EASY™

PETROL POST DRIVER™

Australian Engineering by Christie

SAFETY, OPERATION & MAINTENANCE INSTRUCTIONS

ENGLISH

SAFETY, OPERATING & MAINTENANCE INSTRUCTIONS

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Australian Engineering by Christie

Thank you for purchasing the **Easy Petrol Post Driver.** We are proud of the quality engineering and construction of this product and hope that you will enjoy many years of productive use from your machine.

CHRISTIE ENGINEERING

Christie Engineering, a family owned and operated Australian business, are the designers and manufacturers of the very first petrol engine driven post driver on the market.

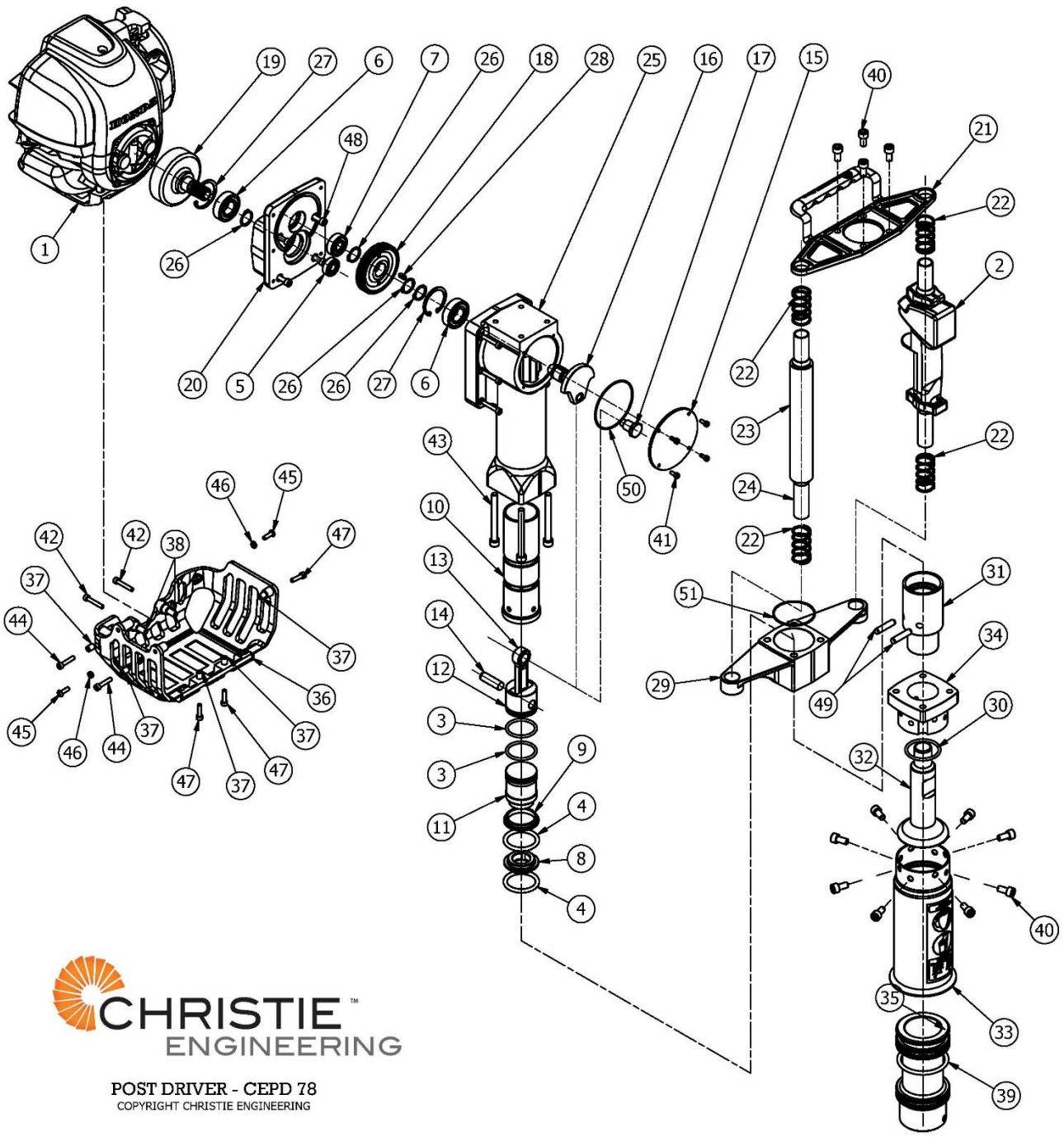
Easy Petrol Post Driver are proud to work with them as the sole distributors of their Post Drivers throughout Europe. For more information please visit:

www.christieengineering.com.au

www.petrolpostdriver.com

Read these 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 these instructions in conjunction with the supplied Honda Owner's Manual GX35. This manual also contains important safety information and engine maintenance information.



CHRISTIE ENGINEERING

POST DRIVER - CEPD 78

CEPD 78 PARTS LIST

ITEM	QTY	PART NUMBER	DESCRIPTION
1	1	GX35	HONDA MOTOR
2	1	17850VL1741	THROTTLE LEVER ASSEMBLY-SWITCH
3	2	CEPD BS222 OR37.7-3.53V	O RING
4	2	CEPD BS326 OR40.65-5.34	DAMPER O RING
5	1	CEPD 6000-2RS	DEEP GROOVE BALL BEARINGS
6	2	CEPD 6004-2RS	DEEP GROOVE BALL BEARINGS
7	1	CEPD 6201-2RS	DEEP GROOVE BALL BEARINGS
8	1	CEPD 20	HAMMER GUIDE
9	1	CEPD 22	DAMPER WASHER
10	1	CEPD 24-1	STEEL CYLINDER LINER
11	1	CEPD 27	TOP HAMMER
12	1	CEPD 30	PISTON
13	1	CEPD 31	CONNECTING ROD 01
14	1	CEPD 31-A	GUDGEON PIN 12 x 40
15	1	CEPD 37	COVER PLATE
16	1	CEPD 38	CRANK SHAFT
17	1	CEPD 38 PIN	CRANK PIN LH S1214
18	1	CEPD 54-58	58T DRIVEN GEAR
19	1	CEPD 60-13	CLUTCH DRUM
20	1	CEPD 67-1	CAST CLUTCH HOUSING
21	1	CEPD 920	HANDLE MOUNT TOP BRACKET
22	4	CEPD 921	SPRING
23	1	CEPD 921-A	HANDLE RUBBER
24	2	CEPD 922	HANDLEBAR
25	1	CEPD 924	CRANK HOUSING
26	4	CEPD CC 20x1.20	EXTERNAL CIRCLIP
27	2	CEPD CC 42x1.75	INTERNAL CIRCLIP
28	1	CEPD A4x4x12	PARALLEL KEY
29	1	CEPD 925	CAST BOTTOM HOUSING
30	1	CEPD BS220 OR44.05-3.53V	O RING
31	1	CEPD 936	HAMMER HOUSING (CEPD 78)
32	1	CEPD 937	3rd HAMMER (CEPD 78)
33	1	CEPD 931	BOTTOM GUIDE TUBE (CEPD 78)
34	1	CEPD 938	FLANGED ADAPTER (CEPD 78)
35	1	CEPD 930	REDUCER 78-52 mm
36	1	CEPD GUARD	CEPD GUARD
37	5	CEPD SPACER 8x5x10	SPACER 8x5x10
38	2	CEPD SPACER 8x5x14	SPACER 8x5x14
39	2	CEPD BS334 OR62.87-5.34	REDUCER O RING
40	12	CEPD M816 SHCS	M8 x 16 SHCS
41	4	CEPD M410 SHCS	M4 x 10 SHCS
42	8	CEPD M530 SHCS	M5 x 30 SHCS
43	4	CEPD M880 SHCS	M8 x 80 SHCS
44	2	CEPD M525 SHCS	M5 x 25 SHCS
45	2	CEPD M516 BHCS	M5 x 16 BHCS
46	2	CEPD M5 HEX NUT	M5 HEX NUT
47	3	CEPD M520 SHCS	M5 x 20 SHCS
48	4	CEPD M630 SHCS	M6 x 30 SHCS
49	2	CEPD PIN 8x36	PIN 8 x 36
50	1	CEPD BS040 OR72.75-1.78	O RING
51	1	CEPD BS035 OR56.87-1.78	O RING

