

CX27B EXCAVATORS

OPERATOR'S MANUAL

Part Number: 87458477

CNH AMERICA LLC TECHNICAL MANUALS

Manuals are available from your Dealer for the operation, service, and repair of your machine. For prompt convenient service, contact your Dealer for assistance in obtaining the manuals for your machine.

Your Dealer can expedite your order for Operator's Manuals, Parts Catalogs, Service Manuals, and Maintenance records.

Always give the Machine Name, Model, and P.I.N. (Product Identification Number) or S.N. (Serial Number) of your machine so your Dealer can provide the correct manuals for your machine.

NOTE: *CNH America LLC reserves the right to make improvements in design or changes in specifications at any time without incurring any obligation to install them on units previously sold.*






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

M171D

Safety Decals on this machine use the words **Danger, Warning, or Caution**, which are defined as follows:

- **DANGER:** Indicates an immediate hazardous situation that, if not avoided, will result in death or serious injury. The color associated with Danger is RED.
- **WARNING:** Indicates a potentially hazardous situation that, if not avoided, could result in death or serious injury. The color associated with Warning is ORANGE.
- **CAUTION:** Indicates a potentially hazardous situation which, if not avoided, may result in minor or moderate injury. It may also be used to alert against unsafe practices. The color associated with Caution is YELLOW.

If Safety Decals on this machine are ISO two panel Pictorial, decals are defined as follows:

- The first panel indicates the nature of the hazard.
- The second panel indicates the appropriate avoidance of the hazard.
- Background color is YELLOW
- Prohibition symbols such as   and  if used, are RED.



WARNING

IMPROPER OPERATION OF THIS MACHINE CAN CAUSE DEATH OR SERIOUS INJURY. BEFORE USING THIS MACHINE, MAKE CERTAIN THAT EVERY OPERATOR:

- Is instructed in safe and proper use of the machine.
- Reads and understands the Manual(s) pertaining to the machine.
- Reads and understands ALL Safety Decals on the machine.
- Clears the area of other persons.
- Learns and practices safe use of machine controls in a safe, clear area before operating this machine on a job site.

It is your responsibility to observe pertinent laws and regulations and follow CNH America LLC instructions on machine operation and maintenance.

WARNING_01_NA

CALIFORNIA

PROPOSITION 65 WARNING

Diesel engine exhaust and some of its constituents are known to the State of California to cause cancer, birth defects, and other reproductive harm.

Battery post, terminals and related accessories contain lead and lead compounds.
Wash hands after handling.

TABLE OF CONTENTS

CHAPTER 1

GENERAL INFORMATION

To the Owner	1-1
Right, Left, Front, and Rear of the Machine	1-2
Identification Numbers	1-3

CHAPTER 2

SAFETY, AND DECALS

Table of Contents	2-1
Safety Rules	2-3
Personal Safety	2-3
Safety Area	2-3
Utility Safety	2-4
Operator Precautions	2-4
safety Decals	2-9

CHAPTER 3

INSTRUMENTS AND CONTROLS

Table of Contents	3-1
Cab (If Equipped)	3-3
Steps and Access Handles	3-5
Operator's Compartment Controls and Accessories	3-6
Instrument Panel	3-7
Switches	3-9
Control Levers	3-11
Access Covers and guards	3-14
Operator's Seat Adjustment	3-15
Seat Belt	3-15

CHAPTER 4

OPERATING INSTRUCTIONS

Table of Contents	4-1
Before Operating the Machine	4-3
Operating the Machine	4-3
Run-In Period	4-4
Starting the engine	4-4
Bringing the Machine Up To Operating Temperature	4-6
Engine Operation	4-7
Stopping the Engine	4-7
Operating the Machine in Cold Weather	4-8
Operating the Machine in Hot Weather	4-8
Operation	4-8
Machine Travel	4-9
Transporting the Machine	4-10
Operating the Machine in Water	4-13
Parking the Machine	4-14
Operating the Machine on Sloping Ground	4-14
Moving A Disabled Machine	4-14
Lowering the Attachment in the Event of a Machine Failure	4-14
Operating the Bucket	4-15
Machine Storage	4-16

CHAPTER 5

LUBRICATION, FILTERS, AND FLUIDS

Table of Contents	5-1
Servicing Instructions	5-3
Fluids and Lubricants	5-4
Daily Inspections	5-7
Lubrication and Maintenance Chart	5-8
Grease Fittings and Lubrication Points	5-10
Engine Oil	5-14
Cooling System	5-16
Fuel System	5-19
Releasing Pressure in the Hydraulic System	5-23
Hydraulic System	5-24
Air Filter	5-32
Travel Reduction Gears	5-33

CHAPTER 6

MAINTENANCE AND ADJUSTMENTS

Table of Contents	6-1
Tracks	6-3
Checking the Condition of Rubber Tracks	6-6
Track Rollers and idlers	6-8
Replacing a Bucket	6-9
Fan and alternator Drive Belt	6-11
Inspecting and Cleaning the Machine	6-11
Checking for Cylinder Leakage	6-11
Fire Extinguisher (Not Supplied)	6-12
Plastic and Resin Parts	6-12
Welding on the Machine	6-12
Metric Torque Specifications	6-13

