

Christie Post Driver Safety and Operating Instructions

Thank you for choosing the Christie Post Driver. We are proud to have designed and manufactured the first petrol engine driven post driver on the market, right here in Australia, and now sold Australia wide with established distributors in the USA, Europe and New Zealand.

Christie Engineering is a family owned and operated Australian business for over 30 years. We are proud of the quality of the hydraulic, pneumatic and engine powered products we produce in-house, so every machine has our name on it. If it's not stamped Christie, it's not one of ours.

Christie Engineering has a strong sales and service network as a Honda approved OEM, consisting of customer centers and distributors Australia wide.

For more information please visit: www.christieengineering.com.au



Warning: ONLY operate the throttle while the Christie Post Driver is on a post and between 5-10kg pull down force is exerted on handles. Failure to do so can result in danger to the operator and damage to the machine. Further, never driver a post/rod in to the ground until the receiver barrel touches the ground as this can result damage to the post driver.



Read the Christie Post Driver Safety and Operating Instructions carefully and understand all safety and operating instructions prior to using the machine. The Instructions contain essential safety information and provide knowledge on how use and maintain the machine in a safe and efficient way.



Read the Christie Post Driver Safety and Operating Instructions in conjunction with the supplied Honda Owner's Manual GX35. This manual also contains important safety information and engine maintenance information.

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Safety

This section provides safety information and hazards of a general nature. Further safety warnings and information are provided where relevant, in the *Operating Instructions*, and *Maintenance and servicing* sections of this document.

Unexpected movement



Warning: Sudden or unexpected movement of the machine may occur during operation, which may result in injury to the operator and/or damage to the machine.



- Ensure the operator maintains a stable standing position with feet as far apart as the width at shoulders. Keep body weight balanced.
- Stand firmly and always hold the Post Driver with both hands.
- Never operate the Post Driver unless both feet are in contact with the ground, never stand on a ladder, chair, trailer, ute/pickup tray, or any other surface other than stable ground.
- Ensure the handles are free from grease and oil.
- Do not start the engine while the Post Driver is lying on the ground.

Personal Protective Equipment (PPE)

Ensure the operator and all other persons nearby wear, at a minimum, the following PPE:

- Class 4 hearing protection, greater than 22dB attenuation
- Safety glasses to AS/NZS1337 medium impact rating
- Gloves suited to manual handling - leather or other abrasion resistant material, anti-vibration gloves are recommended
- Steel capped boots



Noise hazard



High sound levels may cause permanent hearing loss. Noise emitted from the tool while working can reach above 100dB which can also harm others nearby, both the operator and bystanders are to wear Class 4 hearing protection greater than 22dB attenuation.

Electrical/ concealed object hazards



Whilst driving posts, concealed electrical services, wires and pipes constitute a danger that can result in serious injury or death. Before you start using the tool, check the composition of the material you are to work on. Identify and avoid concealed cables and pipes e.g. electricity, telephone, water, gas and sewage lines etc.

If the tool seems to have hit a concealed object, switch off the machine immediately.

Make sure that there is no danger before continuing.

Dial **1100** (Dial Before You Dig) if you are using the post driver in a built up area and are unsure of the location of services. Dial Before You Dig is a referral service for information on locating underground utilities anywhere in Australia.

Vibration hazard

Hand-arm vibration (HAV)

Exposure to HAV can result in disrupted circulation in the hand and forearm and/or damage to nerves and tendons, muscles, bones and joints of the hand and arm. It can cause a range of conditions collectively known as hand-arm vibration syndrome (HAVS) and specific disorders such as carpal tunnel syndrome, 'tennis elbow' and 'vibration white finger'. Workers with exposure to vibration while performing other hazardous manual tasks may also experience pain in the hands and arms and diminished muscle strength.

