

1133, 1144, 1155, 1157 and 1158 Combines



**John Deere Werke Zweibrücken
TM4476**

Printed in Germany (English)

SUMMARY OF MOST IMPORTANT SPECIFICATIONS 1133, 1144, 1155, 1157, 1158

SPECIFICATIONS

4239, 6359 Engines

Valve clearance, intake valve	0.35 mm (0.014 in.)
Valve clearance, exhaust valve	0.45 mm (0.018 in.)
Compression	2100 kPa (21 bar; 300 psi)
Max. difference in compression pressure between cylinders	350 kPa (3.5 bar; 50 psi)
Opening pressure of a new injection nozzle	25100 to 25800 kPa (251 to 258 bar; 3650 to 3750 psi)

Minimum opening pressure of a used nozzle	24100 kPa (241 bar; 3500 psi)
Maximum difference in opening pressure	700 kPa (7 bar; 100 psi)

Fast idle	2675 + 50 rpm
Slow idle	1200 + 50 rpm

Air Intake System

Air cleaner restriction indicator light will glow at a vacuum of	500 mm (20 in.) waterhead
--	---------------------------

Cooling System

Thermostat opening temperature	71 to 82°C (160 to 180°F)
--------------------------------	---------------------------

Electrical System

Battery voltage	12 volts
Alternator output current (at 14 volts)	
– 1133, 1144	55 amps
– 1155, 1157, 1158	95 amps

Hydraulic System

Hydraulic pump delivery	
– 1133, 1144	32.4 liters/min (8.5 gpm)
– 1155, 1157, 1158	38.4 liters/min (10 gpm)
Pressure relief valve setting	13800 to 14500 kPa (138 to 145 bar; 2000 to 2100 psi)

SPECS-ZIB/AE-1111/89

SUMMARY OF MOST IMPORTANT SPECIFICATIONS 1133, 1144, 1155, 1157, 1158

SPECIFICATIONS (Continued)

Steering System	
Pressure relief valve setting	10500 kPa (105 bar; 1520 psi)
Safety valve setting	15000 to 16500 kPa (150 to 165 bar; 2175 to 2390 psi)

Clutch

Minimum thickness of clutch disk	7 mm (0.28 in.)
----------------------------------	-----------------

Wheels

Wheel bolt torques	
– Front wheels	420 Nm (304 ft-lb)
– Rear wheels	180 Nm (130 ft-lb)

CAPACITIES

Engine lubrication system	
– 1133, 1144, 1155	8.5 liters (2.25 U.S.gal.)
– 1157	11.5 liters (3.05 U.S.gal.)
– 1158	13 liters (3.4 U.S.gal.)

Transmission with differential

– 1133, 1144	12 liters (3.25 U.S.gal.)
– 1155, 1157, 1158	6.6 liters (1.75 U.S.gal.)

Final drive (each), 1155, 1157, 1158	2.1 liters (0.55 U.S.gal.)
--------------------------------------	----------------------------

Complete hydraulic system

– 1133, 1144, 1155	15 liters (4.0 U.S.gal.)
– 1157, 1158	25 liters (6.6 U.S.gal.)

Engine cooling system

– 1133, 1144, 1155	22 liters (5.8 U.S.gal.)
– 1157, 1158	25 liters (6.6 U.S.gal.)

Refrigerant capacity (air conditioning)

	1950 g (68.8 oz.)
Compressor oil charge	320 cm ³ (19.5 cu.in.)

Fuel tank capacity

– 1133, 1144	110 liters (29 U.S.gal.)
– 1155, 1157, 1158	175 liters (46 U.S.gal.)

SPECS-ZIB/AE-1111/89

Combines 1133, 1144, 1155, 1157 and 1158 TECHNICAL MANUAL TM-4476 (JAN-90)

CONTENTS OF SECTIONS

SECTION 10 – GENERAL

Group 05 – Specifications

SECTION 20 – ENGINE REPAIR

Group 05 – Removal and installation, 4-cyl. engine
Group 10 – Removal and installation, 6-cyl. engine

SECTION 30 – FUEL AND AIR REPAIR

Group 05 – Fuel filter with water trap and electrical fuel transfer pump

SECTION 40 – ELECTRICAL SYSTEM REPAIR

Group 05 – Connectors
Group 10 – Electrical system components
Group 15 – Starting motor
Group 20 – Alternator
Group 25 – Low shaft speed monitor system
Group 30 – Electromagnetic transmission brake

SECTION 50 – POWER TRAIN REPAIR

Group 05 – Variable ground speed drive
Group 10 – Engine clutch and mechanical clutch operation (3-speed transmission)
Group 15 – Engine clutch operation (4-speed transmission)
Group 20 – Engine clutch (4-speed transmission)
Group 25 – Three-speed transmission
Group 30 – Four-speed transmission with differential
Group 35 – Final drives, differential (3-speed transmission)
Group 40 – Final drives (4-speed transmission)
Group 45 – Final drive on rice combine (4-speed transmission)

