1188 Hydraulic Wheeled and Crawler Excavators
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** Consult the Schematic Set*
** * Consult the engine Service Manual.*

** Consult the Schematic Set*

NOTE: CASE Company reserves the right to make changes in the specification and design of the machine without prior notice and without incurring any obligation to modify units previously sold.

The description of the models shown in this manual has been made in accordance with the technical specifications known as of the date of design of this document.

Section

1001

SAFETY, GENERAL INFORMATION AND TORQUE SPECIFICATIONS

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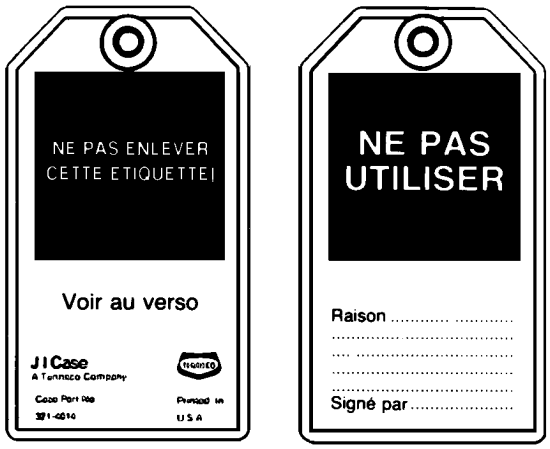
SAFETY

WARNING: *This symbol means WARNING ! BE VIGILANT ! YOUR SAFETY IS AT RISK. The message that follows the symbol contains important safety information. Read it carefully. Be sure you understand the possible risks of injury or even death.*

To avoid all risks, always follow the safety notes contained in this section and throughout this manual.

Put the warning tag shown below on the key for the keyswitch when servicing or repairing the machine. One warning tag is supplied with each machine. Additional tags, Part Number 321-4614, are available from your service parts supplier.



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WARNING: *Read the Operator's Manual carefully and make sure you understand how to operate the controls correctly.*

WARNING: *Never operate the machine and attachment controls unless you are seated in the operator's seat. If you are not in the operator's seat, you run the risk of serious injury.*

WARNING: *The machine is built to carry the operator only. Do not allow passengers to ride on the machine.*

WARNING : *Prior to starting up the engine read the safety messages contained in the operator's manual carefully. Read all safety stickers on the machine. Have people move back from the machine. Learn how to use the controls before starting up the machine. It is your responsibility to follow the manufacturer's instructions on how to operate and maintain the machine. It is your responsibility to follow applicable rules and regulations. Service and Operator's Manuals are available from your J.I. Case Dealer.*

WARNING: *If you wear loose clothing or if you omit to use safety equipment for your work, you risk injury. Always wear clothes that do not risk getting caught in the machine. Other safety equipment may be necessary, in particular : helmets, safety shoes, ear plugs, safety glasses, protection mask, thick gloves and reflecting clothes.*

WARNING: *When working close to the fan with the engine running, avoid wearing loose clothing and operate with extreme caution.*

WARNING: *When checking the hydraulic circuits, follow procedures to the letter. DO NOT CHANGE procedures.*

WARNING: *Prior to operating the hydraulic cylinders of this machine for setting or to bleed the circuit, have all people standing around the machine move away.*

WARNING: *Wear gloves or insulated mittens when working on hot parts.*

WARNING: *Lower all attachments to the ground or rest them on stands before carrying out maintenance jobs.*

WARNING: *Fine sprays of hydraulic oil under pressure can penetrate the skin and cause serious infection. If hydraulic oil under pressure penetrates the skin, see a doctor immediately. Maintain all hoses and pipes in good condition. Make sure that all connections are properly tightened. Change all hoses or pipes that have been damaged or that are suspect. DO NOT CHECK for leaks with bare hands. Use a piece of cardboard or wood.*

WARNING: *To remove a hardened pin such as a pivot pin, or a hardened shaft, use a soft head hammer (brass or bronze) or a brass or bronze strip and a steel head hammer.*

WARNING: *When using a hammer to remove or reassemble pivot pins, or when using compressed air, or when using a grinder make sure to wear safety glasses that protect the eyes from all sides.*

WARNING: *Use proper lifting/hoisting equipment to lift wheels or tracks and always work on safe ground. Prevent the machine from moving using correct safety chocks.*

WARNING: *When performing maintenance or repair operations on the machine, make sure that the work shop floor, the cab and the steps of the excavator are free from oil, water, grease, tools etc. Use oil absorbing material or rags as necessary. Always think safety.*

WARNING: *Certain components of this machine are very heavy. Use hoisting tools or additionnal assistance as recommended in this manual.*

WARNING: *Exhaust fumes can cause death. If it is necessary to start up the engine in a closed building, evacuate exhaust fumes using an exhaust pipe extension. Open the doors and let fresh air into the building.*

WARNING: *When battery liquid is frozen, the battery can explode if : (1) you try to charge the battery or (2) you try to start the engine by connecting an auxiliary power source. To prevent battery electrolyte from freezing keep the battery fully charged. If you do not follow these instructions, you or others nearby may be injured.*

WARNING: *Batteries contain acid and explosive gases. A spark, a flame or an improper cable connection may cause an explosion. For proper connection of cables to the battery of this machine see the Operator's Manual. If you do not follow these instructions, you risk severe injury.*

TWIN WHEELS

Safety rules

WARNING: *In all cases, before removing twin wheels, always deflate both tyres completely.*

WARNING: *If a tyre bursts it can cause serious injury. Check tyres regularly to see that they are in good condition and always be sure to inflate them to the correct pressure.*

WARNING: *Never face a tyre when checking pressure or adding air. Always stand in front of the tread. Use an inflation cage if the wheel has been removed from the machine. Make sure all people standing in the area move well away.*

WARNING: *Never weld near a tyre.If this can not be avoided, it is mandatory to remove the tyre before performing any welding operations.*

WARNING: *Make sure that all decals on the machine are perfectly legible, clean them regularly and replace any decals which are damaged, missing or painted over, with new ones.*

Safety instructions

- Use appropriate, good quality tools to disassemble the various wheel components. Never use a hammer. Use a rubber, plastic or copper-faced mallet.

