

Service Training and Workshop Handbook

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KOMATSU

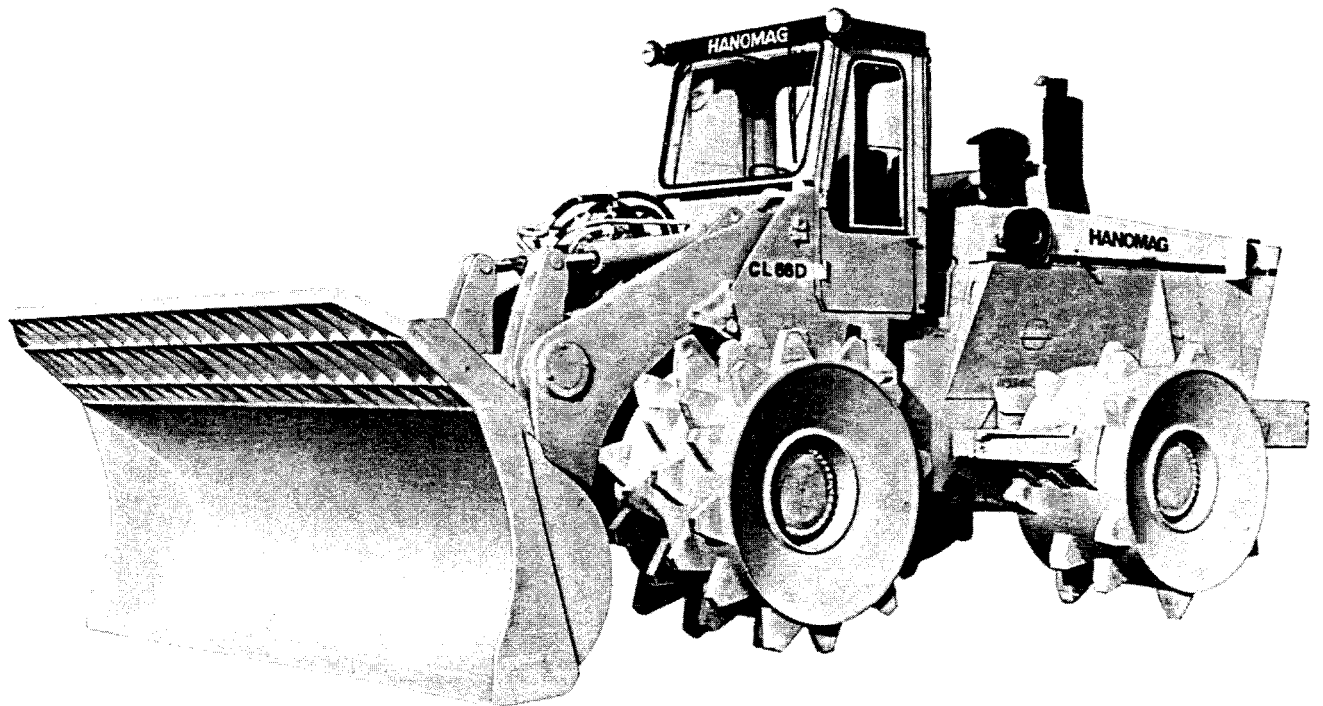
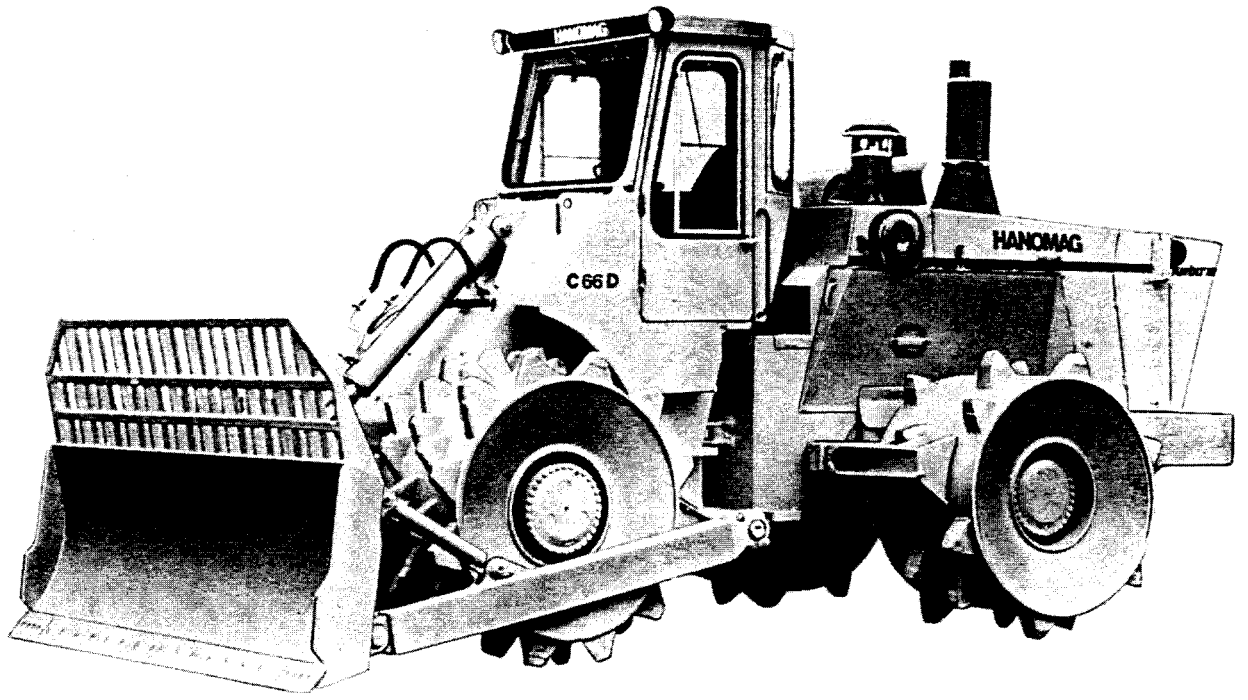
P R E F A C E