Source: *Hand-Arm Vibration Fact Sheet, September 2012, Safe Work Australia*

<http://www.safeworkaustralia.gov.au/sites/swa/about/publications/pages/hand-arm-vibration-fact-sheet>

How to contact us

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Find a distributor – in Australia

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Reducing the risk of hand-arm vibration

Normal use of the Christie Post Driver exposes the operator to vibration. Vibrations from handheld machines are transmitted into the hands via the handles. The spring dampened handles on the Christie Post Driver are designed to dampen a large part of the initial vibrations. Further measures are required as vibrations are not eliminated completely.

- Christie Engineering recommends operators/employers implement a program of health surveillance to detect early symptoms that may relate to vibration exposure, so that management procedures can be modified to help prevent significant disability.
- If numbness, tingling, pain, clumsiness, weakened grip, whitening of the skin, or other symptoms occur at any time, when operating the machine or when not operating the machine, do not resume operating the machine and seek medical attention.
- Let the tool do the job. Use a firm, but minimum hand grip, consistent with proper control and safe operation.
- When the impact mechanism is activated, the only body contact with the Christie Post Driver should be hands on the spring dampened handles. Avoid any other contact, e.g. supporting any part of the body against the machine or leaning onto the machine trying to increase the feed force.
- Never keep the trigger engaged while removing the Post Driver from the post.
- Immediately stop working if the machine suddenly starts to vibrate strongly. Before resuming the work, find and remedy the cause of the increased vibrations.

Service and maintenance



Read the Christie Post Driver Safety and Operating Instructions carefully and ensure maintenance and servicing are completed according with requirements. Perform engine maintenance in accordance with the supplied

Honda Owner's Manual GX35.

- Regular maintenance is a prerequisite for keeping the machine safe and effective.
- If parts are damaged or worn, immediately cease using the Christie Post Driver until they have been serviced or replaced.
- When servicing, if parts are cleaned with solvent, ensure there is satisfactory ventilation, and PPE such as respiratory mask, gloves, and safety glasses are worn, and the manufacturer supplied Safety Data Sheet (SDS) for the solvent used is read and understood.
- Replace worn components in good time. When cleaning mechanical parts with solvent, make sure to comply with occupational health and safety regulations, and make sure that there is satisfactory ventilation.

Smaller posts - use of reducing bush



Warning: Driving posts that are significantly smaller than the receiver barrel will result in instability while operating the Christie Post Driver. This may result in injury to the operator and will result in damage to Post Driver.



Ensure there is minimum clearance on either side of the post so it fits neatly in the receiver barrel. Where there is too much clearance on each side, use a reducing bush (with the supplied CHPD788USHfor CHPD78 models, 52-20mm bush is an optional extra with CHPD52).



Figure 1 - CHPD788USH

for compensation for any other reasonably foreseeable loss or damage. You are also entitled to have the goods repaired or replaced if the goods fail to be of acceptable quality and the failure does not amount to a major failure.

accepted by the Company, the Company is not required to repair or replace the Goods and is not liable to the Customer for any costs or expenses incurred. The Customer must, at its own cost, retrieve the Goods from the Company's premises or if the Company agrees, the Company will arrange for return of the Goods to the Customer at the Customer's cost.

To Make a Claim:

If the defect has appeared within three (3) years of supply by the distributor subject to the terms above, the consumer is entitled to claim a warranty. To make a claim the consumer must:

1. Immediately cease using the Goods as soon as the Customer suspects there is a fault;
2. Contact Christie Engineering Pty Ltd on (02) 96201208 or at enquiries@christieengineering.com.au and provide details of the fault to obtain technical support;
3. If technical support does not rectify the fault and the warranty claim is accepted by the Company, the Company will provide a return number for the consumer to return the product, at the customer's own cost, with the details of the fault and any other details requested by the Company to the following address:

Christie Engineering Pty Ltd

123 Delaware Road

Horsley Park NSW 2175

4. Ensure the product is packaged in a way that will not cause damage to the product during transport.

Extent of Warranty

Unless the fault with the product/good is major and the provisions of The Act apply. The Company may, but is not obligated to, at its sole discretion reimburse the Customer for any reasonable delivery costs incurred in sending the Goods to the Company if the warranty claim is accepted by the Company.

