

# REVERSIBLE HYDRAULIC COMPACTORS

BR1570, BR2750, BR3570, BR4600, BR5100 OWNER'S MANUAL





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# ORIGINAL LANGUAGE OPERATING MANUAL FOR BARTELL REVERSIBLE HYDRAULIC COMPACTORS

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REV.	DATE	DESCRIPTION	APPROVED BY:
00	07/2017	Initial Family Manual Release	AN
01	07/2018	Recommended Oil for the Hydraulic System Added	AN
02	12/2018	Diesel models added, Start/Stop Procedure and spec sheets updated	AN



SAFETY PRECAUTIONS					
	DANGER EXPLOSION HAZARD  Never operate the machine in an explosive atmosphere, near combustible materials, or where ventilation does not clear exhaust fumes.				
The district Line	WARNING BURN HAZARD  Never come into contact with the engine or muffler when engine is operating or shortly after it is turned off. Serious burns may occur.				
	CAUTION  MACHINE DAMAGE  Never operate on hard, unyielding surfaces.  Unwarranted damage may result.				
	CAUTION  MOVING PARTS  Before starting the machine, ensure that all guards and safety devices are in place and functioning properly.				
	ATTENTION READ OWNER'S MANUAL Read and understand owner's manual before using this machine. Failure to follow operating instructions could result in serious injury or death.				



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# **QUALITY ASSURANCE/ MACHINE BREAK IN**

The Bartell Vibratory Plate Compactor is the product of extensive engineering development designed to give long life and unmatched performance. The Compactors are shipped completely assembled with the exception of attaching the handle, and only require filling with fuel and a brief check of lubricant levels in preparation for operation. The exciter housing is pre-serviced with oil at factory.

You can help ensure that your Vibratory Plate Compactor will perform at top levels by observing a simple routing on first use. Consider that your new Compactor is like a new car. Just as you would break in a new car to the road or any new machine to the job, you should start gradually and build up to full use. Learn what your machine can do and how it will respond. Refer to the engine manufacturer's manual for run-in times. Full throttle and control may be used after this time period, as allowed by material. This will serve to further break in the machine on your specific application, as well as provide you with additional practice using the machine.

We thank you for the confidence you have placed in us by purchasing a Bartell Vibratory Plate Compactor and wish you many years of satisfied use.



# WARRANTY INFORMATION

Bartell agrees to furnish without charge, F.O.B. our plant, a replacement for any part or portion thereof, comprising the main unit of the Bartell Vibratory Plate Compactor, consisting of the exciter housing assembly, save and except drive belts, and power units, prove upon our examination, to be defective in either material or workmanship within a period of twelve (12) months from date of purchase, provided that notice of such defective part or portion thereof is given to Bartell Ltd. within the twelve month warranty period. No further or other guarantee or warranty expressed or implied in connection with the sale of the Compactor is given and our sole liability consists in replacing defective parts or portions thereof. We shall not be responsible for any special, indirect or consequential damages arising in any manner whatsoever.

This guarantee is for the sole benefit of the original purchaser as end user. Our responsibility under this guarantee ends in the case the original purchaser transfers ownership of the Vibratory Plate Compactor, makes any changes or adds any parts or devices not of our manufacture to the Compactor machine.



