressure...... 15 PSI

Engine oil viscosity recommendation



IMPORTANT NOTES:



Maintenance Service Interval	Maintenance Procedure
After the first 20 hours	Change the engine oil. Clean the fuel filter and cup.
Before each use or daily	Check the interlock switch operation. Check the engine oil level.
Every 25 hours	Grease the machine. (Grease the fittings immediately after every washing regardless of the interval listed.)
Every 50 hours	Change the engine oil. (More frequently in dusty or dirty conditions) Clean and oil the air cleaner foam element. (More often in dirty or dusty conditions)
Every 100 hours	Replace the paper air filter element. (More often in dirty or dusty conditions) Check the spark plug. Clean the fuel filter and cup.
Every 500 hours	Check intake and exhaust valves. Adjust as necessary. Clean the carburetor.
Every 1,000 hours	replace the fuel line. Check the transmission drive belts. Check the transmission bearings.

Important: Refer to your Engine Operator's Manual for additional maintenance procedures.



Greensmaster Flex 1820 and 2120

Model 04045 and 04044 **Serial** 316000001 and Up

Engine Brand Subaru

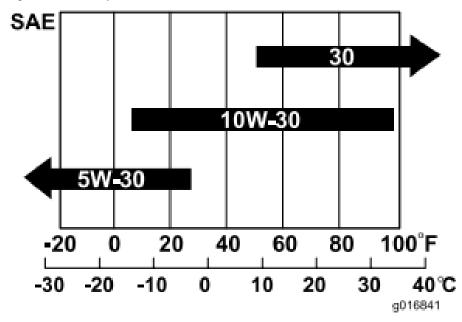
Engine Oil20 oz API certified SE or higher

Air Filter:

Element 121-0618

Fuel Filter 121-0685

Engine oil viscosity recommendation



IMPORTANT NOTES:



Maintenance Service Interval	Maintenance Procedure
After the first 20 hours	Change the engine oil. Clean the fuel-tank screen.
Before each use or daily	Check the operation of the interlock switches. Check the engine-oil level.
Every 50 hours	 Change the engine oil. Clean the air cleaner (more often in dirty or dusty conditions).
Every 100 hours	 Replace the paper air filter element (more often in dirty or dusty conditions). Check the spark plug. Clean the fuel-tank screen.
Every 500 hours	 Replace the clutch oil. Clean the carburetor. Inspect the intake and exhaust valves. Adjust as necessary.
Every 1,000 hours	Replace the fuel line. Inspect the reel-drive belt. Replace the breather hose. Inspect the transmission bearings and replace as necessary.
Before storage	Paint chipped surfaces.



Greensmaster eFlex 1820 and 2120

Model 04047, 04046 **Serial** 400000000 and Up

Grease...... General-purpose grease

Tire Pressure.......12–15 PSI

IMPORTANT NOTES:



Maintenance Service Interval	Maintenance Procedure
Before each use or daily	Check the operation of the interlock switches.
After each use	Clean the machine.
Every 1,000 hours	 Inspect the reel drive belt. Inspect the transmission bearings. Replace as necessary.
Before storage	Paint chipped surfaces.
Yearly	Grease the motor coupler.



<u>User Notes Area</u>



Rotary Mowers

Groundsmaster	7200 and 7210 (through 2014)	124
	7200 and 7210 (2015 and newer)	
Groundsmaster	7210 (Tier 4)	128
Groundsmaster	360-D (2- and 4-Wheel Drive)	130
Groundsmaster	360	132
Groundsmaster	5900 and 5910-D	134
Groundsmaster	5900 and 5910	136
Groundsmaster	580-D	138
Groundsmaster	580-D	140
Groundsmaster	580-D	142
Groundsmaster	455-D	144
Groundsmaster	4000-D	146
	4000-D	
Groundsmaster	4000 and 4010-D	150
Groundsmaster	4000 and 4010-D	152
Groundsmaster	4100-D	154
	4100-D	
Groundsmaster	4100 and 4110-D	158
	4100 and 4110-D	
Groundsmaster	4300-D	162
	4300-D	
	4500 and 4700-D	
	4500 and 4700-D	
	4500 and 4700-D	
	4500-D and 4700-D	
Groundsmaster	3500-G	174
	3500-D	
	3505 and 3500-D	
	3320	
	225	
	3000	
Groundsmaster	3000-D	186
	345	
	325-D (2- and 4-Wheel Drive)	
	328-D (2- and 4-Wheel Drive)	
	328-D (2- and 4-Wheel Drive)	
	228-D (2- and 4-Wheel Drive)	
	3280-D (2- and 4-Wheel Drive)	
	3280-D (2- and 4-Wheel Drive)	
	223-D (2- and 4-Wheel Drive)	
Groundsmaster	1000L	204



Groundsmaster 7200 and 7210 (through 2014)

Model All models, including N models - Non Tier 4 **Serial** 270000001 through 31499999

Engine Brand Kubota

Engine Oil Filter 108-3841

Hydraulic Oil (Chart T)......10.9 qt...... UTHF

Hydraulic Filter 108-5194

Water Separator* 98-9764 (2007)

Water Separator* 110-9049 (2008 and Up)

Pre Fuel Filter 98-7612

25 PSI (Caster)

Engine Coolant6 qt...... Ethylene Glycol, Water

(50/50 mix)

IMPORTANT NOTES:

^{*} Refer to Toro's parts catalog or Parts Viewer for bio-diesel fuel filter part numbers.

Maintenance Service Interval	Maintenance Procedure
After the first 10 hours	Check the alternator belt tension. Torque the frame mounting bolts. Torque wheel lug nuts.
After the first 50 hours	Change the mower deck gear box lubricant Change the engine oil and filter.
After the first 200 hours	Change the hydraulic oil and filter.
Before each use or daily	Test the safety system. Check the engine oil level. Check the engine coolant level. Clean the radiator with compressed air (do not use water) Check the hydraulic fluid level. Check the mower blades. Clean the mower deck.
Every 50 hours	Grease the bearing and bushing grease fittings. Check battery cable connections. Check the tire pressure. Check the condition of the blade drive belts on the mower deck.
Every 150 hours	Check the lubricant in the mower deck gear box. Change the engine oil and filter.
Every 200 hours	Inspect cooling system hoses and seals. Replace them if cracked or torn. Check the alternator belt tension. Torque wheel lug nuts.
Every 400 hours	Change the mower deck gear box lubricant Service the air cleaner. Replace the fuel filter canister. Check the fuel lines and connections.
Every 800 hours	Change the hydraulic oil and filter. Inspect engine valve clearance. Refer to your Engine Operator's Manual.
Every 1,500 hours	Replace moving hoses
Every 2 years	Drain and clean the fuel tank. Flush and replace cooling system fluid.

Important: Refer to your *Engine Operator's Manual* for additional maintenance procedures. A detailed Service Manual is also available for purchase from your Authorized Toro Distributor.



Groundsmaster 7200 and 7210 (2015 and newer)

Model 30495 including N models - Non Tier 4 **Serial** 31500000 and up

Engine Brand	Kubota
Engine Oil 3.9 qt	SAE 15W-40
Engine Oil Filter	108-3841
Hydraulic Oil (Chart T)10.9 qt	UTHF
Hydraulic Filter	108-5194
Air Filter	108-3810
Water Separator*	110-9049
Pre Fuel Filter	110-9049
Tire Pressure	15 PSI (Rear) 25 PSI (Caster)
Engine Coolant6 qt	Ethylene Glycol, Water (50/50 mix)
Gearbox Oil 12 oz	SAE EP90W

IMPORTANT NOTES:

Maintenance Service Interval	Maintenance Procedure
After the first 10 hours	Torque the frame-mounting bolts. Torque the wheel lug nuts.
After the first 50 hours	Change the mower-deck gearbox lubricant. Change the engine oil and filter.
After the first 200 hours	Change the hydraulic fluid and filter.
Before each use or daily	Test the safety-interlock system. Check the engine oil level. Check the engine coolant level. Clean the radiator with compressed air (more often in dirty and dusty conditions). Check the hydraulic fluid level. Clean the mower deck.
Every 50 hours	Grease the bearing and bushing grease fittings (more often in dirty or dusty conditions and after every washing). Check the battery cable connections. Check the tire pressure.
Every 100 hours	Check the alternator-belt tension.
Every 150 hours	Check the lubricant in the mower-deck gearbox. Change the engine oil and filter.
Every 200 hours	 Inspect the cooling-system hoses and seals. Replace them if cracked or torn. Torque the wheel lug nuts.
Every 400 hours	Change the mower-deck gearbox lubricant. Service the air cleaner. Replace the fuel-filter canister for the water separator. Drain water or other contaminants from the water separator. Check the fuel lines and connections.
Every 800 hours	Change the hydraulic fluid and filter. Inspect the engine-valve clearance. Refer to your engine owner's manual.
Every 1,500 hours	Replace moving hoses.
Every 2 years	Drain and clean the fuel tank. Flush and replace the cooling-system fluid.

Important: Refer to your engine owner's manual for additional maintenance procedures. A detailed Service Manual is also available for purchase from your Authorized Toro Distributor.



Groundsmaster 7210 (Tier 4)

Model Tier 4 Diesel 30633, 30695 **Serial** 315000001 and Up

Engine Brand		. Yanmar
Engine Oil	.5.5 qt	. 15W-40 CJ4
Engine Oil Filter		. 125-7025
Hydraulic Oil (Chart T).	10.9 qt	MOBIL 424
Hydraulic Filter		. 108-5194
Air Filter		. 108-3810
Water Separator*		. 125-2915
Fuel Filter		. 127-3075
Tire Pressure		. 18 PSI (Rear) 25 PSI (Caster)
Engine Coolant	6 qt	Ethylene Glycol, Water (50/50 mix)
Gearbox Oil	12 oz	. SAE EP90W

^{*} Refer to Toro's parts catalog or Parts Viewer for bio-diesel fuel filter part numbers.

IMPORTANT NOTES:

Maintenance Service Interval	Maintenance Procedure
After the first 10 hours	Torque the frame-mounting bolts. Torque the wheel lug nuts.
After the first 50 hours	Change the mower-deck gearbox lubricant.
After the first 200 hours	Change the hydraulic fluid and filter.
Before each use or daily	Test the safety-interlock system. Check the engine-oil level. Check the engine coolant level. Clean the radiator with compressed air (more often in dirty and dusty conditions). Check the hydraulic fluid level. Clean the mower deck.
Every 50 hours	 Grease the bearing and bushing grease fittings (more often in dirty or dusty conditions and after every washing). Check battery cable connections. Check the tire pressure.
Every 100 hours	Check the alternator-belt tension.
Every 150 hours	Check the lubricant in the mower-deck gearbox.
Every 200 hours	 Inspect the cooling-system hoses and seals. Replace them if cracked or torn. Torque the wheel lug nuts.
Every 250 hours	Change the engine oil and filter.
Every 400 hours	Change the mower-deck gearbox lubricant. Service the air cleaner (more often in dusty or sandy conditions). Replace the engine fuel filter. Replace the fuel-filter canister for the water separator. Drain water or other contaminants from the water separator. Check the fuel lines and connections.
Every 800 hours	Change the hydraulic fluid and filter. Inspect the engine-valve clearance. Refer to your engine owner's manual.
Every 1,500 hours	Replace moving hoses.
Every 6,000 hours	 Disassemble, clean, and assemble the soot filter of the DPF. or clean the soot filter if engine faults spn 3720 fml 16, spn 3720 fml 0, or spn 3720 fml 16 display in the InfoCenter.
Every 2 years	Drain and clean the fuel tank. Flush and replace the cooling-system fluid.

Important: Refer to your *Engine Operator's Manual* for additional maintenance procedures. A detailed Service Manual is also available for purchase from your Authorized Toro Distributor.



Groundsmaster 360-D (2- and 4-Wheel Drive)

Model All models, including N models **Serial** 311000001 and Up

Engine	Brand	Kubata
Ename	Drang	Nubola

Engine Oil5.5 qt...... SAE 15W-40 CH-4 CI-4

Engine Oil Filter 108-3841

Hydraulic Filter 108-5194

Water Separator......110-9049

Tire Pressure......(Front and Rear) PSI

(15 and 25) (25 w/cab and 25)

(50/50 mix)

IMPORTANT NOTES:



Note: Determine the left and right sides of the machine from the normal operating position.

Maintenance Service Interval	Maintenance Procedure
After the first 10 hours	Check the alternator belt tension. Check the air conditioning compressor belt tension (cab models) Torque wheel lug nuts.
After the first 50 hours	Change the mower deck gear box lubricant Change the engine oil and filter.
After the first 200 hours	Change the hydraulic oil and filter.
Before each use or daily	Test the safety system. Check the operation of the interlock switches. Check the engine oil level. Check the engine coolant level. Clean the radiator with compressed air (do not use water) Check the hydraulic fluid level. Check the mower blades. Clean the mower deck.
Every 50 hours	Grease the bearing and bushing grease fittings. Check battery cable connections. Check the tire pressure. Check the condition of the blade drive belts on the mower deck. Clean the air conditioning screen. (Clean more frequently in extremely dusty or dirty conditions)
Every 100 hours	Check the alternator belt tension. Check the air conditioning compressor belt tension (cab models)
Every 150 hours	Check the lubricant in the mower deck gear box. Change the engine oil and filter.
Every 200 hours	 Inspect cooling system hoses and seals. Replace them if cracked or torn. Torque wheel lug nuts.
Every 250 hours	 Clean the cab air filters. (Replace them if they are tom or excessively dirty.) Clean the air conditioning coil. (Clean more frequently in extremely dusty or dirty conditions)
Every 400 hours	Change the mower deck gear box lubricant Service the air cleaner. (Service the air cleaner earlier if the air cleaner indicator shows red. Service it more frequently in extremely dirty or dusty conditions.) Replace the fuel filter canister. Check the fuel lines and connections.
Every 800 hours	Change the hydraulic oil and filter. Inspect engine valve clearance. Refer to your Engine Operator's Manual.
Every 1,500 hours	Replace moving hoses
Every 2 years	Drain and clean the fuel tank. Flush and replace cooling system fluid.



Groundsmaster 360

Model Tier 4 Diesel 31200, 31200A, and 31202 **Serial** 314000001 and Up

Engine Brand	Yanmar
Engine Oil 5.5 q	t SAE 15W-40 CJ-4
Engine Oil Filter	125-7025
Hydraulic Oil4.5	gal Mobile 424
Hydraulic Filter	108-5194
Gear Box Oil14 (oz80W-90
Air Filter	108-3810
Water Separator	125-2915
Fuel Filter	125-8752
Tire Pressure	(Front and Rear) PSI (15 and 25) (25 w/cab and 25)

Engine Coolant8 qt......Ethylene Glycol, Water

(50/50 mix)

IMPORTANT NOTES:



Maintenance Service Interval	Maintenance Procedure
After the first 10 hours	Check the alternator belt tension. Torque wheel lug nuts.
After the first 200 hours	Change the hydraulic oil and filter.
Before each use or daily	Check the engine oil level. Test the safety system. Check the engine coolant level. Clean the radiator with compressed air (do not use water) Check the hydraulic fluid level.
Every 50 hours	 Grease the bearing and bushing grease fittings. Check battery cable connections. Check the tire pressure.
Every 100 hours	Check the alternator belt tension.
Every 200 hours	Inspect cooling system hoses and seals. Replace them if cracked or torn. Torque wheel lug nuts.
Every 250 hours	Change the engine oil and filter.
Every 400 hours	Service the air cleaner. (Service the air cleaner earlier if the air cleaner indicator shows red. Service it more frequently in extremely dirty or dusty conditions.) Replace the fuel filter canister. Replace the engine fuel filter. Check the fuel lines and connections for deterioration, damage, or loose connections.
Every 800 hours	Change the hydraulic oil and filter. Inspect engine valve clearance. Refer to your Engine Operator's Manual.
Every 1,500 hours	Replace moving hoses
Every 6,000 hours	Replace the DOC
Every 2 years	Flush and replace cooling system fluid.



Groundsmaster 5900 and 5910-D

Model 31598, 31599 **Serial** 280000001 through 316999999

Serial 20000001 tillough 310998	999
Engine Brand	Cummins
Engine Oil (<i>Chart C</i>)8.5	qt SAE 15W-40 CH4
Engine Oil Filter	115-8868
Hydraulic Oil (Chart R)19	<i>gal</i> ISO VG 46
Hydraulic Reservoir Filter	75-1310
Hydraulic Filter	86-6110
Air Filter	115-8887
Air Filter Safety	115-8877
Engine Thermostat	115-8860
Fuel Filter	117-2792
Planetary Gear Drive16 o	z 85W-140
Water Separator	115-5471
Tire Pressure	Front-50 Rear-30 PSI
Caster Tire	25–30 PSI
Engine Coolant13.5 o	gt Ethylene Glycol, Water (50/50 mix)

IMPORTANT NOTES:



Maintenance Service Interval	Maintenance Procedure
After the first 10 hours	Torque the wheel lug nuts. Check the alternator belt tension. Check the compressor belt tension. Check blade bolt torque
After the first 250 hours	Adjust the valve clearance Change the front planetary gear oil.
Before each use or daily	Check the tire pressure. Lubricate castor arm bushings. Check the engine oil level. Drain the water separator Check the coolant level. Check the hydraulic fluid level. Check mower blade condition Check the safety interlock switch operation
Every 50 hours	Lubricate all grease fittings. Remove air cleaner cover and clean out debris Do not remove filter. Check the battery condition Inspect the blade drive belts. Check the hydraulic filter service indicators (2) Check blade bolt torque Remove all debris and chaff from the engine compartment, radiator and oil cooler.
Every 100 hours	Inspect the cooling system hoses.
Every 250 hours	Torque the wheel lug nuts. Change the engine oil and filter. Check the planetary gear drive oil level Service the spark arrestor. Clean the cabin air filters. (Replace them if they are torn or excessively dirty.) Clean the air conditioning coil.
Every 500 hours	Inspect the fuel lines and connections. Replace the fuel/water separator element. Replace the fuel filter element Inspect the cutting unit castor wheel assemblies.
Every 1,000 hours	Drain and clean the fuel tank. Recalibrate traction pedal Change the front planetary gear oil. Check the rear wheel toe-in. Check the alternator belt tension. Check the compressor belt tension. Replace the drive blade belts Change the hydraulic fluid and filters.
Every 2,000 hours	Adjust the valve clearance
Every 2 years	Flush the cooling system and replace fluid. Replace moving hoses.



Groundsmaster 5900 and 5910

Model Tier 4 Diesel 31698 and 31699 **Serial** 316000001 and Up

out and out of	
Engine Brand	Yanmar
Engine Oil (Chart C)11 qt	SAE 15W-40 CJ4
Engine Oil Filter	125-7025
Hydraulic Oil (Chart R)16.6 gal	ISO VG 46
Hydraulic Reservoir Filter	75-1310
Hydraulic Filter	86-6110
Air Filter	108-3815
Air Filter Safety	130-9070
Fuel Filter	125-8752
Water Separator	125-2915
Tire Pressure	Front-32 Rear-30 PSI
Caster Tire	50 PSI
Engine Coolant13.5 qt	Ethylene Glycol, Water (50/50 mix)

IMPORTANT NOTES:



Maintenance Service Interval	Maintenance Procedure
After the first 10 hours	Check the wheel-lug nuts. Check the 12 V alternator belt. Check the 24 V alternator belt and AC compressor belt. Check the blade-bolt torque.
After the first 50 hours	Change the engine oil and engine-oil filter.
Before each use or daily	Check the tire pressure. Check the blade stopping time. Check the engine-oil level. Drain the water separator. Check the engine-coolant level in the overflow reservoir. Remove debris from the hydraulic-fluid-cooler core and the radiator core with compressed air. Check the hydraulic-fluid level. Check the condition of the mower blade. Check the safety-interlock system.
Every 50 hours	Lubricate all grease fittings. Remove the air-cleaner cover and clean out the debris. Do not remove the filter. Check the condition of the batteries. Inspect the blade-drive belts. Check the blade-bolt torque. Remove all debris and chaff from the engine compartment, radiator, and oil cooler.
Every 100 hours	Inspect the cooling-system hoses.
Every 250 hours	Check the wheel-lug nuts. Change the engine oil and engine-oil filter. Clean the cab air filters; replace them if they are torn or excessively dirty. Clean the air-conditioning-condenser coil. Clean it more frequently in extremely dusty or dirty conditions.
Every 400 hours	Check the air-cleaner body for damage which could cause an air leak. Replace if damaged. Check the whole air-intake system for leaks, damage, or loose hose clamps. Replace the fuel/water separator element.
Every 500 hours	Inspect the fuel lines and connections. Replace the fuel-filter element. Inspect the mower deck caster-wheel assemblies.
Every 800 hours	Drain and clean the fuel tank.
Every 1,000 hours	 Adjust the engine-valve clearance (if necessary). Calibrate the traction pedal. Check the rear wheel toe-in. Flush the engine-cooling system and replace the fluid. Check the 12 V alternator-belt tension. Check the 24 V alternator belt and AC compressor-belt tension. Replace the blade-drive belts. Change the hydraulic fluid and the 2 hydraulic filters.
Every 1,500 hours	Clean the engine EGR cooler. Inspect the engine crankcase-breather system.



Groundsmaster 580-D

Model 30580

Serial 90001 through 70001 (1989–1997)

Engine Brand Mitsubishi

Engine Oil (*Chart C*)......8.5 qt SAE 30 CI, CI-4

Engine Oil Filter 108-3835

Hydraulic Oil (Chart S)......40 gal...... ISO VG 68

Hydraulic Filter 69-1720

Hydraulic Breather 68-6150

Fuel Filter 108-3818

Planetary Gear Drive.......32 oz SAE 80W-90

Brake Fluid DOT 3 Fluid

Tire Pressure...... See operator's manual

Caster Tire......50 PSI

Engine Coolant......3.9 gal...... Ethylene Glycol, Water

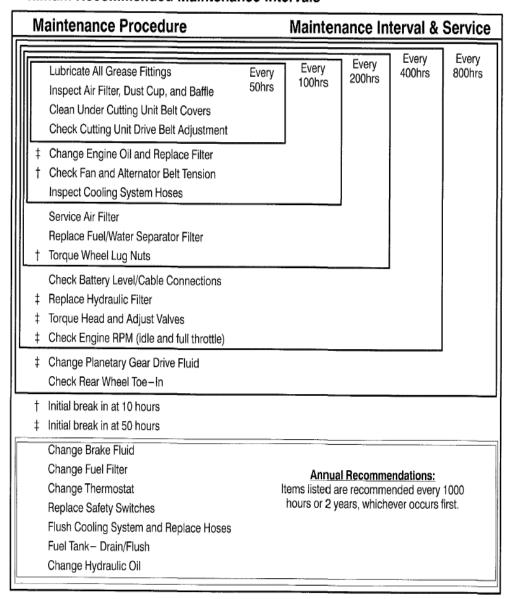
(50/50 mix)

IMPORTANT NOTES:



MAINTENANCE SCHEDULE

Minimum Recommended Maintenance Intervals





Groundsmaster 580-D

Model 30581

Serial 80001 through 240999999

Engine Brand Mitsubish	ıi
------------------------	----

Engine Oil (*Chart C*)......8.5 *qt* SAE 30 CI, CI-4

Engine Oil Filter 110-6166

Hydraulic Oil (Chart S)......40 gal....... ISO VG 68

Hydraulic Filter 69-1720

Air Filter...... 108-3815

Fuel Feed Pump.......70-4790

Water Separator* 69-1770 (1989-2003)

Water Separator* 69-5470 (2004-2005)

Engine Thermostat 99-2155

Planetary Gear Drive......32 oz...... SAE 80W-90

Brake Fluid DOT 3 Fluid

Tire Pressure...... See operator's manual

Caster Tire......50 PSI

Engine Coolant......3.9 gal...... Ethylene Glycol, Water

(50/50 mix)

IMPORTANT NOTES:

^{*} Refer to Toro's parts catalog or Parts Viewer for bio-diesel fuel filter part numbers.

Note: Determine the left and right sides of the machine from the normal operating position.

Recommended Maintenance Schedule

Maintenance Service Interval	Maintenance Procedure
	Check the fan and alternator belt adjustment.
After first 10 hours	Torque the wheel lug nuts.
	Check the cutting unit drive belt adjustment.
	Change the engine oil and replace the filter.
	Replace the hydraulic filter.
After first 50 hours	Torque head and adjust valves.
	Check the engine RPM (at idle and full throttle).
	Change the planetary gear drive fluid.
	Lubricate all grease fittings.
	Inspect the air filter, dust cup, and baffle.
Every 50 hours	Clean under the cutting unit belt covers.
	Check the cutting unit drive belt adjustment.
	Change the engine oil and replace the filter.
Every 100 hours	Check the fan and alternator belt tension.
,,	Inspect the cooling system hoses.
	Service the air filter.
Every 200 hours	Replace the fuel/water separator filter.
	Torque the wheel lug nuts.
	Check the battery level and cable connections.
Fuer 400 have	Replace the hydraulic filter.
Every 400 hours	Torque head and adjust valves.
	Check the engine RPM (at idle and full throttle).
Maintenance Service Interval	Maintenance Procedure
Every 800 hours	Change the planetary gear drive fluid.
Every out nours	Check the rear wheel toe-in.
Every 1000 hours or every 2 years,	Change the brake fluid.
	Change the fuel filter. Change the thermostet.
	Change the thermostat. Replace the safety switches.
whichever occurs first	Flush the cooling system and replace the hoses.
	Drain/flush the fuel tank.
	Change the hydraulic oil.

Important Refer to your engine operator's manual for additional maintenance procedures.



Caution



If you leave the key in the ignition switch, someone could accidently start the engine and seriously injure you or other by standers.

Remove the key from the ignition and disconnect the wire(s) from the spark plug(s) before you do any maintenance. Set the wire(s) aside so that it does not accidentally contact the spark plug(s).



Groundsmaster 580-D

Model 30582 and 30583 **Serial** 240000001 and Up

Engine Brand Mitsubishi

Engine Oil (Chart N)......8.5 qt SAE 15W-40 CI-4

Engine Oil Filter 110-6166

Hydraulic Oil (Chart S)......40 gal....... ISO VG 68

Hydraulic Filter 69-1720

Hydraulic Breather 68-6150

Engine Thermostat 99-2155

Water Separator* 60-5470

Planetary Gear Drive.......32 oz SAE 80W-90

Brake Fluid DOT 3 Fluid

Tire Pressure...... See operator's manual

Caster Tire...... 50 PSI

Engine Coolant......3.9 gal...... Ethylene Glycol, Water

(50/50 mix)

IMPORTANT NOTES:

^{*} Refer to Toro's parts catalog or Parts Viewer for bio-diesel fuel filter part numbers.



Note: Determine the left and right sides of the machine from the normal operating position.

Recommended Maintenance Schedule

Maintenance Service Interval	Maintenance Procedure
	Check the fan and alternator belt adjustment.
After first 10 hours	Torque the wheel lug nuts.
	Check the cutting unit drive belt adjustment.
	Change the engine oil and replace the filter.
	Replace the hydraulic filter.
After first 50 hours	Torque cylinder head bolts and adjust valves.
	Check the engine RPM (at idle and full throttle).
	Change the planetary gear drive fluid.
	Lubricate all grease fittings.
Every 50 hours	Inspect the air filter, dust cup, and baffle.
Every 50 flours	Clean under the cutting unit belt covers.
	Check the cutting unit drive belt adjustment.
	Change the engine oil and replace the filter.
Every 100 hours	Check the fan and alternator belt tension.
	Inspect the cooling system hoses.
Every 200 hours	Service the air filter.
Lvery 200 flours	Torque the wheel lug nuts.
	Replace the fuel/water separator filter and the fuel filter.
	Check the battery level and cable connections.
Every 400 hours	Replace the hydraulic filter.
Every 400 flours	Adjust valves.
	Check the engine RPM (at idle and full throttle).
	Inspect and adjust fuel injection nozzles
Every 800 hours	Change the planetary gear drive fluid.
Livery 000 flours	Check the rear wheel toe-in.
	Change the brake fluid.
	Change the injection pump filter.
Every 1000 hours or every 2 years,	Change the thermostat.
	Replace the safety switches.
whichever occurs first	 Flush the cooling system and replace the hoses.
	Drain/flush the fuel tank.
	Change the hydraulic oil.
	Torque cylinder head bolts.

