

GT242, GT262, and GT275 Lawn and Garden Tractors



TECHNICAL MANUAL

**John Deere
Worldwide Commercial and
Consumer Equipment Division
TM1582 (15JUL97)
Replaces TM1582 (22DEC94)
and TM1515 (01SEPT92)**

Litho in U.S.A



M85682

Model GT242



M85683

Model GT262



M85684

Model GT275

This technical manual is written for an experienced technician and contains sections that are specifically for this product. It is a part of a total product support program.










The manual is organized so that all the information on a particular system is kept together. The order of grouping is as follows:

- Table of Contents
- General Diagnostic Information
- Specifications
- Electrical Wiring Harness Legend
- Component Location
- System Schematic
- Wiring Harness
- Troubleshooting Chart
- Theory of Operation
- Diagnostics
- Tests & Adjustments
- Repair

NOTE: Depending on the particular section or system being covered, not all of the above groups may be used.

Each section will be identified with a symbol rather than a number. The groups and pages within a section will be consecutively numbered.

We appreciate your input on this manual. To help, there are postage paid post cards included at the back. If you find any errors or want to comment on the layout of the manual please fill out one of the cards and mail it back to us.

Safety	
Specifications and Information	
Engine (FV420V, FV540V)	
Electrical	
Gear Power Train	
Hydrostatic Power Train	
Steering	
Brakes	
Attachments	
Miscellaneous	M

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Consumer Equipment Division
Horicon, WI
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RECOGNIZE SAFETY INFORMATION



This is the safety-alert symbol. When you see this symbol on your machine or in this manual, be alert to the potential for personal injury.

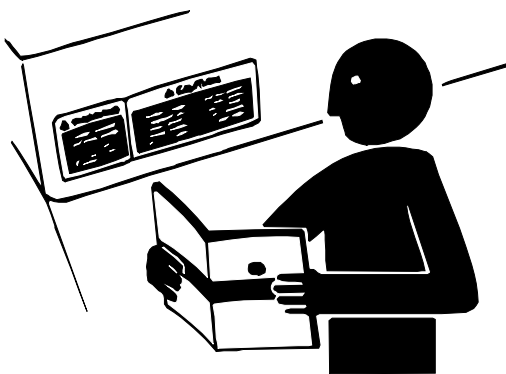
Follow recommended precautions and safe servicing practices.

Understand Signal Words

A signal word—DANGER, WARNING, or CAUTION—is used with the safety-alert symbol. DANGER identifies the most serious hazards.

DANGER or WARNING safety signs are located near specific hazards. General precautions are listed on CAUTION safety signs. CAUTION also calls attention to safety messages in this manual.

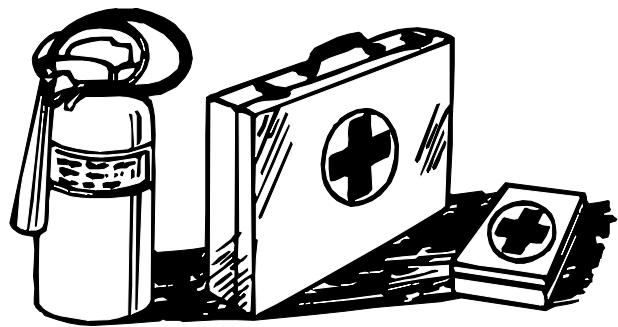
REPLACE SAFETY SIGNS



Replace missing or damaged safety signs. See the machine operator's manual for correct safety sign placement.

HANDLE FLUIDS SAFELY-AVOID FIRES

Be Prepared For Emergencies



When you work around fuel, do not smoke or work near heaters or other fire hazards.

Store flammable fluids away from fire hazards. Do not incinerate or puncture pressurized containers.

Make sure machine is clean of trash, grease, and debris.

Do not store oily rags; they can ignite and burn spontaneously.

Be prepared if a fire starts.

Keep a first aid kit and fire extinguisher handy.

Keep emergency numbers for doctors, ambulance service, hospital, and fire department near your telephone.

