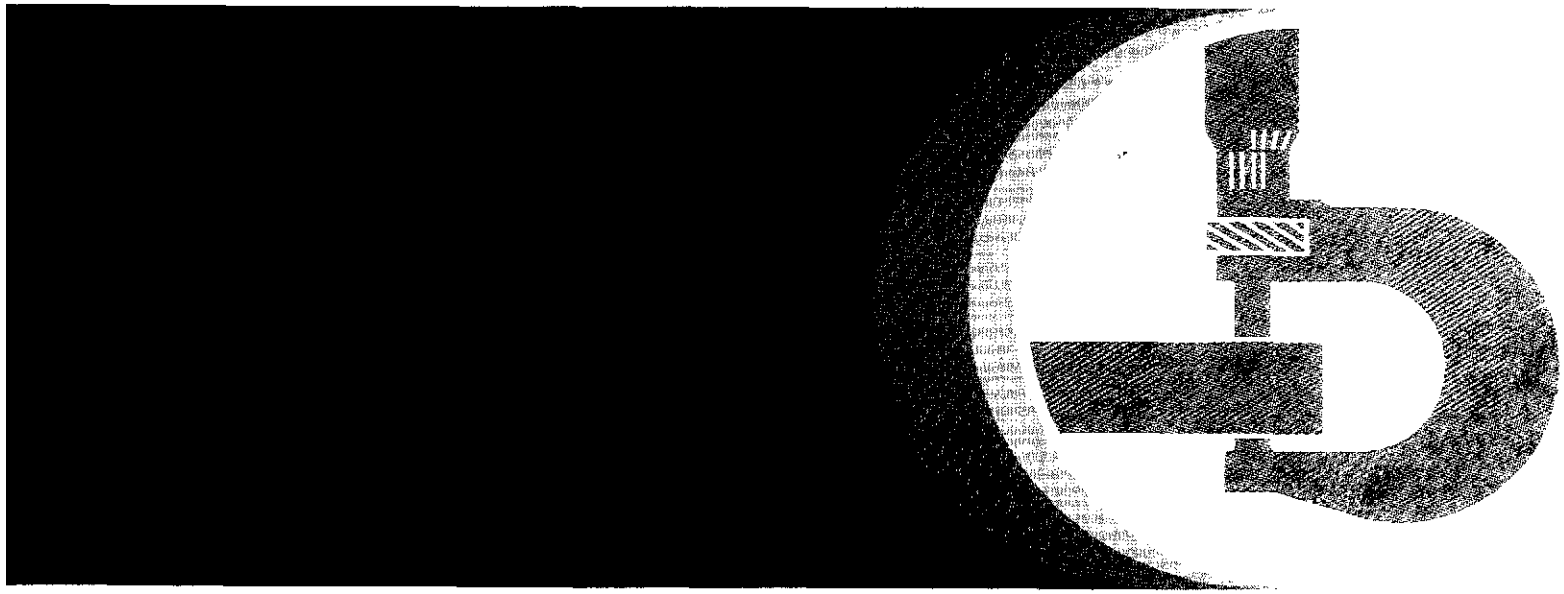
1166, 1169H, 1174, 1177, 1177 Hydro/4, 1188, 1188 Hydro/4 Combines



John Deere Werke Zweibrücken
TM-4452
Printed in Germany (English)

SPECIFICATIONS

6466 Engine

Valve clearance, intake valve	0.45 mm (0.018 in.)
Valve clearance, exhaust valve	0.70 mm (0.028 in.)
Compression	2450 to 2850 kPa (24.5 to 28.5 bar; 355 to 415 psi)
Max. difference in compression pressure between cylinders	350 kPa (3.5 bar; 50 psi)
Opening pressure of a new injection nozzle	27900 kPa (279 bar; 4050 psi)
Minimum opening pressure of a used nozzle	26200 kPa (262 bar; 3800 psi)
Maximum difference in opening pressure	350 kPa (3.5 bar; 50 psi)
Fast idle	2400 ± 50 rpm
Slow idle	1200 ± 50 rpm