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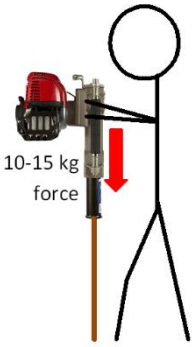
Points of caution

This machine operates using a Honda GX35T, 4 Stroke Engine.
Read both manuals **thoroughly before** operation.
In particular please note the following points of caution:

IMPORTANT: Warranty will not be valid if operating methods are not followed.

Dry Firing

ONLY operate the throttle while the Christie Post Driver is on a post and between 10-15kg pull down force is exerted on the handles. Pressing the throttle without load is known as 'dry firing'.



Failure to follow this instruction can result in danger to the operator and damage to the machine.

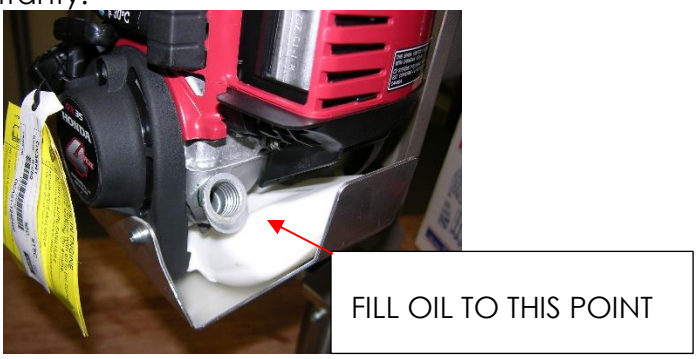
Further, never drive a post/rod in to the ground until the receiver barrel touches the ground as this can result damage to the post driver.

The damage caused is not covered under warranty.

Engine Oil Levels

Carefully monitor the oil levels of the Honda GX35T engine.
a. Stand the driver & machine upright.
b. Fill oil level up to the edge of the screw thread, as if just about to overflow.

Use SAE10W 30 oil.
Check oil level regularly. Refer also to the 'Troubleshooting' section of this manual. Damage caused by failure to maintain oil level is not covered by the warranty.



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.

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.

Reducing the risk of hand-arm vibration

Normal use of the Easy Petrol 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 Easy Petrol 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 & Easy Petrol Post Driver 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 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 these 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 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 adapters

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

Solution: 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 an adapter to suit your post size.

For more information on our adapters please visit our website www.petrolpostdriver.com and our YouTube channel PetrolPostDriver

Tall posts – increase number of operators

Warning: Driving posts that are significantly taller than the operator may result in over reaching when positioning the Post Driver. This may result in injury to the operator and may result in damage to Post Driver.

Solution1 : This may be resolved by using 2 operators – the Operator 1 holds the post at an angle suitable to comfortably slot the receiving barrel of the Post Driver onto the top of the post. Operator 2 (the person to be operating the Driver) slots the Christie Post Driver onto the post. Both operators simultaneously raise the post into the driving position, with the Driver held by Operator 2 and the post held by Operator 1. Once in position, Operator 1 holds the post steady whilst Operator 2 drives the post into the ground to a suitable height. Both operators must communicate with each other to avoid risk of injury.

Solution 2: Extension Handles are available as an accessory. These attach to the bottom (or the top to prevent bending over) of the Post Driver and prevent over-reaching.