The benefits conferred by this warranty are in addition to the rights and remedies the consumer has under the Competition and Consumer Act 2010 (The Act) and applicable state and territory laws of Australia. This warranty is not applicable outside of Australia.

Our goods come with guarantees that cannot be excluded under the Australian Consumer Law. You are entitled to a replacement or refund for a major failure and

Operating instructions

Design and function

The Christie Post Driver was designed for driving steel fence pickets (star/Y or T pickets) into the ground. A range of other materials can be driven, however, success and performance will depend on the quality of the material used and the ground conditions.

The Christie Post Driver operates a pneumatic hammer system with a Honda GX35 engine to drive material into the ground with the hammering action.

Differences between **CHPD52** and **CHPD78**

Post	CHPD52	CHPD78
Weight dry	13.5kg (29.7lb)	15.5kg (34.1lb)
Weight wet	14kg (30.8lb)	16kg (35.2lb)
Internal guide tube diameter	52mm	78mm
Reducing bush supplied	No	Yes CHPDBUSH78 (78-52mm)
Internal differences		Larger bottom guide and striker
Visual differences	Receiver barrel is pressed inside the bottom casting	Receiver guide is fastened on the outside of the bottom housing.
Engine	Honda GX35	
What's in the box	Christie Post Driver Safety and Operating Instructions Honda Owner's Manual GX35 Honda Oil SAE 10W-30 Castex EP C0 Grease for servicing	

Applications

Types of posts

The Christie Post Driver will drive a wide range of posts, the below table is not exhaustive but provides a guide on which model may suit.

Post	CHPD52	CHPD78
Earth rod stakes	Yes *	Yes##
Standard star/Y or T pickets and posts Diameter up to 52mm	Yes	Yes #
Timber stakes up to 35mm square / diameter less than 52mm	Yes	Yes #
Pipe up to 50mm OD Such as 32NB pipe for sign posts 40NB pipe	Yes	Yes #
Waratah® Gripfost® Trellis Posts	Yes	Yes#
Square steel sections and angle Up to 35mm square / 52mm diameter	Yes	Yes#
Clipex® Beety® Posts	No	Yes
Waratah® Galstar MaxY® posts	No	Yes
Posts up to 76mm diameter Pipe up to 76mm OD Such as 50 to 65NB pipe for strainer posts, sign posts and guide posts	No	Yes
Square steel sections and angle to Up to 50mm square / 76mm diameter	No	Yes

* With optional CHPD GRND Earth Rod Reducing Bush (at cost)

With supplied CHPD78BUSH/78-52mm Reducing Bush)

Christie Post Driver Warranty

The Christie Post Driver has a three (3) year warranty limited to defects in workmanship or parts, from the date of supply (by the distributor) when used in accordance with reasonable use and care. Please keep your proof of purchase to assist with any warranty claims.

Defects that occur within the stated warranty period other than those components excluded below shall be repaired or replaced at the discretion of Christie Engineering.

Any parts or goods repaired under this warranty is only warranted for the remainder of the warranty period commencing the original date of supply by the distributor.

Exclusions

This warranty does not cover:

- normal wear and tear,
- damage caused by the Customer failing to follow the Safety and Operating Instructions, including but not limited to seizures due to lack of maintenance and cleaning;
- components that may need replacement or repair due to normal wear and tear or lack of maintenance upkeep, including but not limited to:
 - O rings and seals,
 - lost, stripped or broken fasteners,
 - Guide tube (Receiver barrel), and,
 - Lubrication and grease.
- physical damage caused by accident, misuse, negligence, abuse or fire;
- unauthorised alteration, modification or substitution of any parts of the Post Driver, installation or use of the Post Driver not in accordance with instructions supplied;
- damage due to faulty installation or operation or maintenance;
- overloading or transport damage; or damage as a result of improper packaging;
- Post Drivers that have their serial number or model number label removed or defaced;
- failures or defects cause by or associated with use of the Post Driver in unsuitable physical or operating environment;
- damage caused by force majeure events such as acts of God and factors beyond reasonable human control;
- Post Drivers that have been used for a purpose other than for what was reasonably intended for the Post Driver,

To the extent permitted by law, where the Company determines in its sole discretion that the warranty claim does not fall within the terms and conditions of this warranty and is not

A: Regular unleaded petrol. Refer to the Honda GX35 manual.