IMPORTANT: *Never remove the inner tyre valve extension, as this will be necessary afterwards for inflating and deflating the tyre.*

IMPORTANT: *If the valve or the valve extension are no longer accessible, take the necessary precautions and then, imperatively, puncture the tyre.*

- Use suitable grease to facilitate the installation and removal of the tyre.
- Never re-inflate a tyre on the machine which has been used at a pressure lower than 5.6 bar.
- Check the various components: tyre, rim, shoulder, retaining ring and replace any defective items.
- Never reuse a retaining ring which is distorted or rusty.

GENERAL INFORMATION

CLEANING

Clean all metal parts except bearings with white spirit or steam. Do not use caustic soda when steam cleaning. After cleaning, dry and lubricate all parts. Clean hydraulic lines with compressed air. Clean bearings with kerosene, then dry them and lubricate them.

INSPECTION

Check all parts when disassembled. Change all parts showing wear or damage. Scratches that are not too deep can be removed by honing or with a rag dipped into buffing compound. A full visual inspection to detect wear and pitting and subsequent changing of parts will prevent premature failure.

BEARINGS

Check that bearings rotate freely. If their adjustment is too loose or if they do not run regularly, change them. Wash bearings with a good solvent or kerosene and let them dry. DO NOT DRY BEARINGS WITH COMPRESSED AIR.

NEEDLE BEARINGS

Before inserting needle bearings into a bore, remove all metal particles from the edge of the bore. Prior to mounting bearings with a press, coat the inside and the outside of the bearing with vaseline.

GEARS

Check all the gears for wear or damage. Change worn or damaged gears.

SEAL RINGS, O-RINGS, GASKETS

Always use new seal rings. O-rings and gaskets. Coat sealing rings and O-rings with vaseline.

SHAFTS

Check all shafts showing signs of wear or damage. Check that the surface of a shaft running in a bearing is not damaged.

SPARE PARTS

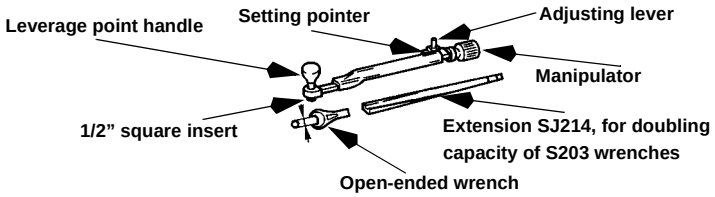
Always use original CASE spare parts. To order spare parts, see the Spare Parts Catalogue to indicate the proper reference of original CASE spare parts. Failures caused by the use of parts that are not original CASE spare parts are not covered by the warranty.

LUBRICATION

Use only oils and lubricants specified in the Operator's and Service Manuals. Failures due to the use of oils and lubricants not specified are not covered by the warranty.

CORRECT USE OF TORQUE WRENCHES

TORQUE WRENCHES



PDG0315

CORRECT USE

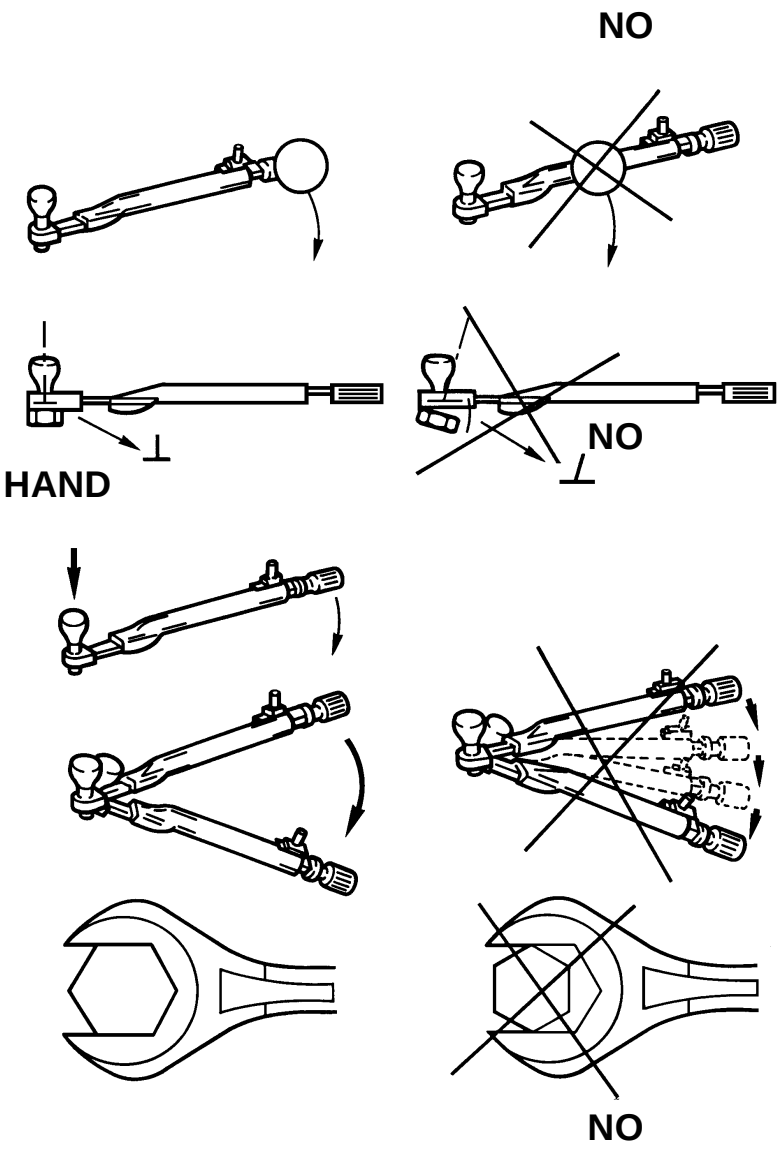
a - Hold the wrench by the handle provided.

