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Group 05 - 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







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Group 10 - General Specifications

Machine Specifications

Item	Measurement	Specification
5055E—3029H Engine, Turbocharged		
Factory Observed PTO	Power	43.5 HP at 2400 rpm
Cylinders	Quantity	3
Bore	Distance	106.5 mm (4.19 in.)
Stroke	Distance	110 mm (4.33 in.)
Displacement	Volume	2.9 L (179 cu in.)
Cylinder Firing	Order	1—2—3
Intake Valve	Clearance	0.35 mm (0.014 in.)
Exhaust Valve	Clearance	0.45 mm (0.018 in.)
Slow Idle	Speed	850 (-50/+25) rpm
Fast Idle	Speed	2600 (-25/+50) rpm
Operating Range	Speed	1400—2400 rpm
Injection Pump Timing	Position	0.5 ± 1° BTDC (Time Trac)
5065E—3029H Engine, Turbocharged		
Factory Observed PTO	Power	47.6 HP at 2400 rpm
Cylinders	Quantity	3
Bore	Distance	106.5 mm (4.19 in.)
Stroke	Distance	110 mm (4.33 in.)
Displacement	Volume	2.9 L (179 cu in.)
Cylinder Firing	Order	1—2—3
Intake Valve	Clearance	0.35 mm (0.014 in.)
Exhaust Valve	Clearance	0.45 mm (0.018 in.)
Slow Idle	Speed	850 (-50/+25) rpm
Fast Idle	Speed	2600 (-25/+50) rpm
Operating Range	Speed	1400—2400 rpm
Injection Pump Timing	Position	0 ± 1° BTDC (Time Trac)
5075E—3029H Engine, Turbocharged		
Factory Observed PTO	Power	61 HP at 2400 rpm
Cylinders	Quantity	3
Bore	Distance	106.5 mm (4.19 in.)
Stroke	Distance	110 mm (4.33 in.)
Displacement	Volume	2.9 L (179 cu in.)
Cylinder Firing	Order	1—2—3
Intake Valve	Clearance	0.35 mm (0.014 in.)

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Straight Fitting or Special Nut Torque Chart

STRAIGHT FITTING OR SPECIAL NUT TORQUE CHART		
Thread Size	N˙m	lb-ft
3/8-24 UNF	8	6
7/16-20 UNF	12	9
1/2-20 UNF	16	12
9/16-18 UNF	24	18
3/4-16 UNF	46	34
7/8-14 UNF	62	46
1-1/16-12 UN	102	75
1-3/16-12 UN	122	90
1-5/16-12 UN	142	105
1-5/8-12 UN	190	140
1-7/8-12 UN	217	160

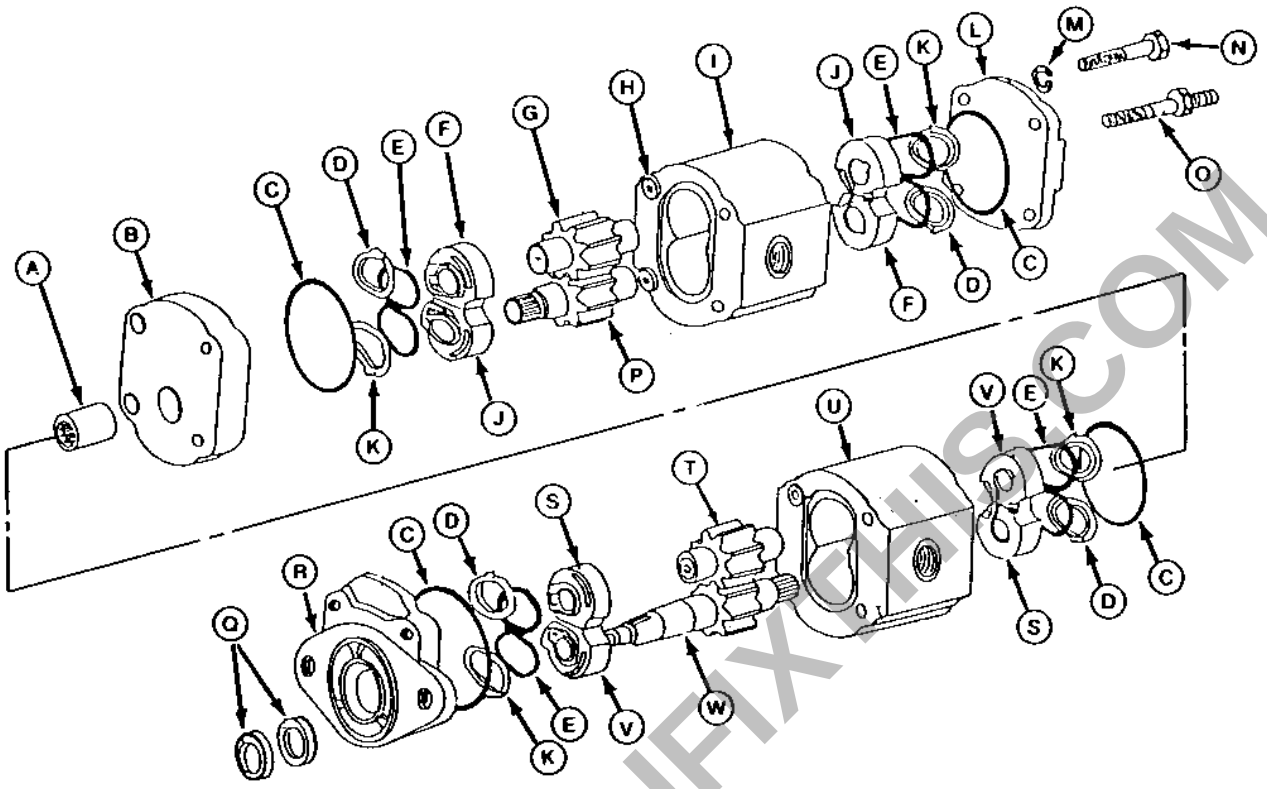
→NOTE:

