MODEL : AY – 170 H BXD



Pressure Washer Specifications

Specification	AY – 170 H BXD
Model	AY – 170 H BXD
AYERBE reference	5419420
Equipment type	Cold water pressure washer, petrol engine
Maximum working pressure	185 bar
Maximum flow rate	600 L/h (10 L/min)
Pump speed	3,400 rpm
Engine	HONDA GP 160
Pump	COMET BXD axial, wobble plate
Engine-pump coupling	Direct, by Ø 3/4" hollow shaft
Starting	Manual, recoil
Maximum inlet water temperature	60 °C
Thermal safety valve	Fitted
High pressure hose	8 m
Lance	700 mm
Gun	AL 55
Nozzle type	Single nozzle, quick coupling
Detergent pick-up	Yes, by low pressure siphon
Frame	Tubular, with pneumatic wheels
Guaranteed sound power level	95 dB(A) LwA
Sound pressure level	72 dB(A) LpA at 7 m
Weight	37 kg

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Engine Specifications



HONDA Engine	
Manufacturer	HONDA
Model	GP 160
Type	4-stroke, overhead valve, single cylinder
Displacement	163 cm^3
Bore x stroke	68.0 x 45.0 mm
Net power (SAE J1349)	3.6 kW (4.8 HP) at 3,600 min^{-1}
Maximum net torque	10.3 N·m (1.05 kgf·m) at 2,500 min^{-1}
Cooling system	Forced air
Ignition system	Transistorised magneto
Starting system	Manual, recoil starter
PTO shaft rotation	Counterclockwise
Fuel	Unleaded petrol, 91 RON or higher
Tank capacity	3.1 L
Engine oil type	SAE 10W-30, API SJ or later
Oil capacity	0.58 L
Spark plug	NGK BPR6ES / DENSO W20EPR-U
Electrode gap	0.7 – 0.8 mm
Idle speed	1,400 ± 150 min^{-1}
Valve clearance, cold	Intake 0.15 mm / Exhaust 0.20 mm
Engine protection	Oil Alert low oil warning system

About the declared power

- The figure HONDA publishes is net power, measured on a production engine to SAE J1349. Since 2007 HONDA has no longer published gross bench figures.
- The 5.5 HP found in older catalogues is the gross figure. For the GP 160 HONDA declares a net output of 3.6 kW, equal to 4.8 HP, at 3,600 rpm, and a continuous rating of 2.9 kW.
- Output falls by roughly 3.5 % for every 300 m of altitude. Above 1,500 m of regular working altitude HONDA offers a carburettor modification, which must not be kept once working below that height.

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Pump Specifications



COMET Pump	
Brand	COMET
Model	BXD
Flow rate	600 L/h
Maximum pressure	185 bar
Type	Axial, wobble plate
Plungers	Stainless steel (ceramic optional)
Manifold	Forged brass
Inlet and outlet valves	Stainless steel
Unloader valve	Built-in uniflow, with detergent injector
Bearings	Ball bearings, patented design
Crankcase oil capacity	0.12 L (4 fl.oz)
Drive shaft	Hollow, Ø 3/4", for petrol engines
Start under load	Built-in Easy Start system
Maximum speed	3,400 min^{-1}
Water inlet	3/4" FNH (garden hose thread)
High pressure outlet	3/8" MNPT
Maximum water temperature	60 °C
Sealing system	Double-sealing Buna-textile U-packing
Thermal safety valve	Fitted
Pump weight	5 kg

Why this pump matters

- The BXD really is an axial pump: the pistons run on a wobble plate mounted on the engine shaft itself, with no crankshaft or connecting rods. It is the usual construction on compact machines.
- The pistons are stainless steel, not ceramic as on the EWD or the ZWD. They stand up well to normal use but are more sensitive to sandy water than ceramic.
- The uniflow unloader and the detergent injector are built into the manifold itself, so there are no external fittings to install or adjust.
- The Easy Start system releases the pressure on starting, so it does not have to be overcome when pulling the starter. Welcome on a small engine.
- At 185 bar and 600 L/h this is the entry level of the range. COMET gives one year of warranty on the BXD, against five on the EWD and the ZWD.