Q: What type of Engine oil is recommended?

A: 10W30 engine oil. Refer to the Honda GX35 manual

Q: What type and quantity of grease is recommended for the post driver?

A: Calltex EP C0 grease or equivalent. Approximately 75ml is sufficient for a total strip and rebuild of the machine as per instructions in this manual.

Q: how often does the machine need stripping and rebuilding?

A: As per the servicing recommendations in this manual or if there is notice of performance reduction and determined not to be an engine problem.

Q: How long do the hammer components last?

A: The hammer components are made from the highest quality material and no failures have been recorded between 2010 and 2014 due to wear and tear in commercial use.

Ground conditions

The Christie Post Driver has excellent performance in most ground conditions. In aggregate soils with stones small to medium stones will generally displace. If a larger stone is struck and the post is not progressing, cease driving, remove the post and move along a short distance and retry.

The Christie Post Driver will not drive a post through solid rock. This is beyond the limits of a small, lightweight machine and most posts.

Pre-start checklist

Check point	Remedy
Check engine oil Honda GX35	<ul style="list-style-type: none"> Fill only to the top thread of the filler while the motor is in a vertical position ! Overfilling will damage the engine Refer to Honda Owner's Manual GX35 Use SAE10W 30 oil
Check fuel level	<ul style="list-style-type: none"> Fill with regular unleaded fuel only
Visually inspect striker and barrel	<ul style="list-style-type: none"> Look in the receiver guide of the Post Driver to check for damage to the striker or tube, repair/replace if damaged Dislodge any debris (such as tar, timber picket splinters with a WD spray into the receiver barrel
Visually inspect all fasteners	Tighten as necessary: <ul style="list-style-type: none"> Cover plate screws Receiver guide screws (CHPD78 Maxi only) – clean and apply thread locking compound Screws in engine guard, and body castings

Safe starting



- Start and operate the Christie Post Driver unit outdoors, and in a ventilated area
- Never wrap the Honda GX35 pull starter rope around the hand
- Do not quick release the Honda GX35 starter grip, guide the starter rope back slowly to permit the rope to rewind properly
- Failure to observe instructions regarding the pull starter may result in injury to the operator's hand and damage to the starter

Ensure the ground is firm or select a solid surface, in an open well-ventilated area.

Maintain good balance and secure footing on both feet, with feet as far apart as the shoulders.

Place the Christie Post Driver, resting on the receiver barrel on firm ground with the top handle in left hand to stabilize machine.

Prime the fuel bulb and switch stop switch to on, engage choke.

Grasp the Honda GX35 engine pull starter grip and pull up and out. Excessive force or speed is not required.

Guide the starter rope back slowly to permit the rope to rewind properly.

- Should the engine not start easily, or the pull starter offer resistance, refer to the Troubleshooting section.

Driving posts



- Ensure there is plenty of clearance behind and next to the Honda GX35 engine, to allow for the escape of hot and toxic exhaust fumes
- Only operate the Christie Post Driver in daylight conditions with good visibility

Ensure the operator and all other persons nearby wear, at a minimum, the following PPE:

- Class 4 hearing protection, greater than 22dB attenuation
- Safety glasses to AS/NZS1337 medium impact rating
- Gloves suited to manual handling - leather or other abrasion resistant material, anti-vibration gloves are recommended
- Steel capped boots



Troubleshooting and FAQ

Troubleshooting

Recoil starter offering resistance

- Engine overfilled with oil. Drain out and see fill instructions in the Honda GX35 manual. Place unit on a post so it is upright and level. Fill oil level with filler thread.