**Thanks very much for your reading,
Want to get more information,
Please click here, Then get the complete
manual**

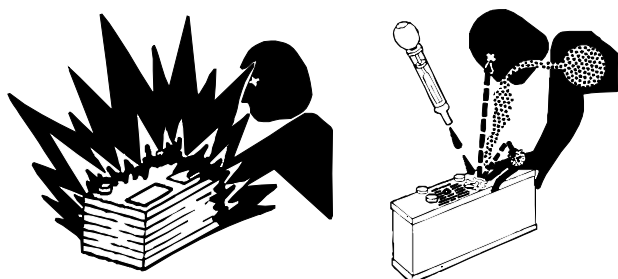
JustClickHere 

NOTE:

**If there is no response to click on the link above,
please download the PDF document first, and then
click on it.**

**Have any questions please write to me:
admin@servicemanualperfect.com**

USE CARE IN HANDLING AND SERVICING BATTERIES



Prevent Battery Explosions

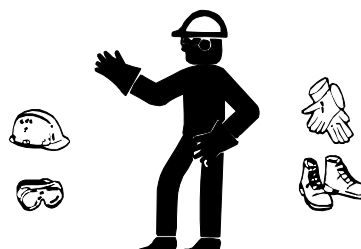
- Keep sparks, lighted matches, and open flame away from the top of battery. Battery gas can explode.
- Never check battery charge by placing a metal object across the posts. Use a volt-meter or hydrometer.
- Do not charge a frozen battery; it may explode. Warm battery to 16°C (60°F).

Prevent Acid Burns

- Sulfuric acid in battery electrolyte is poisonous. It is strong enough to burn skin, eat holes in clothing, and cause blindness if splashed into eyes.
- **Avoid acid burns by:**
 1. Filling batteries in a well-ventilated area.
 2. Wearing eye protection and rubber gloves.
 3. Avoiding breathing fumes when electrolyte is added.
 4. Avoiding spilling or dripping electrolyte.
 5. Use proper jump start procedure.
- **If you spill acid on yourself:**
 1. Flush your skin with water.
 2. Apply baking soda or lime to help neutralize the acid.
 3. Flush your eyes with water for 10–15 minutes.
 4. Get medical attention immediately.
- **If acid is swallowed:**
 1. Drink large amounts of water or milk.
 2. Then drink milk of magnesia, beaten eggs, or vegetable oil.
 3. Get medical attention immediately.

USE SAFE SERVICE PROCEDURES

Wear Protective Clothing

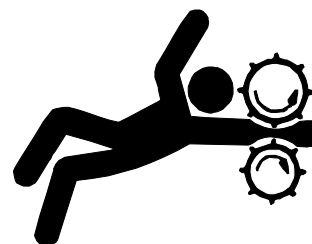


Wear close fitting clothing and safety equipment appropriate to the job.

Prolonged exposure to loud noise can cause impairment or loss of hearing. Wear a suitable hearing protective device such as earmuffs or earplugs to protect against objectionable or uncomfortable loud noises.

Operating equipment safely requires the full attention of the operator. Do not wear radio or music headphones while operating machine.

Service Machines Safely



Tie long hair behind your head. Do not wear a necktie, scarf, loose clothing, or necklace when you work near machine tools or moving parts. If these items were to get caught, severe injury could result.

Remove rings and other jewelry to prevent electrical shorts and entanglement in moving parts.

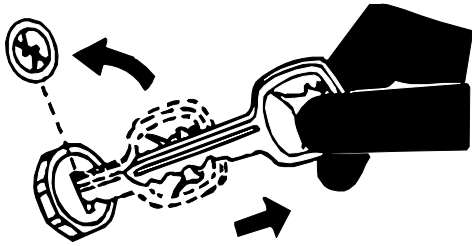
Use Proper Tools

Use tools appropriate to the work. Makeshift tools and procedures can create safety hazards. Use power tools only to loosen threaded parts and fasteners. For loosening and tightening hardware, use the correct size tools. **DO NOT** use U.S. measurement tools on metric fasteners. Avoid bodily injury caused by slipping wrenches. Use only service parts meeting John Deere specifications.

SAFETY



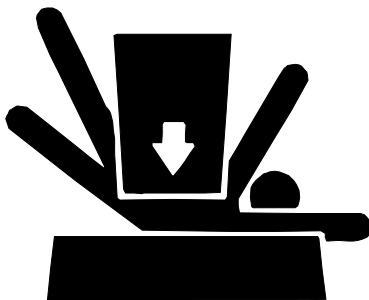
Park Machine Safely



Before working on the machine:

1. Lower all equipment to the ground.
2. Stop the engine and remove the key.
3. Disconnect the battery ground strap.
4. Hang a "DO NOT OPERATE" tag in operator station.

Support Machine Properly And Use Proper Lifting Equipment



If you must work on a lifted machine or attachment, securely support the machine or attachment. Do not support the machine on cinder blocks, hollow tiles, or props that may crumble under continuous load. Do not work under a machine that is supported solely by a jack. Follow recommended procedures in this manual. Lifting heavy components incorrectly can cause severe injury or machine damage. Follow recommended procedure for removal and installation of components in the manual.

