Group 05 - Specifications

Engine Specifications

Engine specifications

Engine model	4045HL284
Type	Diesel engine with turbocharger and intercooler
Number of cylinders	4
Valves per cylinder	2
Bore	106.5 mm (4.19 in.)
Stroke	127.0 mm (5.00 in.)
Displacement	4.5 L (276 cu.in.)
Firing order	1-3-4-2
Compression ratio	17,0 : 1
Valve clearance (engine hot or cold)	
- Intake valves	0.36 mm (0.014 in.)
- Exhaust valves	0.46 mm (0.018 in.)
Thermostat	
-Opening temperature	82°C (180°F)
-Operating temperature (fully open)	94°C (202°F)
Slow idle	
-Speed	845 to 855 rpm
Fast idle	
-Speed	2455 to 2465 rpm
Rated engine speed	2300 rpm
Working speed range	1500 to 2300 rpm
Engine power according to 97/68/EC at rated engine speed with viscous fan	
- 5080R / 5080RN tractors	59 kW (80 hp)
- 5090R / 5090RN tractors	66 kW (90 hp)
- 5100R / 5100RN tractors	74 kW (100 hp)
Max. torque	
- 5080R / 5080RN tractors at 1600 rpm	334 N˙m (246 lb-ft)
- 5090R / 5090RN tractors at 1600 rpm	376 N˙m (277 lb-ft)
- 5100R / 5100RN tractors at 1600 rpm	416 N˙m (307 lb-ft)
Engine speed for PTO operation	
- 540 rpm rear PTO	2097 rpm

PREVIEW - YOUFIXTHIS.COM

Download full manual at youfixthis.com

Group 00 - Removal and Installation of Components

Engine - Removal and Installation of Components, Summary of References

" Engine - Removal and Installation of Components, Special Tools "

" Engine - Removal and Installation of Components, Specifications "

" Remove the Engine "

" Install the Engine "

" Engine Mounting "

Special Tools

Special tools (available as spare part), see Section 99, Group 10

D01042AA - Load-positioning sling

JDE83 - Flywheel turning tool, 4-cylinder engine

JDG19 - Lifting eye

KJD10426 - Special tool

Specifications

Item	Measurement	Specification
Engine mounting screws	Torque	100 N˙m
		74 lb-ft
Rear engine supports to main frame, cap screws	Torque	100 N˙m
		74 lb-ft
Front engine supports to main frame, cap screws	Torque	100 N˙m
		74 lb-ft
Front engine supports to engine block, M16 cap screws	Torque	230 N˙m
		170 lb-ft
U.j. shaft to input flange, cap screws	Torque	135 N˙m
		100 lb-ft

PREVIEW - YOUFIXTHIS.COM

Download full manual at youfixthis.com

Group 00 - Removal and Installation of Components

Fuel, Air Intake, Cooling and Exhaust Systems - Removal and Installation of Components, Summary of References

" Remove Engine Hood "

" Install Engine Hood "

" Remove Battery "

" Install Battery "

" Remove and Install Front Frame "

" Front Frame - Remove Front Section "

" Front Frame - Install Front Section "

" Front Frame - Remove Center Section "

" Front Frame - Install Center Section "

" Front Frame - Remove Hood Carrier "

" Front Frame - Install Hood Carrier "

Specifications

Item	Measurement	Specification
Battery support to front axle support, cap screws	Torque	55 N˙m
		40 lb-ft

PREVIEW - YOUFIXTHIS.COM

Download full manual at youfixthis.com

Group 05 - Connectors

Connectors - Reconditioning (Summary of References)

- ”Special tools”
- ”General information”
- ”Using high-pressure washers”
- ”Disconnecting electrical circuits”
- ”Stripping wire ends”
- ”Installing electrical connectors”
- ”METRI PACK connectors with terminal lock at the rear”
- ”METRI PACK connectors”
- ”Connectors for electronic control units”
- ”Connectors”
- ”CRIMP SNAP IN connector”
- ”DEUTSCH connectors”
- ”Individual terminals”
- ”Fuse and relay boxes”

PREVIEW - YOUFIXTHIS.COM

Download full manual at youfixthis.com

Group 05 - Removal and Installation of Electronic Control Units

Electronic Control Units - Summary of References

Instructions when Replacing a Control Unit

Safety

Replace BCU Control Unit

Replace BIF Control Unit

Replace ECU Control Unit

Replace EPC Control Unit

Replace PRF Control Unit

Instructions when Replacing a Control Unit

- Do not replace a control unit with another one unless it is necessary.
- Follow relevant diagnostic procedures to determine cause of problem.
- Specific diagnostic trouble codes will be displayed if a control unit is defective.

→NOTE:

As far as possible, read the following data out from the control unit before you replace it with another one.