*COPYRIGHT© 1990 DEERE & COMPANY
European Office Mannheim
All rights reserved
A John Deere ILLUSTRATION™ Manual*

SECTION 60 – BRAKES, REAR AXLE AND STEERING REPAIR

Group 05 – Parking brake (3-speed transmission)
Group 10 – Parking brake (4-speed transmission)
Group 15 – Brake operation
Group 20 – Foot brakes (3-speed transmission)
Group 25 – Foot brakes (4-speed transmission)
Group 30 – Foot brakes with integrated slave cylinder
Group 35 – Hydrostatic steering unit
Group 40 – Rear axle
Group 45 – V-support for wide rear axle
Group 50 – Steering cylinder

SECTION 70 – HYDRAULIC SYSTEM REPAIR

Group 05 – Hydraulic oil reservoir and lines
Group 10 – Hydraulic pump
Group 15 – 4-spool control valve with flow divider
Group 20 – Hydraulic cylinders
Group 25 – Hydraulic system diaphragm-type accumulator

SECTION 80 – MISCELLANEOUS

Group 05 – Bearings and shafts
Group 10 – Drive belts
Group 15 – Drive chains

SECTION 90 – OPERATOR'S PLATFORM WITH CAB

Group 05 – Safe handling of refrigerants
Group 10 – Air conditioning compressor
Group 15 – Air conditioning system components
Group 20 – Air conditioning system service and tests
Group 25 – Cab ventilation system
Group 30 – Cab heating system
Group 35 – Operator's cab
Group 40 – Control levers
Group 45 – Operator's seat

SECTION 100 – CUTTING PLATFORM AND CORN HEAD

INHA-ZI81AE-111189

<https://www.ebooklibonline.com>

Hello dear friend!

Thank you very much for reading.

Enter the link into your browser.

The full manual is available for immediate download.

<https://www.ebooklibonline.com>

CONTENTS OF SECTIONS – CONTD.

SECTION 110 – FEEDER HOUSE

- Group 05 – Feeder house drive
- Group 10 – Feeder house with compact cutting platform
- Group 15 – Feeder house with quick-tach cutting platform

SECTION 120 – SEPARATOR AND CLEANING UNIT

- Group 05 – Stone trap
- Group 10 – Separator drive
- Group 15 – Variable cylinder drive
- Group 20 – Threshing cylinder
- Group 25 – Concave
- Group 30 – Beater variable drive
- Group 35 – Beater
- Group 40 – Cross shaker
- Group 45 – Straw walkers
- Group 50 – Cleaning shoe, grain return pan and auger housing
- Group 55 – Fan and variable speed drive

SECTION 130 – GRAIN PROCESSING

- Group 05 – Clean grain and tailings augers
- Group 10 – Clean grain elevator
- Group 15 – Tailings elevator
- Group 20 – Upper tailings auger
- Group 25 – Grain tank leveling auger
- Group 30 – Grain tank center fill auger
- Group 35 – Inner grain tank unloading auger
- Group 40 – Outer grain tank unloading auger
- Group 45 – Discharge tube

SECTION 140 – SPECIAL EQUIPMENT

- Group 05 – Straw chopper drive
- Group 10 – Straw chopper rotor bearings

SECTION 220 – ENGINE OPERATION

SECTION 230 – FUEL AND AIR INTAKE SYSTEM OPERATION

- Group 05 – General information, fuel filter and fuel transfer pump

SECTION 240 – ELECTRICAL SYSTEM – OPERATION AND TESTS

- Group 05 – General information
- Group 10 – Circuit plan, wiring diagram and wiring harnesses
- Group 15 – Checking indicator lights
- Group 20 – Checking low shaft speed monitor system
- Group 25 – Checking straw warning device
- Group 30 – Checking electromagnetic transmission brake

SECTION 250 – POWER TRAIN – OPERATION AND TESTS

- Group 05 – Engine clutch and operation (3-speed)
- Group 10 – Engine clutch and operation (4-speed)
- Group 15 – Three-speed transmission
- Group 20 – Four-speed transmission

SECTION 260 – BRAKES, REAR AXLE AND STEERING – OPERATION AND TESTS

- Group 05 – Brake operation
- Group 06 – Foot brake and brake operation (combines with rice equipment)
- Group 10 – Operation and flow diagram – hydrostatic steering
- Group 15 – Diagnosing steering system malfunctions
- Group 20 – Primary (steering) circuit testing

SECTION 270 – HYDRAULIC SYSTEM – OPERATION AND TESTS

- Group 05 – Hydraulic circuit symbols
- Group 10 – Hydraulic lift circuit
- Group 15 – Lifting system - diagnosing malfunctions
- Group 20 – Hydraulic lift circuit – testing

CONTENTS OF SECTIONS - CONTD.