Torque tolerance is ± 10%.

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Assemble Hydraulic Pump



Exploded View of Hydraulic Pump

LEGEND:

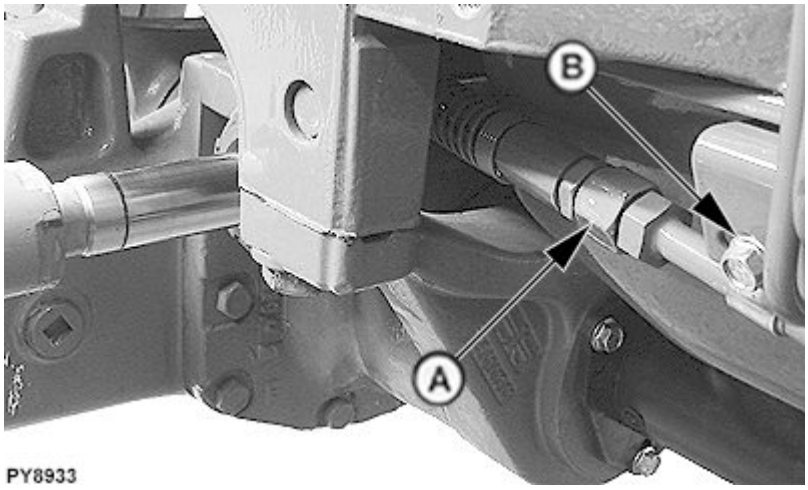
- A Coupling
- B Plate
- C Body Seal
- D Packing Ring
- E O-Ring Seal
- F Bushing
- G Driven Gear
- H Dowel (4 used)
- I Housing
- J Bushing
- K Packing Ring
- L End Plate
- M Lock Washer (4 used)
- N Cap Screw (2 used)
- O Bolt (2 used)
- P Drive Gear
- Q Oil Seals
- R Mounting Flange
- S Bushing
- T Driven Gear
- U Housing
- V Bushing
- W Drive Gear

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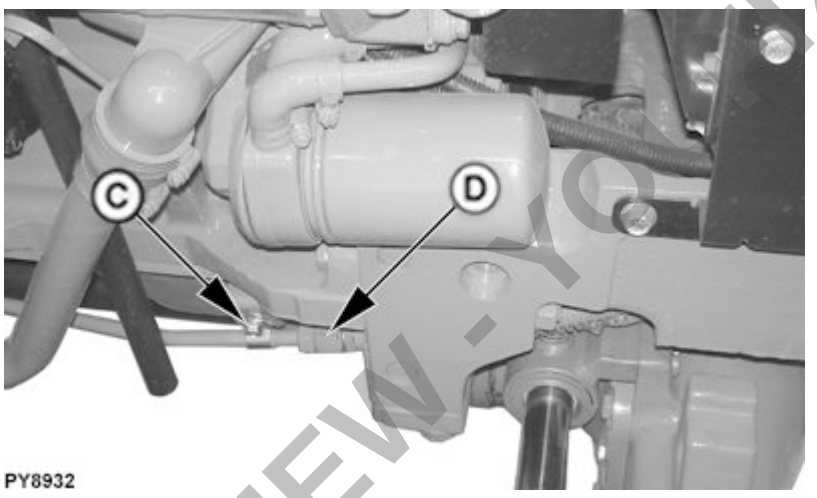
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Remove Engine

