Select Series Tractors X330, X350, X354, X370, X380, X384, X390, X394 Diagnostic and Repair

PREVIEW - YOUFIXTHIS.COM

TECHNICAL MANUAL

Select Series Lawn Tractor models X330, X394, X390, X384, X380, X370, X350, X354 (SN. 010001-)

TM138119 16 FEB 16 (ENGLISH)

John Deere Commercial and Consumer Equipment Lawn and Garden
Pinted by Belgreen

TM138119

Download full manual at youfixthis.com

Table of contents

FOREWORD

Section 10 - GENERAL INFORMATION

Group 10 - Safety
Group 20 - General Specifications
Group 30 - O-Ring Seal Service Recommendations
Group 40 - Fuels and Lubricants
Group 50 - Machine Specifications

Section 20 - ENGINE REPAIR

Group 10 - Engine 44J677
Group 20 - Engine FS600V
Group 30 - Engine FS651V

Section 30 - ELECTRICAL REPAIR

Group 10 - Wiring Harness

Section 40 - POWER TRAIN REPAIR

Group 10 - Power Train

Section 50 - STEERING AND BRAKE REPAIR

Group 10 - Steering
Group 20 - Brakes

Section 60 - HYDRAULIC REPAIR

Group 10 - Hydraulics

Section 70 - ATTACHMENT REPAIR

Group 10 - Attachments

Section 80 - OPERATOR'S STATION REPAIR

Group 10 - Operator's Station

Section 90 - MISCELLANEOUS REPAIR

Group 10 - Miscellaneous

Section 220 - ENGINE OPERATION, TESTS, AND ADJUSTMENTS

Group 10 - Component Location
Group 20 - Theory of Operation
Group 30 - Diagnosis
Group 40 - Tests and Adjustments 44J677
Group 50 - Tests and Adjustments FS600V
Group 60 - Tests and Adjustments FS651V

Section 230 - ELECTRICAL OPERATION, TESTS, AND ADJUSTMENTS

Group 10 - Component Location
Group 20 - Theory of Operation
Group 30 - Schematics
Group 40 - Diagnosis
Group 50 - Tests and Adjustments
Group 60 - Connectors
Group 70 - DTCs, ICC
Group 80 - Electronic Control Units

Section 240 - POWER TRAIN OPERATION, TESTS, AND ADJUSTMENTS

Group 10 - Component Location
Group 20 - Theory of Operation
Group 30 - Diagnosis
Group 40 - Tests and Adjustments

Section 250 - STEERING AND BRAKE OPERATION, TESTS, AND ADJUSTMENTS

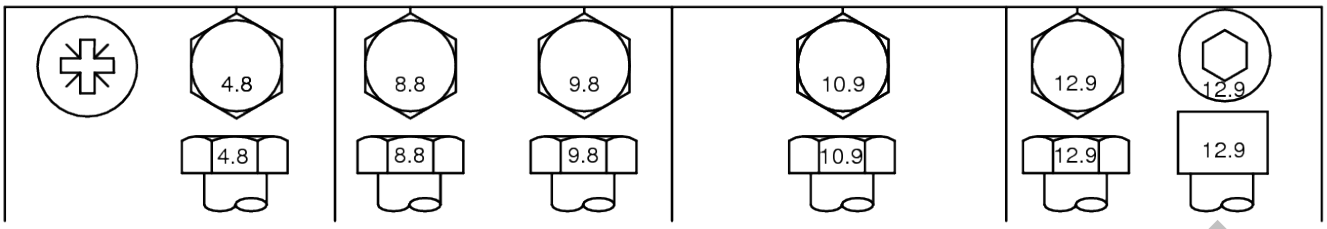
Group 10 - Component Location
Group 20 - Theory of Operation
Group 30 - Diagnosis
Group 40 - Tests and Adjustments

PREVIEW - YOUFIXTHIS.COM

Download full manual at youfixthis.com

Group 20 - General Specifications

Metric Bolt and Screw Torque Values



Metric Bolt and Screw

Metric Torque Values

Bolt or Screw Size	Class 4.8				Class 8.8 or 9.8				Class 10.9				Class 12.9			
	Lubricated ["Lubricated" means coated with a lubricant such as engine oil, fasteners with phosphate and oil coatings, or M20 and larger fasteners with JDM F13C, F13F or F13J zinc flake coating.]		**Dry** ["Dry" means plain or zinc plated without any lubrication, or M6 to M18 fasteners with JDM F13B, F13E or F13H zinc flake coating.]		**Lubricated** ["Lubricated" means coated with a lubricant such as engine oil, fasteners with phosphate and oil coatings, or M20 and larger fasteners with JDM F13C, F13F or F13J zinc flake coating.]		**Dry** ["Dry" means plain or zinc plated without any lubrication, or M6 to M18 fasteners with JDM F13B, F13E or F13H zinc flake coating.]		**Lubricated** ["Lubricated" means coated with a lubricant such as engine oil, fasteners with phosphate and oil coatings, or M20 and larger fasteners with JDM F13C, F13F or F13J zinc flake coating.]		**Dry** ["Dry" means plain or zinc plated without any lubrication, or M6 to M18 fasteners with JDM F13B, F13E or F13H zinc flake coating.]		**Lubricated** ["Lubricated" means coated with a lubricant such as engine oil, fasteners with phosphate and oil coatings, or M20 and larger fasteners with JDM F13C, F13F or F13J zinc flake coating.]		**Dry** ["Dry" means plain or zinc plated without any lubrication, or M6 to M18 fasteners with JDM F13B, F13E or F13H zinc flake coating.]	
	N˙m	**lb.-in.**	**N˙m**	**lb.-in.**	**N˙m**	**lb.-in.**	**N˙m**	**lb.-in.**	**N˙m**	**lb.-in.**	**N˙m**	**lb.-in.**	**N˙m**	**lb.-in.**	**N˙m**	**lb.-in.**
M6	4.7	42	6	53	8.9	79	11.3	100	13	115	16.5	146	15.5	137	19.5	172
									N˙m	**lb.-ft.**	**N˙m**	**lb.-ft.**	**N˙m**	**lb.-ft.**	**N˙m**	**lb.-ft.**
M8	11.5	102	14.5	128	22	194	27.5	243	32	23.5	40	29.5	37	27.5	47	35
			N˙m	**lb.-ft.**	**N˙m**	**lb.-ft.**	**N˙m**	**lb.-ft.**								
M10	23	204	29	21	43	32	55	40	63	46	80	59	75	55	95	70
	N˙m	**lb.-ft.**														
M12	40	29.5	50	37	75	55	95	70	110	80	140	105	130	95	165	120
M14	63	46	80	59	120	88	150	110	175	130	220	165	205	150	260	190
M16	100	74	125	92	190	140	240	175	275	200	350	255	320	235	400	300
M18	135	100	170	125	265	195	330	245	375	275	475	350	440	325	560	410
M20	190	140	245	180	375	275	475	350	530	390	675	500	625	460	790	580
M22	265	195	330	245	510	375	650	480	725	535	920	680	850	625	1080	800
M24	330	245	425	315	650	480	820	600	920	680	1150	850	1080	800	1350	1000
M27	490	360	625	460	950	700	1200	885	1350	1000	1700	1250	1580	1160	2000	1475
M30	660	490	850	625	1290	950	1630	1200	1850	1350	2300	1700	2140	1580	2700	2000
M33	900	665	1150	850	1750	1300	2200	1625	2500	1850	3150	2325	2900	2150	3700	2730
M36	1150	850	1450	1075	2250	1650	2850	2100	3200	2350	4050	3000	3750	2770	4750	3500

Torque values listed are for general use only, based on the strength of the bolt or screw. DO NOT use these values if a different torque value or tightening procedure is given for a specific application. For stainless steel fasteners or for nuts on U-bolts, see the tightening instructions for the specific application. Tighten plastic insert or crimped steel type lock nuts by turning the nut to the dry torque shown in the chart, unless different instructions are given for the specific application.