- **To make sure that the correct replacement unit is used, determine the software version (for software information, see Operation and General Information on Diagnostics - Approved Software for Control Units , Section 245, Group 05).**
- **Read out the input addresses that are typical for the tractor, and make a note of them (see the calibration and input addresses for the relevant control unit in Section 245).**
- **After replacing a control unit, key in the input addresses and calibrate the following control units: BIF, BCU, and EPC.**

Instructions when Replacing a VIN Control Unit

The following control units are of this type:

Download full manual at youfixthis.com
PREVIEW - YOUFIXTHIS.COM

Group 00 - Removal and Installation of Components

PowrQuad Transmission - Removal and Installation of Components, Summary of References

PowrQuad Transmission - Removal and Installation of Components, Special Tools

PowrQuad Transmission - Removal and Installation of Components, Specifications

PowrQuad Plus Transmission, Removal and Installation

AutoQuad Plus Transmission, Removal and Installation

Remove PowrQuad Transmission

Install PowrQuad Transmission

Remove Reduction Gear

Install Reduction Gear

Remove Range Transmission

Install Range Transmission

PowrQuad Transmission - Removal and Installation of Components, Special Tools

Special tools (available as spare part), see Section 99, Group 10

JDG19 - Lifting eye

JDG1655A - Suspension device for PowrQuad module

PowrQuad Transmission - Removal and Installation of Components, Specifications

PREVIEW - YOUFIXTHIS.COM

Download full manual at youfixthis.com

Group 00 - Removal and Installation of Components

Drive Systems - Removal and Installation of Components, Summary of References

Drive Systems - Removal and Installation of Components, Special Tools

Drive Systems - Removal and Installation of Components, Specifications

Remove Front-Wheel Drive Clutch

Install Front-Wheel Drive Clutch

Remove Differential Housing

Install Differential Housing

Remove Final Drives

Install Final Drives

Remove Rear PTO

Install Rear PTO

Remove Front PTO

Install Front PTO

Drive Systems - Removal and Installation of Components, Special Tools

Special tools (dealer-fabricated), Section 99, Group 05

DFLX1 - Adapter strut

Special tools (available as spare part), Section 99, Group 10

JDE83 - Flywheel turning tool, 4-cylinder engines

JDG19 - Lifting eye

JDG23 - Lifting sling

JT02043 - Support stand

JT02044 - Support stand

PREVIEW - YOUFIXTHIS.COM

Download full manual at youfixthis.com

Group 05 - Hydrostatic Steering

Hydrostatic Steering - Summary of References

" Disconnect/Connect Steering or Brake Hoses "

" Remove and Install Steering Unit "

" Steering Unit Components "

" Remove Steering Wheel "

" Install Steering Wheel "

" Remove Panels from Steering Column "

" Install Panels on Steering Column "

" Repair Steering Column "

Special Tools

Special tools (available as spare part), see Section 99, Group 10

KJD10293 - Disconnecting tool

Specifications

Item	Measurement	Specification
Steering wheel and column		
Steering wheel-to-spindle, hex. nut	Torque	50 N˙m (35 lb-ft)
Handwheel on spindle, self-locking hex. nut	Torque	20 N˙m (15 lb-ft)
Steering valve		
Steering valve to cab floor, cap screws	Torque	25 to 30 N˙m
		18 to 22 lb-ft
Connectors (straight) to steering valve (connections for pressure lines)	Torque	55 N˙m (40 lb-ft)
Connector (elbow) to steering valve (connection for LS-line)	Torque	35 N˙m (25 lb-ft)

PREVIEW - YOUFIXTHIS.COM

Download full manual at youfixthis.com

Group 05 - Controls

Hydraulic System - Controls (Summary of References)

" Selective Control Valves - Remove and Install the Actuating Elements "

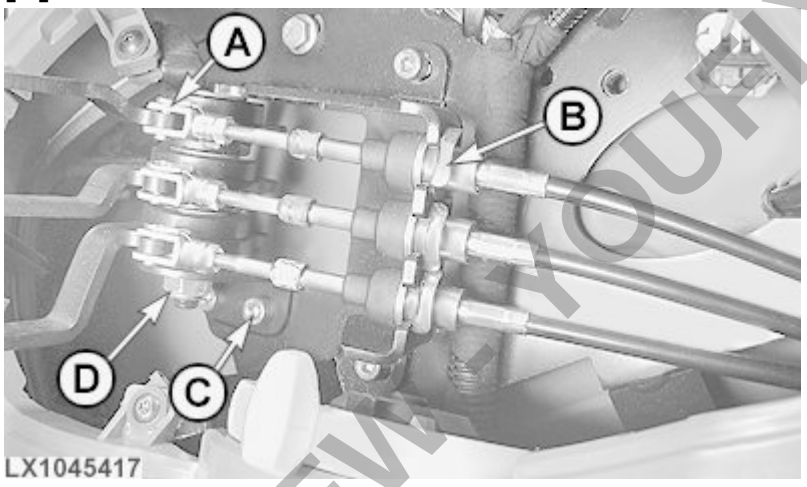
" Selective Control Valve - Adjust the Bowden Cable "

" Remove and Install the Multi-Function Lever "

" Adjust Multi-Function Lever "

Selective Control Valves - Remove and Install the Actuating Elements

[1] -



SCV bowden cables

Remove the shift gate, and put marks on the levers and bowden cables to facilitate their re-installation. In each case, disengage yoke (A) and counter-bracket (B). Remove screws (C) and nut (D), and lift off the bracket.

[2] - Pull the lever off the shaft and then examine all parts for damage or signs of wear. If necessary, install new parts.

[3] - Adjust the bowden cable, see " Selective Control Valve - Adjust the Bowden Cable " in this Group.