b - When tightening, always keep the wrench perpendicular to the screw.

c - Keep one hand on the leverage point handle on the wrench.

d - Tighten progressively in one movement.

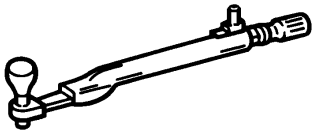
e - Position a correctly dimensioned socket or open-ended wrench on the flats of the screw head.



PDG0316

HARDWARE TIGHTENING ORDER

TORQUE WRENCHES



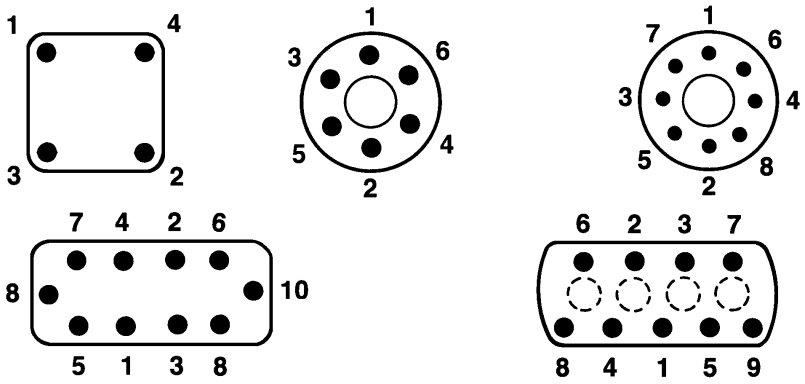
PDG0317

INITIAL TORQUE

a - Torque wrench.

- Follow the correct order of procedure when tightening.

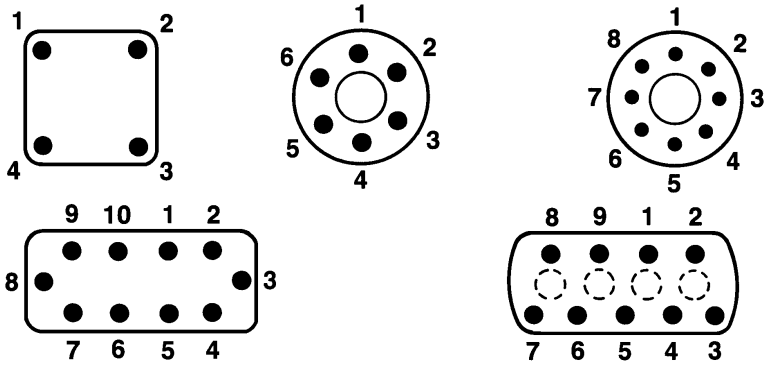
- Cross or diagonal pattern tightening.



PDG0318

FINAL TORQUE

Always tighten in clockwise order.



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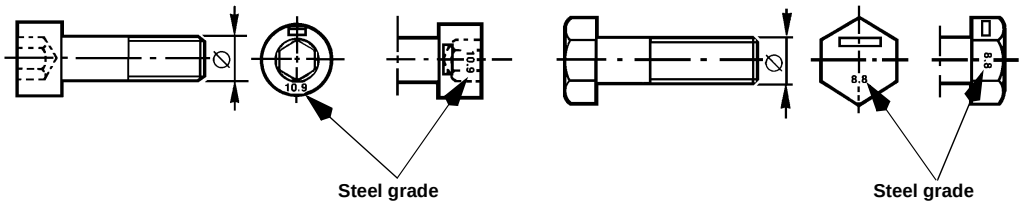
STANDARD SCREW A TORQUE SPECIFICATIONS