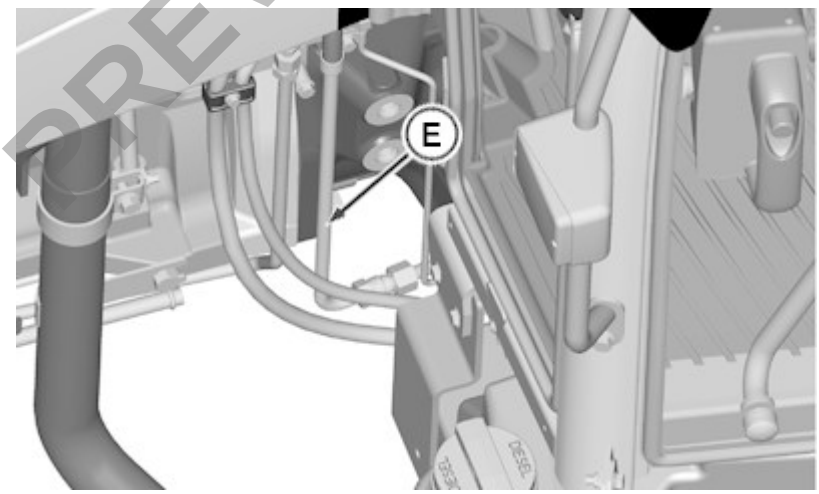
[1] -



Left Side Bottom of Engine



Right Side Bottom of Engine

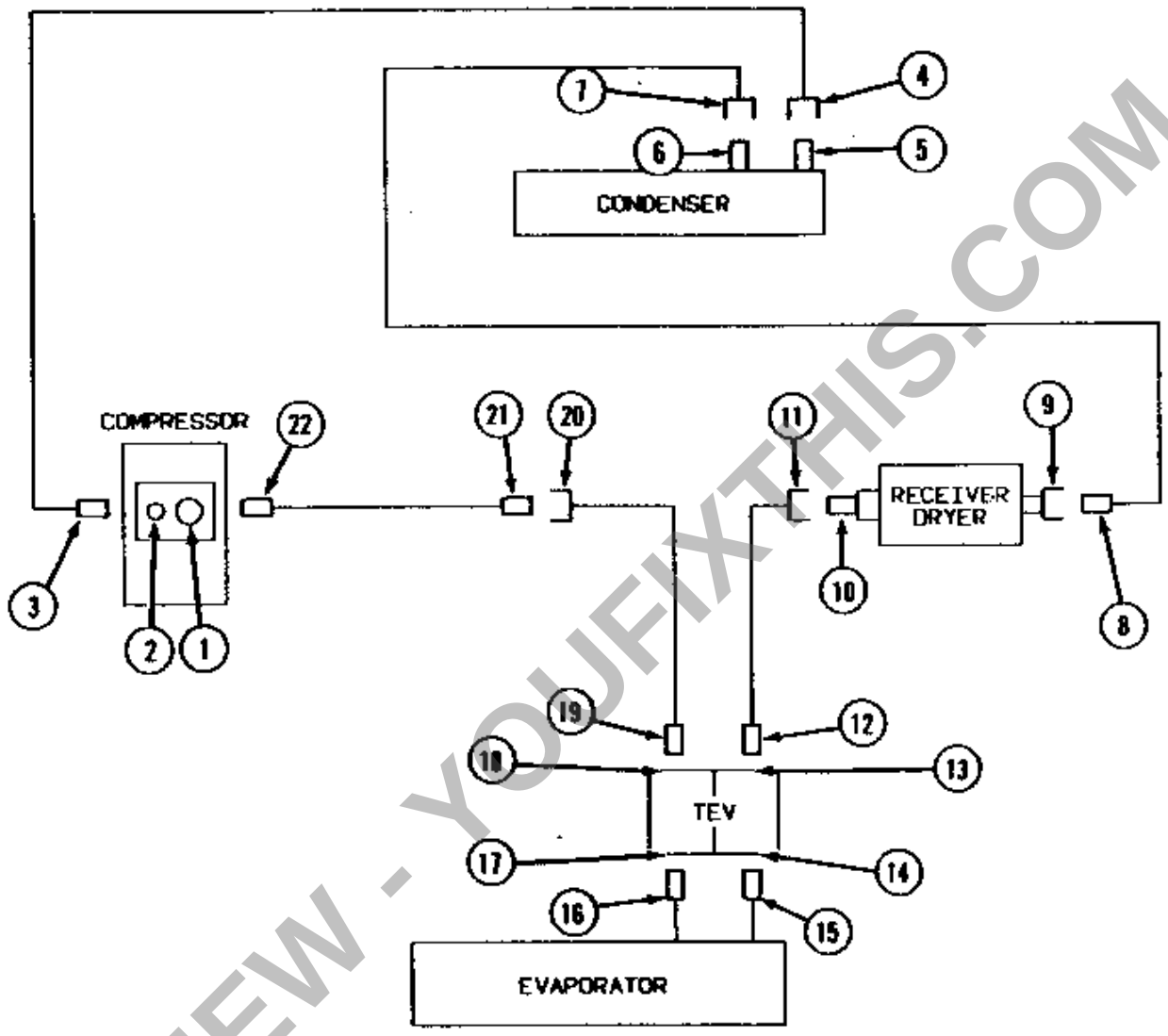


Steering Return Line

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Flush Air Conditioning System



Air conditioning system diagram

LEGEND:

1 Compressor Manifold Suction Port
2 Compressor Manifold Discharge Port
3 Compressor Discharge Hose Inlet Port
4 Compressor Discharge Hose Outlet Port
5 Condenser Inlet Port
6 Condenser Outlet Port
7 Receiver/Dryer Inlet Hose, Inlet End
8 Receiver/Dryer Inlet Hose, Outlet End
9 Receiver/Dryer Inlet Port
10 Receiver/Dryer Outlet Port
11 Receiver/Dryer Outlet Hose, Inlet End
12 Receiver/Dryer Outlet Hose, Outlet End

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Foreword

This manual is written for an experienced technician. Essential tools required in performing certain service work are identified in this manual and are recommended for use.

