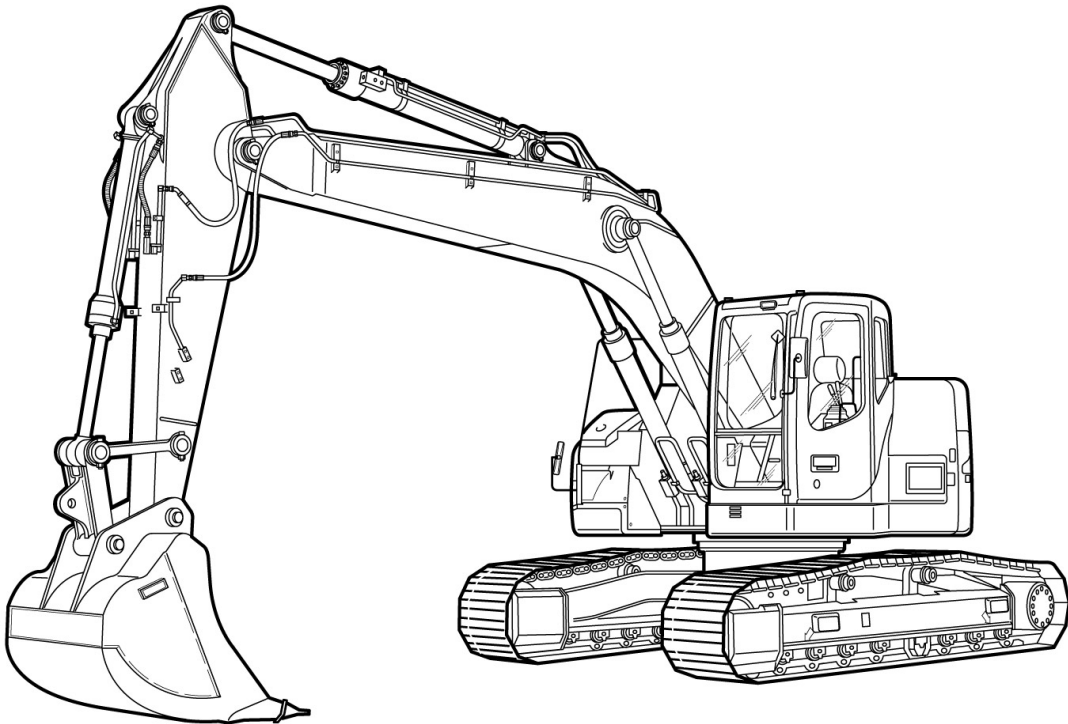


CASE

REPAIR MANUAL



CX225SR

Contents

INTRODUCTION
DISTRIBUTION SYSTEMS
POWER PRODUCTION
TRAVELLING
BODY AND STRUCTURE
FRAME POSITIONING
WORKING ARM
TOOLS AND COUPLERS

A
B
D
E
F
H
J



INTRODUCTION

<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

INTRODUCTION

Foreword (- A.10.A.40) CX225SR	3
Safety rules (- A.50.A.10) CX225SR	4
Basic instructions (- A.90.A.05) CX225SR	6
Torque (- A.90.A.10) CX225SR	7
Torque (- A.90.A.10) CX225SR	8
Dimension (- A.92.A.30) CX225SR	11
Weight (- A.92.A.40) CX225SR	12
Consumables (- A.92.A.55) CX225SR	13
Hydraulic contamination (- A.92.A.60) CX225SR	16
Product identification (- A.80.A.10) CX225SR WE	18
Product identification (- A.80.A.10) CX225SR NA	19

Foreword (- A.10.A.40)

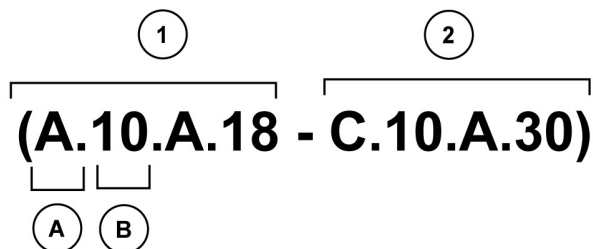
CX225SR

INTRODUCTION TO THE REPAIR MANUAL

This manual has been designed so that in the near future it can be made available on CD and in a database via a computer network.

This will allow fast and targeted search and navigation between the various information modules.

Information search



CRIL03J033E01 1

This manual is organised according to types of function and information.

- The function and information types are codified and appear in parentheses after the title and separated by a dash:
(1) Function
(2) Information type.
- Only the first letter **(A)** and the first number **(B)** of the function need to be used for the information search.
 The first letter **(A)** corresponds to the sections of the repair manual.
 The first number **(B)** corresponds to the chapters of the repair manual.
 The first part of the **(A.B)** code is reflected in the page numbering.
THE REST OF THE CODING IS NOT LISTED IN ALPHA-NUMERIC ORDER IN THIS MANUAL.
- You will find a table of contents at the beginning and end of each section and chapter.
 You will find an alphabetical index at the end of each chapter.
- Therefore it is the first part of the **(A.B)** coding, then the tables of contents and index (page numbers) which will allow you to quickly find the information you are looking for.

Safety rules (- A.50.A.10)

CX225SR

**CAUTION**

M171C - THIS SAFETY ALERT SYMBOL INDICATES IMPORTANT SAFETY MESSAGES IN THIS MANUAL. WHEN YOU SEE THIS SYMBOL, CAREFULLY READ THE MESSAGE THAT FOLLOWS AND BE ALERT TO THE POSSIBILITY OF DEATH OR SERIOUS INJURY.

ATTENTION: To avoid injury, always observe the Safety Notices, CAUTION and ATTENTION, contained in this section and throughout the manual.

Place a "Do not start the machine" warning notice on the starter switch key before all maintenance or repair operations.

**CAUTION**

M489 - Read the operators manual to familiarize yourself with the correct control functions.

**CAUTION**

M490 - Operate the machine and equipment controls from the seat position only. Any other method could result in serious injury.

**CAUTION**

M265A - A frequent cause of personal injury or death is persons falling off and being run over. Do not permit anyone to ride on the machine.

**CAUTION**

SB055 - Before starting engine, study operators manual safety messages. Read all safety signs on machine. Clear the area of other persons. Learn and practice safe use of controls before operation. It is your responsibility to understand and follow manufacturers instructions on machine operation, service, and to observe pertinent laws and regulation. Operators and service manuals can be obtained from your dealer.

ATTENTION: You risk injury if you wear loose clothing or if you do not use safety equipment for your work. Always wear clothes which are unlikely to become caught in the machinery. Other safety equipment may be required, in particular: hard hat, safety boots, ear protectors, safety goggles or mask, thick gloves and reflective clothing.

**CAUTION**

M124A - Rotating machine parts, stay clear, keep shields installed to help protect from clothing entanglement and injury. Wear close-fitted clothing.

**CAUTION**

SB071 - Rotating fan and belts: Contact will cause injury. Keep clear.

ATTENTION: Follow the procedures exactly when carrying out checks or inspections on the vehicle's hydraulic systems. DO NOT CHANGE the procedures.

ATTENTION: Before running the hydraulic cylinders in this vehicle through the cycles necessary for checking their functioning or for draining a circuit, warn people nearby to move away.



CAUTION



SM121A - Always wear heat protective gloves to prevent burning your hands when handling heated parts.



CAUTION



M132B - Lower or block elevated implements and other attachments before servicing or when leaving the equipment.



CAUTION



R149C - Hydraulic oil or diesel fuel leaking under pressure can penetrate the skin and cause infection or other injury. To Prevent Personal Injury: Relieve all pressure, before disconnecting fluid lines or performing work on the hydraulic system. Before applying pressure, make sure all connections are tight and components are in good condition. Never use your hand to check for suspected leaks under pressure. Use a piece of cardboard or wood for this purpose. If injured by leaking fluid, see your doctor immediately.

***ATTENTION:** To remove a hardened pin, such as a pivot pin, or a hardened shaft, use a soft-headed hammer (brass or bronze) or a brass or bronze peg and a steel-headed hammer.*



CAUTION



M428 - Always wear safety glasses when using a drill, hammer, saw, or other tools that may cause chips to fly.

***ATTENTION:** Use suitable servicing jacks or a chain hoist for raising the wheels or tracks. Always chock the vehicle in place with suitable safety supports.*

***ATTENTION:** When carrying out maintenance or repair operations on the vehicle, keep the workshop floor, the driving position and the steps free from oil, water, grease, tools, etc... Use an oil absorbent material and/or workshop cloths as necessary. Always use sound methods.*

***ATTENTION:** Some parts of this vehicle are very heavy. Use lifting devices or additional assistance recommended in the Operator's Manual.*



CAUTION



M532 - Do not operate the engine in a closed building. Proper ventilation is required under all circumstances.



CAUTION



M503 - When the battery electrolyte is frozen, the battery can explode if (1), you try to charge the battery, or (2), you try to jump start and run the engine. To prevent the battery electrolyte from freezing, try to keep the battery at full charge. If you do not follow these instructions, you or others in the area can be injured.



CAUTION



M244A - BATTERIES CONTAIN ACID AND EXPLOSIVE GAS. EXPLOSION CAN RESULT FROM SPARKS, FLAMES, OR WRONG CABLE CONNECTIONS. TO CONNECT JUMPER CABLES OR CHARGER, SEE MANUAL(S) FOR THE CORRECT PROCEDURE. FAILURE TO FOLLOW THE ABOVE INSTRUCTIONS CAN CAUSE SERIOUS PERSONAL INJURY OR DEATH.

