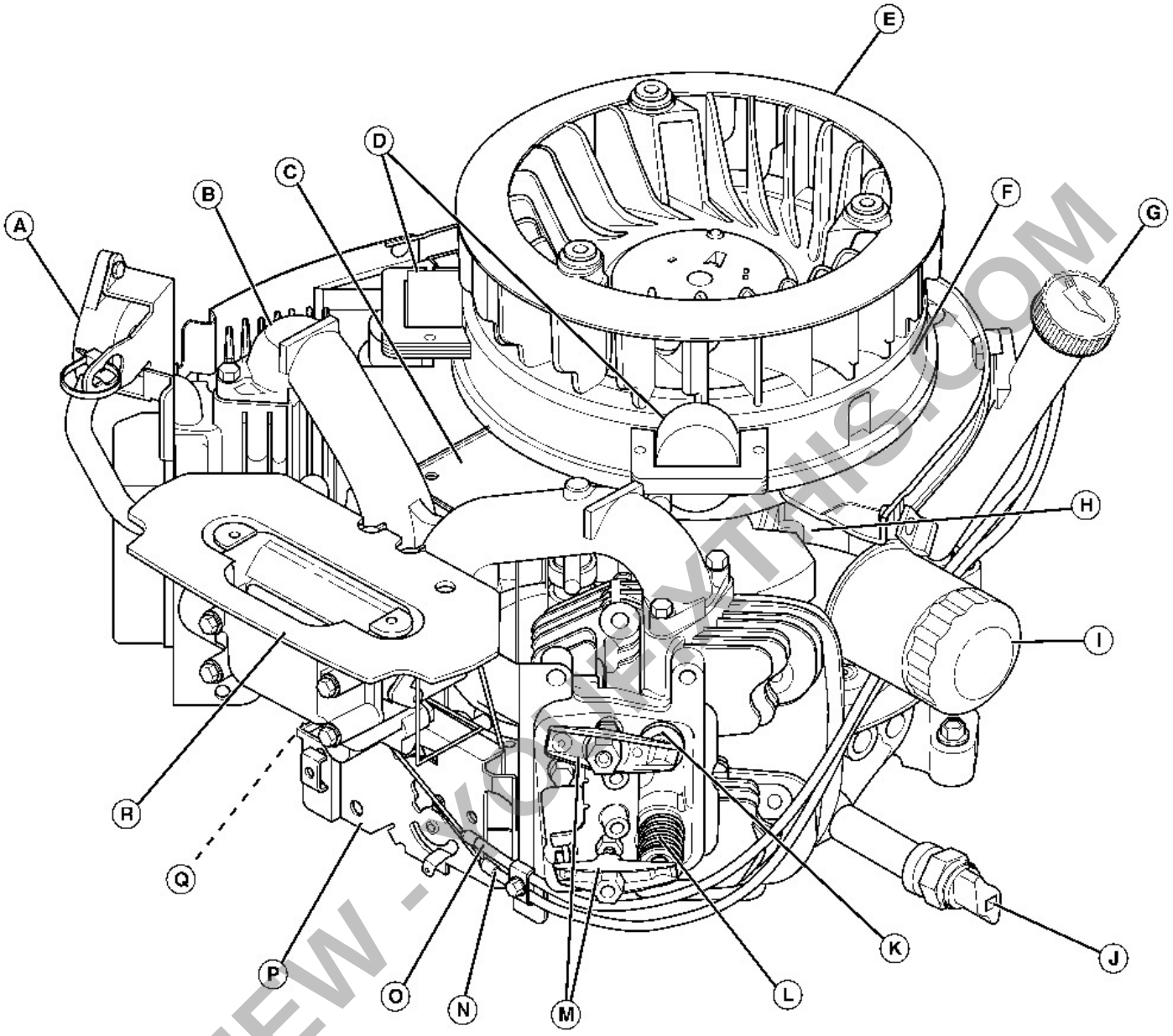
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Group 15 - Component Location

Engine Components



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Component Location

LEGEND:

A	Fuel Pump
B	Cylinder Air Intake
C	Breather Cover
D	Ignition Coils
E	Flywheel Fan
F	Flywheel
G	Oil Dipstick
H	Oil Pressure Switch Location (if installed)
I	Oil Filter
J	Oil Drain
K	Intake Valve
L	Exhaust Valve
M	Rocker Arms
N	Throttle Cable
O	Choke Cable
P	Plate
Q	Fuel Shutoff Solenoid
R	Carburetor Air Filter Base

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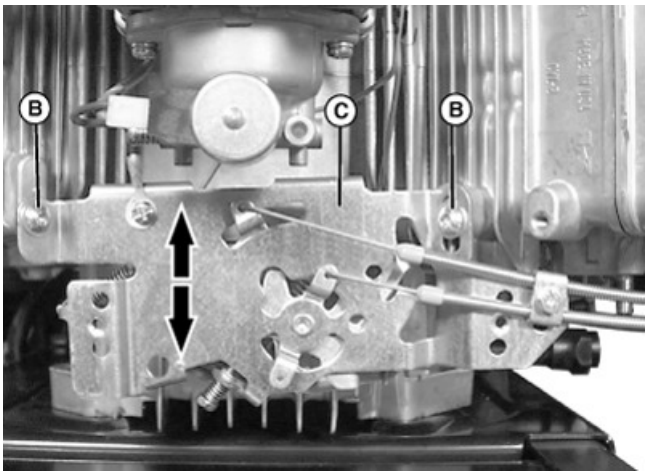
[6] - Use tachometer to check engine rpm. Fast idle speed setting should be to specification.

Item	Measurement	Specification
Fast Idle	Speed	3350 ± 100 rpm

Results:

- If fast idle speed does not meet the specifications:

[1] -



LEGEND:
B Cap Screws
C Throttle Control Panel

Throttle Components

Loosen cap screws (B).

[2] - Move throttle control panel (C) up to increase rpm or down to decrease rpm.

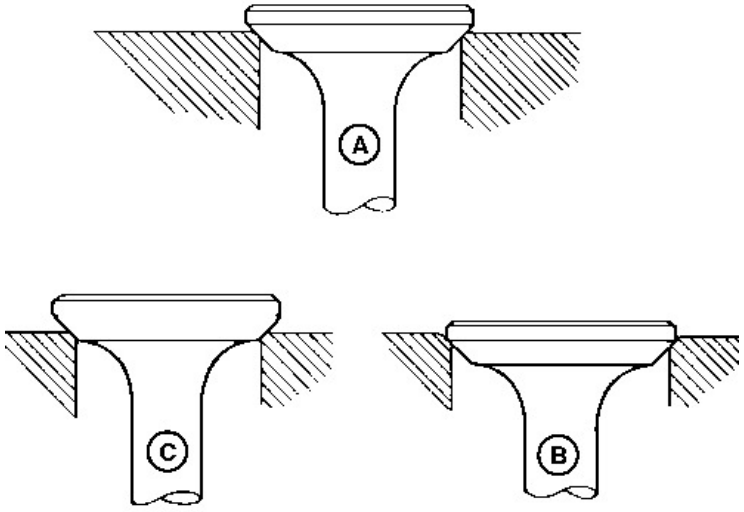
[3] - Hold the throttle control panel and tighten cap screws to specification.

Item	Measurement	Specification
Throttle Control Panel Screw	Torque	5.9 N·m (52 lb-in.)

[4] - Remove the drill bit.

