



OPERATORS MANUAL

- COMPACTOR -

IMPORTANT NOTICE

- ◆ Read this manual carefully prior to installing, operating or maintaining the Compactor Plate for the first time.
- ◆ Understand and follow the instructions carefully, so you will protect yourself and others by following the instructions of this manual.
- ◆ To avoid unnecessary injury or damage always observe relevant laws, regulations and safe working practices.

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1. Foreword

This manual contains safety, operation, lubrication and maintenance information.

The manual is a reference document for new operators, and refresher document for experienced personnel.

Read, understand, and store it close to compactor plates.

Whenever any question arises regarding your compactor plates, or this publication, Please consult with your DNHI dealer.

WARNING

- * This compactor plates should not be used for other purposes except for the specified works.
- * If this compactor plates is used carelessly, a serious accident can occur which can seriously injure or kill a person.
- * The operator and maintenance person should read and fully understand this manual before operating or repairing this compactor plate.
- * Keep this manual near the compactor plates, and those who use or manage the compactor plates should read it periodically.
- * If this manual is lost or damaged, order a new one from DNB distributor.
- * If this compactor plates is transferred, be sure to attach this manual to the compactor.
- * The manufacturer can change the contents of this manual without any obligations because it should be constantly updated. Please contact DMBES or DNB distributor for any information not contained in this manual.
- * For safety, common items are described in "SAFETY PRECAUTIONS", and others are mentioned in the succeeding pages.
- * Use this compactor plates according to the regulations of the nation where it is used.

2. Usage

- 1) Compacting the slope surface on the road construction.
- 2) Compacting the basis of the building or structures.
- 3) Compacting soils, gravels, and so on.
- 4) Compacting the slope surface of the bank.
- 5) Compacting the bottom surface and recovered soil during the pipeline work.
- 6) Compacting the drain path and rock base surface.
- 7) Pile driving work.
- 8) The others.
 - * Safe design of shaft seal.
 - * No need to install the outlet drain line due to internal drain of the motor.
 - * Easy to attach and detach the machine depending on the size of compacting conditions and field circumstances.

3. Specification

1) General

Discription Model	Impulse Force	Vibration per Minute (Max)	Hydraulic Flow	Working Pressure	Operating Weight	Plate Size	Suitable Excavator
	ton	vpm	rpm	kg/cm ²	kg	mm	ton
DNCP050	2 ~ 3	2,400	60 ~ 80	90 ~ 130	360	830 x 600	2 ~ 8
DNCP100	6 ~ 7	2,300	600 ~ 2,000	150 ~ 250	510	1145 x 700	8 ~ 17
DNCP050	14 ~ 15	2,200	600 ~ 2,000	150 ~ 250	880	1250 x 850	16 ~ 25
DNCP300	14 ~ 15	2,000	600 ~ 2,000	180 ~ 210	1288	1350 x 950	28 ~ 30

2) Motor

Type : Commercial

Description		Model	DNCP050	DNCP100	DNCP200	DNCP300
Motor Size			M124-30	M5100-50	M5100-63	M5100-80
Displacement (cc / rev)			30	63	80	100
Mounting Flange Size			SAE "B" 2- BOLT	SAE "C" 4- BOLT	SAE "C" 4- BOLT	SAE "C" 4- BOLT
Port Size	IN		1/2"	3/4"	3/4"	1"
	OUT		1/2"	3/4"	3/4"	1"
Shaft Size			SAE "B" 13T (21.8 DIA)	SAE "C" 14T (31.2 DIA)	SAE "C" 14T (31.2" DIA)	SAE "C" 14T (31.2 DIA)
Drain Pressure (bar)			7	7	7	7
Hose Size			1/2"	3/4"	1"	1 1/4"

