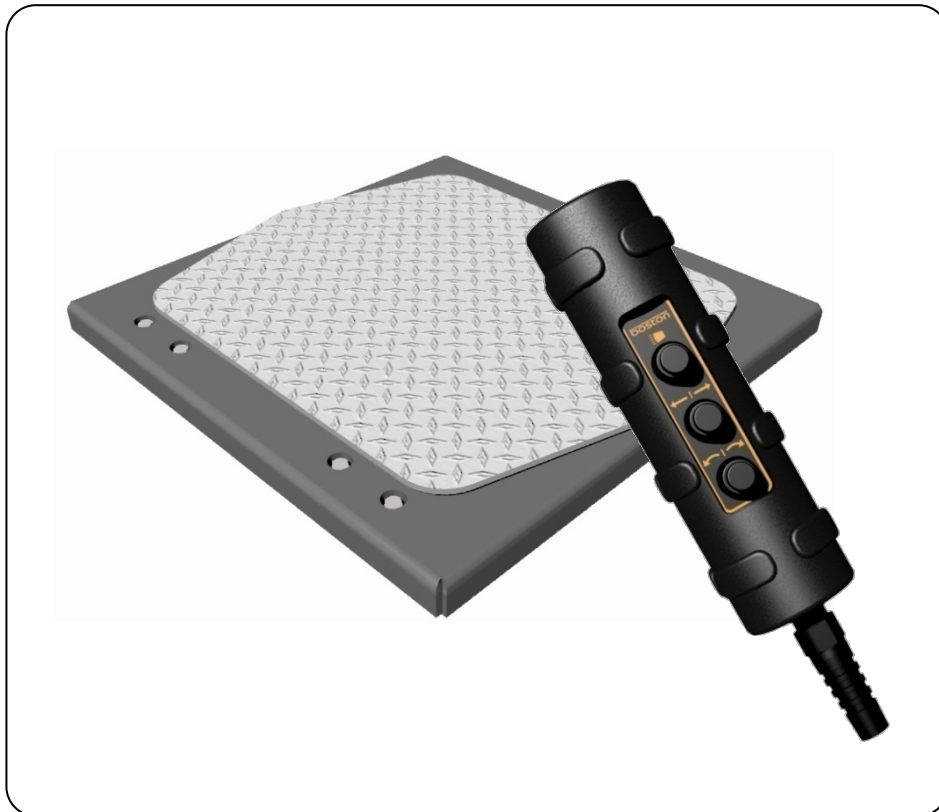


PD304

Lift / Pit Mounted Hydraulic Wheel Play Detector



USER MANUAL



Issue: 041012



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Audience

This manual is intended for the final users of the equipment who will operate and maintain the system throughout its working life.

Boston Garage Equipment requires that operators of this equipment:

- Have sufficient technical knowledge and experience to operate the equipment
- Can recognise and prevent potential hazards
- Have read and understood this manual
- Have been adequately trained
- Follow the procedure in this manual

Scope

The purpose of this manual is to:

- Describe the operation of the system
- Describe its operating principles and general construction
- Explain safety features and safety precautions
- Highlight possible hazards
- Describe the operation procedures
- Describe the maintenance procedures

Organisation

This manual is organised into:

- Safety – Describes safety features of the system and safety precautions to follow when operating the system. Read this section before operation and maintenance.
- Functional Description – Contains a functional description of the system.
- Operating Instructions – Contains all the procedures necessary to operate the equipment safely.
- Troubleshooting and Maintenance – Contains procedures to solve problems encountered during operation and maintenance procedures that can be carried out by the user.
- Parts List – Contains parts lists and drawings.

Layout Conventions

In this manual, we use a number of typographical conventions to highlight particularly important information and to guide the user through the manual. This section lists these conventions.

Two types of list are used.-

- 1) Lists that are numbered (like this sentence) contain actions you must carry out in sequence.
- In lists that use arrow points (like this sentence), the sequence is not critical.

NOTE

Text with additional information, such as expanded explanations, hints or reminders.

CAUTION

Indicates situations that can be dangerous or cause damage.

Information that requires special attention is shown in *italic*.
Example: Use the **Emergency Stop** button *only* in emergencies.



Related Documents

Document Name	Document Number
➤ PD304 Installation Manual	BOS0429
➤ PD304 Pit Installation Schematic	BOS0430

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General Safety Instructions	7
Maintenance Safety	8
Safety Features	8
Misuse	8

General Safety Instructions

In order to comply with your responsibilities under the Health and Safety at Work Act 1974, it is essential that this Wheel Play Detector (PD) and any optional accessories are sited, installed, operated, and maintained by Boston Garage Equipment or your local authorised / approved distributor.

- All persons installing, operating or maintaining the equipment and any optional accessories must be familiar with the layout of the equipment, the safety precautions and the emergency shutdown procedures.
- Appropriate training is required, prior to installing, using or maintaining the equipment.
- The instructions in this manual must be strictly adhered to, to avoid injuries to personnel and damage to the machine and vehicle.
- Only a qualified technician should carry out work on the electrical system.
- Never remove or bypass any of the safety features.
- Avoid any direct or indirect electrical contact.
- The unit should be placed inside a rigid, flat and clean surface, protected against water, humidity and weather influences.
- Keep the operating environment clean and free of oil. Never leave loose objects around the PD.
- Never leave parked vehicles on the PD over night.
- Make sure the remote control is stored safely when not in use.
- The equipment may be operated only within its rated capacity (1.5T). The equipment is designed for MOT Class 4, 5L & 7 vehicles.
- The equipment should only be used when the operator has a good view of the whole machine.
- During the test no person should stand close to the play detector(s).
- The testing area should be clear of personnel, tools and equipment before starting each test.
- Do not stand on, or walk over the moving plate at any time.
- Take precautions to extract exhaust in the workplace properly while testing.
- Do not test a vehicle when there is insufficient light.
- In case of an emergency, all operations can be stopped immediately by pressing the emergency stop button on the side of the control panel.
- If the equipment is not working correctly, switch off immediately and refer to the relevant manual or contact Boston or your local authorised / approved distributor.
- Always isolate the PD from the power supply before maintenance.
- Follow the maintenance specifications accurately.
- If the PD is fitted to a vehicle hoist, it is important that the hoist is placed in the 'locked' position prior to operation of the PD, and not supported by the steel ropes or other means. It is also important to check weekly that the floor fixing bolts of the hoist are tight and in good condition.

Maintenance Safety

In addition to the general safety instructions, the following instructions apply when carrying out maintenance on the equipment:

- Switch off the main electrical supply before opening any part of the equipment.
- The equipment must only be operated within its rated capacity.
- Protect the electrical parts of the equipment from water and humidity.
- Only qualified technicians are permitted to do work on the electrical system of the equipment and must follow procedures prescribed by national standards.
- Any unauthorised modification or changes to the system will invalidate the CE-declaration and equipment warranty.

Safety Features

The PD304 Play Detector offers the following standard safety features to minimise personal risk as much as possible.

- The PD304 is ground wired to earth.
- The PD304 is provided with an emergency stop button on the control panel by which any active operation can be stopped immediately in case of an emergency. To release the emergency stop button after operation, rotate the button.
- When using the BTC4, the PD304 can only be started if the SAFETY release button has been pressed first on the remote control torch (control type dependant).
- All controls have "hold-to-run" operation.
- Closed moving plate prevents any access to the inner workings.
- All electrical cabling and hydraulics are covered to reduce any direct danger or risk.

Misuse

The PD304 is designed for use as a wheel play detector for statutory testing of MOT Class 4, 5L & 7 vehicles and for wheel play diagnostic purposes only. Using the PD304 on a vehicle hoist supplied by any company other than BOSTON GARAGE EQUIPMENT, or without written certification from BOSTON GARAGE EQUIPMENT that the PD304 is suitable for that hoist, is considered improper use and may be dangerous.

It must NOT be used for any other purpose e.g.

- The hydraulic supply to any other type of equipment.
- Connection to any other unauthorised product.
- Service related work.
- Wheel geometry adjustments.
- Any purpose requiring the operator to be in the danger zone, other than to conduct a wheel play test and/or maintenance and calibration purposes (authorised personnel only).
- If access to any service area requires driving over the PD then caution must be used.