Work In Clean Area

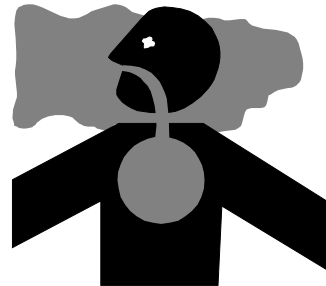
Before starting a job:

1. Clean work area and machine.
2. Make sure you have all necessary tools to do your job.
3. Have the right parts on hand.
4. Read all instructions thoroughly; do not attempt shortcuts.

Illuminate Work Area Safely

Illuminate your work area adequately but safely. Use a portable safety light for working inside or under the machine. Make sure the bulb is enclosed by a wire cage. The hot filament of an accidentally broken bulb can ignite spilled fuel or oil.

Work In Ventilated Area



Engine exhaust fumes can cause sickness or death. If it is necessary to run an engine in an enclosed area, remove the exhaust fumes from the area with an exhaust pipe extension.

If you do not have an exhaust pipe extension, open the doors and get outside air into the area.

WARNING: California Proposition 65 Warning

Gasoline engine exhaust from this product contains chemicals known to the State of California to cause cancer, birth defects, or other reproductive harm.

Remove Paint Before Welding Or Heating

Avoid potentially toxic fumes and dust. Hazardous fumes can be generated when paint is heated by welding, soldering, or using a torch. Do all work outside or in a well ventilated area. Dispose of paint and solvent properly. Remove paint before welding or heating: If you sand or grind paint, avoid breathing the dust. Wear an approved respirator. If you use solvent or paint stripper, remove stripper with soap and water before welding. Remove solvent or paint stripper containers and other flammable material from area. Allow fumes to disperse at least 15 minutes before welding or heating.

Avoid Harmful Asbestos Dust

Avoid breathing dust that may be generated when handling components containing asbestos fibers. Inhaled asbestos fibers may cause lung cancer.

Components in products that may contain asbestos fibers are brake pads, brake band and lining assemblies, clutch plates, and some gaskets. The asbestos used in these components is usually found in a resin or sealed in some way. Normal handling is not hazardous as long as airborne dust containing asbestos is not generated. Avoid creating dust. Never use compressed air for cleaning. Avoid brushing or grinding material containing asbestos. When servicing, wear an approved respirator. A special vacuum cleaner is recommended to clean asbestos. If not available, apply a mist of oil or water on the material containing asbestos. Keep bystanders away from the area.

SERVICE TIRES SAFELY



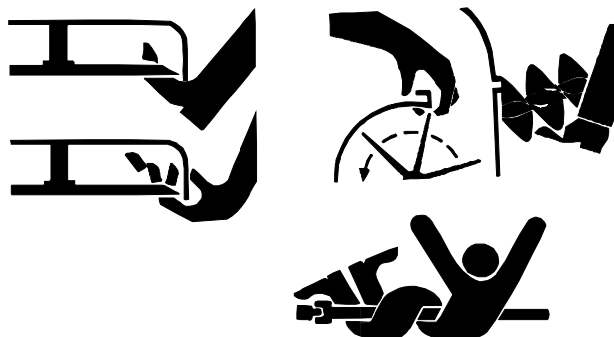
Explosive separation of a tire and rim parts can cause serious injury or death.

Do not attempt to mount a tire unless you have the proper equipment and experience to perform the job. Always maintain the correct tire pressure. Do not inflate the tires above the recommended pressure. Never weld or heat a wheel and tire assembly. The heat can cause an increase in air pressure resulting in a tire explosion. Welding can structurally weaken or deform the wheel.

When inflating tires, use a clip-on chuck and extension hose long enough to allow you to stand to one side and NOT in front of or over the tire assembly. Use a safety cage if available.

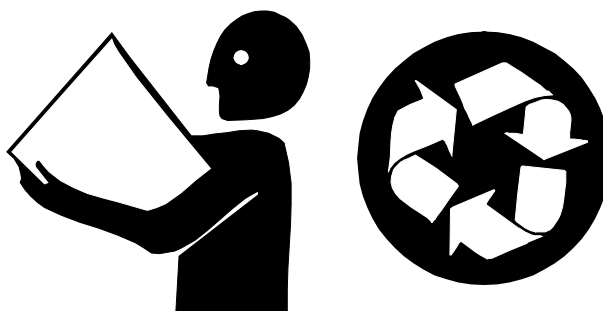
Check wheels for low pressure, cuts, bubbles, damaged rims or missing lug bolts and nuts.

