

Bäumr-AG



Trailer Mount Log Splitter

User Manual

[Revision 4.0 August 2019]




READ THIS MANUAL CAREFULLY BEFORE USE – FAILURE TO DO SO MAY RESULT IN INJURY, PROPERTY DAMAGE AND MAY VOID WARRANTY. • KEEP THIS MANUAL FOR FUTURE REFERENCE. • Products covered by this manual may vary in appearance, assembly, inclusions, specifications, description and packaging.





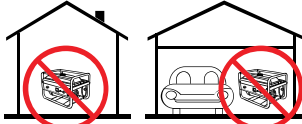
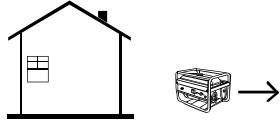
The product is NOT supplied with engine oil, although traces of oil from the manufacturing process may be present. It is essential to add adequate engine oil of the correct type to the engine before use – see [Engine Oil](#). **Failure to add engine oil will void the product warranty.**

Safety

Safety messages are designed to alert you to possible dangers or hazards that could cause death, injury or equipment or property damage if not understood or followed. Safety messages have the following symbols:

 <p>You WILL be KILLED or SERIOUSLY INJURED if you do not follow instructions.</p>	 <p>You CAN be KILLED or SERIOUSLY INJURED if you do not follow instructions.</p>	 <p>You CAN be INJURED if you do not follow instructions or equipment damage may occur.</p>
<p>It is vital that you read and understand this user manual before using the product, including safety warnings, and any assembly and operating instructions. Keep the manual for future reference.</p> <p>Safety precautions and recommendations detailed here must be fully understood and followed to reduce the risk of injury, fire, explosion, electrical hazard, and/or property damage.</p> <p>Safety information presented here is generic in nature – some advice may not be applicable to every product. The term "equipment" refers to the product, be it electrical mains powered, battery powered or combustion engine powered.</p> <ul style="list-style-type: none"> • Before Use - If you are not familiar with the safe operation/handling of the equipment, or are in any way unsure of any aspect of suitability or correct use for your application, you should complete training conducted by a person or organization qualified in safe use and operation of this equipment, including fuel/electrical handling/safety. • Do NOT operate the equipment in flammable or explosive environments, such as in the presence of flammable liquids, gases or dust. The equipment may create sparks or heat that may ignite flammable substances. • Keep clear of moving parts. • Equipment may be a potential source of electric shock or injury if misused. • Do NOT operate the equipment if it is damaged, malfunctioning or is in an excessively worn state. • Do NOT allow others to use the equipment unless they have read this manual and are adequately trained. • Keep packaging away from children - risk of suffocation! • Operators must use the equipment correctly, consider conditions and pay due care to persons and property. • Ensure that any property that may be damaged by equipment failure is not within the work area / operating range. 	<p>General Personal Safety</p> <ul style="list-style-type: none"> • Wear appropriate protective equipment when operating, servicing, or when in the operating area of the equipment to help protect from eye and ear injury, poisoning, burns, cutting and crush injuries. Protective equipment such as safety goggles, respirators, non-slip safety footwear, hard hat, hearing protection etc should be used for appropriate equipment / conditions. Other people nearby should also wear appropriate personal protective equipment. Do not wear loose clothing or jewellery, which can be caught in moving parts. Keep hair and clothing away from the equipment. • Stay alert and use common sense when operating the equipment. Do not over-reach. Always maintain secure footing and balance. • Do not use the equipment if tired or under the influence of drugs, alcohol or medication. • This equipment is not intended for use by persons with reduced physical, sensory or mental capabilities. <p>General Fuel Safety</p> <ul style="list-style-type: none"> • Petrol/fuel/gasoline is extremely flammable – keep clear of naked flames or other ignition sources. • Do not spill fuel. If you spill fuel, wipe it off the equipment immediately – if fuel gets on your clothing, change clothing. • Do NOT smoke near fuel or when refuelling. • Always shut off the engine before refuelling. • Do NOT refuel a hot engine. • Open the fuel cap carefully to allow any pressure build-up in the tank to release slowly. • Always refuel in well ventilated areas. • Always check for fuel leakage. If fuel leakage is found, do not start or run the engine until all leaks are fixed. <p>General Carbon-Monoxide Safety</p> <ul style="list-style-type: none"> • Using a combustion engine indoors CAN KILL IN MINUTES. Engine exhaust contains carbon-monoxide – a poison you cannot smell or see. • Use combustion engines OUTSIDE only, and far away from windows, doors and vents. 	<p>General Equipment Use and Care</p> <ul style="list-style-type: none"> • The equipment is designed for domestic use only. • Handle the equipment safely and carefully. • Before use, inspect the equipment for misalignment or binding of moving parts, loose components, damage or any other condition that may affect its operation. If damaged, have the equipment repaired by an authorised service centre or technician before use. • Prevent unintentional starting of the equipment - ensure equipment and power switches are in the OFF position before connecting or moving equipment. Do not carry equipment with hands or fingers touching any controls. Remove any tools or other items that are not a part of the equipment from it before starting or switching on. • Do not force the equipment. Use the correct equipment for your application. Equipment will perform better and be safer when used within its design and usage parameters. • Use the equipment and accessories etc. in accordance with these instructions, considering working conditions and the work to be performed. Using the equipment for operations different from those intended could result in hazardous situations. • Always keep equipment components (engines, hoses, handles, controls, frames, housings, guards etc) and accessories (cutting tools, nozzles, bits etc) properly maintained. Keep the equipment clean and, where applicable, properly lubricated. • Store the equipment out of reach of children or untrained persons. To avoid burns or fire hazards, let the equipment cool completely before transporting or storing. Never place or store the equipment near flammable materials, combustible gases or liquids etc.
<p>General Work Area Safety</p> <ul style="list-style-type: none"> • Work areas should be clean and well lit. • Do not operate the equipment if bystanders, animals etc are within operating range of the equipment or the general work area. • If devices are provided for connecting dust extraction / collection facilities, ensure these are connected and used properly. Dust collection can reduce dust-related hazards. 		<ul style="list-style-type: none"> • The equipment is not weather-proof, and should not be stored in direct sunlight, at high ambient temperatures or locations that are damp or humid. • Do not clean equipment with solvents, flammable liquids or harsh abrasives. • For specific equipment safety use and care, see Equipment Safety.