Basic instructions (- A.90.A.05)

CX225SR

GENERAL

Cleaning

Clean all metal parts except the bearings with white spirit or steam. Do not use caustic soda for steam cleaning. After each cleaning, dry and oil all parts. Clean the oil ducts with compressed air. Clean the bearings with paraffin, then dry them completely and lubricate them.

Inspection

Check all the parts when they are disassembled. Replace all parts that show signs of wear or damage. Superficial scratches and grooves can be removed with an oil stone or with a cloth dipped in red oxide. A complete visual inspection is necessary to detect wear and pitting, and replacing parts as soon as it becomes necessary will help to avoid premature breakdowns.

Bearings

Check that the bearings turn freely. Replace them if their adjustment is too free or if their functioning is irregular. Wash the bearings with a good solvent or paraffin and allow them to air dry.
DO NOT DRY THE BEARINGS WITH COMPRESSED AIR.

Needle bearings

Before pushing needle bearings into a cylinder bore, always remove all metallic projections from the bore and its edges. Before pushing in bearings with a press, coat the inside and edges of the bearings with Vaseline.

Gears

Check all the gears and ensure that they do not show any signs of wear or damage. Replace the worn out or damaged gears.

Gaskets, O-rings and flat seals

Always install new gaskets, O-rings, and flat seals. Coat the gaskets and O-rings with Vaseline.

Shaft

Check all shafts showing wear or damage. Ensure that the surface of a shaft carrying a bearing or gasket is not damaged.

Spare parts

Always use CASE spare parts. To order these, refer to the Spare Parts Catalogue and indicate the correct reference number of the CASE spare parts.

Breakdowns caused by the use of parts other than CASE spare parts are not covered by the warranty.

Lubrication

Use only the oils and lubricants specified in the Operator's Manual or the Service Manual.

Breakdowns caused by the use of oils and lubricants not specifically listed are not covered by the warranty.

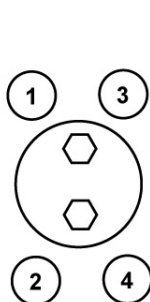
Torque (- A.90.A.10)

CX225SR

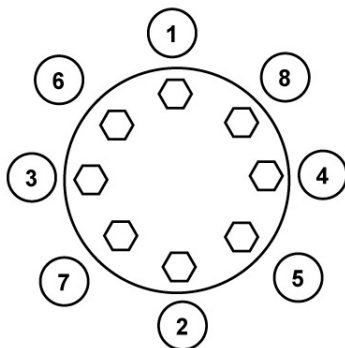
STANDARD TIGHTENING TORQUE

Order of tightening nuts and cap screws.

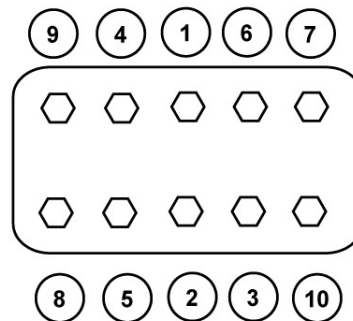
Tighten alternately so that torque remains uniform. Cap screws which are fitted with Loctite (look for traces of a white residue on the thread after removal), must be cleaned with a thin oil or a suitable solvent, then dried. Add two or three drops of Loctite to the cap screw thread, then fit the screw.



CRIL03H012E01



CRIL03H012E01 1



The numbers in the diagrams represent the order of tightening.

Tightening torque

Where there are no special instructions, tighten cap nuts screws to the torques given in the table below.

Standard torque setting table.

Designation of cap screws (dimensions)		M6	M8	M10	M12	M14	M16	M18	M20
Cap screw	Spanner in mm	10	13	17	19	22	24	27	30
	Torque setting in Nm	6.9	19.6	39.2	58.8	98.1	157.2	196	274
Socket head screw	Wrench in mm	5	6	8	10	12	14	14	17
	Torque setting in Nm	8.8	21.6	42.1	78.4	117.6	176.4	245	343

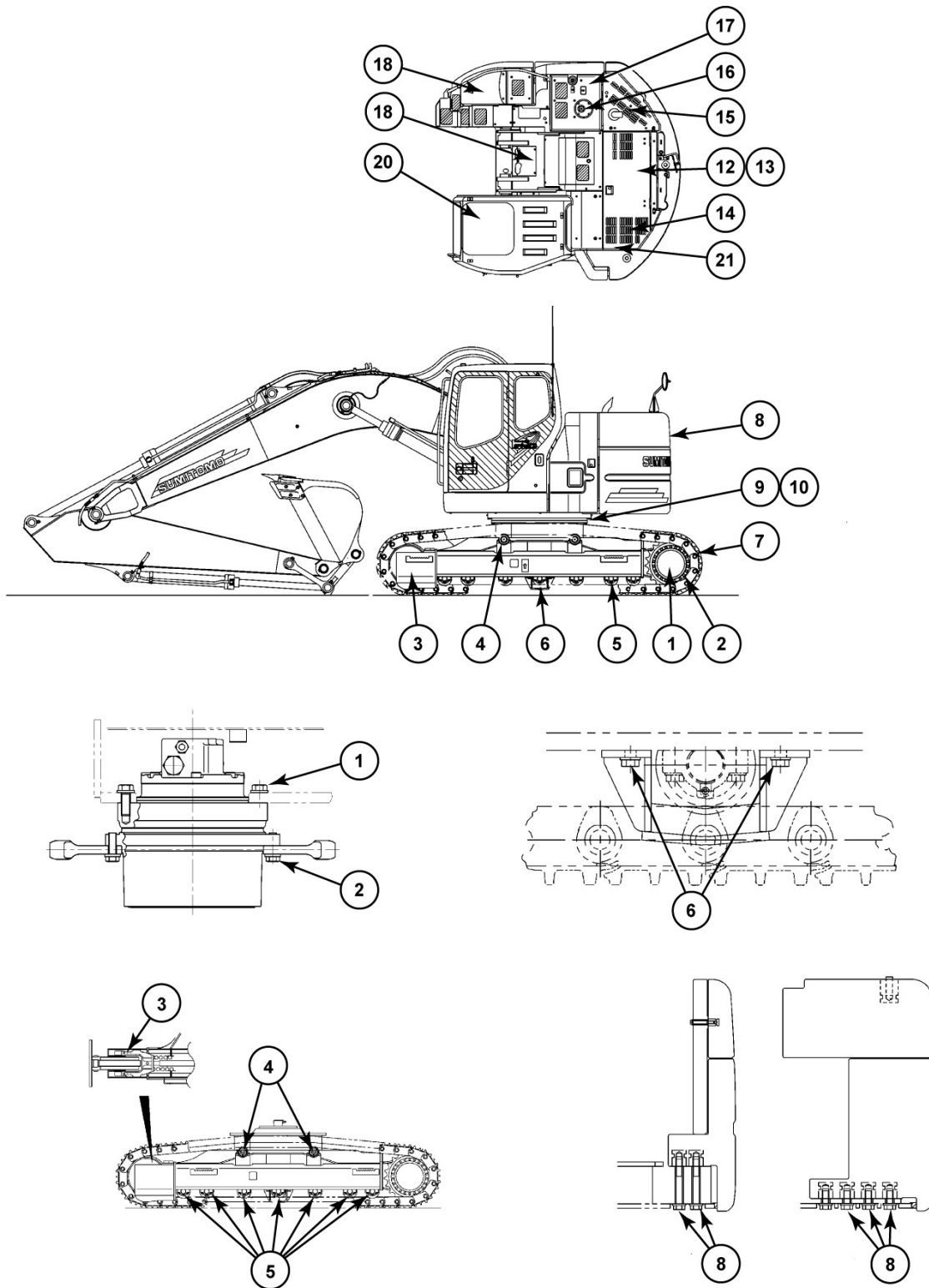
Torque (- A.90.A.10)