Live with safety: Read the safety messages in the introduction of this manual and the cautions presented throughout the text of the manual.

⚠ CAUTION:

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

Technical manuals are divided in two parts: repair and operation and tests. Repair sections tell how to repair the components. Operation and tests sections help you identify the majority of routine failures quickly.

Information is organized in groups for the various components requiring service instruction. At the beginning of each group are summary listings of all applicable essential tools, service equipment and tools, other materials needed to do the job, service parts kits, specifications, wear tolerances, and torque values.

Technical Manuals are concise guides for specific machines. They are on-the-job guides containing only the vital information needed for diagnosis, analysis, testing, and repair.

Fundamental service information is available from other sources covering basic theory of operation, fundamentals of troubleshooting, general maintenance, and basic type of failures and their causes.

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Clean Exhaust Filter Safely



Fire Safety



Hand Over Flame

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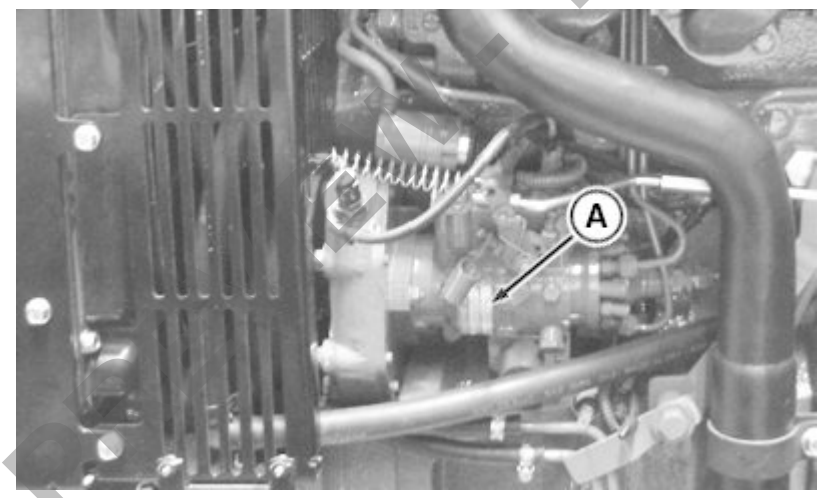
Engine Serial Number Plate

Serial number plate (A) is located on the right-hand side of the engine block between the starter solenoid and the hydraulic pump.

Engine Serial Number

Engine Serial Number

Fuel Injection Pump Serial Number



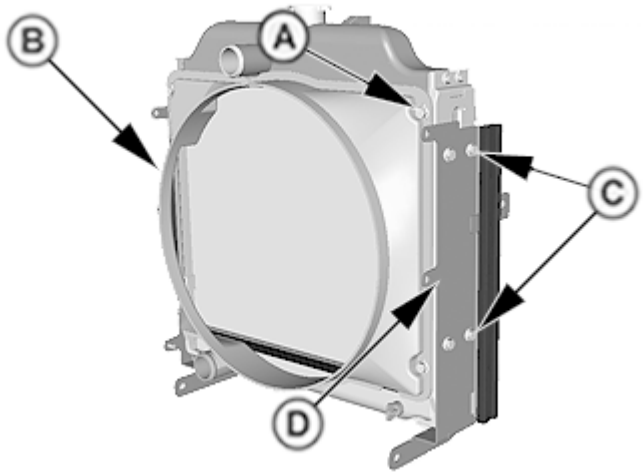
.

Serial number plate (A) is located on the side of pump.

Record serial number below.

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PY8977

Radiator with Side Brackets

LEGEND:

A	Cap Screws (4 used)
B	Fan Shroud
C	Side Bracket Cap Screws (8 used)
D	Bracket

[14] - Remove cap screws (A) and fan shroud (B).

⚠ ***CAUTION:***

Reduce compressed air to less than 210 kPa (2 bar) (30 psi) when using for cleaning purposes. Clear area of bystanders, guard against flying chips, and wear personal protection equipment including eye protection.

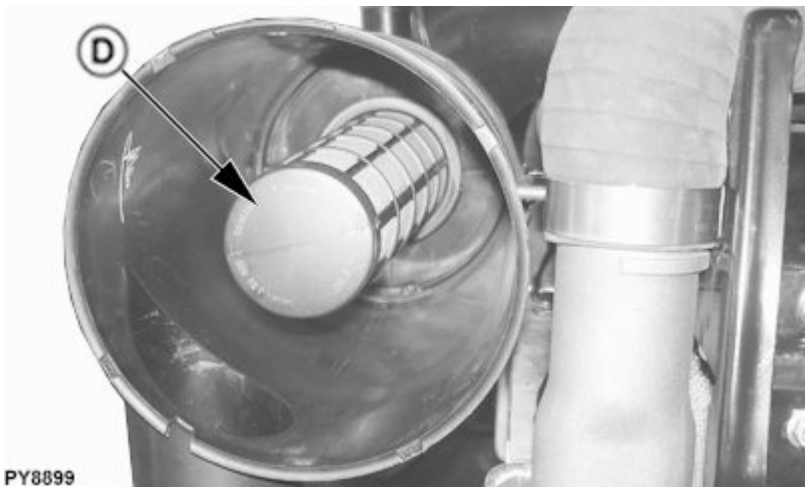
[15] - Remove radiator from support.