Shear bolts are designed to fail under predetermined loads. Always replace shear bolts with identical property class. Replace fasteners with the same or higher property class. If higher property class fasteners are used, tighten these to the strength of the original. Make sure fastener threads are clean and that you properly start thread engagement. When possible, lubricate plain or zinc plated fasteners other than lock nuts, wheel bolts or wheel nuts, unless different instructions are given for the specific application.

PREVIEW - YOUFIXTHIS.COM

Download full manual at youfixthis.com

Machine Specifications

→NOTE:

Specifications and design subject to change without notice.

General Specifications

	X330,	X350, X354, X370	X380, X384, X390, X394
Ground Speed:			
Forward	0—8.9 km/h (0—5.5 mph)	0—9.3 km/h (0—5.8 mph)	0—10.0 km/h (0—6.2 mph)
Reverse	0—6.4 km/h (0—4.0 mph)	0—5.6 km/h (0—3.5 mph)	
Engines:			

	X330	X350, X354, X370	X380, X384, X390, X394
Make	Briggs and Stratton	Kawasaki	
Engine Power Information	http://www.briggsandstratton.com	http://www.kawasaki-criticalpower.com	
Model	44J677	FS600V	FS651V
Cylinders	v-twin		
Low Idle Speed (Governed)	1900 ± 100 rpm		
High Idle Speed (without Mower Deck)	3350 ± 100 rpm		
Displacement	0.724 L (44.2 in. ^{3})	0.603 L (36.8 in. ^{3})	0.726 L (44.3 in. ^{3})
Bore	79.25 mm (3.12 in.)	73 mm (2.87 in.)	78 mm (3.07 in.)
Stroke	73.4 mm (2.89 in.)	72 mm (2.83 in.)	76 mm (2.99 in.)

Lubrication	Pressurized		
Crankcase Capacity (with Filter)	1.9 L (2.0 qt.)	1.7 L (1.8 qt.)	2.1 L (2.2 qt.)
Cooling	Air Cooled		
Air Cleaner	Paper with Outer Foam		
Engine Shut Off	Key Switch		
Fuel System:			
Type	Mechanical Vacuum Pump		
Fuel Tank Capacity	12.5 L (3.3 gal.)		

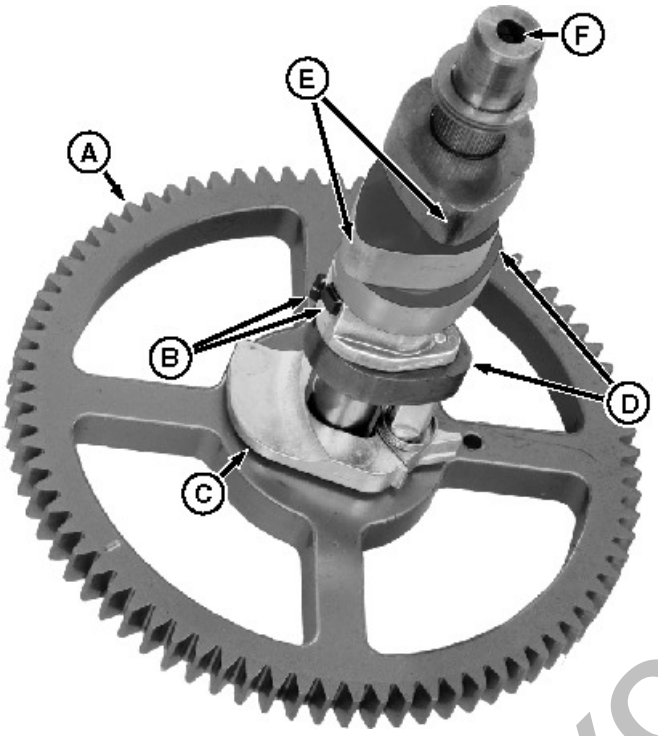
Electrical System:			
Type	12 Volt Negative Ground		
Stator	15amp regulated		
Battery	12-volt		
Battery Type	BCI Group U1		
Spark Plug	RC12YC	M805853	
Spark Plug Gap	0.76 mm (0.030 in.)		
Spark Plug Torque	20 N·m (15 lb-ft) (177 lb-in)		
Ignition Coil Air Gap	0.20—0.30 mm (0.008—0.012 in.)	0.25—0.40 mm (0.010—0.016 in.)	
Headlight Bulb	GE1156 or equivalent		
Power Train:	X330, X350, X354,	X370	X380, X384, X390, X394
Kanzaki Transaxle	K46	K57	K58
Brake Type	Internal Wet Disc		
Transaxle Oil	John Deere Low Viscosity HY-GARD (JDM J20D) John Deere HY-GARD (JDM J20C)		
Transaxle Oil Capacity	2.2 L (2.33 qt.)		2.6 L (2.75 qt.)
Steering:	X330, X350, X354, X380, X384		X370, X390, X394
Steering Type	Manual Steering		Power Steering

PREVIEW - YOUFIXTHIS.COM

Download full manual at youfixthis.com

Item	Measurement	Specification
Cam Lobes (Intake)	Height	31.12 mm (1.225 in)
Cam Lobes (Exhaust)	Height	31.06 mm (1.223 in)
Crankcase Cover Bolts	Torque	22.6 N·m (200 lb·in)

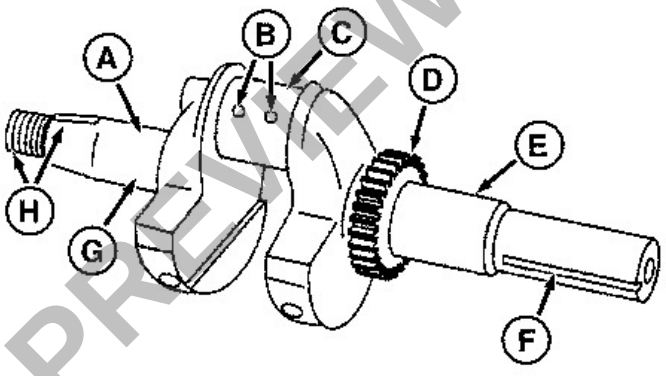
Crankshaft and Camshaft Component Location 44J677



LEGEND:

A	Gear Teeth
B	Compression Release Lobes
C	Compression Release Flyweight
D	Exhaust Lobes
E	Intake Lobes
F	Oil Gallery

Camshaft



LEGEND:

A	Mag. Journal
B	Oil Galleries
C	Crankpin
D	Timing Gear Teeth
E	PTO Journal
F	Keyway
G	Oil Galleries
H	Threads and Keyway

Crankshaft

PREVIEW - YOUFIXTHIS.COM

Download full manual at youfixthis.com

Remove and Install Engine 44J677

Removal:

[1] -

CAUTION:

Avoid Injury! Fuel vapors are explosive and flammable:

- ***Do not smoke when fuel is present.***
- ***Drain fuel into appropriate container.***
- ***Keep fuel away from flames or sparks.***
- ***Shut off engine before servicing.***
- ***Cool engine before servicing.***
- ***Work in a well-ventilated area.***
- ***Clean up spilled fuel immediately.***

Park machine safely. See the “Safety Section”.