Pull starter rope pulling but engine is not cranking

- Damaged recoil starter or starter drive dog
- Requires replacement part either whole recoil starter or starter drive dog.

Engine does not start

- Check fuel level and quality
- Check On/Off switch
- Prime fuel bulb and engage choke
- Check spark plug and spark present

Post driver not hammering

- If using tar coated steel or poorly seasoned timber pickets, residue may be left in the guide tube causing the bottom striker to foul. This can be dissolved by spraying inside the guide tube with a WD spray.
- Place unit on a post. Lift and give a gentle drop onto the post, this will re-engage the striker. Do not operate unless on a post and exerting 10kg downward pressure (pulling on driver)
- If the hammer will not engage after trying WD spray procedure, further servicing of the machine may be required as in previous chapters.

Frequently asked questions (FAQ)

Servicing

Q: Will servicing void warranty?

A: Warranty will be covered when performed in accordance with the instructions contained in this service manual.

Q: What type of fuel is recommended?

8. Apply medium strength thread locking compound to the 4 socket screws (M8x80) in the flanged adapter (CEPD938) and tighten to 20Nm.
9. Apply medium strength thread locking compound to the 8 guide tube retaining bolts (M8X16) and ensure serrated lock washers are fitted to the screws. Insert all screws finger tight into the respective holes and then tighten in an alternate pattern.
10. Apply 100ml of the supplied EP C0 grease to the crank area, and reinstall the 4 socket screws (M4X10) using medium strength thread locking compound.



All screws must be correctly tightened in an alternate pattern, as machine damage can occur from loose or lost bolts.

Driving in a Post

1. Start motor safely as described in *Safe starting*.

Stand the post in the required position by lightly tapping the post into the ground with a hammer. Ensure the post is stable enough to take the weight of the Christie Post Driver.

- Where many posts are to be driven, doing this in batches will save time.
- A guide wire can be used to assist in maintaining a straight fence line.

Lift the Christie Post Driver post driver over and on to the post.

Ensure the post is in a vertical position and the Post Driver is on a parallel plane to the post.

- A guide wire can be used to assist in maintaining a straight fence line.
- Correct alignment is depicted on the safety label on the receiver barrel.

Ensure the operator maintains a stable standing position with feet as far apart as the width at shoulders. Keep body weight balanced.

Pull down on the Post Driver with 5-10kg of downward force.

- This is mandatory to ensure the internal hammer mechanism is engaged in the correct operating position, and reduce unexpected movement while driving.

Gently pull the throttle trigger until the hammer action is felt.

Once the post has been observed as being driven in to the ground, then fully depress the throttle trigger and drive the post to the desired depth.

- If the post does NOT drive into the ground cease driving, remove the post and move along a short distance and retry.
- ! Never drive a post until the receiver barrel touches the ground.

Once the desired depth is reached, release the throttle fully so the Honda GX35 Engine is idling, and the hammer action has stopped.

- ! Never operate the throttle unless the Post Driver is on a post, and between 5-10kg downward force is exerted on the handles.

Move to the next post and repeat.

Refueling



Warning: Fuel vapors are extremely flammable and can cause severe injury or death, if ignited by a spark or excessive heat from a hot motor.

- Always switch off the Honda GX35 engine, and allow adequate time for it to cool down before refueling.
- Use regular unleaded fuel only.
- Fill the tank on level ground avoiding spilling fuel on the motor. Allow any spill fuel to evaporate before restarting the motor.
- Ensure fuel cap is tightened adequately before restarting the motor.

Reassembling the hammer

After thoroughly cleaning and drying the components and checking for excessive wear, reassembly can occur.