# **SPECIFICATIONS**

	BR1570	BR2750	BR3570	BR4600	BR5100
Dimensions					
Overall Length, mm (in)	886 (35")	1130 (45")	1340 (53")	1570 (62")	1610 (64")
Overall Width, mm (in)	350 (14")	430 (17")	450 (18")	485 (19")	500 (20")
Overall Height, mm (in)	880 (35")	920 (36")	960 (38")	930 (37")	930 (37")
Plate Size (WxL), mm (in)	350x480 (14"x19")	700x430 (17"x29")	450x700 (18"x28")	485x860 (19"x34")	500x900 (20"x36")
Weight					
Net Weight, kg (lb)	80 (177)	160 (353)	240 (529)	350 (772) / 372 (820)	450 (992) / 470 (1036)
Operating Weight, kg (lb)	85 (187.2)	168 (370)	250 (551)	360 (794) / 377 (830)	460 (1014) / 475 (1047)
Performance					
Travelling Speed,	Forward: 0-25 (0-82)	Forward: 0-25 (0-82)	Forward: 0-25 (0-82)	Forward: 0-23 (0-75)	Forward: 0-23 (0-75)
m/min (ft/min)	Backward: 0-25 (0-82)	Backward: 0-25 (0-82)	Backward: 0-25 (0-82)	Backward: 0-23 (0-75)	Backward: 0-23 (0-75)
Vibrating Frequency, Hz (vpm)	100 (6000)	90 (5400)	87 (5200)	73 (4400)	73 (4400)
Centrifugal Force, lbF [kN (kgf)]	3461 [15(1570)]	6063 [27(2750)]	7868 [35(3570)]	10141 [45(4600)]	11244 [50 (5100)]
Water Tank Capacity gal (L)	4 (15)	4 (15)	4 (15)	-	-
Power Source					
Manufacturer	Honda	Honda	Honda	Honda / Yanmar	Subaru / Yanmar
Model	GX160	GX200	GX270	GX390 / L100W	EX40 / L100W
Max. Output	4.8(3.6)	5.5(4.1)	8.5(6.3)	11.7(8.7) / 9.3(6.9)	12(8.94) / 9.3(6.9)
@RPM	3600	3600	3600	3600	3600
Fuel Tank Capacity qt. (L)	3.3(3.1)	3.3(3.1)	5.6(5.3)	5.6(5.3) / 5.7(5.4)	6.4(6.1) / 5.7(5.4)
Starting System	Recoil	Recoil	Recoil	Recoil	Recoil/Electric
Options	-	-	Extension Plate	Extension Plate	Extension Plate



# PREVENTATIVE MAINTENANCE AND ROUTINE SERVICE PLAN

This Bartell Vibratory Plate Compactor has been assembled with care and will provide years of service. Preventative maintenance and routine service are essential to the long life of your Compactor Machine. Your dealer is interested in your new machine and has the desire to help you get the most value from it. After reading through this manual thoroughly, you will find that you can do some of the regular maintenance yourself. However, when in need of parts or major service be sure to see your Bartell dealer. For your convenience, we have provided this space to record relevant data about your Vibratory Plate Compactor. When in need of parts or service be prepared to provide your Compactor serial number. Locate the serial number now and record in the space below.

Date Purchased:	Type of Machine:
Dealer Name:	Model:
Dealer Phone:	Serial Number:

Replacement Parts Used				Maintena	Maintenance Log:		
Part No.	Quantity	Cost	Date	Date	Operation		



# **ROUTINE SERVICE SCHEDULE**

Routine Service Intervals		Each Use	After 1.5 months or 50 hrs	Each 3 months or 100 hrs	Each 6 months or 200 hrs	Each 9 months or 300 hrs	Each 12 months or 400 hrs
General In	spection						
Guards	Check		0	0	0	0	0
Warning Stickers	Check		0	0	0	0	0
Test Run	Check Operation		0	0	0	0	0
Engi	ine						
Engine Oil	Check level	0					
	Change		0		0		0
Air Cleaner	Check-clean	0	O (1)				
	Replace			O (1)			
Sediment Cup	Clean			0	0	0	0
Spark Plug	Check-adjust			0	0		0
(if applicable)	Replace					0	
Idle Speed	Check-adjust					O (2)	
Valve Clearance	Check-adjust					O (2)	
Combustion	Clean	After every 500 Hrs. (2)					
Chamber							
Fuel Tank & Filter	Clean	Every 6 months or 100 Hrs. (2)					
Fuel Tube Check		Every 2 years (Replace if necessary) (2)					
Exciter							
Exciter Oil	Check level	0	0	0	0	0	0
	Change	0			0		0
Drive Belt	Check Tightness	0	0	0	0	0	0
	Change				0		0

<sup>(1)</sup> Service more frequently in dusty areas

<sup>(2)</sup> These items should be serviced by your servicing dealer, unless you have the proper tools and are mechanically proficient. Refer to the Engine shop manual for service procedures



#### **ROUTINE SERVICE INTERVALS**

Due to the nature and environment of use, plate compactors could be exposed to severe operating conditions. Some general maintenance guidelines will extend the useful life of your machine.