6359 Engine

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

SPECS-ZI4IAE-010788

SPECIFICATIONS (Continued)

Cooling System	
Thermostat opening temperature	71 to 82°C (160 to 180°F)
Radiator cap valve opening pressure	100 to 120 kPa (1.0 to 1.2 bar; 14 to 17 psi)
Electrical System	
Battery voltage	12 volts
Alternator output current (at 14 volts)	65 amps
Hydraulic System	
Hydraulic pump delivery (except 1169H)	
– main circuit	40 liters/min (10.5 gpm)
– steering circuit	12 liters/min (3.2 gpm)
Hydraulic pump delivery (1169H)	
– main circuit	29 liters/min (7.6 gpm)
– secondary circuit	10.5 liters/min (2.8 gpm)
– leveling system	21 liters/min (5.5 gpm)
Pressure relief valve setting	
– in mechanical control valve	13800 to 14500 kPa (138 to 145 bar; 2000 to 2100 psi)
– in electro-magnetic control valve	17200 to 18000 kPa (172 to 180 bar; 2500 to 2610 psi)
– in leveling system	16600 to 17400 kPa (166 to 174 bar; 2400 to 2520 psi)
Steering System	
Pressure relief valve setting	13500 kPa (135 bar; 1960 psi)
Shock valve setting	18000 to 19500 kPa (180 to 195 bar; 2610 to 2830 psi)
Clutch	
Minimum thickness of clutch disk	7 mm (0.28 in.)
Wheels	
Wheel bolt torques	
– Front wheels (except 1169H)	420 Nm (304 ft-lb)
– Front wheels (1169H)	550 Nm (400 ft-lb)
– Rear wheels	180 Nm (130 ft-lb)

SPECS-ZI4IIAE-010788

CAPACITIES

Engine lubrication system	
– 1177 Hydro/4, 1188, 1188 Hydro/4	20 liters (5.3 U.S.gal.)
– 1177	17 liters (4.5 U.S.gal.)
– 1166, 1174, 1169H	13 liters (3.4 U.S.gal.)
Hydrostatic ground speed drive	24 liters (6.3 U.S.gal.)
Transmission with differential	6.6 liters (1.75 U.S.gal.)
Final drive (each)	2.2 liters (0.6 U.S.gal.)
Complete hydraulic system	25 liters (6.6 U.S.gal.)
Clutch and brake operating assembly	1.5 liters (0.4 U.S.gal.)
Chain transmission (cutting platform drive)	0.5 liters (0.13 U.S.gal.)
Hydrostatic reel drive	12 liters (3.17 U.S.gal.)
Cylinder drive reduction gear	1.9 liters (0.5 U.S.gal.)
Engine cooling system	
– 1177 Hydro/4, 1188, 1188 Hydro/4	34 liters (9.0 U.S.gal.)
– 1166, 1169H, 1174, 1177	30 liters (8.0 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	300 liters (80 U.S.gal.)

SPECS-ZI4IIIAE-010788

Combines 1166, 1169H, 1174, 1177, 1177 Hydro/4, 1188, 1188 Hydro/4 TECHNICAL MANUAL TM4452 (Apr-90)

CONTENTS OF SECTIONS

INHA-ZI41AE-010390

CONTENTS OF SECTIONS – CONTD.

INHA-ZI42AE-010390

CONTENTS OF SECTIONS – CONTD.

