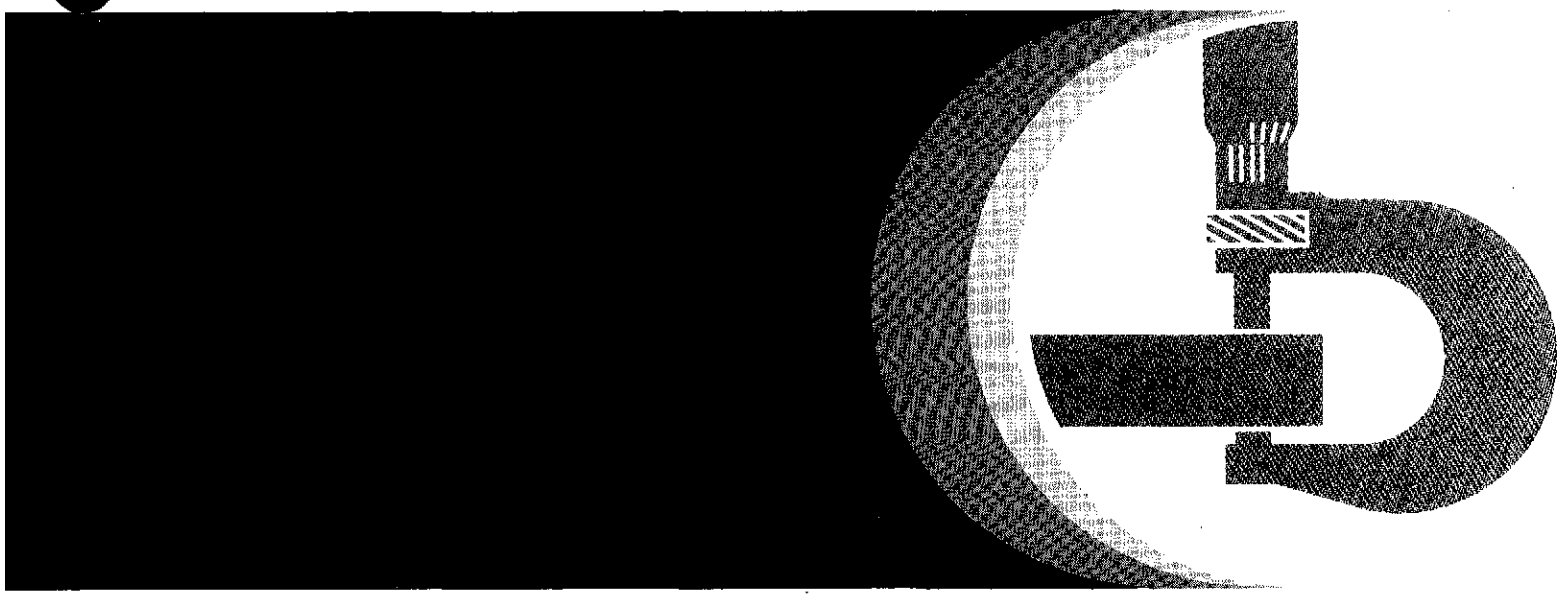
Combines 1032, 1042, 1052 and 1055



John Deere Werke Zweibrücken
TM-4413
Printed in Germany (English)

Combines 1032, 1042, 1052 and 1055
TECHNICAL MANUAL
TM-4413 (FEB-89)

CONTENTS OF SECTIONS IN GROUPS

INHA-ZI21AE-151188

CONTENTS OF SECTIONS – CONTD.

INHA-ZI22AE-000187

CONTENTS OF SECTIONS – CONTD.

INHA-ZI23AE-000187

Section 10
GENERAL

CONTENTS OF THIS SECTION

INHA-ZI2101AE-011084

STANDARD TORQUES – GENERAL

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

A variation of ±10% is permissible for all torques specified below.

