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OPERATION & PARTS MANUAL

REVERSIBLE PLATE COMPACTOR

JPC-940R

 **WARNING** 

The engine exhaust from this product contains constituents that are known in the State of California to cause cancer, birth defects and other reproductive harm.

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1. INTRODUCTION

First of all, thank you very much for purchasing NORTHERNTOOL Reversible plate compactor. We do try our best to support and help you to get the best results and meet your satisfaction.

This manual provides information and procedures to safely operate and maintain this NORTHERNTOOL model. From your own safety and protection from injury, carefully read, understand and observe the safety instructions described in this manual. The information contained in this manual is based on machines in production at the time of publication.

This manual must accompany the equipment at all times.

If you have lost this manual or if you need an extra copy of this manual, please contact NORTHERNTOOL. This equipment is designed and manufactured with the customer's safety as a priority. However, the operator can be seriously hurt or even killed if this equipment is misused or improperly maintained.
If a problem should arise, or if you have any questions about this equipment, please contact NORTHERNTOOL.

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This manual is based on the latest product information available at the time of printing. NORTHERNTOOL reserves the right to make changes at any time without notice and without incurring any obligation.

2. SAFETY INSTRUCTIONS

1) The product is a reversible plate compactor for compacting soil where a vibrating roller is unable to be used. Do not use it for any other purpose.

2) Although the product is designed with special attention to safety, only use the product properly after thoroughly reading the safety information in this manual.

3) The following is safety information for how to use the product safely without causing any possibility of exposing you or any other person to injury or damage.

2.1Safety Operation

The operator should be versed on machine safety and operation. Never allow a person who is not properly trained to operate this equipment, as it may lead to serious injury or even death if this equipment is used by any unqualified or untrained person.

Please read all of the safety instructions carefully. Safety instructions will be found throughout this manual and on the machine. Keep all safety information in good, readable condition. An unqualified person MUST be trained in the operation and the maintenance of the compactor by an expert or an authorized representative.
This equipment is not allowed to be operated by persons under 18 years of age.

2.1.1 Never operate this equipment by a person who is not properly trained.

2.1.2 Never touch the engine or muffler during the operation or after stopping the engine.

2.1.3 Never operate this equipment with any accessories or attachment that is not recommended by NORTHERNTOOL.

2.1.4 Never operate with the belt cover removed. The exposed belt and pulley may cause serious injury during the operation.

2.1.5 Never leave the machine unattached while running. Before leaving the operation position, the operator must secure the equipment by completely stopping the engine according to the engine stopping instructions in the manual.

2.1.6 Before operation, the operator has to be made familiar with the necessary safety precautions and operating techniques.

2.1.7 Always wear proper protective clothing, safety hat, safety gloves, safety shoes, earplugs, safety glasses and other protective devices required by the job

during the operation.

2.1.8 Always close the fuel valve when the machine is stopped.

2.1.9 Always store the machine properly when it is not being used. Equipment should be stored in a clean, dry location out of the reach of children.

2.1.10 Always operate this equipment with all guard and safety devices in place. Never operate this machine if any guard or safety devices have been removed or if they have malfunctioned.

2. 2 Precautions

2.2.1 Read the operating instructions before operating the equipment.

2.2.2 Keep unauthorized, inexperienced, untrained people away from this equipment.

2.2.3 DO NOT STAY in the danger zone of the reversible plate compactor.

2.2.4 DO NOT RUN this machine in an enclosed area. The engine produces carbon monoxide gas.

2.2.5 COMPLETELY STOP the engine before servicing, cleaning or adding fuel.

2.2.6 DO NOT refuel near the flammable materials.

2.2.7 FUEL SPILLED! Make sure the area is dry before starting the engine.

2.2.8 DO NOT TOUCH the muffler during operation and after operation while it is hot.

2.2.9 WEAR an approved hard hat, safety gloves, safety shoes, ear plugs, safety glasses and a mask.

2.2.10 USE proper equipment (lift car & lift equipment) for moving or loading, in order to not damage your back because of heavy weight.

2.2.11 FAILURE to comply with precautions could result in serious bodily injury.

2.3 To avoid a fatal accident

2.3.1 Stop the engine before refueling it. Split fuel may catch fire.

2.3.2 Do not refuel the engine near inflammables to avoid catching fire.

2.3.3 Do not use the engine in an airtight space to avoid exhaust gas poisoning

2.4 To keep human health

2.4.1 When operator feels fatigue from vibration, the operator must stop the machine and take a rest.

2.4.2 Airborne noise emission by the machinery is noise level: 70 ~ 95 db apart at 1 m (3 feet).

2.5 To avoid injury or damage

2.5.1 The reversible plate compactor should only be used by people who

- are older than 18 years.
- are physically and mentally able to handle the reversible plate compactor.
- are trained to operate and maintain the reversible plate compactor and have proved this to the company owner.
- are assessed to be able to carry out their duties reliably.

2.5.2 People are not allowed to stay in the danger zone of the reversible plate compactor.

2.5.3 The reversible plate compactor operator is only allowed to work if there is no other person in the danger zone.

2.5.4 Use the reversible plate compactor away from other workers because cracked and bounced rock may cause injury to other workers and the compacting reversible plate compactor may cause injury to other workers' feet.

2.5.5 In case of danger, the reversible plate compactor operator has to give warning signs.

2.5.6 The reversible plate compactor can only be operated when adequate stability is granted.

2.5.7 The operator has to adapt the running speed to the local conditions in a way that the reversible plate compactor can be stopped at any time, so toppling of the reversible plate compactor can be avoided.

2.5.8 Before leaving the operating position, the operator has to secure the reversible plate compactor by completely stopping the engine according to engine stopping instructions on the manual and by using a chain with a padlock between the speed control bar and the transportation grip to prevent unauthorized use.

2.5.9 The engine has to be stopped and secured against re-starting by pulling out the spark plug socket before carrying out works of maintenance and servicing.

2.5.10 The operator has to control the reversible plate compactor as regards function and obvious defects before use.

2.5.11 The operator must inform the supervisor directly about discovered defects and in case of change of operator, he must inform his relief as well.

2.5.12 In case of defects which endanger the safety of operation, it is not allowed to operate the reversible plate compactor until these defects are rectified.

2.5.13 Before initial use and after essential modification, the reversible plate compactor has to be checked by an expert before putting it into operation. Ground processing machines have to be checked by an expert at least once a year.

2.5.14 In the case of lighting while the compactor is operating, the operator has to see the other objective within a radius of 20m as a limit of sight capacity.

2.5.15 To avoid burn, do not touch the engine body, muffler or any other parts during the operation or after stopping the engine.

2.5.16 Wear safety equipment such as a crash helmet, safety gloves, safety shoes, ear plugs, safety glasses and a mask before working.

2.5.17 Do not insert your hand or finger between the pulley cover and engine during operation to avoid injury to your hand or finger.

2.5.18 Before working, sprinkle water properly to avoid dust.

But, do not use the reversible plate compactor on the too much wet ground because it may cause damage to the life cycle of the product.

2.5.19 Do not transport the reversible plate compactor with fuel in its fuel tank by the motor vehicle.

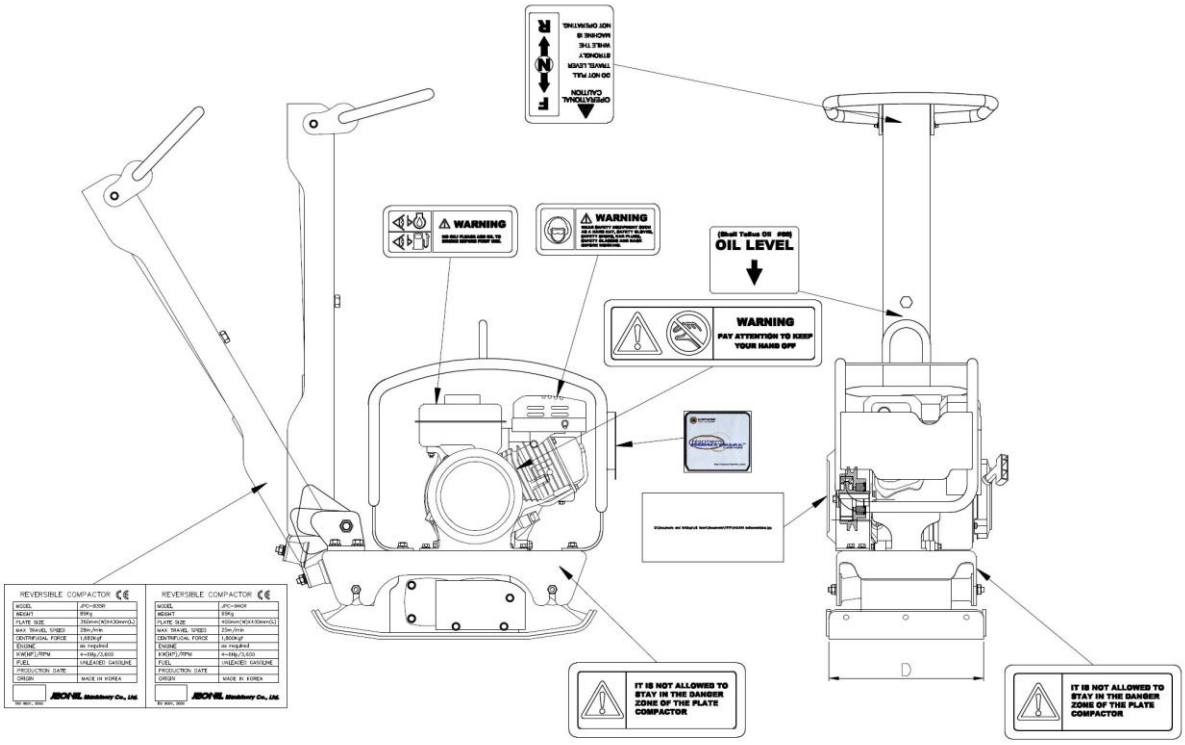
2.5.20 Do not hold the reversible plate compactor by yourself, when you put it on a motor vehicle or put it off the motor vehicle. It is too heavy to move it by yourself and it may cause injury to your back.