SECTION 290 - OPERATOR'S PLATFORM AND CAB - OPERATION AND TESTS

Group 05 - Cab ventilation system
Group 10 - Air conditioning system
Group 15 - Safe handling of refrigerants
Group 20 - Testing air conditioning system
Group 25 - Cab heating system

INHA-Z183AE-111189

Section 10 GENERAL

CONTENTS OF THIS SECTION

GROUP 05 – SPECIFICATIONS

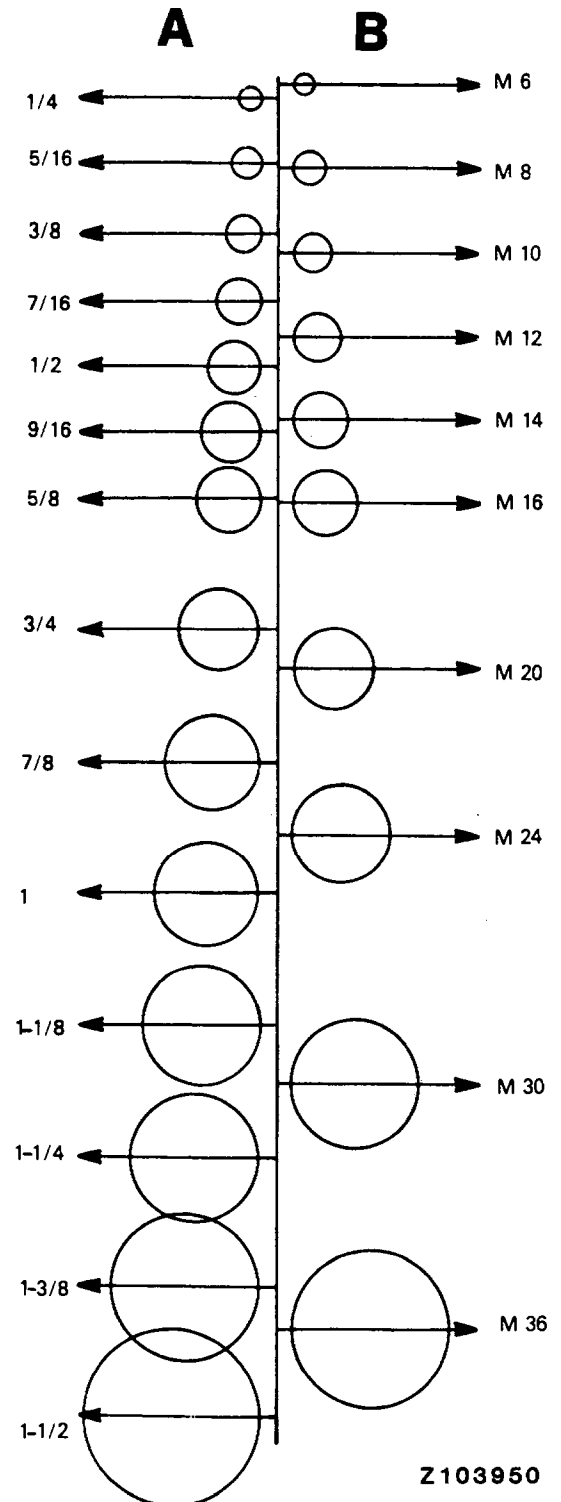
Metric and inch threads	10-05-1
Standard torques	10-05-2

1133	1144	1155	1157	1158
x	x	x	x	x
x	x	x	x	x

METRIC AND INCH THREADS

The adjacent chart compares the diameters of "metric" and "inch" threads.

A-Inch thread
B-Metric thread



Z103950

Z103950-Z121005AE-011084

STANDARD TORQUES – GENERAL

All specified torques are only valid for non-greased or non-oiled threads.

A variation of $\pm 10\%$ is permissible for all torques specified below.

TECH-ZI21005AE-011084

RECOMMENDED TORQUES FOR UNC AND UNF CAP SCREWS

A B			10.9			12.9
	Nm	ft-lb		Nm	ft-lb	
1/4	15	10		20	15	
5/16	30	20		40	30	
3/8	50	35		70	50	
7/16	80	55		110	80	
1/2	120	85		170	120	
9/16	180	130		240	175	
5/8	230	170		320	240	
3/4	400	300		580	425	
7/8	600	445		930	685	
1	910	670		1400	1030	
1-1/8	1240	910		1980	1460	
1-1/4	1700	1250		2800	2060	

Z103947

A—Thread O.D. (in.)
B—Head marking
(identifying strength)