Important Refer to your engine operator's manual for additional maintenance procedures.



Groundsmaster 455-D

Model 30450 and 30455 **Serial** 20001 and Up

Engine Brand Peugeot

Engine Oil (Chart C)..........5.3 qt........ SAE 15W-40 CI, CI-4

Engine Oil Filter 108-3837

Hydraulic Oil (Chart S)......6.5 gal....... ISO VG 68

Hydraulic Filter 86-3010

Bidirectional Clutch (Where Appropriate) ISO VG 68 (Chart S)

Fuel Filter 76-5220

Rear 4WD Axle Oil..... 80 oz...... SAE 80W-90

(Front and Rear)

Caster Tires 50 PSI

Engine Coolant (Special Requirement).. Peugeot Antifreeze (3.5 gal)

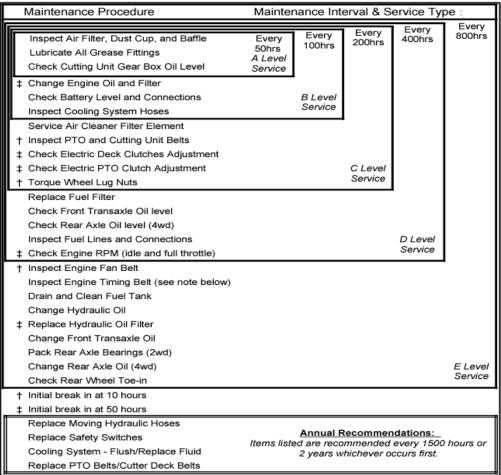
Toro Part # (104-8606)

IMPORTANT NOTES:



GROUNDSMASTER ® 455-D Maintenance Schedule

Minimum Recommended Maintenance Intervals:



See Operator's and Service Manual for specifications and procedures)

NOTE: Replace Timing Belt if worn, cracked or oil soaked. A new Timing Belt should be installed any time the Belt is removed or loosened.



Groundsmaster 4000-D

Model 30410

Serial 210000001 through 280000999

Engine Brand K	lubota
----------------	--------

Engine Oil Filter 104-5169

Breather Element.......98-7419

Hydraulic Oil......8 gal...... Mobil DTE 15M

Hydraulic Filter 75-1310

Traction Hydraulic Filter 94-2621

Hydraulic Breather 68-6150

Air Filter.......108-3814

Safety Air Filter 108-3816

Water/Separator Element* 98-9764

Fuel Filter In-line* 98-7612

Planetary Gear Drive.......... 16 oz SAE 85W-140

Rear Axle80 oz.......... SAE 85W-140

Rear Axle Breather 99-7591

Caster Tires 50 PSI

Engine Coolant......2.75 gal...... Ethylene Glycol, Water

(50/50 mix)

IMPORTANT NOTES:

^{*} Refer to Toro's parts catalog or Parts Viewer for bio-diesel fuel filter part numbers.



Note: Determine the left and right sides of the machine from the normal operating position.

Maintenance Service Interval	Maintenance Procedure
After the first 10 operating hours	Torque the wheel lug nuts. Check the fan and alternator belt tension. Check the blade drive belt tension.
After the first 50 operating hours	 Change the engine oil and filter. Check the engine RPM (at idle and full throttle). Torque the locknuts on the pivots.
After the first 200 operating hours	Change the front planetary gear oil. Change the rear axle oil. Change the hydraulic oil. Change the hydraulic oil filters.
Before each use or daily	Check the engine oil level. Check the coolant level. Check the hydraulic fluid level. Check the tire pressure.
Every 50 hours	Lubricate all grease fittings. Inspect the air cleaner. Check the battery level and cable connections. Check the blade drive belt tension. Clean the underside of the mower housing and under the belt covers.
Every 100 hours	Inspect the cooling system hoses. Check the fan and alternator belt tension.
Every 150 hours	Change the engine oil and filter.
Every 200 hours	Torque the wheel lug nuts. Service the spark arrestor.
Every 400 hours	Check the planetary gear drive oil. Check the rear axle lubricant. Check the rear axle gear box lubricant. Service the air filter (if the indicator shows red). Inspect the fuel lines and connections. Change the fuel filters (fuel/water and prefilter). Check the engine RPM (at idle and full throttle).
Every 800 hours	Drain and clean the fuel tank. Change the front planetary gear oil. Change the rear axle oil. Check the rear wheel toe-in. Inspect the blade drive belts. Change the hydraulic oil. Change the hydraulic oil filters. Inspect the cutting unit castor wheel assemblies. Check and adjust the valve clearance.
Every 2 years	Flush the cooling system and replace fluid. Replace moving hoses.



Groundsmaster 4000-D

Model 30412 Serial 29000001 and Up

Serial 290000001 and Op	
Engine Brand	Kubota
Engine Oil10 qt	SAE 15W-40 CH4 or CI4
Engine Oil Filter	104-5169
Breather Element	100-3715
Hydraulic Oil (Chart R)8 gal	ISO VG 46
Hydraulic Filter	75-1310
Traction Hydraulic Filter	94-2621
Hydraulic Breather	68-6150
Air Filter	108-3814
Safety Air Filter	108-3816
Water/Separator Element	110-9049
Fuel Filter In-line	98-7612
Planetary Gear Drive16 oz	SAE 85W-140
Rear Axle 80 oz	SAE 85W-140
Rear Axle Breather	110-4812
Tire Pressure	25-30 PSI (Front and Rear)
Caster Tires	50 PSI
Engine Coolant13 qt	Ethylene Glycol, Water (50/50 mix)

IMPORTANT NOTES:

Note: Determine the left and right sides of the machine from the normal operating position.

Maintenance Service Interval	Maintenance Procedure
After the first 10 operating hours	Torque the wheel lug nuts. Check the fan and alternator belt tension. Check the blade drive belt tension.
After the first 50 operating hours	Change the engine oil and filter. Check the engine RPM (at idle and full throttle). Torque the locknuts on the pivots.
After the first 200 operating hours	Change the front planetary gear oil. Change the rear axle oil. Change the hydraulic oil. Change the hydraulic oil filters.
Before each use or daily	Check the engine oil level. Check the coolant level. Check the hydraulic fluid level. Check the tire pressure.
Every 50 hours	Lubricate all grease fittings. Inspect the air cleaner. Check the battery level and cable connections. Check the blade drive belt tension. Clean the underside of the mower housing and under the belt covers.
Every 100 hours	Inspect the cooling system hoses. Check the fan and alternator belt tension.
Every 150 hours	Change the engine oil and filter.
Every 200 hours	Torque the wheel lug nuts. Service the spark arrestor.
Every 400 hours	Check the planetary gear drive oil. Check the rear axle lubricant. Check the rear axle gear box lubricant. Service the air filter (if the indicator shows red). Inspect the fuel lines and connections. Change the fuel filters (fuel/water and prefilter). Check the engine RPM (at idle and full throttle).
Every 800 hours	Drain and clean the fuel tank. Change the front planetary gear oil. Change the rear axle oil. Check the rear wheel toe-in. Inspect the blade drive belts. Change the hydraulic oil. Change the hydraulic oil filters. Inspect the cutting unit castor wheel assemblies. Check and adjust the valve clearance.
Every 2 years	Flush the cooling system and replace fluid. Replace moving hoses.



Groundsmaster 4000 and 4010-D

Model 30446 and 30448 Including N models – Non Tier 4 **Serial** 310000001 and Up

Engine Brand	Kubota
Engine Oil10 qt.	SAE 15W-40 CH4, CI4
Engine Oil Filter	115-8527
Breather Element	100-3715
Hydraulic Oil (Chart R)8	gal ISO VG 46
Hydraulic Filter	75-1310
Traction Hydraulic Filter	94-2621
Hydraulic Breather	68-6150
Air Filter	108-3814
Safety Air Filter	108-3816
Water/Separator Element	110-9049
Planetary Gear Drive	16 oz SAE 85W-140
Rear Axle 80 oz	z SAE 85W-140
Rear Axle Breather	110-4812
Tire Pressure	25–30 PSI (Front and Rear)
Caster Tires	50 PSI
Engine Coolant13 q	tEthylene Glycol, Water (50/50 mix)

IMPORTANT NOTES:



Maintenance Service Interval	Maintenance Procedure
After the first 10 hours	Torque the wheel lug nuts. Check the alternator belt tension. Check the compressor belt tension. Check the blade drive belt tension.
After the first 50 hours	Change the engine oil and filter. Check the engine speed (at idle and full throttle).
After the first 200 hours	Change the front planetary gear oil. Change the rear axle oil. Change the hydraulic oil. Change the hydraulic oil filters.
Before each use or daily	Check the engine oil level. Check the coolant level. Check the hydraulic fluid level. Check the tire pressure. Check the air cleaner indicator Check the interlock switch operation
Every 50 hours	Lubricate all grease fittings. Inspect the air cleaner. Check the blade drive belt tension. Clean the air conditioning screen. (Clean more frequently in extremely dusty or dirty conditions) Remove all debris and chaff from the radiator and oil cooler.
Every 100 hours	Inspect the cooling system hoses and clamps. Check the alternator belt tension. Check the compressor belt tension.
Every 150 hours	Change the engine oil and filter.
Every 200 hours	Torque the wheel lug nuts. Service the spark arrestor muffler.
Every 250 hours	Clean the cab air filters. (Replace them if they are torn or excessively dirty.) Clean the air conditioning coil. (Clean more frequently in extremely dusty or dirty conditions)
Every 400 hours	Check the planetary gear drive oil. Check the rear axle lubricant. Check the rear axle gear box lubricant. Service the air filter (if the indicator shows red). Inspect the fuel lines and connections. Replace the fuel filter canister. Check the engine speed (at idle and full throttle).

Groundsmaster 4000 and 4010-D

Model Tier 4 Diesel 30607, 30636, and 30609 including A models **Serial** 313000101 and Up

Engine Brand Yanmar

Hydraulic Oil7.75 gal ISO VG 46/68 See Specifications Below

Safety Air Filter......108-3816

Planetary Gear Drive.....22 oz...... SAE 85W-140

Rear Axle Breather 110-4812

Caster Tires...... 50 PSI

High Viscosity Index/Low Pour Point Anti-wear Hydraulic Fluid. ISO VG 46

Material Properties:

Viscosity Index ASTM 140 to 160

D2270

Pour Point, ASTM D97 -34°F to -49°F

Industry Specifications:

Vickers I-286-S (Quality Level), Vickers M-2950-S

(Quality Level), Denison HF-0

IMPORTANT NOTES:



Maintenance Service Interval	Maintenance Procedure
After the first 10 hours	Torque the wheel lug nuts. Check the alternator belt tension. Check the compressor belt tension. Check the blade drive belt tension.
After the first 200 hours	Change the front planetary gear oil. Change the rear axle oil.
Before each use or daily	Check the engine oil level. Check the coolant level. Check the hydraulic fluid level. Check the tire pressure. Check the air cleaner indicator Drain water from water separator Remove all debris and chaff from the engine compartment, radiator and oil cooler. Check the interlock switch operation
Every 50 hours	Lubricate all grease fittings. Inspect the air cleaner. Check the blade drive belt tension. Clean the air conditioning screen. (Clean more frequently in extremely dusty or dirty conditions)
Every 100 hours	Inspect the cooling system hoses and clamps. Check the alternator belt tension. Check the compressor belt tension.
Every 200 hours	Torque the wheel lug nuts.
Every 250 hours	Change the engine oil and filter. Clean the cab air filters. (Replace them if they are torn or excessively dirty.) Clean the air conditioning coil. (Clean more frequently in extremely dusty or dirty conditions)
Every 400 hours	Check the planetary gear drive oil. Check the rear axle lubricant. Check the rear axle gear box lubricant. Service the air filter (if the indicator shows red). Inspect the fuel lines and connections. Replace the water separator/fuel filter canister. Replace the engine fuel filter.
Every 800 hours	Drain and clean the fuel tank. Change the front planetary gear oil. (Or yearly, whichever comes first) Change the rear axle oil. Check the rear wheel toe-in. Inspect the blade drive belts. Change the hydraulic oil. Change the hydraulic oil filters. Inspect the side cutting unit damper. Inspect the cutting unit castor wheel assemblies.
Every 1,000 hours	Check and adjust the valve clearance.
Every 3,000 hours	Remove and clean the DPF (or as required)



Groundsmaster 4100-D

Model 30411

Serial 230000001 through 280000999

Engine	Brand	Kubota
--------	-------	--------

Engine Oil Filter 104-5169

Hydraulic Oil (Chart R)......8 gal....... ISO VG 46

Hydraulic Filter 75-1310

Traction Hydraulic Filter 94-2621

Hydraulic Breather 68-6150

Air Filter......108-3814

Safety Air Filter 108-3816

Water/Separator Element* 98-9764

Fuel Filter In-line* 98-7612

Planetary Gear Drive......... 16 oz SAE 85W-140

Rear Axle80 oz SAE 85W-140

Rear Axle Breather 99-7591

Caster Tires 50 PSI

Engine Coolant......2.75 gal....... Ethylene Glycol, Water

(50/50 mix)

IMPORTANT NOTES:

^{*} Refer to Toro's parts catalog or Parts Viewer for bio-diesel fuel filter part numbers.



Note: Determine the left and right sides of the machine from the normal operating position.

Maintenance Service Interval	Maintenance Procedure
After the first 10 operating hours	Torque the wheel lug nuts. Check the fan and alternator belt tension. Check the blade drive belt tension.
After the first 50 operating hours	 Change the engine oil and filter. Check the engine RPM (at idle and full throttle). Torque the locknuts on the pivots.
After the first 200 operating hours	 Change the front planetary gear oil. Change the rear axle oil. Change the hydraulic oil. Change the hydraulic oil filters.
Before each use or daily	Check the engine oil level. Check the coolant level. Check the hydraulic fluid level. Check the tire pressure.
Every 50 hours	Lubricate all grease fittings. Inspect the air cleaner. Check the battery level and cable connections. Check the blade drive belt tension. Clean the underside of the mower housing and under the belt covers.
Every 100 hours	Inspect the cooling system hoses. Check the fan and alternator belt tension.
Every 150 hours	Change the engine oil and filter.
Every 200 hours	Torque the wheel lug nuts. Service the spark arrestor.
Every 400 hours	Check the planetary gear drive oil. Check the rear axle lubricant. Check the rear axle gear box lubricant. Service the air filter (if the indicator shows red). Inspect the fuel lines and connections. Change the fuel filters (fuel/water and prefilter). Check the engine RPM (at idle and full throttle).
Every 800 hours	Drain and clean the fuel tank. Change the front planetary gear oil. Change the rear axle oil. Check the rear wheel toe-in. Inspect the blade drive belts. Change the hydraulic oil. Change the hydraulic oil filters. Inspect the cutting unit castor wheel assemblies. Check and adjust the valve clearance.
Every 2 years	Flush the cooling system and replace fluid. Replace moving hoses.



Groundsmaster 4100-D

Model 30413

Serial 290000001 and Up

Serial 290000001 and Up	
Engine Brand	Kubota
Engine Oil 10	<i>qt</i> SAE 15W-40 CH4, CI4
Engine Oil Filter	104-5169
Breather Element	100-3715
Hydraulic Oil (Chart R)	8 gal ISO VG 46
Hydraulic Filter	75-1310
Traction Hydraulic Filter	94-2621
Hydraulic Breather	68-6150
Air Filter	108-3814
Safety Air Filter	108-3816
Water/Separator Element	110-9049
Fuel Filter In-line	98-7612
Planetary Gear Drive	16 oz SAE 85W-140
Rear Axle	.80 oz SAE 85W-140
Rear Axle Breather	110-4812
Tire Pressure	25–30 PSI (Front and Rear)
Caster Tires	50 PSI
Engine Coolant	.13 qt Ethylene Glycol, Water (50/50 mix)

IMPORTANT NOTES:



Note: Determine the left and right sides of the machine from the normal operating position.

Maintenance Service Interval	Maintenance Procedure
After the first 10 operating hours	Torque the wheel lug nuts. Check the fan and alternator belt tension. Check the blade drive belt tension.
After the first 50 operating hours	Change the engine oil and filter. Check the engine RPM (at idle and full throttle). Torque the locknuts on the pivots.
After the first 200 operating hours	Change the front planetary gear oil. Change the rear axle oil. Change the hydraulic oil. Change the hydraulic oil filters.
Before each use or daily	Check the engine oil level. Check the coolant level. Check the hydraulic fluid level. Check the tire pressure.
Every 50 hours	Lubricate all grease fittings. Inspect the air cleaner. Check the battery level and cable connections. Check the blade drive belt tension. Clean the underside of the mower housing and under the belt covers.
Every 100 hours	Inspect the cooling system hoses. Check the fan and alternator belt tension.
Every 150 hours	Change the engine oil and filter.
Every 200 hours	Torque the wheel lug nuts. Service the spark arrestor.
Every 400 hours	Check the planetary gear drive oil. Check the rear axle lubricant. Check the rear axle gear box lubricant. Service the air filter (if the indicator shows red). Inspect the fuel lines and connections. Change the fuel filters (fuel/water and prefilter). Check the engine RPM (at idle and full throttle).
Every 800 hours	Drain and clean the fuel tank. Change the front planetary gear oil. Change the rear axle oil. Check the rear wheel toe-in. Inspect the blade drive belts. Change the hydraulic oil. Change the hydraulic oil filters. Inspect the cutting unit castor wheel assemblies. Check and adjust the valve clearance.
Every 2 years	Flush the cooling system and replace fluid. Replace moving hoses.



Groundsmaster 4100 and 4110-D

Model 30447 and 30449 Including N models – Non Tier 4 **Serial** 310000001 and Up

· ·	
Engine Brand	Kubota
Engine Oil1	0 qtSAE 15W-40 CH4, CI4
Engine Oil Filter	104-5169
Breather Element	98-9493
Hydraulic Oil (Chart R)	8 gal ISO VG 46
Hydraulic Filter	75-1310
Traction Hydraulic Filter	94-2621
Hydraulic Breather	68-6150
Air Filter	108-3814
Safety Air Filter	108-3816
Water/Separator Element.	110-9049
Planetary Gear Drive	16 oz SAE 85W-140
Rear Axle	80 oz SAE 85W-140
Rear Axle Breather	110-4812
Tire Pressure	25–30 PSI (Front and Rear)
Caster Tires	50 PSI
Engine Coolant	13 qt Ethylene Glycol, Water

IMPORTANT NOTES:

Part numbers, specifications, and lubricants listed herein are subject to change. For online Toro parts information, go to www.toro.com and then click Parts. To see the latest online version of this manual, go to www.toro.com and click Support, Education and Technical Reference, and then click Service Manuals. The most current API Service Grade of oil includes the service properties of earlier classifications. Refer to the American Petroleum Institute (API) Engine Oil Guide that begins on page 343 for further details.

(50/50 mix)



Maintenance Service Interval	Maintenance Procedure
After the first 10 hours	Torque the wheel lug nuts. Check the fan belt tension. Check the blade drive belt tension.
After the first 50 hours	Change the engine oil and filter. Check the engine speed (at idle and full throttle).
After the first 200 hours	Change the front planetary gear oil. Change the rear axle oil. Change the hydraulic oil. Change the hydraulic oil filters.
Before each use or daily	Check the engine oil level. Check the coolant level. Check the hydraulic fluid level. Check the tire pressure. Check the air cleaner indicator. Check the interlock switch operation
Every 50 hours	Lubricate all grease fittings. Check the blade drive belt tension. Check the battery level and cable connections. Clean the underside of the mower housing and under the belt covers.
Every 100 hours	Inspect the cooling system hoses and clamps. Check the fan belt tension.
Every 150 hours	Change the engine oil and filter.
Every 200 hours	Torque the wheel lug nuts. Service the spark arrestor muffler
Every 250 hours	Clean the cab air filters. (Replace them if they are torn or excessively dirty.)
Every 400 hours	Check the planetary gear drive oil. Check the rear axle lubricant. Check the rear axle gear box lubricant. Service the air filter (if the indicator shows red). Inspect the fuel lines and connections. Replace the fuel filter canister. Check the engine speed (at idle and full throttle).
Every 800 hours	Drain and clean the fuel tank. Change the front planetary gear oil. Change the rear axle oil. Check the rear wheel toe-in. Inspect the blade drive belts. Change the hydraulic oil. Change the hydraulic oil filters. Inspect the cutting unit castor wheel assemblies. Check and adjust the valve clearance.
Every 2 years	Flush the cooling system and replace fluid. Replace moving hoses.



Groundsmaster 4100 and 4110-D

Model Tier 4 Diesel 30608, 30644, and 30606 including A models **Serial** 313000101 and Up

Engine Brand Yanmar

Engine Oil Filter 125-7025

Hydraulic Oil7.75 gal ISO VG 46/68 See Specifications Below

Traction Hydraulic Filter 94-2621

Hydraulic Breather 115-9793

Safety Air Filter 108-3816

Water/Separator Element...... 125-2915

Fuel Filter Spin-On...... 125-8752

Planetary Gear Drive.....22 oz...... SAE 85W-140

Rear Axle Breather 110-4812

Caster Tires...... 50 PSI

High Viscosity Index/Low Pour Point Anti-wear Hydraulic Fluid, ISO VG 46

Material Properties:

Viscosity, ASTM D445 CSt @ 40°C 44 to 48

cSt @ 100°C 7.9 to 8.5

Viscosity Index ASTM 140 to 160

D2270

Pour Point, ASTM D97 -34°F to -49°F

Industry Specifications:

Vickers I-286-S (Quality Level), Vickers M-2950-S

(Quality Level), Denison HF-0

IMPORTANT NOTES:



Maintenance Service Interval	Maintenance Procedure
After the first 10 hours	Torque the wheel lug nuts. Check the alternator belt tension. Check the compressor belt tension. Check the blade drive belt tension.
After the first 200 hours	Change the front planetary gear oil. Change the rear axle oil.
Before each use or daily	Check the engine oil level. Check the coolant level. Check the hydraulic fluid level. Check the tire pressure. Check the air cleaner indicator Drain water from water separator Remove all debris and chaff from the engine compartment, radiator and oil cooler. Check the interlock switch operation
Every 50 hours	Lubricate all grease fittings. Inspect the air cleaner. Check the blade drive belt tension. Clean the air conditioning screen. (Clean more frequently in extremely dusty or dirty conditions)
Every 100 hours	Inspect the cooling system hoses and clamps. Check the alternator belt tension. Check the compressor belt tension.
Every 200 hours	Torque the wheel lug nuts.
Every 250 hours	Change the engine oil and filter. Clean the cab air filters. (Replace them if they are torn or excessively dirty.) Clean the air conditioning coil. (Clean more frequently in extremely dusty or dirty conditions)
Every 400 hours	Check the planetary gear drive oil. Check the rear axle lubricant. Check the rear axle gear box lubricant. Service the air filter (if the indicator shows red). Inspect the fuel lines and connections. Replace the water separator/fuel filter canister. Replace the engine fuel filter.
Every 800 hours	Drain and clean the fuel tank. Change the front planetary gear oil. (Or yearly, whichever comes first) Change the rear axle oil. Check the rear wheel toe-in. Inspect the blade drive belts. Change the hydraulic oil. Change the hydraulic oil filters. Inspect the side cutting unit damper. Inspect the cutting unit castor wheel assemblies.
Every 1,000 hours	Check and adjust the valve clearance.
Every 3,000 hours	Remove and clean the DPF (or as required)



Groundsmaster 4300-D

Model 30859, 30861 Including N models – Non Tier 4 **Serial** 310000001 and Up

Engine Brand Kubota

Engine Oil Filter 108-3841

Hydraulic Oil (Chart R)......10 gal...... ISO VG 46

Hydraulic Filter 94-2621

Steering Valve Filter......86-3010

Air Filter (4300 - 5610 only)...... 108-3812

Fuel Filter/Water Separator 110-9049

Engine Coolant......10 qt...... Ethylene Glycol, Water

(50/50 mix)

IMPORTANT NOTES:



Note: Determine the left and right sides of the machine from the normal operating position.

Maintenance Service Interval	Maintenance Procedure
After the first hour	Torque the wheel lug nuts to 70 to 90 ft-lb (94 to 122 N·m).
After the first 8 hours	Check the condition and tension of the alternator belt.
After the first 10 hours	Torque the wheel lug nuts to 70 to 90 ft-lb (94 to 122 N·m).
After the first 50 hours	Change the engine oil and filter. Check the engine RPM (idle and full throttle).
Before each use or daily	Check the engine oil level. Check the cooling system. Check the hydraulic fluid level. Check the operation of the interlock switches. Remove debris from the screen, oil coolers, and radiator (more frequently in dirty operating conditions). Check the hydraulic lines and hoses for leaks, kinked lines, loose mounting supports, wear, loose fittings, weather deterioration, and chemical deterioration.
Every 50 hours	 Grease the bearings and bushings. (Grease them immediately after every washing regardless of the interval listed.) Check the condition of and clean the battery. Check the battery cable connections.
Every 100 hours	Inspect the cooling system hoses. Check the condition and tension of the alternator belt.
Every 150 hours	Change the engine oil and filter.
Every 200 hours	Drain moisture from the fuel and hydraulic fluid tanks.
Every 250 hours	Torque the wheel lug nuts to 70 to 90 ft-lb (94 to 122 N·m).
Every 400 hours	 Service the air cleaner. (Service the air cleaner earlier if the air cleaner indicator shows red. Service it more frequently in extremely dirty or dusty conditions.) Check the fuel lines and connections for deterioration, damage, or loose connections. Replace the fuel filter canister. Check the engine RPM (idle and full throttle).
Every 800 hours	 Drain and clean the fuel tank Check the rear wheel toe-in. Change the hydraulic fluid. Change the hydraulic filters (sooner if the service interval indicator is in the Red zone). Pack the rear wheel bearings Adjust the engine valves (refer to the engine Operator's Manual)
Before storage	Drain and clean the fuel tank
Every 2 years	Flush and replace the cooling system fluid. Drain and flush the hydraulic tank. Replace all moving hoses.