General Electrical Safety	General Electrical Safety	General Service Information
<ul style="list-style-type: none"> Inspect electrical equipment, extension cords, power bars, and electrical fittings for damage or wear before each use. Repair or replace damaged equipment immediately. Ensure all power sources conform to equipment voltage requirements and are disconnected before connecting or disconnecting equipment. When wiring electrically powered equipment, follow all electrical and safety codes. Wherever possible, use a residual current device (RCD). High voltage / high current power lines may be present. Use extreme caution to avoid contact or interference with power lines. Electrical shock can be fatal. 	<ul style="list-style-type: none"> Electrically grounded equipment must have an approved cord and plug and be connected to a grounded electrical outlet. Do NOT bypass the ON/OFF switch and operate equipment by connecting and disconnecting the electrical cord. Do NOT use equipment that has exposed wiring, damaged switches, covers or guards. Do NOT use electrical equipment in wet conditions or in damp locations. Do NOT use electrical cords to lift, move or carry equipment. Do NOT coil or knot electrical cords, and ensure electrical cords are not trip hazards. 	<ul style="list-style-type: none"> The equipment must be serviced or repaired at authorised service centres by qualified personnel only. Replacement parts must be original equipment manufacturer (OEM) to ensure equipment safety is maintained. Do NOT attempt any maintenance or repair work not described in this manual. After use, the equipment and components may still be hot – allow the equipment to cool and disconnect spark plugs and/or electrical power sources and/or batteries from it before making adjustments, changing accessories or performing repair or maintenance. Do NOT make adjustments while the equipment is running. Perform service related activities in suitable conditions, such as a workshop. Replace worn, damaged or missing warning/safety labels immediately.