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MODEL : AY – 170 H BXD

Dimensions and Weight

Dimensions	
Length (L)	500 mm
Height (H)	750 mm
Width (W)	480 mm
Packing volume	0.18 m³
Weight	37 kg
Transport	Tubular frame and pneumatic wheels



Fuel and water supply

Fuel and water	
Tank capacity	3.1 L
Fuel type	Unleaded petrol, 95 or 98 octane
Consumption at 75% load	1.1 L/h
Running time at 75% load	2.8 hours
Inlet water pressure	2.8 – 5 bar
Minimum supply hose length	3.5 m

What 185 bar and 600 L/h mean

- Cleaning capacity does not come from pressure alone but from pressure and flow together. Pressure lifts the dirt; flow carries it away.
- The usual figure for comparing machines is the product of the two: 185 bar by 10 L/min gives 1,850 points.
- A typical domestic washer of 130 bar and 450 L/h gives 975 points. This machine is almost twice that.
- At 600 L/h the machine uses 10 litres a minute: the supply must sustain that flow continuously.

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Performance: applications

Indicative guide to what this machine handles with 185 bar and 600 L/h.

Application	Typical work	Suitability
Agricultural and construction machinery	mud, soil and dried grease	YES
Degreasing engines, chassis and underbody	baked-on grease and oil	YES
Stables, farms and livestock buildings	manure and organic residue	YES
Commercial vehicles, trucks and trailers	exterior washing	YES
Concrete floors and warehouse slabs	grease, rubber and ingrained dirt	YES
Brick and stone façades	mould, green algae and grime	YES
Boat hulls	algae and fouling	YES
Removing loose paint and light rust	surface preparation	YES
Painted car bodywork	washing	WITH CARE
Wood, mortar joints and render	surface cleaning	WITH CARE
Electrical installations and panels	any work	NO

Distance matters as much as pressure

- At 185 bar the energy of the jet is concentrated into a few square centimetres. Bringing the nozzle closer multiplies the effect and also the risk of damaging the surface.
- On concrete, steel and machinery you can work close in. On paint, wood, mortar joints or thin aluminium it is better to stand back and open the angle, or the machine will mark the surface.
- Before starting on an unfamiliar surface, test on an inconspicuous area and move closer gradually.

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Equipment supplied

- 8 metre high pressure hose.
- 700 mm lance with quick coupling.
- AL 55 gun with safety trigger.
- Single nozzle and nozzle cleaning needle.
- Male and female connectors for the supply hose.
- Thermal safety valve and regulating valve built into the pump.
- Easy Start system for starting under load.
- Trolley kit: tubular frame with pneumatic wheels and push handle.
- Operator's manual.

The machine is supplied without engine oil and without fuel. Before first use, check both the engine oil level and the pump oil level.

Water supply and commissioning

- The supply must sustain 10 litres a minute continuously, at an inlet pressure between 2.8 and 5 bar. To check the flow, time the filling of a 10 litre bucket: it should fill in under a minute.
- The supply hose must be at least 3.5 metres between the tap and the machine.
- Inlet water temperature must not exceed 60 °C.
- Check and clean the water inlet strainer before every use. Sand and suspended particles are the leading cause of valve and plunger wear, and that wear is not covered by warranty.
- Bleed the air by squeezing the gun with the water on and the engine stopped before starting. Never start without a water supply.
- With the engine running, do not leave the lance unused for more than three minutes at a time: the pump is cooled by the water flowing through it.
- If connected to the drinking water mains, a type BA backflow preventer to EN 12729 must be fitted.