2.5.21 Make it a rule to hold the transportation grip when you raise the reversible plate compactor. Holding the handle for transportation may cause you injury.

**** When there are some problems or questions about the engine before or**

during its operation, please see the enclosed instruction manual for the engine.

2.6 **LABEL LOCATION**



3. TECHNICAL DATA

3.1 ENGINE SPECIFICATIONS

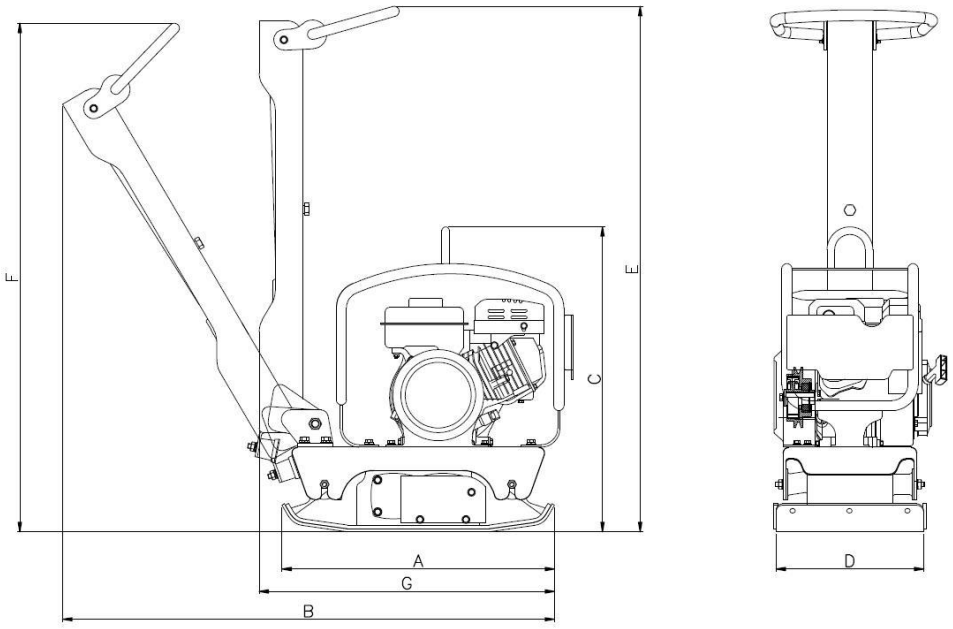
Item	Unit	**Specifications**
Engine Maker	-	**HONDA**
Engine Model	-	**GX 160**
APPLICATION	-	**940R**
Output Power(max)	Kw(Hp)	4.0(5.5)
Spark Plug	-	BPR6ES(NGK) W20EPR-U(DENSO)
Electrode Gap Of Spark Plug	Mm (in)	0.7-0.8 (0.028-0.031)
Engine Speed - Full Load	rpm	3,600±100
Engine Speed - Idle	rpm	1,400±100

Air Cleaner	type	Dual Element
Engine Lubrication	Oil grade	SAE 10W-30
Engine Oil Capacity	ml(oz.)	600(20) ←
Fuel	Type	Unleaded Gasoline
Fuel Tank Capacity	L(qts.)	3.6(3.8)

3.2 COMPACTOR SPECIFICATIONS

Item	Unit	**JPC-940R**
Weight	Kg(lb)	95(209.5)
Centrifugal Force	Kgf(lbf)	1835(4045.5)
Vibration Frequency	vpm(Hz)	6000(100)
Travel Speed	m(ft) /min	25(82)
Grade ability	%	20
Compacted Area (depending On soil)	m^2/h	600
Power Take-Off	-	Centrifugal Clutch & V- Belt

3.3 DIMENSION



Itemization	Unit	**JPC-940R**
A	mm(in)	685(27)
B		1235(49)
C		757(30)
D		430(17)
E		1195(47)
F		1200(47)
G		810(32)

3.4 LUBRICATING OIL

Maker	-		**HONDA**	**ROBIN**
Engine	Summer	Above 25℃	**SAE 10W / 30**	←
	Spring/Fall	10℃~25℃	**SAE 10W / 30-20**	
	Winter	Below 0℃	**SAE 10W / 10**	
	Quantity ml(oz.)		**600(20)**	←
Model	Unit		**JPC-940R**	
Exciter	Oil grade		**Automobile Engine Oil** : **SAE 10W/30** or Equivalent	
	Quantity ml(oz.)		**400(13.5)**	
Hand Pump	Oil grade		**Shell Tellus Oil #68**	
	Quantity ml(oz.)		**250(8)**	

* NorthernTools reserves the right to change product specification, design, and standard equipment without prior notice or incurring obligations.

4. GENERAL INFORMATION

4.1 APPLICATION

The reversible compactor of the JPC-150R produces low amplitude high frequency vibrations, designed to compact granular soil, cable and water trenches, marginal strips as well as all those compaction jobs for which the use of large machines is not convenient. The plate compactor is equipped with a water tank is used for compaction of asphalt pavement finishing and flatwork.

Any other use of the compactor is considered non-intended, for which the contractor bears the sole responsibility.

4.2 ORDERING SPARE PARTS

Before repairing this machine, the operator should be familiar with the operating of equipment. Fundamental operating and maintenance formalities are explained in this manual that is supplied with the machine. The user's manual must be kept with the machine. When needed, use this manual to order exchange parts. If this manual is lost, please contact NORTHERNTOOL to order exchange parts. To prevent similar occurrences, owners are requested not to leave the machine without use for long periods or to use it improperly. When ordering spare parts, please supply:

1) Dealer Name and Address, 2) Shipping Address 3) Return FAX NO. 4) MODEL NO. 5) Part Number, Description, and Quantity 6) Method of Shipment

4.3 Transportation

4.3.1 Short Distances:

For transporting the machine over short distances or on the job site, the machine can be driven under its own power in the transport speed range which can only be used for forward travel.

4.3.2 Long Distances:

After fastening the machine tightly with a rope or chain, it can be lifted on an appropriate transport vehicle such as a truck or trailer by means of a crane.

Make it a rule to hold the transportation grip when you raise the machine, as holding the handle can cause you an injury.

Never lift it by a crane while the engine is running.

⚠Caution ⚠

- Always make sure the fuel tank is empty before transporting the machine.
- Do not hold the reversible plate compactor by yourself, when you put it on motor vehicle or take if off the motor vehicle, because it is too heavy to move it by yourself and it may cause injury to your back.
- To avoid burns or fire hazards, let the engine cool before transporting the machine or storing it indoors.
- Turn the fuel valve to the off position and keep the engine level to prevent fuel from spilling.

4.4 LONG-TERM STORAGE

In case of long period storage for more than 30 days:

Before storing the machine, its working condition must be inspected and the preservation measures described below must be taken.

4.4.1 Remove foreign objects such as loose stones and dirt from the reversible plate compactor and engine.
4.4.2 Drain out the fuel from the fuel tank completely.
4.4.3 Clean the engine cylinder cooling fins.
4.4.4 Clean or replace the air filter.
4.4.5 Change engine oil and follow procedures described in the engine manual for engine storage.
4.4.6 Store the reversible plate compactor and engine in a clean, dry area.