Groundsmaster 4300-D

Model Tier 4 Diesel 30864 Serial 313000101 and Up

Engine Brand Yanmar

Engine Oil (Chart A)......5.5 qt............. SAE 15W-40 CJ-4

Engine Oil Filter......125-7025

Hydraulic Oil (Chart R).....15 gal ISO VG 46/68 See Specification Below

 Hydraulic Filter
 94-2621

 Charge Fluid Filter
 86-3010

 Air Filter
 108-3810

 Water Separator
 125-2915

Fuel Filter Spin-On 127-3075

Engine Coolant......7 qt......Ethylene Glycol, Water

(50/50 mix)

High Viscosity Index/Low Pour Point Anti-wear Hydraulic Fluid, ISO VG 46

Material Properties:

Viscosity, ASTM D445 CSt @ 40°C 44 to 48

cSt @ 100°C 7.9 to 8.5

Viscosity Index ASTM 140 to 160

D2270

Pour Point, ASTM D97 -34°F to -49°F

Industry Specifications:

Vickers I-286-S (Quality Level), Vickers M-2950-S

(Quality Level), Denison HF-0

IMPORTANT NOTES:



Maintenance Service Interval	Maintenance Procedure
After the first hour	Torque the wheel lug nuts to 94 to 122 N-m (70 to 90 ft-lb).
After the first 10 hours	Torque the wheel lug nuts to 94 to 122 N-m (70 to 90 ft-lb). Check the alternator belt tension.
Before each use or daily	Check the engine oil level. Check the cooling system. Check the hydraulic fluid level. Check the operation of the interlock switches. Remove debris from the screen and radiator/oil cooler (more frequently in dirty operating conditions). Check the hydraulic lines and hoses for leaks, kinked lines, loose mounting supports, wear, loose fittings, weather deterioration, and chemical deterioration.
Every 50 hours	 Grease the bearings and bushings. (Grease them immediately after every washing regardless of the interval listed.) Check the condition of and clean the battery. Check the battery cable connections.
Every 100 hours	Inspect the cooling system hoses. Check the alternator belt tension.
Every 250 hours	Torque the wheel lug nuts to 94 to 122 N-m (70 to 90 ft-lb). Change the engine oil and filter.
Every 400 hours	 Service the air cleaner. (Service the air cleaner earlier if the air cleaner indicator shows red. Service it more frequently in extremely dirty or dusty conditions.) Check the fuel lines and connections for deterioration, damage, or loose connections. Replace the fuel filter canister. Replace the engine fuel filter.
Every 800 hours	 Drain and clean the fuel tank Check the rear wheel toe-in. Change the hydraulic fluid. Change the hydraulic filters (sooner if the service interval indicator is in the Red zone). Pack the rear wheel bearings
Every 3,000 hours	Remove and clean the DPF (or as required)
Every 6,000 hours	Replace the DOC
Before storage	Drain and clean the fuel tank
Every 2 years	Flush and replace the cooling system fluid. Drain and flush the hydraulic tank. Replace all moving hoses.



Groundsmaster 4500 and 4700-D

Model 30856, 30868 **Serial** 220000001 through 240999999 Engine Brand Kubota Engine Oil Filter 104-5169 Hydraulic Oil (Chart R)......7.5 gal..... ISO VG 46 Hydraulic Filter 75-1310 Traction Hydraulic Filter 94-2621 **Hydraulic Breather** 68-6150 Air Filter.......108-3814 Safety Air Filter 108-3816 **Water/Separator Element*** 98-9764 Fuel Filter In-line* 98-7612 Planetary Gear Drive......... 16 oz...... SAE 85W-140 **Rear Axle**......80 oz......SAE 85W-140 Rear Axle Breather 99-7591 Caster Tires 50 PSI Engine Coolant......2.75 gal....... Ethylene Glycol, Water (50/50 mix)

IMPORTANT NOTES:

^{*} Refer to Toro's parts catalog or Parts Viewer for bio-diesel fuel filter part numbers.

Note: Determine the left and right sides of the machine from the normal operating position.

Recommended Maintenance Schedule

Maintenance Service Interval	Maintenance Procedure
After first 10 hours	Check the alternator belt tension.
	Torque the wheel lug nuts.
After first 50 hours	Change the engine oil and filter.Check the engine RPM (at idle and full throttle).
Every 50 hours	 Lubricate all grease fittings. Inspect the air cleaner indicator.¹ Check the battery level and cable connections.
Every 100 hours	 Change the engine oil and filter. Inspect the cooling system hoses. Check the alternator belt tension.
After first 200 hours	 Change the hydraulic oil. Change the hydraulic oil filters. Change the front planetary gear lube. Change the rear axle oil.
Every 200 hours	Torque the wheel lug nuts. Service the spark arrestor.
Every 400 hours	 Service the air filter.¹ Change the fuel filters (fuel/water and pre–filter) Inspect the fuel lines and connections. Check the engine RPM (at idle and full throttle) Check the rear axle oil level. Check the front planetary gear lube.
Every 800 hours or annually, whichever occurs first	 Drain and clean the fuel tank. Change the hydraulic oil. Change the hydraulic oil filters. Change the front planetary gear lube. Change the rear axle oil. Inspect the cutting unit front roller assemblies for wear. Check the rear wheel toe-in. Check and adjust the valve clearance. Replace the hydraulic tank breather
Every 1500 hours or 2 years, whichever occurs first	 Replace moving hoses. Replace safety switches. Flush the cooling system and replace fluid.

¹If the indicator shows red

Important Refer to your engine operator's manual and cutting unit operator's manual for additional maintenance procedures.



Groundsmaster 4500 and 4700-D

Model 30856 and 30868 **Serial** 250000001 through 280999999

Serial 250000001 through 2	280999999	
Engine Brand		Kubota
Engine Oil (Chart A)	8 qt	15W 40 CI, CI4
Engine Oil Filter		104-5169
Hydraulic Oil (Chart R)	7.5 gal	ISO VG 46
Hydraulic Filter		75-1310
Traction Hydraulic Filter		94-2621
Hydraulic Breather		68-6150
Air Filter		108-3814
Safety Air Filter		108-3816
Water/Separator Element.		98-9764, up to 2007
Water/Separator Element.		110-9049 - 2008
Fuel Filter In-line		98-7612 to 2007
Planetary Gear Drive	16 oz	SAE 85W-140
Rear Axle	80 oz	SAE 85W-140
Rear Axle Breather		99-7591 to 2006
Tire Pressure		20 PSI (Front and Rear)
Caster Tires		50 PSI
Engine Coolant	.2.75 gal	Ethylene Glycol, Water (50/50 mix)

^{*} Refer to Toro's parts catalog or Parts Viewer for bio-diesel fuel filter part numbers.

IMPORTANT NOTES:

Recommended Maintenance Schedule(s)

Maintenance Service Interval	Maintenance Procedure
After the first 8 hours	Torque the wheel nuts.
After the first 50 hours	Change the engine oil and filter.
After the first 200 hours	Change the planetary gear drive oil. Change the rear axle lubricant. Change the hydraulic filters.
Before each use or daily	Check the engine oil level. Check the cooling system. Check the hydraulic fluid level. Check the tire pressure. Check the interlock switches. Drain water or other contaminants from the water separator. Remove debris from the engine area, oil cooler, and radiator. Inspect the hydraulic lines and hoses for leaks, kinked lines, loose mounting supports, wear, loose fittings, weather deterioration, and chemical deterioration.
Every 50 hours	Grease the bearings and bushings. Check the battery condition.
Every 100 hours	Check the condition and tension of the alternator belt.
Every 150 hours	Change the engine oil and filter.
Every 200 hours	Torque the wheel nuts. Clean the spark arrestor muffler.
Every 400 hours	Service the air cleaner. (Service the air cleaner earlier if the air cleaner indicator shows red. Service it more frequently in extremely dirty or dusty conditions.) Check the fuel lines and connections. Replace the fuel filter canister. Check the planetary gear drive oil level (sooner if external leakage is noticed). Check the rear axle lubricant level.
Every 800 hours	Drain and clean the fuel tank. Change the planetary gear drive oil. Change the rear axle lubricant. Check the rear wheel toe-in. Change the hydraulic fluid. Change the hydraulic filters.
Before storage	Drain and clean the fuel tank. Check the tire pressure. Check all fasteners. Grease or oil all grease fittings and pivot points. Paint chipped surfaces.
Yearly	Check the fuel lines and connections. Change the planetary gear drive oil. Check the rear wheel toe-in.

Important: Refer to your engine *Operator's Manual* and cutting unit *Operator's Manual* for additional maintenance procedures.



Groundsmaster 4500 and 4700-D

Model 30857 and 30858 Including N models – Non Tier 4 **Serial** 29000001 and Up

Serial 29000001 and op		
Engine Brand		Kubota
Engine Oil (Chart A)	10 qt	15W-40 CI, CI4
Engine Oil Filter		104-5169
Hydraulic Oil (Chart R)	7.5 qt	ISO VG 46
Hydraulic Filter		75-1310
Traction Hydraulic Filter		94-2621
Hydraulic Breather		68-6150
Air Filter		108-3814
Safety Air Filter		108-3816
Water/Separator Element	t	110-9049
Planetary Gear Drive	16 oz	SAE 85W-140
Rear Axle	80 oz	SAE 85W-140
Rear Axle Breather		110-4815
Tire Pressure		20 PSI (Front and Rear)
Caster Tires		50 PSI
Engine Coolant	13 qt	Ethylene Glycol, Water (50/50 mix)

IMPORTANT NOTES:



Note: Determine the left and right sides of the machine from the normal operating position.

Recommended Maintenance Schedule(s)

Maintenance Service Interval	Maintenance Procedure
After the first 8 operating hours	Torque the wheel nuts.
After the first 50 operating hours	Change the engine oil and filter.
After the first 200 operating hours	 Change the planetary gear drive oil. Change the rear axle lubricant. Change the hydraulic filters.
Before each use or daily	Check the engine oil level. Check the cooling system. Check the hydraulic fluid level. Check the tire pressure. Check the interlock switches. Drain water or other contaminants from the water separator. Remove debris from the engine area, oil cooler, and radiator. Inspect the hydraulic lines and hoses for leaks, kinked lines, loose mounting supports, wear, loose fittings, weather deterioration, and chemical deterioration.
Every 50 hours	Grease the bearings and bushings. Check the battery condition.
Every 100 hours	Check the condition and tension of the alternator belt.
Every 150 hours	Change the engine oil and filter.
Every 200 hours	Torque the wheel nuts. Clean the spark arrestor muffler.
Every 400 hours	Service the air cleaner. (Service the air cleaner earlier if the air cleaner indicator shows red. Service it more frequently in extremely dirty or dusty conditions.) Check the fuel lines and connections. Replace the fuel pre-filter. Check the planetary gear drive oil level (sooner if external leakage is noticed). Check the rear axle lubricant level.
Every 800 hours	 Drain and clean the fuel tank. Change the planetary gear drive oil. Change the rear axle lubricant. Check the rear wheel toe-in. Change the hydraulic fluid. Change the hydraulic filters.
Before storage	 Drain and clean the fuel tank. Check the tire pressure. Check all fasteners. Grease or oil all grease fittings and pivot points. Paint chipped surfaces.
Yearly	 Check the fuel lines and connections. Replace the fuel pre-filter. Change the planetary gear drive oil. Check the rear wheel toe-in.
Every 2 years	Replace the interlock switches.

Important: Refer to your engine Operator's Manual and cutting unit Operator's Manual for additional maintenance procedures.

Groundsmaster 4500-D and 4700-D

Model Tier 4 Diesel 30881, 30882 including A models **Serial** 313000101 and Up

 Engine Brand
 Yanmar

 Engine Oil
 15W-40 CJ-4

 Engine Oil Filter
 125-7025

Hydraulic Oil8.25 gal ISO VG 46/68 See Specification Below

Water/Separator Element...... 125-2914

Fuel Filter Spin-On.....125-8752

Rear Axle Breather 110-4815

Caster Tires......50 PSI

High Viscosity Index/Low Pour Point Anti-wear Hydraulic Fluid, ISO VG 46

Material Properties:

Viscosity, ASTM D445 CSt @ 40°C 44 to 48

cSt @ 100°C 7.9 to 8.5

Viscosity Index ASTM 140 to 160

D2270

Pour Point, ASTM D97 -34°F to -49°F

Industry Specifications:

Vickers I-286-S (Quality Level), Vickers M-2950-S (Quality Level), Denison HF-0

IMPORTANT NOTES:



Recommended Maintenance Schedule(s)

Maintenance Service Interval	Maintenance Procedure
After the first 8 hours	Torque the wheel nuts.
After the first 200 hours	Change the planetary gear drive oil. Change the rear axle lubricant. Change the hydraulic filters.
Before each use or daily	Check the engine oil level. Check the cooling system. Check the hydraulic fluid level. Check the tire pressure. Check the interlock switches. Drain water or other contaminants from the water separator. Drain water or other contaminants from fuel filter/water separator. Remove debris from the engine area, oil cooler, and radiator. Inspect the hydraulic lines and hoses for leaks, kinked lines, loose mounting supports, wear, loose fittings, weather deterioration, and chemical deterioration.
Every 50 hours	Grease the bearings and bushings. Check the battery condition.
Every 100 hours	Check the condition and tension of the alternator belt.
Every 200 hours	Torque the wheel nuts.
Every 250 hours	Change the engine oil and filter.
Every 400 hours	 Service the air cleaner. (Service the air cleaner earlier if the air cleaner indicator shows red. Service it more frequently in extremely dirty or dusty conditions.) Check the fuel lines and connections. Replace the fuel filter canister. Replace the engine fuel filter. Check the planetary gear drive oil level (Also, check if external leakage is observed). Check the rear axle lubricant level.
Every 800 hours	Drain and clean the fuel tank. Change the planetary gear drive oil. (Or yearly, whichever comes first) Change the rear axle lubricant. Check the rear wheel toe-in. Change the hydraulic fluid. Change the hydraulic filters.
Every 3,000 hours	Service the diesel particulate filter (DPF)
Every 6,000 hours	Service the diesel oxidation catalyst (DOC) (or as required)
Before storage	 Drain and clean the fuel tank. Check the tire pressure. Check all fasteners. Grease or oil all grease fittings and pivot points. Paint chipped surfaces.
Yearly	Check the fuel lines and connections.



Groundsmaster 3500-G

Model 30809

Serial 313000101 and Up

Engine Brand Kubota EFI Gasoline

Engine Oil (Chart A)......3.6 gt....... SAE 10W-30

Engine Oil Filter......115-8189

Hydraulic Oil (Chart R)........ ISO VG 46/68 See Specification Below

Hydraulic Filter 86-3010 **Air Filter** 108-3811

Tire Pressure......14–18 PSI

(Front and Rear)

Engine Coolant......7 qt...... Ethylene Glycol, Water

(50/50 mix)

High Viscosity Index/Low Pour Point Anti-wear Hydraulic Fluid, ISO VG 46

Material Properties:

Viscosity, ASTM D445 CSt @ 40°C 44 to 48

cSt @ 100°C 7.9 to 8.5

Viscosity Index ASTM 140 to 160

D2270

Pour Point, ASTM D97 -34°F to -49°F

Industry Specifications:

Vickers I-286-S (Quality Level), Vickers M-2950-S

(Quality Level), Denison HF-0

IMPORTANT NOTES:



Recommended Maintenance Schedule(s)

Maintenance Service Interval	Maintenance Procedure
After the first hour	Torque the wheel nuts.
After the first 8 hours	Check the condition and tension of all belts.
After the first 10 hours	Torque the wheel nuts. Change the hydraulic filter.
After the first 50 hours	Change the oil and oil filter.
Before each use or daily	Check the engine oil level. Check the engine coolant level. Check the hydraulic fluid level. Check the tire pressure. Check the interlock system. Clean debris off of the radiator and oil cooler. Check the hydraulic lines and hoses.
Every 25 hours	Check the electrolyte level. (If machine is in storage, check every 30 days.)
Every 50 hours	Lubricate all bearings and bushings. (Lubricate all bearings and bushings daily when conditions are dusty and dirty.)
Every 200 hours	 Torque the wheel nuts. Service the Air Cleaner (More frequently in extreme dusty or dirty conditions) Replace the carbon canister air filter Change the oil and oil filter. Check the parking brake adjustment. Check the condition and tension of all belts. Change the hydraulic filter.
Every 400 hours	Replace the spark plugs Replace the fuel pump filter Check the fuel lines and connections. Change the hydraulic fluid.
Every 500 hours	Grease the bearings in the rear axle.
Every 2 years	Drain and clean the fuel tank. Flush the cooling system and replace fluid.



Groundsmaster 3500-D

Model 30821 and 30839 **Serial** 200000001 through 249999999

Engine Brand Kubota

Engine Oil (Chart A)......4 qt........... SAE 10W-30 CI, CI4

Hydraulic Oil (Chart R)......3.5 gal ISO VG 46

Hydraulic Filter 86-3010 (2002 and up)

Hydraulic Filter 54-0110 (2000 - 2001)

 Air Filter
 108-3810

 Water/Separator
 98-9764

IMPORTANT NOTES:

^{*} Refer to Toro's parts catalog or Parts Viewer for bio-diesel fuel filter part numbers.

Recommended Maintenance Schedule

Maintenance Service Interval	Maintenance Procedure
	Check the fan and alternator belt tension.
After first 10 hours	Replace the hydraulic filter.
	Torque the wheel lug nuts.
After first 50 hours	Change the engine oil and filter.
Alter mist so modis	Check the engine RPM (at idle and full throttle).
	Inspect the air filter, dust cup, and burp valve.
	Lubricate all grease fittings.
Every 50 hours	Change the engine oil.
Evoly 30 flours	check the battery cable connections.
	Check the fan and alternator belt tension.
	Check the battery fluid level.
Every 100 hours	Change the engine oil filter.
Every 100 flodis	Inspect the traction belt.
	Replace the air filter.
Every 200 hours	Replace the hydraulic filter.
	Torque the wheel lug nuts.
	Replace the hydraulic fluid.
	Replace the fuel/water separator filter.
Every 400 hours	Replace the fuel prefilter.
	Inspect the traction cable movement.
	Check the engine RPM (at idle and full throttle).
Every 800 hours or	Adjust the valves.
annually, whichever occurs first	Inspect, disassemble and install new seals in cutting unit roller assemblies.
	Replace all moving hoses.
Every 1000 hours or 2 years, whichever occurs first	Replace the safety switches.
	Flush the cooling system and replace the fluid.
	Drain and flush the fuel tank.
	Drain and flush the hydraulic tank.

Important
Refer to your engine operator's manual and cutting unit operator's manual for additional maintenance procedures.



If you leave the key in the ignition switch, someone could accidently start the engine and seriously injure you or other bystanders.

Remove the key from the ignition before you do any maintenance.



Groundsmaster 3505 and 3500-D

Model 30821, 30839, 30826, 30807, 30849 **Serial** 250000101 and Up

Engine Brand Kubota

Engine Oil (Chart A)......4 qt SAE 10W-30 CI, CI4

Engine Oil Filter 108-3841

Hydraulic Oil (Chart R)......3.5 qt...... ISO VG 46

Hydraulic Filter 86-3010

Air Filter.......108-3810

Water/Separator......98-9764

Tire Pressure.......14–18 PSI

(Front and Rear)

Engine Coolant......6 qt...... Ethylene Glycol, Water

(50/50 mix)

IMPORTANT NOTES:

^{*} Refer to Toro's parts catalog or Parts Viewer for bio-diesel fuel filter part numbers.

Note: Determine the left and right sides of the machine from the normal operating position.

Recommended Maintenance Schedule

Maintenance Service Interval	Maintenance Procedure
	Check the fan and alternator belt tension.
After first 10 hours	Replace the hydraulic filter.
	Torque the wheel lug nuts.
After first 50 hours	Change the engine oil and filter.
Alter III'st 50 Hours	Check the engine RPM (at idle and full throttle).
	Inspect the air filter, dust cup, and burp valve.
	Lubricate all grease fittings.
Every 50 hours	Check the battery cable connections.
	Check the fan and alternator belt tension.
	Check the battery fluid level.
Every 150 hours	Change the engine oil and filter.
Lvery 100 flours	Inspect the traction belt.
	Replace the air filter.
Every 200 hours	Replace the hydraulic filter.
	Torque the wheel lug nuts.
	Replace the hydraulic fluid.
	Replace the fuel/water separator filter.
Every 400 hours	Replace the fuel prefilter.
	Inspect the traction cable movement.
	Check the engine RPM (at idle and full throttle).
Every 800 hours or	Adjust the valves.
annually, whichever occurs first	Inspect, disassemble and install new seals in cutting unit roller assemblies.
	Replace all moving hoses.
Every 1000 hours or 2 years, whichever occurs	Replace the safety switches.
	Flush the cooling system and replace the fluid.
first	Drain and flush the fuel tank.
	Drain and flush the hydraulic tank.

Important Refer to your engine operator's manual and cutting unit operator's manual for additional maintenance procedures.



Caution



If you leave the key in the ignition switch, someone could accidently start the engine and seriously injure you or other bystanders.

Remove the key from the ignition before you do any maintenance.



Groundsmaster 3320

Model 30307

Serial 250000101 and Up

Engine Brand Briggs & Stratton/Daihatsu

Engine Oil (Chart E).......3.2 qt...... SAE 30 SH, SJ

Engine Oil Filter......108-3842

Hydraulic Oil (Chart T)......5 qt.......... UTHF

Hydraulic Filter 23-2300

Fuel Filter 95-2926

(Front and Rear)

Engine Coolant4 qt...... Ethylene Glycol, Water

(50/50 mix)

IMPORTANT NOTES:



Recommended Maintenance Schedule

Maintenance Service Interval	Maintenance Procedure
	Check PTO Belt Tension
	Check Fan and Alternator Belt Tension
After first 10 hours	Change Transmission Filter
	Torque Wheel Lug Nuts
	Check Brake Operation
	Change Engine Oil and Filter
After first 50 hours	Check PTO Belt Tension
	Check Brake Operation
	Check Battery Fluid Level
	Check Battery Cable Connections
Every 50 hours	Lubricate All Grease Fittings
	Lubricate Brake Cables
	Inspect Air Filter, Dust Cup, and Baffle
	Check Electric Clutch Gap Adjustment
	Check PTO Belt Tension
	Check Fan and Alternator Belt Tension
Every 200 hours	Inspect Cooling System Hoses
	Change Engine Oil and Filter
	Check Rear Wheel Toe–In and Steering Linkage
	Change Transmission Filter
	Torque Wheel Lug Nuts
	Replace Air Filter
Every 400 hours Every 1500 hours	Replace Fuel Filter
	Coat Transmission Bypass Pins with Grease
	Adjust Valves and Check Engine RPM
	Replace Moving Hoses
	Replace Safety Switches
	Coolant System – Flush/Replace Fluid
	Replace Hydraulic Oil



Caution



Remove the key from the ignition before you do any maintenance. Set the wire aside so that it does not accidentally contact the spark plug.



Groundsmaster 225

Model 30230 Serial 60001 and Up

Engine Brand Briggs & Stratton/Daihatsu

Engine Oil (Chart E)...........3.2 qt....... SAE 30 SH, SJ

Engine Oil Filter......108-3842

Hydraulic Oil (Chart P)..........5 gt......... SAE 10W-30, 10W-40 (Choose either oil but

Hydraulic Oil (Chart T)......UTHF

Hydraulic Filter 23-2300

do not intermix)

Air Filter 95-2926

(Front and Rear)

(50/50 mix)

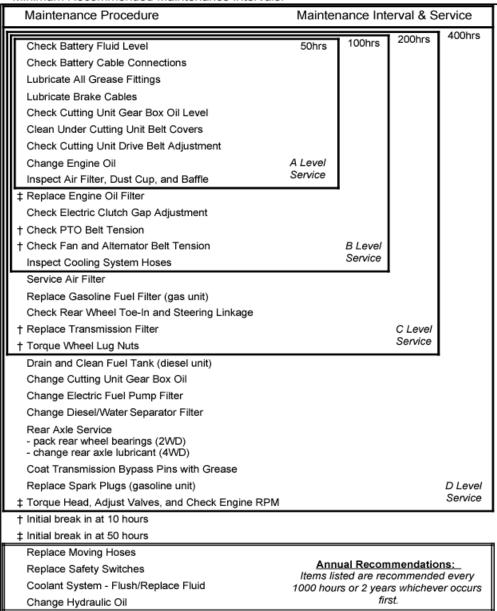
IMPORTANT NOTES:



GROUNDSMASTER® 225

Maintenance Schedule

Minimum Recommended Maintenance Intervals:



(See Operator's and Service Manual for specifications and procedures)

QUICK SERVICE REFERENCE

Groundsmaster 3000

Model 30300 Serial 60001 and Up

Engine Brand Ford

Engine Oil (Chart D).......3.5 qt........ SAE 10W-30 SF, SJ

Engine Oil Filter*FL-400A

Hydraulic Oil (Chart T) 12 qt...... UTHF

Hydraulic Filter 94-3951

Fuel Filter*FG795A

Tire Pressure...... 15 PSI

(Front and Rear)

Caster Tire......50 PSI

Engine Coolant......9 qt...... Ethylene Glycol, Water

(50/50 mix)

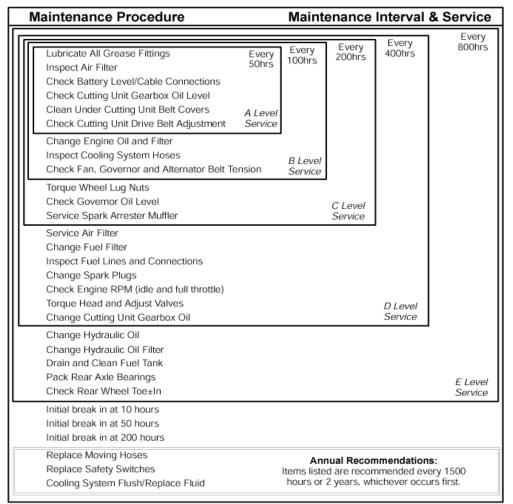
IMPORTANT NOTES:

^{*} Indicates Ford part number



Groundsmaster 3000 Maintenance Schedule

Minimum Recommended Maintenance Intervals



(See Operator's Manual for specifications and procedures.)



Groundsmaster 3000-D

Model All Models **Serial** 60001 and Up

Engine Brand Peugeot **Engine Oil** (*Chart C*).........4.75 *qt*....... SAE 15W-40 CI

Engine Oil Filter 108-3837

Breather Element.......93-5670

Hydraulic Oil (Chart T).....12 qt...... UTHF

Hydraulic Filter 94-3951

Hydraulic Filter Contour Deck...... 54-0110

Rear Axle (4WD) (Chart T).....UTHF

(Front and Rear)

Caster Tire 50 PSI

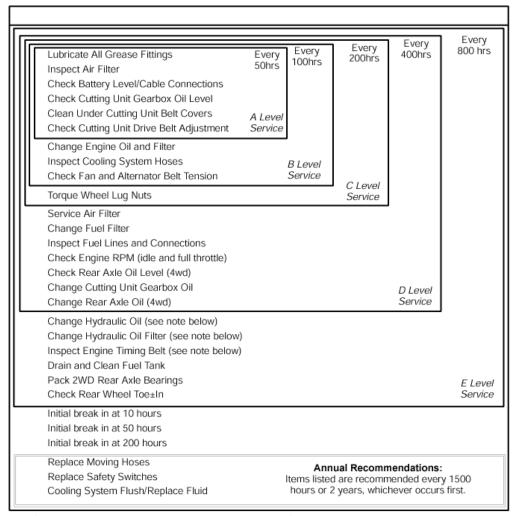
Engine Coolant (Special Requirement) .. Peugeot Antifreeze (11.5 qt)
Toro Part # (104-8606)

IMPORTANT NOTES:



Groundsmaster 3000-D Maintenance Schedule

Minimum Recommended Maintenance Intervals



(See Operator's Manual for specifications and procedures.)

NOTE: Replace Timing Belt after every 2500 hours of operation or if worn, cracked, oil soaked or any time the Belt is removed or loosened.

NOTE: Replace Hydraulic Oil and Filter every 400 hours of operation if machine is equipped with Model 30726 Auxiliary Hydraulic Kit.



Groundsmaster 345

Model 30789 Serial 40001 and Up

Engine Brand Ford

Engine Oil (Chart D).......3.5 qt SAE 10W-20 SH, SJ

Engine Oil Filter......108-3817

Hydraulic Oil (Chart P)......5 qt......... SAE 10W-30, 10W-40 (Choose either oil but

Hydraulic Oil (Chart T)......UTHF

do not intermix)

Hydraulic Filter 23-9740

Air Filter......108-3833

Fuel Filter 99-9403

Fuel Filter (at tank) 95-3305

Tire Pressure......21 PSI

(Front and Rear)

Engine Coolant......6 qt...... Ethylene Glycol, Water

(50/50 mix)

IMPORTANT NOTES:



Note: Determine the left and right sides of the machine from the normal operating position.