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LEGEND:

A	Correct Seat Position
B	Too Deep
C	Too High

Valve Seat Pattern

Check valve seating pattern for correct width and evenness all around (Note: correct seat position (A), seat too deep (B) and seat too high (C)). If valve seat width is not within specification intake or specification exhaust, recondition valve seat.

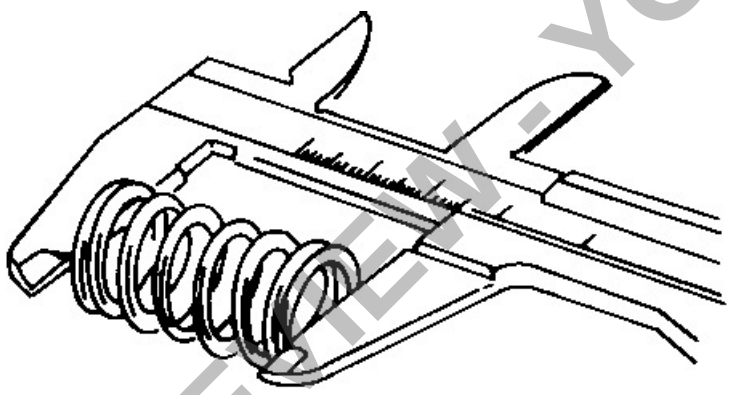
Item	Measurement	Specification
Intake Valve Seat	Width	0.8—1.4 mm (0.03—0.05 in.)
Exhaust Valve Seat	Width	1.1—1.6 mm (0.04—.06 in.)

[3] - Lap valve after reconditioning with lapping compound and recheck valve seating surface for proper width and evenness of seating pattern. (See Lap Valves .)

Valve Springs:

[1] - Inspect spring for pitting, rust, and burrs. Replace if necessary.

[2] -



Valve Spring Measurement

Measure spring free length. Replace spring if measurement is less than specification.

Item	Measurement	Specification
Valve Spring	Free Length	31.0 mm (1.22 in.)

Intake and Exhaust Valves:

[1] - Remove carbon from valve head, face, and stem with a power-operated wire brush. Be sure carbon is removed, not merely burnished.

[2] - Inspect valve head, face, and stems for defects. Replace if necessary.

[3] -

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Other Material

Number	Name	Use
• MPG-2 (us)	Multipurpose Polymer Grease	Lubricate Engine Output Shaft.
• N/A (us)	Zinc Oxide/Wood Alcohol	Check Block for Cracks.
• N/A (us)	SCOTCH-BRITE® Abrasive Sheets/Pads	Clean Cylinder Head.
• N/A (us)	Valve Guide Cleaner	Clean Valve Guides.
• N/A (us)	Prussian Blue Compound	Check Valve Seat Contact.
• N/A (us)	Valve Lap Compound	Lap Valves.
• N/A (us)	Zinc Oxide/Wood Alcohol	Check block for cracks.

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Service Parts Kits

The following kits are available through your parts catalog:

- Carburetor
- Gasket Kit
- Piston Ring Kit
- Oversized Pistons
- Starting Motor Brush Kit
- Starting Motor Stopper Kit
- Oil Pump Kit

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LEGEND:

A	Adjustment Knob
B	Gauge

Regulator and Gauge

Connect tester port to an air source.

[8] -

→NOTE:

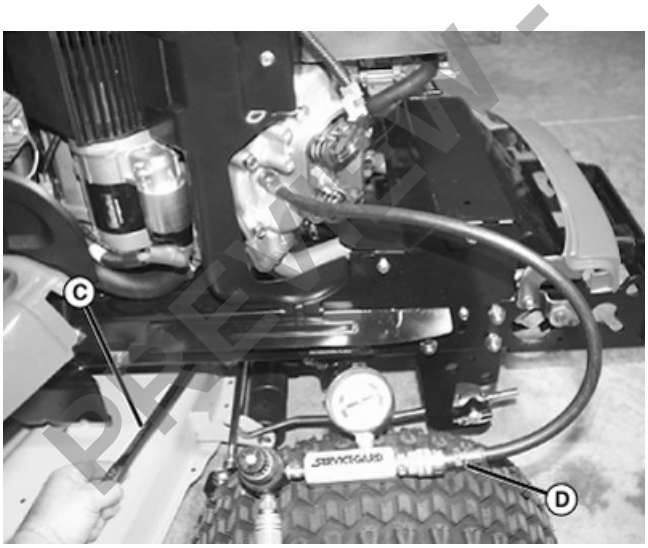
Air leaks at any of the connections or fittings of the tester will affect the accuracy of the test.

Pull back the locking ring and slowly rotate the regulator adjustment knob (A) until the gauge needle is in the SET range of the gauge (B). Push the locking ring towards the tester to lock knob in position.

[9] -

CAUTION:

Injury can occur if the crankshaft is not locked in position. The air source can create a rotational force of over 60 lb.-ft. (81 N·m) if the crankshaft is not locked with the piston slightly past top dead center. Do not hold the wrench near a solid object to avoid pinching your hand between the wrench and solid object.



LEGEND:

C	Breaker Bar
D	Adapter Hose

Breaker Bar and Adapter Hose

Have an assistant hold the crankshaft in position with 16 mm socket and breaker bar (C). Connect the adapter hose (D) to the tester, and record the needle position.

Breaker Bar

N/A

Hold Crankshaft in Position

16mm Socket

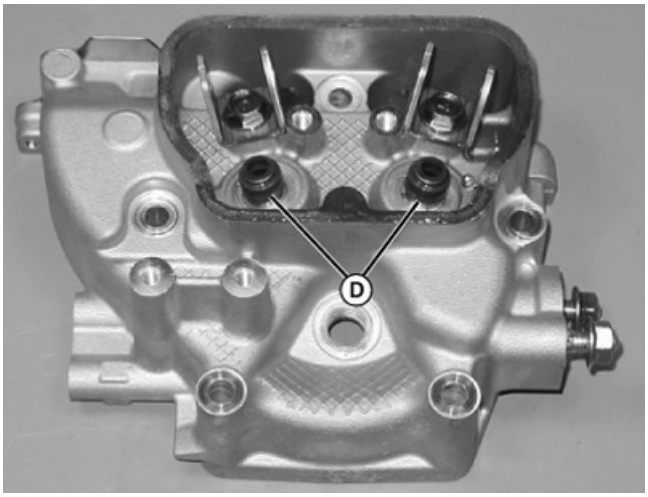
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Compress valve spring and remove colette halves (A).

[8] - Remove spring retainer (B) and spring (C).

[9] -



LEGEND:
D Bottom

Stem Seal

If necessary to replace stem seal, carefully pry up from bottom (D) with a screwdriver.

[10] - Inspect springs, valves, guides, and seals. (See Inspection Procedure.)

[11] - Assembly is the reverse of disassembly.

[12] - Disassemble and inspect cylinder head and valves.

Installation:

Installation is the reverse of removal. Tighten spark plug to specification.

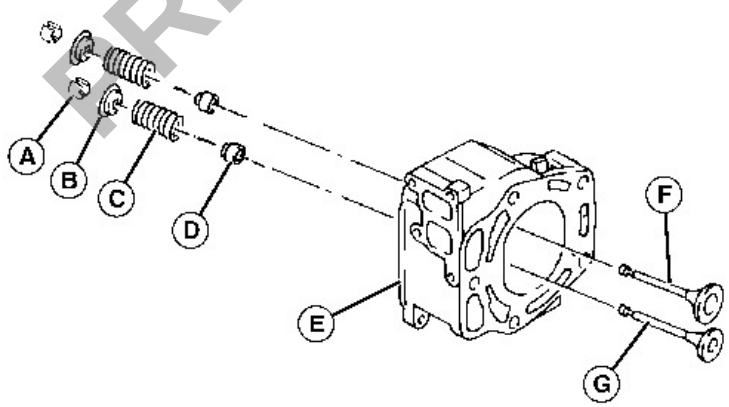
Item	Measurement	Specification
Spark Plug	Torque	25 N·m (18 lb-ft.)