- The initial service for your compactor should be performed after 25 hours of use, at which time your mechanic (or authorized repair shop) should complete all of the recommended checks in the schedule above. The chart on page 7 (seven) is handy for keeping a record of the maintenance performed and the parts used for servicing your compactor.
- Regular service according to the schedule above will prolong the life of the plate compactor and prevent expensive repairs.
- Keeping your plate compactor clean and free from debris is the single most important regular maintenance operation, over and above the checks in the service schedule above, that can be performed. After each use your compactor should be cleaned to remove any dust and debris from the undercarriage and surrounding components. Use of a power washer will make clean up quick and easy, especially if a non-stick coating was applied prior to use.
- In the Service Schedule above, items that should be checked, replaced or adjusted are indicated by "o" in the appropriate column. Not all plate compactor models include the same features and options and as such not all service operations may have to be performed. For ease of recording, place a checkmark through the "o" when the item is complete. If an item is not required or not completed place an "x" through the "o" in the box.
- All compactors have governed engine speed of 3600 rpm. See engine
  manufacturer's manual for exact specifications. Care should be used when making
  any adjustments to the compactor not to change the governed speed. Running the
  engine at lower rpm's will result in a decrease of compaction force and lower travel
  speed. It will create excessive "out-of-synch" vibrations resulting in poor compaction,
  maneuverability, excessive wear to the machine, and discomfort to the operator.
- Failure to have your vibratory plate compactor regularly serviced and properly maintained in accordance with the manufacturer's instructions will lead to premature failure and void the warranty.



# **OPERATING SAFETY PRECAUTIONS**

Bartell plate compactors are equipped with safety guards in accordance with North American and International standards. The fully enclosed belt guard protects the operator from the main drive belt. The handle is equipped with independent vibration isolation from the motor plate, reducing operator discomfort and vibration related injuries.

**IMPORTANT:** NEVER attempt to disable or circumvent these safety devices. They are present for the operator's protection and any tampering will result in substantial risk to the operator and all present at the job site. If your compactor's safety devices have been tampered with, do not use the equipment. Immediately contact your sales representative to obtain replacement parts or return the compactor to your dealer for repairs.

The instructions provided in this manual are done so to ensure the operator's safety as well as that of others, the equipment, and the job site. Failure to follow these guidelines can lead to serious personal injury and even death. The operator and any service personnel should read and understand the entire manual before working with or servicing any Bartell Plate Compactor.

- The Bartell manual should be kept at all times in a place that is accessible to any
  persons working with the machine. Replacement manuals can be purchased from
  the equipment manufacturer or from your local dealer.
- Only use parts and attachments supplied or approved by your Bartell equipment manufacturer. The consequences of modifying the design of this equipment can include personal injury, equipment failure, and voiding your warranty. If you are unsure about a repair or an apparent malfunction, contact your Bartell Morrison dealer or the phone contacts at the beginning and end of this manual.
- Technical service bulletins, user's manual updates, and other information are
  posted on the Bartell website: http://www.bartellglobal.com. Check this website
  periodically for updates or other potentially useful information about your
  equipment.
- NEVER use a Bartell Plate Compactor in an enclosed space with poor air flow, such as a basement or small room. The gasoline engine produces, among other things, toxic carbon monoxide gas. Without proper ventilation, this gas will build up and cause health effects such as organ damage and death to anyone in the vicinity.
- The Compactor operator should always be lucid and aware of his/her surroundings. NEVER operate the Compactor while under the influence of drugs, alcohol, fatigue, sickness, hangover, extreme depression, emotional distraction, or medications/substances that may affect motor skills or judgment.
- ALWAYS wear the appropriate personal protective equipment (PPE) while operating a Bartell Plate Compactor. This includes (but is not limited to) safety glasses, hearing protection, protective footwear, and heavy or padded gloves. Other safety gear may be jobsite appropriate.
- NEVER leave the equipment unattended while running.