AVOID INJURY FROM ROTATING BLADES, AUGERS AND PTO SHAFTS



Keep hands and feet away while machine is running. Shut off power to service, lubricate or remove mower blades, augers or PTO shafts.

HANDLE CHEMICAL PRODUCTS SAFELY



Direct exposure to hazardous chemicals can cause serious injury. Potentially hazardous chemicals used with John Deere equipment include such items as lubricants, coolants, paints, and adhesives.

A Material Safety Data Sheet (MSDS) provides specific details on chemical products: physical and health hazards, safety procedures, and emergency response techniques. Check the MSDS before you start any job using a hazardous chemical. That way you will know exactly what the risks are and how to do the job safely. Then follow procedures and recommended equipment.



Dispose of Waste Properly

Improperly disposing of waste can threaten the environment and ecology. Potentially harmful waste used with John Deere equipment include such items as oil, fuel, coolant, brake fluid, filters, and batteries. Use leakproof containers when draining fluids. Do not use food or beverage containers that may mislead someone into drinking from them. Do not pour waste onto the ground, down a drain, or into any water source. Inquire on the proper way to recycle or dispose of waste from your local environmental or recycling center, or from your John Deere dealer.

LIVE WITH SAFETY



Before returning machine to customer, make sure machine is functioning properly, especially the safety systems. Install all guards and shields.


CONTENTS

Page



GENERAL VEHICLE SPECIFICATIONS	2-2
TORQUE VALUES, NON-STANDARD FASTENERS	2-7
ENGINE	2-7
POWER TRAIN, GEAR	2-8
POWER TRAIN, HYDROSTATIC	2-8
OTHER	2-8
METRIC FASTENER TORQUE VALUES	2-10
METRIC FASTENER TORQUE VALUE – GRADE 7	2-11
INCH FASTENER TORQUE VALUES	2-12
GASOLINE SPECIFICATIONS	2-13
4-CYCLE ENGINES – NORTH AMERICA	2-13
GASOLINE STORAGE	2-13
ENGINE OIL SPECIFICATIONS	2-14
4-CYCLE GASOLINE ENGINE OIL –NORTH AMERICA	2-14
BREAK-IN 4-CYCLE GASOLINE ENGINE OIL – NORTH AMERICA	2-15
HYDROSTATIC TRANSMISSION AND HYDRAULIC OIL	2-16
ANTI-CORROSION GREASE SPECIFICATIONS	2-17
GENERAL APPLICATION GREASE SPECIFICATIONS	2-18
GREASE – NORTH AMERICA	2-18
ALTERNATIVE LUBRICANTS	2-19
SYNTHETIC LUBRICANTS	2-19
LUBRICANT STORAGE	2-19
MIXING OF LUBRICANTS	2-19
OIL FILTERS	2-19
SERIAL NUMBER LOCATION	2-20
MACHINE IDENTIFICATION NUMBER	2-20
ENGINE SERIAL NUMBER	2-20
CARBURETOR SERIAL NUMBER	2-20
GEAR TRANSAXLE SERIAL NUMBER LOCATION	2-20
HYDROSTATIC TRANSMISSION SERIAL NUMBER	2-20
MOWER DECK SERIAL NUMBER LOCATION	2-21

GENERAL VEHICLE SPECIFICATIONS


Model:	GT242	GT262	GT275
 ENGINE			
Make	John Deere "K" Series, Air Cooled	John Deere "K" Series, Air Cooled	John Deere "K" Series, Air Cooled
Manufacturer	Kawasaki	Kawasaki	Kawasaki
Type	Gasoline	Gasoline	Gasoline
Model	FC420V-ES10	FC540V-ES15	FV540V-KS00
Aspiration	Natural	Natural	Natural
Horsepower	10.4 kW (14 HP)	12.6 kW (17 HP)	12.6 kW (17 HP)
Cylinders	1	1	1
Displacement	423 cm ³ (25.8 cu. in.)	535cm ³ (32.6 cu. in.)	535 cm ³ (32.6 cu. in.)
Stroke/Cycle	4 Cycle	4 Cycle	4 Cycle
Bore	89 mm (3.500 in.)	89 mm (3.500 in.)	89 mm (3.500 in.)
Stroke	68 mm (2.58 in.)	86 mm (3.360 in.)	86 mm (3.360 in.)
Compression Ratio		8.3:1	8.3:1
Slow Idle	1550 ± 75 rpm	1550 ± 75 rpm	1550 ± 75 rpm
Fast Idle	3350 ± 50 rpm	3350 ± 50 rpm	3350 ± 50 rpm
Valves	Overhead	Overhead	Overhead
Lubrication	Pressurized	Pressurized	Pressurized
Oil Filter	Full Flow Filter	Full Flow Filter	Full Flow Filter
Cooling System	Air Cooled	Air Cooled	Air Cooled
Air Cleaner	Dual Stage Paper Air Filter and Foam Precleaner	Dual Stage Paper Air Filter and Foam Precleaner	Dual Stage Paper Air Filter and Foam Precleaner
Muffler	Horizontal Discharge Below Frame	Horizontal Discharge Below Frame	Horizontal Discharge Below Frame
Engine Oil Capacity (with filter)	1.5 L (3.2 pt.)	1.8 L (3.8 pt.)	1.8 L (3.8 pt.)