- Use new gaskets for installation.
- Tighten head bolts in two steps using the sequence shown. First step is to 1/2 the final torque, and then to final torque to avoid warping the cylinder head.

Item	Measurement	Specification
Head Bolts - New	Torque	32 N·m (24 lb-ft.)
Head Bolts - Reused	Torque	25 N·m (18 lb-ft.)

- Adjust valve clearance. (See Valve Clearance Check and Adjustment .)

Disassembly/Assembly:



LEGEND:
A Collet (2 Halves per Valve)
B Valve Spring Retainer (2 per Cylinder Head)
C Valve Spring (2 per Cylinder Head)
D Seals (2 per Cylinder Head)
E Cylinder Head
F Intake Valve
G Exhaust Valve

Disassembly/Assembly

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Item	Measurement	Specification
Crankcase Cover Bolts-Final Torque	Torque	25 N·m (221 lb-in.)
Governor Shaft Plate Cap Screws	Torque	2.0 N·m (18 lb-in.)
Shaft Seal Depth	Depth	1.0 mm (0.04 in.) below surface
Inner Rotor-to-Outer Rotor Clearance (Wear Limit)	Clearance	0.20 mm (0.008 in.)
Outer Rotor Diameter (Wear Limit)	OD	52.31 mm (2.059 in.)
Outer Rotor Thickness (Wear Limit)	Thickness	14.91 mm (0.587 in.)
Pump Housing (Wear Limit)	ID	52.72 mm (2.075 in.)
Pump Housing Depth (Wear Limit)	Depth	15.16 mm (0.596 in.)
Pump Shaft Bore (maximum)	OD	11.07 mm (0.436 in.)
Pump Shaft (Wear Limit)	OD	10.92 mm (0.430 in.)
Relief Valve Spring Free Length	Length	20.4 mm (0.80 in.)
Oil Pump Cover Cap Screw	Torque	5.9 N·m (52 lb-in.)
Side Journals	OD	15.99 mm (0.630 in.)
Cam Lobe	Height	29.36 mm (1.156 in.)
Camshaft Bearing	OD	16.12 mm (0.635 in.)
1st Compression Ring (Top)	Clearance	0.18 mm (0.007 in.)
2nd Compression Ring (Middle)	Clearance	0.16 mm (0.006 in.)
Top Ring Thickness (minimum)	Thickness	1.40 mm (0.055 in.)
Second Ring Thickness (minimum)	Thickness	1.40 mm (0.055 in.)
Standard Piston	OD	74.99 mm (2.950 in.)
Oversize Piston	OD	75.49 mm (2.970 in.)
Piston Pin Bore (Wear Limit)	OD	17.08 mm (0.672 in.)
Piston Pin (Wear Limit)	OD	16.96 mm (0.668 in.)
Bore (Standard)	ID	77.98—78.00 mm (3.070—3.071 in.)
Bore (Wear Limit)	ID	78.08 mm (3.074 in.)
0.50 mm (0.020 in.)	ID	78.48-78.05 mm (3.090-3.091 in.)
Oversize Bore (Wear Limit)	ID	78.58 mm (3.094 in.)
Cylinder Bore (Standard)	Out-of-Round	0.01 mm (0.0004 in.)
Connecting Rod Piston Pin End (Wear Limit)	ID	17.06 mm (0.672 in.)
Connecting Rod Cap Screw Torque	Torque	21 N·m (15 lb-ft)
Connecting Rod Crankshaft End (Wear Limit)	ID	38.06 mm (1.498 in.)
Connecting Rod Width, Crankshaft End (Wear Limit)	Thickness	19.90 mm (0.783 in.)
Connecting Rod Bend Limit	Distance	0.15/100 mm (0.006/3.94 in.)
Connecting Rod Twist Limit	Distance	0.15/100 mm (0.006/3.94 in.)
Top	Gap	0.65 mm (0.026 in.)
Second	Gap	0.90 mm (0.035 in.)
Oil	Gap	1.10 mm (0.043 in.)
Connecting Rod Cap Screw Torque	Torque	9.8 N·m (87 lb-in.)
Crankshaft (TIR)	Axial Runout (Wobble)	0.05 mm (0.002 in.)
Journal (minimum) (PTO Side)	OD	39.89 mm (1.571 in.)
Journal (minimum) (Flywheel Side)	OD	39.89 mm (1.571 in.)
Crankshaft Connecting Rod Journal	OD	39.94 mm (1.71 in.)
Journal Radius	Radius	2.0-2.4 mm (0.078-0.094 in.)
Crankpin Width (maximum)	Width	44.7 mm (1.76 in.)
Bearing Journal-to-Connecting Rod Journal Centerline-to-Centerline	Distance	37.95—38.05 mm (1.4941—1.4980 in.)
Cylinder Block Bearing	ID	40.04 mm (1.567 in.)
Crankcase Cover Bearing	ID	40.04 mm (1.567 in.)
Starting Motor Assembly Cap Screw Torque	Torque	15 N·m (133 lb-in.)
Solenoid Nut Torque	Torque	9.8 N·m (84 lb-in.)
Field Coil Brush Length (Standard)	Length	10.0 mm (0.39 in.)
Field Coil Brush Length (minimum)	Length	10.16 mm (0.4 in.)

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Fuel

Use only fuels recommended in Operator's Manual:

Use regular grade unleaded fuel with an octane rating of 87 octane or higher. Fuel blends containing up to 10% ethanol or up to 15% MTBE reformulated fuel are acceptable. DO NOT use fuels with more than 10% ethanol (i.e. E85 should not be used because it is 85% ethanol and 15% gasoline) or fuels with more than 15% MTBE reformulated fuel as these products will damage engine and or fuel system. Do not use fuel or additives containing methanol as engine damage can occur.

All fuel today is formulated for the automotive industry. Fuel is "blended" differently for winter and summer use; regardless of where you are. "Winter" fuel is blended for improved vaporization in colder temperatures. Using left over "Winter" fuel in warmer Spring/Summer temperatures will likely cause vapor locking and surging. Newer carburetors on current production machines have less tolerance for poor quality fuel because of the tighter specifications required to meet EPA certification.

Fuel Storage

Since it is difficult to know what type of fuel is in different areas; it is best to handle and maintain fuel as outlined below:

[1] - Deteriorated/stale fuel causes gum and varnish. This creates deposits on engine valves and in carburetor jets and passages. This is what causes most of the performance problems.

[2] - Oxygenated (or blended) fuels can deteriorate faster and require more specific storage and usage procedures.

[3] -

CAUTION:

Fuel stabilizer is a hazardous chemical and can be harmful or fatal if swallowed. Do not take internally. Avoid contact with eyes. Avoid breathing the chemical vapors.

Read safety instructions on stabilizer container label before using.

Fuel stabilizer contains 2,6-di-tert-butylphenol (128-39-2) and aliphatic petroleum distillate (64742-47-8). In case of emergency, contact a physician immediately and call 1-800-424-9300 for material safety information.