PREVIEW - YOUFIXTHIS.COM

Download full manual at youfixthis.com

Group 00 - Removal and Installation of Components

Miscellaneous - Removal and Installation of Components, Summary of References

Miscellaneous - Removal and Installation of Components, Special Tools

Miscellaneous - Removal and Installation of Components, Specifications

Remove Main Frame

Install Main Frame

Remove Front Hitch

Install Front Hitch

Remove Front-Wheel Drive Axle

Install Front-Wheel Drive Axle

Remove Front Axle Support

Install Front Axle Support

Miscellaneous - Removal and Installation of Components, Special Tools

Special tools (available as spare part), Section 99, Group 10

D05007ST - Splitting stand

JDG19 - Lifting eye

JDG23 - Lifting sling

JT05724 - Medium-duty front tractor splitting stand

JT05725 - Universal support stand

JT07211 - Support stand

KJD10539 - Adapter for support stand JT07211

KJD10559 - Support stand for front axle and final drives

PREVIEW - YOUFIXTHIS.COM

Download full manual at youfixthis.com

Group 00 - Removal and Installation of Components

Operator´s Cab, Removal and Installation of Components - Summary of References

"Tilt Operator´s Cab Upward" in Section 90, Group 00.

"Tilt Operator´s Cab Downward" in Section 90, Group 00.

"Remove Operator´s Cab" in Section 90, Group 00.

"Install Operator´s Cab" in Section 90, Group 00.

"Disconnect/Connect Steering or Brake Hoses" in Section 90, Group 00.

"Check and Adjust the Shift Mechanisms/Linkages" in Section 90, Group 00.

Special tools

JDG19 special lifting eyes

JDG23 lifting sling

The tilting device consists of the following components:

- KJD10557 - basic kit
- KJD10561 - Bracket for Lift Post (5020 and 5R supplementary kit)
- KJD10562 - Tilt joint kit (5020 and 5R supplementary kit)
- KJD10565 - Storing system for all components of the tilting device

Specifications

Item	Measurement	Specification
Front cab mounting, cap screw	Torque	220 N˙m
		160 lb-ft
Rear cab mounting, cap screws	Torque	220 N˙m
		160 lb-ft
Wheel bolts on flanged rear axle	Torque	500 N˙m
		370 lb-ft

Operator´s Cab, Tilt or Remove and Install - Summary of References

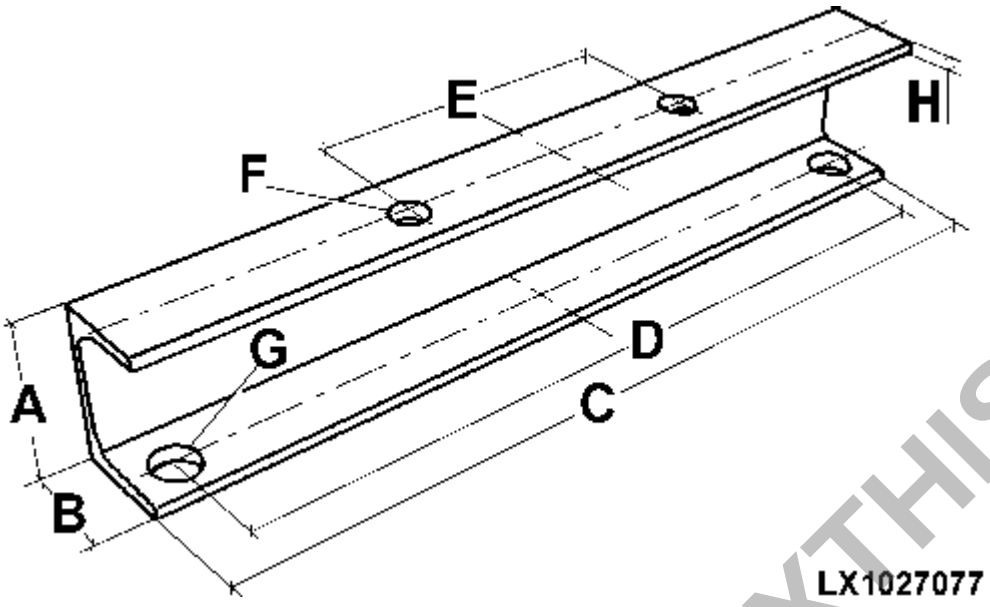
Tilt Operator´s Cab Upward

PREVIEW - YOUFIXTHIS.COM

Download full manual at youfixthis.com

Group 05 - Special Tools (Dealer-Fabricated)

DFLX1 - Adapter Strut



DFLX1 - Adapter Strut

LEGEND:

A	80 mm (3.2 in.)
B	45 mm (1.8 in.)
C	400 mm (16 in.)
D	360 mm (14.17 in.)
E	140 mm (5.51 in.)
F	Bore, 13 mm (1/2”)
G	Bore, 19 mm (3/4”)
H	8 mm (5/16”)

Installing the rear PTO housing on a support stand.

Use in conjunction with JT05723 universal support stand

→NOTE:

Use high-tensile attaching screws only. When securing the adapter strut, remember to use washers to DIN6918 on the inside; the washers must have an 8% incline.

Make from U-shaped steel to U-80 DIN1026-St37-2 (UNP-80 EN10279) standard. Hardware required: Two M12 x 60 mm cap screws and two M16 x 40 mm cap screws.

PREVIEW - YOUFIXTHIS.COM

Download full manual at youfixthis.com

Foreword

This Repair Manual is valid for the following tractor types:

5080R, 5090R, 5100R, 5080RN, 5090RN and 5100RN.

This manual is written for experienced technicians. Special 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 initial section of this manual and the cautions presented throughout the text of the manual.