Recommended Maintenance Schedule

Maintenance Service Interval	Maintenance Procedure
After first 10 hours	 Check the PTO belt tension. Check the fan and alternator belt tension. Change the transmission filter. Torque the wheel lug nuts.
After first 50 hours	Change the engine oil and filter.Check the PTO belt tension.
Every 50 hours	 Check the battery electrolyte level. Check the battery cable connections. Lubricate all grease fittings. Lubricate the brake cables. Check the PTO belt tension. Inspect the air filter, dust cup and baffle.
Every 100 hours	 Change the engine oil and filter. Check the fan and alternator belt tension. Inspect the cooling system hoses.
Every 200 hours	 Change the transmission filter. Service the air filter. Check governor oil level Decarbon spark arrestor muffler. Check rear wheel toe-in and steering linkage. Torque the wheel lug nuts.
Every 400 hours	 Change fuel filter. Replace spark plugs Pack the rear wheel bearings. Torque head, adjust valves and check engine RPM.
Every 1000 hours or 2 years, whichever occurs first	 Replace moving hoses. Replace safety switches. Flush and replace the coolant system fluid. Replace the hydraulic fluid.

Important Refer to your engine operator's manual for additional maintenance procedures.



Groundsmaster 325-D (2- and 4-Wheel Drive)

Model All Models Serial 80001 and Up

Engine Brand Mitsubishi

Engine Oil (Chart I)..........3.7 gt....... SAE 10W-30 CI, CI4

Hydraulic Oil (Chart P)......5 qt SAE 10W-30, 10W-40 (Choose either oil but

Hydraulic Oil (*Chart T*)......UTHF do not intermix)

Water Separator......98-9764

Fuel Pump Filter 43-2550

Fuel Filter In-line...... 43-1820

Bi-directional Clutch (Chart T)......UTHF

Tire Pressure......21 PSI

(Front and Rear)

(50/50 mix)

IMPORTANT NOTES:

Note: Determine the left and right sides of the machine from the normal operating position.

Recommended Maintenance Schedule

Maintenance Service Interval	Maintenance Procedure
After first 10 hours	Check PTO Belt Tension Check Fan and Alternator Belt Tension Change Transmission Filter Torque Wheel Lug Nuts
After first 50 hours	Change Engine Oil and Filter Torque Head, Adjust Valves and Check Engine RPM
Every 50 hours	 Check Battery Fluid Level Check Battery Cable Connections Lubricate All Grease Fittings Lubricate Brake Cables Inspect Air Filter, Dust Cup, and Baffle
Every 100 hours	Change Engine Oil and Filter Check Electric Clutch Gap Adjustment Check PTO Belt Tension Check Fan and Alternator Belt Tension Inspect Cooling System Hoses
Every 200 hours	Check Rear Wheel Toe–In and Steering Linkage Change Transmission Filter Torque Wheel Lug Nuts
Every 400 hours	Service Air Filter Change Electric Fuel Pump Filter Pack Rear Wheel Bearings Coat Transmission Bypass Pins with Grease Torque Head, Adjust Valves and Check Engine RPM
Every 1000 hours	Replace Moving Hoses Replace Safety Switches Coolant System – Flush/Replace Fluid Replace Hydraulic Oil



Caution



If you leave the key in the ignition switch, someone could accidently start the engine and seriously injure you or other bystanders.

Remove the key from the ignition and disconnect the wire from the spark plug before you do any maintenance. Set the wire aside so that it does not accidentally contact the spark plug.



Groundsmaster 328-D (2- and 4-Wheel Drive)

Model All Models

Serial 210000001 through 2409999999

Engine Brand Kubota

Engine Oil (Chart A).......3.25 qt........ SAE 10W-30 CI, CI4

Engine Oil Filter......108-3841

Hydraulic Oil (Chart P)......5 qt......... SAE 10W-30, 10W-40 (Choose either oil but

Hydraulic Oil (Chart T)......UTHF do not intermix)

Bidirectional Clutch (Chart T).....UTHF

Air Filter......108-3810

Tire Pressure......21 PSI

(Front and Rear)

Engine Coolant......6 qt...... Ethylene Glycol, Water

(50/50 mix)

IMPORTANT NOTES:



Note: Determine the left and right sides of the machine from the normal operating position.

Recommended Maintenance Schedule

Maintenance Service Interval	Maintenance Procedure
After first 10 hours	 Check the PTO belt tension. Check the fan and alternator belt tension. Change the transmission filter. Torque the wheel lug nuts.
After first 50 hours	 Change the engine oil and filter. Check engine RPM. Check the PTO belt tension. Check engine RPM
Every 50 hours	 Check the battery electrolyte level. Check the battery cable connections. Lubricate all grease fittings. Lubricate the brake cables. Inspect the air filter.
Every 100 hours	 Change the engine oil and filter. Check the PTO belt tension. Check the fan and alternator belt tension. Inspect the cooling system hoses.
Every 200 hours	 Service the air filter. Check rear wheel toe-in and steering linkage. Change the transmission filter. Torque the wheel lug nuts.
Every 400 hours	 Change fuel filter. Change the fuel/water separator filter. Change rear axle lubricant (4 wheel drive only). Change bidirectional clutch lubricant (4 wheel drive only). Pack the rear wheel bearings (2 wheel drive only). Torque head, adjust valves and check engine RPM
Every 1000 hours or 2 years, whichever occurs first	 Replace moving hoses. Replace safety switches. Flush and replace the coolant system fluid. Replace the hydraulic fluid. Drain and clean the fuel tank.

Important Refer to your engine operator's manual for additional maintenance procedures.



Groundsmaster 328-D (2- and 4-Wheel Drive)

Model All Models Serial 250000001 and Up

Engine Brand Kubota

Engine Oil (Chart A).......3.25 qt....... SAE 10W-30 CI, CI4

Engine Oil Filter 108-3841

Hydraulic Oil (Chart P)......5 qt....... SAE 10W-30, 10W-40 (Choose either oil but

Hydraulic Oil (Chart T)......UTHF do not intermix)

Bidirectional Clutch (Chart T)......UTHF

Air Filter......108-3810

Water Separator......98-9764

Tire Pressure......21 PSI

(Front and Rear)

Engine Coolant......6 qt...... Ethylene Glycol, Water

(50/50 mix)

Steering knuckles - 0.35 qt

IMPORTANT NOTES:

^{*} Rear axle: Center section - 2.4 qt



Note: Determine the left and right sides of the machine from the normal operating position.

Recommended Maintenance Schedule

Maintenance Service Interval	Maintenance Procedure
After first 10 hours	 Check the PTO belt tension. Check the fan and alternator belt tension. Change the transmission filter. Torque the wheel lug nuts.
After first 50 hours	 Change the engine oil and filter. Check engine RPM. Check the PTO belt tension. Check engine RPM
Every 50 hours	 Check the battery electrolyte level. Check the battery cable connections. Lubricate all grease fittings. Lubricate the brake cables. Inspect the air filter.
Every 100 hours	 Check the PTO belt tension. Check the fan and alternator belt tension. Inspect the cooling system hoses.
Every 150 hours	Change the engine oil and filter.
Every 200 hours	 Service the air filter. Check rear wheel toe-in and steering linkage. Change the transmission filter. Torque the wheel lug nuts.
Every 400 hours	 Change fuel filter. Change the fuel/water separator filter. Change rear axle lubricant (4 wheel drive only). Change bidirectional clutch lubricant (4 wheel drive only). Pack the rear wheel bearings (2 wheel drive only). Torque head, adjust valves and check engine RPM
Every 1000 hours or 2 years, whichever occurs first	 Replace moving hoses. Replace safety switches. Flush and replace the coolant system fluid. Replace the hydraulic fluid. Drain and clean the fuel tank.

Important Refer to your engine operator's manual for additional maintenance procedures.



Groundsmaster 228-D (2- and 4-Wheel Drive)

Model All Models Serial 210000001 and Up

Engine Brand Kubota

Engine Oil Filter 108-3841

Hydraulic Oil (Chart P)......5 qt SAE 10W-30, 10W-40 (Choose either oil but

Hydraulic Oil (Chart T)......UTHF do not intermix)

Bidirectional Clutch (Chart T)......UTHF

4 WD Rear Axle*...... SAE 80W-90

Water Separator......98-9764

Tire Pressure......20 PSI

(Front and Rear)

Engine Coolant7 *qt* Ethylene Glycol, Water

(50/50 mix)

Steering knuckles - 0.35 qt

IMPORTANT NOTES:

^{*} Rear axle: Center section - 2.4 qt



Note: Determine the left and right sides of the machine from the normal operating position.

Recommended Maintenance Schedule

Maintenance Service Interval	Maintenance Procedure
After first 10 hours	 Check the PTO belt tension. Check the fan and alternator belt tension. Change the transmission filter. Torque the wheel lug nuts.
After first 50 hours	 Change the engine oil and filter. Check engine RPM. Check the PTO belt tension. Check engine RPM
Every 50 hours	 Check the battery electrolyte level. Check the battery cable connections. Lubricate all grease fittings. Lubricate the brake cables. Inspect the air filter.
Every 100 hours	 Change the engine oil and filter. Check the PTO belt tension. Check the fan and alternator belt tension. Inspect the cooling system hoses.
Every 200 hours	 Service the air filter. Check rear wheel toe-in and steering linkage. Change the transmission filter. Torque the wheel lug nuts.
Every 400 hours	 Change fuel filter. Change the fuel/water separator filter. Change rear axle lubricant (4 wheel drive only). Change bidirectional clutch lubricant (4 wheel drive only). Pack the rear wheel bearings (2 wheel drive only). Torque head, adjust valves and check engine RPM
Every 1000 hours or 2 years, whichever occurs first	 Replace moving hoses. Replace safety switches. Flush and replace the coolant system fluid. Replace the hydraulic fluid. Drain and clean the fuel tank.

Important Refer to your engine operator's manual for additional maintenance procedures.



Groundsmaster 3280-D (2- and 4-Wheel Drive)

Model 30308 and 30309 **Serial** 250000101 and Up

Engine Brand Kubota

Engine Oil Filter 108-3841

Hydraulic Oil (Chart T)......5 qt........ UTHF

Hydraulic Filter 23-2300

Bidirectional Clutch......1/3 full......... Mobil Fluid 424

4 WD Rear Axle...... SAE 80W-90

Air Filter......108-3810

Pre Fuel Filter 98-7612

(Front and Rear)

Engine Coolant8 qt...... Ethylene Glycol, Water

(50/50 mix)

IMPORTANT NOTES:



Recommended Maintenance Schedule

Maintenance Service Interval	Maintenance Procedure
After first 10 hours	Check PTO Belt Tension
	Check Fan and Alternator Belt Tension
	Change Transmission Filter
	Torque Wheel Lug Nuts
	Check Brake Operation
	Change Engine Oil and Filter
After first 50 hours	Check PTO Belt Tension
	Check Brake Operation
	Check Battery Fluid Level
	Check Battery Cable Connections
Every 50 hours	Lubricate All Grease Fittings
	Lubricate Brake Cables
	Inspect Air Filter, Dust Cup, and Baffle
	Check Electric Clutch Gap Adjustment
	Check PTO Belt Tension
	Check Fan and Alternator Belt Tension
Every 150 hours	Inspect Cooling System Hoses
Every 150 nours	Change Engine Oil and Filter
	Check Rear Wheel Toe—In and Steering Linkage
	Change Transmission Filter
	Torque Wheel Lug Nuts
	Replace Air Filter
Every 450 hours	Drain and Clean Fuel Tank
	Change Fuel/Water Separator Filter
	Change Rear Axle Lubricant (4 wheel drive only)
	Change Bi-directional Clutch Lubricant (4 wheel drive only)
	Coat Transmission Bypass Pins with Grease
	Adjust Valves and Check Engine RPM
Every 1500 hours	Replace Moving Hoses
	Replace Safety Switches
	Coolant System – Flush/Replace Fluid
	Replace Hydraulic Oil



Groundsmaster 3280-D (2- and 4-Wheel Drive)

Model 30344 and 30345 **Serial** 260000001 and Up

Engine Brand Kubota

Engine Oil (Chart A).......4.0 qt.......... SAE 15W-40 CH4, CI4

Engine Oil Filter 108-3841

Hydraulic Oil (Chart T)..........6 qt......... UTHF

Hydraulic Filter 54-0110

Bidirectional Clutch......... 1/3 Full....... Mobil Fluid 424

Water Separator...... 110-9044

Pre Fuel Filter 98-7612

(Front and Rear)

Engine Coolant8 qt...... Ethylene Glycol, Water

(50/50 mix)

IMPORTANT NOTES:



Recommended Maintenance Schedule(s)

Maintenance Service Interval	Maintenance Procedure
After the first hour	Torque the wheel-lug nuts.
After the first 10 hours	Torque the wheel-lug nuts. Check and adjust the service brakes. Check the tension on the alternator belt. Check the tension on the PTO belt. Change the hydraulic fluid filter.
After the first 50 hours	Change the engine oil and filter. Check and adjust the service brakes. Check the tension on the PTO belt.
Before each use or daily	Check the air pressure in the tires. Check the Interlock System. Check the air cleaner indicator. Check the engine-oil level. Check the cooling system and the coolant level. Check the hood screen and radiator for debris. Check the hydraulic system and fluid level.
Every 50 hours	Grease the bearings and bushings. Inspect the air-cleaner element. Check the battery cable connections. Check the battery electrolyte level when in operation. Lubricate the brake cables.
Every 150 hours	Change the engine oil and filter.
Every 200 hours	Torque the wheel-lug nuts. Check the rear axle lubricant (Model 30345 only). Check the bidirectional clutch lubricant (Model 30345 only). Check the rear wheel alignment. Torque the bolts for the steering-cylinder mount (Model 30345 only). Inspect the cooling-system hoses. Check the condition of the alternator belt. Check the tension on the alternator belt. Check the condition of and tension on the PTO belt. Adjust the PTO clutch gap. Change the hydraulic fluid filter.
Every 400 hours	Grease the rear-axle bearings Replace the primary air-cleaner element(s) (earlier if the air cleaner indicator shows red, and more frequently in extremely dirty or dusty conditions). Replace the safety filter after every 3 primary air-cleaner element replacements. Replace the fuel-filter canister. Drain and clean the fuel tank Inspect the fuel lines and connections. Change the rear-axle lubricant (Model 30345 only). Change the bidirectional-clutch lubricant (Model 30345 only).
Every 1,500 hours	Replace any moving hoses. Flush and replace the cooling-system fluid. Replace the hydraulic fluid.
Monthly	Check the battery electrolyte level when in storage.



Groundsmaster 223-D (2- and 4-Wheel Drive)

Model 30243 and 30223 **Serial** 80001 and Up

Engine Brand Mitsubishi

Engine Oil Filter 108-3841

Hydraulic Oil (Chart P)......5 qt........ SAE 10W-30 SJ

Hydraulic Filter 23-2300

Air Filter......27-7110 x 108-3833

Water/Separator.....63-8300

Fuel Pump Filter 43-2550

(Front and Rear)

Engine Coolant......6 qt..... Ethylene Glycol, Water

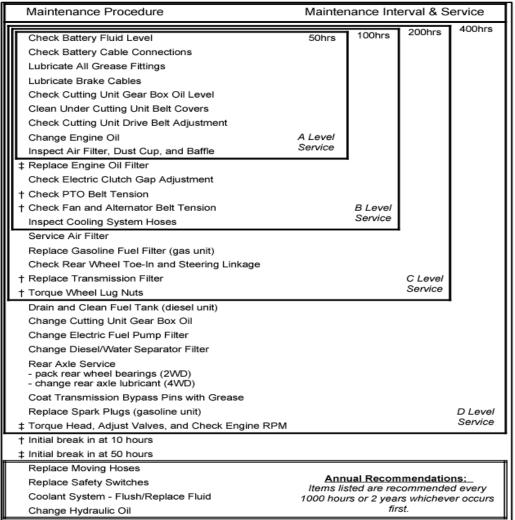
(50/50 mix)

IMPORTANT NOTES:



GROUNDSMASTER® 220-D, 223-D, 224 Maintenance Schedule

Minimum Recommended Maintenance Intervals:



(See Operator's and Service Manual for specifications and procedures)



Groundsmaster 1000L

Model 30200 Serial 70001 and Up

Engine Brand Kawasaki

Engine Oil (Chart B)............ SAE 10W-30 SH, SJ

Engine Oil Filter 95-9762

Hydraulic Oil (Chart P)......6 qt....... SAE 10W-30 SJ

 Hydraulic Filter
 23-2300

 Air Filter
 95-9898

 Pre Air Filter
 95-9899

Fuel Filter 95-9962

Tire Pressure......20 PSI

(Front and Rear)

Engine Coolant4 qt...... Ethylene Glycol, Water

(50/50 mix)

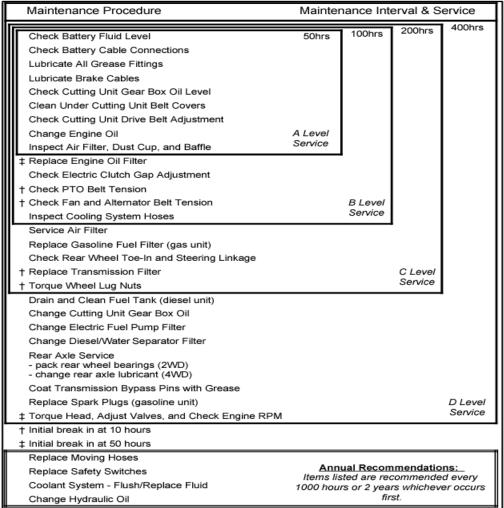
IMPORTANT NOTES:



GROUNDSMASTER® 1000

Maintenance Schedule

Minimum Recommended Maintenance Intervals:



(See Operator's and Service Manual for specifications and procedures)



<u>User Notes Area</u>

Vehicles

Workman 1100	208
Workman 2100	210
Workman 2110	212
Workman e2050	214
Workman GTX	216
Workman GTX (Electric)	218
Workman MD	220
Workman MDX	222
Workman MDX-D	224
Workman MD	226
Workman 3100	228
Workman 3100	230
Workman 3120	232
Workman 3130	234
Workman 3300 and 4300-D	236
Workman 3300 and 4300-D	238
Workman 3200 and 4200	240
Workman 3200 and 4200	242
Workman HD	244
Workman HDX	246
Workman HDX-D	248
Workman HDX-D	250
Workman HDX Kubota EFI	252
Workman HDX-Auto	254



Workman 1100

Model 07252 **Serial** 210000001 and Up

Engine Brand......1.2 qt......Kohler

Engine Oil (Chart F) SAE 10W-30 SH, SJ

Air Filter......108-3811

Fuel Filter In-line......94-2690

Tire Pressure......8–22 PSI

(Front and Rear)

IMPORTANT NOTES:

Maintenance

Note: Determine the left and right sides of the machine from the normal operating position.

Recommended Maintenance Schedule

Important Refer to your engine operator's manual for additional maintenance procedures.

Maintenance Service Interval	Maintenance Procedure
	Check the drive belt tension.
After First Use	Check the starter belt tension.
	Check the engine oil.
Fuent O Heure	Check the engine oil.
Every 8 Hours	Check the tire pressure.
After First 20 Hours	Change the engine oil.
After First 20 Hours	Check the front wheel toe-in at the proper ride height.
F	Check the battery fluid level.
Every 50 Hours	Check the battery cable connections.
	Change the engine oil. ¹
	Lubricate all grease fittings.
	Clean the engine cooling areas. ¹
	Inspect the air cleaner filter. ¹
Every 100 Hours	Inspect the brake and parking brake.
Every 100 Hours	 Inspect the condition and wear of the tires.
	Torque the wheel lug nuts.
	 Check the front suspension adjustment toe-in and ride height.
	 Check the spark plug and replace it, if necessary.
	Check the operation of the Neutral gear shift position.
	Replace the air cleaner filter.
Every 200 Hours	Check the brake cable adjustments.
Every 200 Hours	Inspect the drive belt.
	Inspect and adjust the starter belt.
	Inspect the fuel lines.
Every 400 Hours or	Clean and lubricate the primary drive clutch
Yearly	 Complete all yearly maintenance procedures specified in the engine operator's manual.
Every 800 Hours or	Replace the fuel filter.
Yearly	Change the transaxle oil.

¹Twice as often in special operating conditions; refer to Maintaining the Vehicle under Special Operating Conditions, page 24.

QUICK SERVICE REFERENCE

Workman 2100

Model 07253

Serial 200000001 and Up

Engine Brand...... Briggs & Stratton Vanguard

Engine Oil (Chart J)......48 oz SAE 30 SH, SJ

Engine Oil Filter 107-7817

Fuel Filter In-line......94-2690

Tire Pressure......8–22 PSI

(Front and Rear)

IMPORTANT NOTES:

^{*} Indicates Briggs & Stratton part number

QUICK SERVICE REFERENCE

Recommended Maintenance Schedule

Maintenance Service Interval	Maintenance Procedure
After first 8 hours	Change the engine oil.
Every 8 hours	Check the engine oil.
Every 50 hours	 Check the battery fluid level. Check the battery cable connections. Change the engine oil (includes synthetic oil).¹
Every 100 hours	 Lubricate all grease fittings. Clean the engine rotating screen.² Inspect the air cleaner filter.² Replace the engine oil filter. Inspect the brake and parking brake. Inspect the condition and wear of the tires. Torque the wheel lug nuts. Check the front suspension adjustment.
Every 200 hours	 Replace the air cleaner filter. Check the brake cable adjustments. Inspect the drive belt. Adjust the starter generator belt.
Every 400 hours or yearly	Inspect the fuel lines. Check the front wheel toe-in.
Every 800 hours or yearly	 Replace the fuel filter. Change the transaxle oil. Replace the spark plugs. Drain and flush the fuel tank.

¹More often when operating under heavy load or high temperatures

Important Refer to your engine operator's manual for additional maintenance procedures.

²More often in dusty, dirty conditions



Workman 2110

Model 07277

Serial 260000001 and Up

Engine Brand Briggs & Stratton Vanguard

Engine Oil (Chart J)......48 oz.......... SAE 30 SH, SJ

Engine Oil Filter 107-7817

Fuel Filter In-line.......94-2690

Tire Pressure......8–22 PSI

(Front and Rear)

IMPORTANT NOTES:



Maintenance

Note: Determine the left and right sides of the machine from the normal operating position.

Recommended Maintenance Schedule(s)

Maintenance Service Interval	Maintenance Procedure
After the first 8 operating hours	Change the engine oil.Check the condition and tension of the drive belt.Check the tension of the starter generator belt.
After the first 25 operating hours	Check the front wheel toe-in and front suspension.
Before each use or daily	 Check the engine oil. Check the tire pressure. Check the transmission oil level. Check the brake fluid level.
Every 50 hours	 Change the engine oil (twice as often in special operating conditions; refer to Maintaining the Vehicle under Special Operating Conditions). Check the battery cable connections for wear or damage. Check the battery electrolyte level.
Every 100 hours	 Grease the bearings and bushings. Inspect and clean the air filter element (twice as often in special operating conditions; refer to Maintaining the Vehicle under Special Operating Conditions). Change the oil filter (twice as often in special operating conditions; refer to Maintaining the Vehicle under Special Operating Conditions). Check the operation of the Neutral gear shift position. Inspect the condition and wear of the tires. Torque the wheel lug nuts to 45-65 ft-lb (61-88 N·m). Check the front wheel toe-in and front suspension. Clean the engine cooling areas (twice as often in special operating conditions; refer to Maintaining the Vehicle under Special Operating Conditions). Inspect the brakes.
Every 200 hours	 Replace the air filter element. Adjust the parking brake. Check the condition and tension of the drive belt. Check the tension of the starter generator belt.
Every 400 hours	 Inspect the fuel lines and connections. Clean and lubricate the primary drive clutch.
Every 800 hours	Replace the spark plugs.Replace the fuel filter.Change the transaxle fluid.
Yearly	 Complete all yearly maintenance procedures specified in the Engine Operator's Manual.

Important: Refer to your Engine Operator's Manual for additional maintenance procedures.



Workman e2050

Model 07280 **Serial** 240000000 and Up

Transaxle...... To Fill hole...... SAE 10W-30

Battery Top Off Distilled Water

Tire Pressure...... 8–22 PSI

(Front and Rear)

IMPORTANT NOTES:

QUICK SERVICE REFERENCE

Maintenance Service Interval	Maintenance Procedure
When not in use	Charge the batteries.
Every 8 hours	Check the tire pressure.
After first 20 hours	Check the front wheel toe-in at the proper ride height.
Every 25 hours	 Check the battery electrolyte level. Check the battery cable connections. Clean the batteries.
Every 100 hours	 Lubricate all grease fittings. Inspect the brake and parking brake. Inspect the condition and wear of the tires. Torque the wheel lug nuts. Check the front suspension toe-in and ride height. Check the transaxle oil level.
Every 200 hours	Check the brake cable adjustments.



Workman GTX

Model 07130 **Serial** 216000001 and Up

Engine Brand	Kohler
Engine Oil1.1 qt	SAE 10W-30 SJ
Transaxle	SAE 80W-90
Air Filter	108-3811
Fuel Filter In-line	115-7854
Tire Pressure	24–30 PSI (Front and Rear)

IMPORTANT NOTES:

Recommended Maintenance Schedule(s)

Maintenance Service Interval	Maintenance Procedure
After the first 5 hours	Change the engine oil.
After the first 8 hours	Check the condition of the drive belt. Check the tension of the starter-generator belt.
After the first 50 hours	Check the air filter for the carbon canister.
After the first 100 hours	Perform the breaking in a new machine guidelines.
Before each use or daily	 Perform the pre-starting checks. Check the following items each time you begin using the machine for the day: Check the tire pressure. Check gear-shift operation. Check the brake-fluid level.
Every 50 hours	Remove the air-cleaner cover and clean out the debris. Do not remove the filter.
Every 100 hours	 Grease the bearings and bushings. Replace the air filter. Replace the air-filter element sooner if dirty or damaged. Service the air-cleaner filter More frequently in extreme dusty or dirty conditions. Change the engine oil. Check the spark plug. Check the condition of the tires and rims. Torque the wheel-lug nuts. Check the front wheel toe-in. Check the transaxle-fluid level. Check the operation of the Neutral gear-shift position. Clean the engine-cooling areas. Inspect the brakes.
Every 200 hours	 Check the air filter for the carbon canister. Check the condition and tension of the drive belt. Check the tension of the starter-generator belt.
Every 300 hours	Grease the front wheel bearings.
Every 400 hours	Inspect the fuel lines and connections. Replace the fuel filter. Clean the primary-drive clutch.
Every 800 hours	Change the transaxle fluid.
Every 1,000 hours	Change the brake fluid.
Yearly	Complete all of the yearly maintenance procedures that are specified in the engine owner's manual.



Workman GTX (Electric)

Model 07131 **Serial** 316000001 and Up

IMPORTANT NOTES:



Recommended Maintenance Schedule(s)

Maintenance Service Interval	Maintenance Procedure
After the first 100 hours	Perform the breaking in a new machine guidelines.
Before each use or daily	 Perform the pre-starting checks. Check the following items each time you begin using the machine for the day: Check the tire pressure. Charge the batteries. Check the water level of the batteries. Check the brake-fluid level.
Every 25 hours	 Clean the batteries. Check the water level of the batteries and add distilled or deionized water to the batteries (if necessary).
Every 100 hours	 Grease the bearings and bushings. Check the condition of the tires and rims. Torque the wheel-lug nuts. Check the front wheel toe-in. Check the transaxle-fluid level. Inspect the brakes.
Every 300 hours	Grease the front wheel bearings.
Every 400 hours	Replace the service and parking-brake pads.
Every 800 hours	Change the transaxle fluid.
Every 1,000 hours	Change the brake fluid.



Workman MD

Model 07279 Serial 210000001 and Up

Engine Brand Kohler

Engine Oil (Chart F)......1.2 qt SAE 10W-30 SH, SJ

Air Filter......108-3811

Fuel Filter In-line......94-2690

Tire Pressure......8–22 PSI

(Front and Rear)

IMPORTANT NOTES:

Maintenance

Note: Determine the left and right sides of the machine from the normal operating position.