10.9 – Tempered steel high
strength cap screws

12.9 – Tempered steel extra
high strength cap screws

Z103947-ZI21005AE-011084

RECOMMENDED TORQUES FOR METRIC CAP SCREWS

A B	8.8		10.9		12.9	
	Nm	ft-lb	Nm	ft-lb	Nm	ft-lb
M5	7	5	9	6,5	10	8,5
M 6	10	8,5	15	10	20	15
M 8	30	20	40	30	40	30
M 10	50	35	80	60	90	70
M 12	100	75	140	100	160	120
M 14	160	120	210	155	260	190
M 16	240	175	350	260	400	300
M 20	480	355	650	480	780	575
M 24	820	605	1150	850	1350	995
M 30	1640	1210	2250	1660	2700	1990
M 36	2850	2110	4000	2950	4700	3465

Z103948

A-Head marking
(identifying strength)
B-Thread O.D. (mm)

8.8-Regular cap screws
10.9-Tempered steel high
strength cap screws

12.9-Tempered steel extra
high strength cap screws

Z103948-ZI21005AE-011084

RECOMMENDED TORQUES FOR PIPE AND HOSE CONNECTIONS

A	B		C	
	Nm	ft-lb	Nm	ft-lb
3/8-24 UNF	7,5	5,5	8	6
7/16-20 UNF	10	7	12	9
1/2-20 UNF	12	9	15	11
9/16-18 UNF	15	11	25	18
3/4-16 UNF	25	20	45	35
7/8-14 UNF	40	30	60	45
1-1/16-12 UNC	60	45	100	75
1-3/16-12 UNC	70	50	120	90
1-5/16-12 UNC	80	60	140	105
1-5/8-12 UNC	110	80	190	140
1-7/8-12 UNC	150	110	220	160

Z103949

A-Thread size

B-With O-ring

C-With cone

Z103949-ZI21005AE-011084

Section 20

NOTE: Combine engines are included in a separate engine technical manual. The details in this section apply specifically to combine engine installation.

Special tools	20-05-1
Electrical connections	20-05-1
Fuel lines	20-05-2
Speed control linkage	20-05-2
Hydraulic control valve	
connections	20-05-2
Drive belts	20-05-3
Separate engine from	
combine frame	20-05-3
Lifting engine	20-05-4
Engine installation	20-05-4

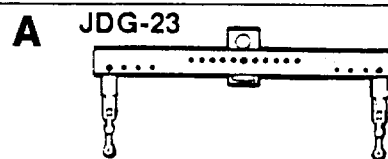
Special tools	20-10-1
Electrical connections	20-10-1
Fuel lines	20-10-2
Speed control linkage	20-10-2
Hydraulic control valve connections	20-10-2
Heater hose connections	20-10-3
Drive belts	20-10-4
Separate engine from combine frame	20-10-4
Lifting engine	20-10-5
Engine installation	20-10-5

[illegible]

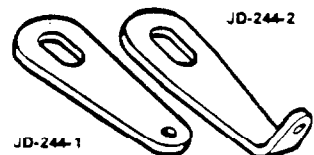
REMOVAL AND INSTALLATION – 4 CYLINDER ENGINE

SPECIAL TOOLS

A-JDG-23 Lifting bracket
B-JD-244 Lifting eyes



B JD-244



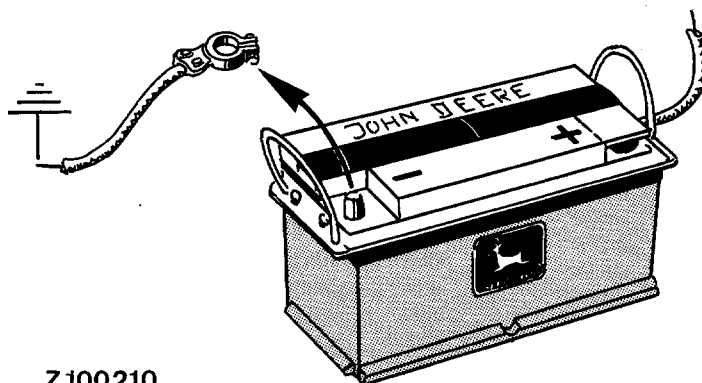
Z103901

Z103901-ZI22005AE-151188

PREPARATIONS

IMPORTANT: Lower feeder conveyor to ground to relieve pressure in hydraulic system.

Disconnect ground (-) and positive (+) cables at the battery and remove battery.

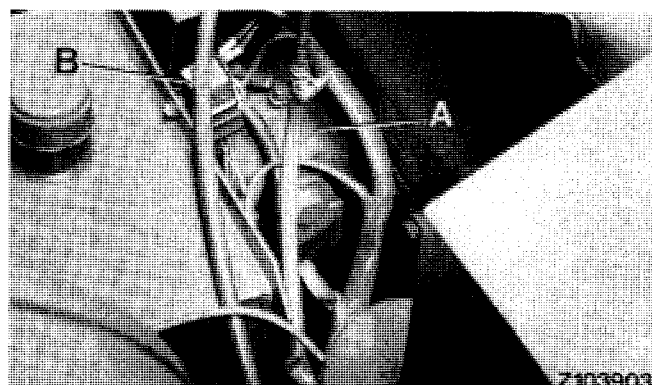


Z100210

Z100210-ZI82005AE-111189

ELECTRICAL CONNECTIONS – STARTING MOTOR

Remove all cable connections at starting motor (A) and starting circuit relay (B).