[2] - Remove mower deck. See the appropriate information in the Attachments section.

[3] - Remove muffler. (See Remove and Install Muffler 44J677 .)

[4] - Disconnect fuel inlet line and carburetor connections. (See Remove Carburetor 44J677 .)

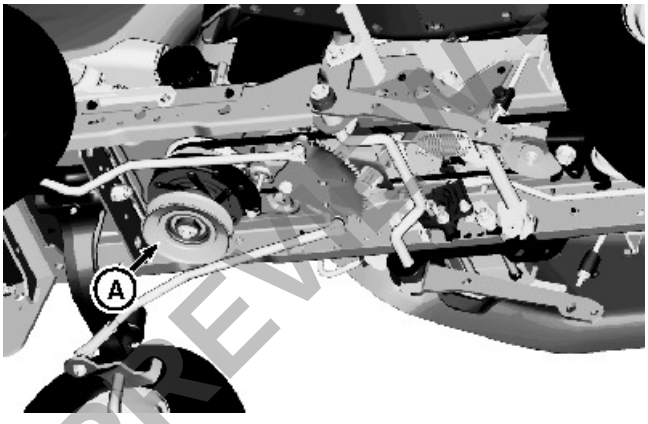
[5] - Disconnect negative (-) battery cable.

[6] - Disconnect ground wire from right rear of engine.

[7] - Disconnect engine wiring.

[8] - Disconnect tie wrap securing headlight wiring to engine.

[9] -



LEGEND:

A	Electric PTO Clutch

PTO Clutch

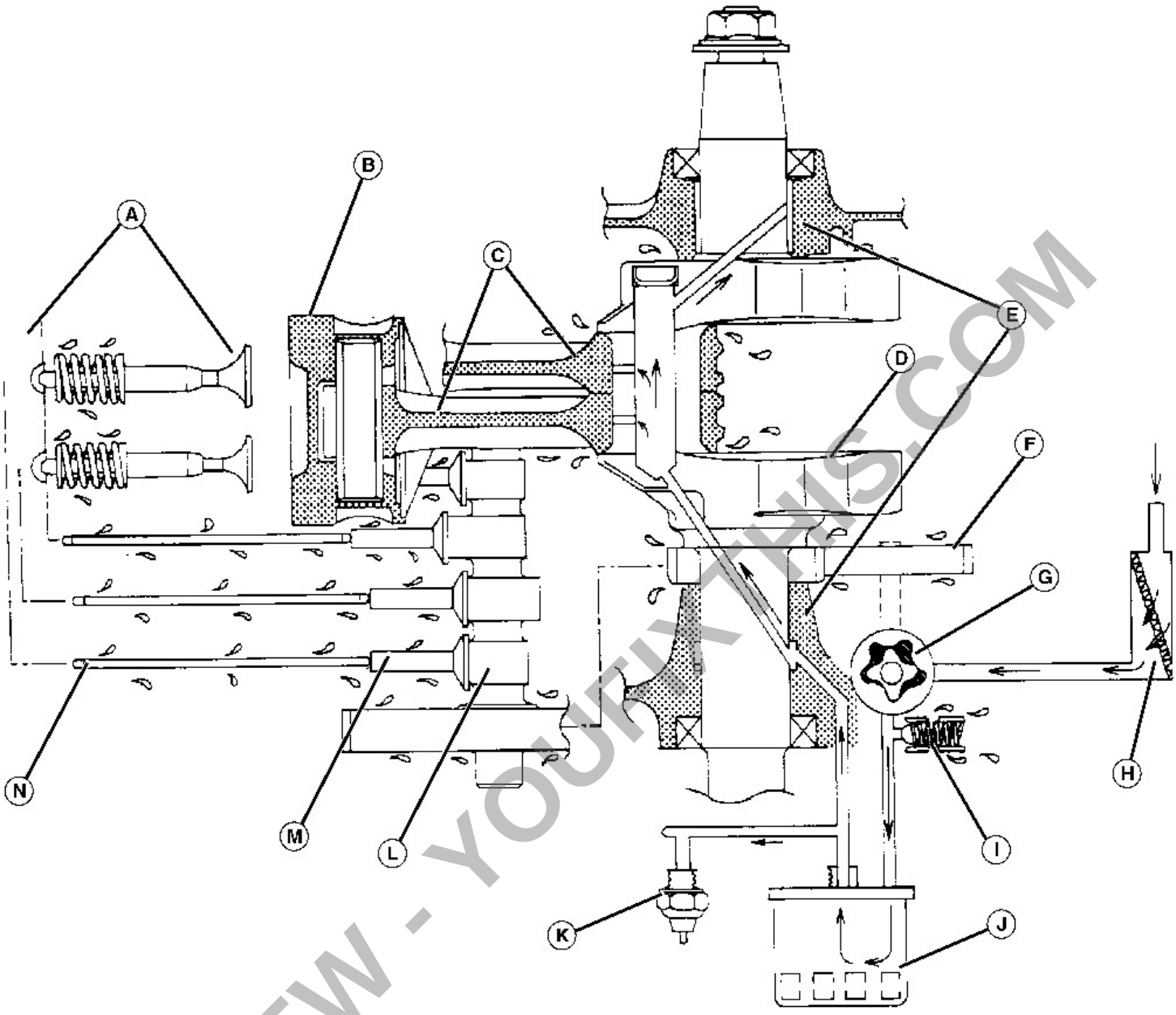
Remove electric PTO clutch (A). (See Remove and Install PTO Clutch .)

[10] -

PREVIEW ONLY YOUFIXTHIS.COM

Download full manual at youfixthis.com

Engine Oil Flow Chart



PREVIEW - YOUFIXTHIS.COM

Component Location

LEGEND:

A	Rocker Arms and Valves
B	Piston
C	Connecting Rods
D	Crankshaft
E	Crankshaft Main Bearings
F	Oil Pump Gear
G	Oil Pump
H	Pick-up Screen
I	Oil Pressure Relief Valve
J	Oil Filter
K	Oil Pressure Sensor (if equipped)
L	Camshaft
M	Tappets
N	Push Rods

Lubrication System Operation

Function:

To provide pressurized oil to lubricate internal engine components.

Download full manual at youfixthis.com

Group 30 - Diagnosis

Engine Troubleshooting

66

CAUTION:

Avoid Injury! The engine may start to rotate at any time. Keep hands away from moving parts when testing.

→NOTE:

To test specific electrical components, see Electrical Section and refer to either Diagnostics or Tests & Adjustments for further guidance.

Test Conditions

- Park machine safely. See the “Safety Section”.
- Operator on seat.
- PTO switch in OFF position.
- Park brake LOCKED.

PREVIEW - YOUFIXTHIS.COM

Download full manual at youfixthis.com

Group 70 - DTCs, ICC

E1000- Crank Time Exceeded

378

Code Caused By: Crank time >15 seconds.