TECH-ZI21005AE-011084

RECOMMENDED TORQUES FOR UNC AND UNF CAP SCREWS

B / A	  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

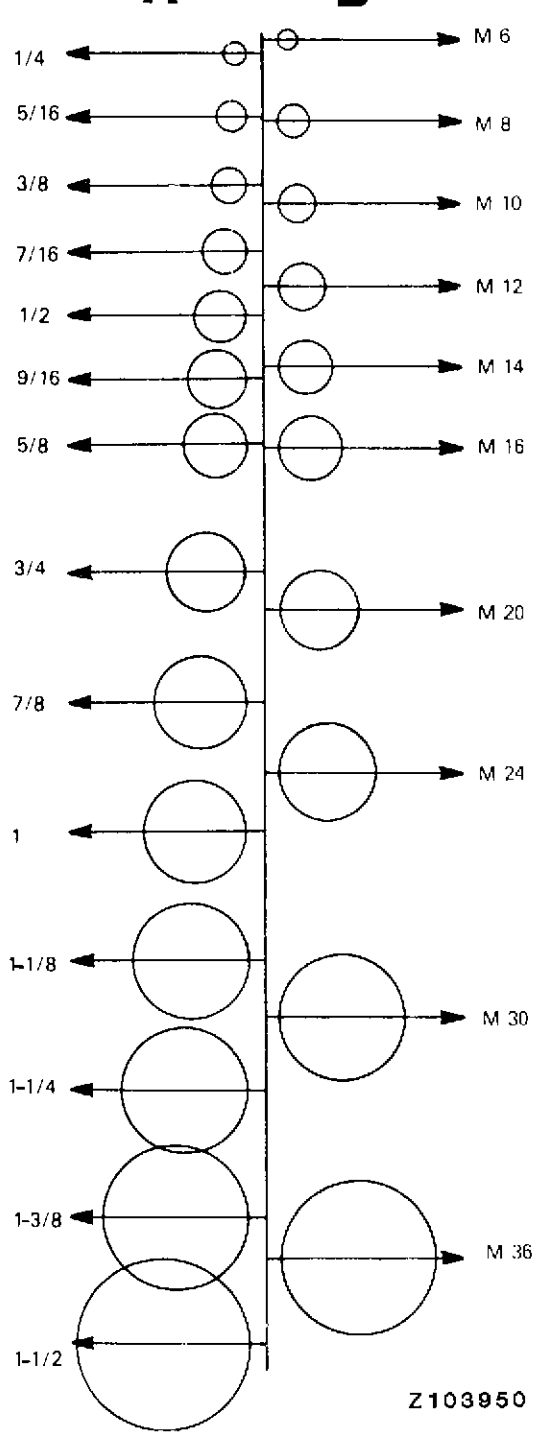
C–With cone

Z103949-ZI21005AE-011084

METRIC AND INCH THREADS

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

A–Inch thread
B–Metric thread



Z103950-ZI21005AE-011084

PRELIMINARY ENGINE CHECK

Air Intake System

Check air intake system vacuum with a vacuum gauge. On turbocharged engines, check air intake vacuum ahead of the turbocharger.

Air cleaner restriction warning switch should close at a vacuum of 6.3 kPa (63 mbar; 25 in.WS).

PRUEF-ZI21010AE-011084

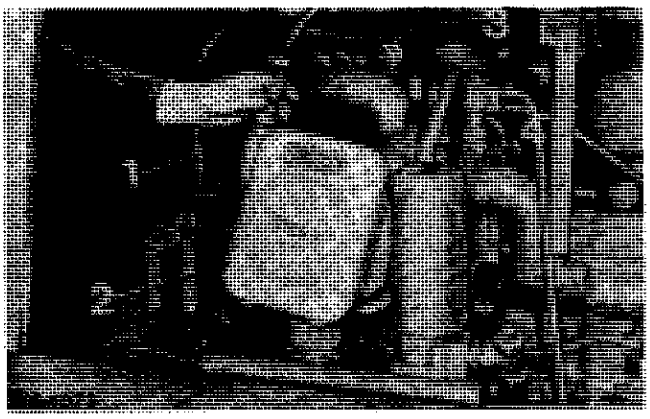
Engine Compression

Engine compression reading should be at least 2100 kPa (21 bar; 300 psi). See Specifications in Section 220 in technical manual for engines (TM-3250).