CX225SR

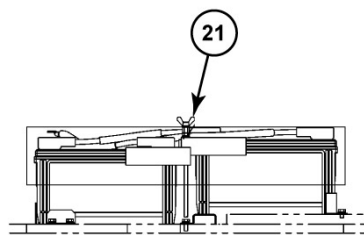
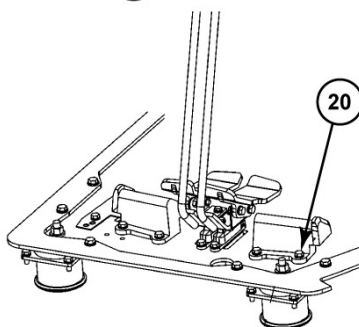
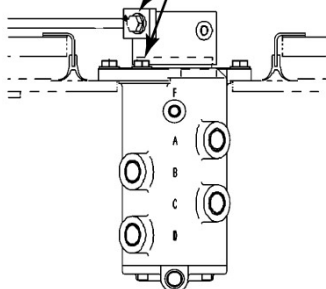
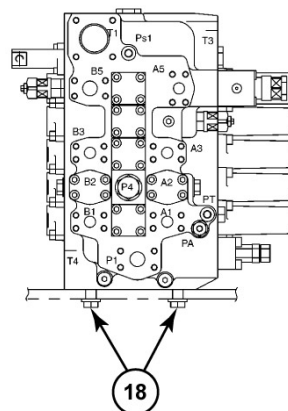
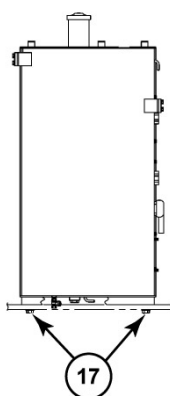
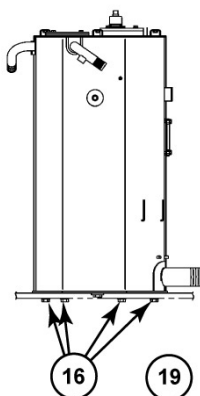
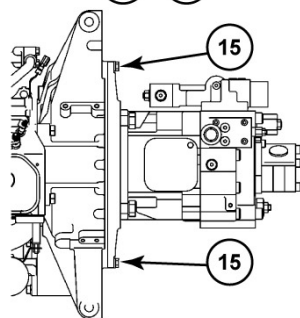
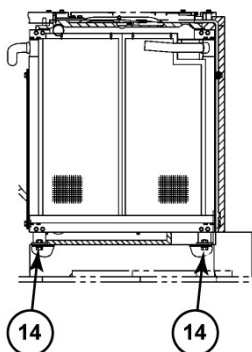
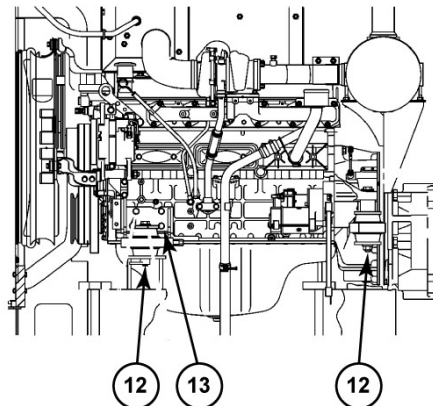
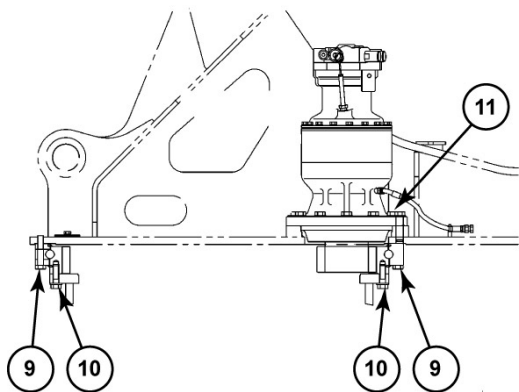
SPECIAL TORQUE SETTINGS

No.	Component	Screw diameter	Wrench in mm	Tightening torque
(1)*	Travel motor and reduction gear assembly	M16	24	267 - 312 Nm
(2)*	Sprocket	M16	24	267 - 312 Nm
(3)*	Idler wheel	M16	24	267 - 312 Nm
(4)*	Upper roller	M20	30	521 - 608 Nm
(5)*	Lower roller	M18	27	371 - 432 Nm
(6)	Chain guide	M18	27	380 - 443 Nm
(7)	Track pad	M20	30	300 Nm+120 °
(8)	Counterweight	M36	55	2750 - 2940 Nm
(9)	Turntable (chassis)	M20	30	468 - 545 Nm
(10)	Turntable (upperstructure)	M20	30	468 - 545 Nm
(11)*	Swing motor and reduction gear assembly	M20	30	521 - 608 Nm
(12)*	Engine	M16	24	265 - 313 Nm
(13)*	Engine mounts	M10	17	64 - 74 Nm
(14)	Radiator	M16	24	147 - 176 Nm
(15)*	Hydraulic pump	M10	17	64 - 74 Nm
		M20	30	367 - 496 Nm
(16)*	Hydraulic reservoir	M20	30	412 - 471 Nm
(17)*	Fuel tank	M20	30	412 - 471 Nm
(18)*	Control valve	M16	24	267 - 312 Nm
(19)*	Hydraulic swivel	M12	19	109 - 127 Nm
(20)	Cab	M16	24	78 - 80 Nm
(21)	Batteries	M10	17	20 - 29 Nm

Use Loctite 262 or an equivalent on mounting screws marked with an asterisk (*).



CRIL04B072H01 1

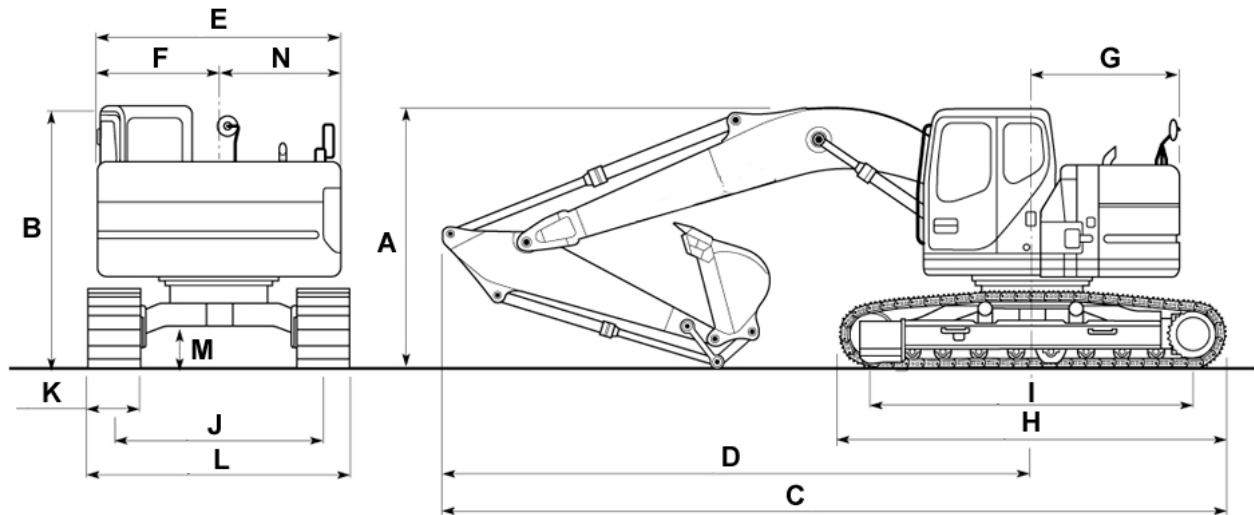


CRIL04B073H01 2

Dimension (- A.92.A.30)

CX225SR

Machine fitted with monobloc boom 5.70 m



CRPH04B001F00 1

Dippers	1.90 m	2.40 m	3.00 m
(A)	3.08 m	3.14 m	2.90 m
(B)	2.97 m		
(C)	8.97 m	8.93 m	8.85 m
(D)	6.74 m	6.70 m	6.62 m
(E)	2.80 m		
(F)	1.40 m		
(G)	1.68 m		
(H)	4.46 m		
(I)	3.66 m		
(J)	2.39 m		
(K)	0.60 m		
(L) with track pads 600 mm	2.99 m		
(L) with track pads 700 mm	3.09 m		
(L) with track pads 800 mm	3.19 m		
(M)	0.46 m		
(N)	1.40 m		

Weight (- A.92.A.40)

CX225SR

Weight of machine

Configuration	Weight	Ground pressure
With track pads 600 mm , monobloc boom 5.70 m , dipper 2.40 m , 760 kg backhoe, driver and full fuel tank	22 700 kg	0.47 bar

Weight of components

Engine	487 kg
Hydraulic pump	125 kg
Attachment control valve	187 kg
Swing moto-reduction gear	223 kg
Travel moto-reduction gear	250 kg
Boom cylinder	200 kg
Dipper cylinder	257 kg
Bucket cylinder	151 kg
Counterweight	5880 kg
Cab	kg
Turntable	244 kg
Upperstructure with equipment (counterweight and turntable)	11770 kg
Hydraulic swivel	27 kg
Undercarriage with equipment	EUROPE 7020 kg NA 7730 kg
Machine without equipment	EUROPE 18840 kg NA 19550 kg
Attachment	3870 kg
Boom with equipment	2200 kg
Dipper with equipment 3.00 m	910 kg
Dipper without equipment 3.00 m	599 kg
Radiator and oil-cooler assembly	55 kg
Fuel tank	160 kg
Hydraulic reservoir	145 kg
Idler wheel	82 kg
Upper roller	17 kg
Lower roller	35 kg
Tension shock absorber	142 kg
Track 600 mm	1350 kg
Track 700 mm	1570 kg
Track 800 mm	1710 kg

Consumables (- A.92.A.55)

CX225SR

FLUIDS AND LUBRICANTS

Lubricants must have the correct properties for each application.

ATTENTION: *You must respect the operating conditions for the different ingredients.*

Hydraulic fluid

CASE AKCELA 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 COUNTRIES - **20 °C to + 40 °C**
CASE AKCELA HYDRAULIC EXCAVATOR FLUID
(MS 1230. ISO VG 46. DIN 51524 PART 2 HV)
- HOT COUNTRIES **0 °C to + 60 °C**
CASE AKCELA HYDRAULIC EXCAVATOR FLUID "HOT CLIMATE"
(MS 1230. ISO VG 100. DIN 51524 PART 2 HV)
- COLD COUNTRIES - **40 °C to + 20 °C**
CASE AKCELA HYDRAULIC EXCAVATOR FLUID "COLD CLIMATE"
(MS 1230. ISO VG 22. DIN 51524 PART 2 HV)
- BIODEGRADABLE FLUID - **30 - +40 °C**
This yellow fluid can be mixed with standard fluid.
If this liquid is used, it is advisable to completely drain the hydraulic circuit .
CASE AKCELA HYDRAULIC EXCAVATORS FLUID BIO
(MS 1230. ISO VG 46. DIN 51524 PART 2 HV)

Transmission component oil

Extreme pressure oil used in transmission components inside sealed housings.