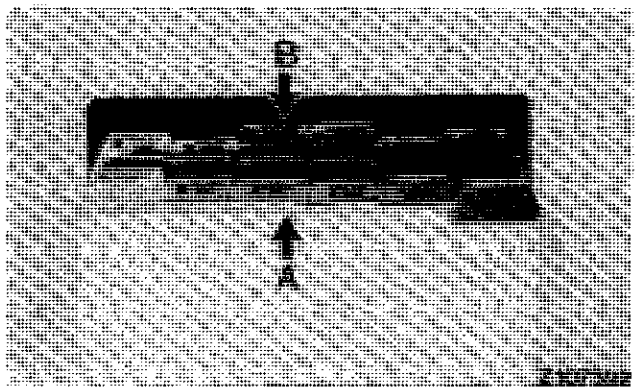
INHA-ZI43AE-010390

TECHNICAL MANUAL TABS

INTRODUCTION

To fully utilize this manual, you must understand how it is organized. Only two tab colors are used – green and yellow, each representing a different type of information. Spend a minute reading this now and save many minutes of searching later.

A–Green Tabs **B–Yellow Tabs**



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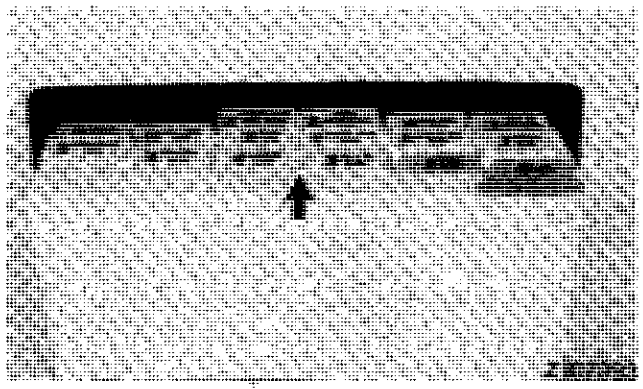
GREEN TAB SECTIONS

The green tab sections are REPAIR sections, telling you how to repair components of the various systems.

Repair of a component includes:
– Removal from machine (if necessary)
– Disassembly
– Inspection
– Replacement of parts
– Assembly
– Adjustment
– Installation on machine (if necessary)

The numbers used for the repair (green tab) sections are part of an overall service publication numbering system. The numbers identify the same sections in the parts catalog, flat rate manual, service information bulletins, and service training courses.



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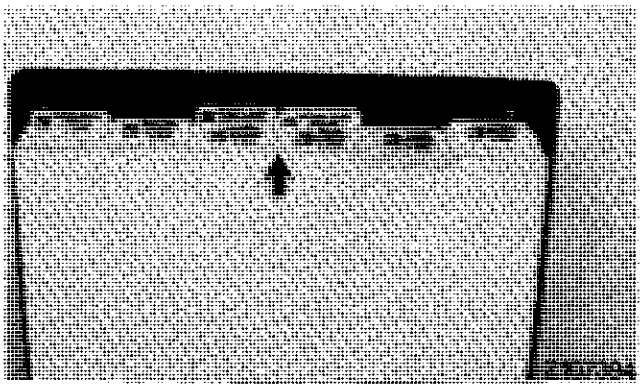
YELLOW TAB SECTIONS

Each yellow tab section contains information on:

– System Operation
– System Tests

System operation explains how the system and its components work.

System tests tell you how to test the system and diagnose the problem.



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TAB POSITIONS

Each green tab and its corresponding yellow tab have the same tab position. This helps you to quickly locate the related information.

A–Green tab
- **Section 70**
- **Hydraulic Repair**

B–Yellow tab
- **Section 270**
- **Hydraulic Operation/Tests**

Z107395-ZI305AE-001085

THREE-STEP PROCEDURE

Use the following three-step procedure to locate the desired information.