CAUTION:

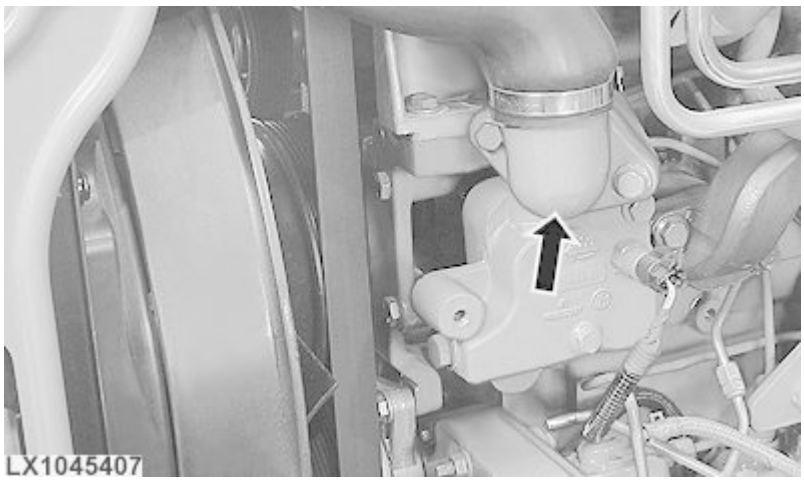
This is the safety-alert symbol. When you see this symbol on the machine or in this manual, be alert to the potential for personal injury.

Technical Manuals are concise service 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.

PREVIEW - YOUFIXTHIS.COM

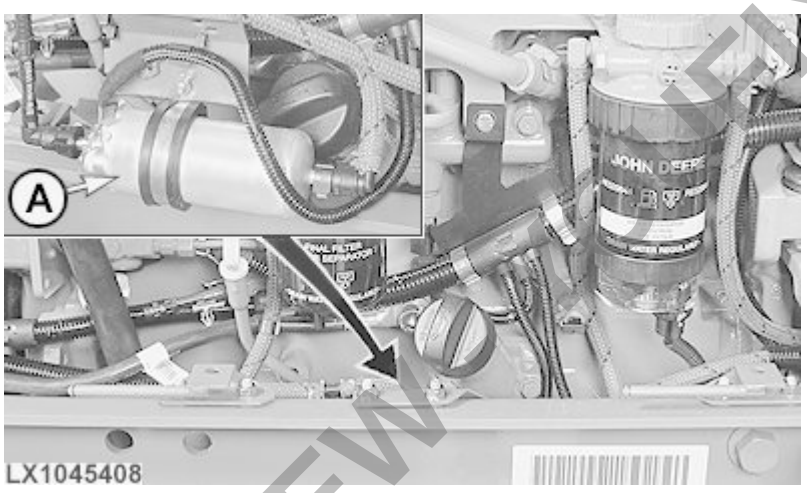
Download full manual at youfixthis.com



Engine thermostat

Refer to Engine Technical Manual.

Check Operation of Fuel Transfer Pump



Check the Fuel Transfer Pump

LEGEND:

A Fuel transfer pump

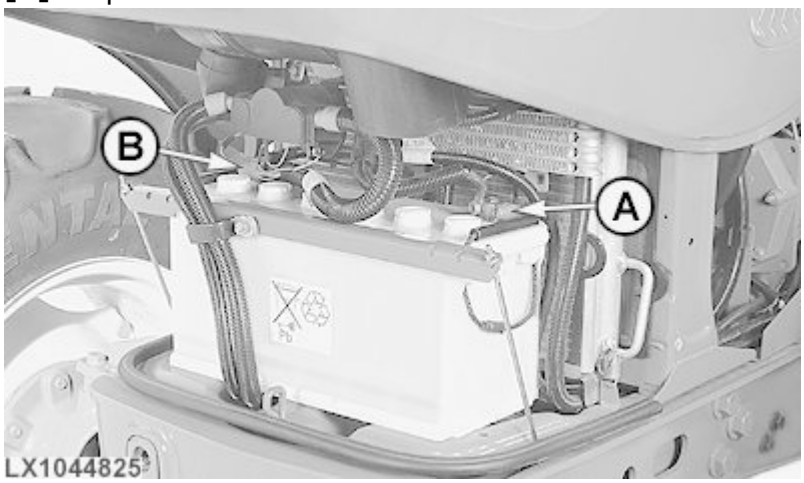
In case of malfunctions, see " Fuel System - Check Fuel Transfer Pump " in Section 230, Group 15.

PREVIEW YOUFIXTHIS.COM

Download full manual at youfixthis.com

Thermostat and Temperature Sensor, Removal and Installation

[1] - Open the hood.



Disconnecting the battery

LEGEND:

A Negative terminal (—)
B Positive terminal (+)

Disconnect the negative terminal (—) on the battery. The version shown here has its negative terminal at the location marked (A).

⚠ ***CAUTION:***

Always pay close attention to battery terminals.

Comply with safety instructions on how to handle batteries (see Section 05).

[2] - " Drain Coolant ", see in this Group.

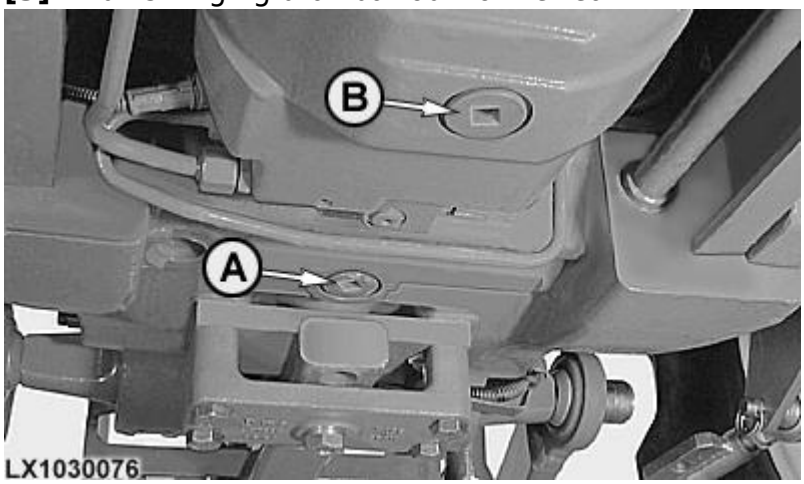
⚠ ***CAUTION:***

There is a danger of serious burns (scalding), so do this job only when the coolant temperature has dropped to a safe level.