CASE AKCELA 135H EP GEAR LUBE SAE 80W-90
(SAE 80W-90. API GL 5. MIL-L-2105 D. MS 1316. ZF TE-ML 05A)

Grease

"Extreme Pressure" multi-purpose grease

- **CASE AKCELA MOLY GREASE 241H EP-M** (251H EP-M NLGI2)
with lithium and molybdenum bisulphide soap.
- **CASE AKCELA 251H EP MULTI-PURPOSE GREASE** (251H EP. NLGI 2)
with lithium and calcium soap.
- **CASE AKCELA PREMIUM GREASE EP-2** (NLGI 2)
with lithium soap.

HYDRAULIC HAMMERS

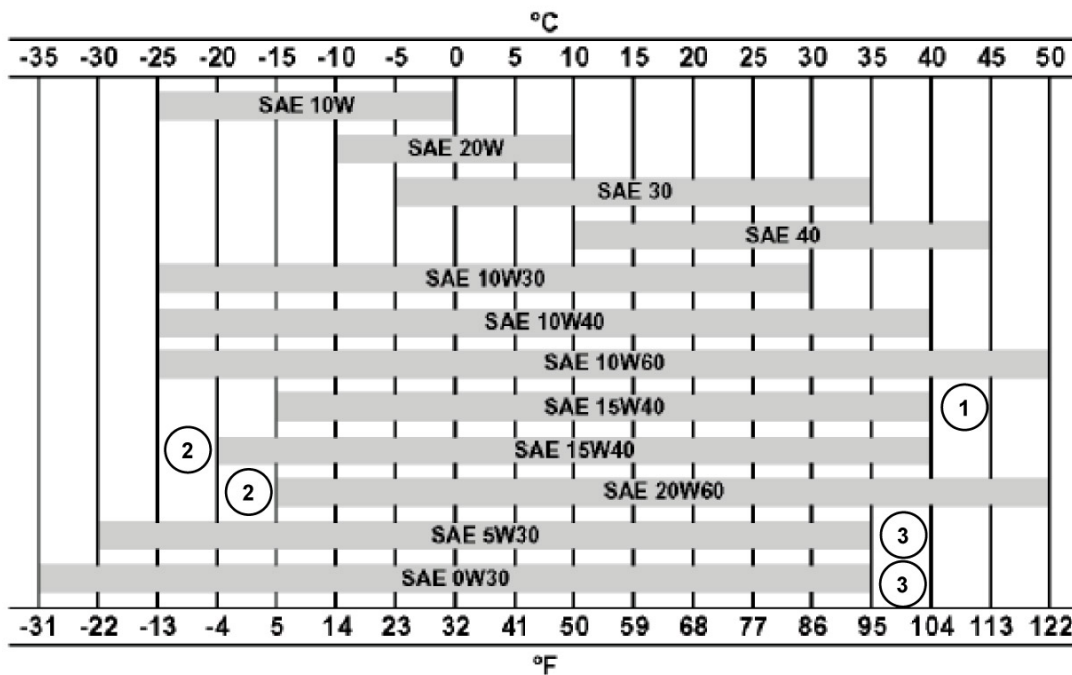
Use only **CASE AKCELA PREMIUM GREASE EP-2** (NLGI 2) grease with lithium soap.

Engine oil

CASE AKCELA NO. 1 ENGINE OIL is recommended for the engine.

This oil provides correct lubrication for your engine in all working conditions.

If **CASE AKCELA NO. 1 ENGINE OIL** Multigrade cannot be obtained, use oil corresponding to one of the following categories: ACEA E5. MS 1121. API CH-4.



CRIL03H015F01

CRIL03H015F01 1

OIL USE RANGE

1. Mineral-based
2. Semi-synthetic based
3. Synthetic based

Fuel

Use fuel that is compliant with ASTM (American Society for Testing and Materials) standard D975.

- 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.
- When the temperature is very cold, the use of a mixture of No 1 and No 2 fuel is permitted. See your fuel vendor for winter fuel requirements in your area.
- 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 to prevent condensation from forming.

FUEL STORAGE

Long storage can lead to the accumulation of impurities and condensation in the fuel tank. 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.

Anti-freeze/Anti-corrosion

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

CASE AKCELA PREMIUM ANTI-FREEZE LRD -25°C

For environments with temperatures falling to - 25 °C, do not mix with water.

CASE AKCELA PREMIUM ANTI-FREEZE (MS 1710)

For environments with temperatures falling to - 38 °C, use with water in a proportion of 50/50.

IMPORTANT: Do not mix products of a different origin or a different make. The system must be topped up with the same product.

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. Contact your local ecological recycling centre for information on appropriate ways to dispose of these substances.

Components made from plastic or resin

When cleaning plastic parts, (the console, the instrument panel, the indicators etc...) avoid using petrol, paraffin, paint solvents etc.

Use only water, soap and a soft cloth. The use of petrol, paraffin, paint solvents, etc, will cause discoloration, cracking or deformation of these components.

Hydraulic contamination (- A.92.A.60)

CX225SR

CLEANING THE HYDRAULIC SYSTEM

General

Contamination of the hydraulic system is a major cause of incorrect operation of hydraulic components. Contamination is indicated by the presence of foreign particles in the hydraulic fluid.

Contamination of the hydraulic system can occur in any of the following situations:

1. When draining the fluid or disconnecting a hydraulic line.
2. When disassembling a component.
3. Due to normal component wear.
4. Due to damaged or worn seals.
5. Due to a damaged component in the hydraulic system.

All hydraulic systems can function even if they are slightly contaminated. The components of the hydraulic system are designed to support slight contamination. Any increase in the degree of contamination can cause serious problems in the hydraulic system.

The following is an incomplete list of these problems:

1. The cylinder rod seals leak.
2. Control valve spools do not return to the neutral position.
3. Control valve spools do not move easily.
4. Hydraulic fluid is too hot.
5. Hydraulic components wear quickly.
6. Safety valves or check valves do not close due to contamination.
7. Repaired components break down soon.
8. Cycles are slow; the machine does not have enough power.

If any of the above situations occurs, it is an indication of excessive contamination of the hydraulic system. To eliminate contamination, effectively, refer to **PRIMARY HYDRAULIC POWER SYSTEM - Decontaminating (A.10.A - F.30.A.60)**.

Types of contamination

Contamination exists basically in two forms: microscopic or visible.

We speak of microscopic contamination when very small particles of foreign bodies are in suspension in the hydraulic fluid. These particles are too small to be seen or felt. Microscopic contamination can be detected by identifying the problems relating to microscopic contamination or by laboratory tests.

The following are a few examples of problems caused by microscopic contamination:

- The cylinder rod seals leak.
- Control valve spools do not return to the neutral position.
- The operating temperature of the hydraulic system is too high.
- Components wear quickly.

We speak of visible contamination when the presence of foreign bodies can be detected visually, by touch or by smell. Visible contamination can cause the sudden failure of a component.

The following are a few examples of problems caused by visible contamination:

- The fluid contains metal or other fragments.
- The fluid contains air. The fluid is dark and thick.
- There is a smell of burning in the fluid. The fluid contains water.

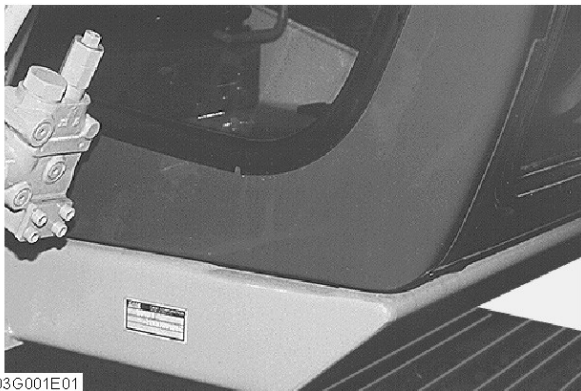
Product identification (- A.80.A.10)

CX225SR WE

NOTE: For all parts orders, requests for information or assistance, always specify the type and the serial number of the machine to your CASE dealer.

Fill out the following lines with the required information: type, year of manufacture, serial number of the machine (manufacturer's plate), mark, type and serial number of the engine, and serial numbers of hydraulic components.

Manufacturer's plate



CRIL03G001E01



168205A1

CRIL03H001E01 1

(1) TYPE	(2) YEAR OF MANUFACTURE	(3) SERIAL NUMBER
----------	-------------------------	-------------------

Engine

MAKE	TYPE	SERIAL NUMBER
------	------	---------------

Serial numbers of hydraulic components

COMPONENTS	SERIAL NUMBER
Hydraulic pump	
Swing reduction gear	
Travel reduction gear	
Travel control valve	
Attachment control valve	
Swing control valve	

Product identification (- A.80.A.10)

CX225SR NA

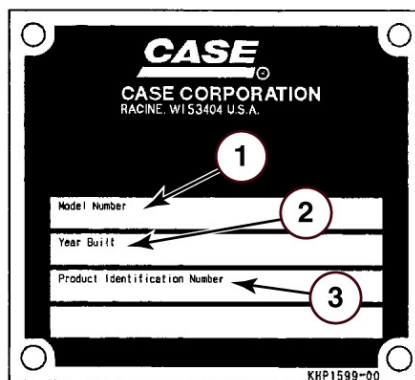
NOTE: For all parts orders, requests for information or assistance, always specify the type and the serial number of the machine to your CASE dealer.