1. Determine the type of information you need. Is it?

A–Repair
B–Operation
C–Tests

2. Go to the appropriate section tab:

Green – for Repair
Yellow – for Operation or Tests

3. Use the Table of Contents on the first page of each section to locate the information.

Z107396,Z107397-ZI305AE-011085

Section 10
GENERAL

CONTENTS OF THIS SECTION

GROUP 05 – SPECIFICATIONS

INHA-ZI4101AE-010788

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-001084

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

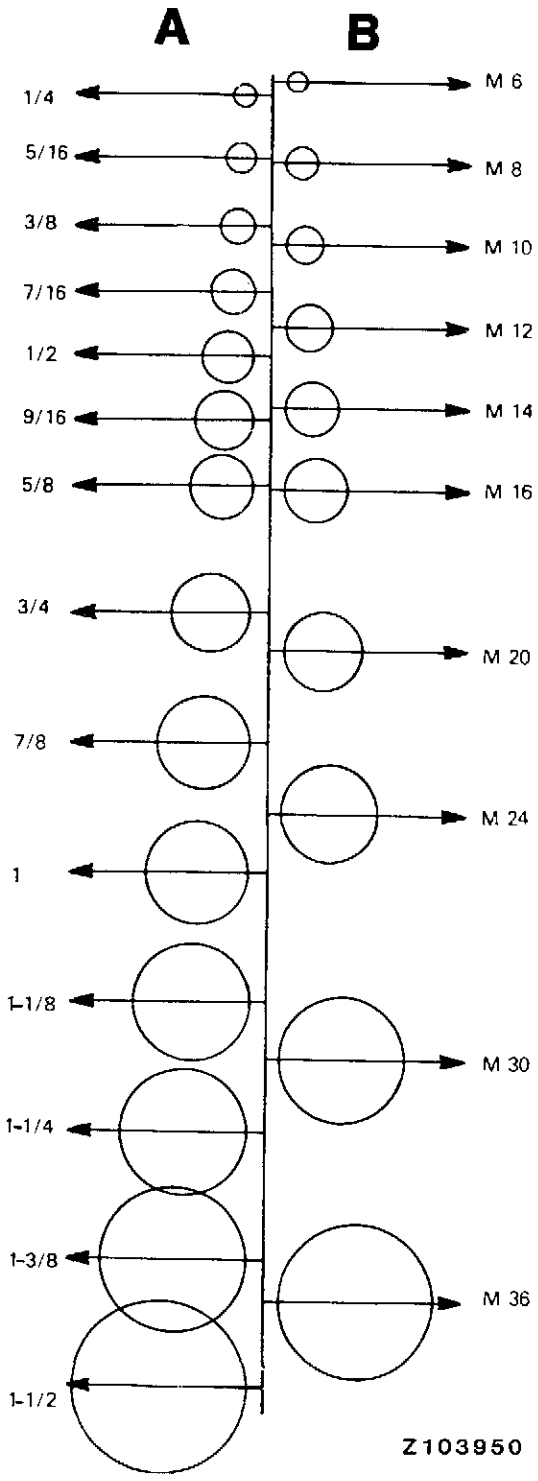
C–With cone

Z103949-ZI21005AE-011084

METRIC AND INCH THREADS

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

A–Inch thread
B–Metric thread



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Section 20
ENGINE REPAIR

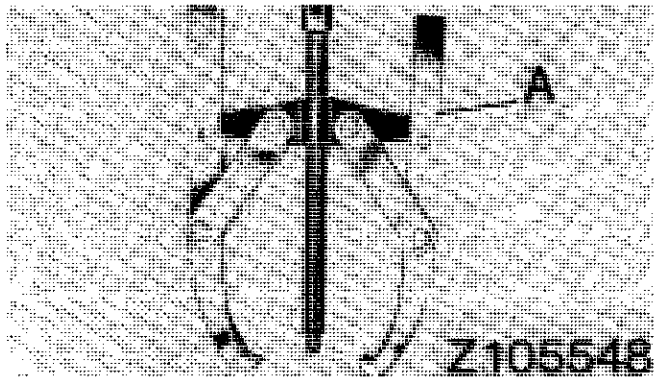
CONTENTS OF THIS SECTION

NOTE: Only engine removal and installation is described in this Technical Manual. For engine repair, refer to relevant Technical Manuals.