Recommended Maintenance Schedule

Important Refer to your engine operator's manual for additional maintenance procedures.

Maintenance Service Interval	Maintenance Procedure
	Check the drive belt tension.
After First Use	Check the starter belt tension.
	Check the engine oil.
Every 8 Hours	Check the engine oil.
Every 6 Hours	Check the tire pressure.
After First 20 Hours	Change the engine oil.
Alter First 20 Hours	Check the front wheel toe-in at the proper ride height.
Cyony FO Hours	Check the battery fluid level.
Every 50 Hours	Check the battery cable connections.
	Change the engine oil. ¹
	Lubricate all grease fittings.
	Clean the engine cooling areas. ¹
	Inspect the air cleaner filter. 1
Front 100 Hours	Inspect the brake and parking brake.
Every 100 Hours	Inspect the condition and wear of the tires.
	Torque the wheel lug nuts.
	Check the front suspension adjustment toe-in and ride height.
	Check the spark plug and replace it, if necessary.
	Check the operation of the Neutral gear shift position.
	Replace the air cleaner filter.
Eveny 200 Hours	Check the brake cable adjustments.
Every 200 Hours	Inspect the drive belt.
	Inspect and adjust the starter belt.
Every 400 Hours or Yearly	Inspect the fuel lines.
	Clean and lubricate the primary drive clutch
	Complete all yearly maintenance procedures specified in the engine operator's manual.
Every 800 Hours or	Replace the fuel filter.
Yearly	Change the transaxle oil.

¹Twice as often in special operating conditions; refer to Maintaining the Vehicle under Special Operating Conditions, page 24.



Workman MDX

Model 07273

Serial 280000001 and Up

Engine Brand Briggs & Stratton Vanguard

Engine Oil (Chart J)......1.2 qt........... SAE 10W-30 SH, SJ

Engine Oil Filter 107-7817

Fuel Filter In-line.......94-2690

Tire Pressure......8–22 PSI

(Front and Rear)

IMPORTANT NOTES:



Maintenance

Note: Determine the left and right sides of the machine from the normal operating position.

Recommended Maintenance Schedule(s)

Maintenance Service Interval	Maintenance Procedure
After the first 8 operating hours	 Change the engine oil. Check the condition and tension of the drive belt. Check the tension of the starter generator belt.
After the first 25 operating hours	Check the front wheel toe-in and front suspension.
Before each use or daily	 Check the engine oil. Check the tire pressure. Check the transmission oil level. Check the brake fluid level.
Every 50 hours	 Change the engine oil (twice as often in special operating conditions; refer to Maintaining the Vehicle under Special Operating Conditions). Check the battery cable connections for wear or damage. Check the battery electrolyte level.
Every 100 hours	 Grease the bearings and bushings. Inspect and clean the air filter element (twice as often in special operating conditions; refer to Maintaining the Vehicle under Special Operating Conditions). Change the oil filter (twice as often in special operating conditions; refer to Maintaining the Vehicle under Special Operating Conditions). Check the operation of the Neutral gear shift position. Inspect the condition and wear of the tires. Torque the wheel lug nuts to 45-65 ft-lb (61-88 N·m). Check the front wheel toe-in and front suspension. Clean the engine cooling areas (twice as often in special operating conditions; refer to Maintaining the Vehicle under Special Operating Conditions). Inspect the brakes.
Every 200 hours	 Replace the air filter element. Adjust the parking brake. Check the condition and tension of the drive belt. Check the tension of the starter generator belt.
Every 400 hours	 Inspect the fuel lines and connections. Clean and lubricate the primary drive clutch.
Every 800 hours	 Replace the spark plugs. Replace the fuel filter. Change the transaxle fluid.
Yearly	 Complete all yearly maintenance procedures specified in the Engine Operator's Manual.

Important: Refer to your Engine Operator's Manual for additional maintenance procedures.



Workman MDX-D

Model 07359

Serial 312000001 and Up

Engine Brand Kubota

Engine Oil Filter......115-8189

Fuel Filter Separator......110-9049

Tire Pressure......8–22 PSI

(Front and Rear)

IMPORTANT NOTES:

QUICK SERVICE REFERENCE

Maintenance Service Interval	Maintenance Procedure
After the first 8 hours	Check the condition of the drive belt.
After the first 50 hours	Change the engine oil.
Before each use or daily	Check the engine oil. Check the tire pressure. Check the transmission oil level. Check gear shift operation. Inspect the primary drive clutch. Check the radiator coolant level. Check the brake fluid level.
Every 50 hours	Check the battery cable connections for wear or damage. Check the battery electrolyte level.
Every 100 hours	Grease the bearings and bushings. Check the operation of the Neutral gear shift position. Inspect the condition and wear of the tires. Torque the wheel lug nuts to 80-90 ft-lb (108-122 N-m). Check the front wheel toe-in and camber. Clean the engine cooling areas (twice as often in special operating conditions; refer to Maintaining the Vehicle under Special Operating Conditions).
Every 150 hours	Change the engine oil. (twice as often in special operating conditions; refer to Maintaining the Vehicle under Special Operating Conditions) Change the oil filter. (twice as often in special operating conditions; refer to Maintaining the Vehicle under Special Operating Conditions)
Every 200 hours	Replace the air filter element. Clean the primary drive clutch (more often in dusty or muddy conditions). Check the parking brake operation. Check the condition and tension of the drive belt.
Every 400 hours	Inspect the fuel lines and connections.
Every 800 hours	Replace the fuel filter. Change the transaxle fluid.
Every 1,000 hours	Change the radiator coolant.
Yearly	Complete all yearly maintenance procedures specified in the Engine Operator's Manual.



Workman MD

Model 07299 **Serial** 24000000 and Up

Tire Pressure......8–22 PSI

(Front and Rear)

IMPORTANT NOTES:

Recommended Maintenance Schedule(s)

Maintenance Service Interval	Maintenance Procedure
Before each use or daily	 Check the brake-fluid level. Check the tire pressure. Charge the batteries.
Every 25 hours	Clean the batteries. Add distilled water to the batteries
Every 100 hours	 Grease the bearings and bushings. Check the condition of the tires and rims. Torque the wheel-lug nuts. Check the front wheel toe-in and camber. Check the transaxle-oil level. Inspect the brakes.
Every 200 hours	Adjust the parking brake if needed.
Every 300 hours	Grease the front wheel bearings.
Every 800 hours	Change the transaxle oil.



Workman 3100

Model 07210

Serial 40001 through 210999999

Engine Brand Kohler

Engine Oil (Chart G)......1.2 qt....... SAE 10W-30 SH, SJ

Engine Oil Filter.....*1205001S

Trans/Hydraulic Oil......7.5 qt...... Dexron III ATF

Trans/Hydraulic Filter 54-0110

Air Filter....*4708303S

Pre Cleaner Element*2408302S

23" Tire 20 PSI (Rear)

24" Tire 18 PSI (Rear)

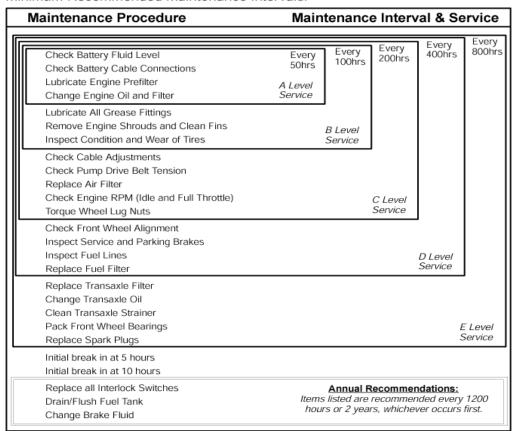
IMPORTANT NOTES:

^{*} Indicates Kohler part number



WORKMAN 3100 and 3120 Maintenance Schedule

Minimum Recommended Maintenance Intervals:



(See Operator's and Service Manual for specifications an procedures)

QUICK SERVICE REFERENCE

Workman 3100

Model 07214 Serial 220000001 and Up

Engine Brand Kohler

Engine Oil (Chart G)......1.2 qt SAE 10W-30 SH, SJ

Engine Oil Filter*1205001S

Trans/Hydraulic Oil......7.5 qt....... Dexron III ATF

Trans/Hydraulic Filter54-0110

Air Filter.....*2408303S

Pre Cleaner Element*2408305S

Breather Element.....*2405010S

IMPORTANT NOTES:

^{*} Indicates Kohler part number

QUICK SERVICE REFERENCE

Recommended Maintenance Schedule

Maintenance Service Interval	Maintenance Procedure
After first 5 hours	Replace the engine oil and filter.
After first 10 hours	Check cable adjustments Check pump drive belt tension Torque wheel lug nuts Replace transaxle filter
Every 50 hours	Check the battery fluid level. Check the battery cable connections. Lubricate engine pre filter Replace engine oil and filter
Every 100 hours	 Lubricate all grease fittings Inspect condition and wear of tires Remove engine shrouds and clean fins
Every 200 hours	 Check cable adjustments Check pump drive belt tension Replace air cleaner filter Check engine RPM (idle and full throttle) Torque wheel lug nuts
Every 400 hours	 Check front wheel alignment Inspect service and parking brakes Inspect fuel lines Replace fuel filter
Every 800 hours	 Replace transaxle filter Change transaxle oil Clean transaxle strainer Replace spark plugs Pack front wheel bearings
Every 1200 hours or 2 years (whichever occurs first)	Replace all interlock switches Fuel tank–drain/flush Change brake fluid

¹immediately after every washing, regardless of the interval listed

Important Refer to your engine operator's manual for additional maintenance procedures.



Workman 3120

Model 07232 Serial 90001 and Up

Engine Brand Kohler

Engine Oil (Chart F).......1.2 qt SAE 10W-30 SH, SJ

Engine Oil Filter *1205001S

Trans/Hydraulic Oil......7.5 qt...... Dexron III ATF

Trans/Hydraulic Filter54-0110

Air Filter....*4708303S

Pre Cleaner Element*2408302S

Breather Element.....*2405010S

50 PSI (Rear)

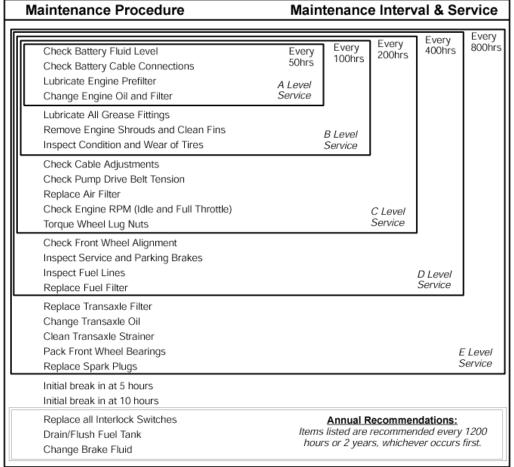
IMPORTANT NOTES:

^{*} Indicates Kohler part number



WORKMAN 3100 and 3120 Maintenance Schedule

Minimum Recommended Maintenance Intervals:



(See Operator's and Service Manual for specifications an procedures)



Workman 3130

Model 07214

Serial 220000002 and Up

Engine Brand Ko	hler
-----------------	------

Engine Oil (Chart G)......2 qt............ SAE 10W-30 SH, SJ

Engine Oil Filter*1205001S

Trans/Hydraulic Filter54-0110

Air Filter.....*4708303S

Pre Cleaner Element*2408302S

Breather Element.....*2405010S

Tire Pressure 6-12 PSI (Front)

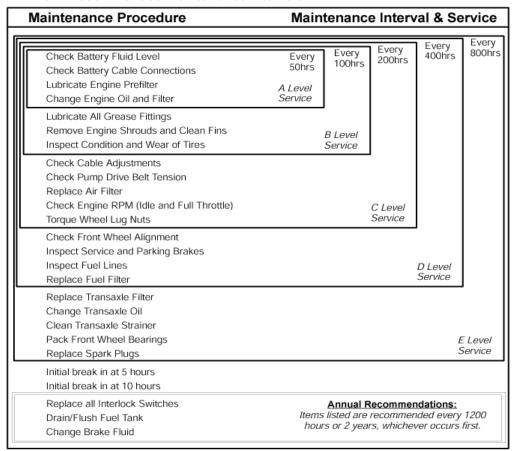
IMPORTANT NOTES:

^{*} Indicates Kohler part number



WORKMAN 3130 Maintenance Schedule

Minimum Recommended Maintenance Intervals:



(See Operator's and Service Manual for specifications an procedures)



Workman 3300 and 4300-D

Model 07205 and 07215 **Serial** 50001 and Up

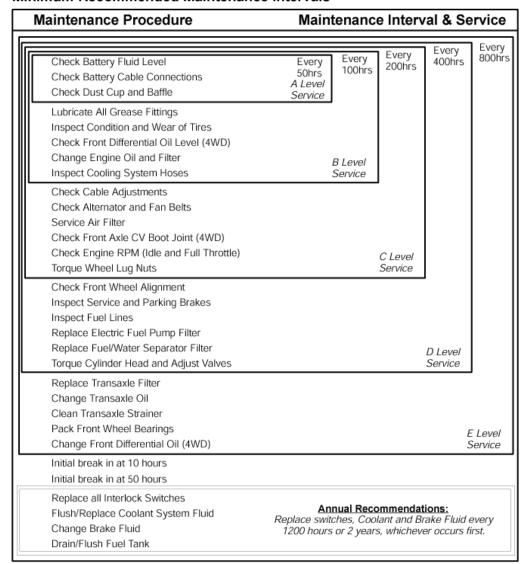
Engine Brand	Mitsubishi
Engine Oil (<i>Chart I</i>)3.8 <i>qt</i>	SAE 30, 10W-30CI, CI4
Engine Oil Filter	108-3841
Trans/Hydraulic Oil7.5 qt	Dexron III ATF
Trans/Hydraulic Filter	54-0110
Air Filter	108-3811
Fuel Pump Filter	43-2550
Water Separator	63-8300
Strainer	87-3990
Front Differential1 qt	10W-30 CI
Tire Pressure	20 PSI (Rear)
Engine Coolant4 qt	Ethylene Glycol, Water (50/50 mix)

IMPORTANT NOTES:



WORKMAN 3300-D, 3310-D, 3320-D, and 4300-D Maintenance Schedule

Minimum Recommended Maintenance Intervals



(See Operator's and Service Manual for specifications an procedures)



Workman 3300 and 4300-D

Model All Models **Serial** 220000002 and Up

. Briggs & Stratton/Daihatsu
. SAE 30, 10W-30 CI, CI4
. 108-3842
Dexron III ATF
. 54-0110
. 108-3811
. 98-2982
. 63-8300
SAE 10W-30 CI
. 20 PSI (Front) . 20 PSI (Rear) . 18 PSI (Rear)

Coolant Type...... 4 qt..... Ethylene Glycol, Water

(50/50 mix)

IMPORTANT NOTES:

^{*} Refer to Toro's parts catalog or Parts Viewer for bio-diesel fuel filter part numbers.



Recommended Maintenance Schedule

Maintenance Service Interval	Maintenance Procedure
After first 10 hours	Check cable adjustments Torque wheel lug nuts Check alternator and fan belts Replace transaxle filter
After first 50 hours	Replace the engine oil and filter. Torque cylinder head and adjust valves
Every 50 hours	 Check the battery fluid level. Check the battery cable connections. Service the air cleaner.
Every 100 hours	Lubricate all grease fittings Inspect condition and wear of tires Check front differential oil level (4WD) Replace engine oil and filter Inspect cooling system hoses
Every 200 hours	Check cable adjustments Check alternator and fan belts Service air cleaner filter Check front axle CV boot joint (4WD) Check engine RPM (idle and full throttle) Torque wheel lug nuts
Every 400 hours	Check front wheel alignment Inspect service and parking brakes Inspect fuel lines Replace electric fuel pump filter Replace fuel/water separator filter Adjust valves
Every 800 hours	Replace transaxle filter Change transaxle oil Clean transaxle strainer Pack front wheel bearings Change front differential oil (4WD)
Every 1200 hours or 2 years (whichever occurs first)	Replace all interlock switches Coolant System – flush/replace fluid Fuel tank – Drain/flush Change brake fluid

¹immediately after every washing, regardless of the interval listed

Important Refer to your engine operator's manual for additional maintenance procedures.



Workman 3200 and 4200

Model All Models **Serial** 30001 and Up

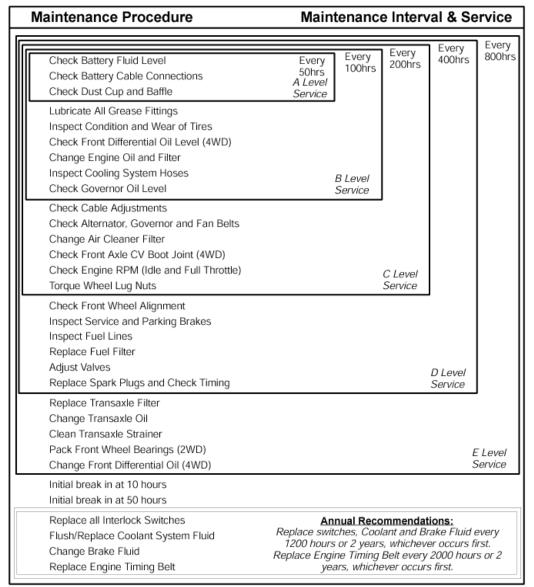
Serial 30001 and Up	
Engine Brand	Mitsubishi
Engine Oil (Chart H)3 qt	SAE 30, 10W-30, SH, SJ
Engine Oil Filter	108-3841
Trans/Hydraulic Oil7.5 qt	Dexron III ATF
Trans/Hydraulic Filter	54-0110
Air Filter	108-3811
Fuel Filter In line	99-9403
Strainer	87-3990
Front Differential 1 qt	SAE 10W-30 CI
Tire Pressure	20 PSI (Rear)
Coolant Type4 qt4	Ethylene Glycol, Water (50/50 mix)

IMPORTANT NOTES:



WORKMAN 3200, 3210, 3220, and 4200 Maintenance Schedule

Minimum Recommended Maintenance Intervals



(See Operator's and Service Manual for specifications an procedures)



Workman 3200 and 4200

Model All Models Serial 220000002 and Up

Engine Brand Briggs & Stratton/Daihatsu

Engine Oil Filter 108-3842

Trans/Hydraulic Oil......7.5 qt...... Dexron III ATF

Trans/Hydraulic Filter 54-0110 **Air Filter** 108-3811

Fuel Filter*......105-8045

 Tire Pressure
 20 PSI (Front)

 23" Tire
 20 PSI (Rear)

 24" Tire
 18 PSI (Rear)

Coolant Type......4 qt Ethylene Glycol, Water (50/50 mix)

IMPORTANT NOTES:

^{*} Refer to Toro's parts catalog or Parts Viewer for bio-diesel fuel filter part numbers.



Maintenance

Recommended Maintenance Schedule

Maintenance Service Interval	Maintenance Procedure
After first 10 hours	Check cable adjustments
	Torque wheel lug nuts
	Replace transaxle filter
After first 50 hours	Replace the engine oil and filter.
	Check the battery fluid level.
Every 50 hours	Check the battery cable connections.
	Service the air cleaner.
	Lubricate all grease fittings
	Inspect condition and wear of tires
Every 100 hours	Check front differential oil level (4WD)
Every 100 flours	Replace engine oil and filter
	Inspect cooling system hoses
	Check governor oil level
	Check cable adjustments
	Check alternator, governor and fan belts
Every 200 hours	Change air cleaner filter
Every 200 flours	Check front axle CV boot joint (4WD)
	Check engine RPM (idle and full throttle)
	Torque wheel lug nuts
	Check front wheel alignment
	Inspect service and parking brakes
Every 400 hours	Inspect fuel lines
Every 400 flours	Replace fuel filter
	Adjust valves
	Replace spark plugs
Every 800 hours	Replace transaxle filter
	Change transaxle oil
	Clean transaxle strainer
	Pack front wheel bearings
	Change front differential oil (4WD)
Every 1200 hours or 2	Replace all interlock switches
years (whichever occurs first)	Coolant System – flush/replace fluid
	Change brake fluid

¹immediately after **every** washing, regardless of the interval listed

Important Refer to your engine operator's manual for additional maintenance procedures.

QUICK SERVICE REFERENCE

Workman HD

Model 07369 **Serial** 290000001 and Up

Engine Brand Kohler

Engine Oil Filter*1205001S

Trans/Hydraulic Oil (Chart T)...7.5 qt UTHF

Trans/Hydraulic Filter54-0110

Air Filter.....*4708303S

Pre Cleaner Element*2408302S

Breather Element.....*2405010S

18 PSI (Rear)

IMPORTANT NOTES:

^{*} Indicates Kohler part number



Recommended Maintenance Schedule(s)

Maintenance Service Interval	Maintenance Procedure
After the first 2 hours	Torque the front and rear wheel nuts.
After the first 8 hours	Check the condition and tension of the pump drive belt.
After the first 10 hours	Torque the front and rear wheel nuts. Check the adjustment of the shift cables. Check the adjustment of the parking brake. Replace the hydraulic filter.
After the first 50 hours	Change the engine oil and filter.
Before each use or daily	Check engine oil level. Check the transaxle/hydraulic fluid level. Check the tire pressure. Check the brake fluid level. Check the operation of the interlock system.
Every 50 hours	Clean and oil the air cleaner foam pre-cleaner. (Every 25 hours if operating conditions are extremely dusty or sandy) Inspect the air cleaner paper element. Check the battery fluid level. (Every 30 days if in storage) Check the battery cable connections.
Every 100 hours	Grease all bearings and bushings. (Lubricate more frequently in heavy duty applications) Change the engine oil and filter. Check the condition of the tires. Removing debris from the engine cooling system. (Clean more frequently in dirty conditions.)
Maintenance Service	
Interval	Maintenance Procedure
Interval Every 200 hours	Maintenance Procedure Torque the front and rear wheel nuts Change the air cleaner paper element. Check the adjustment of the shift cables. Check the adjustment of the high-low cable. Check the adjustment of the differential lock cable. Check the adjustment of the parking brake. Check the adjustment of the brake pedal. Check the condition and tension of the pump drive belt. Check the adjustment of the accelerator. Check the adjustment of the clutch pedal. Inspect the service and parking brakes.
	Torque the front and rear wheel nuts Change the air cleaner paper element. Check the adjustment of the shift cables. Check the adjustment of the high-low cable. Check the adjustment of the differential lock cable. Check the adjustment of the parking brake. Check the adjustment of the brake pedal. Check the condition and tension of the pump drive belt. Check the adjustment of the accelerator. Check the adjustment of the clutch pedal.
Every 200 hours	Torque the front and rear wheel nuts Change the air cleaner paper element. Check the adjustment of the shift cables. Check the adjustment of the high-low cable. Check the adjustment of the differential lock cable. Check the adjustment of the parking brake. Check the adjustment of the brake pedal. Check the adjustment of the brake pedal. Check the condition and tension of the pump drive belt. Check the adjustment of the accelerator. Check the adjustment of the clutch pedal. Inspect the service and parking brakes. Replace the fuel filter. Check the fuel lines and connections. Check the front wheel alignment.
Every 200 hours Every 400 hours	Torque the front and rear wheel nuts Change the air cleaner paper element. Check the adjustment of the shift cables. Check the adjustment of the high-low cable. Check the adjustment of the differential lock cable. Check the adjustment of the parking brake. Check the adjustment of the brake pedal. Check the condition and tension of the pump drive belt. Check the adjustment of the accelerator. Check the adjustment of the clutch pedal. Inspect the service and parking brakes. Replace the fuel filter. Check the fuel lines and connections. Check the front wheel alignment. Visually inspect the brakes for worn brake shoes. Inspect or replace the spark plugs. Change the hydraulic fluid and clean the strainer.



Workman HDX

Model All Models Serial 290000001 and Up

Engine Brand Kohler

Engine Oil (Chart E).......3.5 qt............ SAE, 10W-30 CI or higher

Engine Oil Filter 108-3847

Trans/Hydraulic Oil (Chart T)...7.5 qt UTHF

Trans/Hydraulic Filter 54-0110

Air Filter......108-3811

Fuel Filter 115-7854

Front Differential (Chart T)......1 qt....... UTHF

18 PSI (Rear)

Coolant Type...... 4 qt..... Ethylene Glycol, Water

(50/50 mix)

IMPORTANT NOTES:



Recommended Maintenance Schedule(s)

Maintenance Service Interval	Maintenance Procedure
After the first 2 hours	Torque the front and rear wheel nuts.
After the first 8 hours	Check condition and tension of the alternator belt.
After the first 10 hours	Torque the front and rear wheel nuts. Check the adjustment of the shift cables. Check the adjustment of the parking brake. Replace the hydraulic filter. Change the high flow hydraulic oil filter (TC Models only)
After the first 50 hours	Change engine oil and filter.
Before each use or daily	Check engine oil level. Check the level of coolant. Check the transaxle/hydraulic fluid level. Check the high flow hydraulic fluid level (TC models only). Check the tire pressure. Check the brake fluid level. Check the operation of the interlock system. Remove debris from the engine area and radiator. (Clean more frequently in dirty conditions.)
Every 50 hours	Check the battery fluid level. (Every 30 days if in storage) Check the battery cable connections.
Every 100 hours	Check the level of front differential oil (four wheel drive models only). Grease all bearings and bushings. (Lubricate more frequently in heavy duty applications) Check the condition of the tires.
Every 150 hours	Change engine oil and filter.
Maintenance Service Interval	Maintenance Procedure
Every 200 hours	Torque the front and rear wheel nuts Change the air cleaner filter. (more frequently in dusty or dirty conditions) Inspect the constant velocity boot for cracks, holes, or a loose clamp. Check the adjustment of the shift cables. Check the adjustment of the high-low cable. Check the adjustment of the differential lock cable. Check the adjustment of the parking brake. Check the adjustment of the brake pedal. Check condition and tension of the alternator belt. Check the adjustment of the clutch pedal. Inspect the service and parking brakes.
Every 400 hours	Inspect or replace the spark plugs. Replace the fuel filter. Check the fuel lines and connections. Check the front wheel alignment. Visually inspect the brakes for worn brake shoes.
Every 800 hours	Change the front differential oil. Change the hydraulic fluid and clean the strainer. Replace the hydraulic filter. Change the high flow hydraulic oil (TC Models only) Change the high flow hydraulic oil filter (TC Models only)
Every 1,000 hours	Change the brake fluid. Drain/flush the fuel tank. Flush/replace the coolant system fluid.
Yearly	Complete all yearly maintenance procedures specified in the Engine Operator's Manual.



Workman HDX-D

Model 07371, 07368 **Serial** 290000001 through 313999999

Coolant Type...... 4 qt..... Ethylene Glycol, Water

(50/50 mix)

IMPORTANT NOTES:



Maintenance

Recommended Maintenance Schedule(s)

Maintenance Service Interval	Maintenance Procedure
After the first 2 hours	Torque the front and rear wheel nuts.
After the first 8 hours	Check condition and tension of the alternator belt.
After the first 10 hours	Torque the front and rear wheel nuts. Check the adjustment of the shift cables. Check the adjustment of the parking brake. Replace the hydraulic filter. Change the high flow hydraulic oil filter (TC Models only)
After the first 50 hours	Change engine oil and filter. Adjust the engine valve clearance.
Before each use or daily	Check the level of coolant. Check the transaxle/hydraulic fluid level. Check the high flow hydraulic fluid level (TC models only). Check the high flow hydraulic fluid level (TC models only). Check the tire pressure. Check the brake fluid level. Check the operation of the interlock system. Drain water or other contaminants from the water separator. Remove debris from the engine area and radiator. (Clean more frequently in dirty conditions.)
Every 50 hours	Check the battery fluid level. (Every 30 days if in storage) Check the battery cable connections.
Every 100 hours	Check the level of front differential oil (four wheel drive models only). Grease all bearings and bushings. (Lubricate more frequently in heavy duty applications) Check the condition of the tires.
Every 150 hours	Change engine oil and filter.
Every 200 hours	Torque the front and rear wheel nuts Change the air cleaner filter. (more frequently in dusty or dirty conditions) Inspect the constant velocity boot for cracks, holes, or a loose clamp. Check the adjustment of the shift cables. Check the adjustment of the high-low cable. Check the adjustment of the differential lock cable. Check the adjustment of the parking brake. Check the adjustment of the brake pedal. Check condition and tension of the alternator belt. Check the adjustment of the clutch pedal. Inspect the service and parking brakes.
Every 400 hours	Check the fuel lines and connections. Replace the fuel filter canister. Check the front wheel alignment. Visually inspect the brakes for worn brake shoes.
Every 600 hours	Adjust the engine valve clearance.
Maintenance Service Interval	Maintenance Procedure
Every 800 hours	Change the front differential oil. Change the hydraulic fluid and clean the strainer. Replace the hydraulic filter. Change the high flow hydraulic oil (TC Models only) Change the high flow hydraulic oil filter (TC Models only)
Every 1,000 hours	Change the brake fluid. Drain/flush the fuel tank. Flush/replace the coolant system fluid.