The translucent fuel tanks on some model tractors allow a certain amount of sunlight through the tank. This can accelerate the deterioration of the fuel.

[4] -

→NOTE:

There is no fuel stabilizer made that will "restore" stale fuel. Fill tanks with fresh, stabilized fuel.

Use fuel from a major name brand supplier. At the same time, add an appropriate amount of Fuel Stabilizer (such as TY25808). Do this when you add fresh fuel to your tank.

[5] - If engine performance problems arise, try another brand of fuel. You may have to try several different sources.

[6] - Any fuel over 30 days old is considered "stale".

- For 2-cycle equipment, purchase as small a quantity of fuel as feasible. If there is doubt about how long the fuel may be stored, add stabilizer right away. JOHN DEERE PREMIUM EXACT MIX 2-Cycle Oil (UP08127) already has a fuel stabilizer added to the oil. When using this oil fuel mix, it will stay fresh for up to 30 days. If storing a 2-cycle powered unit for more than 3 weeks, it is recommended to run the fuel out of the unit.

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Installation:

Installation is done in the reverse order of removal.

- Adjust ignition coil air gap. (See Ignition Coil Air Gap Check and Adjustment .)

Item	Measurement	Specification
Ignition Coil Air Gap	Clearance	0.20—0.40 mm (0.008—0.016 in.)

- Tighten Cap Screws to Specification.

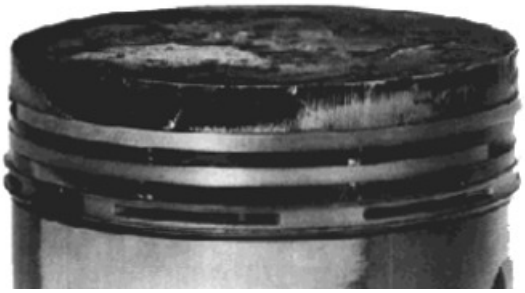
Item	Measurement	Specification
Cap Screw (Stud Bolt)	Torque	7.8 N·m (69 lb-in.)
Cap Screw (Flange Bolt)	Torque	5.9 N·m (52 lb-in.)

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Analyze Piston Wear

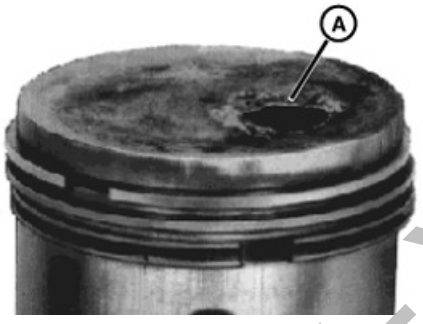
Detonation is abnormal combustion causing excessive temperature and pressure in the combustion chamber. Commonly called knock, spark knock, or timing knock, detonation occurs as the compressed fuel/air mixture ignites spontaneously to interrupt the normal ignition.



Piston and Rings

The following is a list of possible causes for detonation.

- Pre-ignition.
- Lean fuel mixture.
- Low octane fuel.
- Advanced ignition timing.
- Engine lugging.
- Buildup of carbon deposits on piston or cylinder head, causing excessive compression.
- Wrong cylinder head or milling of head, increasing compression ratio.



LEGEND:
A Pre-Ignition Damage

Piston and Rings

Pre-ignition is the igniting of the fuel/air mixture prior to regular ignition spark. Pre-ignition causes shock, resulting in pings, vibration, detonation, and power loss. Severe damage (A) to piston, rings, and valves results from pre-ignition.

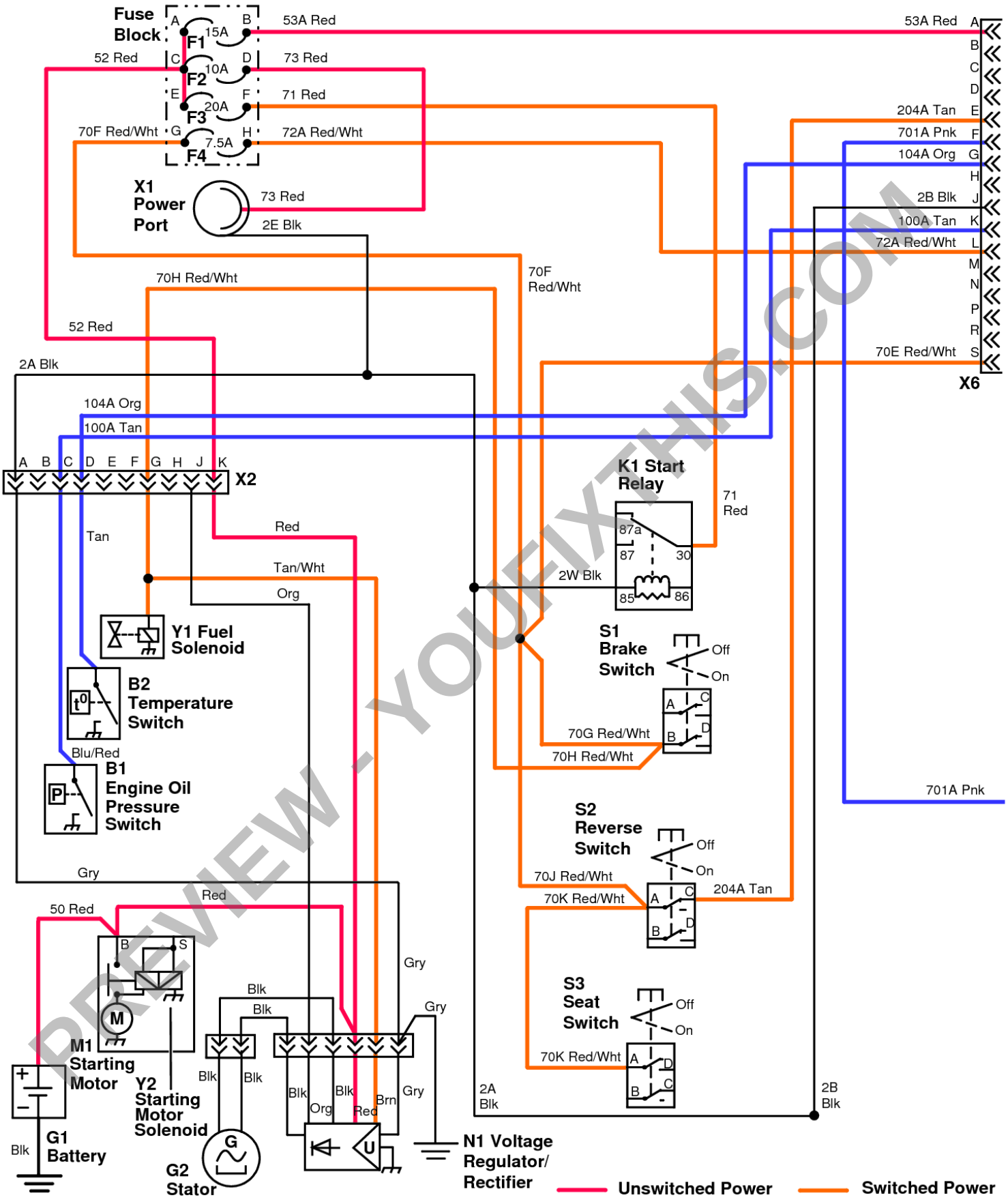
Check the following for causes of pre-ignition:

- Internal carbon deposits.
- Incorrect spark plug (high heat range).
- Broken ceramic in spark plug.
- Sharp edges on valves.
- Sharp edges in combustion chamber.