 DANGER 	
<p>Using an engine or wood/charcoal/gas fuelled appliance indoors CAN KILL YOU IN MINUTES. Engine exhaust and wood/charcoal/gas fumes contain carbon monoxide. This is a poison you cannot see or smell.</p>	
 <p>NEVER use inside a building, home, garage, boat, caravan or tent EVEN IF doors and windows are open.</p>	 <p>Only use OUTSIDE and far away from windows, doors, and vents.</p>
<p>Avoid other hazards - READ MANUAL BEFORE USE.</p>	

GENERAL:

- Do not operate in a hazardous location. Such areas include where there is a risk of explosion of petrol fumes, leaking gas or explosive dusts.
- Do not operate in a confined area where exhaust gases or wood/charcoal/gas fumes could reach dangerous concentrations.

PRODUCTS FEATURING AN ENGINE





















- Follow all warnings in the section titled "GENERAL".
- Explosion hazard - never smoke while refuelling.
- Take care not to spill fuel. When refuelling the engine, ensure that the engine has been allowed to cool. Prevent spilling of fuel as this may also ignite with a hot engine.
- Never refuel while engine is running.


















GENERATORS

- Follow all warnings in the sections titled "GENERAL" and "PRODUCTS FEATURING AN ENGINE".
- The output of this generator is potentially lethal. The generator should not be connected to a fixed electrical installation except by an appropriately licensed person.
- Not weatherproof – protect your machine. This machine is not weatherproof and should not be exposed to direct sunlight, high ambient temperature, damp conditions, wet conditions or high humidity conditions.

Safety Symbols

The product may have safety warning labels attached to it, explained below. Understand the symbols on your product and their meanings. If any stickers become unreadable, unattached etc, replace them.

 <p>Flammable Material Hazard Flammable liquids, gases or substances etc may present. Avoid ignition sources and open flames. Danger of fire.</p>	 <p>Read User Manual Read and fully understand product safety warnings, operation, procedures etc before using the product.</p>	 <p>Use Hand Protection Wear appropriate hand protection and take due care as the product or use of the product may present hand hazards.</p>	 <p>Carbon-Monoxide Hazard Do not use the product in confined areas or without adequate ventilation. Carbon-monoxide poisoning can be fatal.</p>
 <p>Electrocution / Electrical Shock Hazard High voltage or high current electricity may be present or required by the product. Take due care when handling electrical products, cables, plugs and leads. Electrical shock can be fatal.</p>	 <p>Toxic Fumes / Dust Hazard Using the product or by-products from use may produce fumes, smoke or particles that could be harmful if inhaled. Wear appropriate breathing protection and have adequate ventilation.</p>	 <p>Explosive Material Hazard Combustible liquids, gases or substances etc may be present. Avoid ignition sources and open flames. Danger of explosion.</p>	 <p>Cutting / Amputation Hazard The product may have blades, edges or mechanical devices that can cause severe cut injury to fingers, limbs etc. Take due care when handling and using the product.</p>
 <p>Crush Hazard The product may have blades, edges or mechanical devices that can cause severe crush injury to fingers, limbs etc. Take due care when handling and using the product.</p>	 <p>Single Operator Only The product must be operated by a single person only. More than one person operating the product may introduce additional hazards.</p>	 <p>Use Face Protection Wear appropriate full-face protection and take due care as the product or use of the product may present face and eye hazards.</p>	 <p>Use Foot Protection Wear appropriate foot protection and take due care as the product or use of the product may present foot hazards.</p>
 <p>Use Eye / Ear / Head Protection Wear appropriate eye and / or ear and / or head protection and take due care as the product or use of the product may present eye, hearing and head hazards.</p>	 <p>Running Hazard Do not run on or near the product as doing so may present a fall hazard.</p>	 <p>Diving Hazard Do not dive into the product as doing so may present a neck / head injury hazard.</p>	 <p>Adult Supervision Required Always supervise children and other users of a product to prevent drowning or injury.</p>
 <p>Skin Penetration / Puncture Hazard The product may produce pressure, emit liquids or objects that can cause severe injury to fingers, limbs, blood etc. Take due care when handling and using the product.</p>	 <p>Hot Surface Hazard Be aware that the product may produce high temperatures and hot surfaces that can cause burn injuries.</p>	 <p>Flying Debris Hazard Be aware that the product or use of the product may present hazards produced by flying debris. Wear appropriate clothing and protective devices.</p>	 <p>Moving Parts Hazard Be aware that the product contains or uses mechanical devices that move or rotate. Always wait for moving parts to stop fully before handling the product, adjusting, maintenance etc.</p>