Operating instructions

Design and function

The Christie Post Driver / Easy Petrol 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 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 Weight wet	13.5kg (29.7lb) 14kg (30.8lb)	15.5kg (34.1lb) 16kg (35.2lb)
Internal guide tube diameter	52mm	78mm
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 / Easy Petrol Post Driver Safety and Operating Instructions Honda Owner's Manual GX35 Mobilux EP1 Grease for servicing	

Applications

Types of posts

The 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	**CHPD78**
Posts up to 76mm diameter Pipe up to 76mm OD Such as 50 to 65NB pipe for strainer posts, sign posts and guide posts	Yes
Posts up to 100mm (4") with magnum Adaptor into suitable ground	Yes *
Square steel sections and angle to Up to 50mm square / 76mm diameter	Yes
Marquee Pins	Yes *
Spiral Anchors	Yes *
Earth rod stakes	Yes *
Standard star/Y or T pickets and posts Diameter up to 52mm	Yes *
Timber stakes up to 35mm square / diameter less than 52mm	Yes *
Pipe up to 50mm OD Such as 32NB pipe for sign posts 40NB pipe	Yes *
Waratah® Gripfast® Trellis Posts	Yes *
Square steel sections and angle Up to 35mm square / 52mm diameter	Yes *
Clipex® Beefy® & Standard Posts	Yes *
Waratah® Galstar MaxY® posts	Yes

* With additional adaptor.

Ground conditions

The 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 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	• 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	• Fill with regular unleaded fuel only
Visually inspect striker and barrel	• 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: • 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

i. Ensure the ground is firm or select a solid surface, in an open well-ventilated area.
ii. Maintain good balance and secure footing on both feet, with feet as far apart as the shoulders.
iii. Place the Post Driver, resting on the receiver barrel on firm ground with the top handle in left hand to stabilize machine.
iv. Prime the fuel bulb and switch stop switch to on, engage choke.
v. Grasp the Honda GX35 engine pull starter grip and pull up and out. Excessive force or speed is not required.
vi. 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

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 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.

2) Lift the Post Driver post driver over and on to the post.
3) Ensure the post is in a vertical position and the Post Driver is on in a parallel plane to the post. Correct alignment is depicted on the safety label on the receiver barrel.
4) Ensure the operator maintains a stable standing position with feet as far apart as the width at shoulders. Keep body weight balanced.
5) 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.
6) Gently pull the throttle trigger until the hammer action is felt.
7) 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.
8) 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.
9) Move to the next post and repeat.

Refuelling

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 spilt fuel to evaporate before restarting the motor.
- Ensure fuel cap is tightened adequately before restarting the motor.

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, Easy Petrol Post Driver can perform servicing at a cost. For technical advice, please contact Easy Petrol Post Driver or your local stockist.

Maintenance schedule

Service	**Domestic/farm/light use**	**Commercial use**
Crank lubrication	Annually	250 hours or 3 months Whichever occurs first
Hammer section	Bi-annually	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
- Mobilux EP1 grease, supplied with purchase

Performing the crank lubrication service

Figure 1 Cover plate.

Figure 2 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 EP 1 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 posts 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.
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 – CHPD78 Maxi

This service is to be performed at bi-annually for domestic/farm/light use, or 500 hours/6months for commercial use.