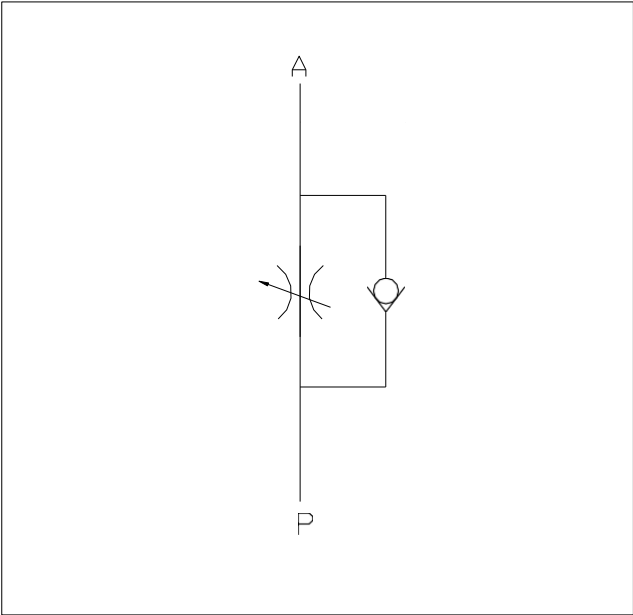
* Intermittent operation: the permissible values may occur for max. 10% of every minute.

** 1/4 NPT. Drain must be connected to low pressure return tank unless the motor is used one direction and back pressure is less than 100PSI .

3) Flow Control Valve

Model \ Block Cartridge In	Flow Control v/v	Rated Flow (lpm)	Max. Pressure (bar)	Each Port Size (P.T.A.B)
DNCP050	HF 800S	57	160	PT 1/2"
DNCP100	HF1200S	95	210	PT 3/4"
DNCP200	HF1600S	150	210	PT 1"
DNCP300	HF2000S	170	210	PT 1 1/4"

Flow Control Valve Included Anti-Cavitation Check V/V.



4. General Information

1) Usage of Compactor Plates

DNB compactor plates are designed to work in quarries and various construction sites.

2) Serial Number

The serial number of compactor plates stamped on the shaft housing is important for repairing and ordering spare parts.

We make our products very precisely under stern quality control, when the products run out of order, the number must be presented to our shop to maintain or repair them.

Therefore, you must keep in mind the serial number for specific compactor plates, which usually is located in the shaft housing center of compactor plates.

3) Clothing

Wear protective clothing to suit the job.

For example, you must wear a safety helmet, safety shoes, safety glasses, well-fitting overalls, ear-protectors, industrial gloves, and breathing protector.

Do not wear a necktie or scarf and keep long hair restrained.

4) Lifting Equipment

Improper lifting equipment can cause injury.

You should know how to use lifting equipment, and the equipment should be strong enough for your job.

Make sure that lifting equipment is in good condition, suitable for the job and complies with all local regulations and relevant laws.

5) Safety

This manual is a guide for safe operation and maintenance.

Before installing, operating or maintaining the products, you must read this manual carefully and keep the manual with the compactor plates.

6) Operation

You should be a competent operator of the carrier machine to use compactor plates correctly.

Do not use or install the compactor plates until you can drive the carrier machine.

7) Communications

Poor communication can cause accidents. Work sites are usually noisy, so do not rely on spoken commands.

If you want to work with other people, make sure they understand your hand signals.

Keep people around you away and inform them of what you are going to do.

8) Safety Barriers

In public places, or when your visibility is reduced, place barriers around the machine to keep people away.

If there are no safety barriers, you must obtain the working area of excavators to operate safely.

9) Equipment limits and Condition

Never operate the equipment beyond its limits, if you do, it can cause damage and be dangerous.

Do not try to upgrade the compactor plate's performance by unapproved modifications.

Defective compactor plates can injure you or others.

Do not operate a compactor plate which is defective or has missing parts.

Make sure all maintenance procedures are completed before use. And obey all laws and regulations of the workplace and equipment.

Do not operate at abnormally high temperature and use only completely assembled compactor plates.

10) Repairs and Maintenance

Do not try to do repairs or any other maintenance you do not understand.

When you need to replace old part with a new one, please contact your service center for advice.

Service and repairs are only to be done by authorized personnel.

And do not operate the compactor plates under water as a standard assembly, otherwise it will be damaged.

The products are suitable for major heavy excavators and construction work.

As you know, the construction site is always dangerous, thus you should be alert for hazards.

Death or serious injury results from improper use, repair or service.

Finally, if there is anything you do not understand, please contact your service center for advice.

Never assume anything you do not understand. And only routine maintenance listed in manual may be done by operator.

5. Installation

1) Connecting

The next procedure is to connect the pressure and return hoses to the flow control valve in body.

