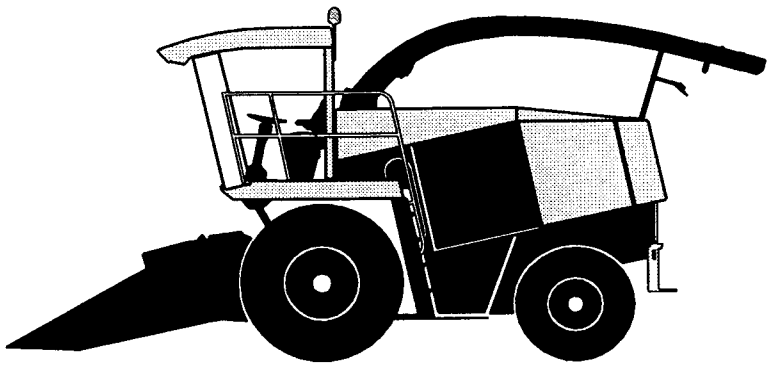
REPAIR MANUAL

CLAAS



CLAAS
JAGUAR 880 – 820

188 124.0 – JAG. 880 – 820 – GB – 10.99 – 100 – BEV

CONVERSION FACTORS

Length

millimetres (mm)	x 0.03937	= inches (in)
millimetres (mm)	x 0.00328	= feet (ft)
centimetres (cm)	x 0.3937	= inches (in)
metres (m)	x 3.2808	= feet (ft)
kilometres (km)	x 0.6214	= miles

Area

square metres (m^2)	x 1550	= square inches (sq in)
square metres (m^2)	x 10.764	= square feet (sq ft)
hectare (ha)	x 2.4710	= acres

Weight

kilogrammes (kg)	x 2.2046	= pounds (lb)

Torque

metre kilopond (mkp)	x 7.233	= foot pounds (ft lb)
newton metres (Nm)	x 0.7376	= foot pounds (ft lb)
metre kilopond (mkp)	x 9.81	= newton metre (Nm)

Pressure

bar	x 14.504	= pounds per square inch (psi)
kg/sq cm (at)	x 0.980665*	= bar
kg/sq cm (at)	x 14.223	= pounds per square inch (psi)

* Where feasible and for practical reasons, this factor is rounded to a whole unit to equal kg/sq cm (at) and bars.

Volume and capacities

cubic centimetres (cm^3)	x 0.06102	= cubic inches (cu in)
liters (l)	x 0.2201	= Imperial gallons (Imp. gal)
liters (l)	x 0.8798	= Imperial quarts (Imp. qt)
liters (l)	x 0.2642	= U.S. gallons (U.S. gal)
liters (l)	x 1.05668	= U.S. quarts (U.S. qt)
liters (l)	x 0.0275	= Imp. bushels
liters (l)	x 0.02838	= U.S. bushels

Velocity

kilometres/hour (km/h)	x 0.6215	= miles per hour (mph)

Temperature

To convert Celsius (Centigrade) temperature into Fahrenheit: multiply by 9, divide the result by 5 and add 32.

$+27\ °C = \frac{9 \times 27}{5} = 48.6 + 32 = 80.6\ °F$

$-24\ °C = -11.2\ °F$
$+\ 2\ °C = +35.6\ °F$
$+\ 1\ °C = +33.8\ °F$

Whilst great care has been taken to ensure accuracy in the compilation of the conversion factors, CLAAS cannot be held responsible for any errors or omissions.

FOREWORD

This CLAAS REPAIR MANUAL has been prepared to assist all personnel concerned with the maintenance and service of CLAAS Forage Harvesters and to help preserve their permanent working order.

The experience of our Service engineers has been compiled in this CLAAS REPAIR MANUAL which explains the procedure of repairs, the different adjustments to be made, the use of CLAAS Special Tools etc. The illustrations included in support to the explanations show the sequence of major repairs so that minor repairs can easily be drawn out.

The CLAAS REPAIR MANUAL is filed in a folder which allows to insert supplementary pages as issued and to have always an up-dated manual at hand for reference.

To be sure, always compare settings and filling capacities with specifications stated in the Operator's Manual which applies to the Forage Harvester.

CLAAS KGaA
Service Department

INTRODUCTION TO THE CLAAS REPAIR MANUAL

The present CLAAS REPAIR MANUAL is devided into main groups (see group index).

Pages and illustrations are numbered consecutively throughout each main group. Page numbering starts always with the number 1 in each group. The first figure at the bottom if each page refers to the main group wheras the second figure following the point indicates the numerical order of the pages.

Where service operations apply to a specific Forage Harvester model only, this is clearly indicated by reference to that model. When a service procedure applies to all machines covered by this book, the machine names are not especially mentioned.