4.5 Operation principle (FIG. 02)

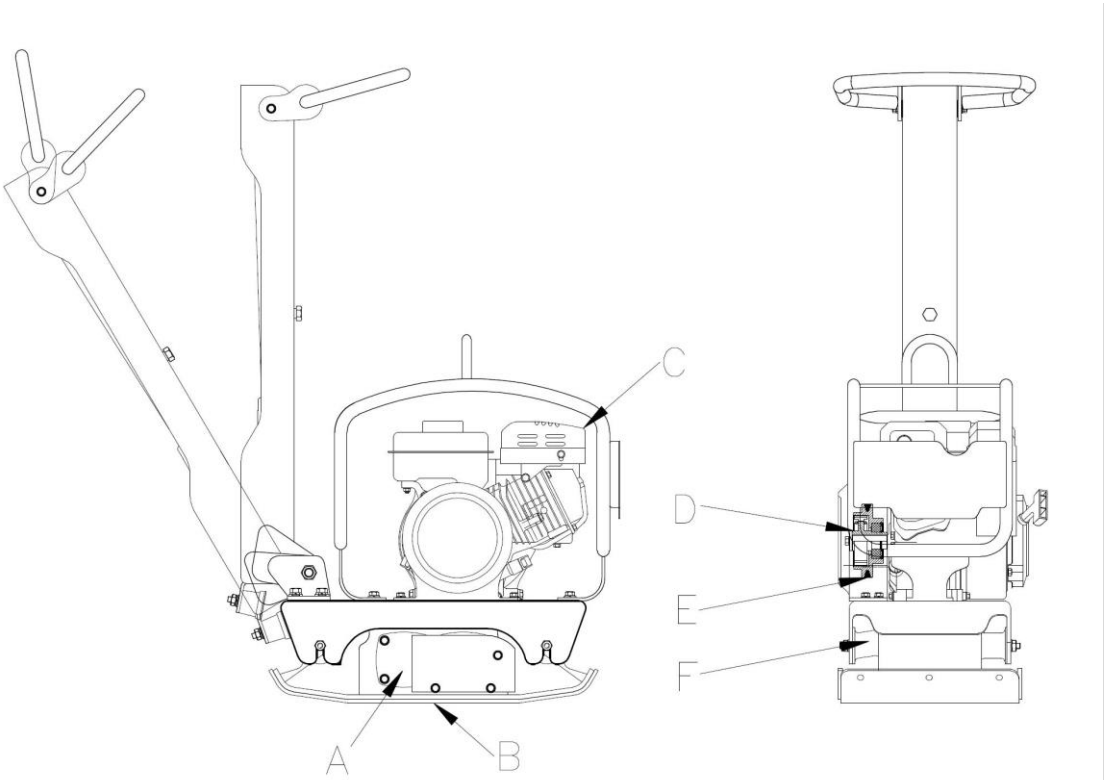
Vibrating for ground compacting is accomplished occurred by a vibrator (a) that is installed firmly on the bottom board (b) for tamping. There are two shafts in the vibrator for forward and reverse. One shaft has two centrifugal vibrators. One of these two shafts receives hydraulic force and changes the angle of the centrifugal vibrator. It makes the compactor move forward and reverse,

The drive engine (c) is attached to the engine plate, and it circumvolves the vibrator. Torque is delivered by attrition of two objects through the V - belt (e) that connects the Pulley (d) and the centrifugal clutch that is attached to the engine.

When engine is running at low revolution, the centrifugal clutch cut off to pass power to the vibrator, so the drive engine does no-load running perfectly. The speed of the drive engine can change from minimum to maximum by the Throttle Control Lever on the left-side handle.

4 Isolator rubbers (f) are strongly connected between the engine plate and the vibrator plate. This decrease system prevents the vibration at a high frequency which is delivered with the upper plate. In conclusion, the drive engine is able to maintain its specific function by excellent compacting ability,

The driver engine is a 4-stroke engine; it is started by a starting system and cooled by an air-cooled system.



(FIG. 02)

4.6 Engine speeds and machine performance

Even if the engine speed drops or rises, influences to the centrifugal force which is produced by the vibrator. If the engine is operated at a fast speed, you can get the strong centrifugal force. If the engine rotates at a low speed, the centrifugal force declines remarkably.

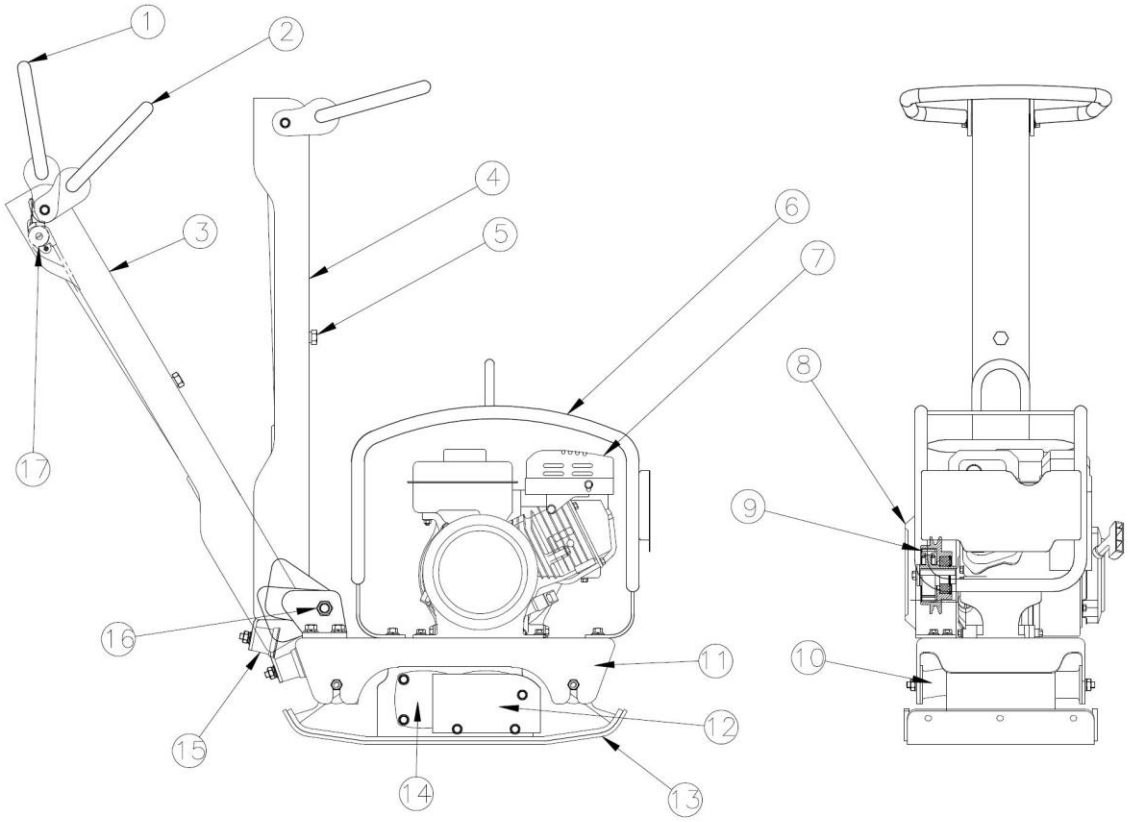
When confirming the engine speed, use the tachometer to keep accuracy. Operate equipment at a proper speed of rotation. Refer to technical data. Service engine in the maintenance schedule that is recommend, and adjust the driver belt regularly to keep maximum machine performance.

4.7 Operating Inclination

When compacting a slope, operate the equipment from the top to the bottom of the slope.
The operator absolutely must not stand on the downside of the equipment, and front/behind slop or a left/right slope, do not operate the equipment on more than maximum of 20’ if this slope angle degree is exceeded, engine system which dabbles lubricating oil can break down.

5. OPERATION

5.1 Name of each part (FIG. 03)



(FIG. 03)

1) Handle (Reverse Position)
When you operate the reversible compactor, please hold the handle grip. In order to have it moved backward (Reversible), please use by pulling down the handle bar.

2) Handle (Forward Position)
When you operate the reversible compactor, please hold the handle grip. In order to have it moved forward, Please use by setting handle bar upright.

3) Hand Bar (Working Position)
When compacting, please put the hand bar in this Working Position.

4) Hand Bar (Stored Position)
When storing the equipment, please put the hand bar in this Stored Position.

5) Breather Cap
Fill the hydraulic oil through the breather cap of the hand pump. We recommend using ***SHELL TELLUS OIL #68*** or equivalent.

6) Engine frame

The engine frame protects the engine from turning turtle or knocking into surround obstruction while operating. Please use it when operating Lift Hook.

7) Engine

This compactor uses HONDA GX-160 or ROBIN EX-17 gasoline engines. Use of a diesel engine is available by JPC-150RD of standard model

8) Belt Cover

When maintaining the V-belt, remove the belt cover. But, do not operate the compactor without the belt cover.

There is danger that your hand can get between the V-belt and the clutch. It may cause serious injury if the belt cover is not attached properly.

9) Centrifugal Clutch and V-Belt

This transmits engine power to the vibrator, which is attached on the lower plate.

10) Isolated Rubber

Isolated Rubber prevents Vibratory plate assembly from delivering Vibrations to Engine base plate assembly.