CHAPTER 7

ELECTRICAL

Table of Contents	7-1
Alternator	7-3
Starter Motor	7-3
Fuses	7-3
Battery	7-4
Connecting A Booster Battery	7-6
Attachment Lamps	7-7

CHAPTER 8

SPECIFICATIONS

Table of Contents	8-1
Engine	8-3
Hydraulic Components	8-3
Speed and Gradeability	8-3
Boom Swing and Dozer Blade	8-3
Machine Overall Dimensions - ROPS Canopy	8-4
Machine Overall Dimensions - Cab Model	8-5
Working Range	8-6

CHAPTER 9

INDEX

Chapter 1

GENERAL INFORMATION

TO THE OWNER

CX COMPACT HYDRAULIC CRAWLER EXCAVATOR

Your machine has been designed and built to the highest standards of quality. It conforms to all current safety regulations. See Official documents. However, the risk of accidents can never be completely excluded. That is why it is essential to observe elementary safety rules and precautions.

Read this manual carefully, paying particular attention to the instructions concerning safety, operation and maintenance so as to avoid the risk of injury while operating or servicing the machine.

The standard attachments and tools of this machine are designed to carry out all kinds of earthmoving and rehandling operations. If you want to use this machine to handle a load (pipes, culverts, formwork, etc.), make sure that it is designed to carry out this kind of work. For this type of application, the machine must be equipped with safety valves, an overload indicator, a load handling chart corresponding to the type of machine and its attachment and a load fixing point. All legal requirements must also be strictly observed.

Do not use this machine for any application or purpose other than those described in this manual. If the machine is to be used for work involving the use of special attachments, accessories or equipment, consult your Dealer in order to make sure that any adaptations or modifications made are in keeping with the machine's technical specifications and with prevailing safety requirements.

Any modification or adaptation which is not approved by the manufacturer may invalidate the machine's initial conformity with safety requirements.

The machine must undergo regular inspections, the frequency of which varies according to the type of use. Consult your Dealer.

Before permitting a new operator on this machine, make sure:

That the operator has received the necessary training on how to operate the machine correctly and safely.

That the operator has read and understood the instructions given in this manual.

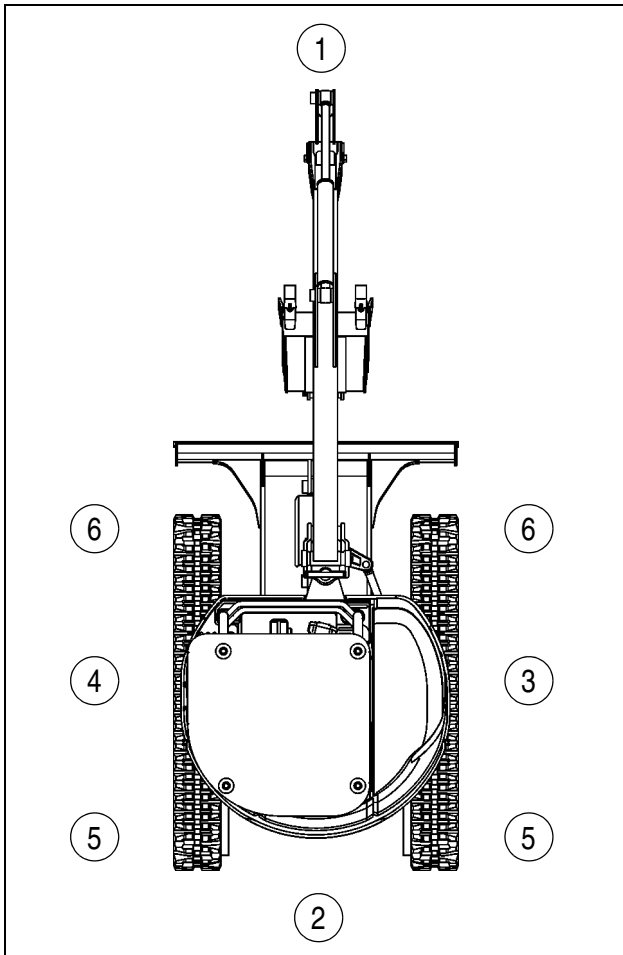
Always keep this manual in the operator's compartment (in the seat back, behind the operator's seat). Make sure it is always complete and in good condition. If you wish to obtain extra copies, or copies in languages other than that of the country of use, consult your Dealer.

Your Dealer is at your disposal for any further information. He will also provide any after-sales service you may require, and genuine Case spare parts, your guarantee of quality and match.

The terms Right-hand, Left-hand, Front, and Rear are used in this manual to indicate the sides as they are seen from the operator's seat when the cab is over the idler wheels.

The illustration shows the machine in normal TRAVEL position. In normal TRAVEL position, the cab is over the idler wheels. The travel reduction gears are at the rear of the upper structure.