- ALWAYS ensure that the operators have been properly trained prior to using the equipment.
- Children and small animals should NEVER be present in the work area during operation of a Bartell Plate Compactor.
- ALWAYS check your Bartell Plate Compactor for loose or missing nuts and bolts before starting. Tighten any loose fasteners and replace missing or broken parts.
- Perform all routine maintenance as described within this manual. Failure to do so will void your warranty and will eventually result in premature equipment failure.
- NEVER perform maintenance on a running piece of equipment. Shut down the engine and allow it to cool before servicing a Bartell Plate Compactor, including mechanical work or lubrication.
- ALWAYS replace missing, damaged or unclear safety labels to ensure operator awareness and safety.
- NEVER operate a Bartell Plate Compactor with missing or damaged safety guards. Replace immediately with appropriate parts.
- NEVER put hands, feet, or other appendages (even while wearing protective clothing) inside the belt guard or between the plate and bridge while the engine is running, even at idle, as serious injury may result.
- NEVER wear loose fitting clothing or jewelry around rotating equipment as it may become entangled in the machinery, resulting in serious injury.
- NEVER fuel a Bartell Plate Compactor while the engine is running. Ensure the engine has cooled sufficiently before refueling to avoid igniting gasoline fumes.
- ALWAYS refuel a Bartell Plate Compactor in a well-ventilated area, away from ignition sources such as sparks, flames, and lit cigarettes. Smoking while fueling the equipment may result in explosion.
- NEVER operate a Bartell Plate Compactor in explosive environments such as those where paint fumes, methane, natural gas, fine particulate, aerosol propellant, or solvent fumes are present.
- NEVER smoke near a Bartell Plate Compactor as stray gasoline fumes may ignite. Operating a Bartell Plate Compactor around an open flame may also result in explosion
- ALWAYS shut down the engine and allow it to cool before lifting or transporting a Bartell Plate Compactor.
- ALWAYS tie down a Bartell Plate Compactor when being transported in a truck or on a flatbed. Empty the fuel tank if transporting over long distances.
- NEVER attempt to lift a Bartell Plate Compactor alone, always lift with a mechanical aid.



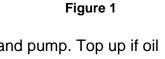
# **OPERATION INSTRUCTIONS**

#### SETTING UP YOUR PLATE COMPACTOR

Your Bartell Plate Compactor can come fully assembled with the handle and engine already installed. If the handle has been removed for shipping, it must be reinstalled before the equipment can be used. Assemble the handle using the included rubber vibration dampers. washers and bolts. Attach the throttle cable to the engine throttle and test the motion of the engine's throttle lever with the motion of the throttle control on the handle. Bartell equipment may be shipped without engine oil or gasoline, so check and fill these fluids per your engine's instruction manual before proceeding. When starting an engine for the first time, or after a long period of storage, several pulls may be required before the engine runs. NEVER attempt to add fuel or oil to the engine while it is running. Shut down the engine and allow it to cool before opening the fuel cap for refueling. NEVER smoke while handling gasoline. If gasoline is spilled anywhere on or around the equipment wipe it up and allow the fumes to clear before starting the engine.

#### PRIOR TO OPERATION

- 1. Make sure that all dirt, mud, etc., are thoroughly removed from the unit prior to operation. Special effort should be given to the bottom face of the vibrating plate and those areas adjacent to the cooling air inlet of engine, carburetor, and air cleaner.
- 2. Check all bolts and screws for tightness and make sure all bolts and screws are securely tightened. Loose bolts and screws may cause damage to the unit.
- 3. Check the V-belt for tightness. The normal slack should be approximately 10-15mm (1/2") when the belts are forcibly depressed in the middle position between the two sheaves. If there is excess belt play, there could be a decrease in the impact force or erratic vibration, causing machine damage.
- 4. Check the engine oil level and if the engine oil level is low, it should be refilled. Use the proper motor oil as suggested by the engine manufacturer.
- 5. Remove the oil plug in the exciter base and check the oil level. Make sure the compactor is level when checking. The oil level should be up to the oil plug. Every month or every 200 hours of operation replace the oil. (Fig.1)



Effective

6. Check hydraulic oil level by removing fuel plug at the top of the handle. Oil should be level with the oil level line on back of the hand pump. Top up if oil level is low. See chart below for recommended oil.

**IMPORTANT:** When changing the oil, the old oil can be drained by tipping the unit. The oil will drain easily while it is hot. A regular grade gasoline should be used in the engine. When filling the fuel tank, make sure the fuel filter is used.

