HD series hydro-seeders

Operator manual

For HD600, HD800, HD1000, HD1500, HD2000 and HD2400 machines

READ FIRST Read this manual and the supplied Honda engine and pump manufacturer manuals before installing, operating, transporting or servicing the machine.

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About this manual

This manual provides common operating, safety, cleaning and maintenance instructions for the Ketta HD series hydro-seeders listed on the cover. Model-specific component details are identified where the Pacer 2 inch / Honda GX200 machines differ from the Hypro 3 inch / Honda GX390 machines.

IMPORTANT This manual supplements, but does not replace, the component manuals, safety labels, local regulations or job-site procedures. If instructions conflict, stop work and contact Ketta Pumps before operating.

Document	Ketta HD series hydro-seeder operator manual
Revision	1.0
Issue date	July 2026
Applies to	HD600, HD800, HD1000, HD1500, HD2000 and HD2400
Operator level	Trained adults familiar with petrol-engine machinery and pressurised hose systems
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Record the machine details

Machine model	_____
Machine serial number	_____
Engine model / serial	_____
Pump model / serial	_____
Purchase / commission date	_____

Contents

Safety signal words

DANGER	An immediate hazard that can cause death or serious injury.
WARNING	A hazardous situation that could cause death or serious injury.
NOTICE	Information needed to prevent equipment or property damage.

1 Models and configuration

Confirm the model and fitted options before using procedures or ordering parts. Hose quantity and electric-start availability can vary by SKU.

Series	Tank	Pump	Engine	Typical variants
HD600	600 litre	Pacer 50 mm (2 inch) poly	Honda GX200 5.5 hp	HD600 / HD600E
HD800	800 litre	Pacer 50 mm (2 inch) poly	Honda GX200 5.5 hp	HD800 / HD800E
HD1000	1000 litre	Hypro 3 inch poly	Honda GX390 11 hp	HD1002-1005
HD1500	1500 litre	Hypro 3 inch poly	Honda GX390 11 hp	HD1502-1505
HD2000	2000 litre	Hypro 3 inch poly	Honda GX390 11 hp	Confirm build sheet
HD2400	2400 litre	Hypro 3 inch poly	Honda GX390 11 hp	Confirm build sheet

Common equipment

- Orange polyethylene tank with 455 mm hinged filling lid.
- Forklift-friendly galvanised steel skid frame.
- Two Banjo 50 mm (2 inch) lever ball valves and twin-bypass tank agitation.
- 40 mm (1-1/2 inch) BSP(M) tank drain outlet.
- 40 mm (1-1/2 inch) BlackJet hydro-seeder discharge hose.
- Banjo FG6 nozzle kit with V150 lever ball valve, swivel, camlocks and two brass nozzles.
- Pressure gauge.

VERIFY The delivered machine and sales order define the actual configuration. Never assume a hose length, starting system or accessory is fitted solely from the series name.

2 Safety

DANGER	Petrol engine exhaust contains carbon monoxide. Operate outdoors in a well-ventilated location. Never run the engine inside a building, vehicle, enclosed trailer or other confined space.

Operator requirements

- Only trained, authorised adults may operate, clean or service the machine.
- Read all machine, engine, pump, hose and nozzle instructions before use.
- Do not operate while tired, impaired or under the influence of alcohol or drugs.
- Keep children, bystanders and animals outside the work zone.
- Know how to close the nozzle, reduce engine speed and stop the engine before starting.

Personal protective equipment

- Safety glasses or face shield; hearing protection; non-slip safety footwear; long sleeves and trousers.
- Chemical-resistant gloves and any additional protection required by seed, fertiliser, tackifier, dye or treatment product labels.
- High-visibility clothing where vehicles or mobile equipment operate.

Pressurised system hazards

- Never point the discharge nozzle at people, animals, electrical equipment or fragile property.
- Never disconnect a hose, camlock, gauge, valve or fitting while the system is running or pressurised.
- Close the nozzle gradually. Rapid valve movement can create pressure shock.
- Do not kink, crush, drive over or pull the machine by the hose.
- Replace hose or fittings showing cuts, bulges, abrasion, corrosion, loose clamps or leakage.

2 Safety - continued

Engine, fuel and hot-surface hazards

- Stop the engine and allow it to cool before refuelling, cleaning, transport or service.
- Refuel outdoors with the engine stopped. Keep fuel away from sparks, flames, smoking and hot surfaces.
- Wipe up spilled fuel and move the machine away from the spill before starting.
- Do not touch the muffler, cylinder or other hot engine parts until cooled.
- Disconnect the spark-plug lead before working near the pump, coupling or engine drive.