PRUEF-ZI21010BE-011084

Engine Blow-By Check

Measurement of the engine blow-by is a means of determining whether sealing is adequate between combustion chamber and crankcase.



1–Blow-by vent in rocker arm cover
2–Standard gas gauge with dial counter
3–Gas gauge inlet line
4–Gas gauge outlet line

Carry out this check as follows:

Run engine until it reaches operating temperature and remove the crankcase vent tube. Use a standard gas gauge and adaptor to measure blow-by.

Run engine at rated speed, read and record blow-by volume for a period of 5 minutes.

Multiply recorded blow-by volume by 12 to obtain the hourly blow-by volume. Compare this result with the specifications below.

If recorded blow-by volume is lower than or equal to specified value, the engine is operating correctly. However, if higher than specified, it is safe to assume that there is excessive wear between piston rings and cylinder liners and that the engine must be repaired.

Maximum permissible hourly engine blow-by volume at rated engine speed:

1032 and 1042 ..... 2.5 m^3/h (88 cu.ft/h)
1052 ..... 5.5 m^3/h (195 cu.ft/h)
1055 ..... 3.5 m^3/h (124 cu.ft/h)

Z64073-ZI21010AE-151188

ENGINE TESTING AND ADJUSTMENTS

Air Intake System

Dry air cleaner: Clean filter elements.

Check the crankcase vent tube for restrictions due to foreign matter.

PRUEF-ZI21010CE-011084

Cylinder Head

Re-torque cylinder head cap screws to 150 Nm (110 ft-lb).

Check and adjust valve clearance:
Intake valve . . . . . 0.35 mm (0.014 in.)
Exhaust valve . . . . . 0.45 mm (0.017 in.)

PRUEF-ZI21010DE-011084

Engine Lubrication and Cooling Systems

Check engine oil pressure, referring to specifications in Section 220 of Technical Manual "Engines" (TM-3250).
Clean and flush cooling system.
Check coolant hoses for damage or leakage.
Clean radiator grille screen.

PRUEF-ZI21010EE-001084

Turbocharger

Check turbocharger for oil loss.

Check turbocharger for unusual vibrations (at rated engine speed).

Check turbocharger for unusual noises (at rated engine speed).

PRUEF-ZI21010FE-011084

Fuel System

Check fuel tank and lines for leakage or restrictions.

Clean fuel transfer pump strainer.

Check or replace fuel filter element.

Check injection pump timing and adjust, if necessary.

Bleed air from fuel system.

Check engine speeds and adjust control linkage, if necessary.

PRUEF-ZI21010GE-011084

Batteries and Alternator

Carefully clean cables, cable connections and batteries.

Check tension of alternator drive belt.

PRUEF-ZI21010HE-011084

ENGINE PERFORMANCE CHECK

After checking and adjusting engine, check engine performance with conventional engine testing methods and means. Remove engine to conduct this test.

Compare kW-results with performance specifications in operator's manual.

PRUEF-ZI21010IE-011084

COMBINE TESTING AND ADJUSTMENTS

Power Train

Correctly adjust variable ground speed drive.

Check clutch pedal free travel as specified in Section 50.

Check torque (420 Nm 300 ft-lb) of front wheel bolts.

PRUEF-ZI21010JE-011084

Brakes and Rear Axle

Adjust foot and parking brakes. If necessary, bleed air from brake system.

Adjust rear wheel bearings and toe-in, referring to Section 60.

Check torque (180 Nm; 130 ft-lb) of rear wheel bolts.

PRUEF-ZI21010KE-011084

Hydraulic System

Check maximum operating pressure in primary (steering) system (10000–10500 kPa; 100–105 bar; 1450–1522 psi).