Season	Temperature	Exciter Oil	Hydraulic Oil
Summer	25C or higher	SAE #30	AW 32
Spring/ Fall	10C- 25C	SAE #20, #30	AW 32
Winter	0C-10C	SAE#10	AW 32



#### **OPERATION**

## Operating Principle

Two eccentric weights mounted on respective exciter shafts contained within the exciter housing is driven at high speed by a clutch and belt drive system. This high-speed shaft revolution causes the rapid lifting and downward ramming motion of the machine as well as imparting a forward motion. As the direction control handle is moved upwards, hydraulic fluid inside the handle head rotates one eccentric weight from 0° to 180° on its shaft which imparts a gradual stop to reverse motion. The plate compactor is designed to run at an engine speed (engine take off shaft) of 3600 rpm. (Normally considered full throttle). Running the engine at lower rpm's will result in a decrease of compaction force and lower travel speed. It will create excessive "out-of-synch" vibrations resulting in poor compaction, maneuverability, excessive wear to the machine, and discomfort to the operator.

#### Starting Procedure Gas Models- WARM CLIMATE

Open fuel valve on gas tank. Set throttle lever to "Fast" idle position, set choke to closed position, and start engine. Open choke slightly to prevent flooding. Move to "Open" or "Run" position when engine is warm, increase throttle to maximum operation position (3600 rpm).

## Starting Procedure Diesel Models- WARM CLIMATE

Set the throttle lever to START position (open by about 30 degrees).

- A) If using self-starter, insert key into the starter switch and turn the key clockwise to the start mark until the engine starts and then release the key.
- B) If using recoil start, flip decompress switch located on top of engine (accessible through gas flap). Pull starter rope quickly and the engine will start. Return the pulled rope to original position and release. When engine is warm, increase throttle to maximum operation position (3600 rpm).

Governor lever

Move governor lever slightly in the the direction of arrow

Governor lever

Figure 2

#### Starting Procedure- COLD CLIMATE

Follow same procedure as above but allow longer warm-up period – 3 to 5 minutes. In cold weather, oil is much heavier to move and requires more time to work its way into the moving parts. If maximum power is not attained, allow further warm-up time.

Fill fuel tank with clean and appropriate fuel, use safety approved fuel containers. Gas models: DO NOT MIX OIL WITH GASOLINE – USE UNLEADED GAS ONLY.

Diesel Models: USE DIESEL ONLY!

# Stopping Procedure Gas Models

- 1. Throttle engine down. Let idle for 2-4 minutes
- 2. Depress or turn off stop switch.

## Stopping Procedure Diesel Models

- 1. Throttle engine down (Leave throttle lever open at 30 degrees). Let idle for 2-4 minutes
- 2. Turn key to off position or fully close throttle and turn the key to off position.

**IMPORTANT:** Battery light, on key switch, stays on when key is in run position. Ensure key is in off position when engine is not running to avoid draining the battery

Reverse

Neutral



#### **OPERATION**

- Opening the governor lever sharply causes the compactor to start working (Fig.2). When the engine speed reaches around 2300rpm, centrifugal clutch will be engaged. The lever should be operated quickly without hesitation, because increasing the engine speed slowly causes the clutch to slip.
- 2. Operate travel lever to have compactor travel forward or reverse. Pull lever back for reverse, release lever and level will spring forward causing forward movement and place lever in neutral for vibration in place. (Fig.3)
- 3. When you work on soil which contains clay, there may be cases where traveling speed drops because compaction plate does not leave ground surface as easily. Check the bottom of plate to see if clay has not stuck there. Incidentally, because compactor cannot be as efficient on clay or high moisture containing soil, dry such soil to appropriate moisture content level or carry out compaction twice.
- 4. To discontinue your work, contrary to the starting time, return the governor lever quickly to LOW position. Do not move it slowly. (Fig.2)

#### **MAINTENANCE**

Proper maintenance, inspection and storage of your Bartell Plate Compactor is vital to preserving the performance of your equipment. The most important daily activity is to keep the equipment clean and prevent the build-up of mud and caked-on dust or particulate. Bartell Plate Compactors can be cleaned with spray from a hose or pressure washer. Remove all dirt and residue from the surface of the equipment, including the space between the bridge and plate.