PREVIEW - YOUFIXTHIS.COM

Download full manual at youfixthis.com

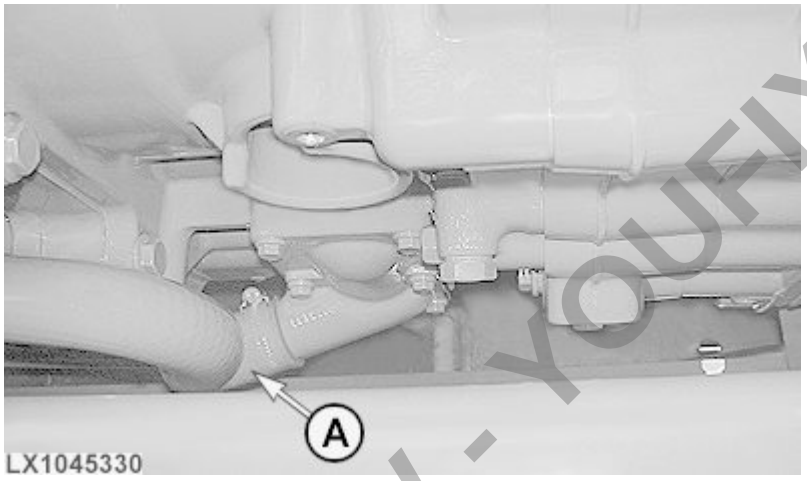
[3] - Pull swinging drawbar out to the rear.



Oil drain plugs

Remove oil drain plugs (A) and (B). Drain transmission oil into a suitable container.

[4] - Disconnect return hose (A) from the PowrQuad module.

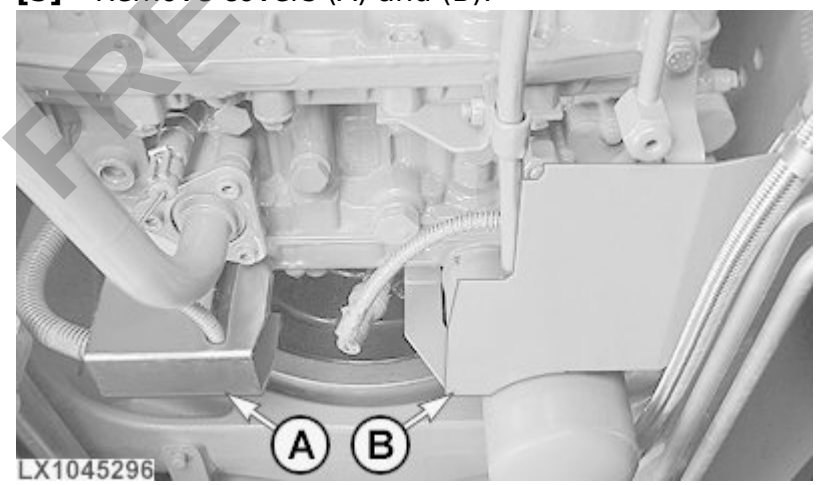


Pull off the hose

→NOTE:

Trap oil as it emerges. Seal the open ends so that no dust can penetrate.

[5] - Remove covers (A) and (B).



Suction line and cover

PREVIEW - YOUFIXTHIS.COM

Download full manual at youfixthis.com

[1] -



B2-B3 piston



B2-B3 piston

LEGEND:

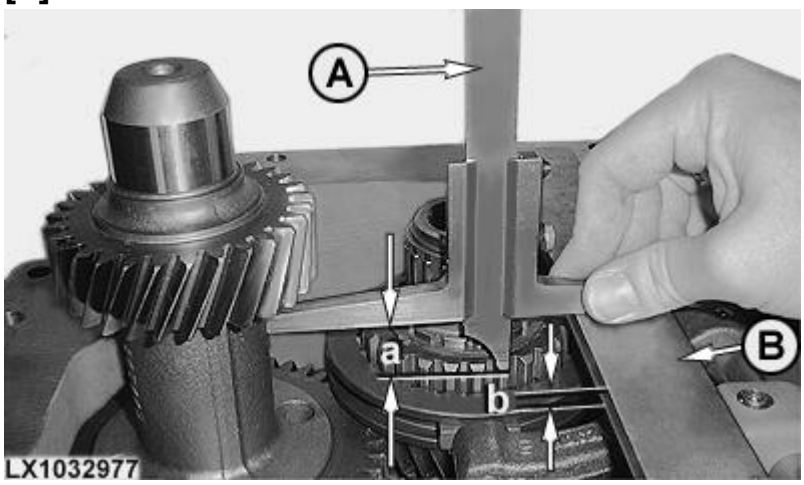
A Oil passage for B3 piston
B Oil passage for B2 piston

Using compressed air, carefully force the B2 and B3 brake pistons out of the housing.