Product Description

Chapter 3

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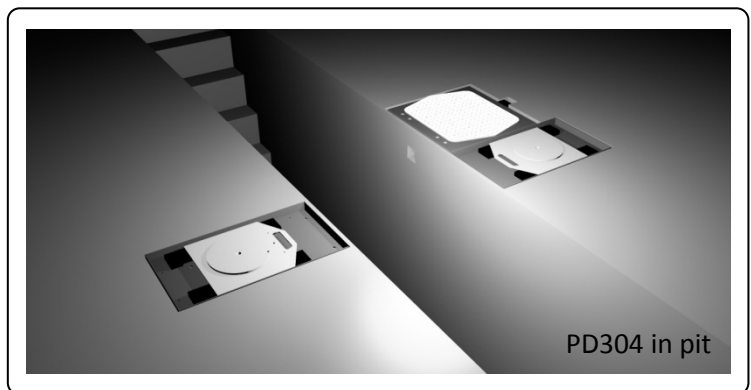
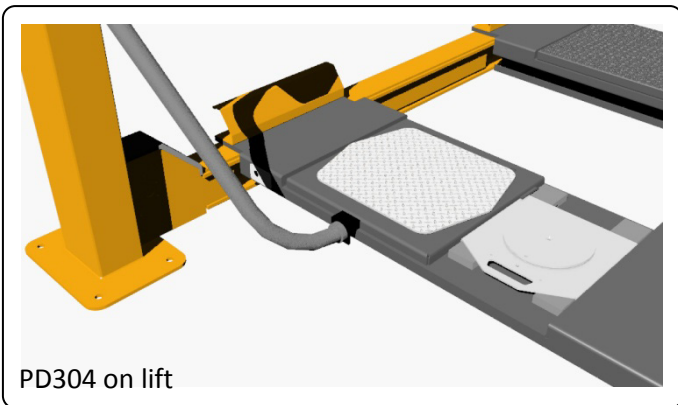
System Overview

The PD304 is a hydraulically operated device that is fitted to a vehicle lift or inspection pit. It is used to move the position of a vehicle’s wheel in different directions to detect wear and play in suspension and steering joint components. It consists of a single moving plate which is positioned on one side of the vehicle lift platform or inspection pit. The plate can move laterally by 45mm in both directions and rotate about a centre point by 12.5 degrees clockwise and anti-clockwise.

The equipment comprises three main items as listed below. These are covered in more detail later on in this manual.

- A control system which is either fitted to a designated post on the four-post lift or floor mounted for pit installations.
- A moving plate assembly which is either fitted to a designated lift platform or inspection pit.
- A handheld remote control torch for the operation of the unit (hard-wired or wireless).

Operation of the Play Detector can be achieved by using the keypad fitted to the body of the control torch.