Supplementary sections are numbered by an additional figure which is separated by a dash from the preceding figures. Any supplements should be inserted at the back of the relevant main group and the list of contents be changed accordingly.

The symbols communicate brief messages when recurring service procedures are described. Their meaning is explained at the beginnig of this book.

The section »GENERAL REPAIR INSTRUCTIONS« at the beginning of this book contains useful practical hints. Read and follow these fundamental instructions. They are the basis for reliable service and durability of parts after repairs have been carried out.

The description of a particular service procedure can easily be found by checking the list of contents of the appropriate main group.

GROUP INDEX

1
Specifications

1 SPECIFICATIONS

CLAAS JAGUAR 880

FILLING CAPACITIES AND SETTINGS

Gearbox capacities

Basic machine:	
Transfer gearbox	3.85 litres (3.38 Imp. qt; 4.08 U.S. qt) multi-grade transmission oil SAE 90, API-GL-4-90 (MIL-L-2105)
Angle drive gearbox for fan	0.7 litres (0.62 Imp. qt; 0.74 U.S. qt) multi-grade transmission oil SAE 90, API-GL-4-90 (MIL-L-2105)
Ground drive change-speed transmission	6.8 litres (5.98 Imp. qt; 7.20 U.S. qt) multi-grade transmission oil SAE 90, API-GL-4-90 (MIL-L-2105)
Final drive gearboxes, each holding	3 litres (2.64 Imp. qt; 3.18 U.S. qt) multi-grade transmission oil SAE 90, API-GL-4-90 (MIL-L-2105)
Change-speed and reversing gearbox	9.5 litres (8.36 Imp. qt; 10.07 U.S. qt) multi-grade transmission oil SAE 90, API-GL-5-90 (MIL-L-2105 B)
Angle drive gearbox for top feed rollers	0.7 litres (0.62 Imp. qt; 0.74 U.S. qt) multi-grade transmission oil SAE 90, API-GL-5-90 (MIL-L-2105 B)
Gearbox for top feed rollers	1 litre (0.88 Imp. qt; 1.06 U.S. qt) multi-grade transmission oil SAE 90, API-GL-5-90 (MIL-L-2105 B)
Chain drive casing for bottom feed rollers	0.4 litres (0.35 Imp. qt; 0.42 U.S. qt) semi-fluid lubricant, NLGI Class 00
Rear wheel drive axle	2.3 litres (2.02 Imp. qt; 2.43 U.S. qt) multi-grade transmission oil SAE 90, API-GL-4-90 (MIL-L-2105)
Rear wheel drive axle SIGE:	
Differential	10.5 litres (9.24 Imp. qt; 11.13 U.S. qt) multi-grade transmission oil SAE 90, API-GL-5-90 (MIL-L-2105 B)
Wheel hubs, each holding	0.8 litres (0.70 Imp. qt; 0.85 U.S. qt) multi-grade transmission oil SAE 90, API-GL-5-90 (MIL-L-2105 B)
Front attachments:	
Maize header, 8-row:	
Main gearbox	0.75 litres (0.66 Imp. qt; 0.80 U.S. qt) multi-grade transmission oil SAE 90, API-GL-5-90 (MIL-L-2105 B)
Spur gearbox	0.2 litres (0.18 Imp. qt; 0.21 U.S. qt) multi-grade transmission oil SAE 90, API-GL-5-90 (MIL-L-2105 B)
Chain drive casing	0.9 litres (0.79 Imp. qt; 0.95 U.S. qt) multi-grade transmission oil SAE 90, API-GL-5-90 (MIL-L-2105 B)
Maize header, 6-row:	
Main gearbox	0.7 litres (0.62 Imp. qt; 0.74 U.S. qt) multi-grade transmission oil SAE 90, API-GL-5-90 (MIL-L-2105 B)
Spur gearbox	0.2 litres (0.18 Imp. qt; 0.21 U.S. qt) multi-grade transmission oil SAE 90, API-GL-5-90 (MIL-L-2105 B)
Pick-up 4.30 m / 3.00 m / 2.20 m:	
Angle drive gearbox	0.75 litres (0.66 Imp. qt; 0.80 U.S. qt) multi-grade transmission oil SAE 90, API-GL-4-90 (MIL-L-2105)
Pick-up 3.80 m:	
Angle drive gearbox	0.85 litres (0.75 Imp. qt; 0.90 U.S. qt) multi-grade transmission oil SAE 90, API-GL-4-90 (MIL-L-2105)

CLAAS JAGUAR 880

FILLING CAPACITIES AND SETTINGS

Hydraulic system:	Oil change	Refill
Working hydraulic system and hydrostatic ground drive	approx. 16 litres (14.09 Imp. qt; 16.96 U.S. qt)	approx. 52 litres (45.80 Imp. qt; 55.12 U.S. qt)
	Multi-grade hydraulic oil HV (ISO-VG 32 and 46) Conforming to DIN specifications 51 524, Part 3	