INHA-ZI4201AE-010390

SPECIAL TOOLS

A – Puller
(D-01204AA)



Z105548-ZI212005AE-011084

TORQUES FOR HARDWARE

Belt pulley to engine shaft, attaching screws	78 Nm (57 ft-lb)

DRESCH-ZI312005BE-001085

Suggest:

If the above button click is invalid.

Please download this document

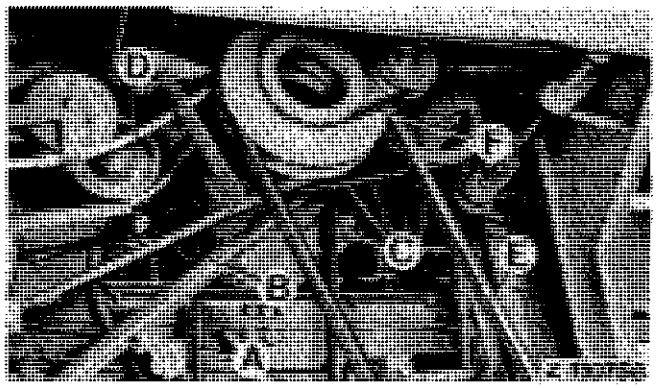
first, and then click the above link

to download the complete manual.

Thank you so much for reading

REMOVE DRIVE BELTS

A–Drive belt (Posi Torq or variable ground speed drive)
B–Separator drive belt
C–Hydraulic pump drive belt
D–Grain tank unloading auger drive belt
E–Straw chopper drive belt
F–Air conditioning system drive belt



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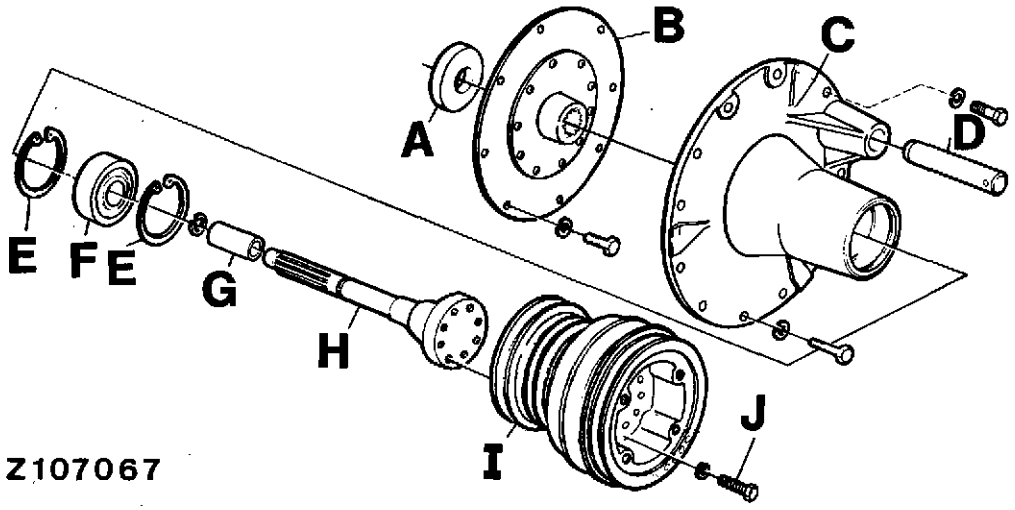
ENGINE PULLEY REMOVAL

Remove indirectly flanged pulley, using special tool D-01204AA.

DRESCH-ZI212005DE-011084

ENGINE PULLEY INSTALLATION



A – Centering ring
B – Driven disk
C – Flywheel housing
D – Shaft
E – Snap ring
F – Ball bearing
G – Spacer
H – Shaft
I – Belt pulley
J – Cap screw

Assemble and install engine pulley in reverse sequence of disassembly and removal. Tighten cap screws (J) to 78 Nm (57 ft-lb).

Z107067-ZI312005AE-001085