Tank, mixing and chemical hazards

- Use only materials compatible with the tank, pump, hose, valves, seals and nozzle.
- Follow every ingredient label and safety data sheet. Do not mix incompatible products.
- Never enter the tank. Treat the tank as a confined space.
- Keep hands, tools and loose clothing clear of the lid opening while agitation is operating.
- Do not exceed the tank's rated capacity or the carrying vehicle's legal payload and axle limits.

Transport and lifting

- Transport the tank empty unless the vehicle, mounting system and legal load limits are specifically engineered for a filled tank.
- Secure the skid to rated structural mounting points. Do not rely on friction or temporary straps alone.
- Use the skid's forklift provisions only with suitable equipment and an empty tank. Keep personnel clear of suspended loads.
- A partly filled tank can create severe liquid surge. Drive and turn conservatively.

STOP WORK	Stop immediately for unusual vibration, loss of prime, pressure fluctuation, leakage, damaged hose, loose fittings, abnormal noise, overheating or any unsafe condition.

3 Machine overview

#	Component	Function
1	Tank and hinged lid	Holds water and hydro-seed mixture; lid provides controlled loading access.
2	Engine	Drives the centrifugal pump. GX200 on HD600/800; GX390 on HD1000-2400.
3	Pump	Circulates mixture and supplies the discharge hose.
4	Suction plumbing	Feeds mixture from the tank to the pump.
5	Twin bypass agitation	Returns flow to the tank to keep material suspended.
6	Discharge valve and hose	Directs mixture to the hand-held nozzle.
7	Pressure gauge	Shows discharge-side operating pressure; use trends to detect restrictions or loss of prime.
8	Drain outlet	Allows controlled tank draining and cleaning.
9	Galvanised skid	Supports the assembly and provides forklift access when empty.

Valve positions

Lever ball valves are generally open when the handle is parallel with the flow path and closed when perpendicular. Verify the actual valve and hose routing before operation. Never force a valve lever.

Banjo FG6 discharge nozzle assembly. The delivered nozzle and fittings may vary.

4 Transport, mounting and site setup

Mounting to a vehicle or trailer

1. Confirm the vehicle or trailer payload, axle ratings, deck capacity and legal load limits for the machine, water and all materials.
2. Place the skid on a clean, level structural deck with the engine, controls, lid, drain and hose accessible.
3. Secure the skid through engineered mounting points using rated fasteners or restraints. Obtain engineering advice where required.
4. Confirm the exhaust is directed away from the operator, fuel source and combustible materials.
5. Check that hoses cannot contact hot exhaust parts, sharp edges, wheels or moving vehicle components.

Job-site setup

- Park on firm, level ground; apply the parking brake and chock wheels where appropriate.
- Keep the engine outdoors and maintain clear ventilation around the recoil starter, air intake and exhaust.
- Plan the hose route before filling: avoid traffic, trip hazards, sharp edges and fragile surfaces.
- Establish an exclusion zone around the machine and spray area.
- Confirm a clean water supply is available for the batch and final flushing.

LOAD Water weighs approximately 1 kg per litre before mulch and additives. A full 2400 litre tank therefore contains about 2400 kg of water alone, excluding the machine and materials.

5 Pre-start inspection

Check	Acceptable condition
Mounting	Skid secure; deck, fasteners and restraints undamaged.
Tank	No cracks, impact damage or leakage; lid and latch serviceable.
Plumbing	Hoses supported; clamps, camlocks, seals, caps and fittings secure.
Valves	Move freely; handles intact; positions understood.
Nozzle hose	No cuts, bulges, severe abrasion, soft spots, kinks or damaged couplings.
Pump	No leaks or loose fasteners; drain and priming plugs secure; pump prepared as required by its manual.
Engine	Correct oil level, adequate clean fuel, clean air intake and no leakage or damage.
Guards	All guards, shields and safety labels present and legible.
Work zone	Bystanders excluded; ventilation, footing, lighting and hose route safe.
Materials	Compatible, within shelf life and supported by labels / safety data sheets.

Before the first use of each day

- Confirm the engine stop control works and the operator knows its location.
- Confirm the nozzle valve closes smoothly and the pressure gauge is intact.
- Check all camlock arms are fully engaged and secured against accidental opening.
- Check the pump is primed or flooded as required. Never run a centrifugal pump dry.