Workman HDX-D

Model 07385, 07385TC, 07387, and 07387TC **Serial** 313000001 and Up

Engine Brand	Kubota
Engine Oil3.4 qt/3.2 L	SAE 10W-30 SJ or higher (with filter)
Engine Oil Filter	115-8189
Transmission Fluid7.5 qt/7 L	Dexron III ATF
Transmission Filter	54-0110 (Qty 2 if high flow option installed)
Hydraulic Fluid4 gal	Toro Premium All Season Hydraulic Fluid (High flow option, TC models only)
Air Filter	108-3810
Fuel Filter	110-9049
Front Differential8.5 oz	Mobile 424
Tire Pressure	32 psi/220 kPa (Front) 18 psi/124 kPa (Rear)
Coolant Type 4 qt/3.7 L	Ethylene Glycol, Water (50/50 mix)

IMPORTANT NOTES:



Recommended Maintenance Schedule(s)

Maintenance Service Interval	Maintenance Procedure
After the first 2 hours	Torque the front and rear wheel nuts.
After the first 8 hours	Check the condition and tension of the alternator belt.
After the first 10 hours	Torque the front and rear wheel nuts. Check the adjustment of the shift cables. Check the adjustment of the parking brake. Replace the hydraulic filter. Change the high-flow hydraulic fluid filter (TC models only).
After the first 50 hours	Change the engine oil and filter. Adjust the engine-valve clearance.
Before each use or daily	 Check the engine-oil level. Check the level of the coolant. Check the transaxle/hydraulic-fluid level. (check the fluid level before the engine is first started and every 8 hours or daily, thereafter.) Check the high flow hydraulic-fluid level (TC models only); (check the level of hydraulic fluid before the engine is first started, and daily thereafter). Check the tire pressure. Check the brake-fluid level. (Check the level before the engine is first started and every 8 hours or daily, thereafter.) Check the operation of the safety-interlock system. Drain water or other contaminants from the water separator. Remove debris from the engine area and radiator (clean more frequently in dirty conditions).
Every 25 hours	Remove the air-cleaner cover and clean out the debris.
Every 50 hours	 Check the battery-fluid level (every 30 days if in storage). Check the battery-cable connections.
Every 100 hours	 Check the level of front differential oil (4-wheel-drive models only). Grease all bearings and bushings (lubricate more frequently in heavy duty applications). Change the air-cleaner filter (more frequently in dusty or dirty conditions). Inspect the condition of the tires.
Every 200 hours	Torque the front and rear wheel nuts. Change the engine oil and filter. Inspect the constant-velocity boot for cracks, holes, or a loose clamp (4-wheel-drive models only). Check the adjustment of the shift cables. Check the adjustment of the high-to-low cable. Check the adjustment of the differential-lock cable. Check the adjustment of the parking brake. Check the adjustment of the brake pedal. Check the condition and tension of the alternator belt. Check the adjustment of the clutch pedal. Inspect the service and parking brakes.
Every 400 hours	Check the fuel lines and connections. Replace the fuel filter. Check the front-wheel alignment. Visually inspect the brakes for worn brake shoes.
Every 600 hours	Adjust the engine-valve clearance.



Workman HDX Kubota EFI

Model 07383, 07384, 07386, 07384TC, 07386TC **Serial** 313000101 and Up

Engine Brand Kubota EFI Gasoline

Engine Oil Filter 115-8189

Trans/Hydraulic Oil......7.5 qt/7 L...... Dexron III ATF

Trans/Hydraulic Filter 54-0110

Fuel Filter 115-7854

Front Differential (Chart T)...1 qt/0.95 L.. Mobile 424

18 PSI/1.265 kg/cm (Rear)

Coolant Type......4 qt/3.8 L..... Ethylene Glycol, Water

(50/50 mix)

IMPORTANT NOTES:

Recommended Maintenance Schedule(s)

Maintenance Service Interval	Maintenance Procedure
After the first 2 hours	Torque the front and rear wheel nuts.
After the first 8 hours	Check the condition and tension of the alternator belt.
After the first 10 hours	Torque the front and rear wheel nuts. Check the adjustment of the shift cables. Check the adjustment of the parking brake. Replace the hydraulic filter. Change the high-flow hydraulic oil filter (TC models only).
After the first 50 hours	Inspect opening on filter. Change the engine oil and filter. Adjust the engine valve clearance.
Before each use or daily	Check the engine-oil level. Check the level of the coolant. Check the transaxle/hydraulic-fluid level. Check the high flow hydraulic-fluid level (TC models only). Check the tire pressure. Check the brake-fluid level. Check the operation of the safety-interlock system. Check the air filter service indicator. Remove debris from the engine area and radiator (clean more frequently in dirty conditions).
Every 25 hours	 Remove the air cleaner cover, clean out debris, and check the air filter service indicator.
Every 50 hours	Check the battery-fluid level (every 30 days if in storage). Check the battery-cable connections.
Every 100 hours	Check the level of front differential oil (four-wheel drive models only). Grease all bearings and bushings (lubricate more frequently in heavy duty applications). Inspect the condition of the tires.



Workman HDX-Auto

Model 07390, 07390H, and 07390TC **Serial** 314000001 and Up

Engine Brand Kohler

Engine Oil (Chart G)......2.1 gt......... SAE 10W-30 API SJ or higher

Engine Oil Filter 108-3847

Transmission Oil...23.7 oz...... Dexron VI

Rear Differential Oil...........18.6 oz.....80W90 API GLI

Front Differential......6 oz......Mobil 424

Hydraulic Fluid......Mobil M15

(2 gal for 07390)

(4 gal For 07390H, 07390TC

Hydraulic Filter 54-0110

Fuel Filter In-line.......115-7818

18 PSI (Rear)

IMPORTANT NOTES:

QUICK SERVICE REFERENCE

Maintenance Service Interval	Maintenance Procedure
After the first 2 hours	Torque the front and rear wheel nuts.
After the first 10 hours	Torque the front and rear wheel nuts. Check the adjustment of the parking brake. Replace the hydraulic filter.
After the first 50 hours	Change the engine oil and filter. Inspect the opening on the filter. Check the transmission-fluid level.
Before each use or daily	Check the engine-oil level. (Check the oil level before and after the engine is first started and daily thereafter.) Check the hydraulic-fluid level. (Check the level of hydraulic fluid before the engine is first started and daily thereafter.) Check the level of the coolant. Check the Coolant level at the overflow reservoir only. Do not remove the radiator cap. (Check the coolant level before the engine is first started and daily thereafter.) Check the brake-fluid level. (Check the level before the engine is first started and daily thereafter.) Check the oil-pressure-warning light. Check the tire pressure. Remove debris from the engine area and radiator. (Clean it more frequently in dirty conditions.) Check the operation of the safety-interlock system.
Every 25 hours	Remove the air-cleaner cover and clean out the debris.

Maintenance Service Interval	Maintenance Procedure
Every 50 hours	Check the battery-fluid level (every 30 days if in storage). Check the battery-cable connections.
Every 100 hours	Grease all bearings and bushings (lubricate more frequently in heavy duty applications). Change the air-cleaner filter (more frequently in dusty or dirty conditions). Check the condition of the tires. Check the constant-velocity boots for damage and leaking lubricant.
Every 200 hours	Change the engine oil and filter. Change the carbon canister air filter. Torque the front and rear wheel nuts Check the fluid level in the reservoir for the speed-control cylinder. Check the adjustment of the parking brake. Check the adjustment of the brake pedal. Inspect the service and parking brakes.
Every 400 hours	Inspect or replace the spark plug. Replace the fuel filter. Check the fuel lines and connections. Check the front-wheel alignment. Check the transmission-fluid level. Check the condition of the drive belt. Clean the clutches. Visually inspect the brakes for worn brake shoes.
Every 800 hours	Replace the hydraulic filter. Change the hydraulic fluid and clean the strainer.
Every 1,000 hours	Change the brake fluid. Drain/flush the fuel tank. Flush/replace the coolant system fluid.
Yearly	Complete all of the yearly maintenance procedures specified in the engine owner's manual.



<u>User Notes Area</u>



Cultivation

Greens Aerator	258
ProCore 648 Aerator	260
HydroJect 3000	262
HydroJect 3010	
HydroJect 4000	266
Aerators 864 and 1298	268
Aerators 440, 660, 880	270
Fairway Aerator	
ProCore Soil Relievers	272
ProCore Processor and Hitches	274

QUICK SERVICE REFERENCE

Greens Aerator

Model 09120 **Serial** 80001 and Up

Engine Brand Briggs & Stratton Vanguard

Engine Oil (Chart K)......56 oz SAE 30 SH, SJ

Engine Oil Filter 107-7817

Hydraulic Oil (Chart P)......43.2 oz....... SAE 10W-30

Transaxle...... check plug SAE 90W E.P.

Air Filter*394018S

Pre Air Filter.....*272490S

Fuel Filter In-line.....*493629

Tire Pressure...... 10 PSI

(Front and Rear)

IMPORTANT NOTES:

^{*} Indicates Briggs & Stratton part number

MAINTENANCE SCHEDULE

Minimum Recommended Maintenance Intervals

ı	Maintenance Procedure)	Mainter	nance Interva	al & Service
	Check Condition of Tines Check Engine Oil Level	Every 5 hrs	Every 25 hrs	Every 50 hrs	Every 100hrs
Г	Service Air Filter Pre-Cleaner		-		
†	Change Engine Oil Service Air Filter Cartridge Lubricate Coring Head Switch A	ssembly			
	Change Engine Oil Filter Service Spark Plugs Grease Wheel Bearing Grease Steering Handle Spindle Check Battery Fluid Level Check Battery Cable Connection Check Coring Head Chain Tensic Check Hydraulic Pump Belt Tens	ns on			
†	Initial break in at 8 hours				
	Replace Safety Switches Change Transaxle gear Lubrican Replace Hydraulic Oil Adjust Valves and Torque head B Decarbon Combustion Chamber	Bolts	Annual Recommendations: Items listed are recommended every 500 hours or 1 year, whichever occurs first.		



ProCore 648 Aerator

Model 09200

Serial 240000001 and Up

Engine Brand Kohler

Engine Oil Filter 107-7817

Hydraulic Oil (Chart T)......1.75 gal...... UTHF

Traction Hydraulic Filter 107-9531

Charge Hydraulic Filter......1-633750

Air Filter *2408303S

Pre Air Filter*2408305S

Fuel Filter In-line....*2405005S

Tire Pressure...... 12 PSI

(Front and Rear)

IMPORTANT NOTES:

^{*} Indicates Kohler part number



Maintenance

Recommended Maintenance Schedule

Maintenance Service Interval	Maintenance Procedure
	Hydraulic fluid—check level
A (Hydraulic return filter—change
After first 8 hours	Hydraulic charge filter—change Described to the second of the s
	Pump belt—re–tension Oping boad factors on about torrow
A0 (150 H	Coring head fasteners—check torque
After first 50 Hours	Engine oil & filter—change
	Engine oil—check level
	Safety System—check The state of th
5	Engine air intake—clean ¹ Pura dia dia dia dia dia dia dia dia dia di
Each Use	Belts—check Understire third about level
	Hydraulic fluid—check level Tires—check pressure
	Hydraulic lines—check
	Wash and re-oil air precleaner
Every 25 Hours	Battery—check electrolyte
	Engine oil & filter—change ¹
	Primary air cleaner filter- replace 1
Every 100 Hours	Fuel filter—replace
	Engine cooling system—clean ¹
	Hydraulic fluid—change
Eveny 200 Hours	Hydraulic return filter—change
Every 200 Hours	Hydraulic charge filter—change
	Spark Plug(s)—check
Every 500 Hours	Spark Plug(s)—replace
	Battery-charge, Disconnect cables
Before Storage Service	Gasoline—drain
beiore storage service	Chipped Surfaces—paint
	Perform all maintenance procedures listed above before storage

¹More often in dusty, dirty conditions

Important Refer to your engine operator's manual for additional maintenance procedures.



HydroJect 3000

Model 09801 **Serial** 70001 and Up

Serial 70001 and Up	
Engine Brand	Onan
Engine Oil (Chart M)3 qt	SAE 30
Engine Oil Filter	57-8530
Gear Case (Chart P)5 qt	Mobil DTE 26
Gear Case Filter	67-8110
Pump Case	Mobil DTE EH 150 (Extra Heavy)
Air Filter	82-0660
Pre Air Filter	82-8670
Fuel Filter	71-5960
Water Filter	86-8630
Strainer	86-9140
Accumulator	Dry Nitrogen
Tire Pressure	16–18 PSI (Front and Rear)

IMPORTANT NOTES:

Hydroject 3000 Maintenance Schedule Minimum Recommended Maintenance Intervals Maintenance Procedure Maintenance Interval & Service Every Every 200hrs Every Check Battery Fluid Level 400hrs 100hrs 50hrs Check Battery Cable Connections Lubricate All Grease Fittings A Service Change Engine Oil Change Engine Oil Filter Change Engine Preeleaner (Air Filter) B Service Replace Air Filter Element Replace Fuel Filter Adjust Water System Cam¥ alve Clearance Clean Engine Crankcase Breather Change Gear Case Oil and Filter Change Pump Case Oil C Service Torque Wheel Lug Nuts Service Accumulator Adjust Parking Brake Calibrate Aeration Traction Speed Service Injector Nozzles and Springs Replace Spark Plugs Decarbon Combustion Chambers Torque Head and Adjust Valves D Service Check Engine RPM (idle and full throttle) Initial break in at 25 hours Initial break in at 50 hours Replace Moving Hoses **Annual Recommendations:** Replace Safety Switches Items listed are recommended every 1000 hours or 2 years, whichever occurs first. Fuel Tank Drain/Flush Hydraulic Tank Drain/Flush (See Operator's and Service Manual for specifications and procedures) **Product Records and Maintenance** Hydroject 3000 Page 2 ± 6 Rev. B

QUICK SERVICE REFERENCE

HydroJect 3010

Model 09802

Serial 250000101 and Up

Engine Brand	Kohler
--------------	--------

Engine Oil Filter*52-050-02-S

Gear Case (HYD RES)(Chart P)...4 qt.... Mobil DTE 26

Gear Case Filter......67-8110

Pump Case (Water Pump)......40 oz Mobil DTE EH 150

(Extra Heavy)

Primary Air Filter *25-083-01-S

Safety Air Filter*25-083-04-S

Fuel Filter*24-050-09-S

Water Filter 86-8630

Strainer 86-9140

Tire Pressure......8–12 PSI

(Front and Rear)

IMPORTANT NOTES:

^{*} Indicates Kohler part number

Recommended Maintenance Schedule

Maintenance Service Interval	Maintenance Procedure
After first 25 hours	 Change the engine oil and filter. Change the gear case oil and filter. Change the pump case oil. Torque the wheel lug nuts.
After first 50 hours	Check the engine RPM (idle and full throttle).
Every 50 hours	Check the battery cable connections. Lubricate all grease fittings.
Every 100 hours	Change the engine oil and filter.
Every 200 hours	 Replace the primary air filter element. Check the inner air filter element. Replace the fuel filter. Adjust the water system cam—valve clearance. Change the gear case oil and filter. Change the pump case oil. Torque the wheel lug nuts.
Every 400 hours	 Service the accumulator. Adjust the parking brake. Calibrate the aeration traction speed. Service the injector nozzles and springs. Replace the spark plugs. Check the engine RPM (idle and full throttle).
Every 1000 hours or 2 years, whichever occurs first	 Replace moving hoses. Replace safety switches. Drain and flush the fuel tank. Drain and flush the hydraulic tank.



HydroJect 4000

Model 09850 Serial 60001 and Up

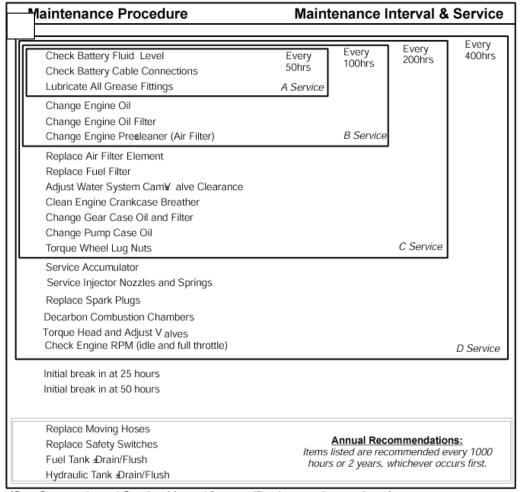
•	
Engine Brand (Chart M)	Onan
Engine Oil 3 <i>qt</i>	SAE 30
Engine Oil Filter	57-8530
Gear Case (Chart P)5 qt	Mobil DTE 26
Gear Case Filter	87-8110
Pump Case40 oz	Mobil DTE EH 150 (Extra Heavy)
Air Filter	82-0660
Pre Air Filter	82-0670
Fuel Filter	71-5960
Water Filter	86-8630
Strainer	86-9140
Accumulator	Dry Nitrogen
Tire Pressure	30 PSI (Front)

IMPORTANT NOTES:



Hydroject 4000 Maintenance Schedule

Minimum Recommended Maintenance Intervals



(See Operator's and Service Manual for specifications and procedures)



Aerators 864 and 1298

Model 09715, 09716 **Serial** 70001 and Up

Belt Tension 5.75 inches (Idler Spring)

IMPORTANT NOTES:



Maintenance

Recommended Maintenance Schedule(s)

Maintenance Service Interval	Maintenance Procedure
After the first 8 hours	Change the Gearbox Lubrication Check the torque of the coring head fasteners
Before each use or daily	Check the belt tension Check belt tension
Every 50 hours	Grease bearings and bushings Inspect bearings
Every 100 hours	Check gearbox lubrication
Every 250 hours	Change the Gearbox Lubrication
Every 500 hours	Inspect bearings and replace as needed
Before storage	Perform all 50 hour maintenance procedures Chipped surfaces-Paint Remove and clean tines Remove all debris
Yearly	Inspect the belts



Aerators 440, 660, 880

Model All Serial 70001 and Up

IMPORTANT NOTES:



Fairway Aerator

Model 09502 **Serial** 70001 and Up

 Gear Case
 .25.5 oz
 SAE 90W E.P.

 Reservoir
 9.5 qt
 SAE 90W E.P.

 Tire Pressure
 16–18 PSI (Front and Rear)

IMPORTANT NOTES:



ProCore Soil Relievers

Model 09920, 09921, 09922, 09923, 09924, 09925, 09926, 09927 **Serial** 290000001 and Up

Gearbox Oil 80W-90 Gear Oil

IMPORTANT NOTES:

Recommended Maintenance Schedule(s)

Maintenance Service Interval	Maintenance Procedure
After the first 8 hours	Check the torque of all the coring head fasteners
After the first 50 hours	Change the Gearbox Oil
Before each use or daily	Inspect the chain tension Check the springs Clean and lubricate springs and tine mounting screws Inspect the PTO for signs of wear.
Every 50 hours	Grease the bearings and PTO shaft Check the Gearbox Oil Inspect the chain tension Check the torque of the crank pin nuts and the hinge bolts. Inspect bearings
Every 500 hours	Change the Gearbox Oil Inspect bearings and replace as needed
Before storage	Perform all 50 hour maintenance procedures Chipped surfaces-Paint Loosen the PTO clutch bolts Remove and clean tines Remove all debris
Yearly or before storage	Adjust the PTO clutch

Model	Gear Case Capacity
SR54	2 quarts (1.9 liters)
SR54-S	2 quarts (1.9 liters)
SR70	2 quarts (1.9 liters)
SR70-S	2 quarts (1.9 liters)
SR72	4 quarts (3.8 liters)



ProCore Processor and Hitches

Model 09749, 09750 and 09753 **Serial** 280000001 and Up

Engine Oil (Chart G)......67 oz API, SG, SH, SJ or higher

Engine Oil Filter *842921 **Fuel Filter** *695666

Air Filter......108-3810

Air Filter-Safety......114-4057

IMPORTANT NOTES:

^{*} Indicates Briggs & Stratton part number



Maintenance

Recommended Maintenance Schedule(s)

Maintenance Service Interval	Maintenance Procedure
After the first 8 hours	Check the torque of the wheel nuts Change the engine oil Check condition and tension of belts
Before each use or daily	Check the engine oil level. Clean the engine screen and the oil cooler. Check the hydraulic lines and hoses. Check chopper tips Check brush wear Clean brush/chopper housing
Every 4 hours	Inspect and clean the brush housing
Every 50 hours	Check condition and tension of belts
Every 100 hours	Grease the bearings and bushings Change the engine oil. Check the battery electrolyte level Clean the engine
Every 200 hours	Check and/or replace the primary air filter. Replace the oil filter. Check the spark plugs.
Every 600 hours	Replace the safety air filter. Replace the fuel filter

Important: Refer to your Engine Operator's Manual for additional maintenance procedures.



<u>User Notes Area</u>



Debris Products

4800 Turf Sweeper	278
Rake-O-Vac (Engine and PTO Drive)	
Pro Force Debris Blower	



4800 Turf Sweeper

Model 44044

Serial 210000001 and Up

Engine Brand Kohler

Engine Oil (Chart G)......1.7 qt...... SAE 10W-30 SH, SJ

Engine Oil Filter*5205002-S

Air Filter.....*2408302-S

Pre Air Filter*4708303-S

Fuel Filter In-line*2405002-S

24 PSI (Rear)

IMPORTANT NOTES:

^{*} Indicates Kohler part number



Maintenance

Recommended Maintenance Schedule

Maintenance Service Interval	Maintenance Procedure
After first 50 hours	Change engine oil and filter.
After first 10 hours	Check reel drive belts. Torque wheel lug nuts.
Every 25 hours	 Clean and lubricate foam pre-cleaner. Clean reel drive area. Check reel drive belts.
Every 50 hours	 Check battery fluid level. Lubricate gate pivots. Lubricate all grease fittings. Check battery cable connections.
Every 100 hours	 Replace air filter. Clean air intake/cooling areas. Check reel fingers. Replace fuel filter. Inspect condition of tires. Adjust steering chain.
Every 200 hours	 Torque wheel lug nuts. Service spark plugs. Check electric brake clutch air gap. Check engine RPM (idle and full throttle).
Every 600 hours or annually, whichever occurs first	 Drain and flush fuel tank. Inspect hopper and gate for damage. Replace hydraulic fluid and filter.



Rake-O-Vac (Engine and PTO Drive)

Model 07050 and 07052 **Serial** 50001 and Up

Engine Brand Kohler

Engine Oil (*Chart G*)......2 *qt*......................... SAE 10W-30 SH,SJ

Engine Oil Filter*1205001

Clutch Housing......26 oz SAE 30

Air Filter....*2508301

Safety Filter*2508304

Fuel Filter In-line.....*2505002

(Front and Rear)

IMPORTANT NOTES:

^{*} Indicates Kohler part number

Maintenance Service Interval	Maintenance Procedure
After the first 50 hours	Change the engine oil and filter.
Before each use or daily	Check the engine oil level. (Check the oil when the engine is cold.) Check the tire pressure.
Every 25 hours	 Lubricate the bearings. Service the Air Cleaner. Check the electrolyte level and clean the battery. Check the battery cable connections.
Every 50 hours	Oil the Sweeper Jack.
Every 100 hours	Change the engine oil and filter. Remove debris from engine.
Every 200 hours	Check the spark plugs.
Every 600 hours	Replace the fuel filter.
Before storage	Refer to the Storage section for procedures necessary to perform before storing the machine for more than 30 days.



Pro Force Debris Blower

Model 44538, 44542, 44552, 44553, and 44554 **Serial** 280000100 and Up

Engine Brand Kohler

Engine Oil (Chart K).......67 oz 10W-30 SG - SJ

Engine Oil Filter *1205001S

Air Filter*2408305S

Fuel Filter*2405010S

IMPORTANT NOTES:

^{*} Indicates Kohler part number



Maintenance Service Interval	Maintenance Procedure
After the first 8 hours	Check condition and tension of belt
After the first 10 hours	Check the torque of the wheel lug nuts
Before each use or daily	Check the engine oil level. Clean the engine screen and the oil cooler. Check the nozzle clamp
Every 25 hours	Clean the foam air filter element and check the paper element for damage.
Every 50 hours	Check condition and tension of belt
Every 100 hours	Replace the paper air filter element. Change the engine oil.
Every 200 hours	Replace the oil filter. Check the spark plugs.
Every 500 hours	Replace the fuel filter.



<u>User Notes Area</u>



Specialty Equipment

Sand Pro 2020, 3020 and 5020	286
Sand Pro 3040 and 5040	
Sand Pro 2040 Z	290
Line Painter 1200	292
Pro Stripe 560 Mower	294
Pro Stripe 560 Mower	296
GreensPro 1200 Greens Roller	
GreensPro 1240/1260 Greens Roller	300



Sand Pro 2020, 3020 and 5020

Model All Models **Serial** 70001 and Up

Engine Brand	Briggs & Stratto	n Vanguard

Engine Oil (Chart K)......1.75 qt...... SAE 30 SH,SJ

Engine Oil Filter 119-5852

Hydraulic Oil (Chart R)......3 gal....... ISO VG 46

Hydraulic Filter 114-3494

Remote Air Filter 108-3811

Air Filter (Main)*394018S

Air Filter (wrapper)*272490S

Fuel Filter In-line......121-4570

Tire Pressure...... 4–6 PSI

(Front and Rear)

IMPORTANT NOTES:

^{*} Indicates Briggs & Stratton part number

Maintenance Service Interval	Maintenance Procedure
After the first 8 hours	Torque the wheel lug nuts. Change the engine oil and filter. Change the hydraulic filter.
Before each use or daily	Check the engine oil level. Check the hydraulic fluid level. Check the tire pressure. Check the condition of the hydraulic lines and hoses. Inspect and clean the machine. Check the safety interlock operation
Every 25 hours	Grease the front wheel bearings Check the battery fluid level and the cable connections.
Every 50 hours	Change the engine oil and filter.
Every 100 hours	Torque the wheel lug nuts. Grease the steering shaft and sprocket
Every 200 hours	Replace the air filter.
Every 400 hours	Change the hydraulic system oil and filter.
Every 800 hours	 Replace the spark plugs. Replace the fuel filter. Decarbon the combustion chamber. Adjust the valves and torque head. Check the engine RPM (at idle and full throttle). Drain and clean the fuel tank.
Every 1,500 hours	Replace moving hoses. Replace the neutral and seat interlock switches.