RIGHT, LEFT, FRONT, AND REAR OF THE MACHINE



BC02N192

Figure 1

1. FRONT
2. REAR
3. RIGHT-HAND SIDE
4. LEFT-HAND SIDE
5. TRAVEL REDUCTION GEARS (TRAVEL MOTORS)
6. IDLER WHEELS

The CX compact excavator is a fully hydraulic machine. It consists of an undercarriage fitted with tracks and a turntable bearing which supports the upperstructure frame. The upperstructure frame supports the attachment, at the front end of the machine, plus the engine, hydraulics and cab. When the operator works the controls, the engine-driven pump delivers hydraulic fluid to the control valves. The control valves distribute the hydraulic fluid to the various cylinders and motors concerned. A cooling system maintains the hydraulic fluid at normal operating temperature.

IDENTIFICATION NUMBERS

MODEL, SERIAL NUMBER, AND YEAR OF MANUFACTURE

When ordering parts, obtaining information or assistance, always supply your Dealer with the type and serial number of your machine or accessories.

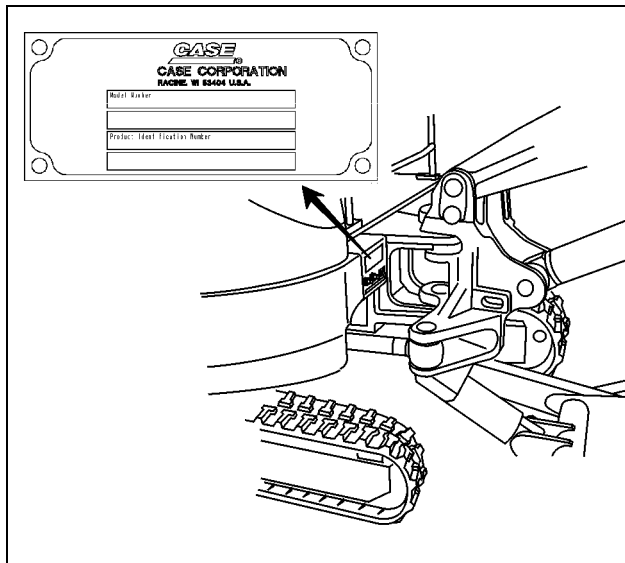
Write the following in the spaces below: The type, serial number and year of manufacture of your machine, accessories and the serial numbers of the various hydraulic and mechanical components.

PRODUCT IDENTIFICATION PLATE	
➤ _____	Model
➤ _____	Serial Number
➤ _____	Manufacturing Year

ENGINE	
➤ _____	Make and Model
➤ _____	Serial Number

COMPONENT SERIAL NUMBERS

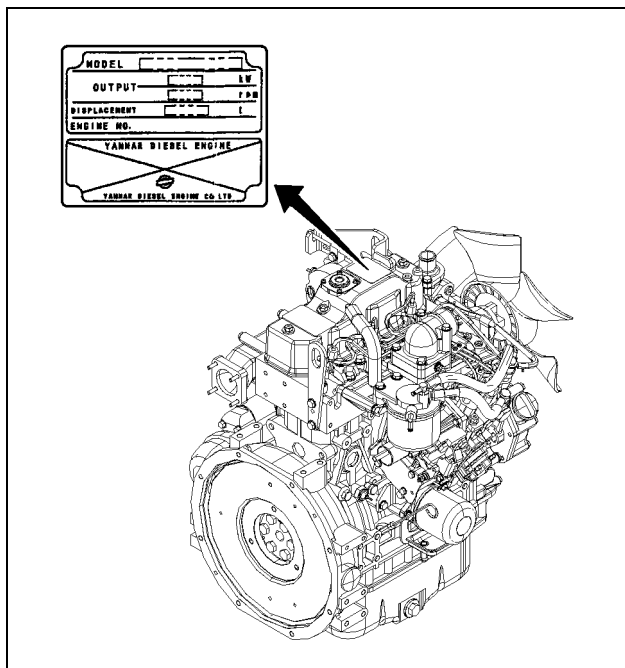
COMPONENT SERIAL NUMBERS	
➤ _____	Hydraulic Pump
➤ _____	Swing Reduction Gear
➤ _____	Travel Reduction Gears
➤ _____	Travel Control Valve
➤ _____	Attachment Control Valve
➤ _____	Swing Control Valve



BS04H224

Figure 1

ENGINE



BS04H243

Figure 2

NOTES

Chapter 2
SAFETY, AND DECALS
TABLE OF CONTENTS

SAFETY RULES	2-3
PERSONAL SAFETY	2-3
SAFETY AREA	2-3
UTILITY SAFETY	2-4
OPERATOR PRECAUTIONS	2-4
Personnel	2-4
General	2-4
Mounting and Dismounting Precautions	2-5
Starting and Stopping Precautions	2-5
Operating Precautions	2-5
Maintenance Precautions	2-6
Fuel Handling Precautions	2-7
Burn Prevention	2-7
Hazardous Chemical Precautions	2-8
Transporting Precautions	2-8
Roll-Over Protective Structure	2-8
Fire Extinguisher	2-8
Seat Belt Precautions	2-8
Specific Precautions to this Machine	2-9
DECALS	2-10

NOTES