Alarm Level:

Cranking stops.

Displayed Text:

→NOTE:

The “A” or “S” that is displayed at the end of a code indicates whether the code is active, or is stored for reference. The suffix is only displayed using on-board diagnostic mode.

E1000

Control Unit Response:

Cranking Stops

Required Tools:

- None

Preliminary Checks:

- Ensure that there is sufficient fuel in tank.
- Ensure that engine is in good repair.

Procedure:

- Allow starter to cool for 60 seconds.
- Cycle key switch.

E1001- Starter Cool Down in Process

378

Code Caused By: The operator exceeded the 15 second crank time limit twice in a row.

Alarm Level:

Timer will appear in place of hour meter counting down from 60.

Displayed Text:

E1001

Control Unit Response:

Timer will appear in place of the hour meter counting down from 60.

Required Tools:

- None

Preliminary Checks:

- Ensure that there is sufficient fuel in tank.
- Ensure that engine is in good repair.

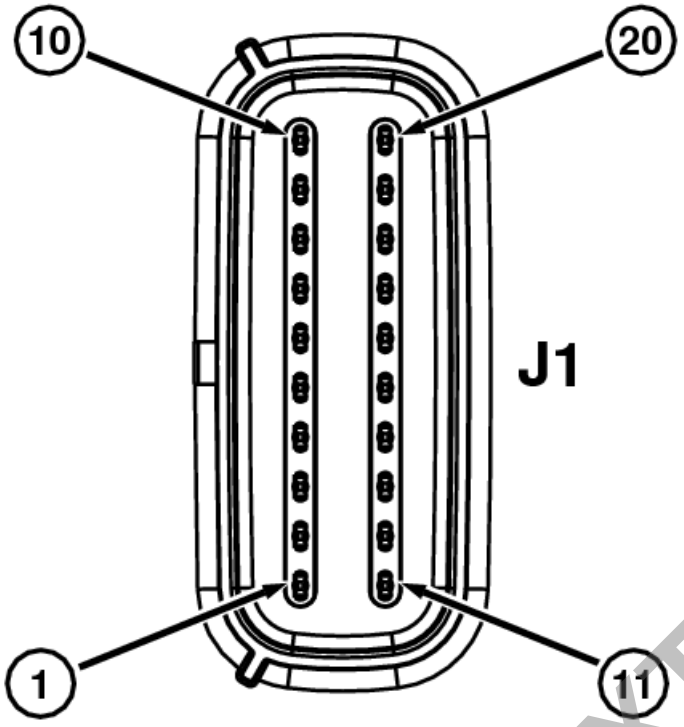
Procedure:

- Allow starter to cool for 60 seconds.
- Cycle key switch.