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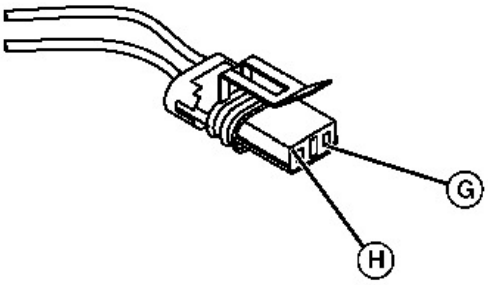
Power Circuit Schematic - X520, X540



Power Circuit Schematic - X520, X540 (1 of 2)

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LEGEND:

G	701A Pink Wire
H	2V Black Wire

X7 Fuel Sender Connector

Is battery voltage present at X7 fuel sender connector, 701A Pnk wire (G)?

Result:

YES: Go to next step.

NO: Check 701A Pnk wire, X6 connector, 701B Pnk wire and connections.

(3) Step 3

Action:

Is there continuity between X7 connector, 2V Blk wire (H) and ground?

Result:

YES: Test P2 fuel sender. (See Fuel Sending Unit Test .)

NO: Check 2V and 2A Blk wires, X2 connector, and Blk wire to frame ground.

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Fuel Shutoff Solenoid Circuit Diagnostics

Test Procedure A:

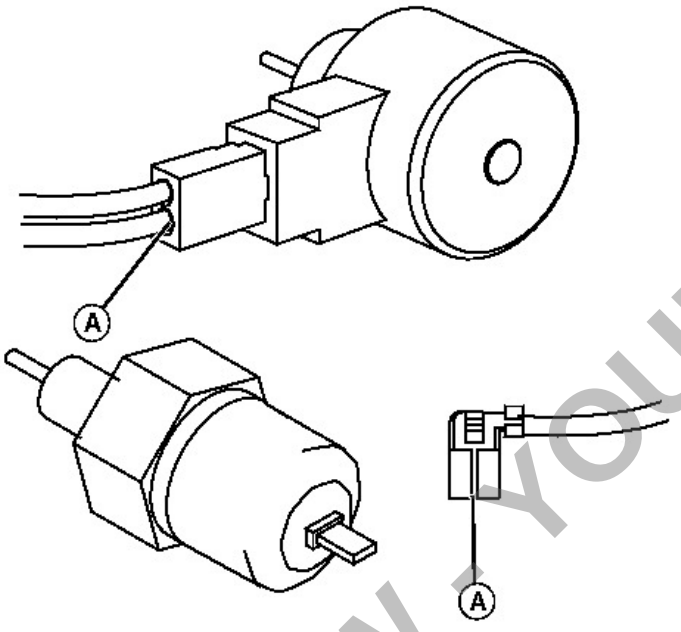
Test Conditions:

- Brake locked.
- PTO OFF.
- Key switch on, engine not running.
- Operator off seat.
- Transmission in neutral.

Fuel Shutoff Solenoid - Brake Circuit:

(1) Step 1

Action:



LEGEND:
A Fuel Shutoff Solenoid Wire

Upper - (X500, X534) Lower - (X520, X540)

Is battery voltage present at the fuel shutoff solenoid wire (A)?

Result:

YES: Fuel shutoff circuit is functioning properly. Test the fuel shutoff solenoid. (See Fuel Shutoff Solenoid Test .) Go to next procedure.

NO: Go to next step.

(2) Step 2

Action:

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W2 Engine Wiring Harness Code Codes

W2 Engine Wiring Harness Code Codes

Wire Color	Termination Points
Blk	X2 (2), Ignition Coil
Blk	N1 (4), G2 Stator
Blk	N1 (6), G2 Stator
Yel	X2 (4), B2 Coolant Temperature Switch
Yel (Red sleeve) fusible link	X2 (1), Y2 Start Solenoid (B+)
Yel (Red sleeve) 200B fusible link	N1 (1), Y2 Start Solenoid (B+)
Gry	N1 (3), Ground Terminal
Tan/Wht	Y1 Fuel Solenoid, Splice
Tan/Wht	X2 (3), Splice
Tan/Wht	N1 (2), Splice
Yel	X2 (6), Y2 Start Solenoid
Blu/Red	X2 (5), B1 Engine Oil Pressure Switch

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- Transmission in forward or neutral

or;

- Key switch on
- Operator on seat
- Brake released
- PTO/RIO switch in Momentary ON position while transmission shifted to reverse, then PTO/RIO switch in On position while transmission in reverse.

Theory of Operation:

The PTO is an electro/mechanical device (electric clutch) controlled by a 12 VDC output from the A1 interlock module.

The engine crankshaft drives the PTO clutch. When the operating condition are met, the interlock module supplies 12 VDC output (Pin A) which engages the PTO electric clutch. The clutch sheave is then engaged with the engine crankshaft. The interlock module is programmed to disengage the PTO clutch when the operating conditions are not met.

The interlock module performs the following functions:

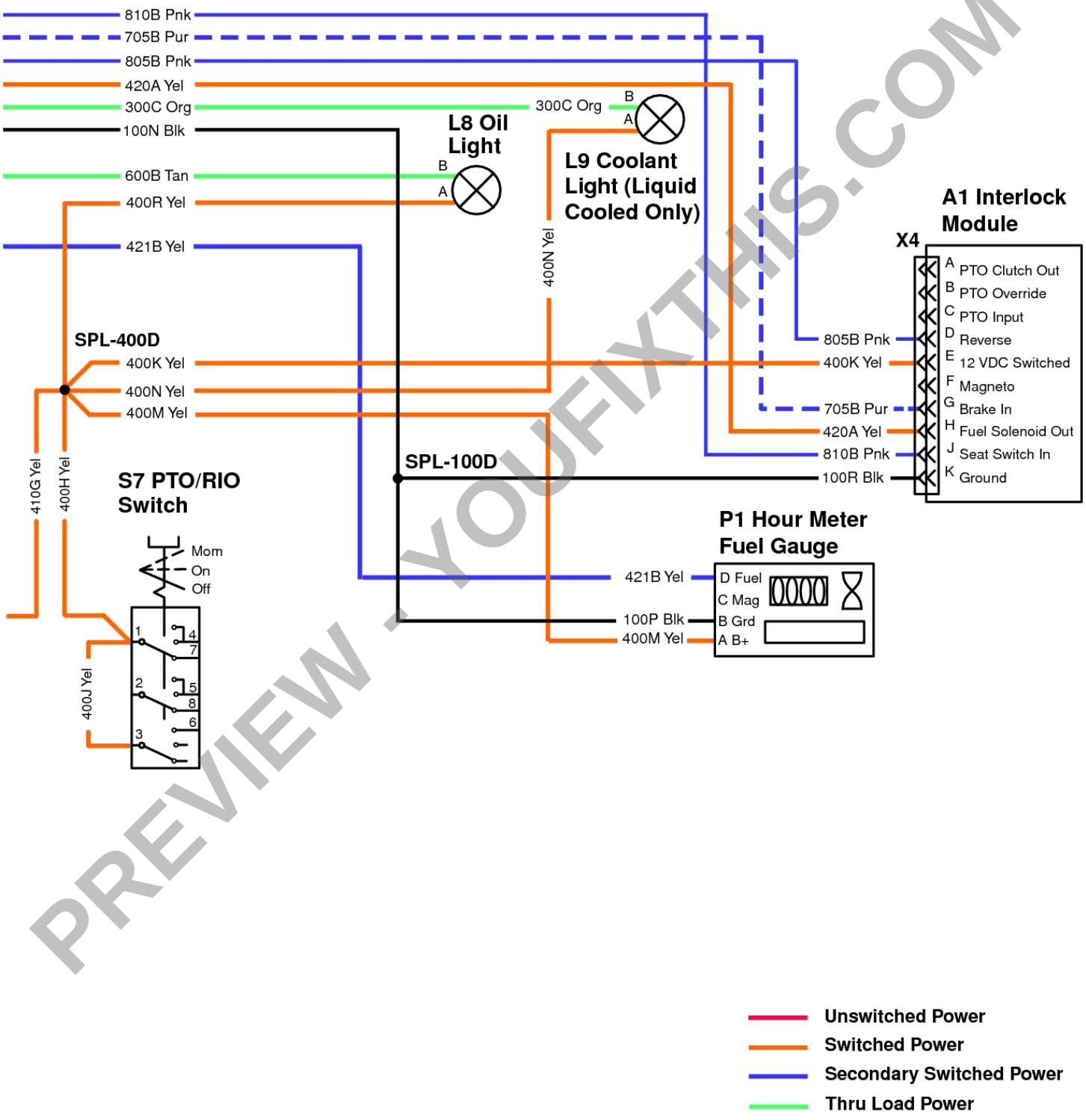
- Turn on the electric clutch if the operator is in the seat, the PTO/RIO switch is in the ON position, and the transmission is in forward or neutral.
- Maintain power to the electric clutch if the operator is in the seat, and chooses to mow in reverse by lifting the PTO/RIO switch to the Momentary ON position while shifting into reverse to enable the reverse override function. The reverse override function provides the power to the clutch.
- Disables the reverse override when the operator shifts the transmission from reverse to forward or neutral.
- Turn off the electric clutch if the PTO is on and the operator shifts into reverse without lifting the PTO/RIO switch. To reset the circuit, the operator must place the PTO/RIO switch in the OFF position.
- Turn off the electric clutch if the operator gets off the seat. A short time delay protects against a shutoff from bouncing. To reset the circuit, the operator must place the PTO/RIO switch in the OFF position.
- Turn off and latch off the electric clutch if the operator enables the brake switch.