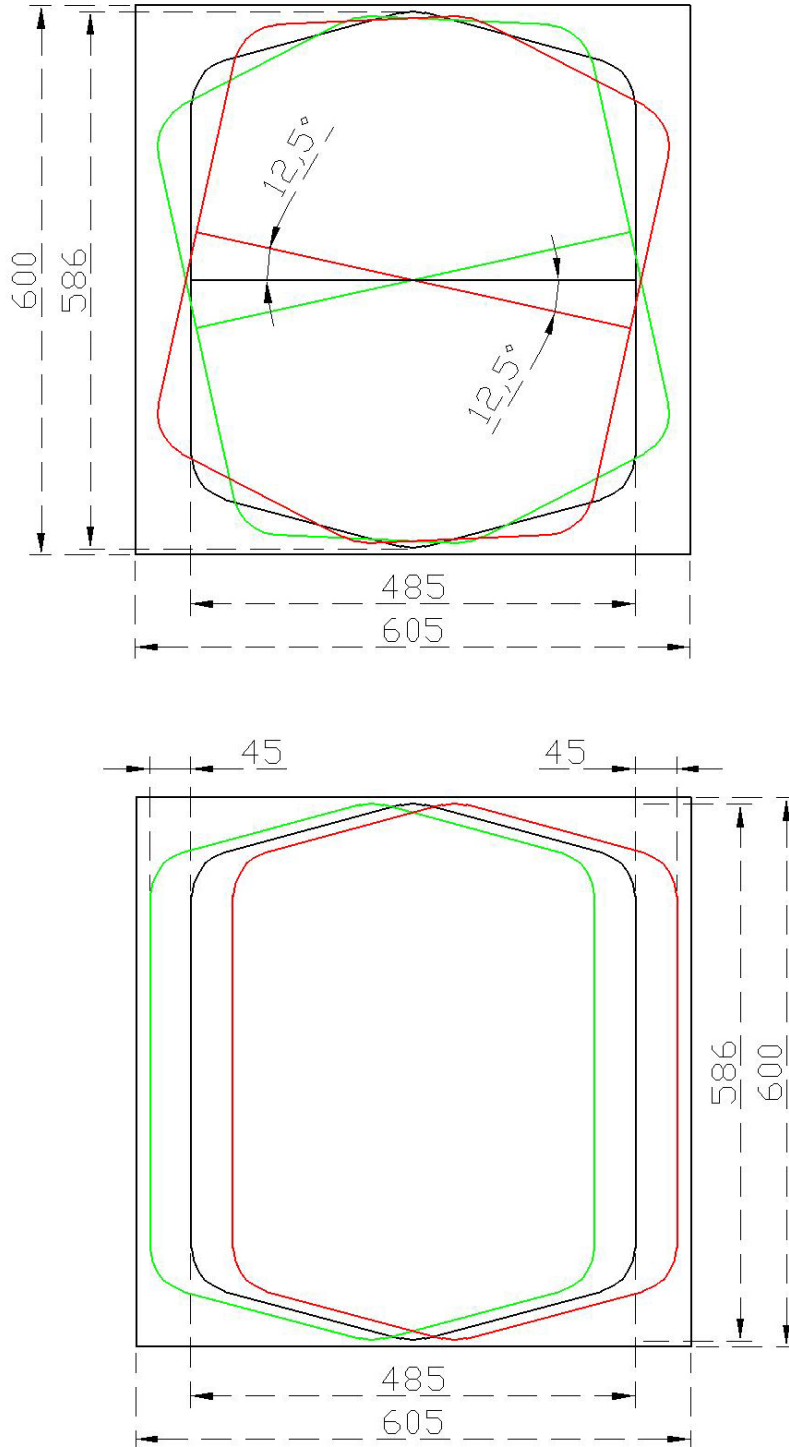


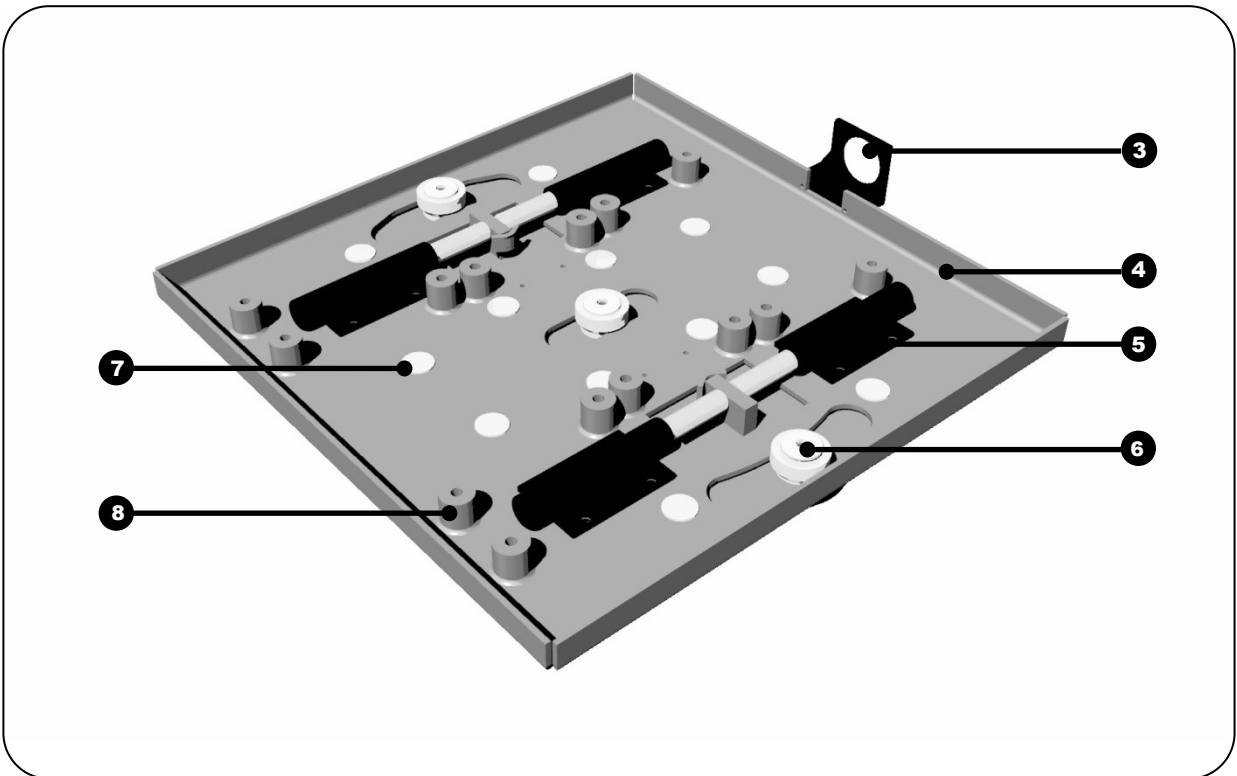
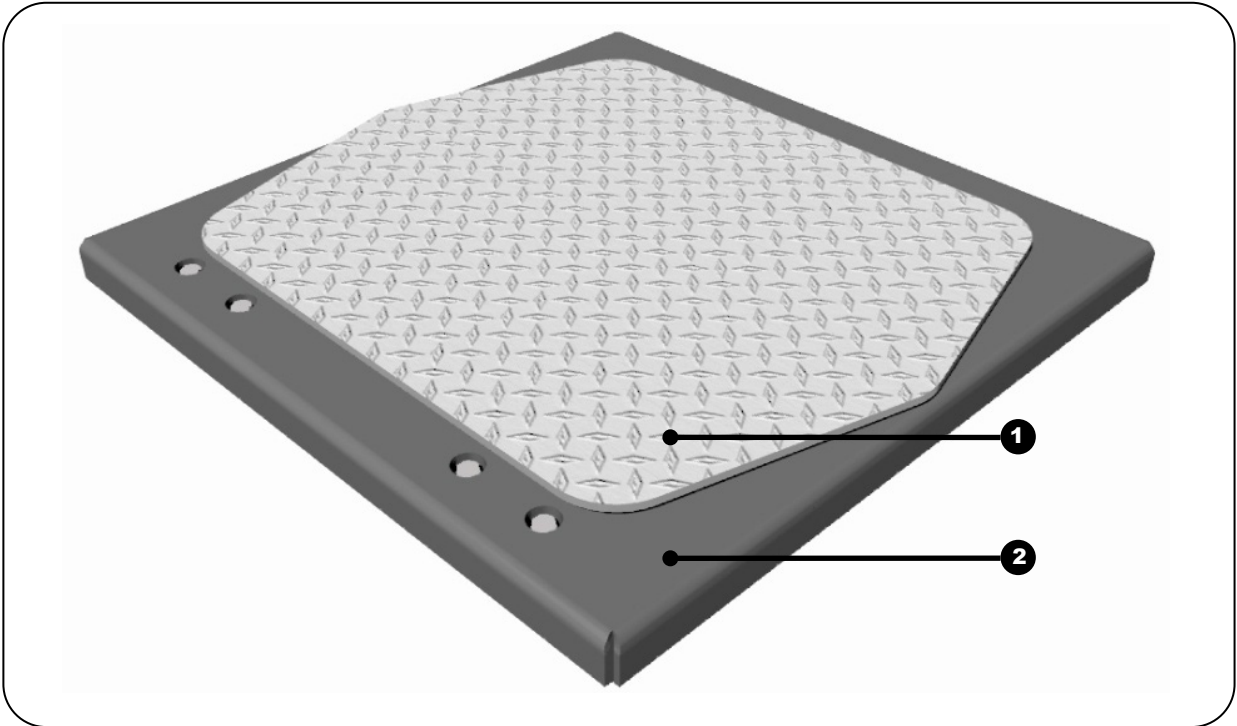
Images for illustration only

PD304 Play Detector Moving Plate

The PD304 Play Detector Plate has a high friction surface which is used for maximum grip during operation. It contains four high pressure hydraulic rams that control the movement of the plate.

A general layout of the PD304 Play Detector is shown below.-





Component Table

Item	Description	Quantity
1	Moving Plate	1
2	Chassis / Cover Plate – Top Side	1
3	Hose Conduit Fixing Bracket	1
4	Chassis / Cover Plate – Under Side	1
5	Hydraulic Ram	4
6	Nylon Guide	3
7	Nylon Support Disc	12
8	Plate Fixing Boss	14

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Remote Torch Control – BTC3

There are two types of remote torch control, BTC3 and BTC4. They are separate hand held units that can operate the wheel play detector. BTC3 is simplistic and basic in function whereby BTC4 is comprehensive and uses a membrane keypad with LED cluster bulbs. BTC4 is also available in a rechargeable wireless configuration (BTC4W). Both controls can be used when connected directly to the control panel or when connected to the in-pit connection box.

This section covers the BTC3 remote torch control.

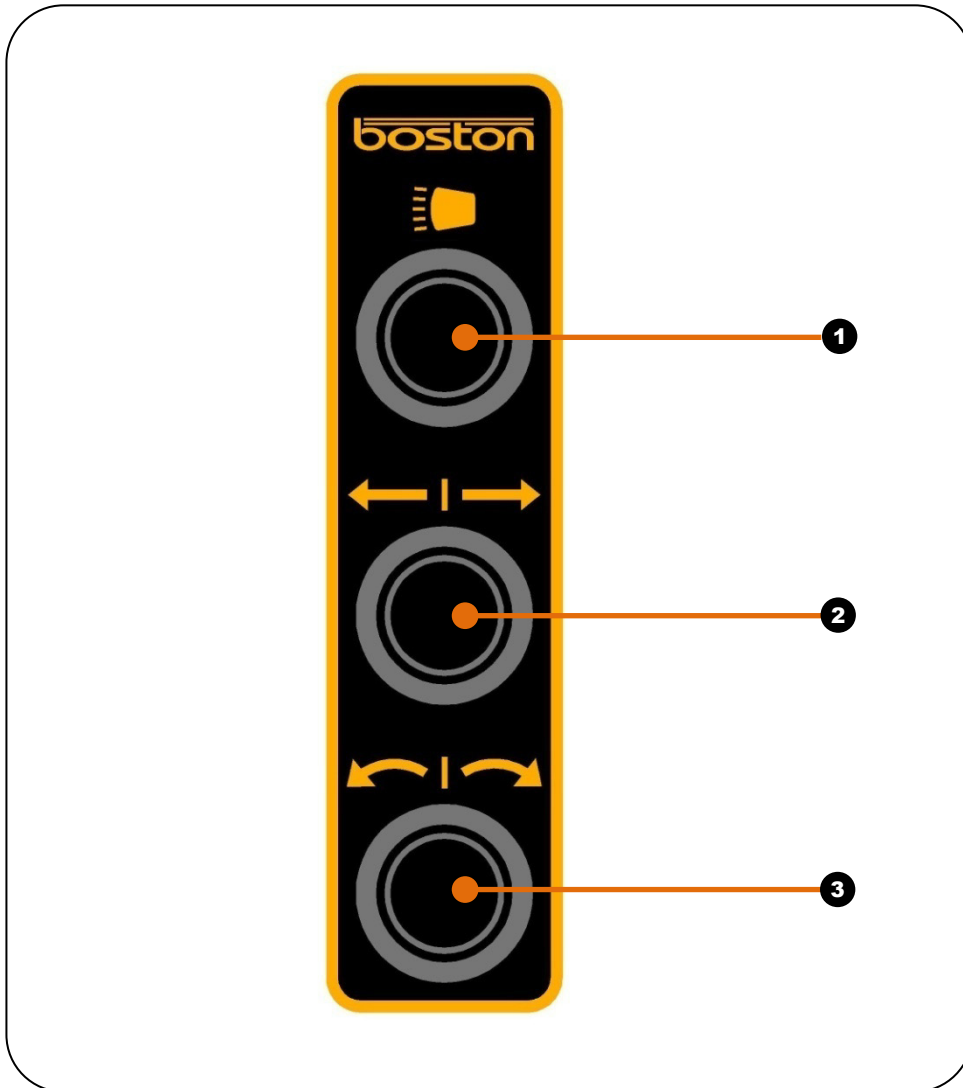


The BTC3 torch control is connected to the control system using a corrosive and lubricant resistant 4.5m cable. The cable is hard-wired to the torch control and fitted with a flexible strain-relief cable gland. Unlike the BTC4, it cannot be removed from the torch without first disassembling the base.