Hydraulic pump delivery to primary (steering) system is 9.5 – 10.5 l/min (2.5 – 2.8 gpm).

Check maximum operating pressure for secondary (lifting) circuit (13800–15500 kPa; 138–155 bar; 2000–2250 psi).

Hydraulic pump delivery to secondary circuit is:
1032 and 1042 combines: . . . . . 32.4 l/min (8.5 gpm)
1052 and 1055 combines: . . . . . 38.4 l/min (10 gpm)

Refer to Section 270 for further details.

PRUEF-ZI21010LE-011084

Separator

Check beater speed.

Check basic adjustment of concave and cylinder.

Refer to Section 120 for further details.

PRUEF-ZI21010ME-011084

Miscellaneous

Check tire inflation pressure. Refer to Operator's Manual

Check all accessible cap screws and nuts of combine for proper torques.

PRUEF-ZI21010NE-011084

Section 20
ENGINE REMOVAL AND INSTALLATION

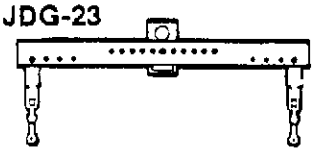
CONTENTS OF THIS SECTION

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

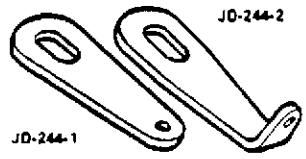
INHA-ZI2202020011064

SPECIAL TOOLS

A JDG-23



B JD-244



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

Z103901-ZI22005AE-151188

PREPARATIONS

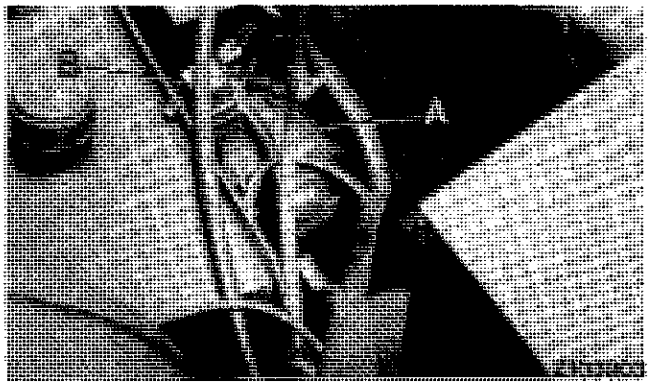
IMPORTANT: Lower the feeder conveyor to the ground to relieve pressure in hydraulic system.

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

Z103902-ZI22005AE-001084

ELECTRICAL CONNECTIONS – STARTING MOTOR

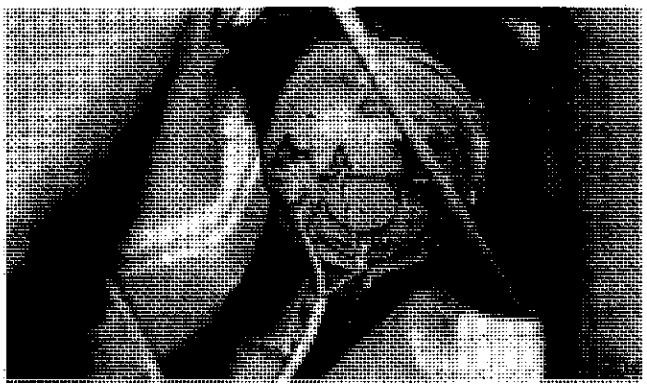
Remove all cable connections at starting motor (A) and starting circuit relay (B).



Z103903-ZI22005AE-001084

ELECTRICAL CONNECTIONS – ALTERNATOR

Remove both connections (A) at alternator.