Fill out the following lines with the required information: type, year of manufacture, serial number of the machine (manufacturer's plate), make, type and serial number of the engine and serial numbers of hydraulic components.

Manufacturer's plate



CRIL031175E01 1



(1)TYPE	(2)YEAR OF MANUFACTURE	(3)SERIAL NUMBER
---------	------------------------	------------------

Engine

MAKE	TYPE	SERIAL NUMBER
------	------	---------------

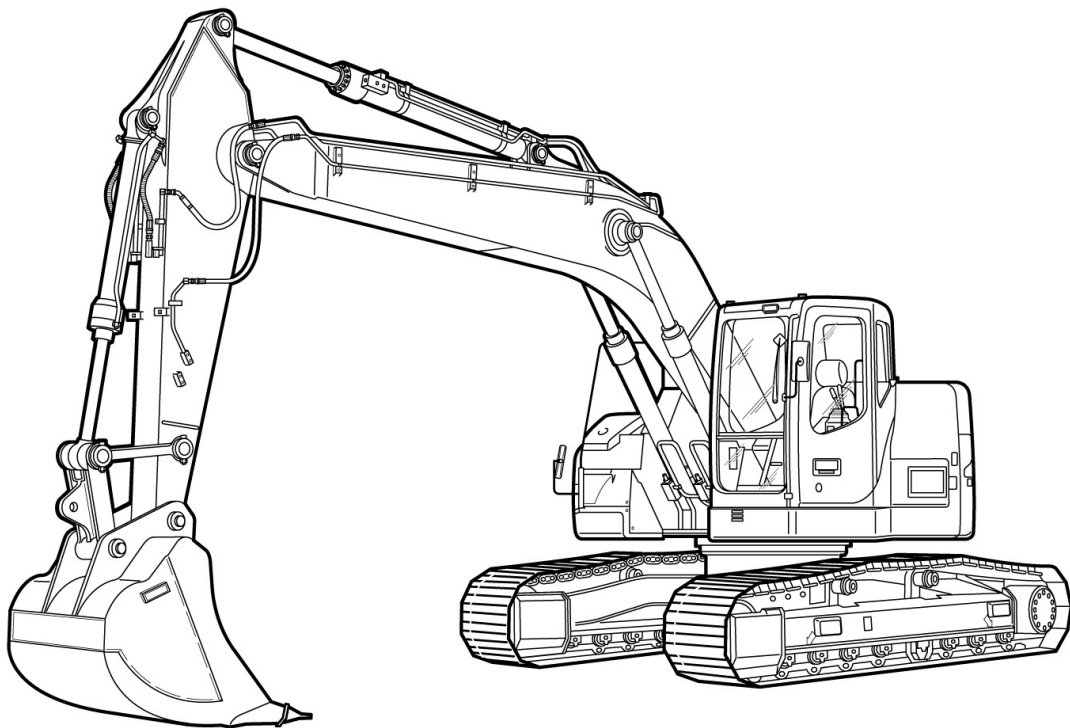
Serial numbers of hydraulic components

COMPONENTS	SERIAL NUMBER
Hydraulic pump	
Swing reduction gear	
Travel reduction gear	
Travel control valve	
Attachment control valve	
Swing control valve	



REPAIR MANUAL

DISTRIBUTION SYSTEMS



CX225SR

Contents

DISTRIBUTION SYSTEMS - A

PRIMARY HYDRAULIC POWER SYSTEM CX225SR	A.10.A
HYDRAULIC COMMAND SYSTEM CX225SR	A.14.A
ELECTRICAL POWER SYSTEM CX225SR	A.30.A
LIGHTING SYSTEM CX225SR	A.40.A



DISTRIBUTION SYSTEMS - A

PRIMARY HYDRAULIC POWER SYSTEM - 10.A

CX225SR

Contents

DISTRIBUTION SYSTEMS - A

PRIMARY HYDRAULIC POWER SYSTEM - 10.A

TECHNICAL DATA

PRIMARY HYDRAULIC POWER SYSTEM - General specification (A.10.A - D.40.A.10) CX225SR	5
PRIMARY HYDRAULIC POWER SYSTEM - General specification (A.10.A - D.40.A.10) CX225SR	7
PRIMARY HYDRAULIC POWER SYSTEM - Special tools (A.10.A - D.20.A.40) CX225SR WE	9
PRIMARY HYDRAULIC POWER SYSTEM - Special tools (A.10.A - D.20.A.40) CX225SR NA	11
PRIMARY HYDRAULIC POWER SYSTEM - Seed rates (A.10.A - D.50.A.60) CX225SR	13

Hydraulic pump

Hydraulic pump - Special tools (A.10.A.20 - D.20.A.40) CX225SR	15
Hydraulic pump - Service limits (A.10.A.20 - D.20.A.20) CX225SR	18

FUNCTIONAL DATA

PRIMARY HYDRAULIC POWER SYSTEM - Static description (A.10.A - C.30.A.20) CX225SR	19
PRIMARY HYDRAULIC POWER SYSTEM - Dynamic description (A.10.A - C.30.A.10) CX225SR	20

Stack valve

Stack valve - External view (A.10.A.18 - C.10.A.40) CX225SR	23
Stack valve - Sectional view (A.10.A.18 - C.10.A.30) CX225SR	26
Stack valve Inlet section - Sectional view (A.10.A.18.10 - C.10.A.30) CX225SR	31
Stack valve Outlet section - Sectional view (A.10.A.18.20 - C.10.A.30) CX225SR	32

Hydraulic pump

Hydraulic pump - Sectional view (A.10.A.20 - C.10.A.30) CX225SR	33
--	----

Compensator

Compensator - Sectional view (A.10.A.23 - C.10.A.30) CX225SR	37
---	----

Sensing system

Sensing system Temperature sensor - Electronic schema (A.10.A.95.90 - C.20.A.50) CX225SR	38
---	----

Powerboost system

Powerboost system - Electronic schema (A.10.A.10 - C.20.A.50) CX225SR	39
SERVICE	
PRIMARY HYDRAULIC POWER SYSTEM - Warm up (A.10.A - F.35.A.40) CX225SR	40
PRIMARY HYDRAULIC POWER SYSTEM - Depressurising (A.10.A - F.35.A.51) CX225SR	41
PRIMARY HYDRAULIC POWER SYSTEM - Drain fluid (A.10.A - F.35.A.20) CX225SR	42
PRIMARY HYDRAULIC POWER SYSTEM - Bleed (A.10.A - F.35.A.25) CX225SR	43
PRIMARY HYDRAULIC POWER SYSTEM - Pressure test (A.10.A - F.40.A.30) CX225SR	44
PRIMARY HYDRAULIC POWER SYSTEM - Decontaminating (A.10.A - F.30.A.60) CX225SR	46
Stack valve	
Stack valve - Remove (A.10.A.18 - F.10.A.10) CX225SR	48
Stack valve - Overhaul (A.10.A.18 - F.10.A.40) CX225SR	49
Stack valve Outlet section - Disassemble (A.10.A.18.20 - F.10.A.25) CX225SR	50
Stack valve Inlet section - Disassemble (A.10.A.18.10 - F.10.A.25) CX225SR	51
Stack valve - Visual inspection (A.10.A.18 - F.40.A.10) CX225SR	52
Stack valve Inlet section - Assemble (A.10.A.18.10 - F.10.A.20) CX225SR	53
Stack valve Outlet section - Assemble (A.10.A.18.20 - F.10.A.20) CX225SR	54
Stack valve - Install (A.10.A.18 - F.10.A.15) CX225SR	55
Relief valve	
Relief valve - Disassemble (A.10.A.16 - F.10.A.25) CX225SR	56
Relief valve - Assemble (A.10.A.16 - F.10.A.20) CX225SR	57
Relief valve - Pressure test (A.10.A.16 - F.40.A.30) CX225SR	58
Relief valve - Pressure setting (A.10.A.16 - F.45.A.70) CX225SR	59
Powerboost system	
Powerboost system Electrovalve - Electrical test (A.10.A.10.15 - F.40.A.50) CX225SR	60
Hydraulic pump	
Hydraulic pump - Remove (A.10.A.20 - F.10.A.10) CX225SR	61
Hydraulic pump - Disassemble (A.10.A.20 - F.10.A.25) CX225SR	63
Hydraulic pump - Assemble (A.10.A.20 - F.10.A.20) CX225SR	70

Hydraulic pump - Install (A.10.A.20 - F.10.A.15) CX225SR	80
Hydraulic pump - Bleed (A.10.A.20 - F.35.A.25) CX225SR	82
Hydraulic pump - Pressure test (A.10.A.20 - F.40.A.30) CX225SR	83
Reservoir	
Reservoir - Remove (A.10.A.22 - F.10.A.10) CX225SR	84
Reservoir - Install (A.10.A.22 - F.10.A.15) CX225SR	85
Compensator	
Compensator - Disassemble (A.10.A.23 - F.10.A.25) CX225SR	86
Compensator - Assemble (A.10.A.23 - F.10.A.20) CX225SR	87
Oil filter	
Oil filter - Remove (A.10.A.24 - F.10.A.10) CX225SR	89
Oil filter - Install (A.10.A.24 - F.10.A.15) CX225SR	90
Sensing system	
Sensing system Temperature sensor - Electrical test (A.10.A.95.90 - F.40.A.50) CX225SR	91
DIAGNOSTIC	
PRIMARY HYDRAULIC POWER SYSTEM - Troubleshooting (A.10.A - G.40.A.10) CX225SR	92
Stack valve	
Stack valve - Troubleshooting (A.10.A.18 - G.40.A.10) CX225SR	92
Relief valve	
Relief valve - Troubleshooting (A.10.A.16 - G.40.A.10) CX225SR	93

PRIMARY HYDRAULIC POWER SYSTEM - General specification

(A.10.A - D.40.A.10)

CX225SR

Capacities

Total hydraulic circuit	206 L
Hydraulic fluid reservoir	120 L
Coolant only	6.1 L

Main hydraulic pump

Variable flow twin pump, with axial pistons.