GENERAL VEHICLE SPECIFICATIONS (CONTINUED)

Model:	GT242	GT262	GT275
FUEL SYSTEM			
Fuel Tank Location	Rear	Rear	Rear
Fuel Tank Capacity	10.4 L (2.75 U.S. gal)	10.4 L (2.75 U.S. gal)	10.4 L (2.75 U.S. gal)
Fuel (min. octane)	Unleaded Gasoline, 87 Octane	Unleaded Gasoline, 87 Octane	Unleaded Gasoline, 87 Octane
Fuel Pump Location	On left hand side of engine	On left hand side of engine	On left hand side of engine
Type	Diaphragm Vacuum Pulse	Diaphragm Vacuum Pulse	Diaphragm Vacuum Pulse
Fuel Gauge	Translucent Fuel Tank	Translucent Fuel Tank	Translucent Fuel Tank
Fuel Delivery	Float Side Draft Carburetor	Float Side Draft Carburetor	Float Side Draft Carburetor
Fuel Shut-Off	Fuel Shutoff Solenoid	Fuel Shutoff Solenoid	Fuel Shutoff Solenoid
Fuel Filter	Replaceable, In-Line	Replaceable, In-Line	Replaceable, In-Line
ELECTRICAL			
Ignition	Electronic	Electronic	Electronic
Type of Starter	Solenoid Shift	Solenoid Shift	Solenoid Shift
Charging System	Flywheel Alternator	Flywheel Alternator	Flywheel Alternator
Charging Capacity	15 amp Regulated	15 amp Regulated	15 amp Regulated
Battery Type	BCI Group, U1	BCI Group, U1	BCI Group, U1
Battery Voltage	12 volt	12 volt	12 volt
Battery Reserve Capacity at 25 amp.	38 minutes	38 minutes	38 minutes
Battery Cold Cranking Amps at 0° F	295 amps	295 amps	295 amps
Headlights	Incandescent	Incandescent	Incandescent
Indicator Lights	Battery Charge	Engine Oil Pressure, Battery Charge	Engine Oil Pressure, Battery Charge
Ignition Interlock Switches	Neutral Start, Operator Presence	Neutral Start, Operator Presence	Neutral Start, Operator Presence



GENERAL VEHICLE SPECIFICATIONS (CONTINUED)


Model:	GT242	GT262	GT275
POWER TRAIN			
 Drive Wheels	Rear	Rear	Rear
Transmission	Transaxle (Gear)	Transaxle (Gear)	Hydrostatic, Piston Type
Traction Drive	Transaxle - Clutch and Gear 6 Speeds Forward 1 Speed Reverse	Transaxle - Clutch and Gear 6 Speeds Forward 1 Speed Reverse	Hydrostatic - Twin Touch Foot Control
Transmission Drive	Belt	Belt	Belt
Transmission Filter	None	None	Replaceable Internal Cartridge
Fan Blade Size	None	None	7 in. Diameter
Lubricant Capacity	3.3 L (3.4 qt)	3.3 L (3.4 qt)	4.3 L (4.7 qt.)
Axle Type/Hub Wheels	Straight with Separate 5-Bolt Hubs	Straight with Separate 5-Bolt Hubs	Straight with Separate 5-Bolt Hubs
Travel Speeds			
Forward - Hydrostatic			0–11.2 km/h (0–7 mph)
Forward - Geared			
1st Gear	1.13 km/h (0.7 mph)	1.13 km/h (0.7 mph)	
2nd Gear	2.25 km/h (1.4 mph)	2.25 km/h (1.4 mph)	
3rd Gear	3.86 km/h (2.4 mph)	3.86 km/h (2.4 mph)	
4th Gear	5.31 kp/h (3.3 mph)	5.31 kp/h (3.3 mph)	
5th Gear	6.76 kp/h (4.2 mph)	6.76 kp/h (4.2 mph)	
6th Gear (Fast Idle)	10.62 kp/h (6.6 mph)	10.62 kp/h (6.6 mph)	
Reverse	4.3 km/h (2.7 mph)	4.3 km/h (2.7 mph)	0–6.4 km/h (0–4 mph)
Clutch	Left Pedal - V-Belt	Left Pedal - V-Belt	None
Clutch	Left Pedal - V-Belt	Left Pedal - V-Belt	None