Pressure of hydraulic systems

Pressure relief valve lift hydraulic system	175^{+15} bar (2528^{+217} psi)
Pressure relief valve hydrostatic steering	115^{+15} bar (1668^{+217} psi)
Pressure relief valve low pressure hydraulic system	19^{+4} bar (275^{+58} psi)
Hydrostatic ground drive LINDE BPV 100 LKS / BMF 75 TFC:	
Operating pressure	420 bar (6091 psi)
Charge pressure	18^{+1} bar (261^{+14} psi)
Radiator guard	$25^{+2.5}$ bar ($363^{+36.3}$ psi)

Safety features

Basic machine:	
Cut-out clutch for feed drive	1700 Nm (1253.85 ft lb)
Maize header, 8, 6 and 5-row – 38": (overrun clutches in the universal drive shafts)	
Knife and gathering chain drive	1000 Nm (737.56 ft lb)
Feed auger	1000 Nm (737.56 ft lb)
Pick-up 4.30 m / 3.80 m / 3.00 m / 2.20 m:	
Slip clutch for feed auger	780 – 820 Nm (575.30 – 604.80 ft lb)
Slip clutch for pick-up	380 – 420 Nm ((280.27 – 309.77 ft lb)

Torque settings

Mounting bolts:		
Knives – cutting cylinder	Hexagon bolts M 16	= 250 Nm (185 ft lb)
Shear bar		= 195 Nm (144 ft lb)
Shear bar support (anvil)	Eye bolts BM 20 x 200 DIN 444	
	Self-locking nuts VM 20 CN 200808	= 300 Nm (221 ft lb)
Wheel studs, wheel bolts:		
Front axle	Wheel bolts M 22 x 1.5 - 10.9 and wheel nuts with thrust piece H 22 DIN 74 361-10	= 860 Nm (634.3 ft lb)
Rear axle	Wheel bolts M 18 x 1.5 - 8.8 and special lock washers (Limes) C 18.5 DIN 74361	= 260 Nm (191.8 ft lb)
Rear wheel drive axle	Wheel studs M 18 x 1.5 - 8.8 and countersunk collar nut	= 310 Nm (228.6 ft lb)

CLAAS JAGUAR 880

FILLING CAPACITIES AND SETTINGS

Brakes	
Foot brake	Full braking effect after the first one third of the pedal travel
Handbrake	Should grip when engaged in the first 3 – 4 teeth of the segment
Steering	When the steering cylinder is fully extended, the adjustable steering stops should be in contact

CLAAS JAGUAR 860

FILLING CAPACITIES AND SETTINGS

Gearbox capacities

Basic machine:	
Transfer gearbox	3.85 litres (3.38 Imp. qt; 4.08 U.S. qt) multi-grade transmission oil SAE 90, API-GL-4-90 (MIL-L-2105)
Angle drive gearbox for fan	0.7 litres (0.62 Imp. qt; 0.74 U.S. qt) multi-grade transmission oil SAE 90, API-GL-4-90 (MIL-L-2105)
Ground drive change-speed transmission	6.8 litres (5.98 Imp. qt; 7.20 U.S. qt) multi-grade transmission oil SAE 90, API-GL-4-90 (MIL-L-2105)
Final drive gearboxes, each holding	3 litres (2.64 Imp. qt; 3.18 U.S. qt) multi-grade transmission oil SAE 90, API-GL-4-90 (MIL-L-2105)
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Gearbox for top feed rollers	1 litre (0.88 Imp. qt; 1.06 U.S. qt) multi-grade transmission oil SAE 90, API-GL-5-90 (MIL-L-2105 B)
Chain drive casing for bottom feed rollers	0.4 litres (0.35 Imp. qt; 0.42 U.S. qt) semi-fluid lubricant, NLGI Class 00
Rear wheel drive axle	2.3 litres (2.02 Imp. qt; 2.43 U.S. qt) multi-grade transmission oil SAE 90, API-GL-4-90 (MIL-L-2105)
Rear wheel drive axle SIGE:	
Differential	10.5 litres (9.24 Imp. qt; 11.13 U.S. qt) multi-grade transmission oil SAE 90, API-GL-5-90 (MIL-L-2105 B)
Wheel hubs, each holding	0.8 litres (0.70 Imp. qt; 0.85 U.S. qt) multi-grade transmission oil SAE 90, API-GL-5-90 (MIL-L-2105 B)
Front attachments:	
Maize header, 8-row:	
Main gearbox	0.75 litres (0.66 Imp. qt; 0.80 U.S. qt) multi-grade transmission oil SAE 90, API-GL-5-90 (MIL-L-2105 B)
Spur gearbox	0.2 litres (0.18 Imp. qt; 0.21 U.S. qt) multi-grade transmission oil SAE 90, API-GL-5-90 (MIL-L-2105 B)
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Pick-up 4.30 m / 3.00 m / 2.20 m:	
Angle drive gearbox	0.75 litres (0.66 Imp. qt; 0.80 U.S. qt) multi-grade transmission oil SAE 90, API-GL-4-90 (MIL-L-2105)
Pick-up 3.80 m:	
Angle drive gearbox	0.85 litres (0.75 Imp. qt; 0.90 U.S. qt) multi-grade transmission oil SAE 90, API-GL-4-90 (MIL-L-2105)