Correct screw identification



PDG0320

	Diameter x thread size Grade 8.8	Key		Torque Nm		Torque lb.ft	
				□	■	□	■
Two-part hydraulic connector (to SAE J518 specifications)	M5 x 0.8	4	8	5.5	5.5	4.1	4.1
	M6 x 1	5	10	9	9	6.7	6.7
	M8 x 1.5	6	13	22.5	22.5	16.6	16.6
	M10 x 1.5	8	17	45	45	33.2	33.2
	M12 x 1.75	10	19	70	80	51.6	59
	M14 x 2	12	22	100	120	73.8	88.6
	M16 x 2	14	24	170	200	125.5	147.6
	M18 x 2.5	14	27	250	300	184.5	221.4
	M20 x 2.5	17	30	350	400	258.3	295.2
	M22 x 2.5	17	32	500	600	369	442.8
	M24 x 3	-	36	600	700	442.8	516.6
	M27 x 3	-	41	900	1000	664.2	738
	M30 x 3.5	-	46	1200	1400	885.6	1033.2
Components assembled by screws and bolts **SCREW**	**Grade 10.9**						
	M5 x 0.8	4	8	75	75	5.6	5.6
	M6 x 1	5	10	12.5	12.5	9.3	9.3
	M8 x 1.5	6	13	35	35	25.8	25.8
	M10 x 1.5	8	17	60	70	44.3	51.6
	M12 x 1.75	10	19	100	120	73.8	88.6
	M14 x 2	12	22	170	200	125.5	147.6
	M16 x 2	14	24	250	300	184.5	221.4
	M18 x 2.5	14	27	350	400	258.3	295.2
	M20 x 2.5	17	30	500	600	369	442.8
	M22 x 2.5	17	32	700	800	516.6	442.8
	M24 x 3	-	36	900	1000	664.2	738
	M27 x 3	-	41	1200	1400	885.6	1033.6
	M30 x 3.5	-	46	1700	1900	1254.6	1402.2

PDG0321

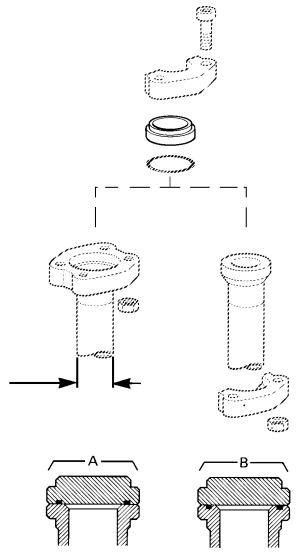
PDG0322

□ Zinc bichromate

■ Phosphate

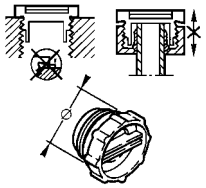
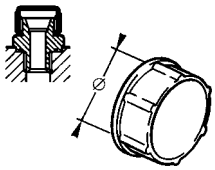
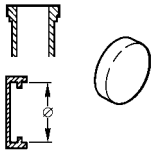
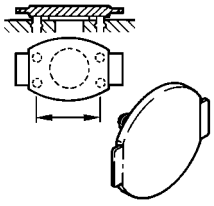
METAL CAP REFERENCES

To SAE J518 specifications

	NP 250 bar Ø ND	NP 400 bar Ø ND	Part number	
			A	B
 PDG0323	13 mm	-	D5327838	E5327839
	19 mm	-	F5327840	G5327841
	25 mm	-	H5327842	J5327843
	32 mm	-	K5327844	L5327845
	38 mm	-	M5327846	N5327847
	-	13 mm	U5327830	V5327831
	-	19 mm	W5327832	X5327833
	-	25 mm	Z5327834	A5327835
	-	32 mm	B5327836	C5327837

NP = Nominal pressure
NP = Nominal diameter

PLASTIC PLUG AND CAP REFERENCE CHART

	Dia. x pas	Part number	Dia. x pas	Part number
Tapped orifices and connectors with tightening nuts = screw-type plugs				
 PDG0324	M10 x 1.5	F3237416	M20 x 1.5	L3237421
	M12 x 1.5	G3237417	M22 x 1.5	M3237422
	M14 x 1.5	H3237418	M24 x 1.5	N3237423
	M16 x 1.5	J3237419	M27 x 2	Q3237448
	M18 x 1.5	K3237420		
Unions = Screw-type plugs				
 PDG0325	M12 x 1.5	X3237409	M20 x 1.5	C3237413
	M14 x 1.5	Z3237410	M22 x 1.5	D3237414
	M16 x 1.5	A3237411	M30 x 1.5	E3237415
	M18 x 1.5	B3237412		
S.A.E tube or hose collars = external plugs	NP 250 bar		NP 400 bar	
 PDG0326	30.2	J2537460	31.8	P2537465
	38.1	K2537461	41.3	Q2537466
	44.5	L2537462	47.6	R2537467
	50.8	M2537463	54	S2537468
	60.4	N2537464	63.6	T2537469
S.A.E orifices = caps for installation into tapped fitting orifices	NP 250 bar L =		NP 400 bar L =	
 PDG0327	38.1	A2340480	40.5	K1640415
	47.65	B2340481	50.8	R1640421
	52.35	C2340482	57.15	S1640422
	58.07	D2340483	66.7	T1640423
	69.85	E2340484	79.4	Z1640479