GENERAL VEHICLE SPECIFICATIONS (CONTINUED)

Model:	GT242	GT262	GT275
STEERING			
Type	Sector and Pinion	Sector and Pinion	Sector and Pinion
BRAKES			
Location	Transmission	Transmission	Transmission
Type	Internal Wet Disk, Right Pedal w/Clutch Interlock	Internal Wet Disk, Right Pedal w/Clutch Interlock	Internal Wet Disk, Single Pedal
Parking Brake	Right Pedal with Clutch Interlock and Lock Lever	Right Pedal with Clutch Interlock and Lock Lever	Brake Pedal Lock Lever
IMPLEMENT LIFT			
Lift System	Manual with Depth Stop	Manual with Depth Stop	Manual with Depth Stop
Lift Assist Type	Fixed Spring	Fixed Spring	Fixed Spring
Lift Lever Location	Left-hand Side of Hood	Left-hand Side of Hood	Left-hand Side of Hood
Cutting Heights mm	25.4–101.6 mm (12.7 mm increments)	25.4–101.6 mm (12.7 mm increments)	25.4–101.6 mm (12.7 mm increments)
in.	1.0–4.0 in. (0.5 in. increments)	1.0–4.0 in. (0.5 in. increments)	1.0–4.0 in. (0.5 in. increments)
ATTACHMENTS			
Cutting Unit Drive	Belt	Belt	Belt



GENERAL VEHICLE SPECIFICATIONS (CONTINUED)

Model:	GT242	GT262	GT275
WEIGHTS AND DIMENSIONS			
 Net Weight (less attachments and fuel)	257 kg (565 lbs)	284 kg (625 lbs)	284 kg (625 lbs)
Mower Deck Weight			
38-Inch Mower Deck	43 kg (95 lbs)	43 kg (95 lbs)	43 kg (95 lbs)
44-Inch Mower Deck	49 kg (108 lbs)	49 kg (108 lbs)	49 kg (108 lbs)
48-Inch Mower Deck	57 kg (125 lbs)	57 kg (125 lbs)	57 kg (125 lbs)
Wheel Base	1.21 m (47.750 in.)	1.21 m (47.750 in.)	1.21 m (47.750 in.)
Tread Width			
Front	0.74 cm (29 in.)	0.74 cm (29 in.)	0.74 cm (29 in.)
Rear	72.5 cm (28.50 in.)	72.5 cm (28.50 in.)	72.5 cm (28.50 in.)
Turning Radius			
Inside Rear Wheel	50.8 cm (20 in.)	50.8 cm (20 in.)	50.8 cm (20 in.)
Outside Front	203 cm (80 in.)	203 cm (80 in.)	203 cm (80 in.)
Overall Length	1.79 m (70.5 in.)	1.79 m (70.5 in.)	1.79 m (70.5 in.)
Overall Height	1.09 m (43 in.)	1.09 m (43 in.)	1.09 m (43 in.)
Overall Width (less attachments)	0.99 m (39 in.)	0.99 m (39 in.)	0.99 m (39 in.)
With 38-Inch Mower Deck	1.33 m (52.600 in.)	1.33 m (52.600 in.)	1.33 m (52.600 in.)
With 44-Inch Mower Deck	1.16 m (45.7 in.)	1.16 m (45.7 in.)	1.16 m (45.7 in.)
With 48-Inch Mower Deck	1.52 m (60 in.)	1.52 m (60 in.)	1.52 m (60 in.)

WHEELS AND TIRES

Front	16 x 6.50-8, 2 or 4 ply, Turf *	16 x 6.50-8, 2 or 4 ply, Turf	16 x 6.50-8, 2 or 4 ply, Turf
Rear	23 x 10.50-12.00, Turf or Bar	23 x 10.50-12.00, Turf or Bar	23 x 10.50-12.00, Turf or Bar

* Engineering change since last edition of this manual.

TORQUE VALUES, NON-STANDARD FASTENERS

NOTE: Torques listed in this GROUP apply ONLY to "special" and/or NON-STANDARD fasteners. Unless otherwise specified, STANDARD fasteners should be torqued per "TORQUE VALUES, STANDARD METRIC FASTENER" on page 10 or "TORQUE VALUES, STANDARD INCH FASTENER" on page 12.