1. Apply a coating of the supplied EP C0 grease around the O ring and outside of the piston, and gently push back into the housing using a soft dolly.
2. Add a small amount of grease to the crank pin and reassemble remembering it is **Left Hand thread!** Do not over tighten this pin, not more than 30Nm.
3. Add a coating of the supplied EP C0 grease to the outside of top hammer, and gently push into the housing. The O ring will be at the top.
4. For the bottom hammer section, add a light coating of the supplied EP C0 to the hammer (CEPD 937) then push the bottom hammer through the flanged adapter (CEPD938) and into the hammer housing (CEPD936).
5. Align the two flat faces of the hammer (CEPD937) with the two holes in the hammer housing (CEPD936) for the retaining dowels and gently tap the dowels (M8X36) into place. **Note the dowels can only be driven from one direction.**
6. Reassemble the damper components with a small amount of the supplied EP C0 to all components. (CEPD 22/ 20 & 2xBS326).
For the damper assembly:
 - Place the hammer housing (CEPD936) on a bench and place one of the damper O rings (BS326) in the cup.
 - Place the hammer guide (CEPD 20) inside the cup on top of the first O ring with internal radius facing down. This is important – if assembled incorrectly this could cause damage to the hammer.
 - Place the second Damper O ring (BS326) on top of the hammer guide, inside the cup.
 - Place the damper washer (CEPD 22) on top of the O ring, ensuring the small diameter spigot is facing up. This spigot aligns inside the cylinder liner.
 - Fit the damper assembly in the bottom guide tube over the bottom hammer.
7. Install the bottom guide section back into the main housing and insert handlebars and springs back into the bottom housing in this process, ensuring the thin section O ring is not damaged between the housings.



Figure 8 Damper assembly correct alignment

4. If significant wear is seen in the hammer housing (CEPD936), the operator may not be holding the driver square on the post – Please see Driving in a Post (P9).
5. Remove the bottom hammer section from the cast handle housing (CEPD 925).
Remove the bottom striker (CEPD 937) using a 6mm punch to carefully push the two retaining dowel pins from the guide housing.
 - A vice and some soft jaws may aid in holding the round hammer guide and hammer in place.
6. Inspect the internal Viton O ring seal (BS220) inside the hammer guide for wear or damage and replace if necessary.
 - The striker (CEPD 937) is made from high quality steel and should not be a wearing component but ensure a visual inspection is carried out after cleaning for wear or damage and replace if necessary.
7. To remove the top striker, gently tap the main cast housing vertically down on a soft bench top and it should slide out of the inner cylinder liner (CEPD 24-1).
 - Take note of the orientation of the components as in the parts diagram.
8. If the top hammer (CEPD 27) o ring (BS222) shows obvious signs of wear, the top piston (CEPD 30) can be removed from the crank by:
 - Removing the **Left Hand thread** crank pin (CEPD 38 PIN) from the crank.
 - Jam the connecting rod with a round metal bar, and gently pushing the plastic piston through the bottom of the housing using a soft metal rod. **DO NOT USE A SQUARE OR SHARP OBJECT TO JAM THE CONNECTING ROD.**
 - Orientation is not critical on the piston or connecting rod.
 - Check the piston (CEPD 30) and Viton O ring (BS222) for obvious signs of wear, and replace along with top hammer O ring (BS222) if necessary.
 - Wash all grease from the housing and components using a degreaser solvent and inspect the inner barrels for wear and deep scores.
 - If the cylinder liner is scored or too badly worn the Post Driver should be sent back to Christie Engineering for repair or replacement of the inner liner.

Maintenance and servicing



Read the supplied Honda Owner's Manual GX35 and perform engine maintenance as recommended by Honda.



Failure to follow the maintenance schedules for the Christie Post Driver, and Honda GX35 engine, may result in non-warranty machine failures.

Manufacturer servicing

Should assistance be required, Christie Engineering can perform servicing at a cost. For technical advice, please contact Christie Engineering.

Maintenance schedule

Service	Domestic/farm/light use	Commercial use
Crank lubrication	Annually	250 hours or 3 months
Hammer section	Bi-annually	Whichever occurs first
		500 hours or 6 months
		Whichever occurs first

Crank Lubrication service

This service is to be performed at annually for domestic/farm/light use, or 250 hours/3months for commercial use.