11) Upper plate

This plate is attached to the engine and handle.

12) Pulley Cover

Do not operate the compactor without the Pulley cover.

There is danger that your hand can get between the V-belt and the Pulley. It may cause serious injury if the Pulley cover is not attached properly.

13) Lower plate

This plate, which is attached to the vibrator, transmits vibration to the ground.

14) Vibrator

It has eccentric vibrators, gears and counter weights as equipment for making vibration and turnover direction. When changing or refilling the exciter oil; use ***SAW 10W/30***

15) Shock Absorber

When Handle Bar is set on Working Position, Please make it Stopped in order to control vibrations on Handle bar.

16) Handle Lock
When storing the equipment, pull the lock, stand the handle up straight, and lock the handle in the upright position. When the equipment is to be used, unlock the handle, move the handle to the operating position, and secure the lock again.

17) Throttle Lever
Throttle Lever controls engine speed.

5.2 Fuel Recommendations

The engine must be refueled with regular grade unleaded gasoline. It must use fresh and clean gasoline. If the gasoline contains water or dust, it causes defects in the engine fuel system. Refer to the engine owner's manual about perfect fuel specifications.

5.3 Engine Check before Starting

5.3.1 Read and understand safety information which is mentioned before.

5.3.2 Checking items

1) Check engine oil level
2) Check fuel level
3) Check state of air filter
4) Check the connecting state of bolts and nuts.
5) State of fuel line
6) Check the vibrator lubricating oil level and leak
7) Check hand pump oil level, and for pipe leaks
8) Check V-Belt tension

5.4 Operation of Engine (FIG. 04)

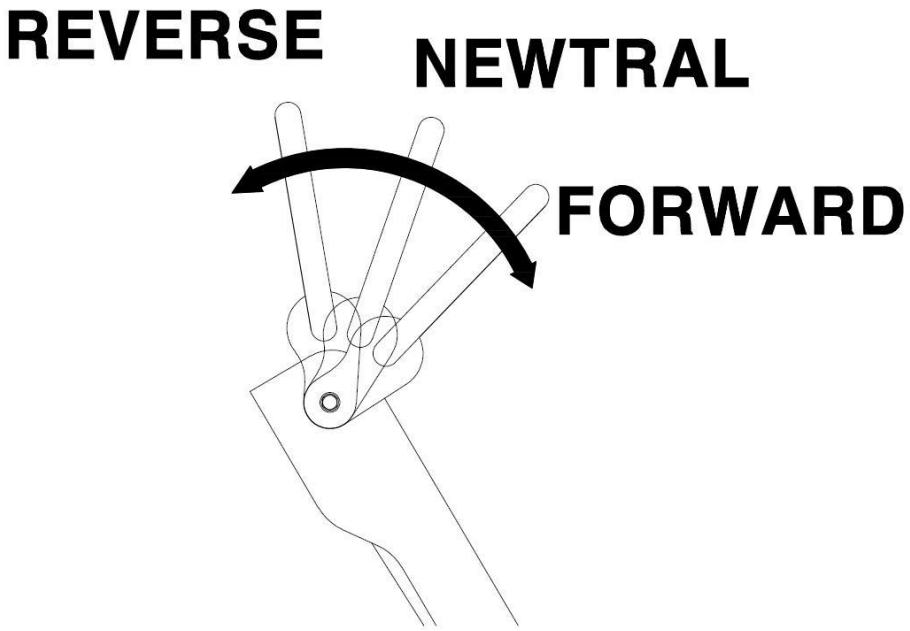
Operate the engine at full speed so that the compactor can harden properly at the site with normal speed. When on a slope, the operator must push some so that compactor can go forward well. When going downhill, the operator may decrease the speed. Harden 3~4 times according to the hardening material.

A certain amount of moisture in the soil is need, but excessive moisture disturbs compatibility, or soil molecules become hard together. If the soil is very wet, please dry it some before compacting.
If soil is dry enough for dust to occur while compacting, sprinkle some water on the ground to improve compatibility. Also, this increases the life of the air filter.

If concrete is extremely hard and dry, do not use the compactor. It produces defects in the compactor engine, as it causes jumping instead of vibration.

Make sure to read all safety information mentioned in this manual before operating the compactor. Please clean material of producing compactor defects, or fragments that can cause harm to the human body at the compacting site.

1) Catch the compactor handle and move the throttle lever to fast position.
2) If the throttle lever sets fast position, the proper engine speed is produced, and the centrifugal clutch is attached to the engine pulley, which transmits power to the vibrator.
3) To drive the compactor forward, push the travel lever to the forward direction.
4) To drive the compactor backward, pull the travel lever to the reverse direction.



(FIG. 04)

WARNING

It the compactor does not back up, even if the hand pump travel lever is pulled, set the engine throttle lever to the low position, and repeat working travel lever around 15~20 times between forward and reverse. When you feel the lever's resistance, operate after move throttle lever to the fast position.

5) Because the compactor moves if you put the travel lever in the designed direction, you should catch the compactor handle firmly.
6) Follow slowly behind the compactor and look around for material capable of producing compactor defects or fragments that could harm the human body at the compacting site.

WARNING

Do not move the travel lever with excessive force. The travel lever is easy to move when the compactor is working normally after the engine is started.

7) In case of the clay, travel speed must be reduced, so the compactor will not leave the surface of the ground if clay builds up underneath it.
In order to solve this problem, please take action as following:
   - Check under the compactor plate whether clay or similar material has become stuck to the compactor plate.
   - Please remember that clay or very moist soil, the compactor can not do effective work.
   - If it's very moist soil, dry the soil to a suitable level, or enforce tamping work 2 times.

6. MAINTENANCE

6-1.Regularly Maintenance Plan

On this table is a basic machine & engine maintenance list.
Regarding additional engine maintenance, please refer to the engine user's manual.
When you want to inspect or service, please always stop the engine on a flat surface.

	Before starting Everyday	After first 20hours	Every 2weeks or 50hours	Every 1months or 100hours	Every year or 300hours
Check fuel level	●				
Check engine oil level	●				
Inspect fuel lines	●				
Inspect air filter(Replace if needed)	●				
Check fuel & for leaks in the hydraulic system	●				
Check and tighten external hardware	●				
Check and adjust V-Belt		●	●		
Clean air cleaner element			●		
Check rubber isolator			●		
Check vibrator oil			●		
Change engine oil		●		●	

Check hydraulic oil and replenish if needed				●	
Clean cooling system				●	
Check and clean spark plug				●	
Clean sediment cup				●	
Adjust and check valve gap					●
Change vibrator oil					●

This time plan is recommended under standard working conditions. If working conditions are altered, then adjust checking times accordingly.

6.2 Checking V-Belt Tension (FIG. 05)

Please check the belt tension in the first 20 hours of driving the machine after installing new equipment and new belt. After that please adjust and check it every 50 hours.

Adjustment method of V-belt Tension :

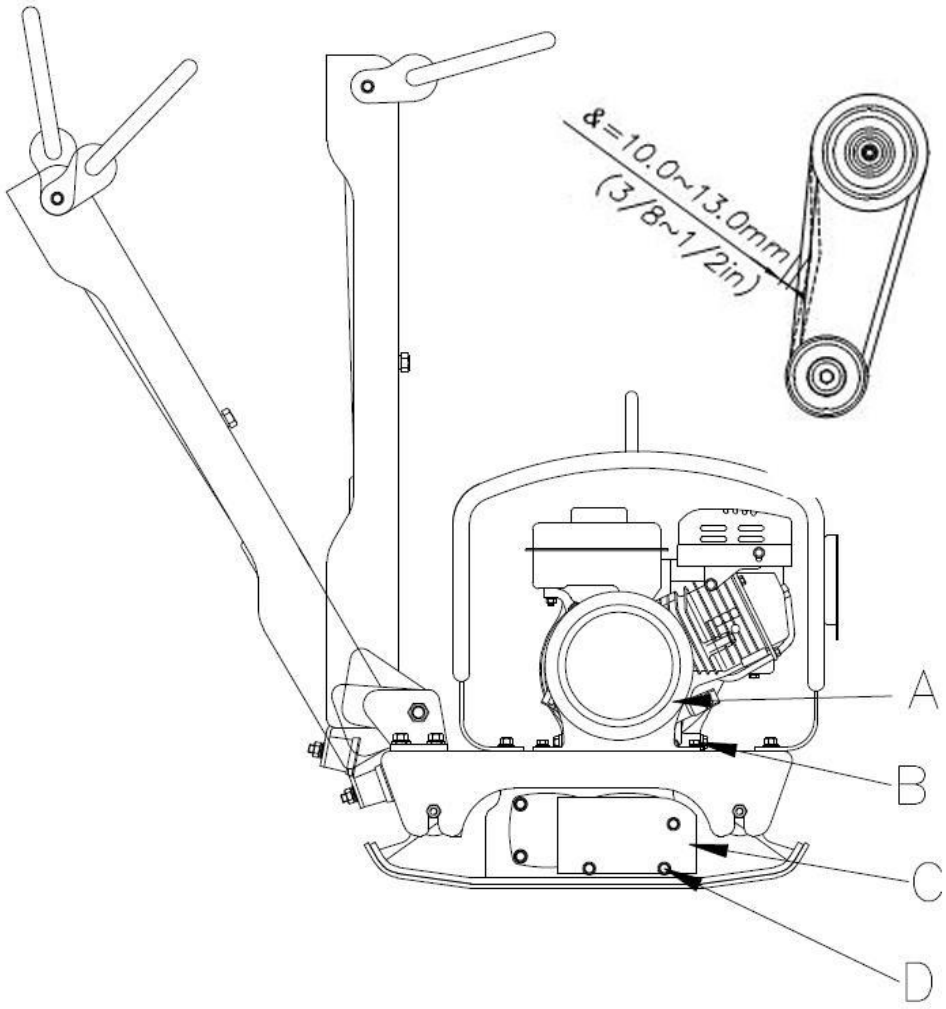
6.2.1 Please unscrew the bolt (a, d) which fasten the upper and lower belt cover and disassemble the belt cover.