ENGINE

Cylinder Head and Valves

Rocker Arm Cap Screw Torque	10 N•m (89 lb-in.)
Valve Adjustment Screw Jam Nut Torque	20 N•m (180 lb-in.)
Valve Cover Cap Screw Torque	6 N•m (53 lb-in.)
Cap Screw Torque in Sequence (Lubricated) at 7 N•m (62 lb-in.) Increments	
Initial Torque	32 N•m (288 lb-in.)
Final Torque.	52 N•m (456 lb-in.)
Spark Plug Torque	20 N•m (177 lb-in.)

Crankcase Cover

Mounting Cap Screw Torque	26 N•m (230 lb-in.)
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Piston Assembly

Connecting Rod Cap Screw Torque	20 N•m (177 lb-in.)
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Reciprocating Balancer

Support Shaft Nut Torque	7 N•m (65 lb-in.)
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Governor

Governor Lever Nut Torque	7.8 N•m (69 lb-in.)
Engine Mounting Cap Screw Torque	16.7—22.6 N•m (148.0—200.0 lb-in.)

Blower Housing Cap Screw Torque	10 N•m (89 lb-in.)
---	--------------------

Flywheel Screen To Cooling Fan Cap Screw Torque	6 N•m (53 lb-in.)
---	-------------------

Cooling Fan To Flywheel Cap Screw Torque	10 N•m (89 lb-in.)
--	--------------------

Cooling Fan Bracket To Flywheel Cap Screw Torque.	12 N•m (102 lb-in.)
---	---------------------

Flywheel Mounting Nut Torque

FC420V	137 N•m (101 lb-ft)
FC540V	172 N•m (127 lb-ft)

Oil Drain Plug Torque	23 N•m (200 lb-in.)
---------------------------------	---------------------

Stator

Cap Screw Torque	6 N•m (53 lb-in.)
----------------------------	-------------------

Magneto Ignition Coil

All Engines Prior To and Including:

FC420V-DS10 (—FC420VB50633)

FC540V-DS15 (—FC540VA00385)

Cap Screw Torque	6 N•m (53 lb-in.)
----------------------------	-------------------

Magneto Ignition Coil With Ignitor Module

All Engines After and Including:

FC420V-DS10 (FC420VB50633—)

FC540V-DS15 (FC540VA00385—)

Cap Screw Torque	6 N•m (53 lb-in.)
----------------------------	-------------------

Starter

Starter-To-Engine Mounting Cap Screw Torque	16 N•m (142 lb-in.)
---	---------------------

Starter End Cover Cap Screw Torque	9 N•m (80 lb-in.)
--	-------------------

POWER TRAIN, GEAR

Differential Assembly	
Housing Bolts	51 N•m (38 lb-ft)
Replaced Transaxle Cases	
Force necessary to torque the six (6) bolts in the area of the reduction shaft and a seventh (7th) at the opposite end of the housing.	
New Case.	29 N•m (22 lb-ft)
Used Case	24 N•m (216 lb-ft)
Brake Assembly	
Transaxle Cap Screws	
New Case.	29 N•m (22 lb-ft)
Used Case	24 N•m (216 lb-ft)
Oil Drain Plugs	
Torque Specifications	39 N•m (29 lb-ft)
Retainer Cap Screws	
New Case.	29 N•m (22 lb-ft)
Used Case	24 N•m (216 lb-ft)

POWER TRAIN, HYDROSTATIC

Transmission	
New Case.	29 N•m (22 lb-ft)
Rear Transmission-to-Frame Mounting Nut Torque	54 N•m (40 lb-ft)
Front Transmission-to-Frame Mounting Nut Torque	27 N•m (20 lb-ft)
Center Case Cap Screw Torque.	54 N•m (40 lb-ft)
Relief Valve Plug Torque	22 N•m (195 lb-in.)
Pump Body Cap Screw Torque	23 N•m (204 lb-in.)
Drain Plug Cap Screw Torque	15 N•m (133 lb-in.)
Housing Cap Screw Torque	23 N•m (204 lb-in.)

OTHER

Electrical	
Electric PTO Cap Screw Torque	
GT242	75 N•m (55 lb-ft)
GT262	75 N•m (55 lb-ft)
GT275	56 N•m (45 lb-ft)
Steering	
Drag Link Nut Torque	30 N•m (22 lb-ft)

OTHER (Continued)

Attachments

38-Inch Mower Deck

Spindle

Mounting Nut Torque 26 N•m (230 lb-in.)