6 Mixing a hydro-seed batch

FORMULATION	Use the seed, mulch, fertiliser and tackifier supplier's application rates. Ketta does not prescribe a universal recipe because fibre type, seed mix, soil, slope and product concentration vary.

1. Complete the pre-start inspection. Close the drain and confirm suction and agitation plumbing are correctly configured.
2. Fill the tank to about three-quarters with clean water. Do not exceed the rated tank capacity.
3. With the nozzle closed and safely controlled, prime the pump as required by the pump manual. Start the engine following the Honda instructions.
4. Set a moderate engine speed and establish visible circulation through both agitation returns. Do not operate the pump dry.
5. Gradually add mulch through the lid opening. Add small amounts at a time so the pump and returns can disperse the fibre.
6. Add seed and compatible additives such as fertiliser and tackifier in accordance with their labels. Add the heaviest components last where practical.
7. Add the remaining water while maintaining agitation. Keep the lid area controlled and prevent bags, tools or debris entering the tank.
8. Mix for at least five minutes and continue until the slurry is consistent and free of clumps.
9. Check for stable pressure, smooth flow, leakage and abnormal vibration before spraying.

Good mixing practice

- Start with water; never load dry fibre into an empty tank and then attempt to circulate it.
- Break up compacted material before adding it. Do not push material into the tank with hands or tools while operating.
- Maintain agitation during pauses. Long stationary periods allow fibre and solids to settle.
- If the mixture will not circulate freely, stop and dilute or correct the formulation. Do not compensate by overspeeding the engine.

7 Operating and spraying

Start and circulate

1. Place the nozzle operator on firm footing with both hands available to control the hose and nozzle.
2. Confirm agitation is established and the discharge hose is laid out without kinks.
3. Start at a moderate engine speed. Open the discharge path and nozzle gradually.
4. Increase engine speed only enough to obtain stable mixing and the required spray pattern. Stay within component limits.
5. Monitor the gauge, hose, pump, tank returns and engine continuously.

Spraying technique

- Aim at the target before opening the nozzle. Maintain an exclusion zone in front of the nozzle.
- Use smooth overlapping passes to build even coverage. Avoid concentrating material in one area.
- Work from the farthest point back toward the machine where practical to avoid walking over freshly applied material.
- Coordinate engine speed, nozzle opening and agitation. Do not starve the agitation circuit to gain spray distance.
- Close the nozzle gradually. Reduce engine speed during extended pauses while maintaining sufficient agitation.

Pressure and flow

Use the pressure gauge as a trend indicator. A sudden rise can indicate a restriction or closed valve; a sudden fall can indicate low tank level, air ingress, loss of prime, blockage, worn pump parts or an open connection. Stop and investigate abnormal readings.

NEVER	Never dead-head the pump for an extended period, operate with the suction closed, or run the pump dry. Heat and pressure can damage the pump, hose, seals and fittings.

8 Shutdown and cleaning

Normal shutdown

1. Stop adding material and spray the usable batch while maintaining agitation. Do not continue after the pump begins drawing air.
2. Reduce engine speed to idle. Close the nozzle gradually and stop the engine using the Honda procedure.
3. Move all valve controls to a safe depressurised condition. Confirm the gauge returns to zero.
4. Allow the engine and muffler to cool before cleaning or handling nearby components.

Flush immediately after every batch

1. Dispose of residual slurry in accordance with product labels, site rules and environmental requirements. Do not discharge into stormwater or waterways.
2. Add clean water to the tank. With the pump correctly primed, circulate through both agitation returns.
3. Spray clean water through the hose and nozzle until the discharge runs clear.
4. Stop and depressurise the machine. Remove and clean the nozzle tips, strainer components and accessible fittings as required.
5. Open the drain in a controlled location and rinse the tank interior. Never enter the tank.
6. Inspect for fibre accumulation, leaks, loosened clamps and damage. Leave valves in the storage position recommended for the conditions.

NOTICE Dried fibre and tackifier can block the pump, agitation returns, hose and nozzle. Delayed cleaning is a common cause of poor performance and avoidable component damage.

9 Maintenance

The intervals below are a practical machine-level schedule. The Honda, Pacer and Hypro manuals govern component-specific intervals, lubricants, limits and service methods.