Model	Pressure Ports Size	
	P (INLET)	T (RETURN)
DNCP050	1/2" (PF)	1/2" (PF)
DNCP100	3/4" (PF)	3/4" (PF)
DNCP200	3/4" (PF)	3/4" (PF)
DNCP300	1" (PF)	1" (PF)

2) Setting and Adjustment

Compactor plates are fitted with a flow control valve which requires setting upon installation.

- (1) Disconnect hoses at motor and replace with flow meter.
- (2) Apply slightly low pressure to boom.
- (3) Let the oil flow through flow meter and adjust flow control valve to recommended flow rates, i.e.

Model	Set value
DNCP050	60~80 lpm at 90~130 (kg/cm ²)
DNCP100	80~110 lpm at 100~140 (kg/cm ²)
DNCP200	110~140 lpm at 120~160 (kg/cm ²)
DNCP300	130~160 lpm at 130~170 (kg/cm ²)


- All motors are specially designed for DNB
- DNCP050~300 as an internal drain type.
- However, please check back pressure at the same time.
- 2 – 7 bar as recommended.
- 10 bar being the maximum allowable for DNCP050~300.
- For all it is advisable to keep the pressure as low as possible to extend the life of the seal.
- **The manufacturer recommends no more than 7 Bar.**
- If this back pressure cannot be obtained from model specification, a reduction of oil flow from the excavator is necessary via spool valve on the main hydraulic system.
- It is also recommended that the return oil goes directly back to tank.
- **Excessive back pressure will result in motor seal failure.**

IMPORTANT

- **If all of the above are checked out start the excavator and stretch out boom to ensure that the hoses are not pinched or restricted.**
- **Place Compactor plates on ground surface with slightly low pressure and turn on oil flow to Compactor plates.**

6. Inspection and maintenance

1) Daily check list

 WARNING
<p>The product is designed to operate in optimal condition over an extended service life, provided it is used in accordance with established periodic inspection and maintenance guidelines. Adhering to these guidelines is essential to minimise the risk of failure and to ensure consistent performance.</p> <p>All inspection and maintenance activities must be carried out in strict compliance with the applicable safety instructions and procedures. This ensures not only the longevity of the product but also the safety of personnel involved in its operation and servicing.</p>

Symptom	Check point	Remedy
Bolt, Nut worn or damaged	<ul style="list-style-type: none"> ▶ All the nuts & Bolt (Rubber vibration isolators, Motor, Motor Cover) ▶ Mount adapter bolt 	Tighten or replace,
Oil leakage	<ul style="list-style-type: none"> ▶ All hose connections and fittings ▶ Body of Motor ▶ Motor Control valve 	Tighten or replace defective hoses and fittings. If problems persist, be sure to contact your nearest DNB dealers and service center explaining the problem in detail.
Noise Vibration	<ul style="list-style-type: none"> ▶ Bearing housing assembly in the main housing 	Check movement for roughness and fit looseness. Lubricate Motor, Bearing, Housing with grease Replace rough and loose bearings If problems persist, be sure to contact your nearest DNB dealer or DNB Service center explaining the problem in detail.
Mounting Pin tightness, damaged	<ul style="list-style-type: none"> ▶ Mounting Pin, Stop Ling <p>Check movement for roughness fit for looseness.</p>	Replace Pin, Fittings if need.
Deform, Crack. Worn. Deterioration	<ul style="list-style-type: none"> ▶ The body of a Compactor ▶ The body of a Motor ▶ Rubber vibration isolators) 	If problems persist, be sure to contact your nearest DNB dealer or DNB Service center explaining the problem in detail.