Sheave Nut Torque 140 N•m (103 lb-ft)

Blade

Blade Cap Screw Torque 68 N•m (55 lb-ft)

44-Inch Rear Discharge Mower Deck

Spindle

Mounting Nut Torque 26 N•m (230 lb-in.)

Sheave Nut Torque 163 N•m (120 lb-ft)

Blade

Blade Cap Screw Torque 68 N•m (50 lb-ft)

48-Inch Mower Deck

Gauge Wheels

Roller Shaft Nut Torque 30 N•m (22 lb-ft)

Idlers and Sheaves

Jack Sheave Nut Torque 136 N•m (100 lb-ft)

Tensioning Idler Sheave Nut Torque 27 N•m (20 lb-ft)

Spindle

Mounting Nut Torque 26 N•m (230 lb-in.)

Sheave Nut Torque 163 N•m (120 lb-ft)

Blade

Blade Cap Screw Torque 68 N•m (50 lb-ft)

Miscellaneous

Pivot Anchor Cap Screw Torque 25 N•m (228 lb-in.)

Tie Rod Lock Nut Torque 23 N•m (200 lb-in.)

Drag Link Lock Nut Torque 37 N•m (27 lb-ft)

Rear Wheel Cap Screw Torque 88 N•m (65 lb-ft)



METRIC FASTENER TORQUE VALUES

Property Class and Head Markings	4.8	8.8	9.8	10.9	12.9
Property Class and Nut Markings	5	10	10	12	

TS1163

SIZE	Class 4.8				Class 8.8 or 9.8				Class 10.9				Class 12.9			
	Lubricated ^a		Dry ^a		Lubricated ^a		Dry ^a		Lubricated ^a		Dry ^a		Lubricated ^a		Dry ^a	
	N•m	lb-ft	N•m	lb-ft	N•m	lb-ft	N•m	lb-ft	N•m	lb-ft	N•m	lb-ft	N•m	lb-ft	N•m	lb-ft
M6	4.8	3.5	6	4.5	9	6.5	11	8.5	13	9.5	17	12	15	11.5	19	14.5
M8	12	8.5	15	11	22	16	28	20	32	24	40	30	37	28	47	35
M10	23	17	29	21	43	32	55	40	63	47	80	60	75	55	95	70
M12	40	29	50	37	75	55	95	70	110	80	140	105	130	95	165	120
M14	63	47	80	60	120	88	150	110	175	130	225	165	205	150	260	190
M16	100	73	125	92	190	140	240	175	275	200	350	225	320	240	400	300
M18	135	100	175	125	260	195	330	250	375	275	475	350	440	325	560	410
M20	190	140	240	180	375	275	475	350	530	400	675	500	625	460	800	580
M22	260	190	330	250	510	375	650	475	725	540	925	675	850	625	1075	800
M24	330	250	425	310	650	475	825	600	925	675	1150	850	1075	800	1350	1000
M27	490	360	625	450	950	700	1200	875	1350	1000	1700	1250	1600	1150	2000	1500
M30	675	490	850	625	1300	950	1650	1200	1850	1350	2300	1700	2150	1600	2700	2000
M33	900	675	1150	850	1750	1300	2200	1650	2500	1850	3150	2350	2900	2150	3700	2750
M36	1150	850	1450	1075	2250	1650	2850	2100	3200	2350	4050	3000	3750	2750	4750	3500

DO NOT use these hand torque values if a different torque value or tightening procedure is given for a specific application. Torque values listed are for general use only and include a ±10% variance factor. Check tightness of fasteners periodically. DO NOT use air powered wrenches.

Shear bolts are designed to fail under predetermined loads. Always replace shear bolts with identical grade.

Fasteners should be replaced with the same class. Make sure fastener threads are clean and that you properly start thread engagement. This will prevent them from failing when tightening.

When bolt and nut combination fasteners are used, torque values should be applied to the **NUT** instead of the bolt head.

Tighten toothed or serrated-type lock nuts to the full torque value.

^a "Lubricated" means coated with a lubricant such as engine oil, or fasteners with phosphate and oil coatings. "Dry" means plain or zinc plated (yellow dichromate - Specification JDS117) without any lubrication.

Reference: JDS—G200.

METRIC FASTENER TORQUE VALUE – GRADE 7

Size	Steel or Gray Iron Torque		Aluminum Torque	
	N•m	lb-ft	N•m	lb-ft
M6	11	8	8	6
M8	24	18	19	14
M10	52	38	41	30
M12	88	65	70	52
M14	138	102	111	82
M16	224	165	179	132