**NOTE**

The cable connections are sturdy and designed specifically for the workshop environment. To unplug the cable from the control system, pull back the latch, rotate the connector anti-clockwise and remove. Always place the torch control back in its dedicated holder when not in use.

KEYPAD OPERATION – BTC3



Number	Name	Description
1	LAMP ON/OFF	Switches ON / OFF the LED inspection lamp.
2	LEFT / RIGHT	Moves the play detector plate to the LEFT and then to the RIGHT. The operation remains continuous until the button is released.
3	ROTATE LEFT / RIGHT	Rotates the play detector plate CLOCKWISE and then ANTI-CLOCKWISE. The operation remains continuous until the button is released.

LAMP ON / OFF

The LAMP ON / OFF button switches the LED inspection lamp ON and OFF at the front of the control.

LEFT / RIGHT

The LEFT / RIGHT button function is used to continuously move the moving plate laterally in the left and right directions. When the button is released, the moving plate returns to the centre position.

ROTATE LEFT / ROTATE RIGHT

The ROTATE LEFT / ROTATE RIGHT button function is used to continuously rotate the moving plate in the clockwise and anti-clockwise directions. When the button is released, the moving plate returns to the centre position.

TORCH CONTROL SAFETY FEATURES – BTC3

The design and software operation of the control torch has been thoroughly evaluated to provide the highest level of safety to the operator. A list of the safety features is shown below.

- The protective rubber surround creates a recessed area for the keypad making it difficult for any accidental key presses.
- The torch control has no sharp edges or handles where fingers can become trapped or twisted.
- The torch control is designed so that it is impractical to carry inside any clothing pockets.

Operation – BTC3

The PD may be used in conjunction with MoT Automated Test Lanes (ATL's) and OPTL's. The operation of the PD for MoT testing must be carried out with reference to, and in accordance with the MoT Tester's Manual (copy available from VOSA on request). During testing, it is necessary to apply the parking brake so that underside inspection can be safely carried out when using the Play Detector. This can be achieved by using a second person or with Boston's BA201 Brake Pedal Depressor (available separately).

On every power-up, the play detector will perform an auto-zero. The plate will move full travel laterally to one side and then move to a centre position. During use, the plate will remain in its last position as used by the operator. If the plate is cycled side to side more than twice, the plate will return back to centre automatically.

To preserve energy and reduce pump / motor wear, the software will de-activate the motor approximately 2 seconds after each operation.

NOTE

Ensure the plate is free to move and there is no weight on the plate during the start-up auto-zero procedure. The plate should be in the centre position before testing a vehicle.

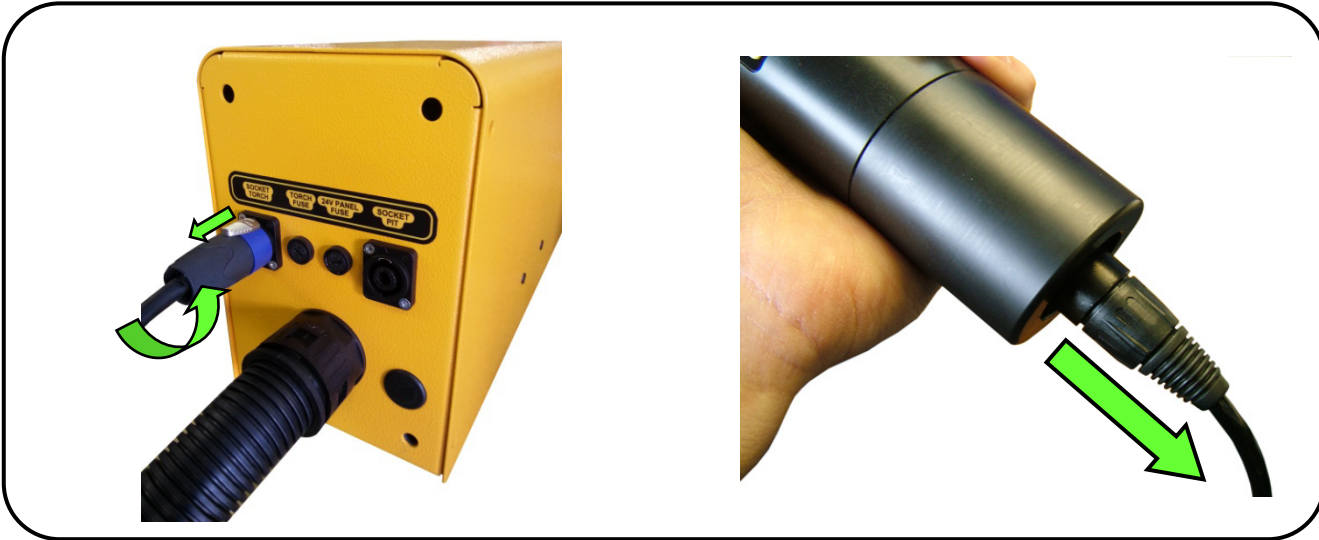
Remote Torch Control – BTC4 / BTC4W

The BTC4 remote torch control is more comprehensive than the BTC3, and uses a membrane keypad with extra safety features. It is also available in rechargeable wireless configuration under the code BTC4W. This section covers the BTC4 remote torch control.



The torch control is connected to the control system using a corrosive and lubricant resistant, 4.5m cable. The cable is attached at the torch control end by means of a 6.25mm lockable jack plug socket. The socket is designed to unlatch at maximum pull to prevent damage to either the torch or control system connectors. In the event of having to replace the cable, the connection can be unplugged from the torch by simply pulling the connection from the torch body (not the cable) using adequate force. To unplug the cable from the control system, pull back the latch, rotate the connector anti-clockwise and remove.

Both types of connection are sturdy and designed specifically for the workshop environment

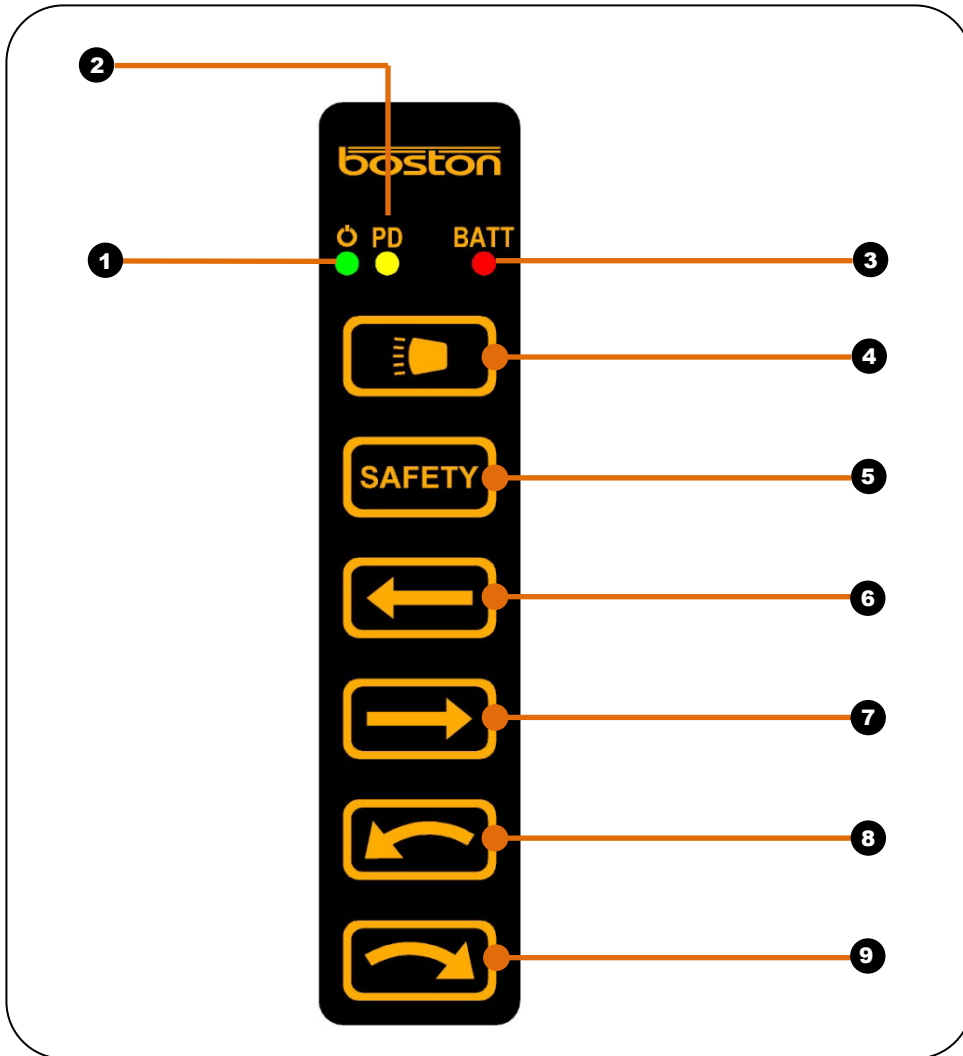


NOTE

When removing the cable from the torch, always grip the jack pug socket and never pull the cable. Always place the torch control back in its dedicated holder when not in use.