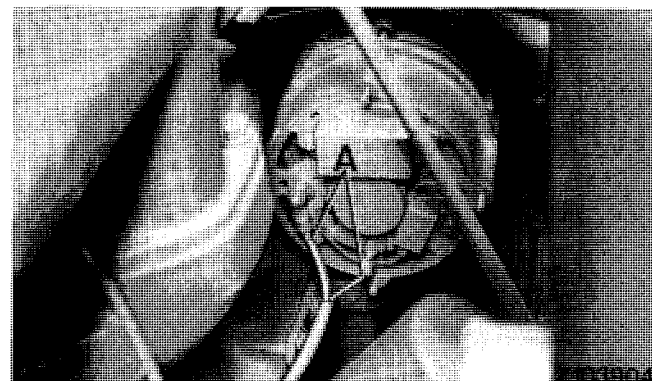


Z103903

Z103903-ZI22005AE-011084

ELECTRICAL CONNECTIONS – ALTERNATOR

Remove both connections (A) at alternator.



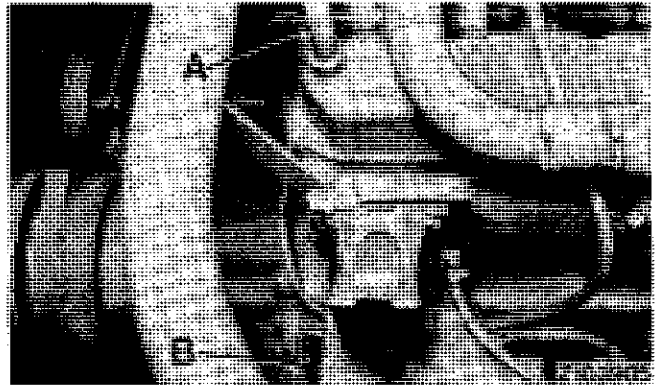
Z103904

Z103904-ZI22005AE-011084

VARIOUS SENDING UNIT CONNECTIONS

Remove connectors at coolant temperature sending unit (A), at engine oil pressure sending unit (B) and at air intake sending unit.

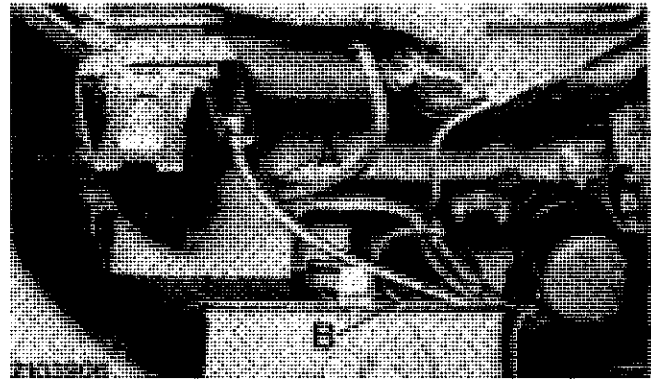
If installed, remove connector of cold start aid.



Z103905-Z122005AE-011084

FUEL LINES

Disconnect fuel inlet line (A) and return line (B).
On engines with cold start aid, remove return line at cold aid.



Z103906-Z122005AE-011084

SPEED CONTROL LINKAGE

Open wire seal at ball joint (A) and separate linkage (B) at fuel injection pump.

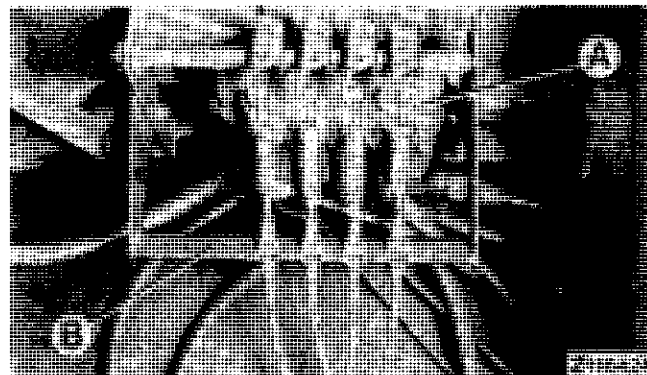


Z103907-Z122005AE-011084

HYDRAULIC CONTROL VALVE

Disconnect cables at control valve (A) and bracket (B).
Disconnect all hoses with the exception of the pressure line from the hydraulic pump and the return line to hydraulic reservoir.