 $\textbf{Important:} \ \ \textbf{Refer to your } \textbf{\textit{Engine Operator's Manual} \ for \ additional \ maintenance \ procedures.}$



Sand Pro 3040 and 5040

Model All Models Serial 260000001 and Up

Engine Brand Briggs & Stratton Vanguard

Engine Oil (*Chart K*)......1.75 qt....... SAE 30 SH,SJ

Engine Oil Filter 107-7817

Hydraulic Oil (Chart R)......3 gal ISO VG 46

Hydraulic Filter 54-0110

Remote Air Filter 108-3811

Fuel Filter In-line 94-2690

(Front and Rear)

IMPORTANT NOTES:

Maintenance Service Interval	Maintenance Procedure
After the first 8 hours	Torque the wheel lug nuts. Change the hydraulic filter.
After the first 20 hours	Check the engine-oil level. Change the engine oil and filter (more often in extremely dirty or dusty conditions).
Before each use or daily	Check the engine-oil level. Check the level of the hydraulic fluid. Check the tire pressure. Check the condition of the hydraulic lines and hoses. Inspect and clean the machine. Check the safety interlock operation.
Every 25 hours	Check the cable connections and the level of the battery fluid.
Every 100 hours	Torque the wheel lug nuts. Grease the machine. Change the engine oil and filter (more often in extremely dirty or dusty conditions).
Every 200 hours	Service the air cleaner (earlier in extremely dusty, dirty conditions). Replace the air filter.
Every 400 hours	Change the hydraulic fluid and filter. Clean the oil cooler.
Every 800 hours	Replace the spark plugs. Replace the fuel filter. Decarbon the combustion chamber. Adjust the valves and torque head bolts. Check the engine speed (at idle and full throttle). Drain and clean the fuel tank.
Every 1,500 hours	Replace moving hoses. Replace the neutral and seat interlock switches.

Important: Refer to your engine owner's manual for additional maintenance procedures.



Sand Pro 2040 Z

Model 08706 and 08706TC **Serial** 314000101 and Up

Engine Brand	Kawasaki
Engine Oil (Chart K)1.75 qt	SAE 30 SJ or better
Engine Oil Filter	119-5852
Hydraulic Oil (Chart R)3.5 qt	Mobile 424
Hydraulic Filter	114-3494
Hydraulic Filter	.127-0381
Air Filter	125-6438
Fuel Filter In-line	94-2690
Tire Pressure	7 PSI

IMPORTANT NOTES:



Maintenance Service Interval	Maintenance Procedure
After the first 8 hours	 Torque the wheel lug nuts. Change the engine oil. Change the engine oil filter. Change the hydraulic oil and filters.
Before each use or daily	Check the engine oil level. Check the hydraulic oil level. Check the tire pressure. Check the safety interlock system. Check the condition of the hydraulic lines and hoses. Inspect and clean the machine.
Every 100 hours	 Torque the wheel lug nuts. Grease the machine. Change the engine oil (more often in extremely dusty or dirty operating conditions). Change the engine oil filter (more often in extremely dusty or dirty operating conditions). Service the spark plugs. Check the battery cable connections.
Every 200 hours	Replace the air filter (more often in dusty conditions). Replace the carbon-canister filter.
Every 400 hours	Change the hydraulic oil and filters.
Every 800 hours	Replace the fuel filter.



Line Painter 1200

Model 42004

Serial 250000001 and Up

Engine Brand Kawasaki

Engine Oil89 qt SAE 30 SF - SJ

Engine Oil Filter 108-3842

Air Filter:

Fuel Filter Part of tank ASM

Tire Pressure 12–15 PSI (Rear)

18-20 PSI (Front caster)

IMPORTANT NOTES:

Maintenance

Note: Determine the left and right sides of the machine from the normal operating position.

Recommended Maintenance Schedule

Maintenance Service Interval	Maintenance Procedure
Each Use	Check the engine oil level.
5 Hours	Check the engine mounting fasteners. Tighten them if they are loose.
25 Hours	Clean the foam pre-cleaner of the air cleaner.
50 Hours	 Change the engine oil (without the oil filter).¹ Check for leaks in the fuel system and/or a deteriorating fuel hose. Replace parts if necessary. Remove any debris from the belts.
100 Hours	 Change the oil filter. Inspect the spark plug and replace it if necessary. Replace the paper air filter. Clean the cooling system; remove any debris or dirt from the engine air cooling fins and starter. Clean the system more frequently in dirty or high-chaff conditions. Clean the fuel filter. Service the wheels.
300 Hours	Replace the paper air filter. Replace it more frequently in dusty operating conditions. Clean the combustion chamber–see engine manual Lap the valves
Storage	 Empty the fuel tank before repairs as directed or before storage. Refer to the storage procedures in the back of this manual.

¹Change the engine oil after the first 8 operating hours.

Important Refer to your engine operator's manual for additional maintenance procedures.



If you leave the wire on the spark plug, someone could accidently start the engine and seriously injure you or other bystanders.

Disconnect the wire from the spark plug before you do any maintenance. Set the wire aside so that it does not accidently contact the spark plug.



Pro Stripe 560 Mower

Model 02656 **Serial** 312000001 and Up

Engine Brand Briggs & Stratton

Engine Oil20 oz/0.6 L.....SAE 30 API classification SH or higher

IMPORTANT NOTES:



Maintenance Service Interval	Maintenance Procedure
After the first 5 hours	Change the engine oil.
Before each use or daily	Check the engine oil level. Ensure that the engine stops within 3 seconds after releasing the blade control bar. Clean grass clippings and dirt from under the machine.
Every 25 hours	 Replace the air filter. Check the self-propel cable and adjust if needed. Replace the blade or have it sharpened (more frequently if the edge dulls quickly). Sharpen the blade.
Every 50 hours	Change the engine oil.
Before storage	Empty the fuel tank before repairs as directed and before annual storage.
Yearly	Refer to your engine operator's manual for any additional yearly maintenance procedures.



Pro Stripe 560 Mower

Model 02600, 02601, 02602, 02603, 02604, 02605 **Serial** 312000001 and Up

Engine Brand Honda

Engine Oil20 oz/0.6 L. SAE 10W-30 API classification SH or higher

IMPORTANT NOTES:



Maintenance Service Interval	Maintenance Procedure
After the first 5 hours	Change the engine oil.
Before each use or daily	Check the engine oil level. Ensure that the engine stops within 5 seconds after releasing the engine stop handle. Clean grass clippings and dirt from under the machine.
Every 100 hours	Check the spark plug and replace it if necessary.
Before storage	 Empty the fuel tank before repairs as directed and before annual storage. Clean the cooling system; remove grass clippings, debris, or dirt from the engine air cooling fins and starter. Clean the system more frequently in dirty or high-chaff conditions.
Yearly	Replace the air filter; replace it more frequently in dusty operating conditions. Change the engine oil.



GreensPro 1200 Greens Roller

Model 44905, 44906, 44907 **Serial** 312000001 and Up

Engine Brand Honda

Engine Oil20 oz/0.6 L. SAE 10W-30 API classification SL or higher

Transmission Oil......2.64 qt.......SAE 5W-40 Synthetic Engine Oil

IMPORTANT NOTES:

Maintenance Service Interval	Maintenance Procedure
After the first 5 hours	Check for any loose nuts, bolts or fittings and tighten as required. Check the drive chain to ensure no stretching has occurred.
After the first 20 hours	Change the engine oil.
After the first 25 hours	Change the transmission oil.
Before each use or daily	 Check the engine oil level. Check the air cleaner. Check for any loose nuts, bolts or fittings and tighten as required. Check engine oil for correct level. Check fuel tank for fuel.
Every 20 hours	Check the transmission oil level.
Every 50 hours	Clean the air cleaner (more often in dirty or dusty conditions).
Every 100 hours	Change the engine oil. Check/adjust the spark plug. Clean the sediment cup.
Every 300 hours	Replace the paper element. Replace the spark plug.
Every 800 hours	Change the transmission oil (Or 2 years, whichever occurs first).
Before storage	Paint chipped surfaces.
Monthly	Check for even tire pressure in the transport wheels. Lubricate drive chain lightly with a suitable greasing compound or greasing oil. Check drive chain tension and adjust if required. Grease the bearings and the bearings.
Yearly	Check over the entire machine, checking all nuts and bolts ensuring they are tight.



GreensPro 1240/1260 Greens Roller

Model 44912, 44913 **Serial** 314000001 and Up

Engine Brand	H	Honda
Engine Oil	.20 oz/0.6 L S	SAE 10W-30 API classification SL or higher
Transmission Oil		oro Premium All Season Hydraulic Fluid

IMPORTANT NOTES:

Maintenance Service Interval	Maintenance Procedure
After the first 5 hours	Check for any loose nuts, bolts or fittings and tighten as required. Check the drive chain to ensure no stretching has occurred.
After the first 20 hours	Change the engine oil.
After the first 25 hours	Change the transmission oil.
Before each use or daily	 Check the engine oil level. Check the air cleaner. Check for any loose nuts, bolts or fittings and tighten as required. Check engine oil for correct level. Check fuel tank for fuel.
Every 20 hours	Check the transmission oil level.
Every 50 hours	Clean the air cleaner (more often in dirty or dusty conditions).
Every 100 hours	Change the engine oil. Check/adjust the spark plug. Clean the sediment cup.
Every 300 hours	Replace the paper element. Replace the spark plug.
Every 800 hours	Change the transmission oil (Or 2 years, whichever occurs first).
Before storage	Paint chipped surfaces.
Monthly	 Check for even tire pressure in the transport wheels. Lubricate drive chain lightly with a suitable greasing compound or greasing oil. Check drive chain tension and adjust if required. Grease the bearings and the bearings.
Yearly	Check over the entire machine, checking all nuts and bolts ensuring they are tight.



<u>User Notes Area</u>



Application Products

Multi Pro 1100	
Multi Pro 1200 and 1250	306
Multi Pro 1750	
Multi Pro 5500	310
Multi Pro 5600	312
Multi Pro 5700	
Multi Pro 5800	
Foam Marker Kit	318
Foam Marker Kit	320
Top Dresser 1800	322
Top Dresser 2300	324
Top Dresser 2500	325
MH 400 Material Handler	326
ProPass 200 Broadcast Spreader	328

Multi Pro 1100

Model 41105 Serial 70001 and Up

Engine Brand Kohler

Engine Oil Filter *1205001

Brake Fluid DOT 3 Brake Fluid

Power Steering Fluid (Chart T)......UTHF

Hydraulic Oil Filter...... 112-8401

Air Filter....*4708303-S

Pre Cleaner Element*2408302-S

Cab Charcoal Element 92-3814

Fuel Filter In-line.....*2405002-S

IMPORTANT NOTES:

^{*} Indicates Kohler part number

Pg. No.		Hours of Operation					
NO.	Service at Intervals Indicated (X)	Daily	25	50	100	200	500
26	Check Safety Start Switch Function	Х					
20	Check Engine Crankcase Oil Level	Х					
	Note: Change Oil in New or Rebuilt Engine	5					
28	Check Brake Function	Χ					
25	Check Power Steering Oil Level, & Hoses	Х					
21	Check Air Cleaner	Х					
11	Check Tire Pressure	Х					
27	Check Belt Tensions (initially)	Χ					
10	Tighten Wheel Nuts (initially)	2 & 10					
21	Service Air Cleaner Pre-cleaner		х				
24	Check Transmission Oil Level			Х]		
24	Check Differential Oil Level			Х			
25	Check Master Cylinder Oil Level			Х			
23	Lubricate All Grease Fittings			Х			
22	Check Spark Plugs				х]	
20	Change Engine Crankcase Oil				Х		
21	Check Air Cleaner Filter				Х		
20	Change Oil Filter					Х	
27	Check Tension of All Belts					Х	
8	Clean Battery Terminals					Х	
24	Drain and Refill Transmission						Х

Multi Pro 1200 and 1250

Model 41107 and 41106	Serial 70001 and Up
Model 41163 and 41164	Serial 240000001 and Up
Model 41178 and 41177	Serial 260000001 and Up
Model 41197, 41198, 41199	Serial 310000001 and Up

Engine Brand Kohler

Engine Oil (Chart G)......2.1 qt.......... SAE 10W-30 SH,SJ

Engine Oil Filter 108-3847

Hydraulic/Transaxle.........7.5 qt........ Dexron III ATF

Hydraulic Filter 54-0110

Brake Fluid DOT 3 Brake Fluid

 Air Filter
 *4708303-S

 Pre Cleaner Element
 *2408302-S

 Fuel Filter In-line
 *2405002-S

Suction Screen Sprayer......100-8642

IMPORTANT NOTES:

^{*} Indicates Kohler part number Gear box oil – 104-8772

Maintenance

Note: Determine the left and right sides of the machine from the normal operating position.

Recommended Maintenance Schedule

Important Refer to your engine operator's manual for additional maintenance procedures.

Maintenance Service Interval	Maintenance Procedure
	Torque the wheel lug nuts.
After first 8 hours	Replace the hydraulic filter.
/ liter linst o riours	Check the drive belt tension.
	Check the steering pump belt.
	Check the engine oil.
8 hours	Check the tire pressure.
	Clean the suction strainer ³
25 hours	Clean and oil the foam air cleaner element. ²
	Check the battery electrolyte level.
50 hours	Check the battery cable connections.
	Clean the suction strainer.
	Change the engine oil (includes synthetic oil). 1
	Replace the engine oil filter.
	Lubricate all grease fittings.
	Replace the fuel filter.
	Inspect the brakes.
	Clean the engine rotating screen. ²
100 hours	Replace the paper cleaner element. ²
	Inspect the brake and parking brake.
	Inspect the condition and wear of the tires.
	Torque the wheel lug nuts.
	Check the front wheel toe-in.
	Check the steering pump belt.
	Check the operation of the Neutral gear shift position.
	Change the spark plugs.
200 hours	Check the parking brake.
	Check the shift cables.
	Check the drive belt.

Maintenance Service Interval	Maintenance Procedure
	Change the pump drive gearbox fluid.
	Clean and lubricate the primary drive clutch
	Inspect the fuel lines.
	 Have an Authorized Toro Service Distributor check the diaphragms and check valves in the pump and replace them if necessary.
400 hours or yearly	 Complete all yearly maintenance procedures specified in the engine operator's manual.
	 Inspect the pump diaphragm and replace it if necessary.
	 Inspect the pressure dampener bladder and replace it if necessary.
	 Inspect the pump check valves and replace them if necessary.
	 Inspect the O-rings in the valve assemblies and replace them if necessary.
0001	Change the transaxle/hydraulic fluid.
800 hours or yearly	Replace the hydraulic filter.

¹More often when operating under heavy load or high temperatures ²More often in dusty, dirty conditions ³More often when using wetable powers



Multi Pro 1750

Model 41188

Serial 314000101 and Up

Engine Brand Kohler

Engine Oil (Chart G)......2 qt............. SAE 10W-30 SH,SJ

Engine Oil Filter 108-3847

Hydraulic/Transaxle.........7.5 qt........ Dexron III ATF

Hydraulic Filter 54-0110

Brake Fluid DOT 3 Brake Fluid

	Suction	Pressure		Tip
	Current P/N	2016 and Prior	2017 and Later	Current P/N
16 MESH		131-0212	133-0383	
30 MESH	100-6991	131-0211	133-0384	
50 MESH	100-8642	131-0210	133-0385	120-0699
80 MESH	100-6992	131-0209	133-0386	
100 MESH		131-0208	133-0387	120-0698

IMPORTANT NOTES:



Interval	ntenance Procedure
	orque the wheel-lug nuts. Jeplace the hydraulic filter.
After the first 50 hours C	change the engine oil. Check the air filter for the carbon canister. Deplace the carbon-canister filter.
	o provide proper performance and long sprayer life, follow these guidelines for ne first 100 operating hours:
Before each use or daily • C • C • C • C	clean the suction filter. clean the pressure filter. check the tank straps. check the engine-rotating screen. check the engine oil. check the tire pressure.
Every 50 hours C	ubricate the pump. clean and oil the air-cleaner foam element (more often in dusty, dirty conditions). check the battery-cable connections. check the battery-electrolyte level.
Lu C C te Every 100 hours R R T C C C C C C C C C C C C C C	ubricate all grease fittings. ubricate the section hinges. lean the engine-rotating screen (more often in dusty, dirty conditions). change the engine oil (more often when operating under heavy load or in high emperature). leplace the engine-oil filter. leplace the fuel filter. orque the wheel-lug nuts. Inspect the condition and wear of the tires. Inspect the brakes.
Every 200 hours - C - C - C - C - C - C - C - C - C -	teplace the air-cleaner paper element (more often in dusty, dirty conditions). Thange the spark plugs. Theck the air filter for the carbon canister. The teplace the carbon-canister filter. The the dijustment of the differential-lock cable. Theck the parking brake. Theck the transaxle/hydraulic fluid. These tall hoses and connections for damage and proper attachment. The telephace the sparking brake. The telephace the transaxle/hydraulic fluid. The telephace the transaxle/hydraulic fluid. The telephace the transaxle/hydraulic fluid. The telephace the teleph
Every 400 hours Every 400 hours C In S In S	Complete all yearly maintenance procedure specified in the engine operator's nanual. Inspect the fuel lines. Drain and clean the fuel tank. Change the suction filter. Change the pressure filter. Inspect the pump diaphragms and replace if necessary (see an Authorized Toro itervice Distributor). Inspect the pump check valves and replace if necessary (see an Authorized Toro itervice Distributor). Inspect the nylon pivot bushings.
	change the transaxle/hydraulic fluid and clean strainer. Replace the hydraulic filter.
Yearly • C	Calibrate the agitation-bypass valve.

Refer to your engine owner's manual for additional maintenance procedures.

Multi Pro 5500

Model 41564 Serial 70224 and Up

Engine Brand Ford

Engine Oil (Chart D).......3.5 qt SAE 10W-20 SH,SJ

Engine Oil Filter 108-3817

Hydraulic Oil (Chart T)......12 gal...... UTHF

Hydraulic Filter 86-3010

Air Filter.....*41905

Cab Charcoal Element 92-3814

Fuel Filter In-line.....*41770

Fuel Filter Threaded*FG778B

Coolant Type......12 qt...... Ethylene Glycol, Water

(50/50 mix)

IMPORTANT NOTES:

^{*} Indicates Ford part number



MAINTENANCE SCHEDULE

Minimum Recommended Maintenance Intervals:

Maintenance Procedure Maintenance Interval & Service Every Every Every Every 100 hrs. 200 hrs. Every 400 hrs. 50 hrs. Inspect Air Filter, Dust Cap, and Baffle Lubricate All Grease Fittings Check Battery Fluid Level Check Battery Cable Connections "A" Level Service * Change Engine Oil and Filter Inspect Cooling System Hoses * Check Fan and Alternator Belt Tension "B" Level Service Air Filter Service Replace Hydraulic Filter Check Front Wheel Toe-In and Steering Linkage * Torque Wheel Lug Nuts Check Governor Oil Level Lubricate Throttle and Governor Linkage Solenoid Valve Maintenance "C" Level Service Change Fuel Filters Inspect Fuel Lines and Connections Check Rear Planetary Gear Lube Change Hydraulic Oil * Change Hydraulic Oil Filter Flush Cooling System and Replace Coolant Drain and Clean Fuel Tank † Change Rear Planetary Gear Lube † Pack Front Wheel Bearings "D" Level Service * Initial break-in at 10 hours ** Initial break-in at 50 hours † Initial break-in at 200 hours Recommendations: Replace Safety Switches Items listed are recommended every 800 hours or 2 years, whichever occurs first.

QUICK SERVICE REFERENCE

Multi Pro 5600

Model 41568

Serial 220000002 and Up

Engine Brand Ford

Engine Oil (Chart D)......3.5 qt.............. SAE 10W-20 SH,SJ

Engine Oil Filter 108-3817

Hydraulic Oil (Chart T).....12 gal........... UTHF

Hydraulic Filter 86-3010

Planetary Gear......Check Plug....... SAE 85W-140

Fuel Filter In-line.....*41770

Fuel Filter Threaded*FG778B

Coolant Type...... 12 qt..... Ethylene Glycol, Water

(50/50 mix)

IMPORTANT NOTES:

^{*} Indicates Ford part number

Maintenance

Note: Determine the left and right sides of the machine from the normal operating position.

Recommended Maintenance Schedule

Maintenance Service Interval	Maintenance Procedure		
	Check the air filter, cap, and baffle for wear or damage.		
	Check the engine oil.		
	Check the tire pressure.		
	Check the engine coolant level		
8 hours	Check the hydraulic oil level		
	Clean the suction strainer ³		
	 Initial break-in service only: check the fan and alternator belts, torque the wheel lug nuts, replace the hydraulic oil filter, and change the rear planetary gearbox fluid. 		
	Check the battery electrolyte level.		
	Check the battery cable connections.		
50 hours	Lubricate all grease fittings.		
	 Initial break-in service only: change the engine oil (includes synthetic oil) and replace the engine oil filter. 		
	Change the engine oil (includes synthetic oil). 1,		
	Replace the engine oil filter.		
	Check the cooling system hoses for wear or damage.		
100 hours	Service the air cleaner. ²		
	Check the fan and alternator belts.		
	 Inspect the condition and wear of the tires. 		
	Torque the wheel lug nuts.		
	Check the front wheel toe-in.		
200 hours	Clean the radiator fins		
Initial break-in service only: pack the front wheel bearings.			
	Change the spark plugs.		
	Change the hydraulic oil.		
	Replace the hydraulic oil filter.		
	Inspect the fuel lines.		
400 hours or yearly	Replace the fuel filters.		
	Change the rear planetary gearbox fluid.		
	Check the coolant (as directed by the manufacturer) and change if necessary.		
	Drain and clean the fuel tank.		
	Pack the front wheel bearings.		

¹More often when operating in high temperatures ²More often in dusty, dirty conditions ³More often when using wetable powers

Important Refer to your engine operator's manual for additional maintenance procedures.



Multi Pro 5700

Model 41581 and 41582 **Serial** 240000001 and Up

Ochlar 240000001	and op	
Engine Brand		Kubota
Engine Oil (Char	t O)4.9 qt	SAE 10W-30
Engine Oil Filter		108-3841
Hydraulic Oil (Ch	nart R)10.6 gal	ISO VG 46
Hydraulic Filter		86-3010
Planetary Gear	Check Plug	SAE 85W-140
Air Filter		108-3810
Fuel Filter In-line	*	98-7612
Water Separator		98-9764
Tire Pressure		18 PSI (Front and Rear)
Coolant Type	5.8 qt	Ethylene Glycol, Water (50/50 mix)
Diaphragm (pres	sure dampener)	99-0897
Suction Screen	(standard 50 mesh)	100-8642
	(coarse 30 mesh)	100-6991
	(fine 80 mesh)	100-6992

^{*} Refer to Toro's parts catalog or Parts Viewer for bio-diesel fuel filter part numbers.

IMPORTANT NOTES:

Recommended Maintenance Schedule(s)

Maintenance Service Interval	Maintenance Procedure	
After the first 5 hours	Replace the hydraulic oil filter.	
After the first 8 hours	Torque the wheel lug nuts. Change the rear planetary gearbox fluid. Check the fan/alternator belt	
After the first 50 hours	Change the engine oil (including synthetic oil) and oil filter. Check the fuel lines and connections.	
After the first 200 hours	Pack the front wheel bearings.	
Before each use or daily	Check the air filter, cap, and valve for wear or damage. Check the engine oil. Check the tire pressure. Check the coolant level. Check the brakes. Check the hydraulic oil level. Clean the suction strainer. (More often when using wettable powders)	
Every 50 hours	Lubricate the pump. Lubricate all grease fittings. Check the battery cable connections.	
Every 100 hours	Lubricate the boom hinges. Service the air cleaner. (more often in dusty, dirty conditions). Torque the wheel lug nuts. Inspect the condition and wear of the tires. Check the cooling system hoses for wear and damage. Check the fan/alternator belt	
Every 150 hours	Replace the engine oil filter. Change the engine oil, including synthetic oil (more often when operating under heavy load or in high temperature).	
Every 200 hours	Check front wheel toe-in. Clean the radiator fins. Inspect all hoses and connections for damage and proper attachment.	
Every 400 hours	Grease the actuator rod bearings. Complete all yearly maintenance procedure specified in the engine operator's manual. Check the fuel lines and connections. Drain and clean the fuel tank. Replace the fuel filter canister. Replace the in-tank fuel filter. Pack the front wheel bearings. Change the planetary gearbox fluid. Check the coolant (as directed by the manufacturer) and change if necessary. Replace the hydraulic oil filter. Change the hydraulic oil. Inspect the O-rings in the valve assemblies and replace them if necessary. Inspect the pump diaphragm and replace if necessary. (see an Authorized Toro Service Distributor) Inspect the pressure dampener bladder and replace if necessary. (see an Authorized Toro Service Distributor)	
Maintenance Service Interval	vice Maintenance Procedure	
	Inspect the pump check valves and replace if necessary. (see an Authorized Toro Service Distributor) Check boom actuator hydraulic oil for air bubbles. Inspect the nylon pivot bushings.	
Yearly	 Flush the sprayer with clean water using the Cleaning the Sprayer procedure. During the rinse procedure, increase pump speed to open relief valve; purging valves and hoses of residual fluids. 	

Important: Refer to your engine Operator's Manual for additional maintenance procedures.

QUICK SERVICE REFERENCE

Multi Pro 5800

Model 41393, 41394, 41593, and 41593N **Serial** 311000001 and Up

Engine BrandKubota

Engine Oil Filter 108-3841

Hydraulic Oil15 gal...... ISO VG 46

Hydraulic Filter 75-1310

Planetary Gear.....Check Plug...... SAE 85W-140

Water Separator......110-9049

Coolant Type...... 5.8 qt..... Ethylene Glycol, Water

(50/50 mix)

	Suction	Pressure		Tip
	Current P/N	2016 and Prior	2016 and Prior 2017 and Later	
16 MESH		131-0212 133-0383		
30 MESH	100-6991	131-0211	133-0384	
50 MESH	100-8642	131-0210	133-0385	120-0699
80 MESH	100-6992	131-0209	133-0386	
100 MESH		131-0208 133-0387		120-0698

High Viscosity Index/Low Pour Point Anti-wear Hydraulic Fluid, ISO VG 46

Material Properties:

Viscosity, ASTM D445 CSt @ 40°C 44 to 48

cSt @ 100°C 7.9 to 8.5

Viscosity Index ASTM 140 to 160

Pour Point, ASTM D97 -34°F to -49°F

Industry Specifications:

Vickers I-286-S (Quality Level), Vickers M-2950-S

(Quality Level), Denison HF-0

IMPORTANT NOTES:



Recommended Maintenance Schedule(s)

Maintenance Service Interval	Maintenance Procedure	
After the first 5 hours	Replace the hydraulic-fluid filters.	
After the first 8 hours	Torque the wheel lug nuts. Change the rear planetary-gearbox fluid. Check the fan/alternator belt.	
After the first 50 hours	Change the engine oil and oil filter. Check the fuel lines and connections.	
After the first 200 hours	Pack the front-wheel bearings.	
Before each use or daily	Check the pressure in the tires. Check the brakes. Clean the suction strainer (more often when using wettable powders). Check the tank straps. Check the air cleaner (more frequently if operating conditions are extremely dusty or sandy). Check the engine oil. Check the coolant level. Check the hydraulic-fluid level.	
Every 50 hours	Lubricate the pump. Lubricate all grease fittings. Check the battery-cable connections.	
Every 100 hours	Lubricate the boom hinges. Torque the wheel lug nuts. Inspect the condition and wear of the tires. Check the cooling-system hoses for wear and damage. Check the fan/alternator belt.	
Every 200 hours	Change the engine oil (including synthetic oil) and oil filter (more often when operating under heavy load or in high temperatures). Check the front wheel toe-in. Inspect all hoses and connections for damage and proper attachment. Clean the radiator fins.	
Every 400 hours	Grease the actuator-rod bearings. Replace the air-filter element (more often in dusty, dirty conditions). Complete all yearly maintenance procedures specified in the engine owner's manual. Check the fuel lines and connections. Replace the fuel-filter canister. Replace the in-tank fuel filter. Drain and clean the fuel tank. Pack the front-wheel bearings. Change the planetary-gearbox fluid. Check the coolant (as directed by the manufacturer) and change if necessary. Check the coolant (as directed by the manufacturer) and change if necessary. Replace the hydraulic-fluid filters. Change the hydraulic fluid. Inspect the O-rings in the valve assemblies and replace them if necessary. Change the pressure filter. Inspect the pump diaphragm and replace if necessary (see an Authorized Toro Service Distributor). Inspect the nylon pivot bushings.	
Yearly	Flush the sprayer with clean water. Flush the sprayer with clean water. Calibrate the agitation-bypass valve.	