KEYPAD OPERATION – BTC4



Number	Name	Description
1	POWER INDICATOR	Indicates that power is applied to the torch
2	PD SELECTED LED	Indicates that play detector control mode is selected
3	BATT LOW LED	Indicates that the internal battery is low (wireless ver. only)
4	LAMP ON/OFF	Switches on / off the LED inspection lamp
5	SAFETY	Safety release
6	PD LEFT	Moves the play detector plate to the left
7	PD RIGHT	Moves the play detector plate to the right
8	PD ROTATE LEFT	Rotates the play detector plate anti-clockwise
9	PD ROTATE RIGHT	Rotates the play detector plate clockwise

POWER INDICATOR

The POWER INDICATOR LED is illuminated continuously for as long as power is applied to the device.

PD SELECTED LED

The PD LED indicator illuminates when the play detector has been enabled. Press the SAFETY button and the PD LED will flash. Press the SAFETY button again to switch between the modes REPEAT operation (flashing LED) and MANUAL operation (solid LED).

BATT INDICATOR LED

The BATT LED indicator illuminates when the power from the internal battery pack begins to run low. The operator should place the torch on the charging base to recharge.

LAMP ON / OFF

The LAMP ON / OFF button switches the LED inspection lamp ON and OFF at the front of the control. If the torch is switched on for more than 8 minutes without any keypad activity, the lamp will automatically be switched off.

LEFT

The LEFT button function is used to move the moving plate in the LEFT direction.

RIGHT

The RIGHT button function is used to move the moving plate in the RIGHT direction.

ROTATE LEFT

The ROTATE LEFT button function is used to rotate the moving plate in the ANTI-CLOCKWISE direction.

ROTATE RIGHT

The ROTATE RIGHT button function is used to rotate the moving plate in the CLOCKWISE direction.

CAUTION

Always ensure that tools, hair and fingers are clear from the Play Detector before operation.

KEYPAD FUNCTIONALITY – WIRELESS BTC4W

The wireless torch control is programmed with the same standard safety features as the hardwired torch to prevent accidental operation of the play detector. But in addition, to save power, the torch will automatically switch off completely after eight minutes of inactivity. In this condition, the green power LED will not be lit.

To reactivate the torch, the lamp ON/OFF button must be pressed. The green power LED will now show and the lamp will switch on. To activate the control buttons, the SAFETY button must also be pressed to illuminate the PD as before. The operation is now the same as described above.

The BATT LED will show when the torch battery requires charging. In this case, the torch should be placed in the charging cradle and allowed to charge. Charging is signified by the flashing of the BATT LED and when fully charged, the BATT LED is switched off.

The wireless torch control operates using radio frequency on a secure channel. It has a maximum operating range of 25m when fully charged and a charging time of approximately eight hours. Under constant use the operating time is approximately 1.5 hours without charge.

To ensure the wireless control is always ready for use, place it on the charger when not in use.

TORCH CONTROL SAFETY FEATURES – TYPE A

The design and software operation of the control torch has been thoroughly evaluated to provide the highest level of safety to the operator. A list of the safety features is shown below.

- Two separate button presses are required BEFORE any PD function can be engaged.
- In all cases the SAFETY button must be pressed before any function can be engaged.
- The torch control remains in the ACTIVE state for a maximum of 8 seconds after the last operation. If no key press is received within this time the torch returns to SAFE state.
- The protective rubber surround creates a recessed area for the membrane keypad making it difficult for any accidental key press.
- The torch control has no sharp edges or handles where fingers can become trapped or twisted.
- The torch control is designed so that it is impractical to carry inside any clothing pockets.
- Wireless model – communication is managed by secure RF (Radio Frequency). It is not possible for ‘spurious’ signals to interfere with the operation. Several receiver security checks are made in the software before acting on any wireless instruction.
- Wireless model – multiple handsets can be used within the same vicinity WITHOUT interfering with each other. *
- Wireless model – remote devices are ‘paired’ with their respective equipment to avoid cross-operation with other devices.*

* - multiple wireless torches in close proximity may require specific programming to ensure operating frequencies do not conflict.

CAUTION

Always ensure that tools, hair and fingers are clear from the Play Detector before operation.

Operation – BTC4 / BTC4W

The PD may be used in conjunction with MoT Automated Test Lanes (ATL's) and OPTL's. The operation of the PD for MoT testing must be carried out with reference to, and in accordance with the MoT Tester's Manual (copy available from VOSA on request). During testing, it is necessary to apply the vehicle brake so that underside inspection can be safely and correctly carried out when using the Play Detector.

On every power-up, the play detector will perform an auto-zero. The plate will move full travel laterally to one side and then move to a centre position. The plate will return back to centre after every operation (unless manual mode is selected).

To preserve energy and reduce pump / motor wear, the software will de-activate the motor approximately 2 seconds after each operation.

NOTE

Ensure the plate is free to move and there is no weight on the plate during the start-up auto-zero procedure. The plate should be in the centre position before testing a vehicle.

MANUAL Mode

To select MANUAL mode, press the SAFETY button twice so that the orange PD LED on the torch control is illuminated. The play detector will operate in the following way.

BUTTON	PLATE MOVEMENT
LEFT	Moves the plate in the LEFT direction
RIGHT	Moves the plate in the RIGHT direction
ROTATE LEFT	Rotates the plate in the anti-clockwise direction
ROTATE RIGHT	Rotates the plate in the clockwise direction

If the operator holds the LEFT button for more than two seconds the software will automatically turn off the motor to prevent unnecessary load on the system.

REPEAT Mode

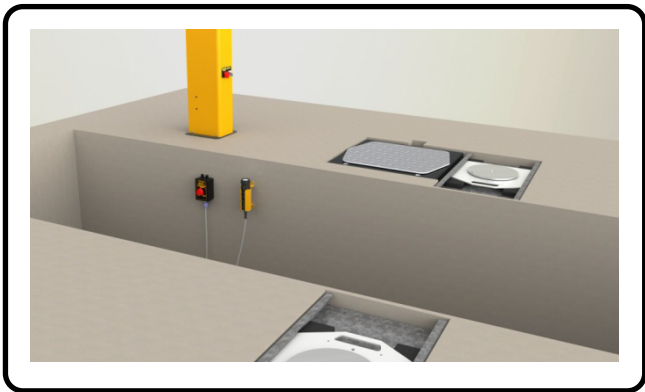
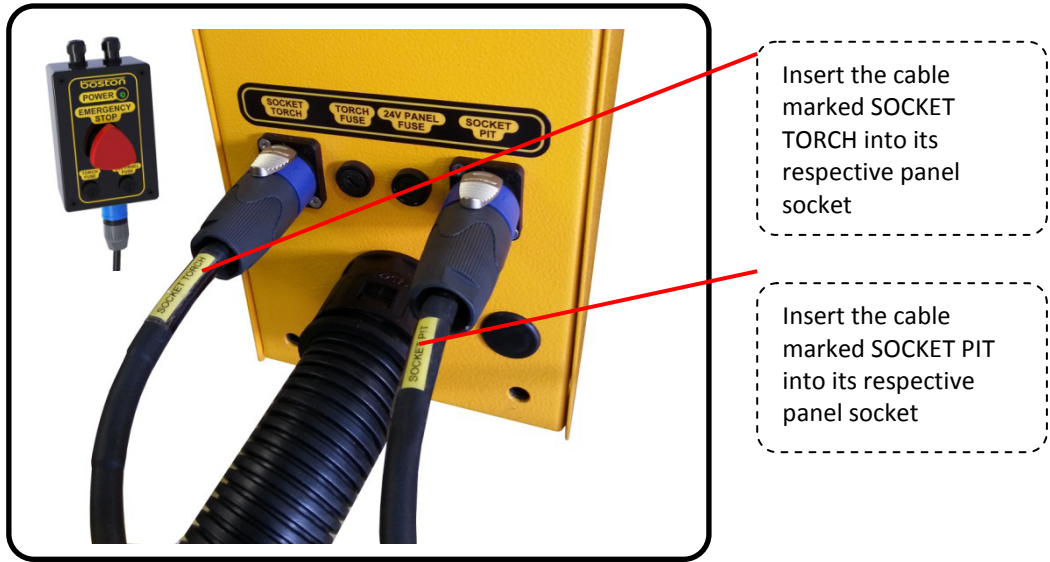
To select REPEAT mode, press the SAFETY button once so that the orange PD LED on the torch control flashes. The play detector will operate in the following way.