PREVIEW - YOUFIXTHIS.COM

Download full manual at youfixthis.com

ICC Pinout

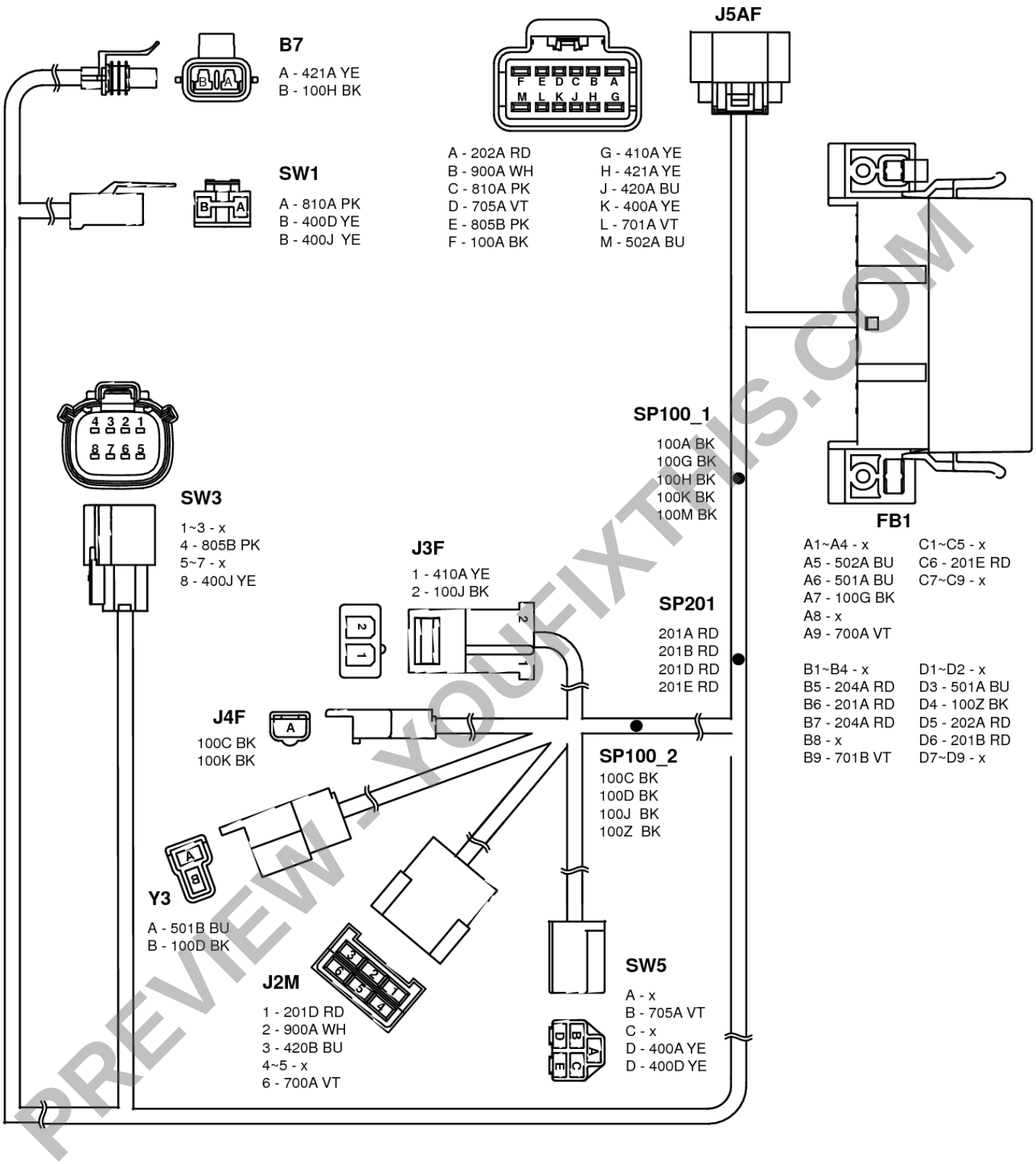


Pinout

PREVIEW - YOUFIXTHIS.COM

Download full manual at youfixthis.com

Main Wiring Harness



PREVIEW - YOUFIXTHIS.COM

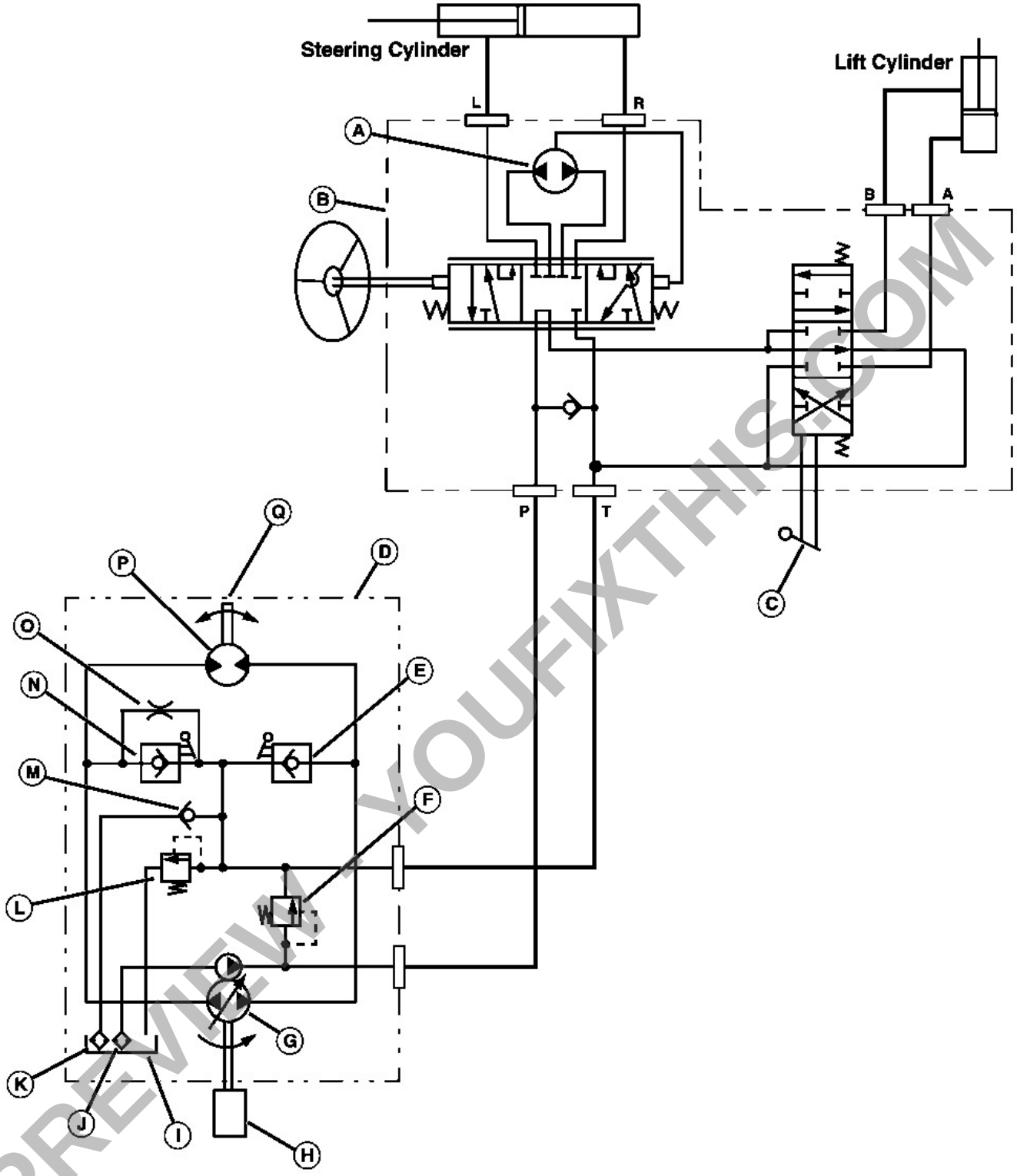
Main Wiring Harness

LEGEND:

B7	Fuel Sensor
FB1	Load Center
J2M	Main Harness to Engine Harness
J3F	Main Harness to Lights Harness
J4F	Ground
J5AF	Main Harness to Control Panel Harness
SW1	Seat Switch
SW3	Reverse Switch
SW5	Brake Switch

Download full manual at youfixthis.com

Hydraulic Schematic



PREVIEW - YOUFIXTHIS.COM

Hydraulic Schematic

LEGEND:

A	Fluid Metering Section
B	Steering Control Unit (SCU)
C	Lift Control Valve
D	Transmission Case
E	Forward Check Valve
F	Implement Relief Valve
G	Variable Hydrostatic Pump
H	Input Shaft (Pump)
I	Reservoir
J	Internal Oil Filter
K	Bypass Valve Screen
L	Charge Pump Relief Valve

Download full manual at youfixthis.com

Group 10 - Safety

Recognize Safety Information



Safety-alert symbol

This is a 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 operating practices.

Understand Signal Words



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

PREVIEW - YOUFIXTHIS.COM

Download full manual at youfixthis.com

PREVIEW - YOUFIXTHIS.COM

Download full manual at youfixthis.com

[7] - Tighten upper puller nuts to press puller against flywheel nut until flywheel separates from engine input shaft.

[8] - Remove puller, flywheel nut, washer and flywheel.

[9] - Inspect flywheel for cracks, broken fins, burrs on the taper or keyway and distortion of the keyway. Check taper of crankshaft for burrs, rust or other damage. Replace crankshaft if damaged.

[10] - Inspect flywheel key for wear or damage. Replace if necessary.

Install Flywheel 44J677

[1] -

CAUTION:

Avoid Injury! Improperly installed flywheel can cause machine damage and serious personal injury.

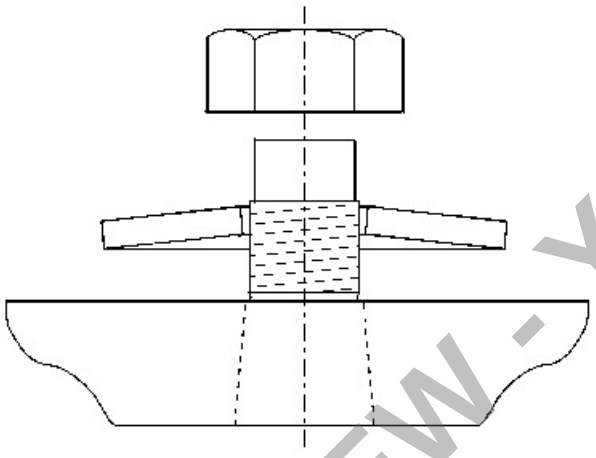
Before installing flywheel, clean taper and crankshaft taper removing all oil, dirt, or grease.

[2] - Align keyway. Install key and flywheel.

[3] -

IMPORTANT:

Avoid Damage! If used in this application, install spring washer with cup side down as shown.



Flywheel Bolt and Spring Washer

Install flywheel nut.

[4] - Place strap wrench on flywheel. While holding flywheel, tighten flywheel nut to specification.

Item	Measurement	Specification
Flywheel Nut	Torque	203 N·m (150 lb·ft)

[5] - Install fan and secure with four screws. Tighten screws to specification.

Item	Measurement	Specification
Flywheel Fan Cap Screws	Torque	16 N·m (140 lb·in)

Remove and Install Stator 44J677

Remove:

[1] - Park machine safely. See the “Safety Section”.

[2] - Remove engine blower housing. (See Remove and Install Blower Housing 44J677 .)

[3] - Remove fan and flywheel. (See Remove Flywheel 44J677 .)