Interval	Machine-level work
Before each use	Engine oil level; fuel and oil leaks; mounting; tank; hose; clamps; camlocks; valves; gauge; guards; labels; pump prime condition.
After each batch	Flush tank, pump, agitation circuit, hose and nozzle until clean. Inspect for blockage, leakage and abrasion.
Daily / 8 hours	Check fasteners, hose support, skid condition, engine air intake and abnormal vibration. Clean exterior without directing water into engine controls or air intake.
Weekly / 25 hours	Inspect valve operation, camlock seals, nozzle tips, hose continuity and pump fasteners. Service engine air cleaner when working in dusty conditions, following Honda instructions.
Monthly / 50 hours	Inspect pump housing and seals for leakage or wear; check pressure-gauge condition; inspect skid corrosion and mounting hardware.
Seasonally	Complete engine service, pump inspection, hose pressure-integrity inspection and storage preparation. Replace damaged or aged components.

Service rules

- Stop the engine, close the fuel valve where fitted, allow cooling, depressurise and disconnect the spark-plug lead before service.
- Use genuine or approved replacement parts with matching pressure, chemical-compatibility and temperature ratings.
- Do not modify the engine governor, pump, safety guards, tank, plumbing or pressure system.
- After service, conduct a controlled clean-water test and inspect every disturbed connection.

9 Engine and pump maintenance

Honda GX200 and GX390

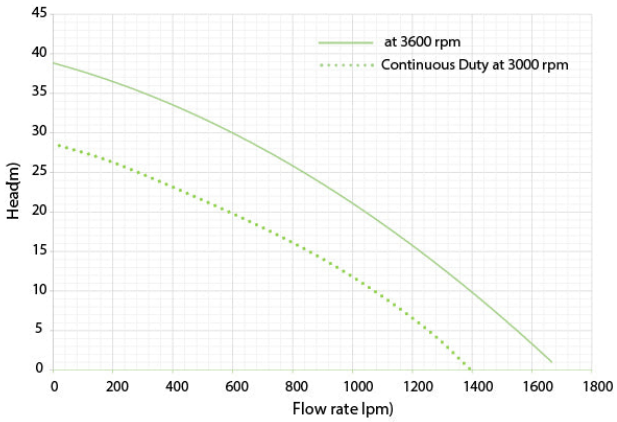
Use the exact Honda owner's manual matching the engine serial number. Engine oil grade and service intervals depend on ambient temperature and operating conditions. Key operator duties include oil-level checks, air-cleaner service, spark-plug inspection, fuel-system care and safe storage. Never tamper with the governor.

Pacer 2 inch pump - HD600 and HD800

Follow the manual for the exact Pacer pump fitted. Keep the pump primed, inspect the housing and seal area for leakage, maintain any seal-lubrication system specified by the pump manual, and never exceed the manufacturer's pressure or speed limits.

Hypro 3 inch pump - HD1000 to HD2400

Follow the manual for the exact Hypro pump fitted. Keep the pump flooded or primed as specified, use only compatible materials, avoid dry running and inspect the housing, drain, plugs, seals and connections after every use.



Reference performance graph from the Ketta product listing. Confirm the fitted pump model before using curve data.

10 Troubleshooting

Symptom	Likely causes	Corrective action
Pump will not prime	Low tank level; suction valve closed; air leak; loose camlock; damaged seal; blocked suction; pump not filled as required.	Stop. Check liquid level, valve routing, suction connections and pump priming instructions. Never run dry.
Low or uneven flow	Mixture too thick; nozzle or hose restriction; low engine speed; air ingress; worn pump; settled fibre.	Maintain agitation, check formulation, inspect for kinks and blockage, verify suction integrity, then service pump if required.
Pressure rises suddenly	Nozzle closed or blocked; hose kinked; valve incorrectly positioned.	Reduce speed, stop and depressurise. Clear the restriction only after the gauge reads zero.
Pressure falls suddenly	Tank nearly empty; loss of prime; air leak; open connection; pump wear.	Stop before dry running. Refill or correct the suction-side fault and re-prime.
Poor agitation	Return valve restricted; bypass line blocked; mixture overloaded; pump not producing flow.	Stop, flush and clear the return circuit. Dilute an over-thick batch. Check pump prime and condition.
Excessive vibration	Loose mounting; cavitation; blocked suction; damaged pump; engine fault.	Stop immediately. Secure the machine and inspect mounting, suction supply, pump and engine.
Engine stops or surges	Low fuel; blocked vent or air cleaner; overload; fuel contamination; engine fault.	Close nozzle safely, stop pumping and follow the Honda troubleshooting procedure.
Leak at camlock	Arms not engaged; damaged or missing gasket; incompatible gasket; worn coupling.	Stop and depressurise. Clean, reseat or replace the gasket / coupling before reuse.