BUTTON	PLATE MOVEMENT
LEFT	Moves the plate in the LEFT direction and then RIGHT direction and continues until button release. Plate will return to centre.
RIGHT	Moves the plate in the RIGHT direction and then LEFT direction and continues until button release. Plate will return to centre.
ROTATE LEFT	Rotates the plate in the anti-clockwise direction and then clockwise direction and continues until button release. Plate will return to centre.
ROTATE RIGHT	Rotates the plate in the clockwise direction and then anti-clockwise direction and continues until button release. Plate will return to centre.

Pit Connection Box

The Pit Connection Box is used when PD304 is installed into an inspection pit. It has two connectors that connect to the base of the control panel in the same way as the torch, and extends the Emergency Stop function and control panel fuses so that they are easily accessible by the operator from inside the pit.

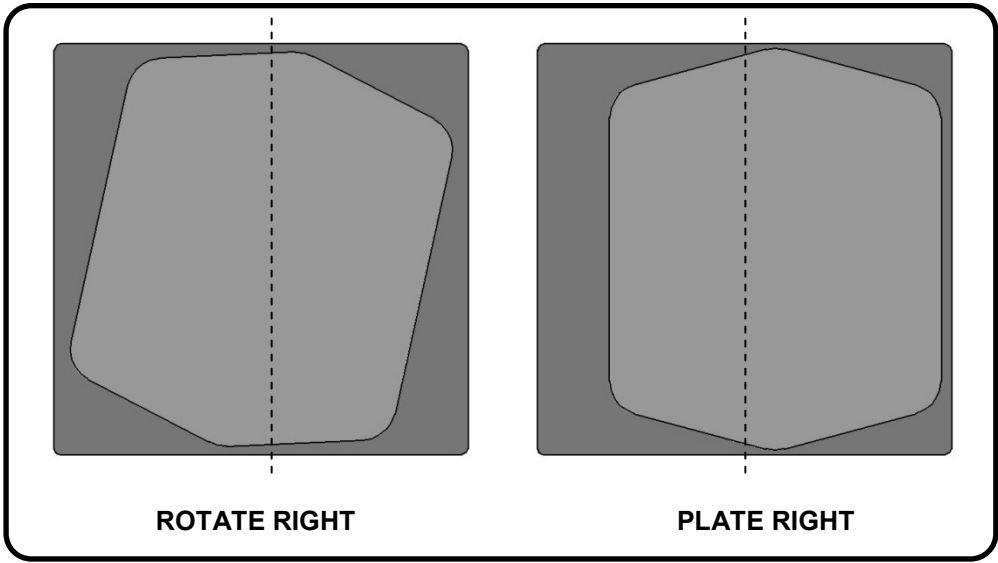
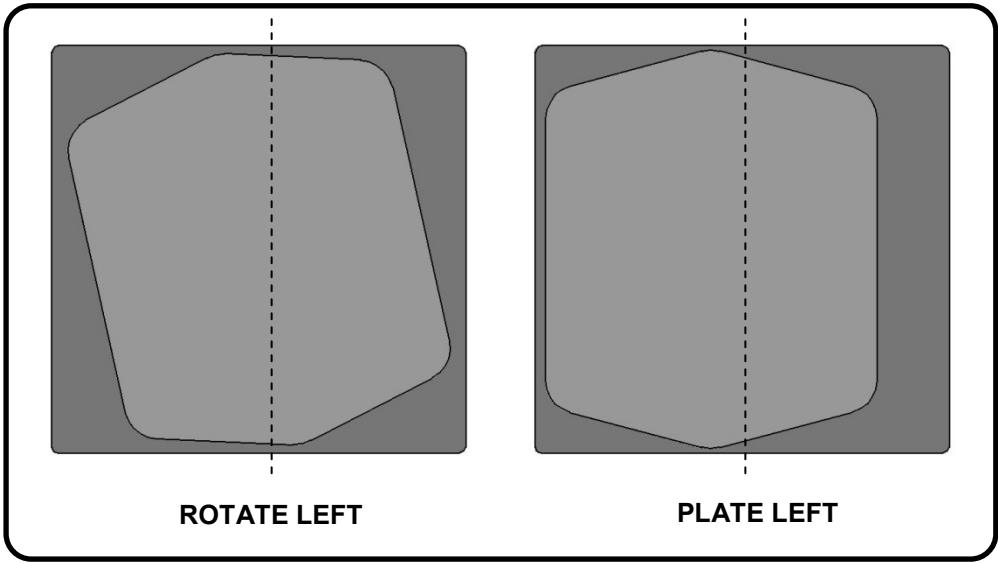
The connection box is low voltage and safe to install all types of pit; it is connected to the control panel in the following way.-



NOTE

Ensure the pit box is installed in an area where the Emergency Stop is within easy reach.

Plate Movements



NOTE

The REPEAT mode should only be used as required to provide adequate vehicle inspection. It should not be operated continuously.

After 8 seconds of inactivity, the PD led will extinguish and the torch control will enter into SAFE mode.

Troubleshooting and Maintenance **Chapter 5**

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Troubleshooting and Maintenance

If the PD does not function as it should, the operator should only take action when the failure appears to be simple to solve; for example repairing oil leaks by tightening hoses.

FAULT	POSSIBLE CAUSES	SOLUTION
Play Detector does not operate	<ul style="list-style-type: none"> - No electric supply - Cable connections - Internal fuse blown - Main power switch is off - Emergency stop activated - Circuit protector activated 	<ul style="list-style-type: none"> - Check supply - Check all connections - Replace - Switch on - Deactivate emergency stop - Investigate prior to reactivation
Power is on but no plate movement	<ul style="list-style-type: none"> - Emergency stop activated - Safety is still engaged on control 	<ul style="list-style-type: none"> - Deactivate emergency stop - Disable safety
Torch does not switch on	<ul style="list-style-type: none"> - LED cluster damaged or faulty 	<ul style="list-style-type: none"> - Check / replace cluster
Torch does not operate plates	<ul style="list-style-type: none"> - Data cable or keypad damaged - Safety is still engaged 	<ul style="list-style-type: none"> - Check / replace - Disable safety
Motor operates but no plate movement	<ul style="list-style-type: none"> - Oil level too low - Bad connection on solenoid actuator - Software error 	<ul style="list-style-type: none"> - Add oil - Check internal connections - Contact service agent

The PD is designed and constructed so that maintenance is kept to a minimum. Only authorised service technicians should carry out adjustments; they are trained and have suitable test instruments at their disposal.

Although the PD requires very little maintenance, it is important that the following instructions are carried out periodically:

- Check all accessible hoses and unions for signs of damage or leaks.

For official calibration, maintenance and service contact the Boston service department or your local distributor.

CAUTION
 Never use high pressure cleaners on the PD. The PD should be kept clean and free from dust and road salt. ALWAYS remove power to the PD before any service or maintenance.

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Warranty / Guarantee

We guarantee our products to be free from defects due to faulty material or bad workmanship for a period of 24 calendar months. The period of the guarantee commences from the date of delivery to the Purchaser or a delivery address requested by the Purchaser. Our liability is limited to the repair or replacement at our option, of parts found defective within the prescribed period arising solely from faulty material or bad workmanship, in products properly used solely for the purpose for which they were intended, and not due to wear and tear, misuse, neglect, improper adjustment or water ingress under any circumstances, and maintained in line with the maintenance instructions and/or service recommendations, and/or calibration requirements. Hoses, probes, magnetic sensors, cables, bulbs, batteries, remote controls and all consumables are entirely excluded from this guarantee.