 <p>Carbon-Monoxide Hazard Do not use the product in confined areas or without adequate ventilation. Carbon-monoxide poisoning can be fatal.</p>	 <p>Pull Hazard Be aware that the product contains or uses mechanical devices that can pull in objects and can cause severe injury to fingers, limbs etc. Take due care when handling and using the product.</p>	 <p>Slope / Fall Injury Hazard Be aware that using the product on sloping surfaces or in slippery conditions may present additional dangers from falls and contact with blades, moving parts, hot surfaces etc.</p>	 <p>"Slam Dunk" Warning Do NOT attempt "slam dunk" manoeuvres as this may result in severe injury due to falling, product breakage or collapse etc.</p>
 <p>Electrocution / Electrical Shock Hazard - Outdoor High voltage or high current electricity may be present or required by the product. Do NOT use in rain, damp or wet conditions. Electrical shock can be fatal.</p>	 <p>Electrocution / Electrical Shock Hazard - Disconnect High voltage or high current electricity may be present or required by the product. Always disconnect the product from the electrical supply before handling the product, adjusting, maintenance etc.</p>	 <p>Power Line Electrocution Hazard High voltage / high current power lines may be present. Use extreme caution to avoid contact or interference with power lines. Electrical shock can be fatal.</p>	 <p>"Kick-Back" Hazard High level of "kick-back" hazard that can cause the machine to suddenly rotate towards operator. Kick-back injury can be fatal.</p>
 <p>Winch Operator Position Hazard Do NOT stand between winch and load. Do NOT use winch to move people.</p>	 <p>Winch Lift Hazard Do NOT LIFT load vertically. Use machine to PULL only.</p>	 <p>Cable Hazard Ensure that load bearing cable is not kinked or knotted.</p>	 <p>Winch Cable Hazard Ensure that there is a minimum number of cable coils on winching mechanism.</p>
 <p>Winch Hook Hazard Carry hook to load – do NOT throw or run.</p>	 <p>Flash / Blinding Hazard Wear appropriate eye protection for welding. Direct exposure to weld arcs may cause permanent eye injury.</p>	 <p>Laser Hazard Laser may be in use – do NOT look directly at laser, or allow others to.</p>	 <p>Corrosive Substance Hazard The product may contain corrosive substances that can harm or otherwise cause damage. Take due care when handling and using the product.</p>
 <p>Explosion Hazard The product may contain substances that can explode under certain conditions or misuse. Take due care when handling and using the product.</p>			

Equipment Safety



Log splitting machines produce high hydraulic pressures and have exposed parts that can cause serious injury if not used correctly or without taking proper safety precautions. **It is extremely important that you read and fully understand the information in this section and all other safety warnings / recommendations and usage instructions before using the equipment.**

Operator

- If you are untrained in the use of a log splitter, it is highly recommended that you be trained/instructed by a suitably qualified or experienced person before using the machine.
- Fully understand how to safely operate the machine and the log splitting process. See Log Splitter Operation.
- The machine must be operated by one person only. Do not allow helpers or bystanders within 30m (90') of the machine. Bystanders should wear eye protection.
- You must be in good physical condition to use a motorised cultivator. NEVER operate the machine when tired, or under the influence of any substance (medication, alcohol, drugs etc) that may impair your judgement, alertness, physical strength, vision or dexterity.
- Crush / amputation hazard - keep hands away from moving parts and from splits/cracks that open in logs.
- Maintain sure-footing and balance always when using or handling the machine and have full awareness of your surroundings and any possible hazards.

Clothing and Protective Equipment – All Operators and Assistants

- Wear approved safety goggles, or safety glasses with adequate top and side protection..
- Wear suitable hearing protection.
- Wear heavy-duty, non-slip leather or protective gloves.
- Wear approved heavy-duty safety boots, with steel toe-caps and non-slip soles.
- Wear suitable overalls or work clothing that fits snugly, but does not restrict movement. Avoid loose fitting clothing, scarves, jewellery etc and keep long hair contained to avoid getting caught or pulled by the chainsaw or by tree branches etc.