6.2.2 The V-belt tension should be proper. Please make sure if the V-belt bends (δ) 10 to 13mm (3/8 ~ 1/2in) when depressed with finger at midway between the clutch and vibration pulley.

6.2.3 If the V-belt becomes worn or loose, Replace it by using the new V-belt, It can be causing weak compaction and wear of the belt.

6.2.4 Please check it if the clutch pulley and the vibrator pulley stand in line. Please move the engine for the two pulleys to be parallel in condition of placing a straight line ruler on vibrator pulley. You can use your eye or other instruments in stead of a straight line ruler.

6.2.5 Please assemble all the bolts and nuts by reverse order.



(FIG. 05)

DO THE HYDRAULIC OIL REPLACEMENT AS FOLLOWS

6.3 HYDRAULIC CONTROL OIL (FIG. 07)

WARNING

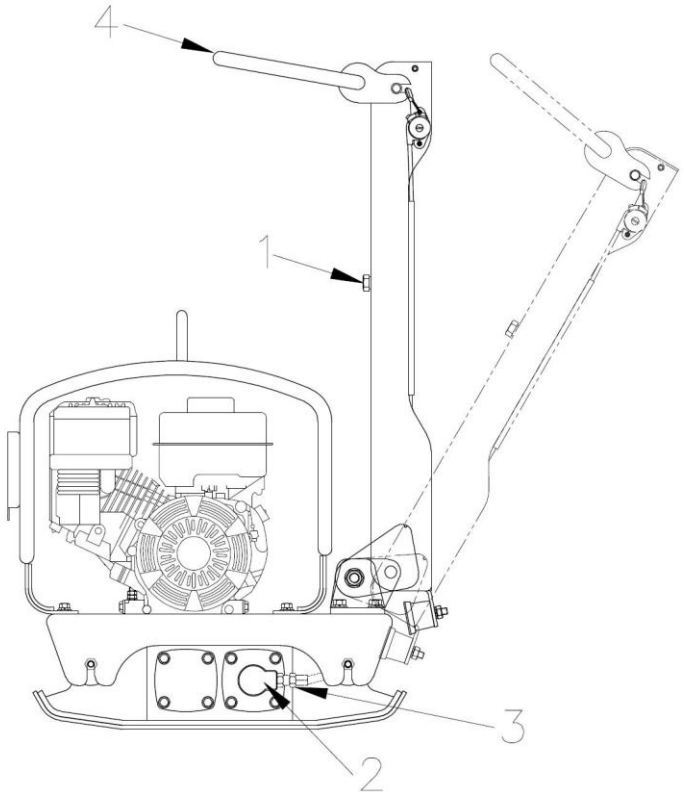
Please check if the operating oil in the hand pump is at the normal oil level.

Don't pour too much oil into it. If you overfill, oil may overflow through the Air Breather Plug(2) on the top of tank.

Please check the operating oil every 100hours. Please make sure oil level through the inspection hole on the rear cover of hand pump.

DO THE HYDRAULIC OIL DRAIN AS FOLLOWS

① Remove the breather Cap(1) of the handle bar
② Disassemble the oil pressure hose(3) completely on the side of the Vibrator Cylinder(2)
③ You can drain the oil by moving the Travel Handle(4) forward and backward several times.
④ After Draining, connect the oil pressure hose(3) again to the Vibrator Cylinder(2).



(FIG. 07)

POUR HYDRAULIC OIL INTO THE OIL TANK AS FOLLOWS

Please fill the oil(maximum 400cc) through the Breather Hole of the hand pump. Use **Shell Tellus Oil #68 or equivalent oil**.

① Fill the oil through the breather hole on Handle Bar
② Fill the oil by operating the handle lever(4) several times.

Do the removal of air and filling of oil by operating the travel lever(4) several times. .
Oil goes down and air comes up by a difference of specific gravity.
You can see the actual state of things on the rear of hand pump.

BLEEDING HYDRAULIC SYSTEM

Bleed hydraulic system completely when refill or exchange the hydraulic oil. If air still remains, forward or reverse moving could be irregular, Do not pull travel lever strongly backward while the machine is not operating.

③ Bleed hydraulic oil system by pumping the travel lever(4) several times until air in hydraulic oil disappears and feels resistance of travel lever.
④ Do the filling oil and air removal continuously by using the travel lever(4) until the air doesn't come up any more.
⑧ Please fill the hydraulic oil until it reach the arrow position of the oil level sticker on the oil tank. Handle bar should be working position at this time.
⑨ Please assemble the Air Breather Plug (1) again.

If you refill the hydraulic oil, open the air breather plug(1) and refill hydraulic oil, then bleed hydraulic system by pumping with travel lever.

Hand Pump Oil	Oil grade	**Shell Tellus Oil #68** or Equivalent
	Quantity ml(oz.)	**250(8)**

6.4 Compactor Cleaning

Please clean the compactor after removing the garbage like mud, stones, dust etc. on the lower part of engine console. If the compactor has been used on a site with a lot of dust, please check the dust piled up on the cooling pin of engine sylinder. You should keep the engine cylinder pin clean to prevent overheating of the engine.

6.5 Lifting

Please refer to the Technical Data for machinery weight

Method of manual lifting:

6.11.1 Stop the engine

6.11.2 Prepare the lifting of the machine with the help of partner.

To avoid the risk of fire or burning, cool down the engine before moving or storing the machine. Turn the fuel valve to the closed position and keep the engine level to prevent fuel leaking.

6.11.3 Grasp the machine with the lifting handle (the bar attached in the lower part of the engine frame)

6.11.4 Lift the machine like the picture
Please put your feet on level ground and keep your legs by shoulder width to prevent injuring your back. Raise your head and set your back straight.

Method of mechanical lifting:

Please check if the lifting equipment is capable of the machinery's weight. Please refer to Technical Data for machinery weight

6.6.5 Attach the cable, harness, and hook on the machine as the picture and lift using the safest method possible.

Do not lift the machine by the guide handle. The handle can move and fall apart.

6.7 Trouble and Measures

1) PLATE COMPACTOR TROUBLESHOOTING

Problem/Phenomenon	Presumptive Cause	Measures
Travel Lever No movement or hard switching	Blocking pressure existing	Do not pull travel lever backward while machine is not operating It's correct. Only pull travel lever while working.
	Air existence in oil pressure system	Bleed hydraulic oil by pumping with travel lever.
Slow Travel Speed and weak vibration	Slow engine speed	Re setting the engine RPM appropriately
	Clutch slip	Clutch checking & exchange

	V-belt slip	V-belt checking & exchange
	Over filling of vibrator oil	Additional oil draining or keeping appropriate level
	Vibrator housing defect	Checking of eccentric Vibrator, gear, counterweight checking
Forward or reverse is possible but direction switching is impossible.	Travel Lever related parts defect	Checking of all direction switch related parts
	Reverse lever defect	Adjustment and repair of reverse lever
	Oil pressure hose cutting	Oil pressure hose repair or replacement
	Air existence in the reverse oil pressure system	Air removal of oil pressure system
	Foreign substance in the piston of hand pump	Check the piston of hand pump or replacement
	Piston or bearing defect in cylinder(vibrator)	If wear, replacement of piston or bearing in cylinder
No Forward or backward moving	V-belt slip	V-belt exchange
	Clutch slip	Clutch spring, Shoes checking
	Vibrator lock	Checking of vibrator housing(eccentric vibrator, gear, counterweight)
	Piston or bearing defect in cylinder	If wear, replacement of piston or bearing in cylinder
Too much resistance when Travel Lever works	Air existence in oil pressure line	Air removal in oil pressure line
	Piston or bearing in cylinder defect	If wear, replacement of piston or bearing in cylinder
Slow Travel Speed	Mud or alien substance in lower plate	Cleaning of mud or alien substance from lower plate