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P2	Fuel Sender
S1	Seat Switch
S3	Reverse Switch
S6	Key Switch
S11	Horn Switch

(Power Circuit Schematic 3 of 3)



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(Power Circuit Schematic 3 of 3)

LEGEND:

A1	Interlock Module

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Accessories Circuit Operation (SN 90001-)

Function:

To provide power to the hour meter/fuel gauge, engine oil pressure light, engine coolant temperature light (liquid cooled only), and the power port.

Operating Conditions - Hour Meter:

- Key switch on
- Engine running

Theory of Operation - Hour Meter:

The P1 hour meter/fuel gauge uses switched power to operate. It also requires pulsed power from the ignition coils (engine running) in order to increment time on the hour meter. With the S6 key switch in the on position, power flows from the switch over the 410G and 400M Yel wires to the P1 hour meter/fuel gauge. Pulsed power from the ignition coils is supplied over the 900D, 900B, 900E and 900C Wht wires. The hour meter will then record the time that the engine is running. The hour meter is grounded by the 100P, 100N, 100E, 100C, and 100B Blk wires to the W1 frame ground.

Operating Conditions - Power Port:

- Fully charged and properly connected battery

Theory of Operation - Power Port:

The power port uses unswitched power to supply power to operator connected accessories.

The positive battery cable connects the battery to the starting motor. The 200A, 201A and 201C Red wires supply voltage to the F2 fuse. The F2 fuse protects the power port circuit. The battery cables and the starting motor tie point connections must be good for the machine’s electrical system to work properly.

The ground circuit provides a path to ground for the power port on the 100F, 100C and 100B Blk wires to the W1 frame ground.

Operating Conditions - Fuel Gauge:

- Key switch on

Theory of Operation - Fuel Gauge:

The P1 hour meter/fuel gauge is controlled by a variable resistor attached to a float in the fuel tank. As the float raises or lowers with the fuel level, the resistance will change.

This change in resistance is sensed at the P1 hour meter/fuel gauge over the 421A and 421B Yel wires. The variable resistance controls the fuel level on the fuel gauge.

The fuel sender is grounded by the 100H, 100C and 100B Blk wires to the W1 frame ground.

Operating Conditions - Engine Oil Pressure Light:

- Key switch on

Theory of Operation - Engine Oil Pressure Light:

The B1 engine oil pressure sensor is a mechanical switch that will close its contacts if the engine oil pressure drops below 98 ± 30 kPa (14.2 ± 4.3 psi) thereby creating a path to ground for its input signal. This ground path is carried to the L8 oil light over the 600A and 600B Tan wires to the B1 oil pressure switch. Once the path to ground is completed, the switched power circuit (400R Yel wire) will illuminate the B3 oil pressure warning lamp.

Operating Conditions - Engine Coolant Temperature Light (Liquid Cooled Only):

- Key switch on
- Engine running

Theory of Operation - Engine Coolant Temperature Light (Liquid Cooled Only):

The B2 engine coolant temperature switch is a temperature dependent resistor which will complete a path to ground if the

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Relay Test

Reason:

To check relay terminal continuity in the energized as well as the de-energized condition.

Equipment:

- Ohmmeter or Continuity Tester
  Ohmmeter or Continuity Tester
  NA
  Used to check continuity of a electrical component.

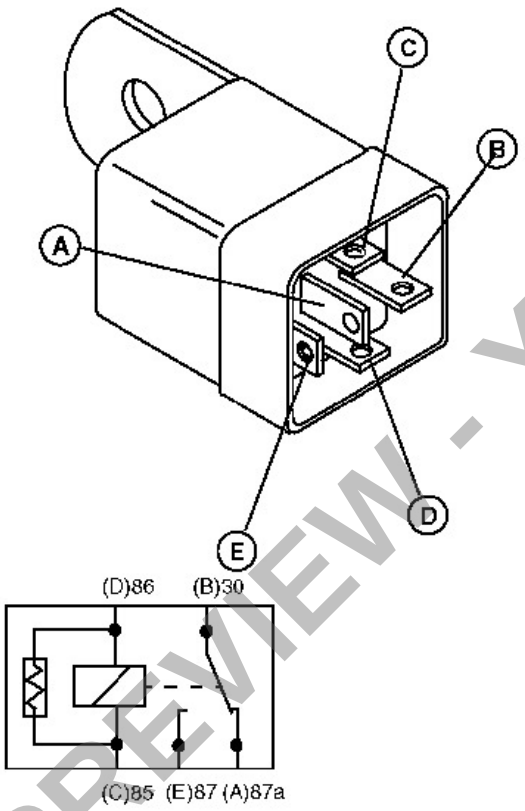
Procedure: Machines SN -90000

[1] - Park machine on level surface.

[2] - Engage park brake.

[3] - Turn key switch OFF.

[4] -



LEGEND:

A	Terminal
B	Terminal
C	Terminal
D	Terminal
E	Terminal

Relay Shown

Machines SN -90000: Disconnect relay connector.