Maximum flow	2 x 190 L/min
Displacement	2 x 96.7 cm ³

Hydraulic control pump

Fixed flow pump

Maximum flow	22 L/min
Displacement	11 cm ³

Calibration pressure

Pilot circuit main relief valve (± 1 bar)	39 bar
Main relief valve (standard) (± 3 bar)	343 bar
Main relief valve (power boost) (± 5 bar)	373 bar
Secondary relief valve (boom, dipper and bucket) (± 5 bar)	392 bar
Secondary relief valve (swing) (± 4 bar)	304 bar
Secondary relief valve (travel) (± 5 bar)	343 bar
Secondary relief valve (boom and dipper) (± 5 bar)	392 bar

Boom cylinder

Barrel diameter	125 mm
Rod diameter	90 mm
Stroke	1284 mm

Dipper cylinder

Barrel diameter	135 mm
Rod diameter	95 mm
Stroke	1474 mm

Bucket cylinder

Barrel diameter	115 mm
Rod diameter	80 mm
Stroke	1012 mm

Cylinder leakage - attachment lowering (without load)

Boom cylinders (rod retraction)	5 mm/5 mn
Dipper cylinder (rod extension)	5 mm/5 mn
Bucket cylinder (rod extension)	7 mm/5 mn
Full (at the end of the attachment)	200 mm/10 mn

Cylinder speed

Boom raising (bucket open and on the ground)	3.5+/-0.6 s
Boom lowering (bucket open)	2.9+/-0.6 s
Arm opening	2.7+/-0.6 s

Arm closing	3.7+/-0.6 s
Bucket opening	2.3+/-0.6 s
Bucket closing	4+/-0.6 s

Control valve

Five-section control valve for dipper, boom acceleration, swing, option and right travel.

Four-section control valve for dipper acceleration, bucket, boom and left travel.

Load holding relief valve for boom and dipper.

Swing motor

Fixed flow motor with axial pistons.

Automatic disk brakes.

Chassis upperstructure swing speed	11.2 RPM
Displacement	151 cm ³
Working flow	155 L/min
Reduction ratio	16.757
Braking torque	857 Nm
Minimum brake release pressure	32 bar
Acceptable motor leakage	16 L/min

Travel motor

Two-speed motor with axial pistons.

Automatic disk brakes.

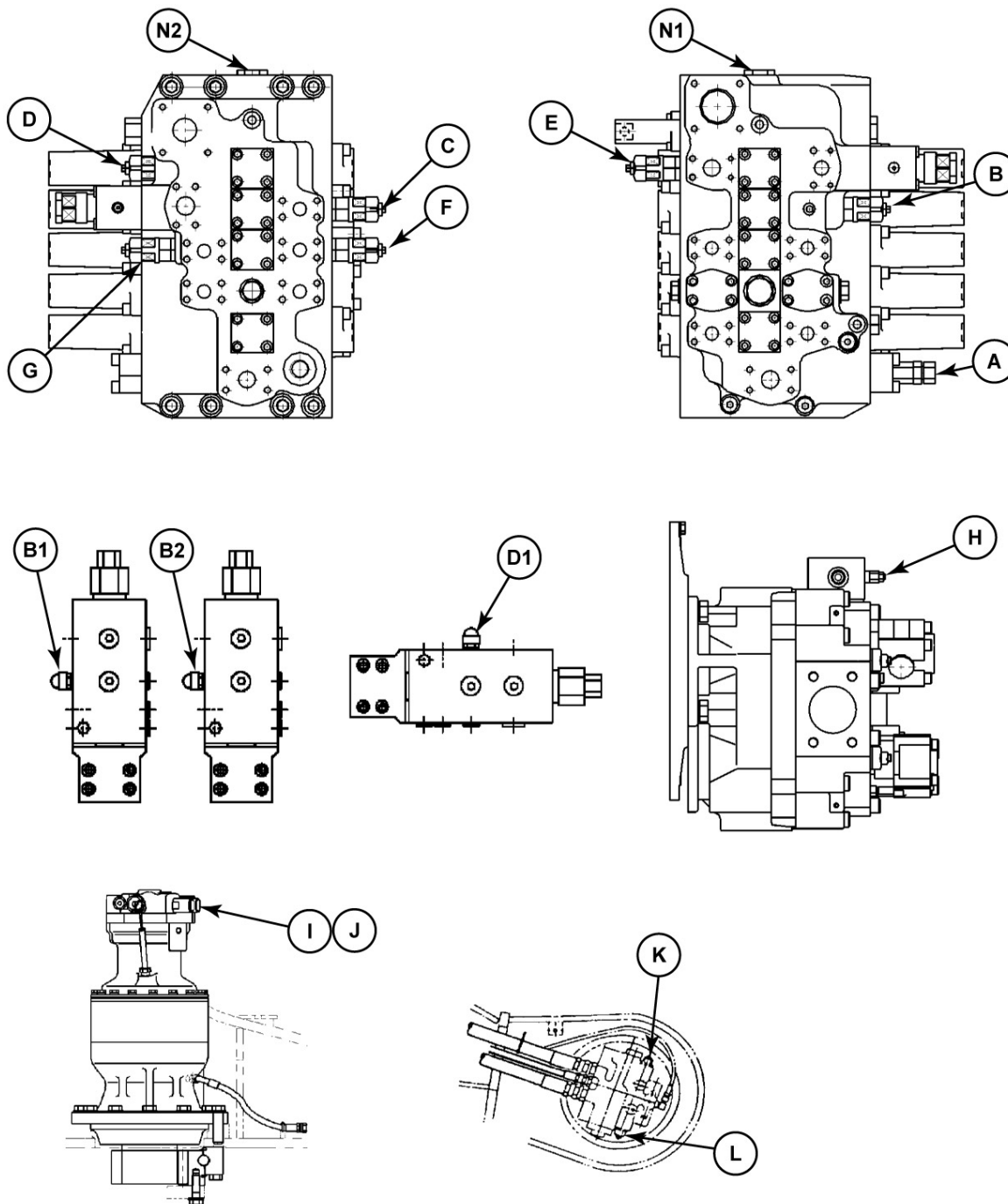
Slow speed	3.1 km/h
High speed	5 km/h
Gradeability	70 % (35°)
Tractive effort	19 100 daN
Displacement	168.9 cm ³ 100.3 cm ³
Working flow	212 L/min
Reduction ratio	43.246
Braking torque (excluding reduction gear)	483 Nm
Permissible deviation in travel over a distance of 20 m (full speed)	1 m
Acceptable motor leakage	13 L/min

Attachment

Breakout force	13000 daN
Breakout force (dipper 3 m)	9530 daN

PRIMARY HYDRAULIC POWER SYSTEM - General specification (A.10.A - D.40.A.10)

CX225SR



CRIL04B040H01 1

Location of secondary relief valves

Calibration pressure

Item	Description	Secondary relief pressure setting	Nominal pressure read on the machine	Pressure with one turn of the screw (* or for a shim)	For pressure setting procedures, refer to:
(A)	Main relief valve(standard pressure)	343 bar to 120 L/min	346 bar	217 bar	Relief valve - Pressure setting (A.10.A.16 - F.45.A.70)
	Main relief valve (power boosted pressure)	373 bar to 108 L/min	373 bar	290 bar	Relief valve - Pressure setting (A.10.A.16 - F.45.A.70)
(B)	Boom raising port secondary relief	392 bar to 20 L/min	405 bar	212 bar	Relief valve - Pressure test (H.20.B.16 - F.40.A.30)
(B1) (B2)	Boom cylinder safety valves secondary relief	392 bar to 20 L/min	405 bar	-	Safety valve - Pressure setting (H.20.B.15 - F.45.A.70)
(C)	Boom lowering port secondary relief	392 bar to 20 L/min	407 bar	212 bar	Relief valve - Pressure test (H.20.B.16 - F.40.A.30)
(D)	Dipper out port secondary relief	392 bar to 20 L/min	400 bar	212 bar	Relief valve - Pressure test (H.25.B.16 - F.40.A.30)
(D1)	Dipper cylinder safety valves secondary relief	392 bar to 20 L/min	400 bar	-	Safety valve - Pressure setting (H.25.B.15 - F.45.A.70)
(E)	Dipper in port secondary relief	392 bar to 20 L/min	400 bar	212 bar	Relief valve - Pressure test (H.25.B.16 - F.40.A.30)
(F)	Bucket open port secondary relief	392 bar to 20 L/min	408 bar	212 bar	Relief valve - Pressure test (H.30.C.16 - F.40.A.30)
(G)	Bucket close port secondary relief	392 bar to 20 L/min	408 bar	212 bar	Relief valve - Pressure test (H.30.C.16 - F.40.A.30)
(H)	Pilot circuit main relief	39 bar	43 bar	30 bar	Relief valve - Pressure test (A.14.A.16 - F.40.A.30)
(I)	RH swing port secondary relief	304 bar to 122 L/min	325 bar	5 bar*	Relief valve - Pressure test (F.40.C.16 - F.40.A.30)
(J)	LH swing port secondary relief	304 bar to 122 L/min	325 bar	5 bar*	Relief valve - Pressure test (F.40.C.16 - F.40.A.30)
(K)	Forward travel secondary relief	343 bar	343 bar	60 bar	Relief valve - Pressure test (F.10.F.16 - F.40.A.30)
(L)	Reverse travel secondary relief	343 bar	343 bar	60 bar	Relief valve - Pressure test (F.10.F.16 - F.40.A.30)
(N1) (N2)	Negative pressure of pump bodies (P1) and (P2)		25.5 bar		Hydraulic pump - Pressure test (A.10.A.20 - F.40.A.30)
	Pilot accumulator check				Accumulator - Check (A.14.A.30 - F.40.A.11)