[16] - Check radiator for debris in fins. Clean radiator using compressed air or pressure washer.

[17] - Inspect radiator for bent fins, cracks and damaged seams. Repair as necessary.

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Secondary Element

LEGEND:

A	Clips
B	Cover
C	Primary Element
D	Secondary Element

Raise hood.

[2] - Release clips (A).

[3] - Remove cover (B).

[4] - Rotate primary element (C) in counterclockwise to unlock. Remove primary element.

[5] -

IMPORTANT:

Remove secondary element (inner element) ONLY if it is to be replaced. DO NOT attempt to clean secondary element.

If secondary element is replaced, install new element immediately to prevent dust from entering air intake system.

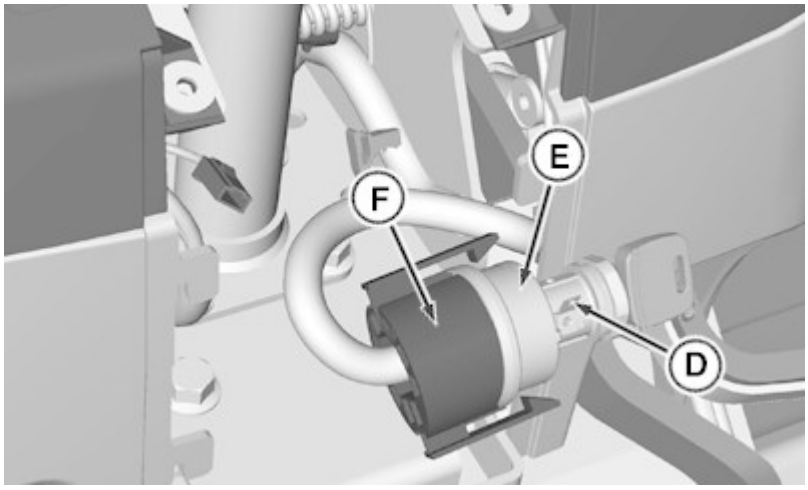
Replace secondary element (D), if dirty or damaged.

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[7] - Install nut (C).

[8] -



Disconnect Connectors

LEGEND:

D	Wire Connector
E	Key Switch
F	Main Wiring Connector

Connect wiring connectors (D and F).

[9] - Install key switch panel.

[10] - Connect and tighten battery negative (—) cable.

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Beacon Light Wiring Harness

LEGEND:

A Rear Harness Wiring
B Ground
C Beacon Light Connector

[1] - Disconnect battery negative (—) cable.

[2] - Disconnect connector (A) from roof wiring harness.

[3] - Remove ground connection (B) and beacon light connector (C).

[4] - Replace wiring harness.

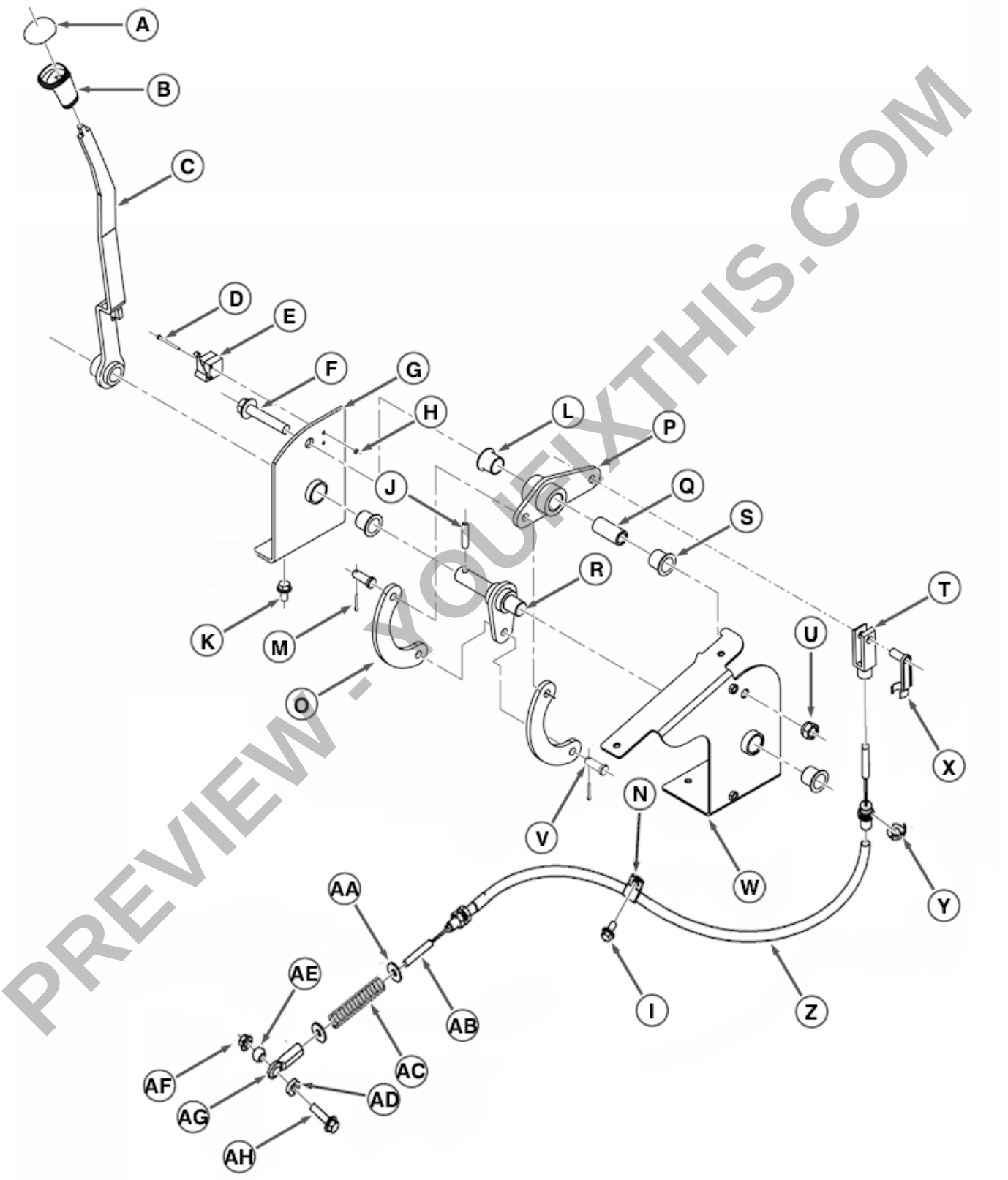
[5] - Connect connectors (A) and (C) at proper location. Connect ground connection (B).