2) ENGINE TROUBLESHOOTING

Problem/Phenomenon	Presumptive Cause	Measures
No starting engine	Run out of fuel	Fill up the fuel
	Closing of fuel Shut-Off v/v	Open it
	Blocking of air filter	Cleaning of air filter
	Stop Button defect	repair
	Recoil Starter defect	repair
	Oil alarm sensor defect	Filling engine oil(applicable to only the engine with above sensor)
Suitable pressure, weak power, normal ignition	Contamination of air cleaner	Air cleaner cleaning or replacement
	Carburetor incongruity level	Floater adjustment checking, Carburetor re-installment
	Spark plug defect	Cleaning or replacement

Suitable Pressure, weak power, Bad Ignition	Fuel system problem	Fuel installation cleaning, replacement to appropriate type of fuel
	Dirty spark plug	Cleaning or replacement
	Ignition coil defect	Replacement of ignition coil
Engine overheat	Inappropriate spark plug Heat value.	Replacement to appropriate spark plug
	Inappropriate fuel type	Exchange to appropriate fuel
	Dirty cooling pin	Cooling pin cleaning

7. WARRANTY POLICY

7.1 Warranty policy for the products is shown on the following table.

7.2 NorthernTool shall supply all necessary parts for the replacement or repair at free, when it can be proved that the main problems are derived from basic parts defect, a manufacturing defect or parts defect. NORTHERNTOOL is not responsible for the user's misuse or negligence of our products.

7.3 The products are under specific private brand name according to the Buyer's requirements and are treated in the same manner.

7.4 However, any defect caused by normal wear and tear, misuse, improper maintenance, alterations and repairs with non-confirming parts or unauthorized person and negligence to read manual before the operation shall not be covered by the Warranty

7.5 Warranty period

Products	Warranty Period
1. Concrete Vibrator 2. Handy Vibrator 3. Portable Engine Vibrator 4. Submersible Pump 5. High Cycle Eccentric Vibrator	6 (six) months under normal operation from the date of shipment from Korea, or 150(One hundred & fifty) days from your date of sale(or purchase) to the 3rd party, which ever comes first
5. Plate Compactor(Reversible) 6. Power Trowel 7. Concrete Cutter 8. Electric Motor 9. Vibration Motor 10.Turn Table (Chassis)	12 (twelve) months under normal operation from the date of shipment from Korea, or 330(Three hundred & thirty) days from the date of sale(or purchase) to the 3rd party, which ever comes first
Engine	Refer to Engine Manual

7.6 Claim report

Please send us the claim report mentioned as followings.

7.6.1 Date of arrival & sale
7.6.2 Occurrence date
7.6.3 Description of defect
7.6.4 Quantity of defect
7.6.5 Exact picture or data of defect
7.6.6 Suspected reason of defect
7.6.7 Prevention measure
7.6.8 Others