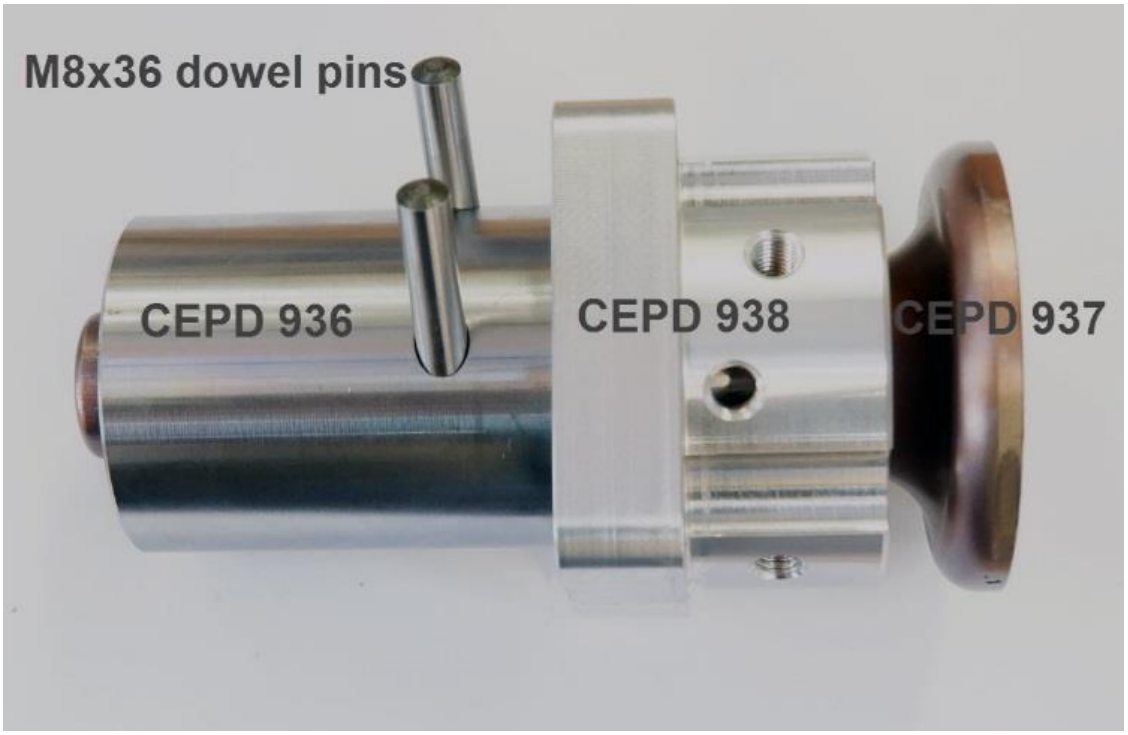
A service kit is available to purchase from Easy Petrol Post Driver or any retail distributor at cost, containing grease and all wearing O rings.

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
- Mobilux EP 1 grease, supplied with purchase

Figure 1 CHPD78 hammer section

Performing the hammer section service



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 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 CEPD outer damper cup is machined into the hammer housing (CEPD936)
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' earlier in this manual.
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 CONNECING 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 Easy Petrol Post Driver 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 1 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 1 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 1 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 1 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.

Figure 2 Damper assembly correct alignment

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.
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 lock washers are fitted to the screws. Put all screws finger tight into the respective holes and then tighten in an alternate pattern.
10. Apply 100ml of the supplied 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.

Hammer section service – CHPD52 Standard

This service is to be performed at bi-annually for domestic/farm/light use, or 500 hours/6months for commercial use.

A service kit is available to purchase from Easy Petrol Post Driver or any retail distributor at cost, containing 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
- Mobilux EP1 grease, supplied with purchase

Performing the hammer section service

Figure 3 Bottom assembly top view CHPD52

Figure 4 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 4), 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 (P8 & 9).
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 (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 CONNECING 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 Easy Petrol Post Driver 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 1 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 1 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 1 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 1 to all components. (CEPD 22/ 20 / 901 & 2 of BS326).

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 5 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 100ml of the supplied EP 1 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.

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.

Loss of power when pressing throttle

- Dirty or stale fuel. Empty all fuel, start engine & run until it cuts out. Refill with fresh fuel. N.B. Fuel turns stale within 4 weeks of purchase. If your engine will be used intermittently (eg more than 4 weeks between each use) use petrol which has been treated with fuel stabiliser, when fresh.
- If problems persist the Fuel Filter may require changing, and the Carburettor may require cleaning. Also refer to the Honda recommendation page at the end of this manual.

Frequently asked questions (FAQ)

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?

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: Mobilux EP1 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 are intended to give a long lasting lifespan for this commercial machine.

Easy Petrol Post Driver Warranty

Conditions

The Easy Petrol Post Driver has a one (1) 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 Easy Petrol Post Driver & 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 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.

How to make a claim:

If the defect has appeared within one (1) year 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 Easy Petrol Post Driver (a trade name for SPA Landscaping Limited) on 0044 (0) 114 2699119 or at info@petrolpostdriver.com and provide details of the fault and details of purchase (invoice number & serial number) 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 customers own cost, with the details of the fault and any other details requested by the Company to the following address:

   Easy Petrol Post Driver

   22 Orgreave Close, Sheffield, S13 9NP, ENGLAND

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.

Honda Warranty

Conditions

The following warranty conditions are valid for machines sold to customers from 1 January 2012. For engines on the market before 1 January 2012 different warranty conditions apply. Please contact your nearest dealer on the **SERVICE NETWORK** (see below) for more information.