[6] - Connect battery negative (—) cable.

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Remove, Inspect and Install Rear PTO Lever and Linkage



Rear PTO Engage Lever and Linkage - Cable Linkage

LEGEND:

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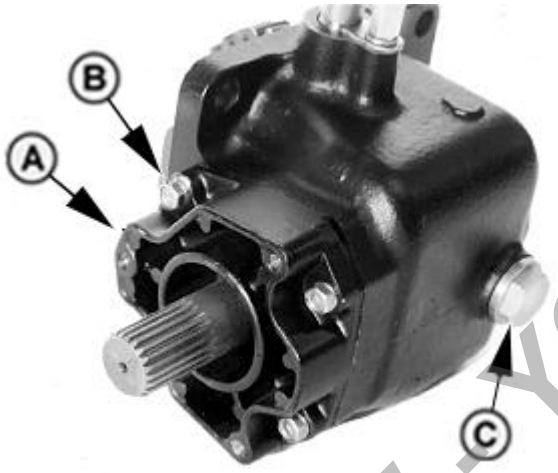
[11] - Position shift block on lever (C) between shoulders of shift collar. Push lever into gearbox.

[12] - Install plate (B) in groove of lever and cap screw (D). Tighten cap screw to specification.

Item	Measurement	Specification
MFWD Shift Lever Cap Screw	Torque	26 N˙m (19.17 lb-ft.)

[13] - Install shift arm with long end pointing in opposite direction of output shaft.

[14] -



MFWD Drop Gearbox

LEGEND:

A O-Ring and Cover
B Cap Screw (4 used)
C O-Ring and Plug

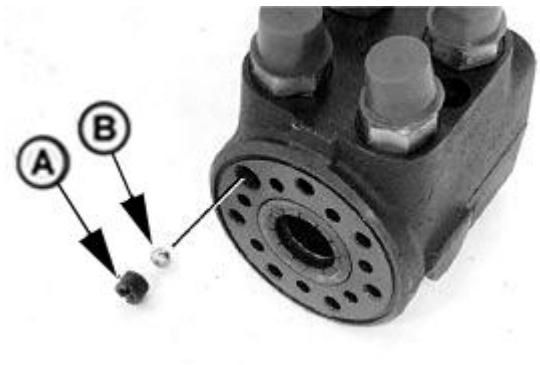
Apply multipurpose grease to inside lips of cover seal.

[15] - Install new O-ring and cover (A).

[16] - Install four cap screws (B) and tighten to specification.

Item	Measurement	Specification
MFWD Drop Gearbox Cover Cap Screw	Torque	26 N˙m (19.17 lb-ft.)

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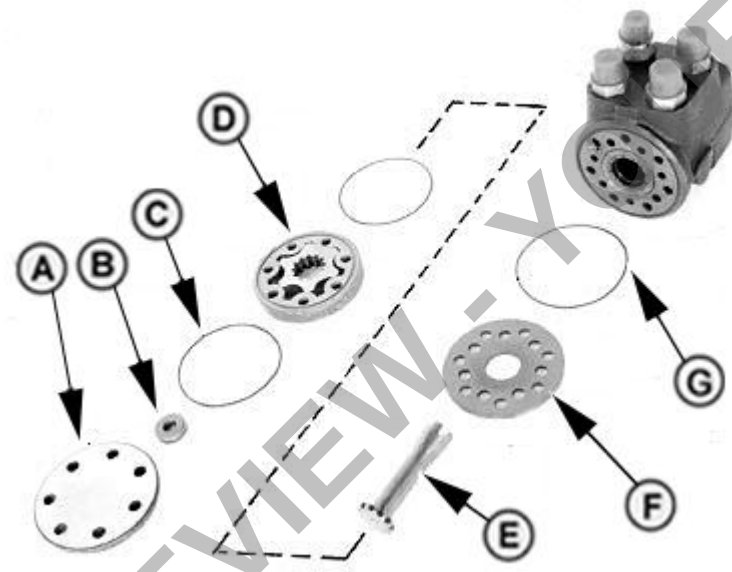
Ball and Threaded Bushing

LEGEND:

A Threaded Bushing
B Ball

Install ball (B) and threaded bushing (A). Top of bushing must be below surface of valve body.