7. Failure causes, and emergency measures

Symptom		Cause	Remedy
Compact or does not run.	The pressure is not operating at a connection hose.	The blowout of a fuse (Switch)	Replace
		The blowout of electronic wiring.	Check electronic wiring (Operation switch, Solenoid valve)
		Hydraulic system of excavator damaged.	Check pump, control valve of excavator. Check relief valve on piping kits of excavator.
	The system operates at correct voltage; however, the pressure is not maintained or controlled through the connection hose.	Malfunction of Solenoid valve.	Replace
		Malfunction of Solenoid Valve	Disassemble Solenoid valve from Block, to clean it. Replace
		Hose leakage Hose damaged	Replace or tighten
	The pressure is operated at a connection hose but, Compactor is not working.	Motor control valve damaged	To contact DNB Service center explaining the problem in detail.
		Drive components damaged	Check Motor, Bearing. To contact DNB Service center explaining the problem in detail.
		Position of Hose is reversed	Check to make sure the hoses are connected correctly.
Compactor runs too slow	Lack of Hydraulic oil. Operating pressure is too low	Check hydraulic system of excavator, resetting it. Recheck the flow and back pressure.	
	Lack of hydraulic fluid	Recheck possibly insufficient oil flow	
	The temperature of hydraulic fluid is too high	To turn the compactor off, Recheck temperature	
	Motor, Bearing damaged' Drive components damaged.	To contact DNB Service center explaining the problem in detail.	
Noise Vibration.	Lack of grease or Drive Components damaged.	Rubricate it with grease. If problems persist, be sure to contact your nearest DNB dealer or DNB Service center explaining the problem in detail.	
	Rubber vibration isolators damaged Bolt, nut loosed	Replace. Tighten.	
Rubber vibration isolators damaged	Deterioration	Replace	
Leakage from connection hose	Seal damaged	Replace	
	Hose and Fittings damaged	Tighten or replace	
Leakage from the body of Motor, Motor control valve.	Fittings damaged	Disassemble Motor, Control Valve, check it If problems persist, be sure to contact your nearest DNB dealer or DNB Service center explaining the problem in detail.	

8. Operation

1) Ensure that all hoses are correctly fitted and tightened and that return lines are fully open.

2) Ensure that the flow rate and the pressure are correctly adjusted.

3) Turn Compactor plates on.

Place on material to be compacted and apply low pressure for a period of 10 ~ 20 secs.

This time period will vary slightly depending on the type of material being compacted.

4) Best results are obtained with two passes: the first with lighter down pressure and the following with heavier down pressure.

Do not over-vibrate.

Granular material can be compacted in 1/2-to-1-meter lifts and less with clay material. Moisture content is an important factor when compacting soil.

A system for back fill that has achieved wide acceptance is the **Slope technique**.

The material is backfilled in one area and allows you to seek its angle of response.

Compaction starts on this angle, near, but above the pipe. All material is backfilled to this angle, and the Compaction plate is worked up and down the angle of response.

In this way the backfill and compaction can be kept close to the crew.

Resurfacing can be done very shortly after the pipe is placed.

Always operate the Compactor plate with outriggers firmly fixed on the ground.

Its weight is heavier than that of the standard bucket.

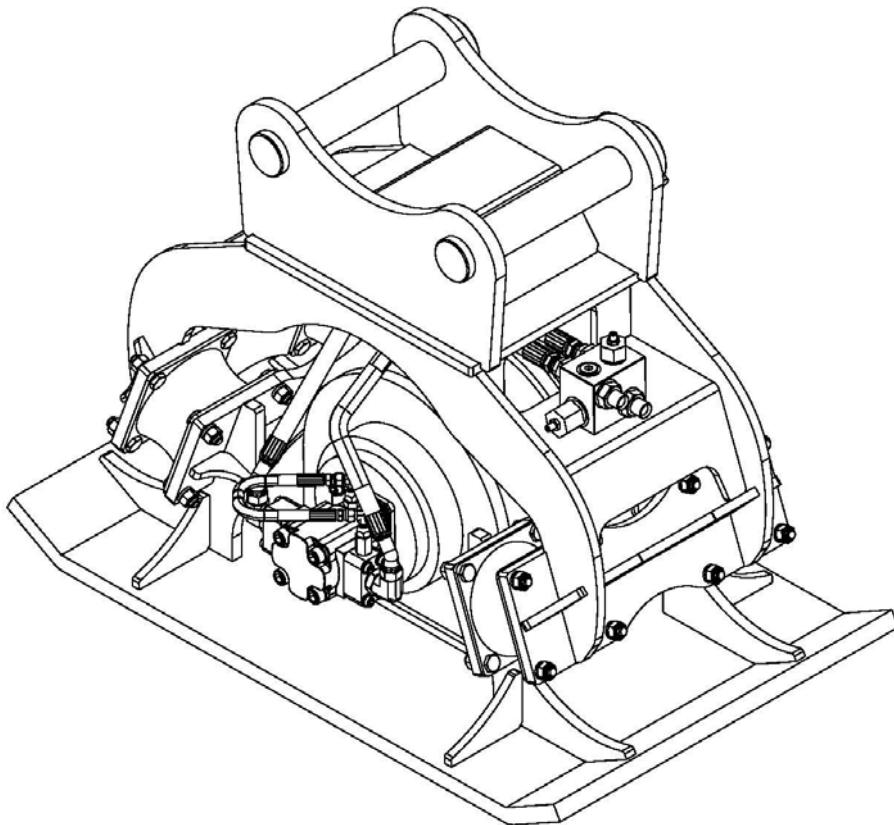
On completion of daily work, do not place boom load onto vibration mounts overnight.