4

Feed Units and Reverse Drive Gearbox

4 FEED UNITS AND REVERSE DRIVE GEARBOX

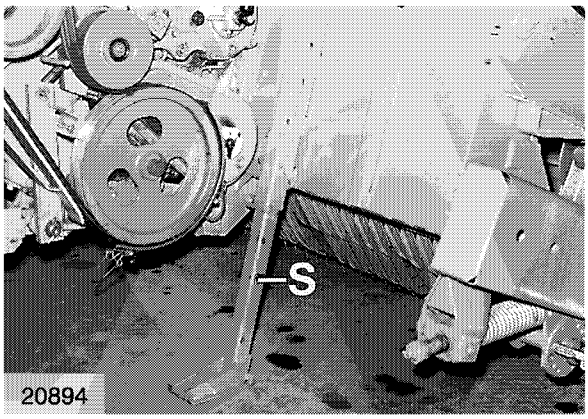
FEED UNITS

Removing feed unit

Remove the feed unit with the front attachment still mounted:

1. Lower front attachment onto level ground.
   Slide the stands (S) down until they touch the ground and secure in that position.

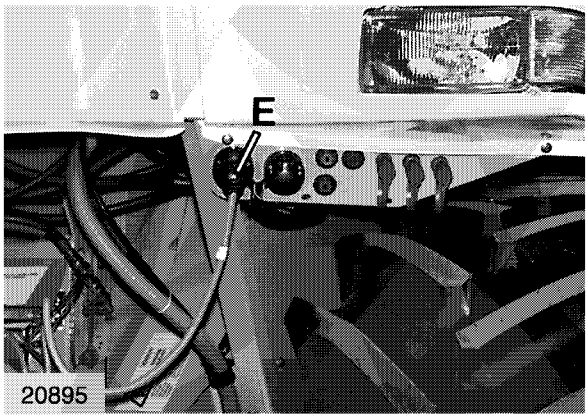
(Fig. 1)



1

2. Pull out the electric plug (E) for the metal detection unit on the left side.

(Fig. 2)



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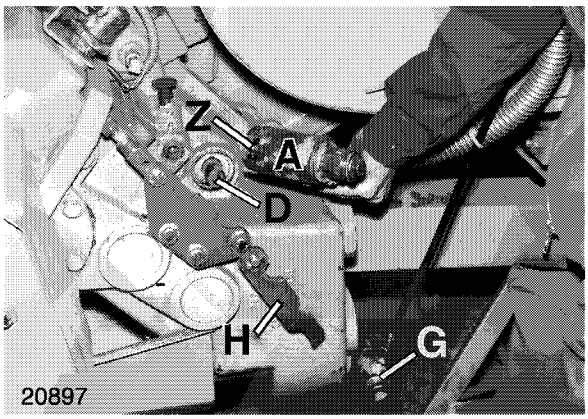
3. On the left side loosen the bracket (H) for the hydraulic cylinder (A) and fold it up.

   Raise the outside of the hydraulic cylinder (A) until the ball ended pin (Z) slides out of the shifter rod (D). Place the cylinder securely onto the driver platform.

   Remove the hydraulic cylinder (G) for the gear shift (if fitted).

(Fig. 3)

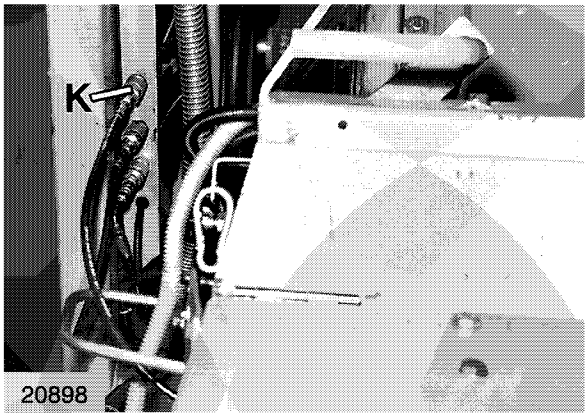


3

Machines fitted with central lubrication:

4. Disconnect the quick couplers (K) for the lubrication on the right side.

(Fig. 4)



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