Warranty period in months

Engine Code	Non-commercial use	Commercial use Rental use
GX25 / GX35 / GXH50 / GXV50 / GXV57-engines	24	12

Commercial use is considered to be when the machine is purchased by a company.
In cases where the machine is sold to another private person, the warranty lapses.

Exclusions

Please see the following website for Warranty Exclusions:
http://www.honda-engines-eu.com/web/eec-public-site/warranty-exclusions

How to make a claim

In case you face a problem with the Honda engine on your machine, you can claim a repair or replacement under warranty if the following conditions are fulfilled:

- The problem is related to a manufacturing defect on the engine.
- The engine is within the warranty period (see above **Warranty Conditions**).
- The problem does not fall within the **Warranty Exclusions** (see above).

Procedure and rules:

- Go to www.honda-engines-eu.com
- This website includes the **SERVICE NETWORK** and **SPARE PARTS DIAGRAMS**.
- Using the **SERVICE NETWORK** selection, find your nearest dealer who offers **Warranty Handling**.
- Contact the dealer to discuss the problem.

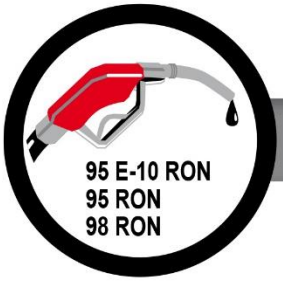
- Authorized dealers are directly linked to the Honda subsidiary or distributor in your country.
- Independent dealers can forward your claim to a spare parts distributor or to the Honda distributor presuming that those are available in your country.
- If there is no Honda subsidiary or distributor in your country it is recommended to contact the dealer, importer or manufacturer of the machine in order to claim warranty.
- The invoice or another document proving the date of sales of the machine should be presented.
- In case of export, the warranty conditions of the country where the machine is imported are valid (not those of the country where the machine is produced).
- Honda Warranty applies on all Honda products.
- Honda General Purpose engines are used to power machines that are manufactured and sold by other companies than Honda.
- In this case the Honda warranty is only covering defects of the engine, not of the machine where it is incorporated into nor on the parts or equipment that are attached to the engine in order to fit the engine to the application.
- If you experience difficulties with making a claim, please contact the Dealership you purchased your Easy Petrol Post Driver from.

For full information on Honda Warranty please go to the Honda Engines website:
http://www.honda-engines-eu.com/web/eec-public-site/warranty

Honda Fuel Advice

HONDA ENGINES

Problems caused by stale petrol can be avoided by following these simple tips.



WHICH KIND OF PETROL SHOULD YOU USE?

- Regular unleaded 98, 95, 95 E5 or E10 can be used in **Honda** products (E5 or E10 contains 5% or 10% ethanol).
- Do not use any petrol containing more than 10% ethanol. This will cause corrosion damage to fuel system components.
- **Honda** does not anticipate any negative effects from the use of Alkylate type petrol. However, due to the availability of different Alkylate fuels, no recommendation for their use can be provided at this time. Please refer to the instructions and data sheet provided by the Alkylate manufacturer for more information.
- If your **Honda** product is used intermittently (eg more than 4 weeks between each use) use petrol treated with fuel stabiliser, at the time of purchase.
  - > **Honda** fuel stabiliser has a shelf-life and its performance will deteriorate over time. Once the bottle is opened, it has a maximum life of 2 years.
  - > Fuel stabiliser will not reconstitute or reinvigorate stale petrol. It must be added when the petrol is fresh.

HOW SHOULD PETROL BE STORED?

- Petrol will start to deteriorate if stored for more than 1 month.
- Add **Honda** fuel stabiliser to fresh petrol which is likely to be stored for more than 1 month.
- Only use clean, sealed, approved fuel containers, designed to specifically carry or store petrol.
- If petrol is stored in a steel container (eg a jerrycan) make sure there is no corrosion on the inside of the container.
- Store petrol in a cool place away from direct sunlight.

MAINTENANCE OF YOUR PRODUCT.