This handbook is intended to assist the student by supplementing the theoretical work presented by a training course lecturer.

The book is divided into groups, each of which covers a major topic or component. This enables the lecturer to select the appropriate group to suit his own scheme of work. We must emphasise that we expect the lecturer to amplify the content of the handbook where necessary.

This handbook is also intended as a quick reference work for experienced tradesmen employed in the workshop. For more detailed descriptions of repair work, reference must be made to the appropriate Service Manual.

In accordance with the company's policy of continuous improvement to its machines, alterations in the specifications of machines may be made at any time without notice and the company accepts no responsibility for any discrepancies which may occur between the specifications of its machines and the specifications contained in this handbook.



G R O U P I N D E X

			<u>Page</u>
1		GENERAL PART	3 - 40
2	GROUP 010 (5000) 020 (1500)	ENGINE (including cooling system)	41 - 82
3	GROUP 030 (1900) 030 (2100) 030 (3600)	POWERSHIFT TRANSMISSION (including torque converter and drive line)	83 - 96
4	GROUP 090 (2200) 060 (1700)	LOADER/DOZER and STEERING HYDRAULIC SYSTEM	97 - 152
5	GROUP 040 (2500)	AXLES and WHEELS/ROLLERS	153 - 162
6	GROUP 050 (2600)	BRAKE SYSTEM	163 - 176
7	GROUP 070 (1800)	FRAMES	177 - 182
8	GROUP 080 (1300)	ELECTRICAL SYSTEM	183 - 192
9	ADDENDA	These addenda consist of components/ systems still in service but since phased out of production	193 - 201

Note:

A new group numbering system was introduced some time ago. The old group numbers have been quoted in brackets for information only.