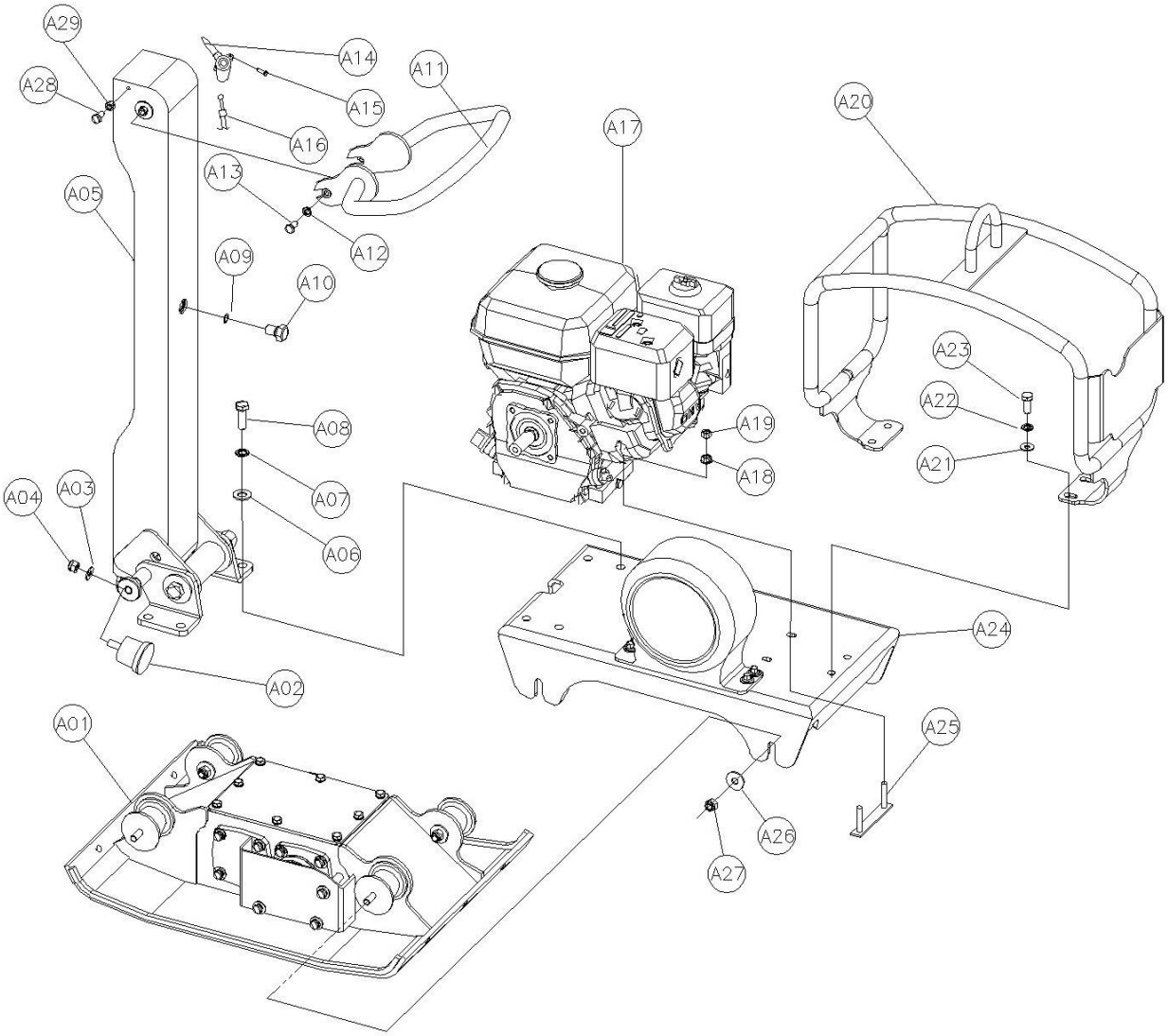
PARTS BOOK

FOR

REVERSIBLE COMPACTOR

MODEL: JPC-940R

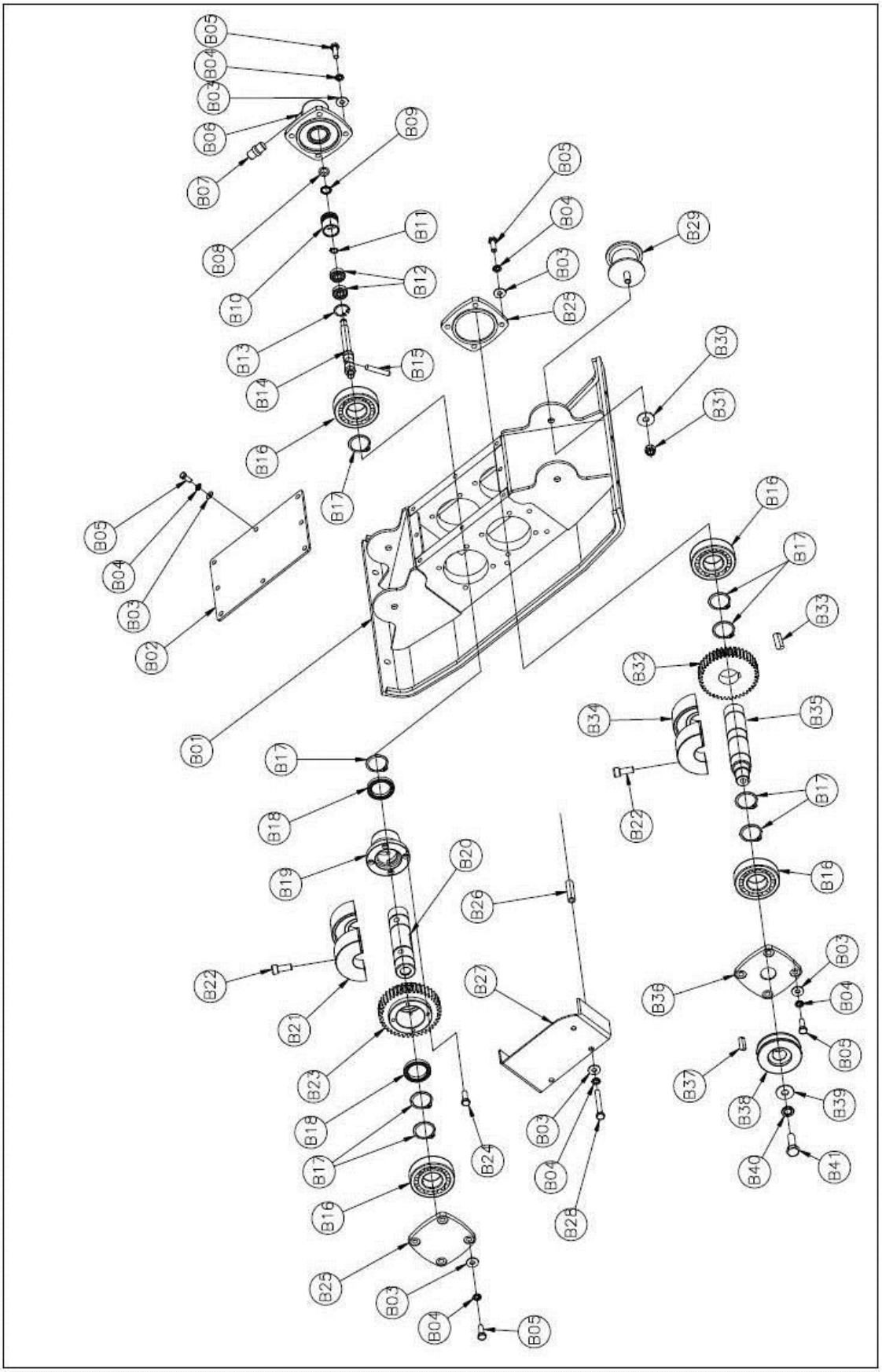
1. Reversible Plate Compactor Assembly



PART LIST (**Reversible Plate Compactor Ass'y**)

REF.	PART NO.	DESCRIPTION	Q'TY	REMAKES
A01	PM040-000	Vibratory Plate Assembly	1	JPC-940R
A02	PA130-002	Shock Absorber	1	
A03	QWS-PM10	Plain Washer	1	M10
A04	QNT-NM10	Lock Nut	1	M10
A05	PL070-000	Handle Bar	1	
A06	QWS-PM12	Plain Washer	4	M12(10.9T)
A07	QWS-SM12	Spring Washer	4	M12(10.9T)
A08	QBL-HM12X35	Bolt	4	M12x35L(10.9T)
A09	QOR-P14	O-Ring	1	P14
A10	PL080-007	Oil Cap Bolt	1	
A11	PL060-000	Handle Ass'y	1	
A12	QWS-SM8	Spring Washer	2	M8(10.9T)
A13	QBL-HM8X20	Bolt	2	M8x20L
A14	QTL-02	Throttle Lever	1	Magura Lever
A15	QBL-FHM6X10	Flat Head Bolt	2	M6x10L
A16	QTC-S1500	Throttle Cable	1	1500L
A17	GX160-S	Engine	1	S type
A18	QNT-FM8	Flange Nut	4	M8
A19	QNT-M8	Nut	4	M8
A20	PL030-000	Frame	1	
A21	QWS-PM10	Plain Washer	4	M10(10.9T)
A22	QWS-SM10	Spring Washer	4	M10(10.9T)
A23	QBL-HM10X35	Bolt	4	M10x35L
A24	PL020-000	Engine Base Plate Assembly	1	
A25	PL020-002	Engine Mount Bolt	2	
A26	QWS-PM10	Plain Washer	4	M10 Ø30
A27	QNT-NM10	Lylon Nut	4	M10
A28	QBL-BHCM6*15	S, Button Head Cap Bolt	1	M6*15
A29	QNT-M6	Nut	1	M6

2. Vibratory Plate Assembly

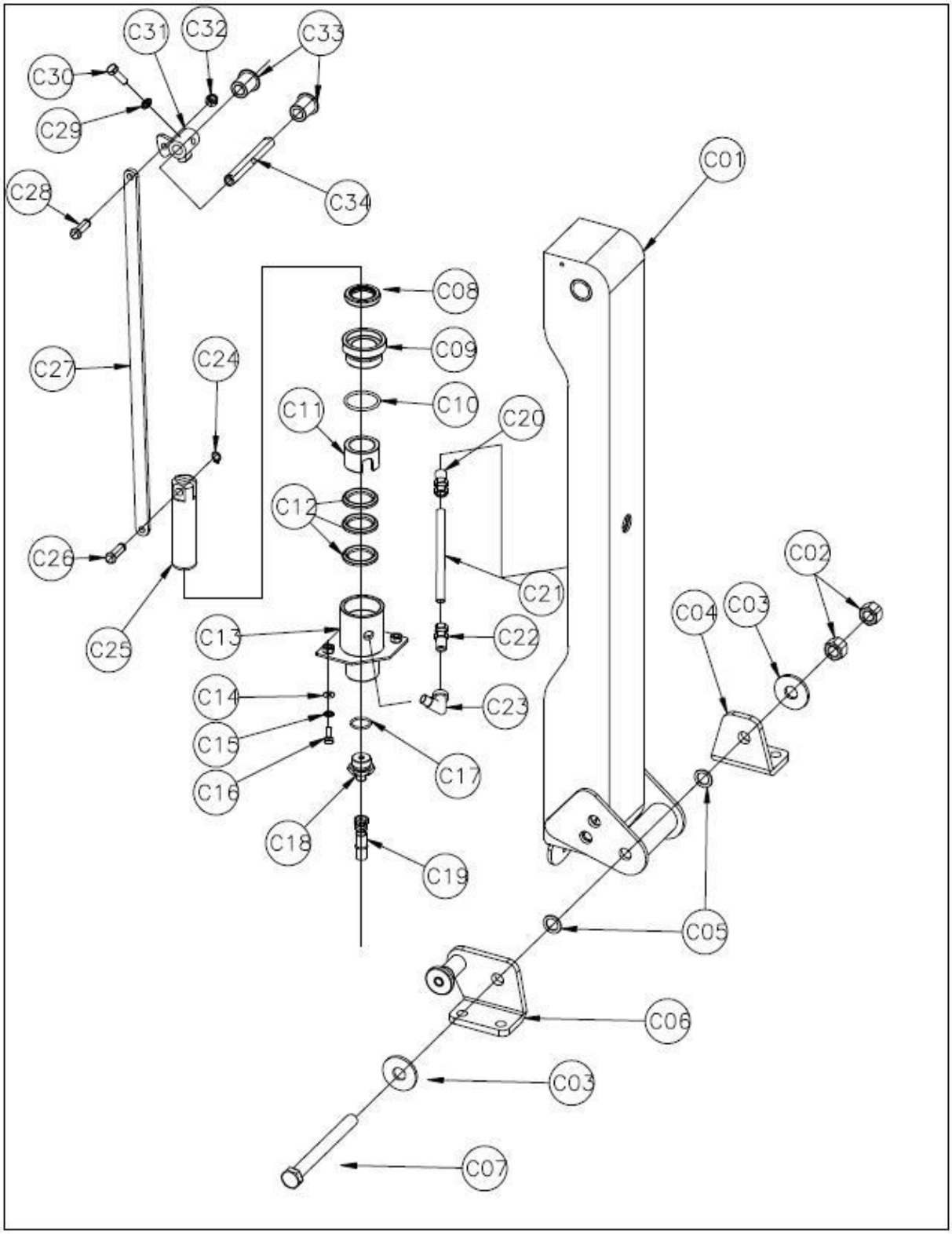


PART LIST (**Vibratory Plate Ass'y**)

REF.	PART NO.	DESCRIPTION	Q'TY	REMAKES
B01	PL010-000	Vibratory Plate	1	
B02	PL040-002	Top Cover	1	
B03	QWS-PM8	Plain Washer	27	M8 (10.9T)
B04	QWS-SM8	Spring Washer	27	M8(10.9T)
B05	QBL-HM8X25	Bolt	24	M8x25L(10.9T)
B06	PL040-011	Vibrator Cylinder Cover	1	
B07	QFU-PT,PF 1/4	Hydraulic Nipple (Flare Union)	1	PT-PF1/4, 5type
B08	QUP-22.4X30X5	U-Packing	1	Viton-24
B09	QOR-P24	O-Ring	1	P24
B10	PG040-003	Piston	1	
B11	QSR-S10	Snap Ring	1	S10
B12	QBR-7000	Bearing	1	7000
B13	QSR-R26	Snap Ring	1	R26
B14	PG040-006	Piston Rod	1	
B15	PG040-008	Counter Eccentric Pin	1	
B16	QBR-NJ307	Bearing	4	NJ307
B17	QSR-S35	Snap Ring	8	S35
B18	QBR-6807	Bearing	2	6807
B19	PG040-007	Cam Ring	1	
B20	PL040-004	Counter Eccentric Shaft	1	
B21	PL040-005	Eccentric Weight	2	
B22	QBL-LM10X25H	Socket Bolt	4	M10x25L
B23	PG090-010	Counter Eccentric Shaft Gear	1	
B24	QBL-LM6X15	Bolt	4	M6x15L
B25	PL040-012	Vibratory Side Plate Cover 01	2	
B26	PL120-003	Busing	3	
B27	PL120-002	Pulley Cover	1	
B28	QBL-M8X65	Bolt	3	M8x65L
B29	PB130-002	Shock Absorber	4	
B30	QWS-PM10	Plain Washer	4	M10 (Ø30)
B31	QNT-NM10	Lock Nut	4	M10
B32	PL040-009	Vibrator Eccentric Shaft Gear	1	
B33	QKY-8X10X19	Key	1	8x10x19L
B34	PM040-004	Eccentric Weight	2	JPC-940R