- If your **Honda** product will be used intermittently (eg more than 4 weeks between each use) use petrol which has been treated with fuel stabiliser, when fresh.
- Turn the fuel tap off, when the machine is not being used.
- Before use, check the engine oil level is correct and ensure the air filter is clean.
- **Before winter storage:**
  - > Drain the petrol from the carburettor and fuel tank (refer to owner's manual for correct procedure).
    OR
  - > Add fuel stabiliser, which will extend the storage life of the petrol remaining in the fuel tank and carburettor. Fill the fuel tank to the recommended maximum level, using treated petrol. Run the engine for at least 5 minutes to allow treated petrol to enter the carburettor, prior to storage

HONDA RECOMMENDS

HONDA PART NUMBER: 08CXZFSC250

www.honda-engines-eu.com

CHRISTIE ENGINEERING

123 Delaware Road Horsley Park NSW 2175
Ph/Fax: 02 9620 1208
ABN 56 002 534 474
Web:
www.christieengineering.com.au
Email: enquiries@christieengineering.com.au

EC Declaration of Conformity

In accordance with

EC Machinery Directive 2006/42/EC (Annex IIa)

We	Christie Engineering Pty Ltd
Of	123 Delaware Road, Horsley Park, NSW, Australia 2175
Declare that	Christie Post Driver
Type:	CHPD
Model:	1

In accordance with the EC Machinery Directive 2006/42/EC and has been designed and manufactured to the following relevant harmonized EN Standards –

EN 292	Safety of machinery – Basic concepts, general principles of design
EN 1050	Safety of machinery – Principles of risk assessment

If this equipment is modified without the agreement of the undersigned, this declaration becomes invalid.

Peter Christie
AUTHOURISED PERSON

Manager
POSITION IN COMPANY

SIGNATURE

13/10/11
DATE/PLACE OF COMAPANY

CHRISTIE ENGINEERING

123 Delaware Road Horsley Park NSW 2175
Ph/Fax: 02 9620 1208
ABN 56 002 534 474
Web:
www.christieengineering.com.au
Email: enquiries@christieengineering.com.au

EC Declaration of Incorporation

In accordance with

EC Machinery Directive 2006/42/EC (Annex IIb)

We	Christie Engineering Pty Ltd
Of	123 Delaware Road, Horsley Park, NSW, Australia 2175
Declare that	Christie Post Driver
Type:	CHPD
Model:	1

In accordance with the EC Machinery Directive 2006/42/EC and has been designed and manufactured to the following relevant harmonized EN Standards –

EN 292	Safety of machinery – Basic concepts, general principles of design
EN 1050	Safety of machinery – Principles of risk assessment

The machine must not be put into service until the machine is fitted with appropriate drives and has been declared in conformity with the provisions of the Directive.

If this equipment is modified without the agreement of the undersigned, this declaration becomes invalid.

Peter Christie
AUTHOURISED PERSON

Manager
POSITION IN COMPANY

P. Christie
SIGNATURE

13/10/11
DATE/PLACE OF COMAPANY

CERTIFICATE OF CONFORMITY FOR MACHINE SAFETY

Report No.	:	110525
Machine	:	Christie Post Driver
Serial No.	:	001
Model	:	-
Date of Manufacture	:	2010
Manufacturer	:	Christie Engineering Pty Ltd
Supplier	:	N/A
Assessment Date	:	25th May 2011
Relevant Standards	:	AS4024.1-2006 Safety of machinery

Based on the evidence presented, Plant Safety Solutions Pty Ltd, (EC Conformity Assessment Body No. 929 and NATA accreditation No. 14155) certify that the machine identified above is capable of conforming with the relevant parts of AS4024.1-2006 Safety of machinery.

NATA Authorised signatory:

ROGER LIM, MIEAust,CPEng,CPMSIA
Principal Consulting Engineer
Plant Safety Solutions Pty Ltd
(Trading as RiskPlant)

This document is issued in accordance with NATA's accreditation requirements.

NATA Accredited (No. 14155)
Inspection Service
EC Designated Conformity Assessment Body (N0. 929)

Issued date: 25th May 2011

PETROL POST DRIVER™

Australian Engineering by Christie

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