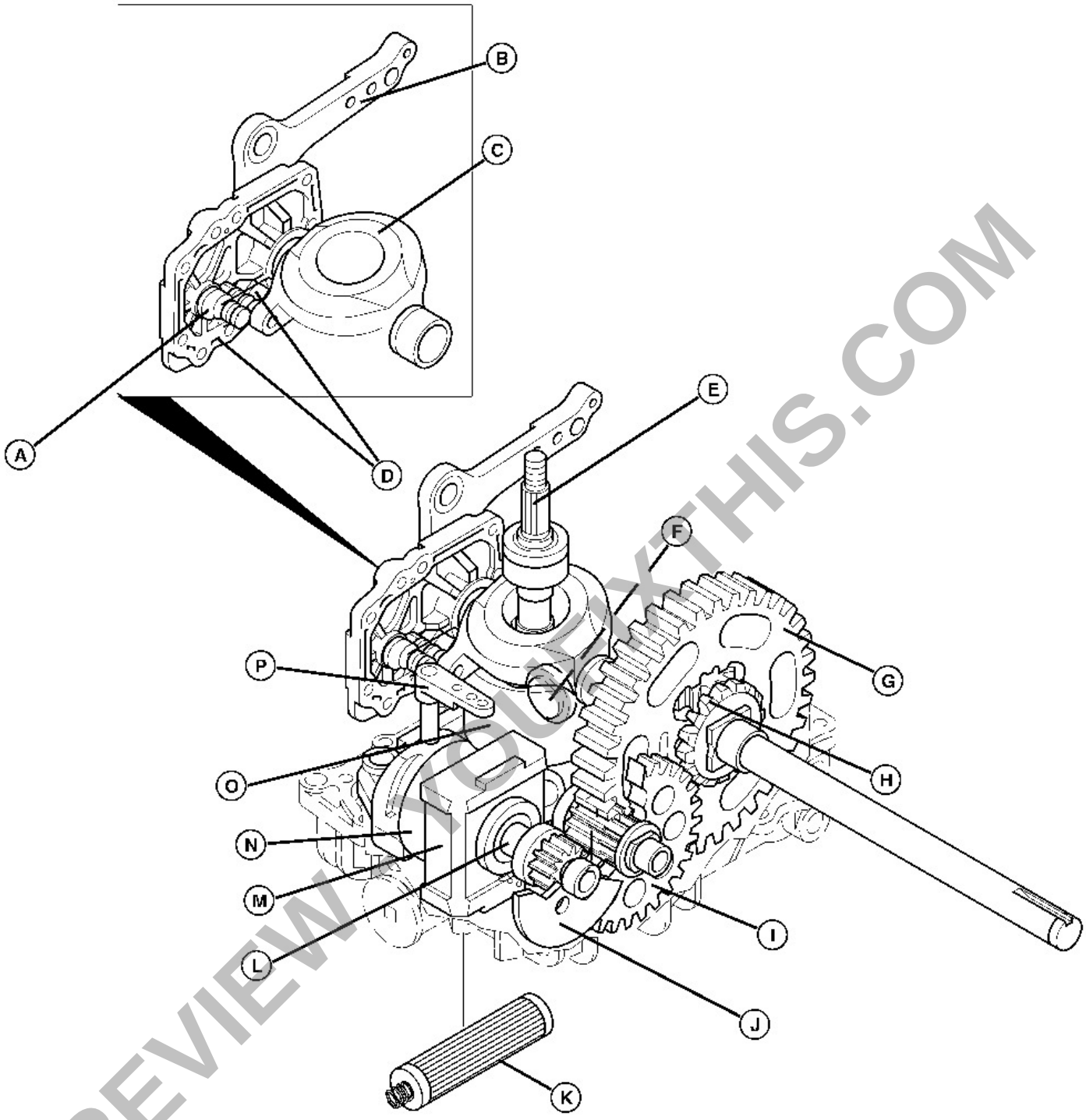
a. Check terminal continuity using an ohmmeter or continuity tester.
b. There should be continuity between terminals (A) and (B), and between terminals (C) and (D).
c. There should NOT be continuity between terminals (E) and (B).
d. Connect a jumper wire from battery positive (+) terminal to relay terminal (C). Connect a jumper wire from relay terminal (D) and ground (—).
e. There should be continuity between terminals (E) and (B).
f. If continuity is NOT correct, replace relay.

[5] -

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Hydrostatic System Operation



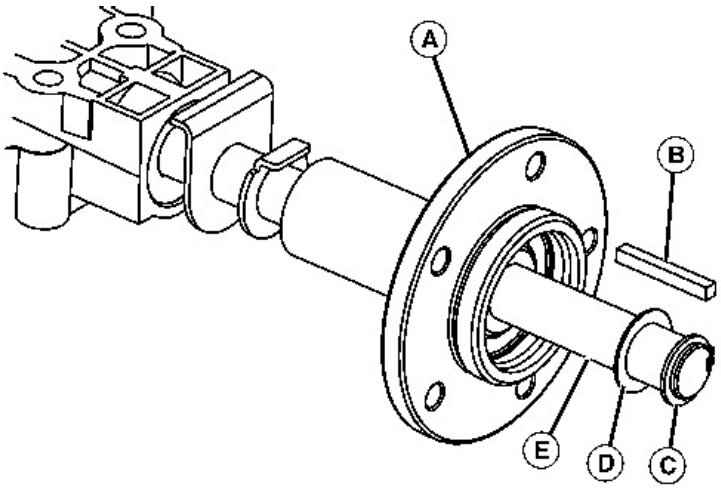
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Hydrostatic System Operation Component Location

LEGEND:

A	Eccentric (Neutral Adjustment)
B	Directional Control Arm
C	Variable Displacement Swash Plate
D	Neutral Return Spring
E	Pump Input Shaft
F	Filter
G	Ring Gear
H	Differential Assembly
I	Reduction Gear
J	Brake Disk
K	Filter
L	Motor Output Shaft
M	Fixed Displacement Swash Plate

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LEGEND:

A	Hub
B	Key
C	Snap Rings
D	Washer
E	Axle

Axle Hubs Installation - X500, X520, X540

Install key (B) on axle (E).

[3] - Grease axle and install hub (A) on axle.

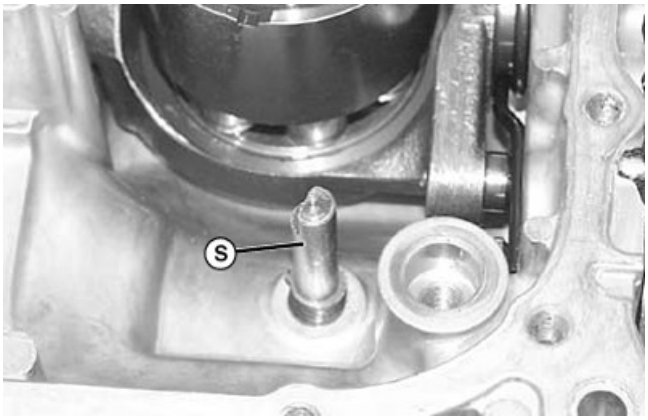
[4] - Install washer (D).

[5] - Install snap rings (C) to end of shafts.

[6] - Install wheels. (See Rear Wheels Removal and Installation .)