NP = Nominal pressure
ND = Nominal diameter

Section

1002

1002

SPECIFICATIONS

1188 *Plus* Crawler Excavators

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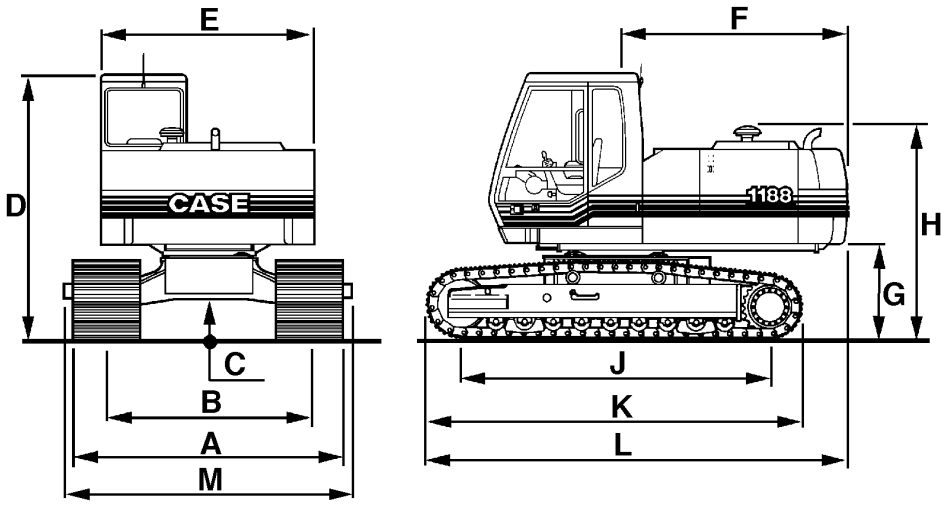
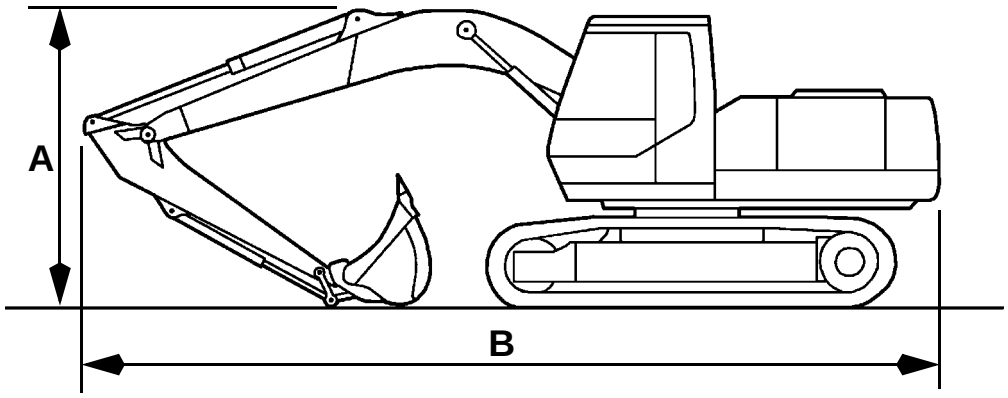
MACHINE OVERALL DIMENSIONS



PDH0253M

	LC Type	CK Type
A (0.50 m track pads)	2.87 m	2.47 m
A (0.60 m track pads)	2.97 m	2.57 m
A (0.75 m track pads)	3.12 m	2.72 m
A (0.90 m track pads)	3.27 m	
B	2.37 m	1.97 m
C	0.50 m	0.50 m
D	3.11 m	3.11 m
E	2.44 m	2.44 m
F (radius)	2.67 m	2.67 m
G	1.15 m	1.15 m
H	2.50 m	2.50 m
J	3.59 m	3.25 m
K	4.41 m	4.07 m
L	4.48 m	4.72 m
M	3.00 m	2.61 m

TRANSPORTATION OVERALL DIMENSIONS



PDH0256

NOTE: *Cab height above ground: see section "Machine overall dimensions".*

Boom	Dipper	A	B
One-piece 4.80 m	1.70 m	3.35	9.45
	2.20 m	3.20	9.10
	2.50 m *	3.25	8.80
	2.80 m	3.45	8.85
	3.40 m	3.95	8.60
One-piece 5.40 m	1.70 m	3.30	10.05
	2.20 m	3.05	9.05
	2.50 m *	3.10	9.50
	2.80 m	3.40	9.45
	3.40 m	3.75	9.40
Articulated	1.70 m	3.75	8.25
	2.20 m	3.75	7.30
	2.50 m *	3.75	8.55
	2.80 m	3.75	8.95
	3.40 m	3.75	9.70
Adjustable	1.70 m	3.60	7.55
	2.20 m	3.55	7.30
	2.50 m *	3.70	7.10
	2.80 m	4.10	6.80
	3.40 m	4.85	6.45
Handling	Handling	3.20	9.20

NOTE: *These values are given in metres.*

* Special for Germany

GENERAL MACHINE SPECIFICATIONS

Engine

Make and type ..... CASE 6TA 590
Total SAE horsepower at 2800 rpm ..... 126.4 kW (172 hp)
4 stroke, 6 cylinder ..... turbo-charged diesel
Capacity ..... 5880 cm^3
Bore ..... 102 mm
Stroke ..... 120 mm
Cooling ..... water-cooled
Staring: ..... 2 x 12 volt batteries, 24 V, 120 A/h

Working specifications

Engine speed ..... 2000 rpm
Power: SAE J1995 ..... 119 kW (160 hp)
DIN 70020 - DIN 6271 ..... 113 kW (152 hp)
EEC 80/1269 - ISO 9249 ..... 113 kW (152 hp)
Specifications maintained up to an altitude of 3000 m at a temperature of 25°C.
Capacities: Engine oil sump ..... 14.3 L
Fuel tank ..... 330 L
Fuel tank filler pump, electrical ..... optional
Average hourly consumption ..... 21.2 L/h
Engine and pump assembly mounted on rubber blocks.
Heavy-duty dust filtration.

Hydraulic system

Variable output system with independent and simultaneous operation of all functions.
Electronic regulation of hydraulic power ("Powersensor" system) for optimal use of engine power.

3 regulation modes:

"FINE": For work requiring extreme precision.

"ECO" (ECONOMICAL): For normal jobs.

"MAX" (MAXIMUM): In this position, the operator has the entire power of the machine available for use.