B35	PL040-001	Vibrator Eccentric Shaft	1	
B36	PL040-014	Vibratory Side Seal Cover	1	
B37	QKY-7X7X23	Key	1	7x7x23L
B38	PL040-013	Pulley	1	
B39	QWS-PM10	Plain Washer	1	M10 (Ø30)
B40	QWS-SM10	Spring Washer	1	M10 (10.9T)
B41	QBL-M10X25	Bolt	1	M10x25L

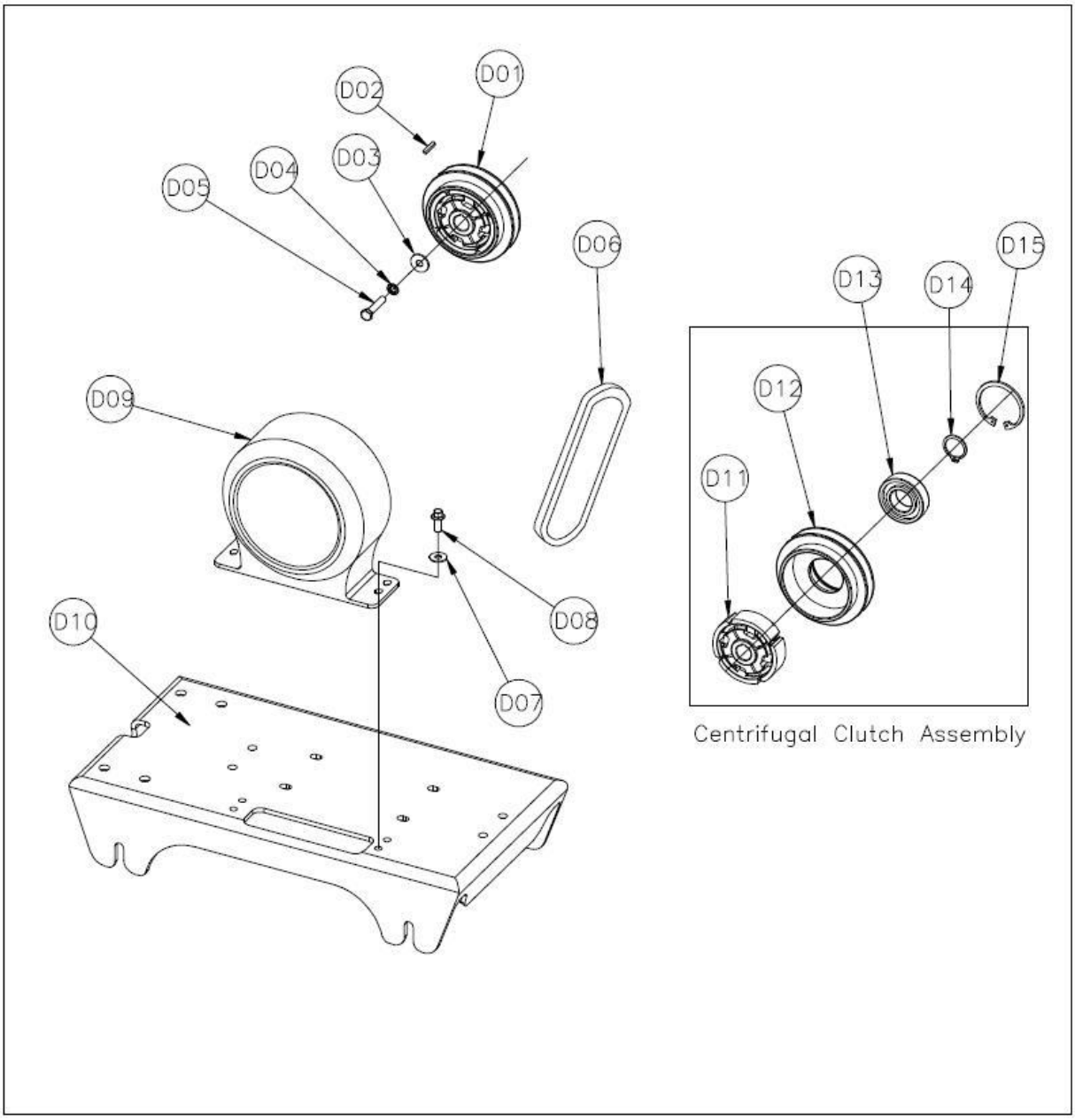
3. Handle Bar Ass'y



PART LIST (**Handle Bar Ass'y (JPC-940R)**

REF.	PART NO.	DESCRIPTION	Q'TY	REMAKES
C01	PL071-000	Handle Bar Ass'y	1	
C02	QNT-M16	Nut	2	M16 (10.9T)
C03	QWS-PM16	Plain Washer	2	M16 (10.9T)
C04	PL050-002	Handle Bar Bracket(R)	1	
C05	QCWS-SM16	Conical Spring Washer	2	M16
C06	PL050-000	Handle Bar Bracket(L)	1	
C07	QBL-M16X180H	Bolt	1	M16x180L
C08	QOS-45X32X8	Oil Seal	1	Ø45XØ32X8t
C09	PL080-005	Cylinder Head	1	
C10	QOR-P40	O-Ring	1	P40
C11	PL080-006	Spacer	1	
C12	QVP-45X32X3	V-Packing	3	Ø45XØ32X3.2t
C13	PG081-000	Cylinder Pipe Ass'y	1	
C14	QWS-PM8	Plain Washer	3	M8 (10.9T)
C15	QWS-SM8	Spring Washer	3	M8 (10.9T)
C16	QBL-M8X25H	Bolt	3	M8x25L (10.9T)
C18	QFU-PT,PF 1/4	Hydraulic Nipple (Flare Union)	1	PT-PF 1/4, 5type
C19	QHH-450	Hydraulic Hose	1	450L
C20	QIF-PT1/4	Insert Fitting	1	PT1/4
C21	QPT-8X5X130	Polyurethane Tube	1	Ø8XØ5X130L
C22	QIF-PT1/4	Insert Fitting	1	PT1/4
C23	QSE-PT1/4	Service Elbow(90°)	1	PT1/4 90°
C24	QSR-S10	Snap Ring	1	S10
C25	PL080-001	Plunger	1	
C26	PL080-008	Cylinder Pin	1	
C27	PL080-002	Joint Plate	1	
C28	QBL-M10X15	Bolt	1	M10X15L
C29	QWS-SM8	Spring Washer	1	M8 (10.9T)
C30	QBL-M8X25H	Bolt	1	M8x25L (10.9T)
C31	PG082-000	Handle Cam	1	
C32	QNT-NM10	Lock Nut	1	M10
C33	PL080-003	Handle Bush	2	
C34	PL080-004	Handle Shaft	1	
C01	PL071-000	Handle Bar Ass'y	1	

4. Engine Base Plate Ass'y



PART LIST (**Engine Base Plate Ass'y (JPC-940R)**)

REF.	PART NO.	DESCRIPTION	Q'TY	REMAKES
D01	PL100-000	Centrifugal Clutch Assembly	1	
D02	QKY-5X5X50	Key	1	5x5x50L
D03	QWS-PM8	Plain Washer	1	M8 (Ø35)
D04	QWS-SM8	Spring Washer	1	M8 (10.9T)
D05	QBL-M8X40	Bolt	1	M8x40L
D06	QBT-A28	V-Belt	1	A28
D07	QWS-PM8	Plain Washer	1	M8
D08	QBL-FM8X25	Flange Bolt	1	M8x25L
D09	PL120-001	Belt Cover	1	
D10	PL020-000	Engine Base Plate	1	
D11	PA080-001	Clutch Shoe	1	
D12	PL100-001	Clutch Pulley	1	
D13	QBR-6206ZZ	Bearing	1	6206zz
D14	QSR-S28	Snap Ring	1	S28
D15	QSR-R62	Snap Ring	1	R62