Important: Refer to your engine owner's manual for additional maintenance procedures.



Foam Marker Kit

Model 41228 Serial All

Pro Foam Concentrate*......41157 (four 1 gallon containers)

 Filter
 94-7227

 Plastic Check Valve
 94-7196

Daily: Flush the system with clean water after each use, especially when hard water has been used. Note: Do not apply lubricating oil, grease or other petroleum products to the compressor motor assembly.

Every 400 hours or yearly: Winterizing (or extended storage)

- 1. Relieve the pressure within the tank by pulling the release valve on the tank.
- 2. Disconnect the air and liquid tubing from the tank cap. Connect the air and water tubing together with the supplied tubing coupler.
- 3. Turn on the foam marker for 5 minutes on each side. This will remove solution from the solenoids and avoid damage.
- 4. Disassemble the foam nozzles and replace the foam sponges.
- 5. Empty the tank of all soap and liquids to avoid damage.

IMPORTANT NOTES:

^{*} Note: Concentrate is mixed at 1.25–2.00 ounces per gallon of water.



Recommended Maintenance Schedule(s)

Maintenance Service Interval	Maintenance Procedure	
Every 100 hours	Inspect the hose between the foam tank and the compressor for accumulated water. Inspect and clean the check valve in the tee on top of the compressor. Replace the valve if necessary. Remove and clean the strainer at the top of the solenoid valve, next to the compressor. Ensure that the bottom of the compressor is free from debris.	
Every 250 hours	Replace the compressor air filter. Check for and rinse out debris from the inside of the tank.	
Replace the plastic check valve at the "Y" near the mixer tee assembly, located the rear of the machine, on the center boom.		



Foam Marker Kit

Model 41236 Serial All

Foam Mixer Sponge Kit......114-9554

IMPORTANT NOTES:

^{*} Note: Concentrate is mixed at 1.25–2.00 ounces per gallon of water.

QUICK SERVICE REFERENCE

Recommended Maintenance Schedule(s)			
Maintenance Service Interval	Maintenance Procedure		
Daily	Flush the system with clean water after each use, especially when hard water has been used. Note: Do not apply lubricating oils, grease or other petroleum products to the compressor motor assembly.		
Every 400 hours or yearly	Winterizing 1. Relieve the pressure within the tank by pulling the release valve on the tank. 2. Disconnect the air and liquid tubing from the tank cap. Connect the air and water tubing together with the supplied tubing coupler. 3. Turn on the foam marker for 5 minutes on each side. This will remove solution from the solenoids and avoid damage from freezing. 4. Disassemble the foam nozzles and replace the foam sponges. 5. Empty the tank of all soap and liquids to avoid		



Top Dresser 1800

Model 44225 **Serial** 250000001 and Up

Grease Premium All Purpose Grease

IMPORTANT NOTES:

Recommended Maintenance Schedule(s)

Maintenance Service Interval	Maintenance Procedure	
Every 25 hours	Lubricate grease fittings	

A

Before servicing or making adjustments to the machine, stop engine, set parking brake and remove key from ignition switch. Any load material must be removed from hopper before working under raised TopDresser. Always install safety supports on cylinders before working under raised TopDresser.



Top Dresser 2300

Model 44501 Serial 20101 and Up

IMPORTANT NOTES:



Top Dresser 2500

Model 44507 Serial 200000001 and Up

IMPORTANT NOTES:



MH 400 Material Handler

Model 44930, 44931, 44932, 44933, 44934 **Serial** 310000001 and Up

Grease Premium All Purpose Grease

Hydraulic Fluid (19 gal) (Chart R) ISO VG 46

Tire Pressure......25 PSI

IMPORTANT NOTES:



Recommended Maintenance Schedule(s)

Maintenance Service Interval	Maintenance Procedure
After first three months	Adjust electric brakes or sooner depending on performance
	Check tire pressure - 25 psi
Daily	Check hydraulic hoses for wear and visible damage
	Check the hydraulic oil level
Weekly	Check conveyor belt for proper tracking and for slippage
Monthly	Inspect brake shoes and linings
	Lubricate all grease point fittings
	Lubricate front take-up bearings
F 0 4 05	Lubricate rear drive bearings
Every 2 months or 25 hours	Lubricate box hinge pins
	Lubricate floor drive chain
	Check front and rear roller bearings for wear or visible damage
Every 200 hours	Check wheel lug nut torque - 100 ft-lb
Every 300 hours	Check tires for excessive wear or visible damage
Every 4 months	Check conveyor belt idler rollers between the front and rear rollers for binding or seizing. Replace or repair as required.
Voorly	Lubricate suspension springs
Yearly	Inspect, clean and service brake system

^{*} Refer to the operator's manual for daily safety checks before operating the MH-400



ProPass 200 Broadcast Spreader

Model 44700, 44701 **Serial** 310000001 and Up

Grease Premium All Purpose Grease

IMPORTANT NOTES:

Part numbers, specifications, and lubricants listed herein are subject to change. For online Toro parts information, go to www.toro.com and then click Parts. To see the latest online version of this manual, go to www.toro.com and click Support, Education and Technical Reference, and then click Service Manuals. The most current API Service Grade of oil includes the service properties of earlier classifications. Refer to the American Petroleum Institute (API) Engine Oil Guide that begins on page 343 for further details.

Copyright® 2017 The Toro Company, All Rights Reserved - Version 18



Recommended Maintenance Schedule(s)

Maintenance Service Interval	Maintenance Procedure
Every 25 hours	Lubricate grease fittings
Every 300 hours	Clean and repack wheel bearings
Every 2 months	Check front and rear roller bearings for wear or visible damage



<u>User Notes Area</u>

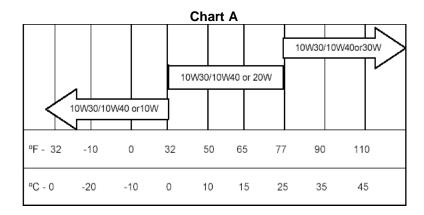


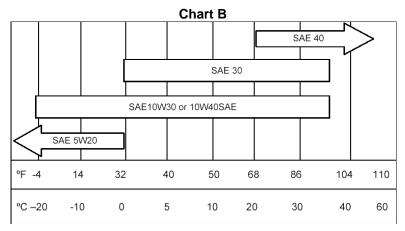
Lubricants

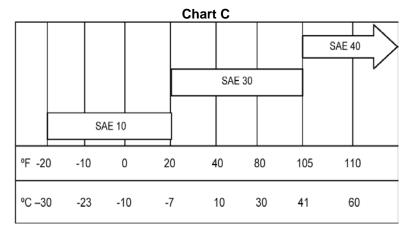
Engine Oil Viscosity Charts (A through C)	332
Engine Oil Viscosity Charts (D and E)	
Engine Oil Viscosity Charts (F thru H)	334
Engine Oil Viscosity Charts (I thru K)	335
Engine Oil Viscosity Charts (L and M)	336
Engine Oil Viscosity Charts (N and O)	337
Hydraulic Oil Viscosity Charts (P and Q)	338
Hydraulic Oil Standards: Charts R though U	339
Toro Lubricant and Fluid Part Numbers	342
American Petroleum Institute (API) Engine Oil Guide	343



Engine Oil Viscosity Charts (A through C)

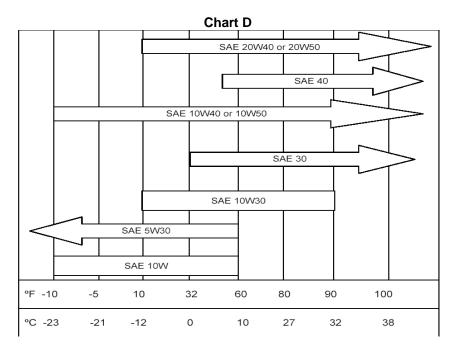


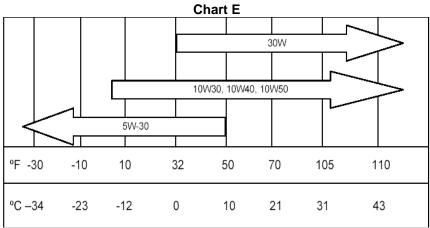






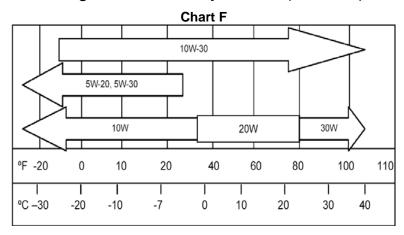
Engine Oil Viscosity Charts (D and E)

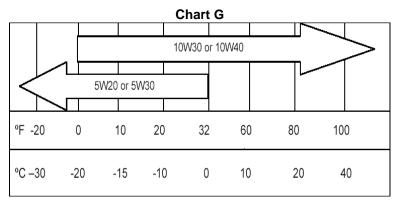


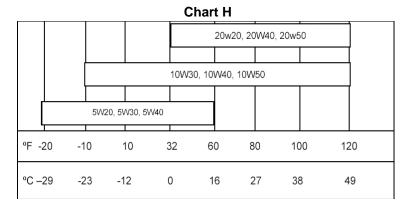


QUICK SERVICE REFERENCE

Engine Oil Viscosity Charts (F thru H)

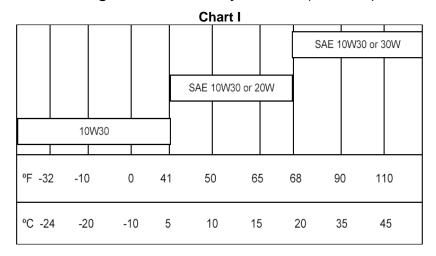


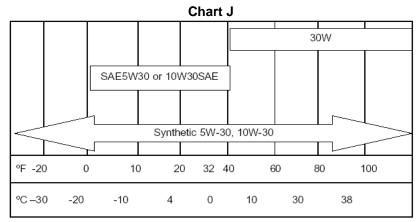


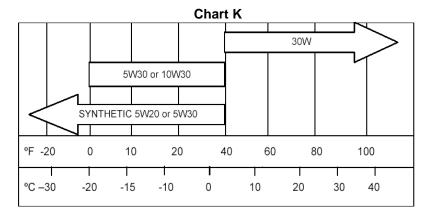




Engine Oil Viscosity Charts (I thru K)

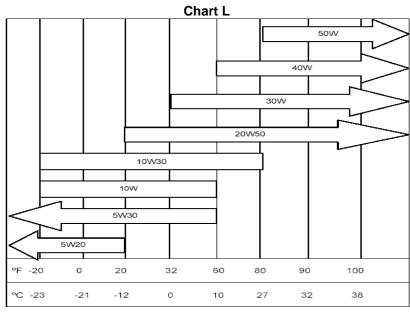


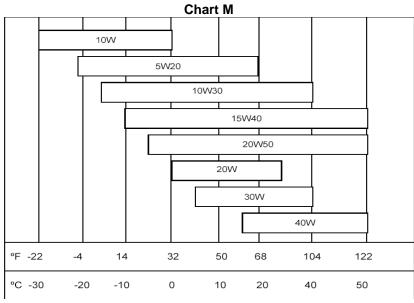






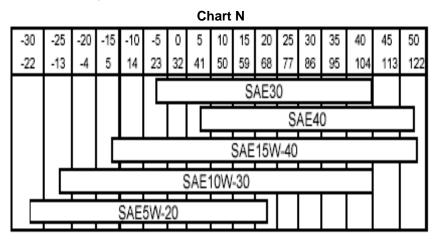
Engine Oil Viscosity Charts (L and M)

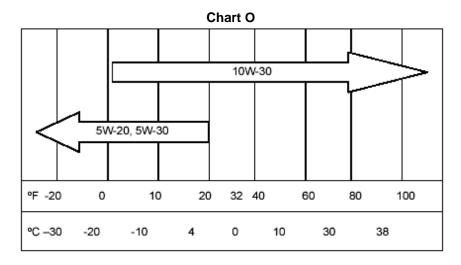






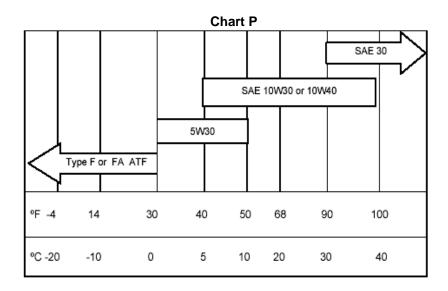
Engine Oil Viscosity Charts (N and O)

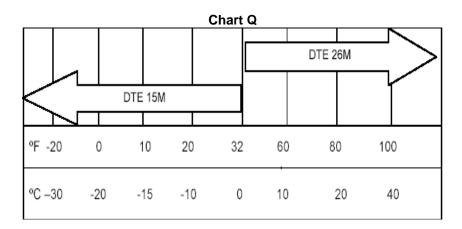






Hydraulic Oil Viscosity Charts (P and Q)





Hydraulic Oil Standards: Charts R though U

Chart R

ISO VG 46

Refer to page 342 for Toro Lubricant and Fluid Part Numbers.

The machine's reservoir is filled at the factory with approximately x.x gallons (xx.x l) of high quality hydraulic fluid. Check the level of hydraulic fluid before the engine is first started and daily thereafter. The recommended replacement fluid is:

Toro Premium All Season Hydraulic Fluid

(Available in 5 gallon pails or 55 gallon drums. See the parts catalog or Toro distributor for part numbers.)

Alternative fluids: If the Toro fluid is not available, only other <u>conventional</u>, <u>petroleum-based</u> fluids may be used provided they meet all of the following material properties and industry specifications. Check with your oil supplier to see if the oil meets these specifications. The biodegradable fluids listed below may also be used. Note: Toro will not assume responsibility for damage caused by improper substitutions, so use only products from reputable manufacturers who will stand behind their recommendation.

High Viscosity Index/Low Pour Point Antiwear Hydraulic Fluid, ISO VG 46

Material Properties:

Viscosity, ASTM D445: cSt @ 40°C 44 to 48

cSt @ 100°C 7.9 to 8.5

Viscosity Index, ASTM D2270: 140 to 160

Pour Point, ASTM D97: -34°F to -49 °F

FZG, Fail stage 11 or better

Water content (new fluid): 500 ppm (maximum)

Industry Specifications:

Vickers I-286-S, Vickers M-2950-S, Denison HF-0, Vickers 35 VQ 25 (Eaton ATS373-C)

Note: Many hydraulic fluids are almost colorless, making it difficult to spot leaks. A red dye additive for the hydraulic system oil is available in 2/3 oz (20 ml) bottles. One bottle is sufficient for 4-6 gal (15-22 l) of hydraulic oil. Order part no. 44-2500 from your authorized Toro distributor.

Chart S

ISO VG 68

Refer to page 342 for Toro Lubricant and Fluid Part Numbers.

CHECK HYDRAULIC SYSTEM FLUID

The machine's reservoir is filled at the factory with approximately x.x gallons (xx.x l) of high quality hydraulic fluid. Check the level of hydraulic fluid before the engine is first started and daily thereafter. The recommended replacement fluid is:

Toro Premium All Season Hydraulic Fluid

(Available in 5 gallon pails or 55 gallon drums. See the parts catalog or Toro distributor for part numbers.)

Alternative fluids: If the Toro fluid is not available, only other <u>conventional</u>, <u>petroleum-based</u> fluids may be used provided they meet all of the following material properties and industry specifications. Check with your oil supplier to see if the oil meets these specifications. Note: Toro will not assume responsibility for damage caused by improper substitutions, so use only products from reputable manufacturers who will stand behind their recommendation.

Antiwear Hydraulic Fluid, ISO VG 68

Material Properties:

Viscosity, ASTM D445: cSt @ 40°C 65 to 71

cSt @ 100°C 8.4 – 8.9

Viscosity Index, ASTM D2270: 97 to 107

Pour Point, ASTM D97: -18°F to -30 °F

FZG, Fail stage 11 or better

Water content (new fluid): 500 ppm (maximum)

Industry Specifications:

Vickers I-286-S, Vickers M-2950-S, Denison HF-0, Vickers 35 VQ 25 (Eaton ATS373-C)

Note: Many hydraulic fluids are almost colorless, making it difficult to spot leaks. A red dye additive for the hydraulic system oil is available in 2/3 oz (20 ml) bottles. One bottle is sufficient for 4-6 gal (15-22 l) of hydraulic oil. Order part no. 44-2500 from your authorized Toro distributor.

Chart T

Universal Tractor Hydraulic Fluid (UTHF)
Refer to page 342 for Toro Lubricant and Fluid Part Numbers.

The machine's reservoir is filled at the factory with approximately x.x gallons (xx.x l) of high quality hydraulic fluid. Check the level of hydraulic fluid before the engine is first started and daily thereafter. The recommended replacement fluid is:

Toro Premium Transmission/Hydraulic Tractor Fluid

(Available in 5 gallon pails or 55 gallon drums. See the parts catalog or Toro distributor for part numbers.)

Alternative fluids: If Toro fluid is not available, other Universal Tractor Hydraulic Fluids (UTHF) may be used, but they must be only <u>conventional, petroleum-based</u> products. The specifications must fall within the listed range for all of the following material properties and the fluid should meet listed industry standards. Check with your oil supplier to see if the oil meets these specifications. Note: Toro will not assume responsibility for damage caused by improper substitutions, so use only products from reputable manufacturers who will stand behind their recommendation.

Material Properties:

Viscosity, ASTM D445: cSt @ 40°C 55 to 62 cSt @ 100°C 9.1 to 9.8

Viscosity Index, ASTM D2270: 140 - 152 Pour Point, ASTM D97: -35°F to -46°F

Industry Standards:

API GL-4, AGCO Powerfluid 821 XL, Ford New Holland FNHA-2-C-201.00, Kubota UDT, John Deere J20C, Vickers 35VQ25 and Volvo WB-101/BM.

Note: Many hydraulic fluids are almost colorless, making it difficult to spot leaks. A red dye additive for the hydraulic system oil is available in 2/3 oz (20 ml) bottles. One bottle is sufficient for 4-6 gal (15-22 l) of hydraulic oil. Order part no. 44-2500 from your authorized Toro distributor.

Chart U

Biodegradable Hydraulic Fluid

Refer to page 342 for Toro Lubricant and Fluid Part Numbers.

Biodegradable Hydraulic Fluid

Toro Biodegradable Hydraulic Fluid

(Available in 5 gallon pails or 55 gallon drums. See parts catalog or Toro distributor for part numbers.)

Alternative fluid: Mobil EAL 224H



Toro Lubricant and Fluid Part Numbers

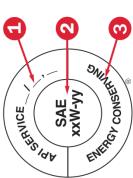
Product Description	Size	Toro Part Number
Product Description		
Premium All Season Hydraulic Fluid	Drum	108-1177
Premium All Season Hydraulic Fluid	Pail	108-1178
Premium Engine Oil 10W-30	Drum	108-1179
Premium Engine Oil 10W-30	Pail	108-1180
Premium Engine Oil 15W-40	Drum	108-1181
Premium Engine Oil 15W-40	Pail	108-1182
Premium Engine Oil SAE 30	Drum	108-1196
Premium Engine Oil SAE 30	Pail	108-1197
Premium Transmission/Hydraulic Tractor Fluid	Drum	108-1183
Premium Transmission/Hydraulic Tractor Fluid	Pail	108-1184
Premium ATF	Drum	108-1185
Premium ATF	Pail	108-1186
Premium All Season Gear Lube	Pail	108-1187
Premium All Season Gear Lube	Quart	108-1590
Premium Heavy Duty All Season Gear Lube	Pail	108-1188
Premium Heavy Duty All Season Gear Lube	Quart	108-1591
Premium Bio-Degradable Hydraulic Fluid	Drum	108-1189
Premium Bio-Degradable Hydraulic Fluid	Pail	100-7674
Premium All Purpose Grease	Tube	108-1190
Extended Life Antifreeze	Gallon	104-8606

American Petroleum Institute (API) Engine Oil Guide

Engine Oil Guid

ENGINE OIL LICENSING AND CERTIFICATION SYSTEM

AMERICAN PETROLEUM INSTITUTE



ChalsM Strauce C.J.g. CV-4 PLUS 15W-40

The API Service Symbol "Donut" with CI-4 PLUS

Used in conjunction with API CI-4 and CJ-4, protection against soot-related viscosity indiesel engines. Like Energy Conserving, CI-4 PLUS appears in the lower portion of the API Service Symbol "Donut." the "CI-4 PLUS" designation identifies oils crease and viscosity loss due to shear in formulated to provide a higher level of

For more information www.api.org/eolcs. about API's Engine Oil Program, visit

Copyright 2009 - American Petroleum Institute, all rights reserved. Apt. The API Group, the API Service Symbol (Donut), the API Service Symbol with G14 PLUS logo and the API Certification Mark (Starbust) are either trademarks or registered rademarks or API in the United States and/or other countries.

API Cerative. 2009-0558 | 1,0,0,9 | PDF

Conserving" oils may result in an overall savings of fuel in the vehicle fleet as a whole.

also known as the "Donut" The API Service Symbol

trucks with gasoline engines): Oils designed service categories. **Diesel engine oil** categories (for heavy-duty trucks and vehicles with diesel engines): Oils designed for gasoline-engine service fall under API's "S" (Service) categories. See inside for "S" (Service) categories. See inside for descriptions of current and obsolete API 1. Performance Level: Gasoline engine "C" (Commercial) categories. See inside for descriptions of current and obsolete for diesel-engine service fall under API's oil categories (for cars, vans, and light

recommendations on SAE oil viscosity grade. 3. Energy Conserving: The "Energy Conserving" designation applies to oils intended for gasoline-engine cars, vans, and light trucks. Widespread use of "Energy 2. Viscosity Grade: The measure of an oil's temperatures. Vehicle requirements may vary. Follow your vehicle manufacturer's thickness and ability to flow at certain API service categories.

PMERIC

also known as the "Starburst" The API Certification Mark,

engine protection standard and fuel economy automobile manufacturers. Most automobile An oil displaying this mark meets the current requirements of the International Lubricant (ILSAC), a joint effort of U.S. and Japanese manufacturers recommend oils that carry the API Certification Mark. Standardization and Approval Committee

backed by a marketplace sampling in this voluntary program, which is U.S. and international vehicle and ubricant industry. More than 500 companies worldwide participate Oils displaying these marks meet performance requirements set by quality engine oils for gasolineengine manufacturers and the and diesel-powered vehicles. Certification Mark identify API's Service Symbol and and testing program.

-ollow manufacturer's oil change gory: "**S**" for gasoline engine **Guidelines to help you** get more from your engine oil.

Look for the API Certification ks every time you buy gine oil

whenever you have your oil Ask for API-licensed oil

GUIDE TO SAE VISCOSITY GRADES OF ENGINE OIL FOR PASSENGER CARS

Multigrade oils such as SAE 5W-30 and 10W-30 are widely used because, under all but extremely hot or cold conditions, they are thin enough to flow at low temperatures and thick enough to perform satisfactorily at high temperatures. Note that vehicle requirements may vary. Follow your vehicle manufacturer's recommendations on SAE oil viscosity grade.

Which oil is right for you?

Typical SAE Viscosity Grades for Passenger Cars	5W-20, 5W-30, 10W-30, 10W-40, 20W-50	5W-20, 5W-30, 10W-30, 10W-40	5W-20, 5W-30
If lowest expected outdoor temperature is	0°C (32°F)	-18°C (0°F)	Below -18°C (0°F)

The current and previous API Service Categories are listed below. Vehicle owners should refer to their owner's manuals before consulting these charts. Oils may have more than one performance level.

earlier category. If an automotive owner's manual calls for an API SJ or SL oil, an API SM oil will provide full protection For automotive gasoline engines, the latest engine oil service category includes the performance properties of each For diesel engines, the latest category usually – but not always – includes the performance properties of an earlier category.





CAUTION: Contains no additives. Not suitable for use in gasoline-powered automotive engines built after 1930. Use in more modern engines may cause unsatisfactory performance or equipment harm.

Obsolete Obsolete

SB

SA

DIESEL ENGINES	GINES	
Category	Status	Service
CJ-4	Current	Introduced in 2006. For high-speed, four-stroke engines designed to meet 2007 model year on-highway exhaust emission standards. CJ-4 oils are compounded for use in all applications with diesel fuels ranging in sulfur content up to 500 ppm (0.05% by weight). However, use of these oils with greater than 15 ppm (0.0015% by weight) sulfur fuel may impact exhaust aftertreatment system durability and/or oil drain interval. CJ-4 oils are effective at sustaining emission control system durability where particulate filters and other advanced aftertreatment systems are used. Optimum protection is provided for control of catalyst poisoning, particulate filters engine wear, piston deposits, low- and high-temperature stability, soot handling properties, oxidative thickening, foaming, and viscosity loss due to shear. API CJ-4 oils exceed the performance criteria of API CJ-4 with CJ-4 PLC, CH-4, CG-4 and CF-4 and can effectively lubricate engines calling for those API Service Categories. When using CJ-4 oil with higher than 15 ppm sulfur fuel, consult the engine manufacturer for service interval.
CI-4	Current	Introduced in 2002. For high-speed, four-stroke engines designed to meet 2004 exhaust emission standards implemented in 2002. CH oils are formulated to sustain engine durability where exhaust gas recirculation (EGR) is used and are intended for use with diesel fuels ranging in sulfur content up to 0.5% weight. Can be used in place of CD, CE, CF-4, CG-4, and CH-4 oils. Some CH-4 oils may also qualify for the CH-4 PLUS designation.
CH-4	Current	Introduced in 1998. For high-speed, four-stroke engines designed to meet 1998 exhaust emission standards. CH-4 oils are specifically compounded for use with diesel fuels ranging in sulfur content up to 0.5% weight. Can be used in place of CD, CE, CF-4, and CG-4 oils.
CG-4	Obsolete	Introduced in 1995, For severe duty, high-speed, four-stroke engines using fuel with less than 0.5% weight sulfur. CG-4 oils are required for engines meeting 1994 emission standards. Can be used in place of CD, CE, and CF-4 oils.
CF-4	Obsolete	Introduced in 1990. For high-speed, four-stroke, naturally aspirated and turbocharged engines. Can be used in place of CD and CE oils.
CF-2	Current	Introduced in 1994. For severe duty, two-stroke-cycle engines. Can be used in place of CD-II oils.
CF	Current	Introduced in 1994. For off-road, indirect-injected and other diesel engines including those using fuel with over 0.5% weight sulfur. Can be used in place of CD oils.
CE	Obsolete	Introduced in 1985. For high-speed, four-stroke, naturally aspirated and turbocharged engines. Can be used in place of CC and CD oils.
II-Q0	Obsolete	Introduced in 1985. For two-stroke cycle engines.
СО	Obsolete	Introduced in 1955. For certain naturally aspirated and turbocharged engines.
၁၁	Obsolete	CAUTION: Not suitable for use in diesel-powered engines built after 1990.
CB	Obsolete	CAUTION: Not suitable for use in diesel-powered engines built after 1961.
CA	Obsolete	CAUTION: Not suitable for use in diesel powered engines built after 1959.





For more information about API's Engine Oil Program, visit www.api.org/eolcs.

www.americanchemistry.com Interested in learning about the chemical additives in engine oil? Visit

Copyright 2009 - American Petroleum Institute, all rights researed. AR Li the API logor, the API Service Symbol Unout, the API Service Symbol with CL4 PLUS logo and the API Certification Mark (Starburst) are either trademarks or registered trademarks or Registred trademarks of API in the United States and/or other countries.