Tools/materials required

- M3 Allen key, of good quality
- Thread locking compound medium strength
- Degreaser solvent
- Caltex EP C0 grease, supplied with purchase

Performing the crank lubrication service

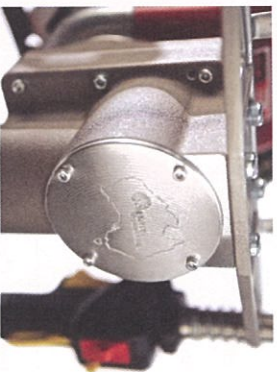


Figure 2 Cover plate

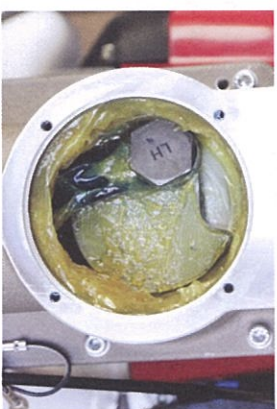


Figure 3 Crank area with sufficient grease. Colour is yellow prior to use as above, and will tend to brown with age and use

1. Remove the 4 screws from the crank cover plate, using an M3 Allen key.
2. Inspect the amount and colour of grease in the crank area. There should be a liberal amount of grease coated around the outside of the crank about 6-8mm thick.
 - If the grease looks to be low, add a **small amount** of Caltex EP C0 grease (supplied with purchase). 20-30 ml is generally sufficient.
 - The colour of the grease can be yellow to brown.
 - If the grease is very dark, and tar coated parts have been used, this may be due to residual tar entering the machine. The Post Driver may will need further stripping as described at Hammer Section(P14), and is recommended if reduced performance has been noted.

Hammer section service – CHPD78 Maxi

This service is to be performed at bi-annually for domestic/farm/light use, or 500 hours/3months for commercial use.

A service kit (CHPD S-KIT) is available to purchase from Christie Engineering or any retail distributor at cost, containing EP C0 grease and all wearing O rings.

Tools/materials required

- M3 and M6 Allen key, of good quality
- 6-7mm punch for dowels
- Small engineers hammer
- 13/16 (21mm) socket and ratchet
- Thread locking compound medium strength
- Degreaser solvent
- Caltex EP C0 grease, supplied with purchase

Performing the hammer section service



Figure 7 CHPD78 hammer section

1. Remove the socket head bolts retaining the bottom receiver barrel to the flanged adapter section (CEPD 938) using an M6 Allen key, and carefully slide the bottom guide tube from the flanged adapter (CEPD938).
2. Remove the 4 M8X80 socket head bolts from the bottom cast handle section using an M6 Allen key, and carefully slide the bottom hammer section from the cast housing.
3. Remove the damper section and inspect for wearing in the damper O rings and steel components. The outer damper cup is machined into the hammer housing (CEPD936)

For the damper assembly:

- Place the damper cup (CEPD 901) on a bench and place one of the damper O rings (BS326) in the cup.
- Place the hammer guide (CEPD 20) inside the cup on top of the first O ring with internal radius facing down. This is important – if assembled incorrectly this could cause damage to the hammer.
- Place the second Damper O ring (BS326) on top of the hammer guide, inside the cup.
- Place the damper washer (CEPD 22) on top of the O ring, ensuring the small diameter spigot is facing up. This spigot aligns inside the cylinder liner.
- Fit the damper assembly in the bottom guide tube over the bottom hammer.



Figure 6 Damper assembly correct alignment

Install the bottom guide section back into the main housing ensuring the thin section O ring is not damaged between the housings.

Insert the handlebars and springs back into the bottom housing. Apply medium strength thread locking compound to the 4 socket screws (M8x60) in the bottom handle casting and tighten to 20Nm. A

Apply 75ml of the supplied EP C0 grease to the crank area, and reinstall the 4 (M4X10) socket screws using medium strength thread locking compound.



All screws must be correctly tightened in an alternate pattern, as machine damage can occur from loose or lost bolts.

3. Clean the cover plate screws with degreaser solvent. Apply thread locking compound medium strength.
4. Tighten the cover plate screws in an even pattern, to prevent pinching the cover plate o ring.