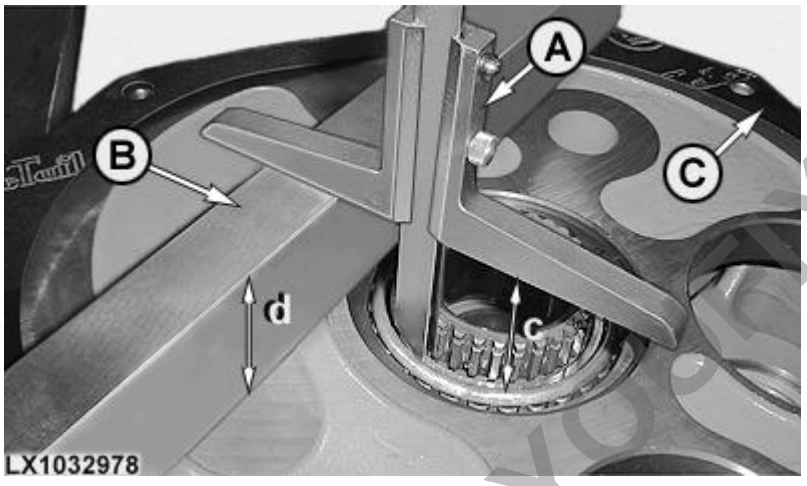
PREVIEW OF YOUFIXTHIS.COM

Download full manual at youfixthis.com

[2] -



Measuring at reduction gear



Measuring at range transmission

Place a strong straight edge (B) across the reduction gear flange and determine dimension (a) using a depth gauge (A). Record the value in the table below. Determine thickness (b) of straight edge (B) and record this value as well.

[3] - Place a strong straight edge (B) across the range transmission housing flange and determine dimension (c) using a depth gauge (A). Record the value in the table below. Determine thickness (d) of straight edge (B) and record this value as well.

IMPORTANT:

Gasket (C) must be installed on housing flange when measuring.

[4] - Record all dimensions in the table and calculate the value for (z).

Table for calculation

a		minus	b		=	x	
c		minus	d		=	y	
x		plus	y		=	z	

PREVIEW - YOUFIXTHIS.COM

Download full manual at youfixthis.com

→NOTE:

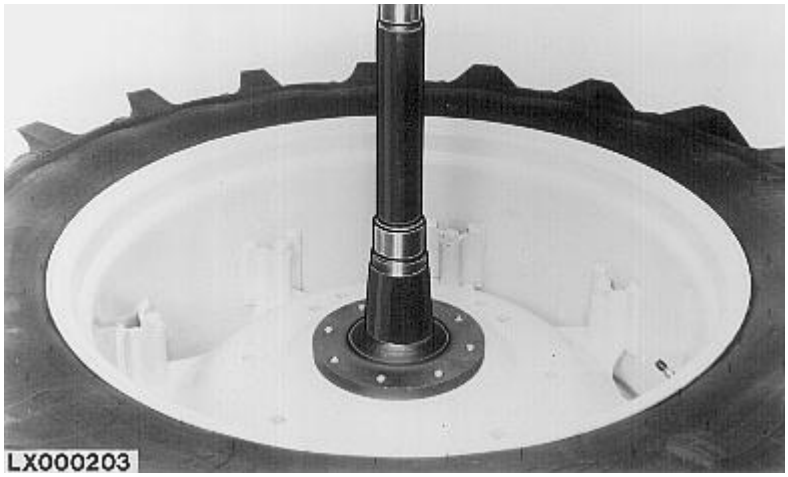
Now the torque wrench is actually set to 135 N˙m (100 lb-ft) though the torque value indicated is lower.

U-Jointed Shafts and Torsion Damper - Specifications

Item	Measurement	Specification
U.j. shaft to front-wheel drive axle, cap screw	Torque	125 N˙m
		92 lb-ft
U.j. shaft (front-wheel drive) - anti-wrap guard, cap screw	Torque	35 N˙m
		26 lb-ft
Torsion damper bearing to flywheel, screw	Torque	65 N˙m
		48 lb-ft
Torsion damper to flywheel, cap screw	Torque	70 N˙m
		52 lb-ft
U.j. shaft (engine), corrugated-head screws	Torque	135 N˙m
		100 lb-ft