PREVIEW - YOUFIXTHIS.COM

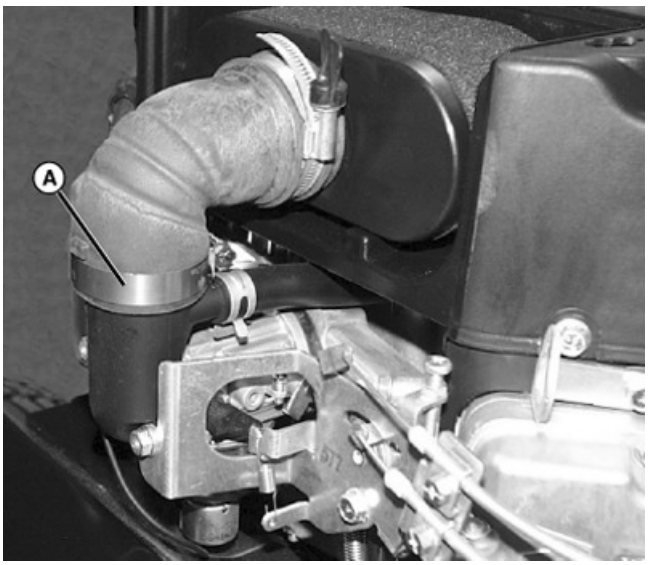
Download full manual at youfixthis.com

Remove, Disassemble, and Install Carburetor FS600V

Removal:

[1] - Remove air cleaner cover.

[2] -



LEGEND:

A	Clamp

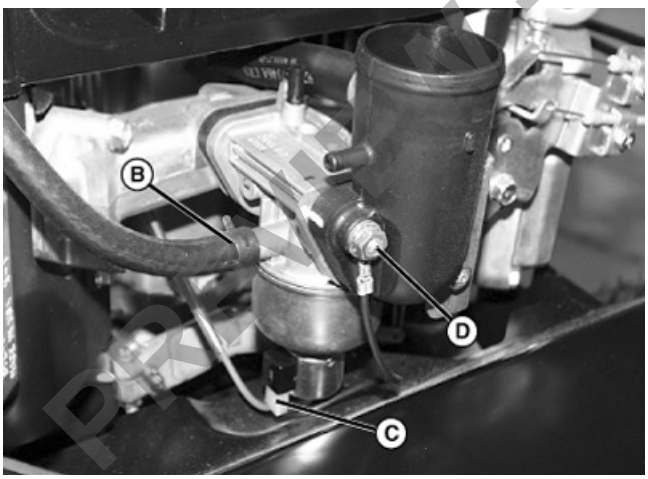
Clamp

Loosen clamp (A) on air filter elbow and remove filter and elbow.

[3] -

CAUTION:

Avoid Injury! Gasoline is extremely flammable. Do not smoke. Always work in a ventilated area away from open flame or spark producing equipment, including equipment that utilizes pilot lights.



LEGEND:

B	Fuel Line
C	Fuel Shutoff
D	Nut

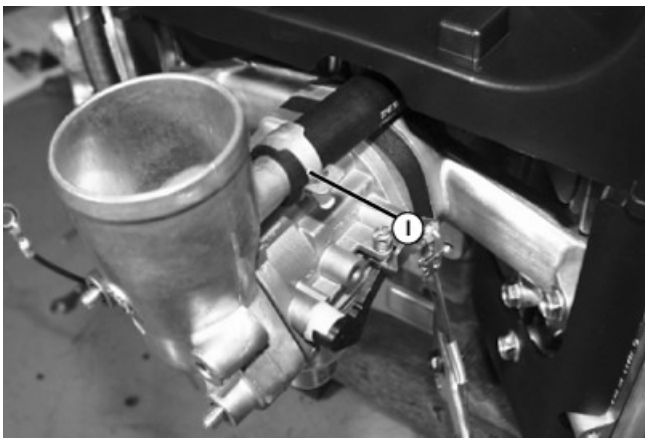
Fuel Line, Fuel Shutoff Solenoid, and Nut

Disconnect fuel line (B) and fuel shutoff solenoid (C). Remove nut (D) from carburetor elbow.

[4] -

PREVIEW - YOUFIXTHIS.COM

Download full manual at youfixthis.com



LEGEND:
I Breather Hose

Breather Hose

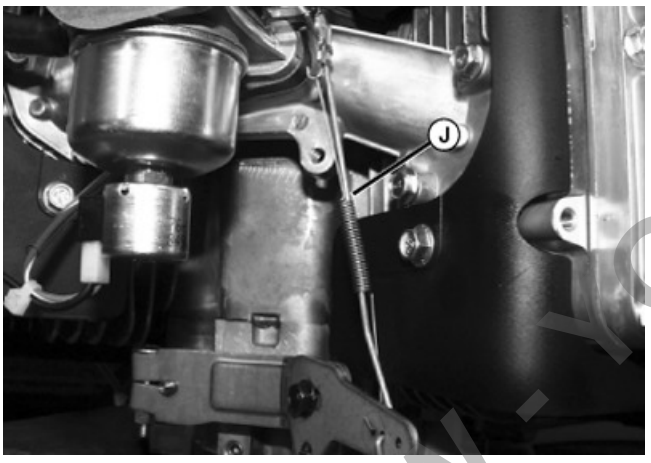
Disconnect breather hose (I).

[5] - Remove upper heat shield.

[6] -

→NOTE:

Governor rod spring and governor rod go in same hole in throttle shaft arm on carburetor.



LEGEND:
J Throttle Spring

Throttle Spring

While pulling the carburetor forward disconnect the throttle link and throttle spring (J) from the carburetor.

Installation is done in the reverse order of removal.

- Always use new gaskets.
- Tighten fasteners to specification.

Item	Measurement	Specification
Control Panel Mounting Screws	Torque	5.9 N·m (52 lb.-in.)
Carburetor Nuts	Torque	5.9 N·m (52 lb.-in.)

- Check low and high idle speed settings and adjust if necessary.

Disassembly:

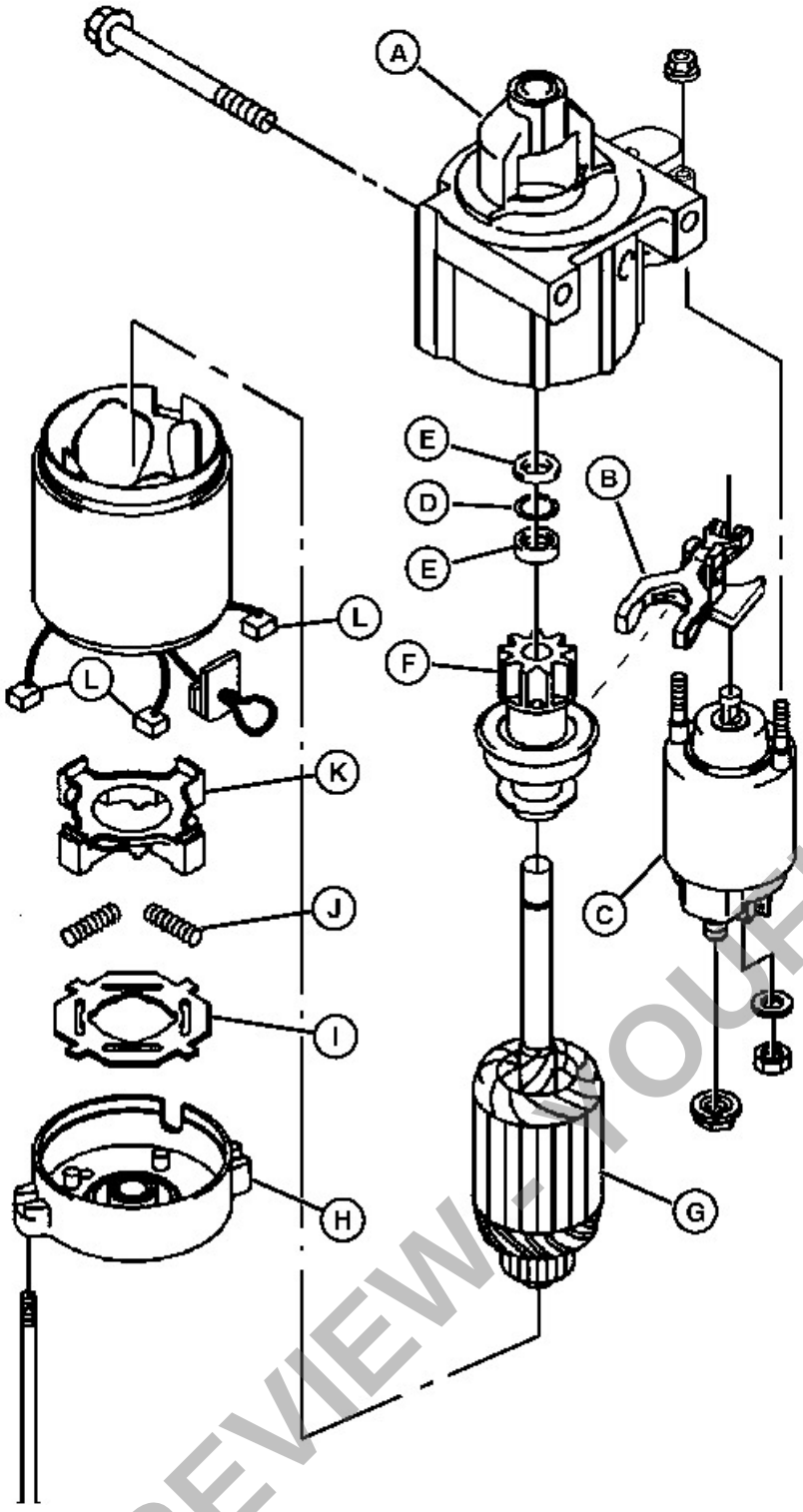
[1] -

CAUTION:

Avoid Injury! Gasoline is extremely flammable. Do not smoke. Always work in a ventilated area away from open flame or spark producing equipment, this includes equipment that utilizes pilot lights.

PREVIEW - YOUFIXTHIS.COM

Download full manual at youfixthis.com



Starting Motor

LEGEND:	
A	Front Cover
B	Shift Lever
C	Solenoid
D	Retaining Clip
E	Pinion Stopper
F	Pinion
G	Armature
H	End Cover
I	Insulator
J	Brush Springs
K	Brush Holder
L	Brushes

Mark body and covers for correct alignment during reassembly.

[2] - Push pinion stopper (E) toward pinion (F) to remove retaining clip (D).

PREVIEW ONLY FIXTHIS.COM

Download full manual at: ufixthis.com

- Apply multi-purpose grease to lubrication fittings.
- Adjust toe-in. (See Front Wheel Alignment—Manual Steering .)

PREVIEW - YOUFIXTHIS.COM

Download full manual at youfixthis.com

Remove Mower—48A and 54A Mowers

[1] - Park machine safely. See the “Safety Section”.

[2] - Allow engine and muffler to cool completely.

[3] -

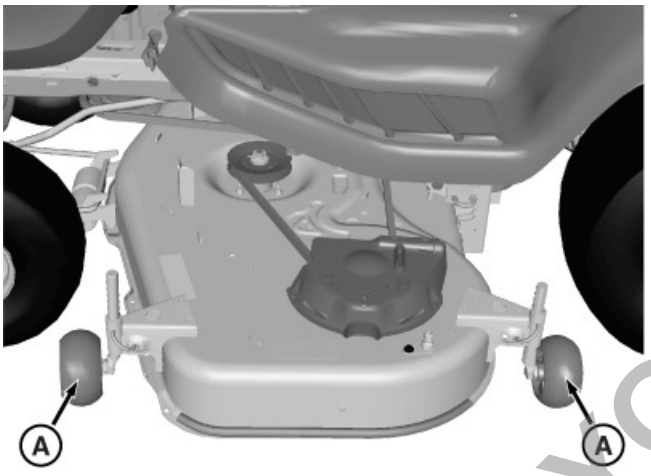
CAUTION:

Avoid Injury! Rotating blades are dangerous. Before adjusting or servicing mower:

- ***Disconnect spark plug wire(s) or battery negative (-) cable to prevent engine from starting accidently.***
- ***Always wear gloves when handling mower blades or working near blades.***

Adjust mower cutting height to lowest position.

[4] -



LEGEND:
A Mower Wheel

48A Shown

Rotate all mower anti-scalp wheels to allow mower deck to be rolled outward away from machine:

a. Remove J-pin from anti-scalp wheel shaft.
b. Rotate mower wheel (A) 90°, as shown. Install J-pin to lock wheel in position.
c. Repeat for all anti-scalp wheels.

[5] -

CAUTION:

Avoid Injury! If the lift pedal is spring-assisted it may have unexpected movement.

Lock the lift pedal when installing or removing mower deck.

→NOTE:

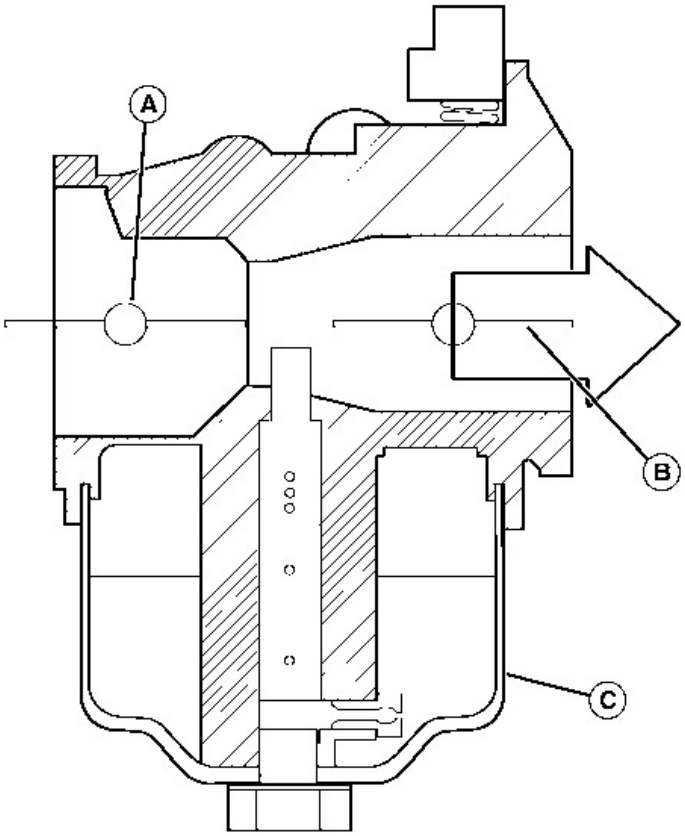
If a lift assist is installed on your machine, lower deck and then pull lift pedal back by hand to lock the mower lift lock lever.