PRIMARY HYDRAULIC POWER SYSTEM - Special tools (A.10.A - D.20.A.40)

CX225SR WE

Digital tester assembly

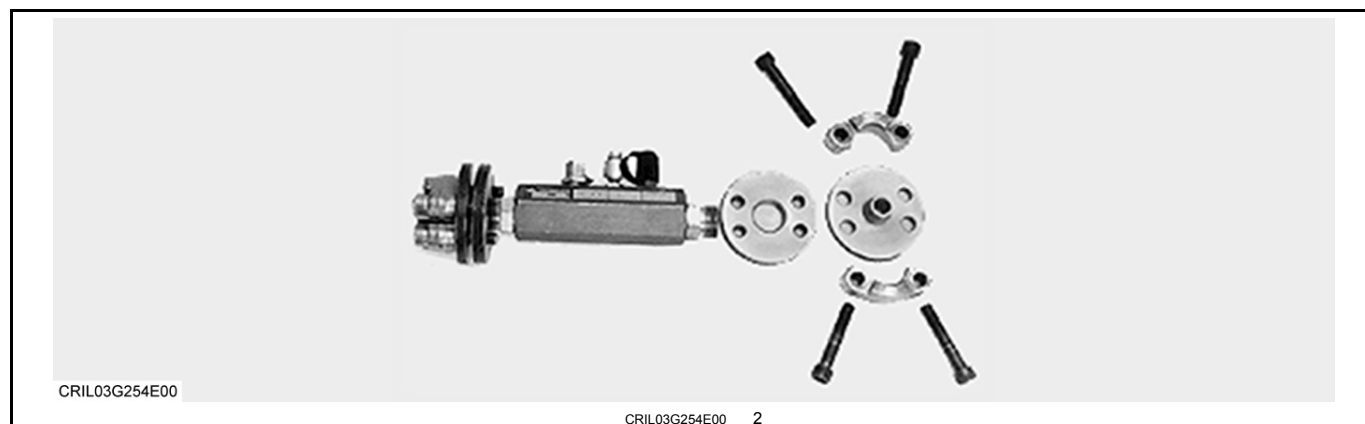


DESCRIPTION	QUANTITY	CODE
Tester assembly for Multi-Handy 2051	-	E54444449
Multi-Handy 2051 tester	1	D54444448
Pressure sensor (0 bar to 600 bar)	2	V53444460
Straight union for sensor	2	W53444461
Elbow union for sensor	1	X53444462
Engine speed sensor	1	Z53444463
Cable (length 5 m)	3	E31444472
Electric plug 220 volts 50 Hz	1	D53444467
Cigarette lighter cable	1	E53444468
Instruction Sheet	1	-
Carrying case	1	N53444476

The Multi-Handy tester is used to:

- Check pressure (two pressure scales)
- Check differential pressure (delta P)
- Check temperature
- Check engine rpm
- Check the flow

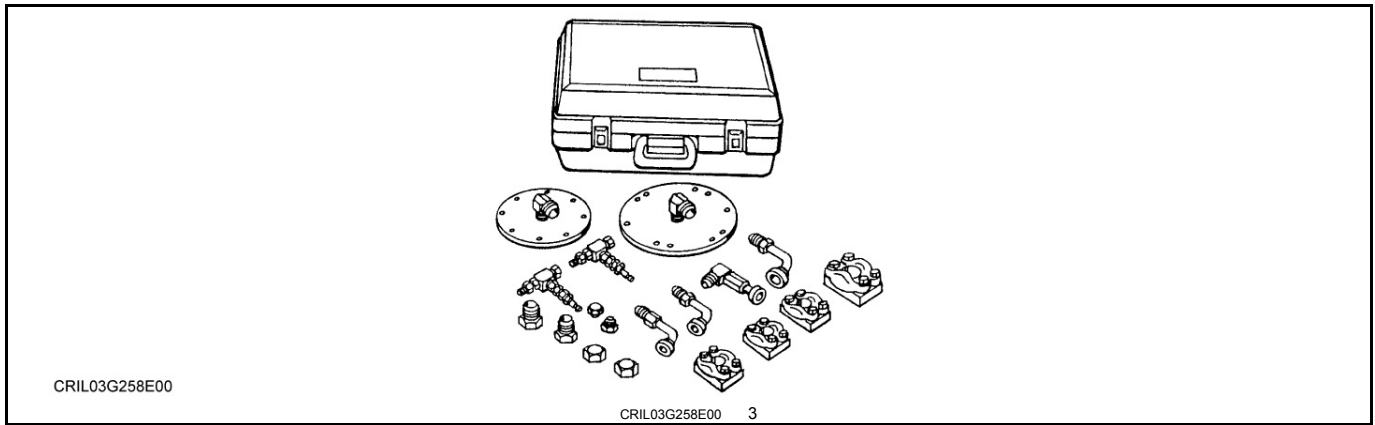
600 litre turbine



DESCRIPTION	QUANTITY	CODE
Turbine	1	RE3 Z53444486
Plates M45x2	2	D4323359
Flange diameter 24 mm	2	B8230183

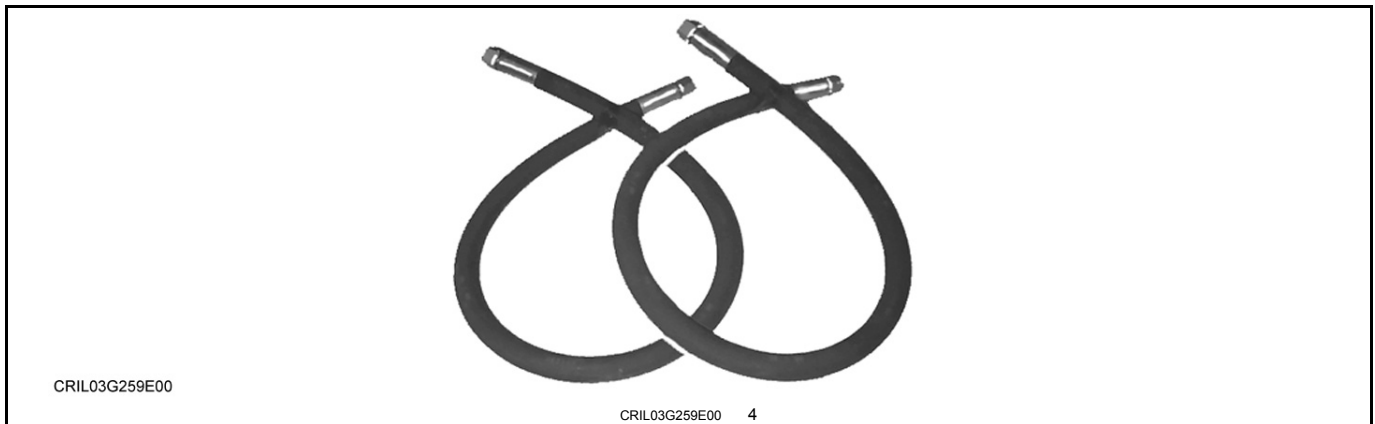
Semi-flange	4	D4024267
Screw M12 length 75 mm	8	Z1232983

Union assembly for testing pressure and flow



DESCRIPTION	CODE
Union assembly for testing pressure and flow	CAS30038

Set of high pressure hoses




DESCRIPTION	CODE
Set of high pressure hoses	CAS30036


PRIMARY HYDRAULIC POWER SYSTEM - Special tools (A.10.A - D.20.A.40)

CX225SR NA


Digital tester assembly for pressure measurement

 <p>CRIL03G255E00</p> <p style="text-align: right;">CRIL03G255E00 1</p>	
DESCRIPTION	CODE
Digital tester assembly for pressure measurement	OEM1652

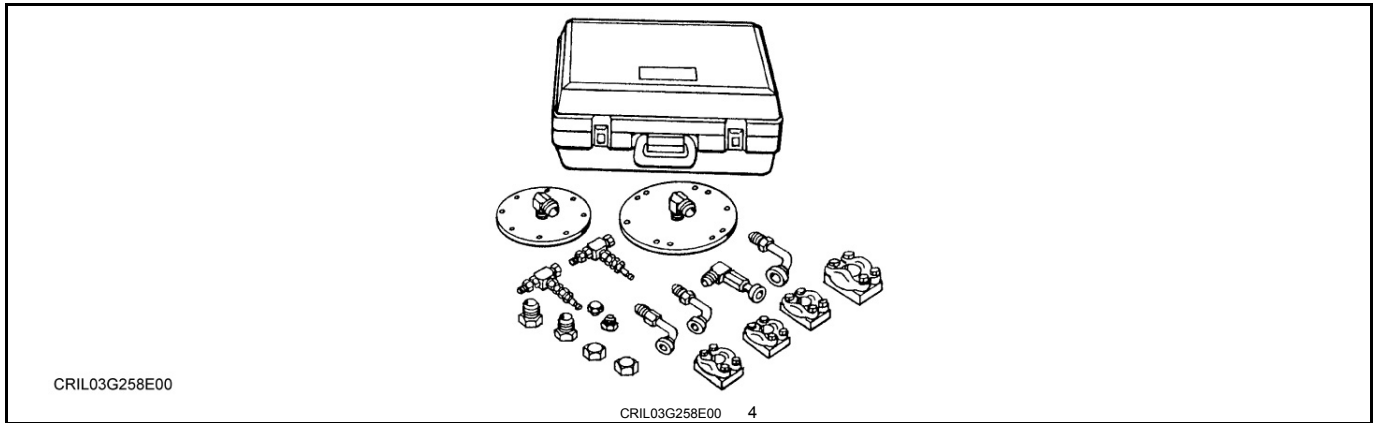
Digital tester assembly for pressure and temperature measurement