PREVIEW - YOUFIXTHIS.COM

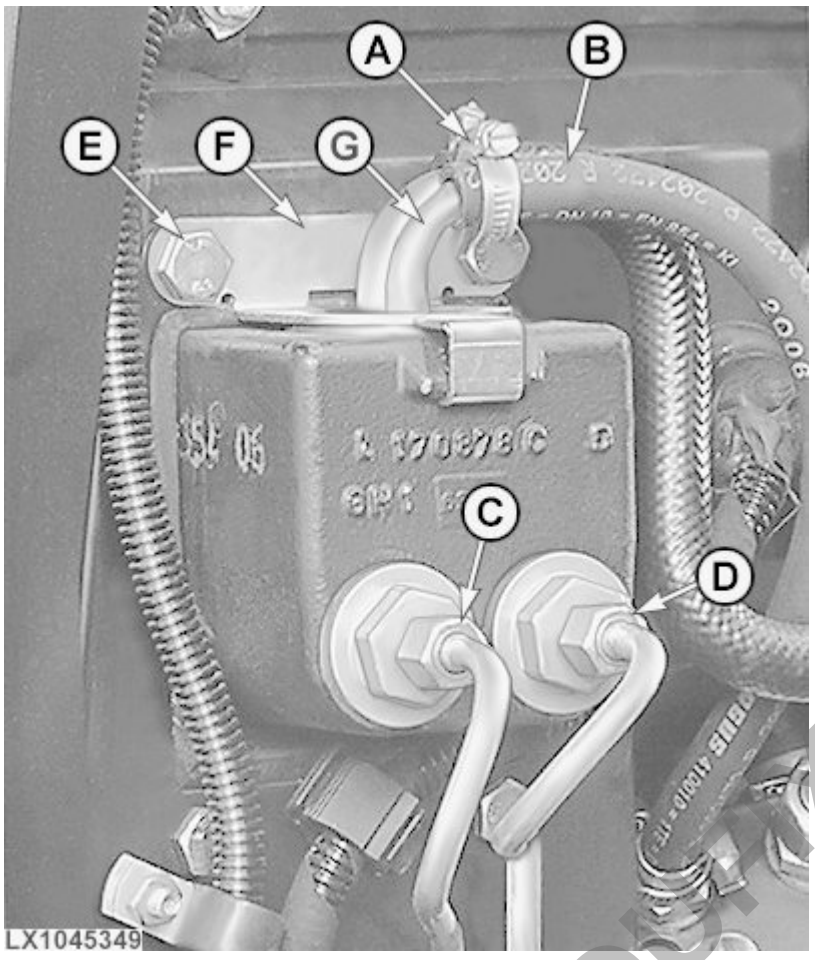
Download full manual at youfixthis.com



Flanged axle

PREVIEW - YOUFIXTHIS.COM

Download full manual at youfixthis.com



Brake Lines

LEGEND:

- A Hose
- B Hose
- C Brake line
- D Brake line
- E Cap screws
- F Retaining plate
- G Inlet neck

Install the brake valve in the cab.

Install inlet neck (G) and engage retaining plate (F).

Install the four cap screws (E) and tighten them to the specified torque.

Item	Measurement	Specification
Brake valve to cab wall, cap screws	Torque	65 N˙m
		48 lb-ft

Connect hoses (A) and (B) and brake lines (C) and (D) to the brake valve.

[2] -

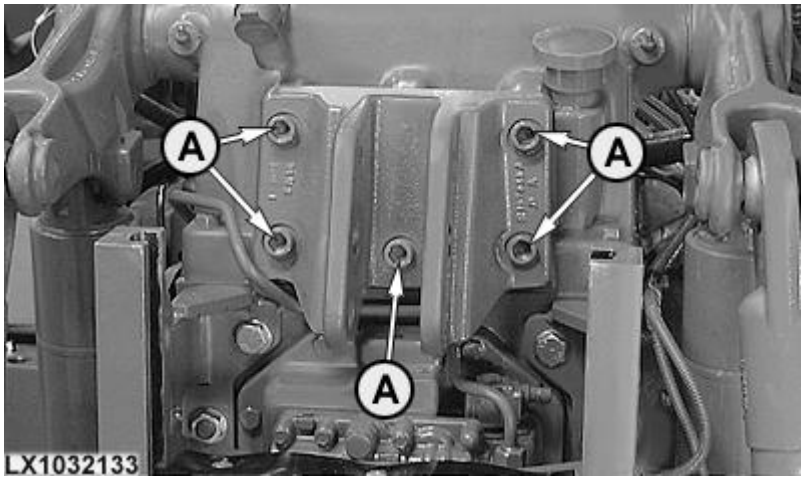
PREVIEW - YOUFIXTHIS.COM

Download full manual at youfixthis.com

Remove and Install Rockshaft Housing

Removal:

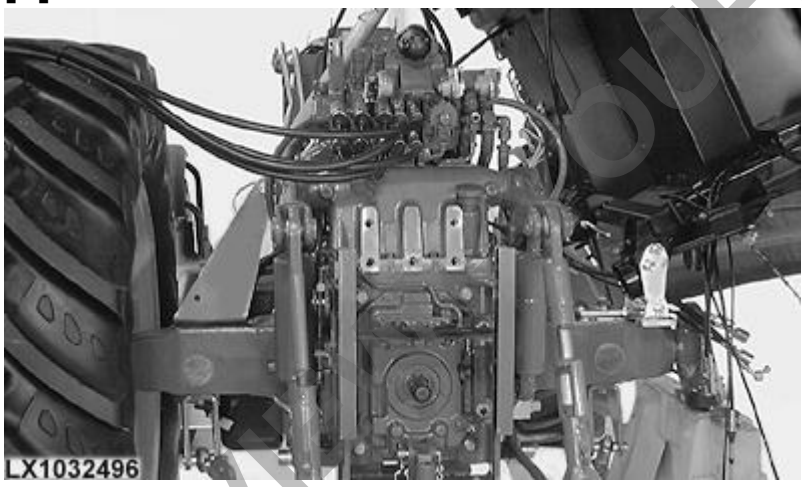
[1] -



Center link support

Take out hex. socket screws (A) and remove the center link support.