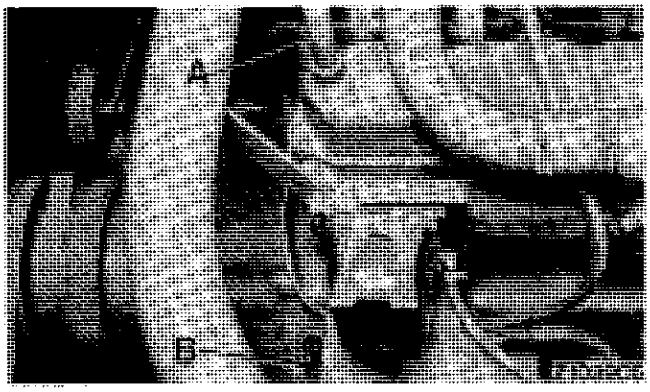


Z103904-ZI22005AE-001084

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.

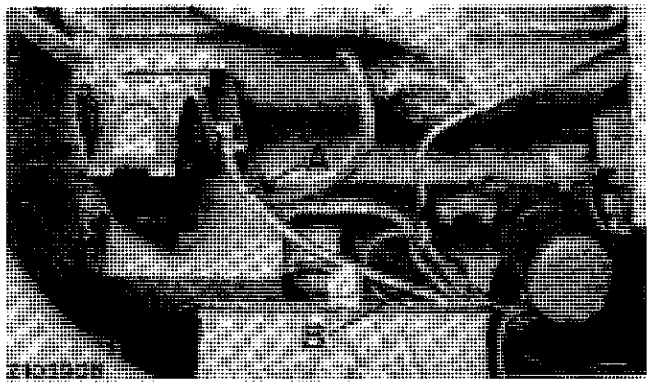
If installed, remove connector of cold weather starting aid.



Z103905-ZI22005AE-001084

FUEL LINES

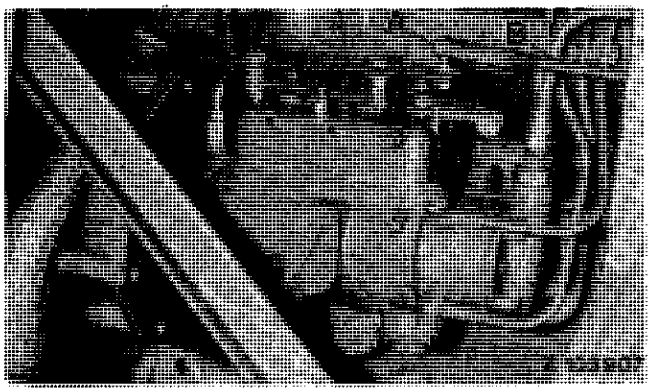
Disconnect fuel inlet line (A) and return line (B). On engines equipped with cold weather starting aid, disconnect return line at starting aid.



Z103906-ZI22005AE-001084

SPEED CONTROL LINKAGE

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



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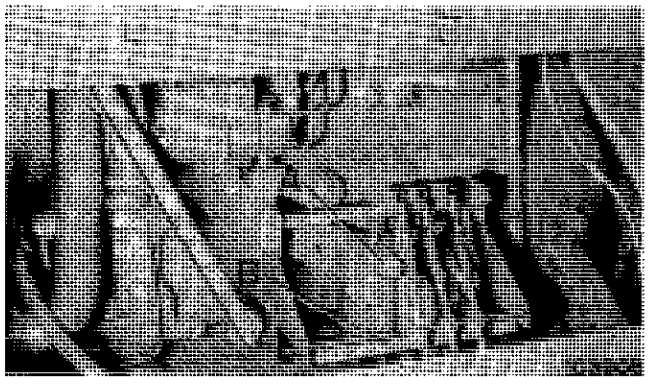
HYDRAULIC CONTROL VALVE

Disconnect 3 or 4 Bowden 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 the hydraulic reservoir.

Seal all openings immediately with plastic plugs.