The amount and type of grease used is critical for the performance and service life of the Post Driver. Not enough grease will cause failure and too much grease will affect the striking power of the tool. **Do not over or under grease.**

Hammer section service – CHPD52 Standard

This service is to be performed at bi-annually for domestic/farm/light use, or 500 hours/3months for commercial use.

A service kit (CHPD S-KIT) is available to purchase from Christie Engineering or any retail distributor at cost, containing EP C0 grease and all wearing O rings.

Tools/materials required

- M3 and M6 Allen key, of good quality
- 13/16 (21mm) socket and ratchet
- Thread locking compound medium strength
- Degreaser solvent
- Caltex EP C0 grease, supplied with purchase

Performing the hammer section service



Figure 4 Bottom assembly top view CHPD52

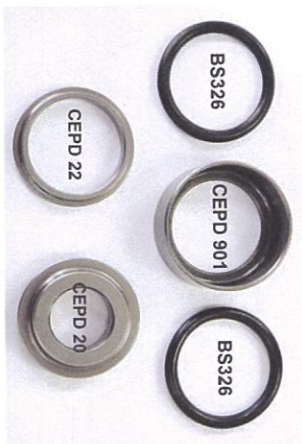


Figure 5 Damper assembly CHPD52

1. Remove the 4 Allen head bolts from the bottom cast handle section, using an M6 Allen key, and carefully slide the bottom barrel section from the cast housing.
2. Remove the damper section, (Figure 5), and inspect for wearing in the rubber dampers and steel components.
 - The outer cup (CEPD 901) for the damper is made from hardened material and should not show signs of wear.
 - If significant wear is seen in damper components, the operator may not be holding the driver square on the post – Please see Driving in a Post (P9).

3. Remove the bottom striker (CEPD 902-2) and inspect the Viton O ring seal (BS224) for wear or damage, and replace if necessary. The striker component is made from high quality tool steel and should not be a wearing component - but ensure a visual inspection is carried out after cleaning for damage, and replace if necessary.
4. To remove the top striker, gently tap the main cast housing vertically down on a soft bench top and it should slide out of the inner cylinder liner (CEPD 24-1).
 - Take note of the orientation of the components as in the parts diagram.
5. If the top hammer (CEPD27) o ring (BS222) shows obvious signs of wear, the top piston (CEPD 30) can be removed from the crank by:
 - Removing the **Left Hand thread** crank pin (CEPD 38 PIN) from the crank.
 - Jam the connecting rod with a round metal bar, and gently pushing the plastic piston through the bottom of the housing using a soft metal rod. **DO NOT USE A SQUARE OR SHARP OBJECT TO JAM THE CONNECTING ROD.**
 - Orientation is not critical on the piston or connecting rod.
 - Check the piston (CEPD 30) and Viton O ring (BS222) for obvious signs of wear, and replace along with top hammer O ring (BS222) if necessary.
 - Wash all grease from the housing and components using a degreaser solvent and inspect the inner barrels for wear and deep scores.
 - If the cylinder liner is scored or too badly worn the Post Driver should be sent back to Christie Engineering for repair or replacement of the inner liner.

Reassembling the hammer

After thoroughly cleaning and drying the components and checking for excessive wear, reassembly can occur.

1. Apply a coating of the supplied EP C0 grease around the O ring and outside of the piston, and gently push back into the housing using a soft dolly.
2. Add a small amount of grease to the crank pin and reassemble remembering it is **Left Hand thread**. Do not over tighten this pin, not more than 30Nm.
3. Add a coating of the supplied EP C0 grease to the outside of top hammer, and gently push into the housing. The O ring will be at the top.
4. For the bottom hammer section, add a light coating of the supplied EP C0 to the bottom striker (CEPD 902-2) then push the bottom striker into the guide tube.
5. Reassemble the damper cup with a small amount of the supplied EP C0 to all components. (CEPD 22/ 20 / 901 & 2 of BS326).