Turn Compactor plate on the side or end of the machine when storing.

9. Part List

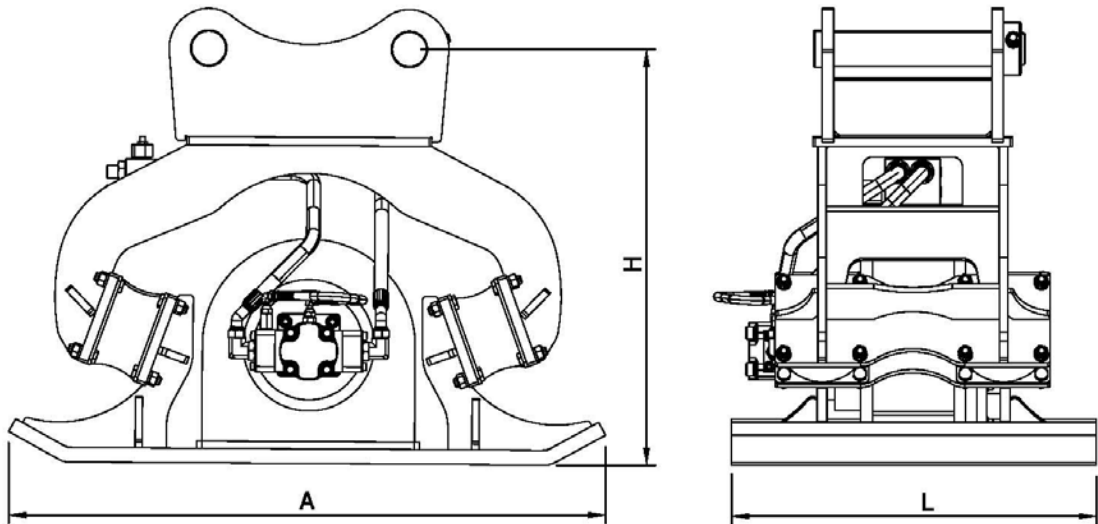
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PARTS LIST - COMPACTOR