SERVICE If the fault persists, if a safety device is damaged, or if repair requires pump or engine disassembly, tag the machine out of service and contact Ketta Pumps or an authorised component service agent.

11 Storage and winterisation

1. Flush the tank, agitation circuit, pump, hose and nozzle completely with clean water.
2. Stop, cool and depressurise. Drain the tank and every low point that can retain liquid.
3. Remove and clean nozzle tips, strainers and drain plugs as permitted by the component manuals.
4. Protect the pump from freezing. If an approved antifreeze method is used, confirm chemical compatibility and capture the fluid for lawful disposal.
5. Store the hose clean, drained and loosely coiled away from sunlight, heat, sharp edges and rodents.
6. Follow the Honda manual for fuel treatment or draining, engine-oil service and storage preparation.
7. Store the machine empty, upright, secured and under cover in a dry, ventilated location.
8. Before return to service, complete the full pre-start inspection and a controlled clean-water test.

Freezing conditions

Water trapped in pump housings, gauges, valves and hose can expand and crack components. Drain thoroughly before freezing conditions. Do not assume that draining the tank alone empties the system.

Long-term storage

Relieve hose strain, protect open connections with clean caps, keep the machine off corrosive ground and inspect periodically for corrosion, pests, UV damage and fuel leakage.

12 Model reference

Series	Tank	Pump / engine	Skid footprint	Tank only	Overall
HD600	600 L	Pacer 2 inch / GX200	1630 x 1010 mm	1249 x 1060 x 829 mm	1630 x 1249 mm
HD800	800 L	Pacer 2 inch / GX200	1780 x 1000 mm	1430 x 1200 x 780 mm	1780 x 1430 mm
HD1000	1000 L	Hypro 3 inch / GX390	-	-	1750 x 1550 x 1000 mm
HD1500	1500 L	Hypro 3 inch / GX390	-	-	1713 x 1892 x 1216 mm
HD2000	2000 L	Hypro 3 inch / GX390	Confirm	Confirm	Confirm build sheet
HD2400	2400 L	Hypro 3 inch / GX390	Confirm	Confirm	Confirm build sheet

Variant guide

Typical SKU	Configuration
HD600 / HD600E	One 30 m hose; electric start on E variant.
HD800 / HD800E	One 30 m hose; electric start on E variant.
HD1002 / HD1502	Recoil start; one 30 m hose.
HD1003 / HD1503	Recoil start; two 30 m hoses.
HD1004 / HD1504	Electric start; one 30 m hose.
HD1005 / HD1505	Electric start; two 30 m hoses.

DIMENSIONS Dimensions are taken from the Ketta product listings available at the issue date. Verify the delivered machine and current build sheet before transport, mounting or access planning.

13 Service records and support

Routine service record

Date	Hours	Work completed / parts fitted	Technician
____ / ____ / _____	_____	_____	_____
____ / ____ / _____	_____	_____	_____
____ / ____ / _____	_____	_____	_____
____ / ____ / _____	_____	_____	_____
____ / ____ / _____	_____	_____	_____
____ / ____ / _____	_____	_____	_____
____ / ____ / _____	_____	_____	_____
____ / ____ / _____	_____	_____	_____
____ / ____ / _____	_____	_____	_____

When requesting support

- Provide the HD series and SKU, purchase date and machine serial number.
- Provide the Honda engine model, type and serial number and the pump model / serial number.
- Describe the material being pumped, mixture consistency, valve positions, gauge behaviour and fault symptoms.
- Provide clear photographs of the full machine and affected components.

Ketta Pumps	24-26 Downer Street, Lower Hutt, Wellington 5010, New Zealand
Phone	0508 044 055
Email	sales@kettapumps.co.nz
Website	https://www.kettapumps.co.nz/

Source documents

Retain the component manuals supplied with the machine. Use the versions matching the exact serial numbers and fitted pump models.

Source	Location
Ketta product collection	https://www.kettapumps.co.nz/collections/hydro-seeding-equipment
Honda engine owner's manuals	https://engines.honda.com/support-and-service/owners-manuals
Honda engine serial-number identification	https://engines.honda.com/support-and-service/serial-number-locator
Pentair Hypro 1543P pump manual	https://www.pentair.com/content/dam/extranet/web/nam/hypro/manuals/L-1524.pdf
Pacer PC pump owner's manual	https://pacerpumps.com/wp-content/uploads/2024/04/PC-Owners-Manual.pdf

REVISION Specifications and component configurations can change. Check the current Ketta product page and the manuals supplied with the machine before relying on this document for a particular unit.

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Pumps. Equipment. Support.