[11] -



Spacer and Cover

LEGEND:

A Cover
B Spacer
C O-Ring (2 used)
D Gerotor Set
E Drive Shaft
F Distributing Plate
G O-Ring

Install parts (C—G).

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Group 05 - Hydraulic Pump and Filter

Essential Tools



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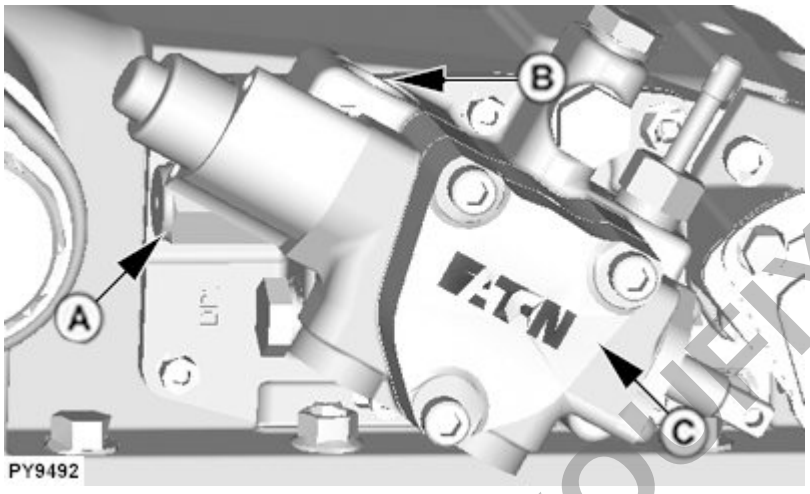
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Replace Main Relief Valve

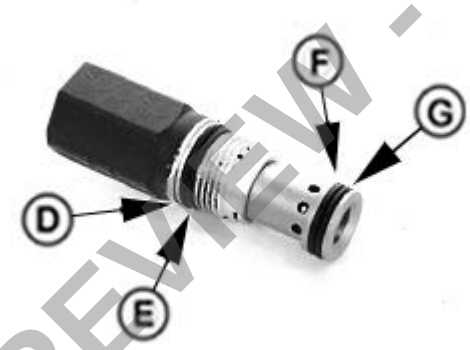
[1] -

→NOTE:

SCV control lever assembly removed to show valve location. Tractors without rear SCV II or without mid-mount SCV are similar.



Dual SCV Shown



Main Relief Valve

LEGEND:

A	Main Relief Valve
B	Inlet Housing
C	Dual SCV
D	O-Ring
E	Back-Up Ring
F	Back-Up Ring
G	O-Ring

Lower lift arms completely.

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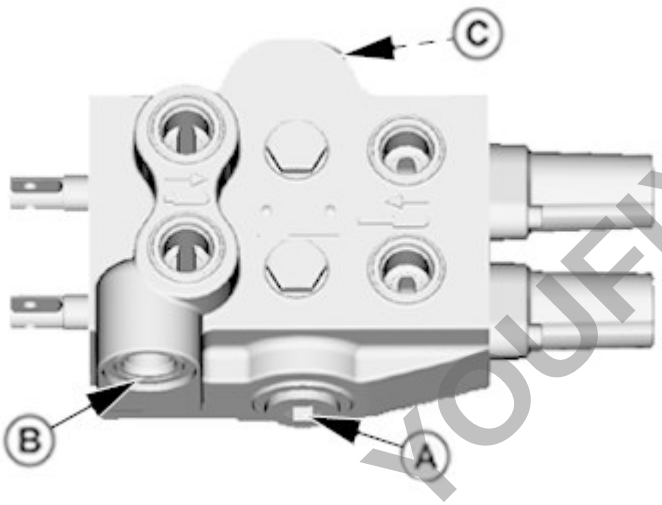
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Disassemble, Inspect and Assemble Dual Mid-Mount Selective Control Valve (SCV)

[1] -

IMPORTANT:

Remove dirt, grease, and debris from valve before disassembling to prevent contamination.



.

LEGEND:

A Power Beyond Port
B Tank Port
C Pressure Port

Remove SCV couplers (shown removed).

[2] - If necessary, remove fittings from tank port (B), pressure port (C) and power beyond port (A).

[3] -

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B Pin
C Ball
D Lubrication Fitting
E Lift Link Tube
F Lift Link Body
G Retainer
H Quick-lock Pin
I Pin

[1] - Remove plugs (D).

[2] - Remove lift link tube (E) from lift link body (F).

[3] - Inspect all parts for wear or damage. Replace as necessary.

[4] - Assemble all parts.