Lower mower deck.

[6] -

PREVIEW - YOUFIXTHIS.COM

Download full manual at youfixthis.com



LEGEND:

A	Choke Valve
B	Throttle Valve
C	Fuel Bowl

Choke Valve, Throttle Valve, and Fuel Bowl

The carburetor has two control valves: throttle valve and choke valve.

The throttle valve is operated by the throttle lever and controlled by the governor. The throttle valve controls how much air and fuel enters the cylinder(s).

The choke valve, located before the venturi, creates a restriction when closed. The function of the choke valve is to increase the pressure differential between the fuel bowl and the venturi area. This results in increased fuel flow from the bowl to the venturi, enriching the air/fuel mixture.

In some engines, a primer is used in place of a choke valve to push fuel into the venturi.

Concept of Idle

Governed engines are designed to maintain a specific engine speed.

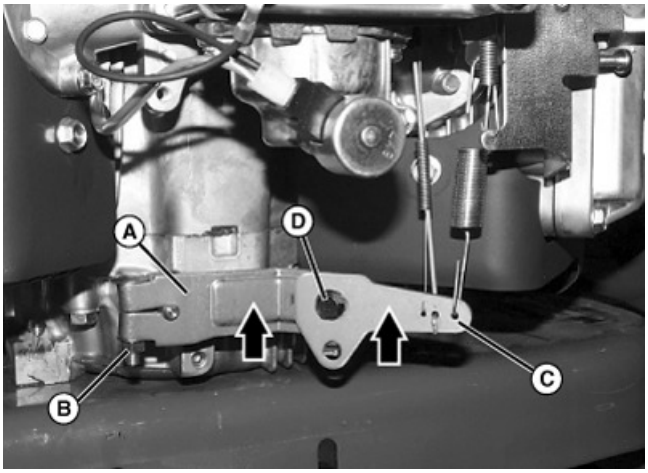
Governed engines with no load (PTO disengaged, drive in neutral) are said to be at "idle" regardless of engine speed. When the operator selects the low speed position with no load, the engine is at low idle. When the operator selects the high-speed position with no load, the engine is at high idle.

Carbureted engines account for these situations with two circuits; an idle circuit (no load) and a main circuit (under load).

Idle Circuit

PREVIEW - YOUFIXTHIS.COM

Download full manual at youfixthis.com



LEGEND:

A	Governor Arm
B	Pinch Bolt
D	Pivot Bolt

Rear grille/engine protection removed for clarity.

If inner governor arm (A) was removed, install inner arm and tighten nut (B) to specification.

Item	Measurement	Specification
Inner Governor Arm	Torque	7.8 N·m (69 lb.-in.)

[2] -

→NOTE:

Pivot Bolt has Left-Hand Threads.

Loosen pivot bolt (D)

[3] - Hold inner governor arm (A) and outer governor arm in the fully counterclockwise position (arrows).

Item	Measurement	Specification
Outer Governor Arm	Torque	5.9 N·m (52 lb.-in.)

[4] - While holding both governor arms in the fully counterclockwise position (arrows), tighten pivot bolt (left-hand threads) to specification.

[5] - Move throttle control lever through full range to be sure linkage is not binding.

PREVIEW - YOUFIXTHIS.COM

Download full manual at youfixthis.com

Fuel Shutoff Solenoid Test, Kawasaki

Reason:

To determine if the fuel shutoff plunger retracts when the solenoid is energized.

Test Equipment:

- 2 Jumper wires

Procedure:

[1] - Park machine Safely with park brake locked.

[2] -

CAUTION:

Keep gasoline away from sparks, flame, or hot engine parts or personal injury can result.

Remove drain screw and spring to drain gasoline from float bowl.

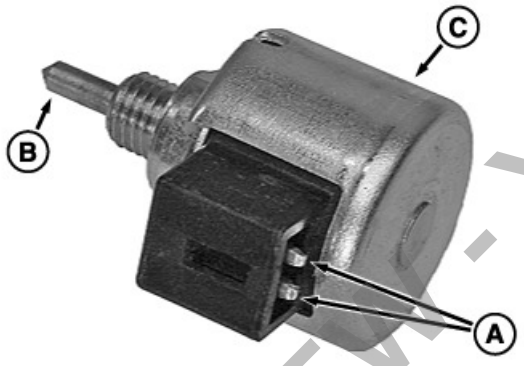
[3] - Disconnect fuel shutoff solenoid connector.

[4] - Remove fuel shutoff solenoid, washer and float bowl.

[5] -

LEGEND:

A	Solenoid Terminals
B	Plunger
C	Solenoid Case



Fuel Shutoff Solenoid Test

Connect a jumper wire from the battery positive (+) terminal to one of the solenoid terminals (A).

[6] -

→NOTE:

It may be necessary to push plunger (B) inward slightly for plunger to retract.

Connect a jumper wire from the battery negative (−) terminal to the other solenoid terminal (A). Plunger should now retract with the solenoid energized.

[7] - Remove jumper wire from the battery negative (−) terminal. Plunger should extend.

[8] - Use an ohmmeter to measure solenoid coil resistance across terminals (A).

[9] - Measure resistance from terminals (A) to solenoid case (C). There should be NO continuity present.

Results:

- If plunger does not retract, replace solenoid.
- If resistance does not meet specification or if the plunger does not move, replace solenoid.

PREVIEW - YOUFIXTHIS.COM

Download full manual at youfixthis.com

Section 240 - POWER TRAIN OPERATION, TESTS, AND ADJUSTMENTS

Table of contents

Group 10 - Component Location 1
- Summary of References 1
- Transaxle Components—K46 2
- Transaxle Components—K57 2
- Transaxle Components—K58M 3
- Transaxle Components—K58H 4
- Drive Components 6
- Forward Reverse Pedals and Linkage 7

Group 20 - Theory of Operation 9
- Summary of References 9
- Traction Drive Belt System 9
- Hydrostatic System Operation 10
- Transaxle Brake 13
- Cruise Control 13
- Gear Power Flow 13

Group 30 - Diagnosis 15
- Stroking Control Arm: (Lack of Forward or Reverse Speed) 15
- Machine Will Not Move Forward or Reverse 19
- Machine Moves In One Direction 20
- Machine Speed 22
- Brake 25
- Transaxle Condition 26
- Brake Linkage 27
- Shock Absorber 28
- Transaxle Brake 30
- Transaxle Condition 30

Group 40 - Tests and Adjustments 32
- Summary of References 32
- Traction Drive System Test 32
- Neutral Creep Adjustment 33
- Transport (Freewheel) Test 33
- Transaxle Bleeding 35
- Adjust Drive Pedal Height 36

PREVIEW - YOUFIXTHIS.COM

Download full manual at youfixthis.com

Action:

Is front steering arm, rear pivot arm, or middle link rod binding?

Result:

YES: Repair as necessary.

PREVIEW - YOUFIXTHIS.COM

Download full manual at youfixthis.com

PREVIEW ONLY

You're viewing 25 of 752 pages

The full manual includes:

- All 752 pages, complete
- Searchable PDF (find any keyword)
- No watermarks
- Instant download
- Print-ready quality

GET FULL MANUAL NOW

John Deere X330, X350, X354, X370, X380, X384, X390, X394 Technical Manual

Scan or click anywhere
youfixthis.com

Click anywhere on this page to get the full manual