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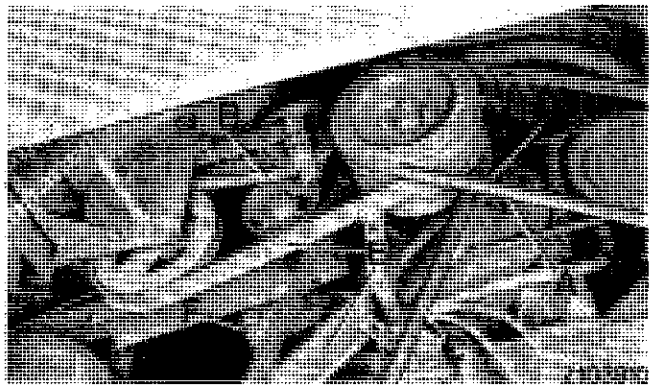
DRIVE BELTS

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).

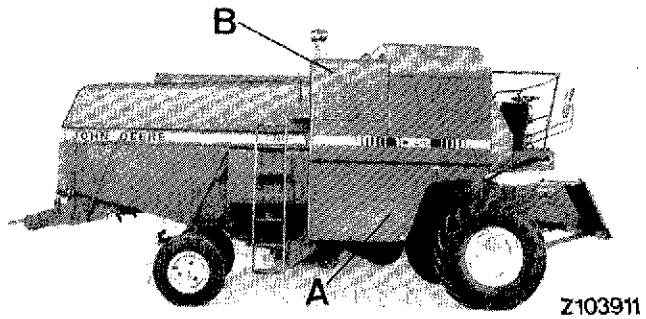


A–Chopper V-belt
B–Unloading auger drive belt
C–Ground drive belt
D–Flat belt
E–Belt guide
F–Pulley bracket

Z103910-ZI22005AE-011084

REMOVE GUARDS

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

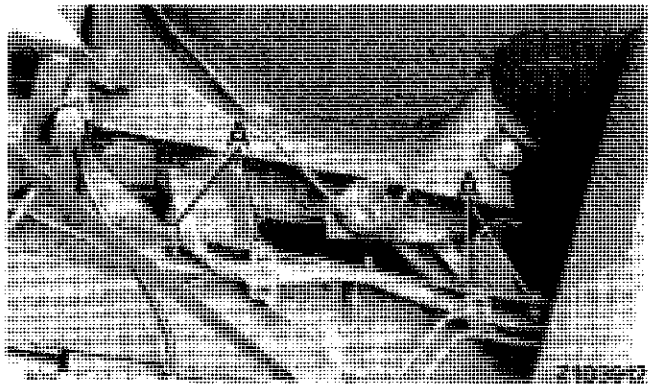


Z103911-ZI22005AE-011084

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.



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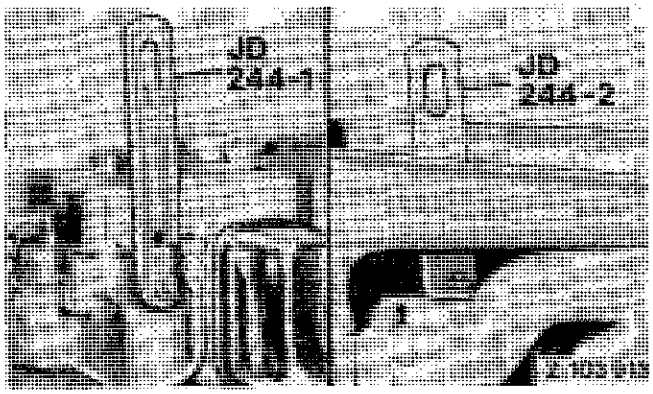
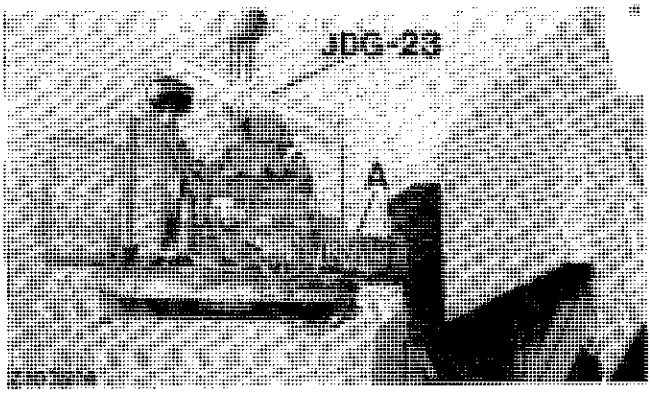
LIFTING ENGINE

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).