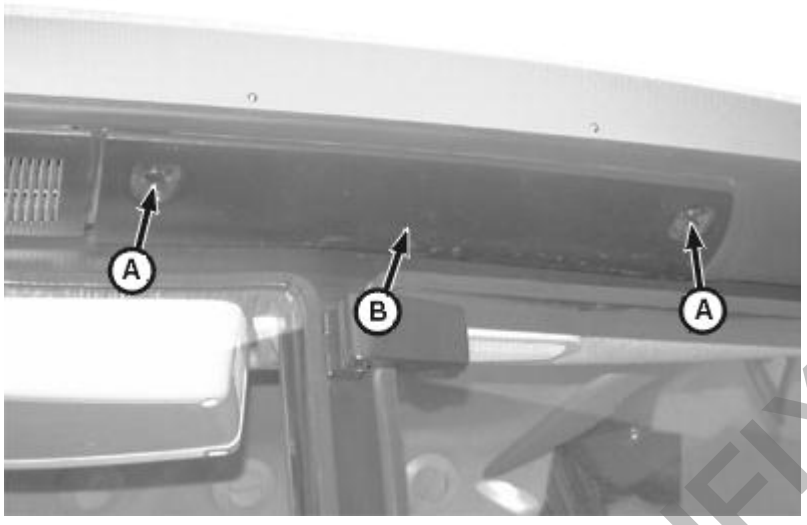
[5] - Lubricate lift link assembly at fittings (D) using multipurpose grease.

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Remove, Inspect, and Install Exterior Cab Intake Air Filter

[1] -



Right side air filter panel



Cab filter

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D Air Conditioning Line

Apply a small amount of TY22101 PAG Refrigeration Oil on O-rings before connecting air conditioning lines.

Number	Name	Use
• TY22101 (us)	PAG Refrigeration Oil	Apply to O-ring of air conditioning lines.

[31] - Install air conditioning lines (C and D) at right front corner of cab roof. Tighten lines to specification.

[32] - Connect air conditioning supply line (A) and air conditioning return line (B). Tighten lines to specification.

Item	Measurement	Specification
Cab Air Conditioning Lines	Torque	45 N˙m (33 lb-ft)

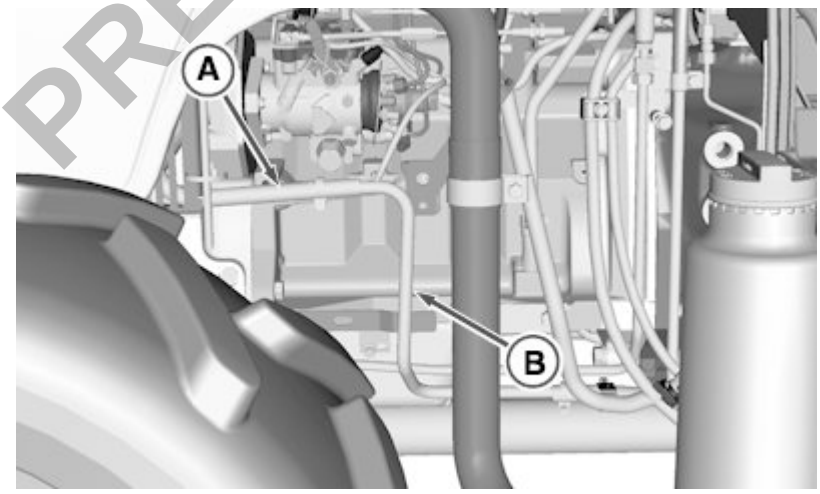
[33] -

⚠ CAUTION:

Make sure that heater inlet and heater outlet hoses are connected to respective opening.

IMPORTANT:

Install new O-rings on air conditioning lines. Used or damaged O-rings will leak.



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[34] - Install step assembly on both sides.

[35] - Install cap screws (A) and tighten to specification.

Item	Measurement	Specification
Step Mounting Cap Screw	Torque	60 N˙m (44 lb-ft)

[36] - Fill radiator with coolant.

Item	Measurement	Specification
Cooling System - 3.0L Engine	Capacity	10 L (2.6 gal)

[37] - Fill radiator with coolant.

[38] - Evacuate and charge air conditioning system. (See Charge Air Conditioning System, in this Section.)

[39] - Install hood. (See Remove and Install Hood, in Section 80.)

[40] - Connect the negative terminal (—) on the battery. Lower the hood.

[41] - Run engine at operating temperature. Check engine for coolant leak. Adjust coolant level in recovery tank.

[42] - Bleed brakes. (Refer Diagnostic Technical Manual.)

[43] - Check and adjust hydraulic oil level.

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Item	Measurement	Specification
Clutch Hub Retaining Cap Screw	Torque	14 N˙m (10 lb-ft)

Inspect Compressor Manifold

[1] -



Manifold assembly

LEGEND:

A	Cap Screw (4 used)
B	Manifold
C	Manifold Seal

Remove cap screws (A) and manifold (B).

[2] - Remove and discard manifold seal (C). Inspect porting surfaces.

[3] -

→NOTE:

Lubricate new manifold seal with R134a refrigerant oil.

Lubricate and install a new manifold seal (C).

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