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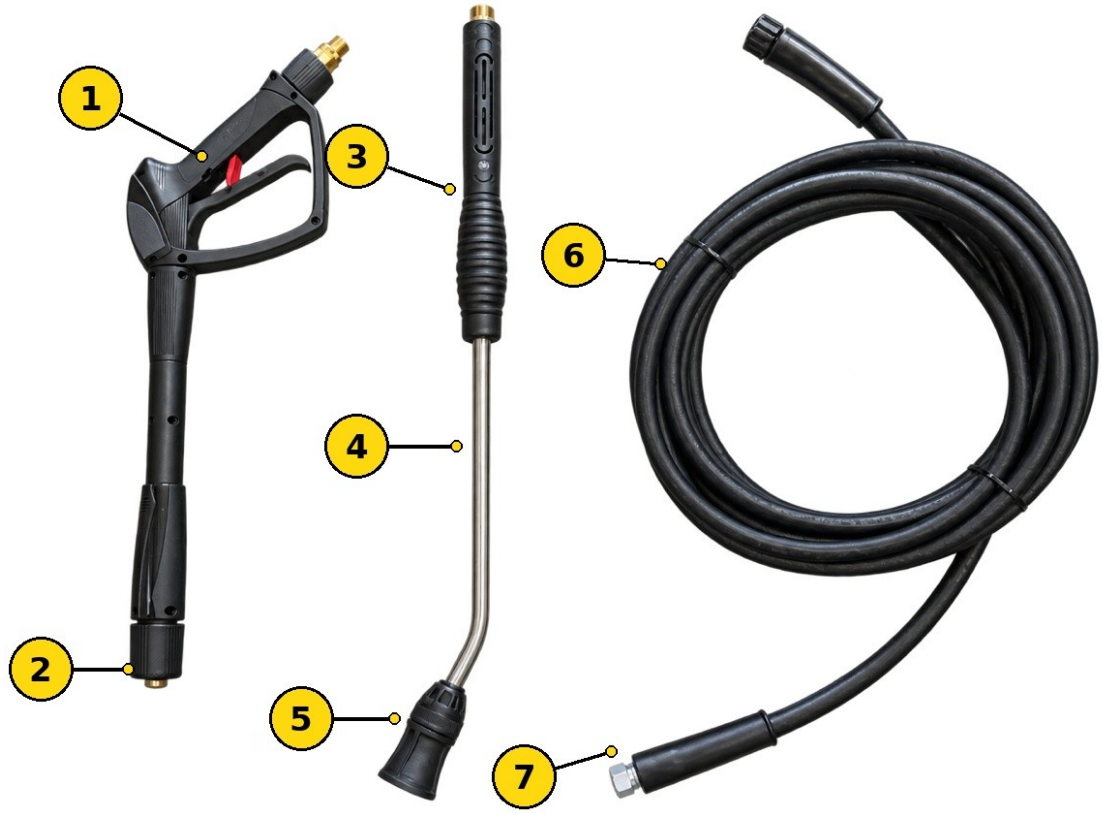
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MODEL : AY – 170 H BXD

Working kit: gun, lance and hose



1	Gun with trigger and locking catch
2	Threaded brass gun connection
3	Extension with insulating grip
4	Stainless steel lance tube
5	Nozzle with rubber guard
6	8 metre high pressure hose
7	Anti-kink protector and coupling

The hose has an anti-kink protector at both ends, which is what stops it from being crushed right at the coupling, the point where most hoses fail. The gun catch must be engaged every time the trigger is released.

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Safety devices on the machine

Unloader valve

When the gun trigger is released it diverts the water back to the suction side of the pump instead of blocking it.

Safety valve

If the admissible pressure is exceeded it opens and lets water out to reduce the pressure inside the pump.

Thermal valve

Prevents overheating and premature pump wear when the engine is running and the lance is not in use.

None of these devices may be defeated or modified by the user.

Machine Maintenance

Interval	Operation
Before every use	Check the engine oil level. Check the water inlet strainer and clean it if blocked. Inspect the high pressure hose, the gun and the detergent siphon tube and filter. Clear away accumulated debris.
First 5 hours	Change the engine oil.
Every 25 hours or yearly	Service the engine air filter.
Every 50 hours or yearly	Change the engine oil. Service the spark arrester.
Every 100 hours or yearly	Service the spark plug. Clean the cooling circuit.
After every use	Turn off the water, release the pressure with the gun and purge the pump by pulling the starter six times with the engine switch OFF.
Storage over 30 days	Drain the tank and carburettor or add stabiliser. Protect the pump with a proper antifreeze fluid. Store in a frost-free place.

The spark plug is set to 0.80 mm and torqued to 22 – 27 N·m; it should be replaced once a year. This schedule comes from the machine operator's manual and is stricter than the engine's own, because a pressure washer runs continuously and under high load.

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Safety Instructions

- Never aim the jet at people, animals, the machine itself, electrical sockets or live installations. At 185 bar water penetrates the skin and causes serious injury even when no wound is visible.
- If pressurised water is injected under the skin, seek medical attention immediately and state that it is a high pressure injection injury.
- Hold the gun with both hands and with firm footing: the recoil of the jet is considerable when the trigger is opened.
- Engage the gun trigger lock every time it is released, even for a moment.
- Do not run the engine indoors, in garages or in enclosed spaces. Exhaust gases contain carbon monoxide, which is odourless and lethal.
- Do not run the pump dry or with the water supply closed, and do not exceed 60 °C inlet water temperature.
- Depressurise the circuit with the gun before disconnecting the hose or any accessory. Never repair a leak with sealant: replace the seal or the hose.
- Wear safety glasses with side shields, non-slip safety footwear and clothing covering arms and legs. Hearing protection is recommended for prolonged use.
- Do not work from ladders, scaffolding or uneven surfaces, and always refuel with the engine stopped and cold.
- Water that has passed through the machine is not drinking water.