Seal all openings immediately with plastic plugs.

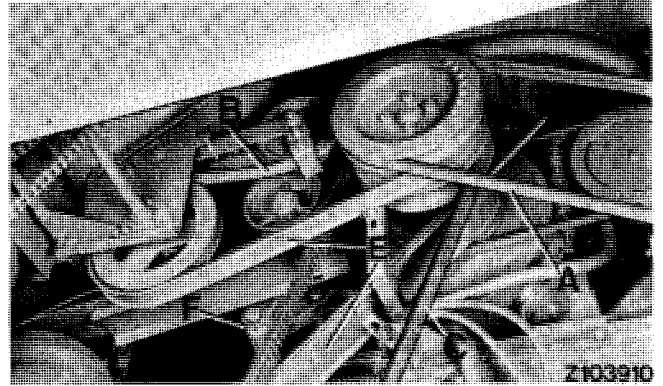


Z116424-Z182005AE-111189

DRIVE BELTS

Remove straw chopper V-belt (A), unloading auger drive belt (B), ground drive belt (C) and flat belt (D). Remove both belt guides (E).

Remove cotter pin of belt tensioner pulley bracket (F).

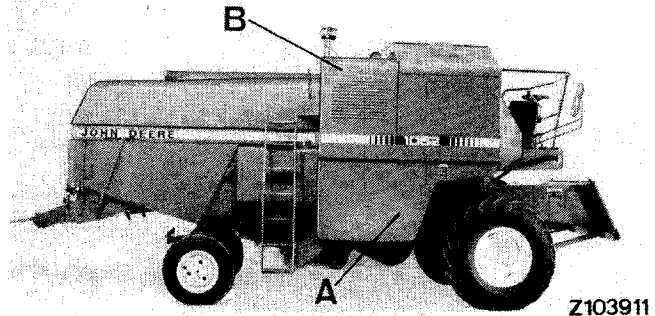


- A—Chopper V-belt
- B—Unloading auger drive belt
- C—Ground drive belt
- D—Flat belt
- E—Belt guide
- F—Pulley bracket

Z103910-Z122005AE-011084

REMOVE GUARDS

Remove right-hand side panel (A) and right-hand engine cover (B).

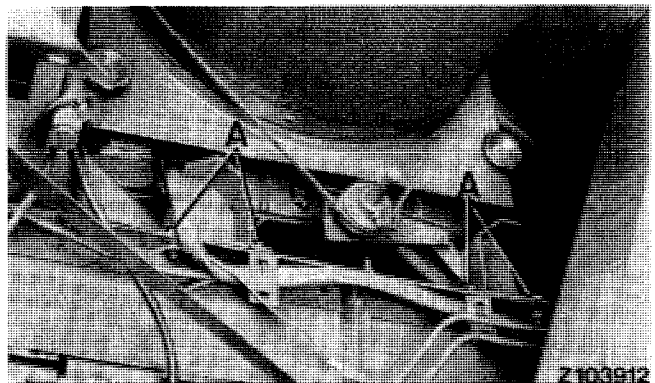


Z103911-Z122005AE-011084

SEPARATE ENGINE FROM COMBINE FRAME

IMPORTANT: Before removal mark position of engine on combine. Mark position on combine and engine mountings both laterally and longitudinally. These markings are essential for correct alignment when reinstalling engine.

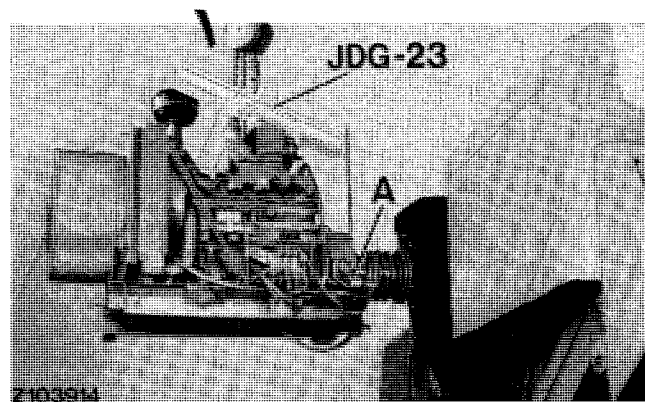
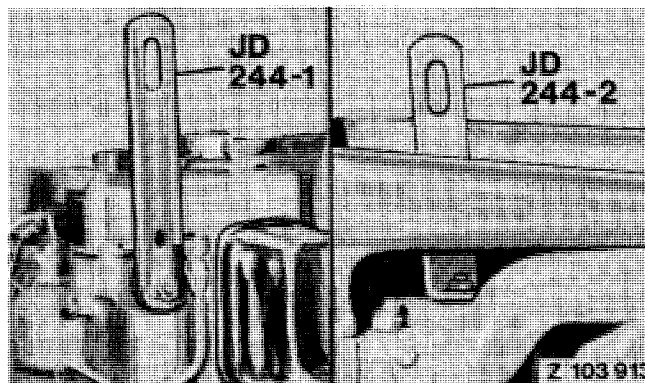
Remove four mounting bolts (A) of engine mounting on right and left-hand sides.