Automatic engine return to idle at operator’s choice.
Working pressure ..... 350 bar
Capacity of hydraulic reservoir ..... 180 L
Total system capacity ..... 288 L

Pumps:

One double-body variable displacement pump for supplying travel motors and attachments.
Flow ..... 320 L/min

One single body variable displacement pump supplying the upperstructure swing.
Flow ..... 88 L/min

Installed hydraulic power ..... 109.3 kW (148 hp)

Fixed flow pump for the pilot systems.
Parallel, closed centre type attachment and travel control valves.
Flow rates per function, independent of pressures.

Oil cooler with air cooling from engine.
Multispiral high pressure hoses
minimum safety factor ..... 2 to 4 times the working pressure
Self-lubricating hydraulic swivel.

Electrical system

Circuit voltage circuit ..... 24 volt, negative earth
Batteries ..... two low-maintenance 12 volt batteries
All electrical system safety functions are grouped in an electrical cabinet with a printed circuit.
Instrument panel with printed circuit.
Automatic instrument panel lamp testing.
Two-stage alarm system.
Upperstructure electrical power connection (24 V, 15 Amp.).
Battery master switch.

Upperstructure

All welded frame

Modular structure.
Transverse walkway giving access to the various components.
Sound-proofed, lockable cowling meeting all current regulations.
Tool box with tool set.

Swing

Hydraulic motor with reduction gear and automatic static brake.
Swing speed ..... 8.5 rpm
Turntable ..... alternating rollers and internal teeth
Bearing surface and tooth lubrication ..... centralised

Cab

Removable, sound-proofed, on flexible mounting blocks.
Up and over windshield.
Tinted windshield.
Pre-fitted for radio installation.
Transparent roof hatch ..... optional equipment
Sliding window on door ..... optional equipment
Polycarbonate windows ..... optional equipment
Cab safety guards ..... available on request
Elevated cab ..... available on request
Ant-vandal cab ..... optional equipment

Operation

De-luxe seat with armrests and multi-position adjustment (vibration level III/ISO 7096).
Hydraulically assisted controls.
Attachment and swing ..... 2 control levers
Travel..... 2 pedals
Single-speed windshield wiper, plus intermittent action, windshield washer, heating, de-frosting, two-speed ventilation, cab light, cigarette lighter, sun shield.
Working lights:
- On upperstructure .....2 x 70 W
- On attachment ..... 70 W
- Front and rear (on cab) ..... optional equipment
- Rear (on cab) ..... 70 W

Air conditioning ..... optional equipment
Cab sun-shield..... optional equipment
Cab blower ..... optional equipment

Undercarriage

One-piece undercarriage chassis with welded components.
Lifetime lubricated rollers.
Tractor type tracks; grease cylinder type track tension; shock absorber for shock absorption.
Removable sprocket tooth rings.
Front and rear chain guide (central optional).

Safety devices

In the event of engine failure, the attachment can be lowered, under control, to the ground.
Cancellation of controls by lifting the left-hand control arm.
Tinted safety glass, horn.
Cab safety guards .....available on request
Safety valves ..... optional equipment
Overload indicator ..... optional equipment
Roller type seat belt..... optional equipment
Fire extinguisher ..... optional equipment
Rotary light .....special for certain countries

Indicators

Engine coolant solution temperature, hydraulic fluid temperature, fuel level and hourmeter.

Warning and indicator lamps

Engine oil pressure, battery charge, hydraulic and engine air filter start of restriction indicator.
Warning/indicator lamp test.

Attachments

Sealed linkages, all linkages greased from ground level or walkway.
Double acting cylinders with end-of-stroke shock absorbers.
Play take-up system on bucket linkage.

Noise level

Certified by the manufacturer.
In accordance with European directive 86/662/EEC.
Inside operator's compartment (LpA) ..... 79 dB(A)
Outside machine (LwA) ..... 105 dB(A)

Ground pressure

With attachment: 5.40 m boom, 2.20 m dipper and 970 L bucket

Machine equipped with 0.50 m track pads
LC Type ..... 0.561 bar
CK Type ..... 0.599 bar

Machine equipped with 0.60 m track pads
LC Type ..... 0.474 bar
CK Type ..... 0.505 bar

Machine equipped with 0.75 m track pads
LC Type ..... 0.387 bar
CK Type ..... 0.412 bar

Machine equipped with 0.90 m track pads
LC Type only ..... 0.329 bar

Travel

Sprockets driven by hydraulic motors (Dual displacement optional).
Independent drive to each track.
Manual controlled travel block providing precise adjustment of travel speed regardless of pressure exerted on travel pedals.
Travel speeds:
(single speed machine), max. speed ..... from 0 to 3.1 kph
(2-speed machine), max. speed ..... First speed: from 0 to 3.1 kph
Second speed: from 0 to 5.5 kph
Braked motors (automatic static brake).
Gradeability:
LC Type 90%
CK Type 80%
Tractive force:
LC Type ..... 17850 daN
CK Type ..... 17950 daN
Hydraulic speed limiter, automatic when descending slopes.