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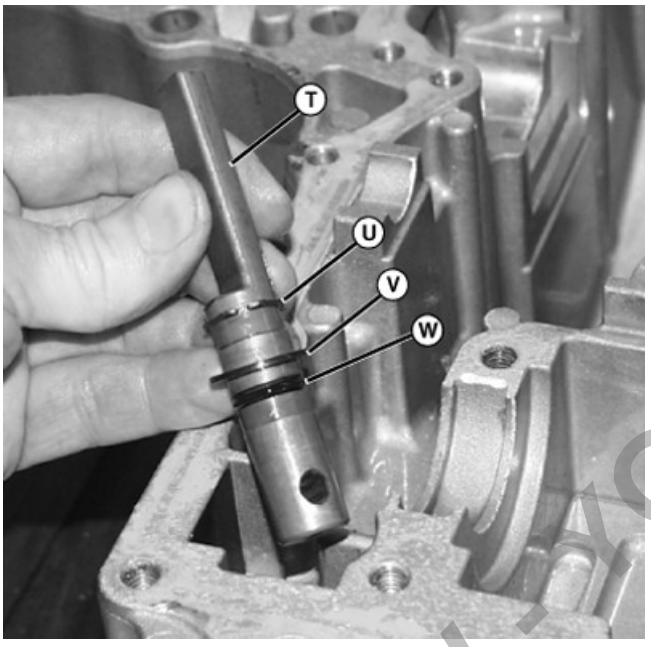
LEGEND:

S	Freewheeling Lever

Freewheeling Lever Shown

Turn freewheeling lever (S) so that shaft is in position shown.

[21] -



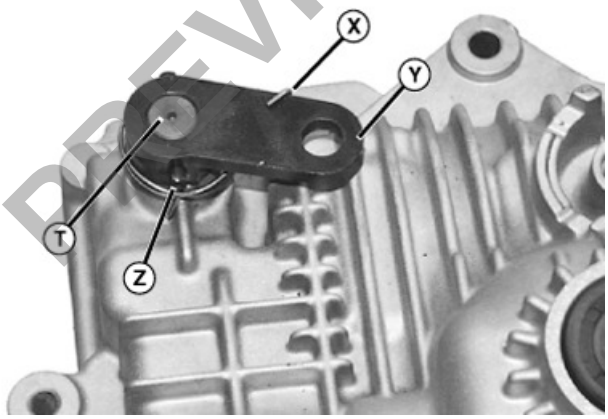
LEGEND:

T	Brake Shaft
U	C-Clip
V	Washer
W	O-Ring

Brake Shaft Assembly Installation

Install C-clip (U), washer (V) and O-ring (W) on brake shaft (T). Insert brake shaft in case.

[22] -



LEGEND:

T	Shaft
X	Spring
Y	Brake Lever
Z	Roll Pin

Brake Lever and Shaft Installed

Place spring (X) over shaft (T) and install brake lever (Y) on shaft oriented as shown.

[23] - Secure brake lever on brake shaft with roll pin (Z).

[24] - Hook end of spring over brake lever.

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Retainer Plate

Install the retainer plate (A) and the two cap screws (B) until finger tight.

[4] - Install the socket head cap screw (C) and tighten to specification.

Item	Measurement	Specification
Retainer Plate Cap Screws	Torque	30 N·m (22 lb-ft)

[5] - Remove retainer plate for installation.

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→NOTE:

If nylon insert lock nuts are damaged or can be tightened by hand, replace.

- Do not tighten front bracket mounting bolts until rear bracket has been installed.

Item	Measurement	Specification
Ball Joint Jam Nut	Torque	50 N·m (37 lb-ft)
Front Tie Rod Nuts to Steering Arms	Torque	88 N·m (65 lb-ft)
Front Link Nuts to Steering Arms	Torque	88 N·m (65 lb-ft)
Rear Tie Rod Nuts to Steering Arms	Torque	108 N·m (80 lb-ft)
Cylinder Rod End to Steering Arm	Torque	115 N·m (85 lb-ft)
Cylinder to Axle Casting	Torque	52 N·m (38 lb-ft)
Rear Kingpin	Torque	475 N·m (350 lb-ft)
Wheel Bolts	Torque	88 N·m (65 lb-ft)

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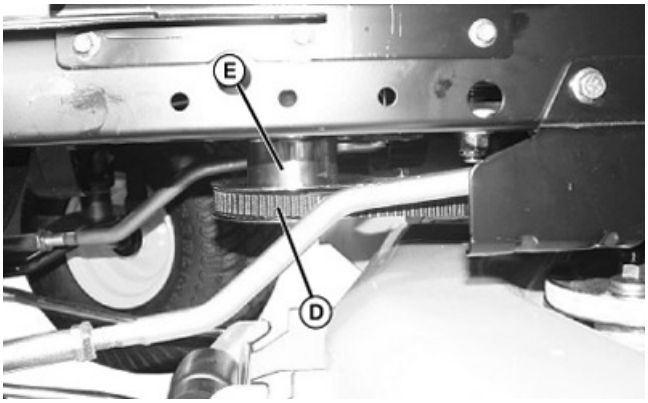
CAUTION:

Belt tension rod is spring-assisted and under tension. Keep a secure grasp on rod at all times while releasing or applying drive belt tension.

Lower mower deck, pull back lift pedal by hand, and pull lift lever up to lock.

[6] - Grasp and hold tension rod (B) securely. Disengage rod from retaining bracket (C) by rotating rod counterclockwise. Move rod as far as possible toward rear wheel to remove all belt tension.

[7] -



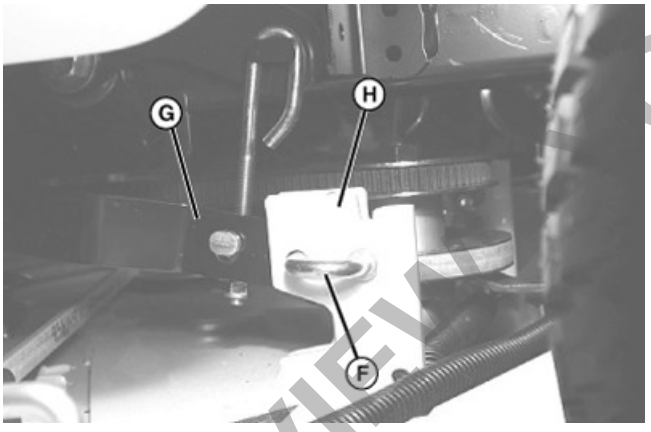
LEGEND:

D	Drive Belt
E	Engine Sheave

Drive Belt

Remove separate drive belt (D) from engine sheave (E), and move tension rod back into retaining bracket.

[8] -



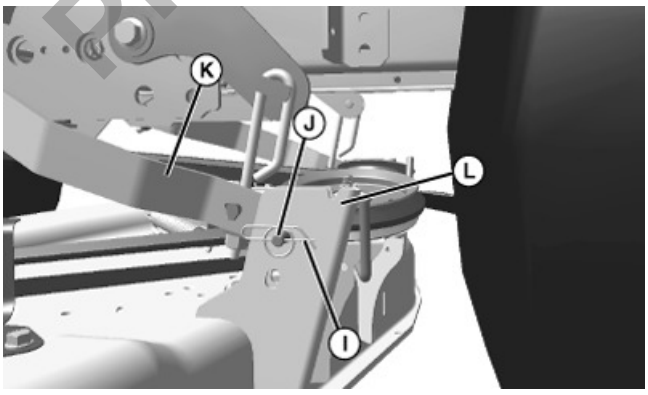
LEGEND:

F	J-pin
G	Rear Draft Arm
H	Deck Bracket

SN -020000

Pull and rotate J-pin (F) to release and move rear draft arm (G) away from deck bracket (H). Raise deck slightly via handle to remove pressure on pin when pulling out. Repeat on other side.

[9] -



LEGEND:

I	Locking Clip
J	Pin
K	Rear Draft Arm
L	Deck Bracket

SN 020001-

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