Z103912-Z122005AE-011084

LIFTING ENGINE

Attach lifting eyes JD244-1 and JD244-2 to engine. Attach lifting bracket JDG-23 to lifting eyes. Lift engine with a hoist and slide to right out of combine. At the same time pull tension pulley on the left hand side from bracket (A).



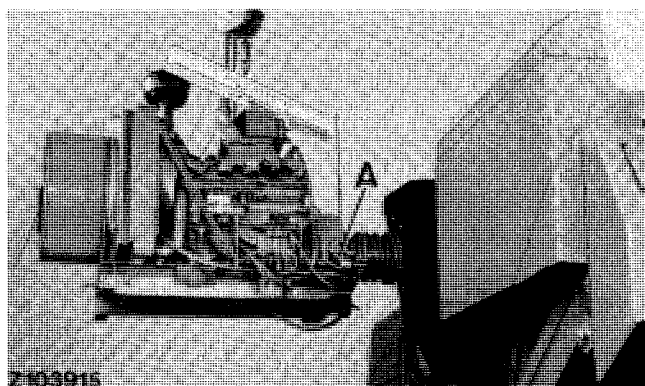
Z103913, Z103914-Z122005AE-011084

ENGINE INSTALLATION

Install engine in reverse removal procedure. While installing engine, place tension pulley on bracket (A). After installing engine, check levels of engine oil and coolant. Align engine with markings carried out during engine removal.

After engine test run, check all attaching screws again for tightness. Check all drive belts (ground drive, hydraulic pump drive, separator drive and unloading auger drive) for correct adjustment, true running and tension.

In the position "Fast Idle" the stop control lever of the fuel injection pump must slightly contact its stop; if not, readjust speed control linkage.



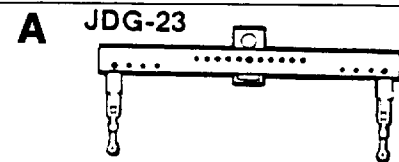
Z103915-Z122005AE-011084

REMOVAL AND INSTALLATION – 6 CYLINDER ENGINE

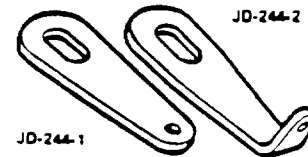
Group 10

SPECIAL TOOLS

A-JDG-23 Lifting bracket
B-JD-244 Lifting eyes



B JD-244



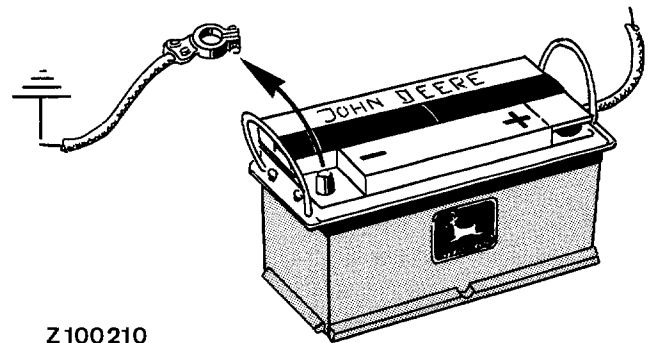
Z103901

Z103901-Z122005AE-151188

PREPARATIONS

IMPORTANT: Lower feeder conveyor to ground to relieve pressure in hydraulic system.

Disconnect ground (-) and positive (+) cables at the battery and remove battery.

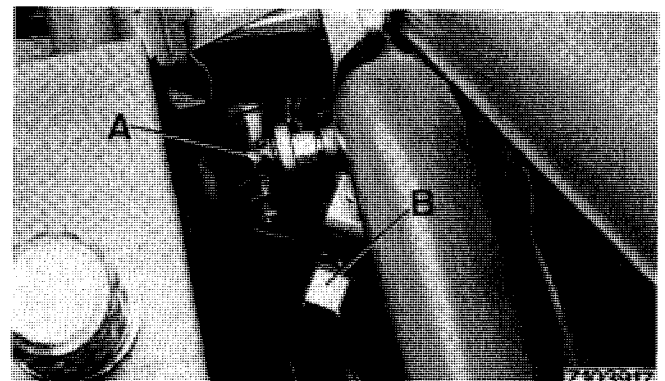


Z100210

Z100210-Z182005AE-111189

ELECTRICAL CONNECTIONS – STARTING MOTOR

Remove all cable connections at starting motor (A) and starting circuit relay (B).