**AIR CLEANER** - Keep air filter clean at all times. Wash away dust and debris using a non-oil-based cleaning solvent. Let the filter dry before re-installing.

**LUBRICATION** – Always check engine oil regularly. Use proper engine oil as recommended. See chart on previous page. Fill crankcase to levels as recommended in manufacture's engine manual.

**SPARK PLUG** – Check and clean spark plugs regularly. A fouled, dirty or carboned spark plug causes hard starting and poor engine performance. Set spark plug gap to recommended clearance. Refer to engine manual.

#### **BELT TENSION – IMPORTANT!**

If there is excessive belt play, there will be a decrease in the impact force and erratic vibration, which could cause machine damage. The normal belt play should be 10-15mm (1/2") which is attained by forcibly depressing the middle section of the belt. When adjusting the belt make sure that the clutch is in alignment with exciter pulley. Tighten all engine mounting bolts and secure the belt cover.



#### **STORAGE**

The following steps should be taken to prepare your plate compactor for extended storage.

- 1. Close fuel shut off valve.
- 2. Siphon excess gasoline/diesel from tank.
- 3. Start engine until it stops from lack of fuel. This will use up all the fuel in the carburetor and prevent formation of deposits due to evaporation of fuel. Remove spark plug and pour 2 oz. of SAE 10W-30 motor oil into the cylinder. Slowly crank the engine 2 or 3 times to distribute the oil throughout the cylinder.
- 4. This will help prevent rust during storage. Replace spark plug.
- 5. Store the unit in an upright position in a cool, dry, well ventilated area.



# **DECLARATION OF CONFORMITY**

Declaration of Conformity / Certificat de conformité / Gelijkvormigheids certificaat Declaración de Conformidad/Declaração de Conformidade/Dichiarazione Di Conformita

We: Bartell Morrison Inc. Bartell Morrison (USA) LLC.

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Declare under our sole responsibility that the product to which this declaration relates is in conformity with the following standard(s) or other normative documents.

Déclarons sous notre responsabilité que le produit cette déclaration est conforme aux normes suivantes ou d'autres documents habituels.

Verklaren onder onze verantwoordelijkheid dat het product naar welke de verklaring verwijst conform de volgende standaards of anders gebruikelijke documenten is.

Declaramos bajo nuestra única responsabilidad que el producto en lo que esta declaración concierne, es conforme con la siguiente normativa u otros documentos.

Declara sob sua responsabilidade que o produto a quem esta declaração interessar, está em comformidade com os seguintes documentos legais ou normas directivas.

Dichiariamo sotto la ns. unica responsibilita che il prodotto al quale questa dichiarazione si riferisce, è fabbricato in conformità ai seguenti standard e documenti di normative.

EN 349:1993	Safety of Machinery	<ul> <li>Minimum gaps to avoid</li> </ul>	d crushing of	parts of the human
LIN 0-0.1000	Carcty or iviacining	ivinininani qapa to avon		parts or the marrian

body.

EN 418:1993 Safety of Machinery - Emergency stop equipment, functional aspects - Principles

for design

EN 12100-1:2003 Safety of Machinery - Basic Concepts, general principles for design - Part 1: Basic

Terminology, methodology

EN 12100-2:2003 Safety of Machinery - Basic Concepts, general principles for design - Part 2:

Technical Principles

EN ISO 4872:1978 Acoustics - Measurement of Airborne noise emitted by construction equipment

intended for outdoor use - Method for determining compliance with noise limits.

EN ISO 5349-1:2001 Mechanical vibration. Measurement and evaluation of human exposure to hand-

transmitted vibration. General requirements

EN ISO 5349-2:2001 Mechanical vibration. Measurement and assessment of human exposure to hand-

transmitted vibration. Practical guidance for measurement at the workplace.

Following the provisions of Directive(s):

Suivant les directive(s) déterminées:

Volgens de vastgestelde richtlijnen:

Siguiendo las directiva(s):

No sequimento das clausulas da Directiva(s): Seguendo quanto indicato dalla Direttiva(s):

98/37/EC Machinery Directive 2000/14/EC Noise Directive

2001/95/EC General Product Safety Directive

2002/95/EC Reduction of Hazardous Waste Directive





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