WEIGHTS

Machine

(LC Type)

Boom	Dipper	LC Type			
		Track pads 0.50 m	**Track pads 0.60 m**	**Track pads 0.75 m**	**Track pads 0.90 m**
One-piece 4.80 m	1.70 m	21 990	22 295	22 745	23 205
	2.20 m	22 030	22 335	22 785	23 245
	2.50 m *	22 045	22 350	22 800	23 260
	2.80 m	22 120	22 420	22 870	23 335
	3.40 m	22 155	22 460	22 910	23 370
One-piece 5.40 m	1.70 m	22 125	22 430	22 880	23 340
	2.20 m	22 165	22 470	22 920	23 380
	2.50 m *	22 180	22 485	22 935	23 395
	2.80 m	22 255	22 555	23 005	23 470
	3.40 m	22 290	22 595	23 045	23 505
Articulated	1.70 m	23 000	23 305	23 755	24 215
	2.20 m	23 040	23 345	23 795	24 255
	2.50 m *	23 055	23 360	23 810	24 270
	2.80 m	23 125	23 430	23 880	24 340
	3.40 m	23 165	23 465	23 920	24 380
Adjustable	1.70 m	22 670	22 975	23 425	23 885
	2.20 m	22 710	23 015	23 465	23 925
	2.50 m *	22 725	23 030	23 480	23 940
	2.80 m	22 795	23 100	23 550	24 010
	3.40 m	22 835	23 135	23 590	24 050
Handling	Handling (without clamshell)	20 775	21 075	21 530	21 990

NOTE: *These values are given in kg, with 970 L backhoe bucket.*

* Special for Germany

(CK Type)

Boom	Dipper	CK Type		
		Track pads 0.50 m	**Track pads 0.60 m**	**Track pads 0.75 m**
One-piece 4.80 m	1.70 m	21 395	21 675	22 090
	2.20 m	21 435	21 715	22 130
	2.50 m *	21 450	21 730	22 145
	2.80 m	21 520	21 800	22 215
	3.40 m	21 560	21 840	22 250
One-piece 5.40 m	1.70 m	21 530	21 810	22 225
	2.20 m	21 570	21 850	22 265
	2.50 m *	21 585	21 865	22 280
	2.80 m	21 655	21 935	22 350
	3.40 m	21 695	21 975	22 385
Articulated	1.70 m	22 405	22 685	23 095
	2.20 m	22 445	22 725	23 140
	2.50 m *	22 460	22 740	23 155
	2.80 m	22 530	22 810	23 225
	3.40 m	22 570	22 845	23 260
Adjustable	1.70 m	22 075	22 355	22 765
	2.20 m	22 115	22 395	22 810
	2.50 m *	22 130	22 410	22 825
	2.80 m	22 200	22 480	22 895
	3.40 m	22 240	22 515	22 930
Handling	Handling (without clamshell)	20 180	20 455	20 870

NOTE: *These values are given in kg, with 970 L backhoe bucket.*

* Special for Germany

Attachments

Booms (with dipper cylinder)
- 4.80 m ..... 1575 kg
- 5.40 m ..... 1710 kg

Adjustable boom ..... 2255 kg

Adjustable boom ..... 2520 kg

Dipper (with yoke, connecting link and bucket cylinder)
- 1.70 m ..... 980 kg
- 2.20 m ..... 1020 kg
- 2.50 m (Special for Germany) ..... 1025 kg
- 2.80 m ..... 1105 kg
- 3.40 m ..... 1140 kg

Handling boom 5.90 m (with dipper cylinder) ..... 1530 kg

Handling dipper 4.30 m ..... 580 kg

Counterweight

4500 kg

Cab

291 kg

Tools

NOTE: *The selection of bucket capacity depends on the density of the material (See "Density of various spoils and materials" in the operator's manual) and the attachment configuration in addition to the compactness and structure of the ground).*

Earthmoving buckets

Width	SAE heaped capacity	Weight
0.60 m	460 L	585 kg
0.75 m	590 L	615 kg
0.85 m	680 L	645 kg
0.90 m	730 L	690 kg
1.05 m	870 L	745 kg
1.15 m	970 L	775 kg
1.25 m	1060 L	845 kg
1.40 m	1200 L	890 kg

All earthmoving buckets are equipped with teeth with removable tooth tips and pins with side play take-up system.
Heavy duty supplement optional (add 5% to the capacity shown).
Side cutters optional (add 8 cm to the width shown).

Trench buckets with ejector

Width	SAE heaped capacity	Weight
0.45 m	310 L	755 kg

Ditch cleaning buckets equipped with teeth

Width	CECE capacity	Weight
2.00 m	900 L	780 kg

Ditch cleaning buckets equipped with reversible blade (notched or smooth)

Width	CECE capacity	Weight
2.00 m	900 L	825 kg

Buckets equipped with smooth blade

Width	CECE capacity	Weight
2.20 m	1000 L	815 kg

V-shaped bucket

Width	CECE capacity	Weight
0.50 - 3.00 m	670 L	615 kg

Trench clamshell with ejector

Width	Opening	Capacity	Weight
0.55 m	1.94 m	350 L	1180 kg

Earthmoving clamshells

Width	Opening	Capacity	Weight
0.92 m	1.72 m	500 L	1270 kg
1.02 m	1.83 m	650 L	1300 kg
1.27 m	1.83 m	850 L	1395 kg

Rehandling clamshells

Width	Opening	Capacity	Weight
1.03 m	2.14 m	1000 L	1240 kg

Boring clamshell

Width	Capacity	Weight
1.18 m	180 L	1025 kg
1.48 m	350 L	1175 kg

Sugar beet clamshell

Width	Opening	Capacity	Weight
1.81 m	2.50 m	2050 L	1440 kg
2.05 m	2.50 m	2350 L	1625 kg
2.29 m	2.50 m	2600 L	1703 kg

5-tine stone grab with removable tine tips

Opening diameter	Weight
2.12 m	1815 kg

Scrap metal 5 tine grab

Opening diameter	Weight
2.00 m	1300 kg

FLUIDS AND LUBRICANTS

Lubricants must have the correct properties for each application.