 <p>CRIL03G256E00</p> <p style="text-align: right;">CRIL03G256E00 2</p>	
DESCRIPTION	CODE
Digital tester assembly for pressure and temperature measurement	OEM1653

Flowmeter

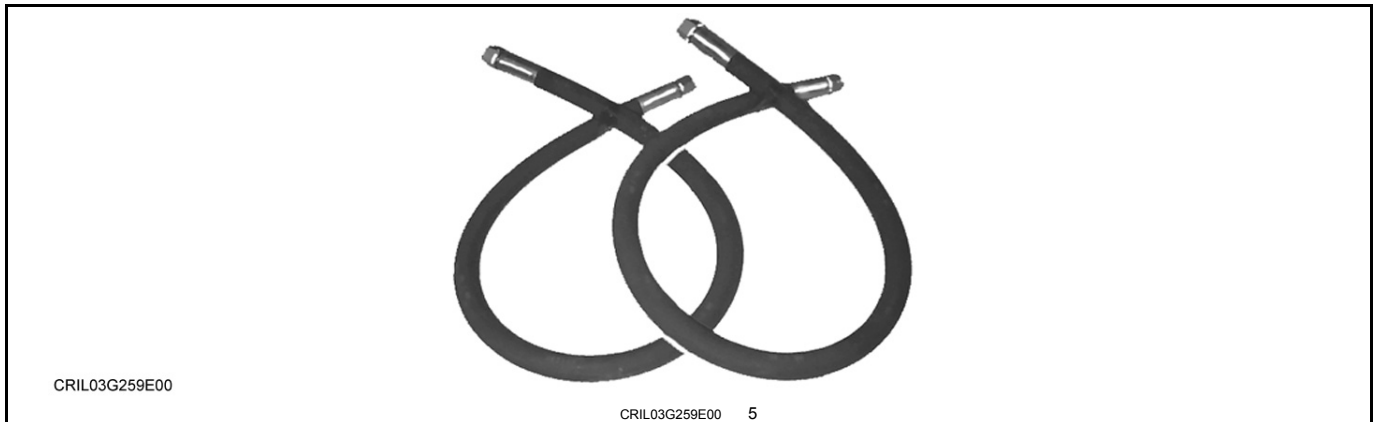
 <p>CRIL03G257E00</p> <p style="text-align: right;">CRIL03G257E00 3</p>	
DESCRIPTION	CODE
Flowmeter for a flow of < 75 GPM	CAS10280
Flowmeter for a flow of > 75 GPM	OEM1240

Union assembly for testing pressure and flow



DESCRIPTION	CODE
Union assembly for testing pressure and flow	CAS40023A + CAS40035

Set of high pressure hoses



DESCRIPTION	CODE
Set of high pressure hoses	CAS30036

Main pumps flow curve and pilot pressure

"Negative flow control" diagram

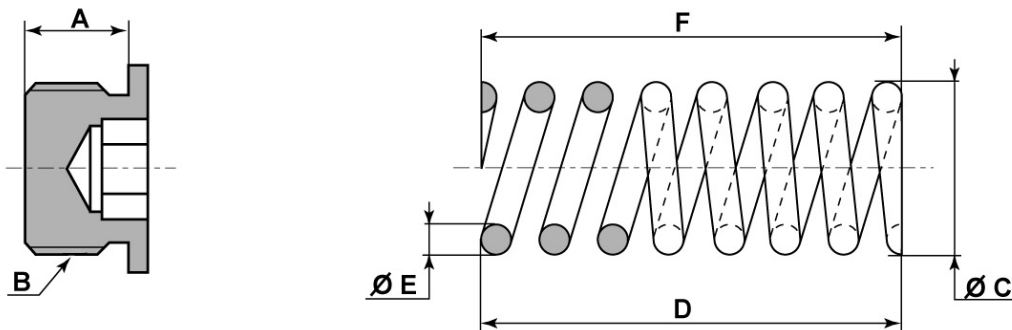
- Engine speed **2000 RPM**
- Maximum displacement **96.7 cm³**.

Hydraulic pump - Special tools (A.10.A.20 - D.20.A.40)

CX225SR

NOTE: The tools listed below are to be manufactured locally.

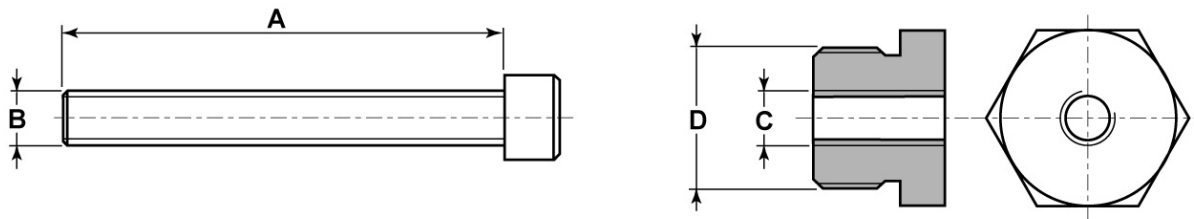
NOTE: Numbers in parentheses refer to **Hydraulic pump - Sectional view (A.10.A.20 - C.10.A.30)**



CRIL04B006E01 1

Used to install piston (69) and (70).

- (A) 20 mm
- (B) G1
- (C) diameter 23 mm
- (D) 56 mm
- (E) diameter 4 mm
- (F) Number of coils: 7



CRIL04B007E01 2

Used to install pusher bracket (47).

- (A) 50 mm
- (B) M12
- (C) M12
- (D) G3/4



Suggest:

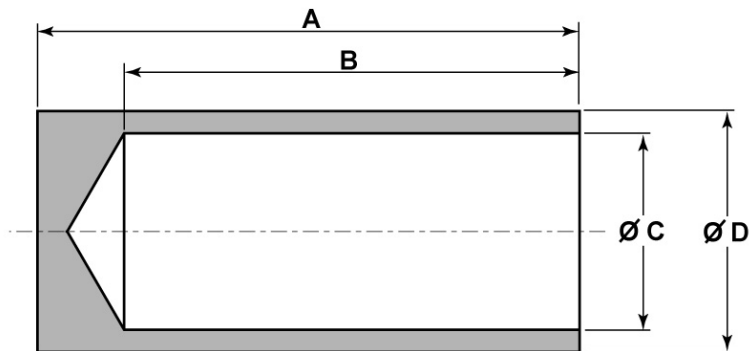
If the above button click is invalid.

Please download this document

first, and then click the above link

to download the complete manual.

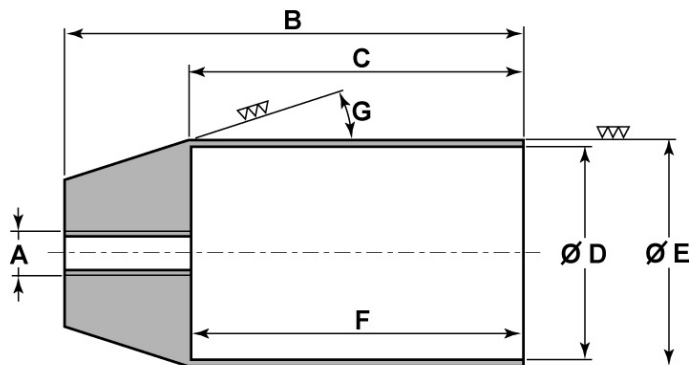
Thank you so much for reading



CRIL04B008E01 3

Used to install outer ring of taper roller bearing (4) on take-off shaft (3).

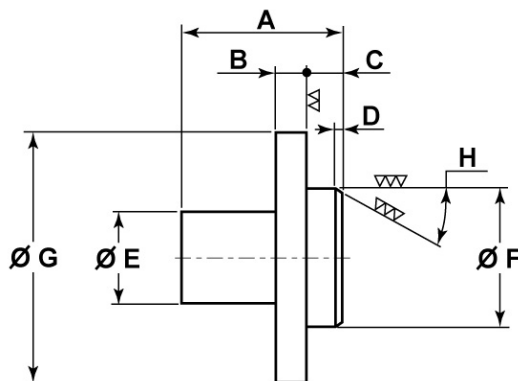
- (A) 125 mm
- (B) 105 mm
- (C) diameter 46 mm
- (D) diameter 56 mm



CRIL04B009E01 4

Used to protect seal (37) when reinstalling on seal holder (45).

- (A) M8
- (B) 95 mm
- (C) 70 mm
- (D) diameter 44 mm
- (E) diameter 46 mm
- (F) 69 mm
- (G) 18 °



CRIL04B010E01 5

Used to install seal (37) on seal holder (45).

<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>