Any product alleged to be defective should be reported immediately. If liability is accepted the product will be repaired or replaced. We are in no circumstances liable for any consequential or other loss or damage arising through any defect in our product, in lieu of any express or implied statutory or other warranties, guarantees, conditions or liabilities (whether as to fitness, quality, standard or workmanship or otherwise) which are excluded, the following provisions shall apply:

- The Purchaser shall not be entitled to rescind the contract or claim damages on any grounds whatsoever as to the suitability of the goods for any particular purpose, and the Purchaser assumes responsibility for the capacity and performance of the goods being sufficient and suitable for his purpose. The Purchaser agrees and confirms that no statement or representation has been made by Boston relating to the goods to be supplied under the contract, or, if any has been made, has not relied on it.
- Boston's liability in respect of any defect whether of quality, suitability or performance or otherwise in any goods supplied or for any loss, injury or consequential damage attributable thereto is limited to the terms of this guarantee and the Purchaser hereby acknowledges this to be a condition of purchase.
- This guarantee does not apply should equipment be operated or stored under adverse conditions unless specified in the relevant equipment leaflet/manual. The above guarantee is given in lieu of all other terms, conditions, warranties, guarantees, undertakings and representations, expressed or implied.

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PD304 Hydraulic Play Detector Specification

- Voltage: 230 V / 50 Hz / 13 A
- Motor (Lift motor Pack): 0.75 kW
- Hydraulic working pressure: 150 bar
- Maximum force applied to moving plate: 9.5 kN
- Admissible load on moving plates: 1500 kg
- Minimum lateral travel of moving plate: 40mm
- Minimum moving plate rotation: 12°
- Dimensions – Play Detector Plate (L x W x H): 600 x 605 x 45 mm
- Weight – Play Detector Plate (non-pit ver.): 32kg
- Dimensions – Control Panel (L x W x H): 800 x 150 x 196 mm
- Weight – Control Panel: 25kg
- Hydraulic oil and capacity (Lift motor pack) ISO 32 / 1.5 Ltr
- Hydraulic oil replacement schedule: Annually
- Noise level during operation: <95 dB

NOTE

Specifications are subject to change without prior notification.

BTC3 Remote Torch Control Specification

- Power Supply: 24V DC
- Interface: Momentary Contact Buttons
- Connectivity: Hardwired
- Cable Length: 4.5m
- Inspection Lamp Bulbs: 1 x 24DC (High Brightness)
- Weight: 500g
- Equipment Operation: PD304
- Dimensions (With Cover): Ø45mm x 170mm

BTC4 Remote Torch Control Specification

- Power Supply: 24V DC
- Interface: Membrane Keypad
- Connectivity: Hardwired
- Cable Length: 4.5m
- Inspection Lamp Bulbs: 3 x 6V DC (High Brightness)
- Weight: 650g
- Equipment Operation: PD303, PD304, B441, B461
- Dimensions (With Cover): Ø55mm x 282mm

NOTE

Specifications are subject to change without prior notification.

BTC4W Wireless Remote Torch Control Specification

- Power Supply: 6V NiMH
- Interface: Membrane Keypad
- Connectivity: Wireless RF
- Communication Range: 20m
- Charge Time: 8hrs (Max)
- Operating Time Per Charge: 1.5hrs (Constant Use)
- Inspection Lamp Bulbs: 3 x 6V (High Brightness)
- Weight (Inc. Battery): 845g
- Equipment Operation: PD303, PD304, B441, B461
- Dimensions (With Cover): Ø55mm x 282mm

NOTE

Specifications are subject to change without prior notification.

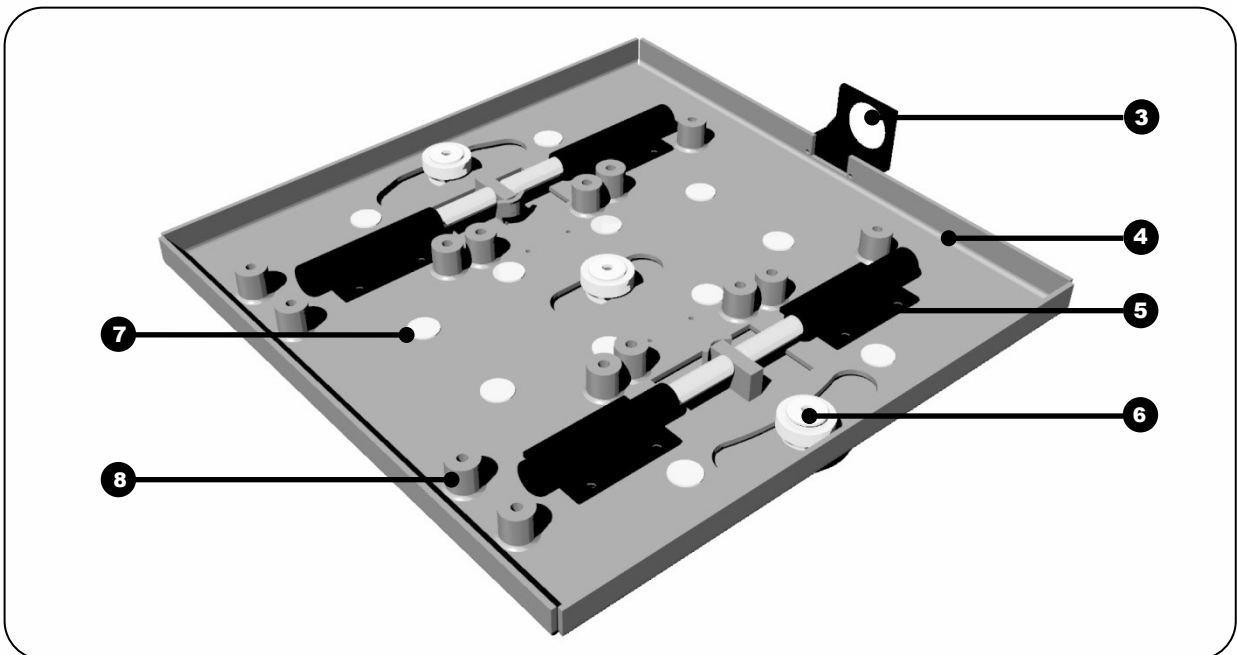
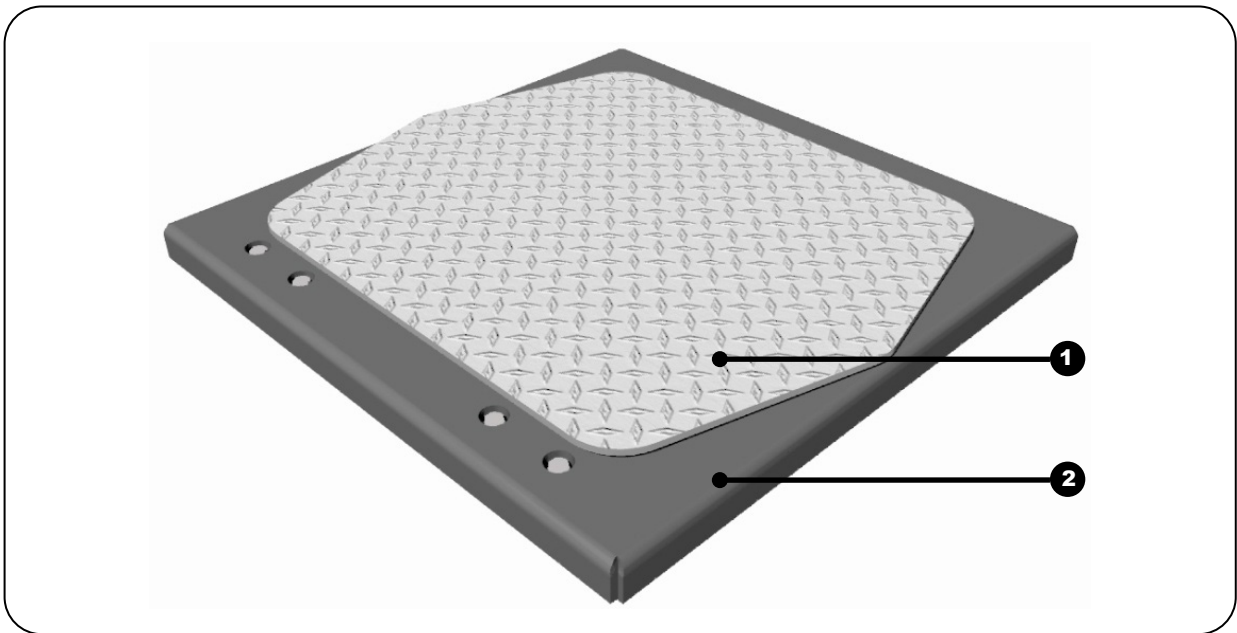
Spare Components