SAFETY PRECAUTIONS
SAFETY EQUIPMENT
TECHNICAL DATA
MAINTENANCE
TEST CERTIFICATE

I N D E X

<u>GENERAL PART</u>	<u>Page</u>
Safety Precautions	5
Safety Equipment	6
Technical Data - Bucket equipped compactors:	
Dimensions	9
Weights	9
Travel speeds	9
Engine	9
Powershift transmission	9
Front and rear axles	9
Technical Data - Blade equipped compactors:	
Dimensions	10
Weights	10
Travel speeds	10
Engine	10
Powershift transmission	10
Front and rear axles	10
Instruments and Controls	20
Maintenance:	
Lubricants, operating mediums and capacities	11
Engine, hydraulic and gear oils	12
Diesel fuel oil	13
Cooling system protection	15
Inspection and maintenance plan - C 66 D	16
Inspection and maintenance plan - CL 66 D	19
Routine inspection and maintenance work:	
Engine	23
Fuel system	24
Cooling system	27
Powershift transmission	28
Drop box	28
Loader frame greasing points - Bucket equipped compactors	31
Blade push frame greasing points - Blade equipped compactors	31
Chassis frame greasing points	31
Steering greasing points	32
Drive shaft (drive line) greasing points	32
Hydraulic system	35
Intermediate bearing	36
Front and rear axles	36
Test Certificate - C 66 D (Dozer)	38
Test Certificate - CL 66 D (Bucket)	39

S A F E T Y P R E C A U T I O N S

GENERAL

Accidents can be avoided by a few seconds thought and a more careful approach when working on the machine.

Your co-operation is essential to the success of an effective management policy on safety when at work. For example, you can avoid many accidents by observing certain precautions and insist that people working with you do the same.

As a guide the following are a few examples of safety precautions to be observed when working on the machine:

Never start the engine whilst standing beside the machine. Always start the engine when sitting in the driver's seat.

Never get on or off the machine whilst it is in motion.

Never carry out repairs, loosen or tighten hydraulic hoses or fittings when the system is under pressure or the engine running.

When checking the engine coolant, always remove the radiator filler cap very slowly and with care, especially when the engine is hot.

Do not exceed the lift capacities of hoists, cranes, jacks and slings.

If work is to be carried out underneath the machine, ensure that the machine is adequately supported, i.e. the weight is taken off the jack by using suitable blocks.

Ensure rules regarding flammable materials and other harmful substances are observed.

When working on fuel or electrical systems, ensure fire fighting equipment is available for immediate use and you know how to use it.

Know the correct and safe way of doing the job, avoid dangerous working practices.

Observe caution when carrying out adjustments near moving parts when the engine is running, e.g. shafts, belts, pulleys and gears.

When carrying out road or equipment performance tests, observe the safety precautions given in the appropriate operator's manual.

These safety precautions are for your guidance and should be read and interpreted in conjunction with safety regulations valid in your country.

Remember 'SAFETY' is only a word until it is put into practice.



Carefully read and observe all safety instructions in this handbook which are accompanied by this symbol and the word 'WARNING'.

Where this symbol is found on machine mounted instruction and warning plates, it is used to identify important instructions and potential hazards which could result in property damage, personal injury or even death if not heeded.

S A F E T Y E Q U I P M E N T

BOOM SAFETY SUPPORT

Note:

These instructions apply only to compactors equipped with a bucket!

When travelling on the public highway or when carrying out maintenance or repair work where it is necessary for the bucket to be in a raised position, for obvious reasons of safety the boom must be supported to prevent it from being accidentally lowered.

Fig. M 301

Raise the boom until it is possible to release the support from its anchorage.

Fig. M 302 - Supporting the boom for road travel:

Raise and lock the support in its anchorage as shown.

Fig. M 303 - Supporting the boom for maintenance or repair work:

Raise and position the support vertical as shown.

Run the engine at low idle speed.

Shift the bucket control lever into position 'S' and slowly lower the boom onto the support. As soon as the boom comes to rest on the support, immediately shift the bucket control lever into 'neutral'

Important! Do not use the 'float' position to lower the boom onto the support!

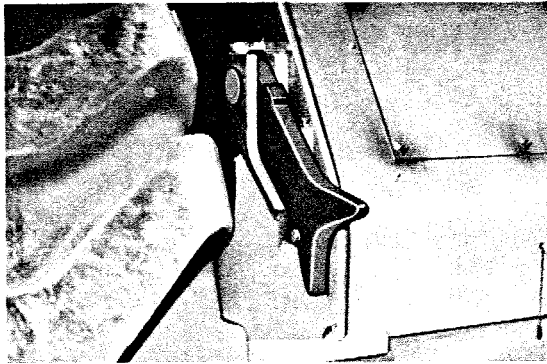
Fig. M 301

When the support is not in use it is to be positioned down and secured in its anchorage as shown.