[2] -

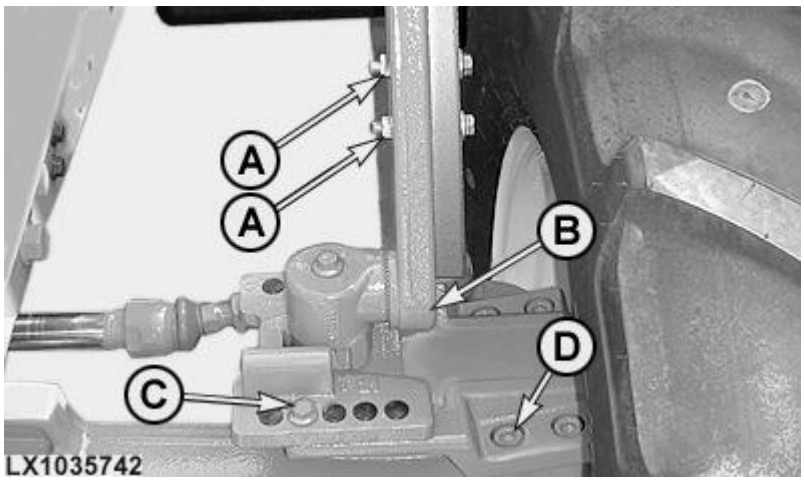


Tilt operator´s cab upward

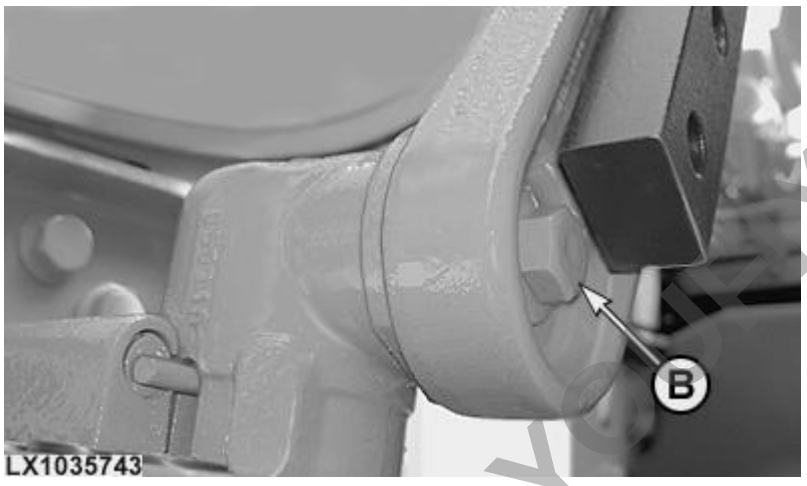
See “ Tilt Operator´s Cab Upward ” in Section 90, Group 00.

PREVIEW YOUFIXTHIS.COM

Download full manual at youfixthis.com



Tightening the screws



Tightening the screws

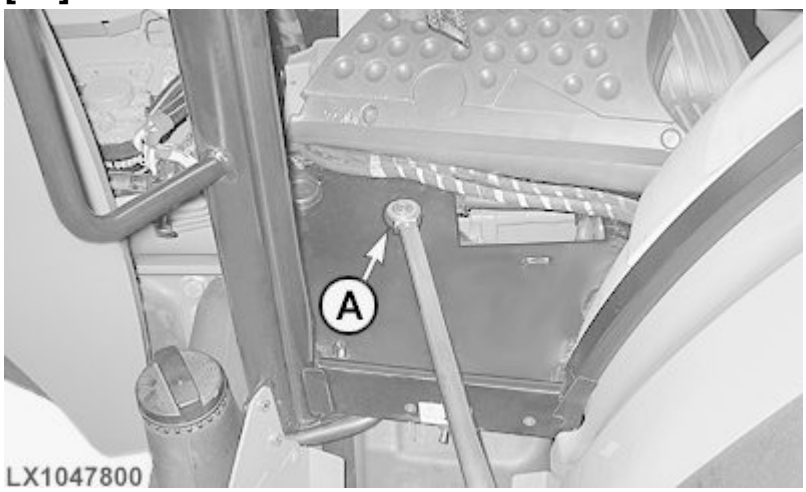
Tighten the screws to the following torque values:

Item	Measurement	Specification
Cap screws (A), support to adjusting arm	Torque	140 N˙m (105 lb-ft)
Cap screw (B), adjusting arm to pivot	Torque	300 N˙m (220 lb-ft)
Cap screws (C), pivot plate to base	Torque	140 N˙m (105 lb-ft)
Hex. socket screws (D), base to knuckle housing	Torque	190 N˙m (140 lb-ft)

PREVIEW - YOUFIXTHIS.COM

Download full manual at youfixthis.com

[14] -



Front Cab Mountings

Lift the floor mat, remove the caps and take out both front cab mounting screws (A).

PREVIEW - YOUFIXTHIS.COM

Download full manual at youfixthis.com

[14] - Hose system with clamps: Cut hose clamp (10) and pull compressed-air hose (8) off the compressor (5) tube.

IMPORTANT:

Do not damage compressor tube as leaks may be the result.

· Thoroughly clean compressor tube before connecting the compressed-air hose (8).

· When connecting to hoses with quick-coupling system, cut straight across compressed-air hose (8) end.

[15] - Pull out compressor cable (7) from the bottom and lift compressor (5) with compressor cable (7) out from the front.

[16] - Remove pad (11) from the lower section of the spring assembly (3).

→NOTE:

Place pad (11) under the compressor (5) so that there is no contact between the compressor (5) and the lower section of the spring assembly (3).

[17] - Re-install in reverse order.

PREVIEW - YOUFIXTHIS.COM

Download full manual at youfixthis.com

PREVIEW ONLY

You're viewing 25 of 1306 pages

The full manual includes:

- All 1306 pages, complete
- Searchable PDF (find any keyword)
- No watermarks
- Instant download
- Print-ready quality

GET FULL MANUAL NOW

John Deere 5080R, 5090R, 5100R, 5080RN, 5090RN, 5100RN Repair Manual

Scan or click anywhere
youfixthis.com

Click anywhere on this page to get the full manual