Z103917

Z103917-Z122010AE-011084

ELECTRICAL CONNECTIONS – ALTERNATOR

Remove both connections (A) at alternator.



Z103918

Z103918-Z122010AE-011084



Suggest:

If the above button click is invalid.

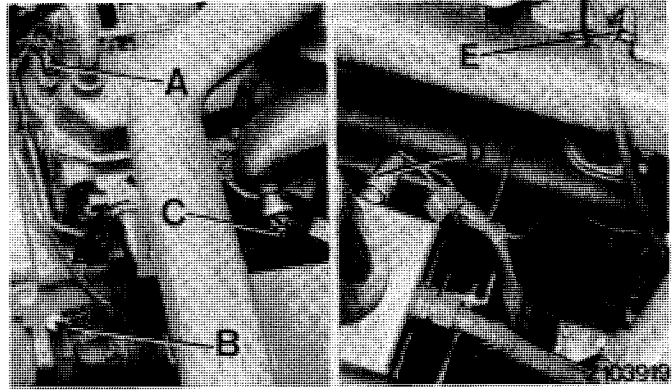
Please download this document first, and then click the above link to download the complete manual.

Thank you so much for reading

VARIOUS SENDING UNIT CONNECTIONS

Remove connectors of following sending units:

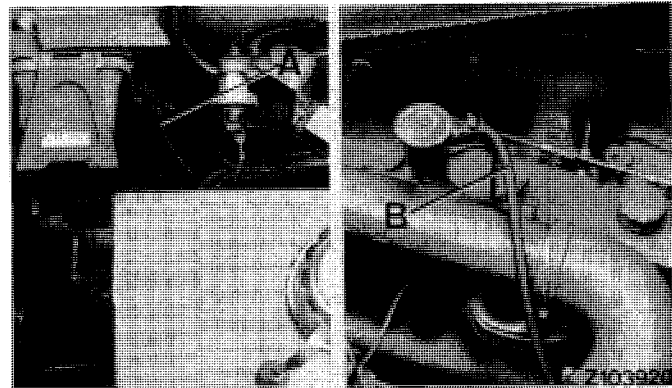
- A–Coolant temperature sending unit
- B–Engine oil pressure sending unit
- C–Air intake sending unit
- E–Cold start aid connector



Z103919-ZI22010AE-011084

FUEL LINES

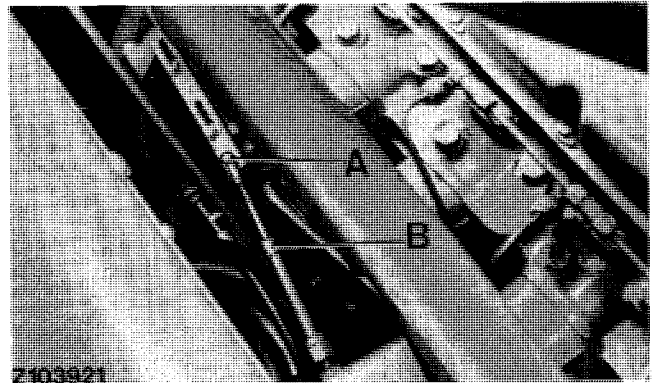
Disconnect fuel inlet line (A) and return hose (B) at cold start aid, or directly at return line



Z103920-ZI22010AE-011084

SPEED CONTROL LINKAGE

Open wire seal at ball joint (A) and separate linkage (B) at fuel injection pump.

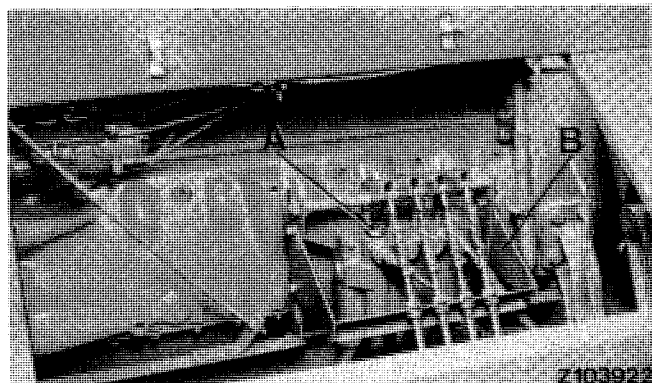


Z103921-ZI22010AE-011084

HYDRAULIC CONTROL VALVE

Disconnect cables at control valve (A) and bracket (B). Disconnect all hose connections with the exception of the pressure line from the hydraulic pump and the return line to hydraulic reservoir.

Seal all openings immediately with plastic plugs.



Z103922-ZI82010AE-111189

<https://www.ebooklibonline.com>

Hello dear friend!

Thank you very much for reading.

Enter the link into your browser.

The full manual is available for immediate download.

<https://www.ebooklibonline.com>