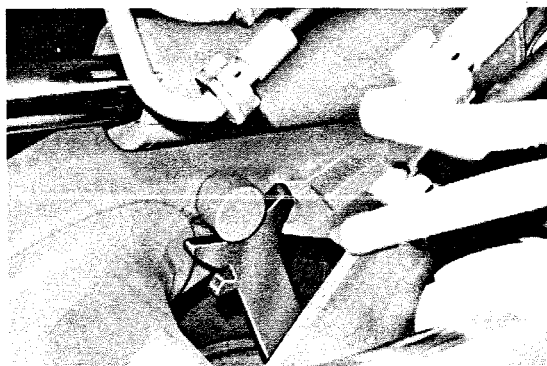
TRANSPORTING THE MACHINE

Fig. H 189

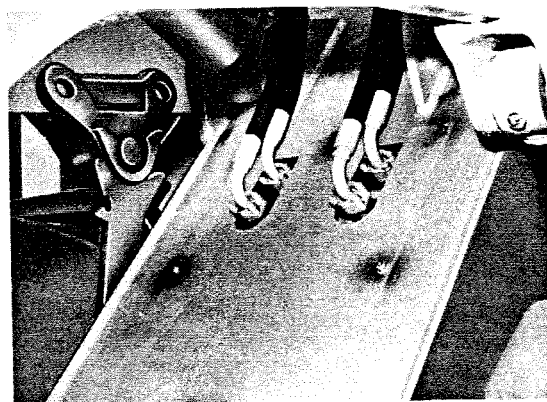
When transporting the compactor by rail or low loader, the centre pivot must be secured by the frame locking bar as shown.



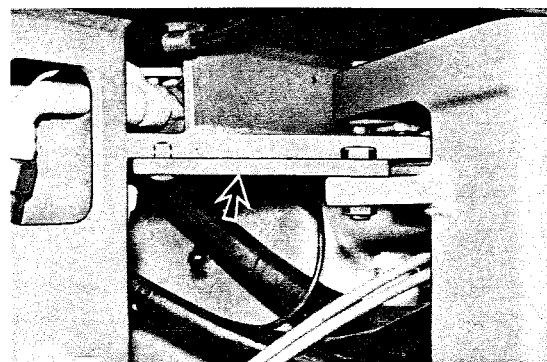
M 301



M 302



M 303



H 189

T E C H N I C A L D A T A - B U C K E T E Q U I P P E D C O M P A C T O R S O N L Y

DIMENSIONS

Overall length, bucket in transport position	7 985 mm
Width over compactor rollers	3 200 mm
Height to top of cab	3 420 mm

WEIGHTS

Operating weights with cab:

	<u>Rollers with angular knife-edge crushers</u>	<u>With chopper rollers</u>
Without ballast	24 000 kg	22 800 kg
With ballast	27 000 kg	25 800 kg

SPEEDS (at 5% rolling resistance)

	<u>Forward</u>	<u>Reverse</u>
1st gear	0 - 4.9 km/h	0 - 5 km/h
2nd gear	0 - 10.4 km/h	0 - 10.7 km/h
3rd gear	0 - 22.2 km/h	0 - 22.6 km/h

ENGINE

Type	D 963 A 1 with exhaust-gas turbocharger
Output rating to DIN 700 20	157 KW (213 PS)
Bore	128 mm
Compression pressure	27 - 33 bar, minimum 24 bar
Valve tip clearances, engine hot or cold	Inlet 0.30 mm Exhaust 0.30 mm
Firing order	1 - 5 - 3 - 6 - 2 - 4
Commencement of injection	28° before TDC
Lubricating oil pressure	Low idle speed 0.5 bar min. } engine hot Rated speed 2.5 bar min. }
Piston cooling nozzles	Opening pressure 2.0 bar
Cooling system	Dual-circuit water circulation with a double-spiral centrifugal pump and two thermostats
Coolant	A mixture of water, anti-freeze and corrosion inhibitor
Radiator pressure valve	Opens at 0.6 bar
Cooling fan	Suction-type fan
Air intake system	Dry air cleaner with main and safety filter elements, a HD cyclone separator with exhaust ejector

POWERSHIFT TRANSMISSION

Make/Type	ZF Hydromedia-transmission/3 PW 45 H1
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FRONT and REAR AXLES

Make/Type	ZF/Type AP - 17R with self-locking differential and drum brakes
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