WARNING: *The conditions of use for individual fluids and lubricants must be respected.*

Hydraulic fluid

CASE hydraulic fluid is specially designed for high pressure applications and for the CASE hydraulic system. The type of fluid to be used depends on the ambient temperature.

Temperate climates

-20°C to +40°C
Fluid type ISO VG 46
CASE reference: POHYDR

Hot climates

0°C to +60°C
Fluid type ISO VG 100
CASE reference: POHYDC

Cold climates

-40°C to +20°C
Fluid type ISO VG 22
CASE reference: POHYPF

These various grades of fluid must be in conformity with CASE France specification P9903201Z.

Temperate climate biodegradable fluid:
This yellow fluid is compatible with standard fluid. If adopted, it is advisable to drain the circuit completely.
Fluid type ISO VG 46
CASE reference: CASYNTH 46

This grade of fluid must be in conformity with CASE France specification P9903203B

Transmission component oil

Extreme pressure oil used for transmission components inside sealed housings.
Extreme pressure oil type API GL5 grade 80W90 or ISO VG 150

Grease

The type of grease to use depends on ambient temperature.

Temperate and hot climates

-20°C to +60°C
Extreme pressure grease EP NLGI grade 2 with molybdenum disulphide.

Cold climates

-40°C to +20°C
Extreme pressure grease EP NLGI grade 0.

Engine oil

CASE engine oil No. 1 is recommended for your engine. This oil ensures correct lubrication of your engine in all working conditions.

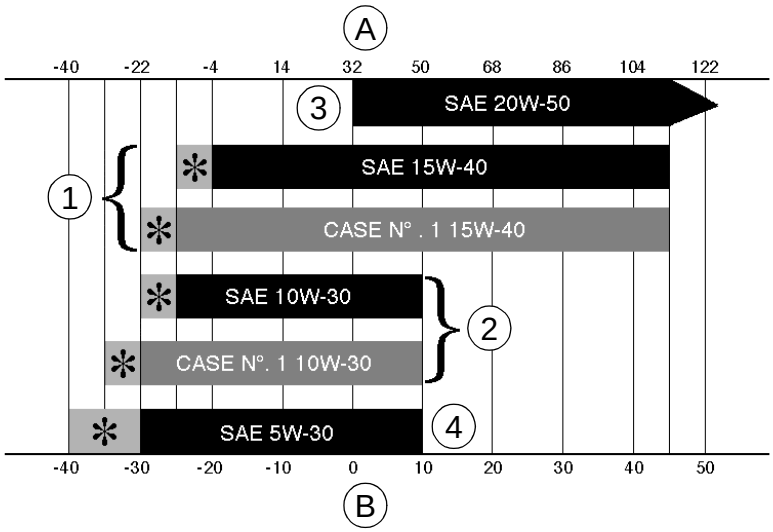
If CASE No. 1 Multiperformance or Performance engine oil is not available, use oil corresponding to category API/CG/CF.

NOTE: *Do not put any Performance Additive or other additive in the sump. Oil change intervals shown in this manual are based on tests carried out on CASE lubricants.*

RD97F136

RB97F100

Oil viscosity/Oil range



CS98M561

(A) FAHRENHEIT TEMPERATURE
(B) CELSIUS TEMPERATURE
(1) ALL SEASONS
(2) WINTER
(3) TROPICAL
(4) ARCTIC
SHOWS THAT AN ENGINE OIL HEATER OR ENGINE COOLANT SOLUTION HEATER MUST BE USED.

Fuel

Use fuel which is to ASTM (American Society for Testing and Materials) D975 standard.

Use Grade No. 2 fuel. The use of other types of fuel can result in a loss of power and may cause high fuel consumption.

In cold weather, the use of a mixture of fuels No. 1 and No. 2 is temporarily permitted. Consult your fuel supplier.

If the temperature falls below the fuel cloud point (point at which wax begins to form) the wax crystals will cause power loss or will prevent the engine from starting.

IMPORTANT: *In cold weather, fill the fuel tank at the end of the day's work, in order to prevent the formation of condensation.*

Fuel storage

Long storage can lead to the accumulation of impurities and condensation in the fuel. Engine trouble can often be traced to the presence of water in the fuel.

The storage tank must be placed outside and the temperature of the fuel should be kept as low as possible. Drain off water and impurities regularly.

Antifreeze/anti-corrosion

Use anti-freeze in all seasons to protect the cooling system from corrosion and all risk of freezing.

In environments with a temperature higher than -36°C, use a mixture of 50% ethylene-glycol based anti-freeze.

For areas where the temperature is below -36°C, it is advisable to use a blend of 40% water and 60% anti-freeze.

Environment

Before carrying out any servicing operation on this machine and before disposing of used fluids or lubricants, always think of the environment. Never throw fluid or oil on the ground and never keep them in leaking receptacles.

Consult your local ecological recycling centre to obtain information on the appropriate means of disposing of these substances.

Components made from plastic or resin

When cleaning polycarbonate windows, the console, the instrument panel, the gauges, etc., do not use petrol (gasoline), paraffin (kerosene), paint solvents, etc. Use only water, soap and a soft cloth.

The use of petrol (gasoline), de paraffin (kerosene), paint solvents, etc, will cause discoloration, cracking or deformation of these components.