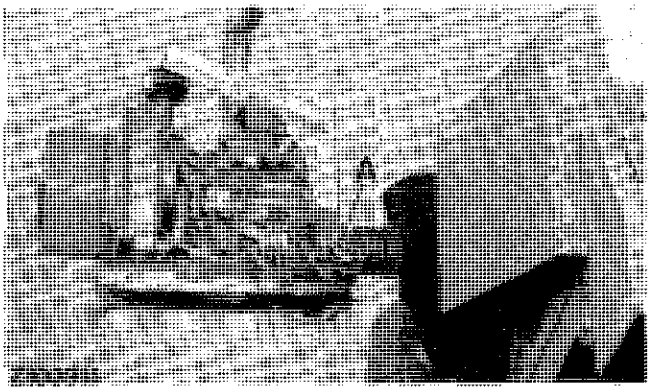
Z103913,Z103914-ZI22005AE-011084

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.

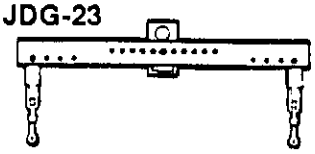
In the position "Fast Idle" the stop control lever of the fuel injection pump must slightly contact its stop; if not, readjust speed control linkage.



Z103915-ZI22005AE-011084

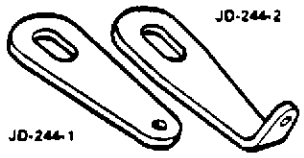
SPECIAL TOOLS

A JDG-23



B JD-244

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



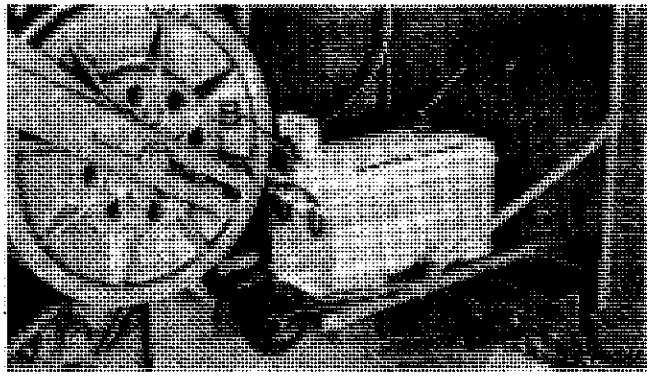
Z103901

Z103901-ZI22010AE-151188

PREPARATIONS

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

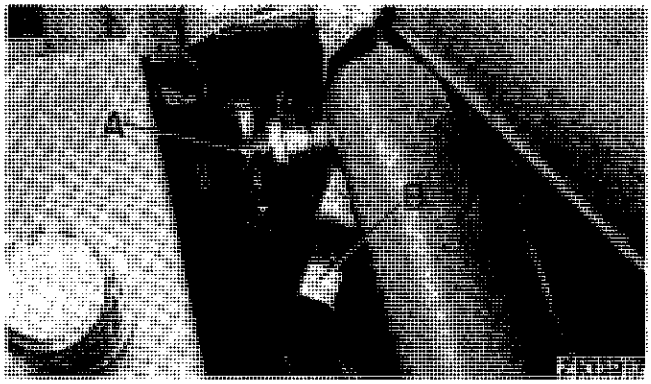
Disconnect ground (A) and positive (B) cables at the battery and remove battery.