Chapter 8

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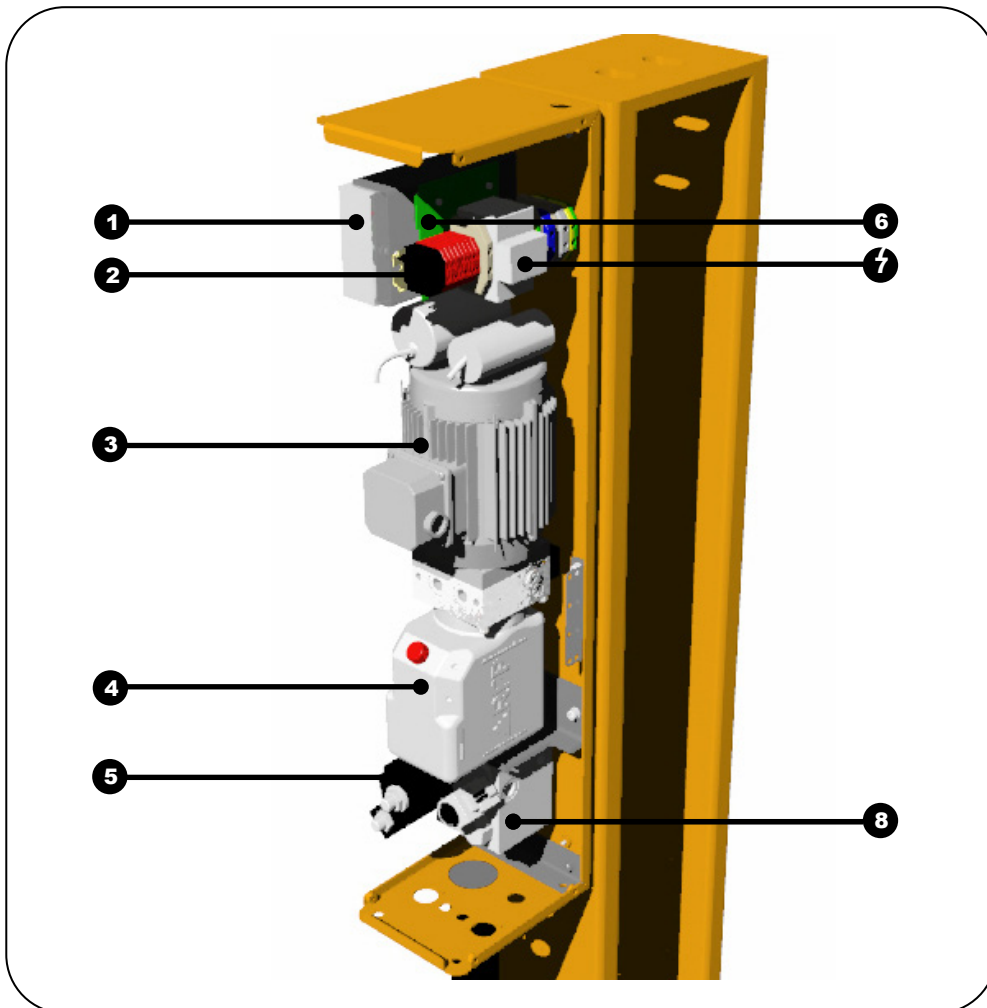
Moving Plate Assembly



Component Table

Item	Description	Code	Quantity
1	Moving Plate	B3550	1
2	Chassis / Cover Plate – Top Side	B3551	1
3	Hose Conduit Fixing Bracket	B3552	1
4	Chassis / Cover Plate – Under Side	B3551	1
5	Hydraulic Ram	B3554	4
6	Nylon Guide	B3555	3
7	Nylon Support Disc	B3556	12
8	Plate Fixing Boss	N/A	14

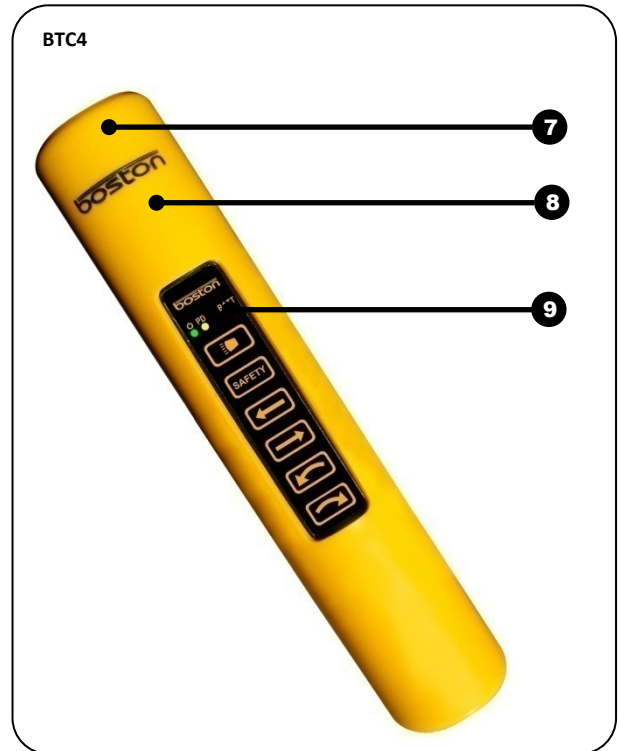
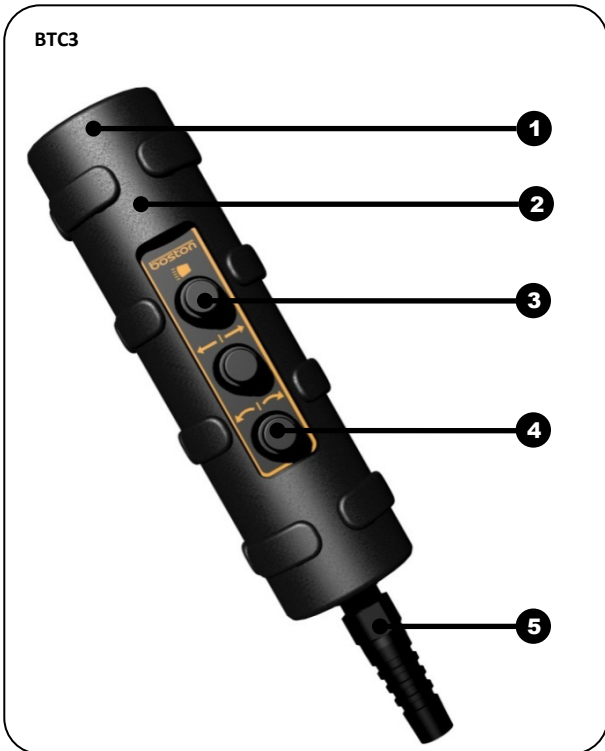
Control Panel



Component Table – Control Panel

Item	Description	Code	Quantity
1	Power Supply	B3919	1
2	DIN Rail (No Terminals)	B3920	1
3	Hydraulic Motor Pack	B3921	1
4	Oil Reservoir	B3922	1
5	Valve Coil Pack	B3923	4
6	Logic Controller	B3263	1
7	Motor Contactor	B3924	1
8	Hydraulic Valve Block (Complete)	B3925	1

Torch Controls





Component Table – Torch Controls

Item	Description – BTC3	Code	Quantity
1	LED Bulb	B3905	1
2	Protective Rubber Surround	B3915	1
3	Latching Lamp ON/OFF Button	B3911	1
4	Momentary Operation Button	B3912	2
5	Cable Strain Relief Gland	B3903	1
6	Cable Strain Relief Gland Fixing Nut	B3904	1

Item	Description – BTC4	Code	Quantity
6	LED Bulb	B3008	3
7	Protective Rubber Surround	B3085	1
8	Membrane Keypad	B3010	1



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