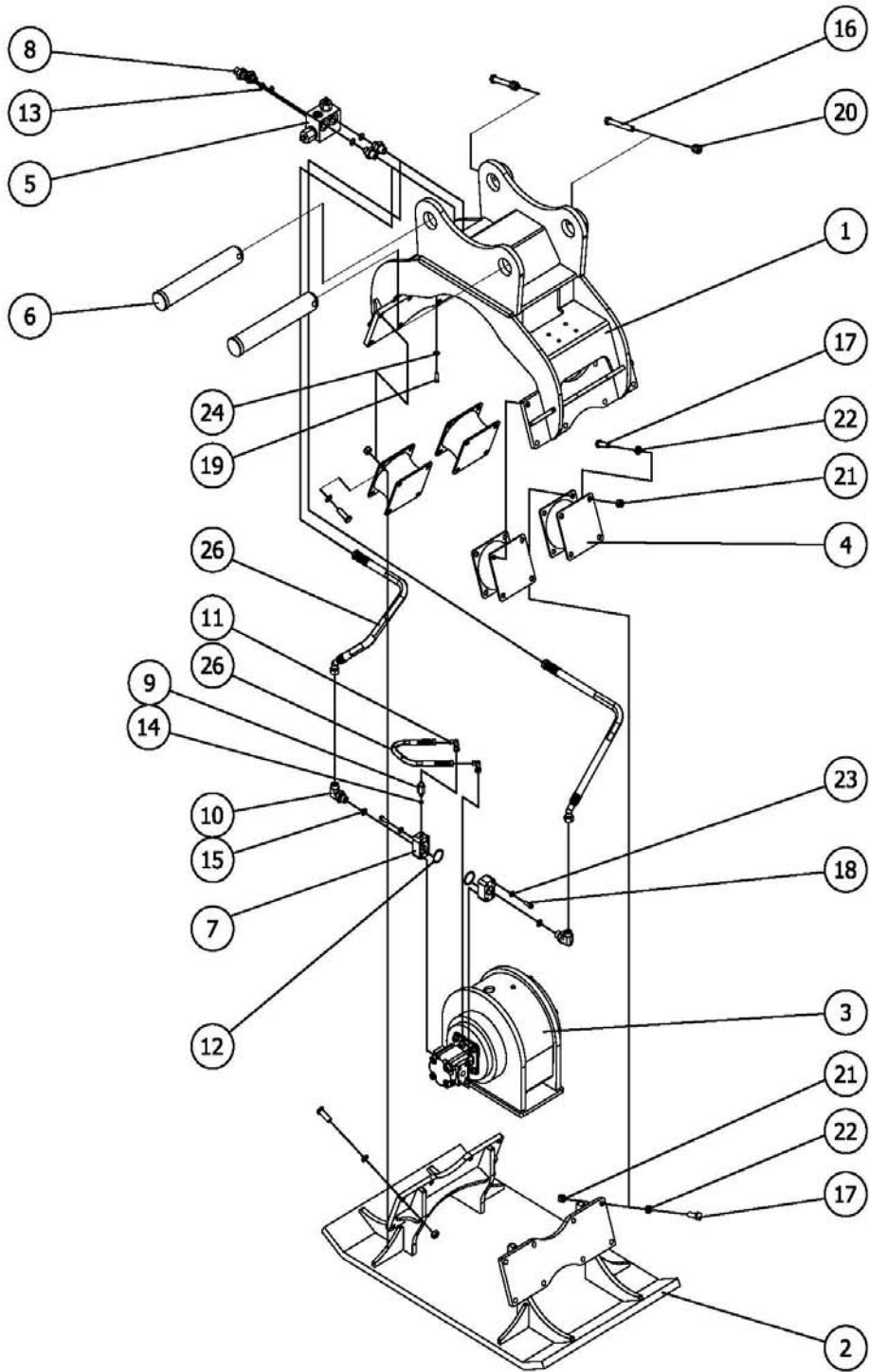
※ Contained in this manual book, specifications of the product in order to improve performance are subject to change without notice.

COMPACTOR SPEC



MODEL	DNCP050	DNCP100	DNCP200	DNCP300	REMARK
Impulse Force (ton)	2~3	5~6	7~8	9~10	
Weight (kg)	360	510	880	1288	
Vibration per Minute (Max) (vpm)	2400	2300	2200	2000	
Required Oil Flow (lpm)	60~80	80~110	110~140	130~160	
Working Pressure (kg/cm ²)	90~130	100~140	120~160	130~170	
Plate Size (mm)	830 x 600	850 x 660	1100 x 750	1250 x 950	
EXCAVATOR	2 ~ 8	8 ~ 17	16 ~ 25	28 ~ 30	

COMPACTOR ASSEMBLY



ASSEMBLY

COMPACTOR

ITEM	PARTS NO	PARTS NAME	QTY			REMARK
				UNIT	TOTAL	
1	CP050-1000	Body Ass'y	1			
2	CP050-2000	Base Ass'y	1			
3	CP050-3000	Crank Box	1			
4	CP050-4000	Buffer Ass'y	4			
5	CP050-5000	Check Valve	1			
6	CP050-6000	Main Pin	2			
7	CP050-7000	Block	2			
8	I5-050010	Nipple / Main	4			
9	I5-050020	Long Nipple	1			
10	I5-050030	Elbow Nipple	2			
11	I5-050040	Swivel Elbow Nipple	2			
12	FO-050110	O-Ring	2			
13	FO-050120	O-Ring	4			
14	FO-050130	O-Ring	1			
15	FO-050140	O-Ring	2			
16	B1-050210	Bolt Hex.	2			
17	B2-050220	Wrench Bolt	32			
18	B2-050230	Wrench Bolt	8			
19	B2-050240	Wrench Bolt	4			
20	C1-050310	Nut Hex.	4			
21	C1-050320	Nut Hex.(Nylon)	32			
22	C5-050410	Spring Washer	32			
23	C5-050420	Spring Washer	8			
24	C5-050430	Spring Washer	4			
25	H1-050510	Hose	2			
26	H1-050520	Hose	1			

COMPACTOR CLANK BOX