Z103916-ZI22010AE-001084

ELECTRICAL CONNECTIONS – STARTING MOTOR

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



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ELECTRICAL CONNECTIONS – ALTERNATOR

Remove both connections (A) at alternator.

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Suggest:

If the above button click is invalid.

Please download this document

first, and then click the above link

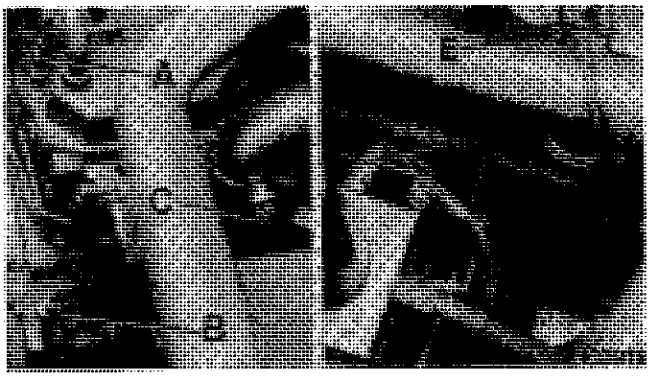
to download the complete manual.

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 weather starting aid connector



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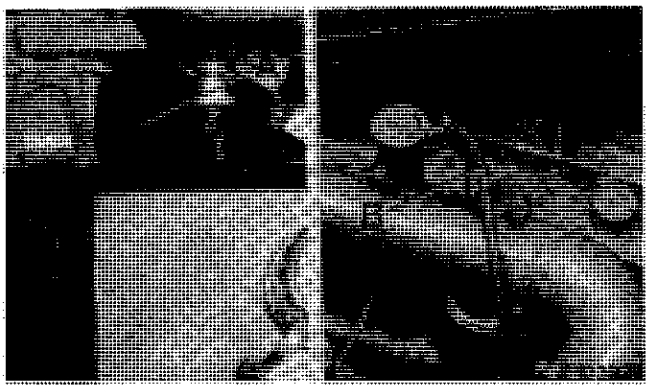
FUEL LINES

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



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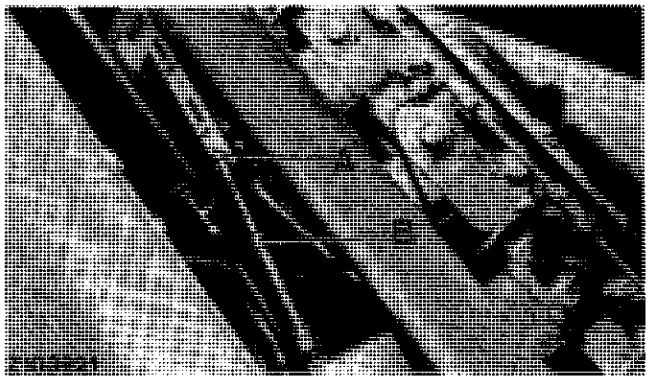
SPEED CONTROL LINKAGE

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

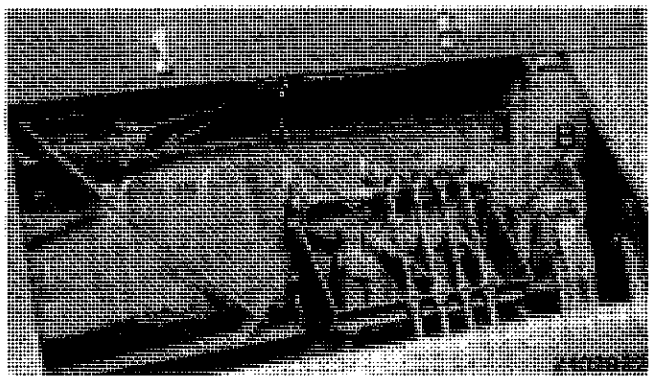


Z103921-ZI22010AE-011084

HYDRAULIC CONTROL VALVE

Disconnect 3 or 4 Bowden 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.



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