Work Area Safety

- Be aware of fire risks resulting from machine use. Ensure that the machine exhaust and spark arrestor (if equipped) is well maintained and that engine is tuned correctly.
- Refuel outdoors only. Avoid fuel spillage. Start the machine at least 3m (10') away from the fuelling location.

Operational Safety

- Do NOT use the machine if the throttle or any safety guard or mechanism is not installed or is not operating correctly – have the machine inspected and repaired at an authorised service centre before using it again.
- Do not load or unload logs whilst the ram is moving.
- Do not remove jammed logs by hand.
- Make sure there are no nails or foreign objects in the logs to be split.
- Log ends must be cut square.
- Branches must be cut off flush with the trunk.
- Always split logs in the direction of the wood grain.
- Do NOT use the equipment for purposes it is not designed for, such as splitting non-wood material.

- Do not attach the machine to fixed supports.

Transportation Safety

- Always STOP the engine before transporting or working on it (refuelling, adjusting etc).
- Do not carry passengers, or allow any person to sit or stand on the machine.
- Always fully secure the machine to the towing vehicle hitch before towing.
- Use caution when towing. Tow with an appropriate vehicle, and avoid slopes, ditches etc.
- Do not tow on public roads.

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Applicable Models

This manual applies to the following Bäumr-AG log splitters:

HDS800



HPS800

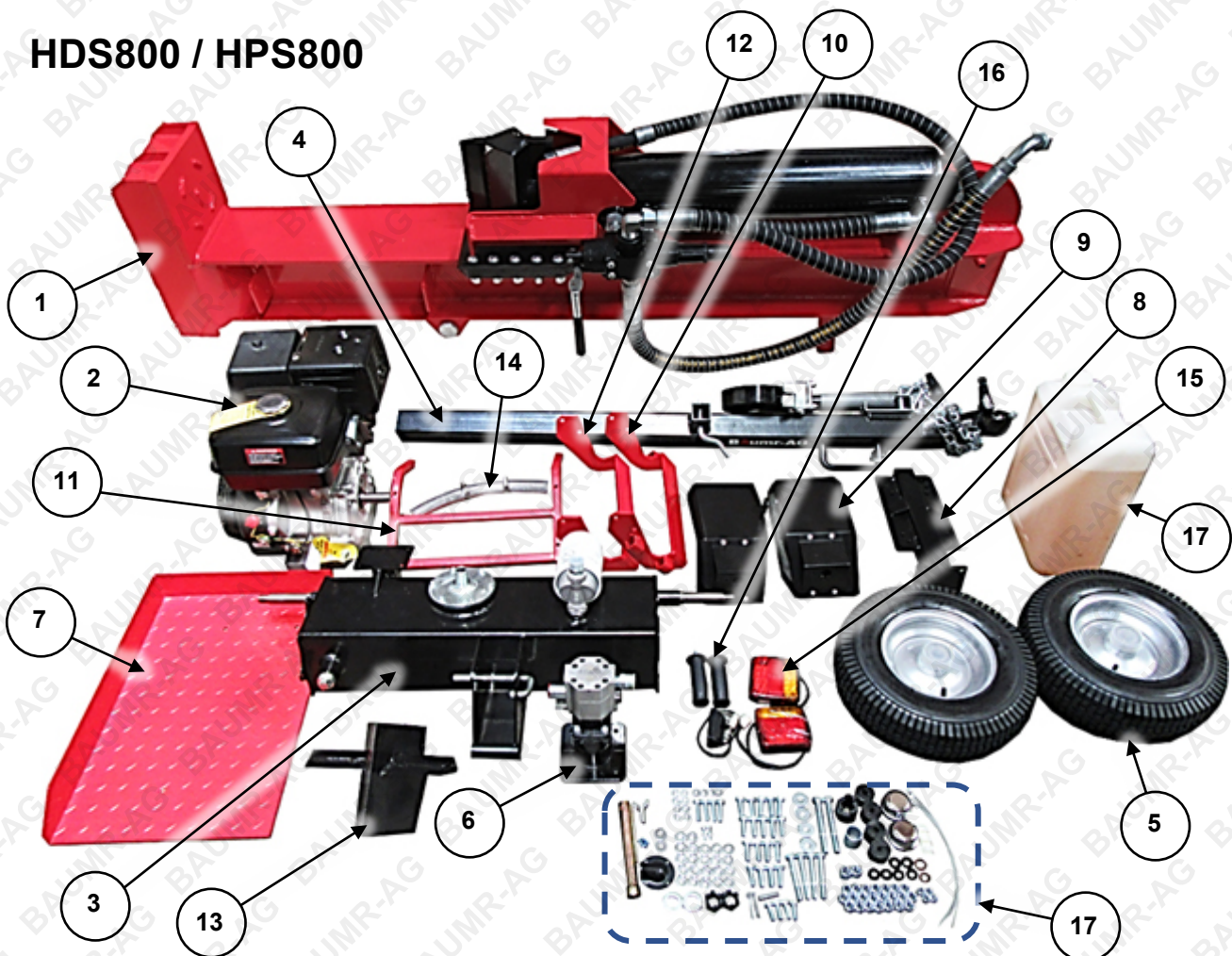


HPS500

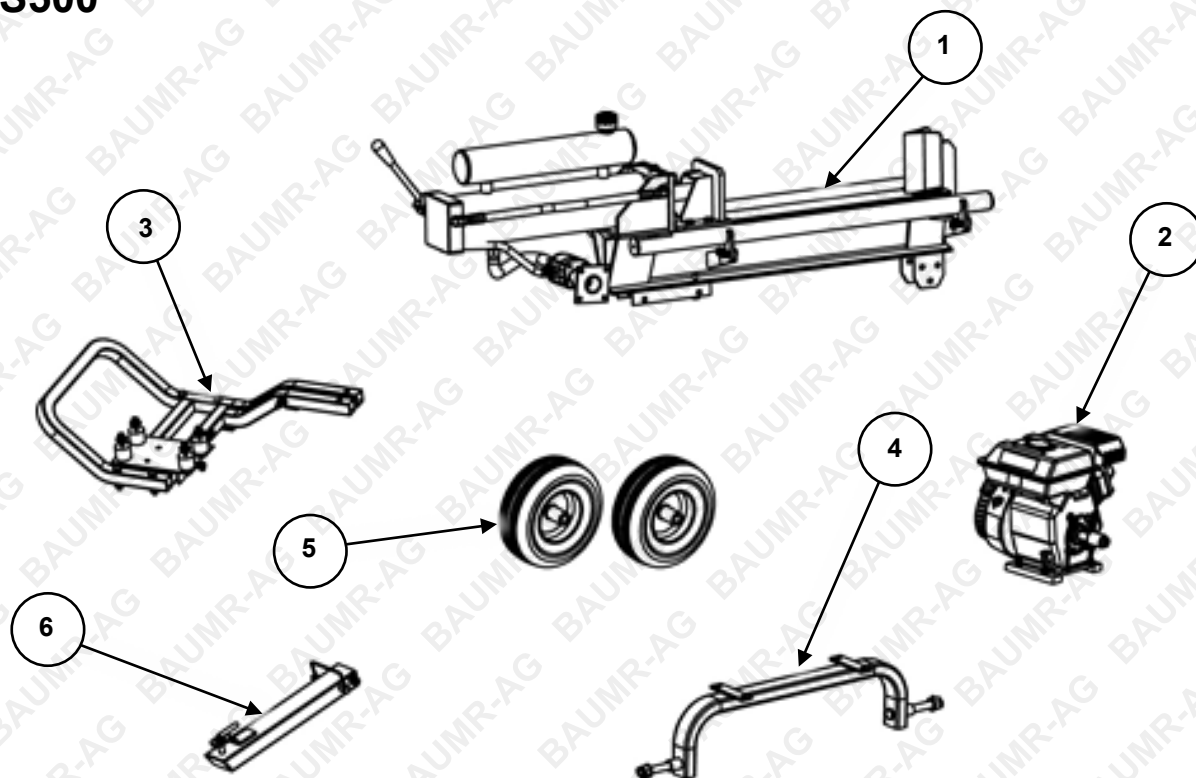


Parts Identification

HDS800 / HPS800



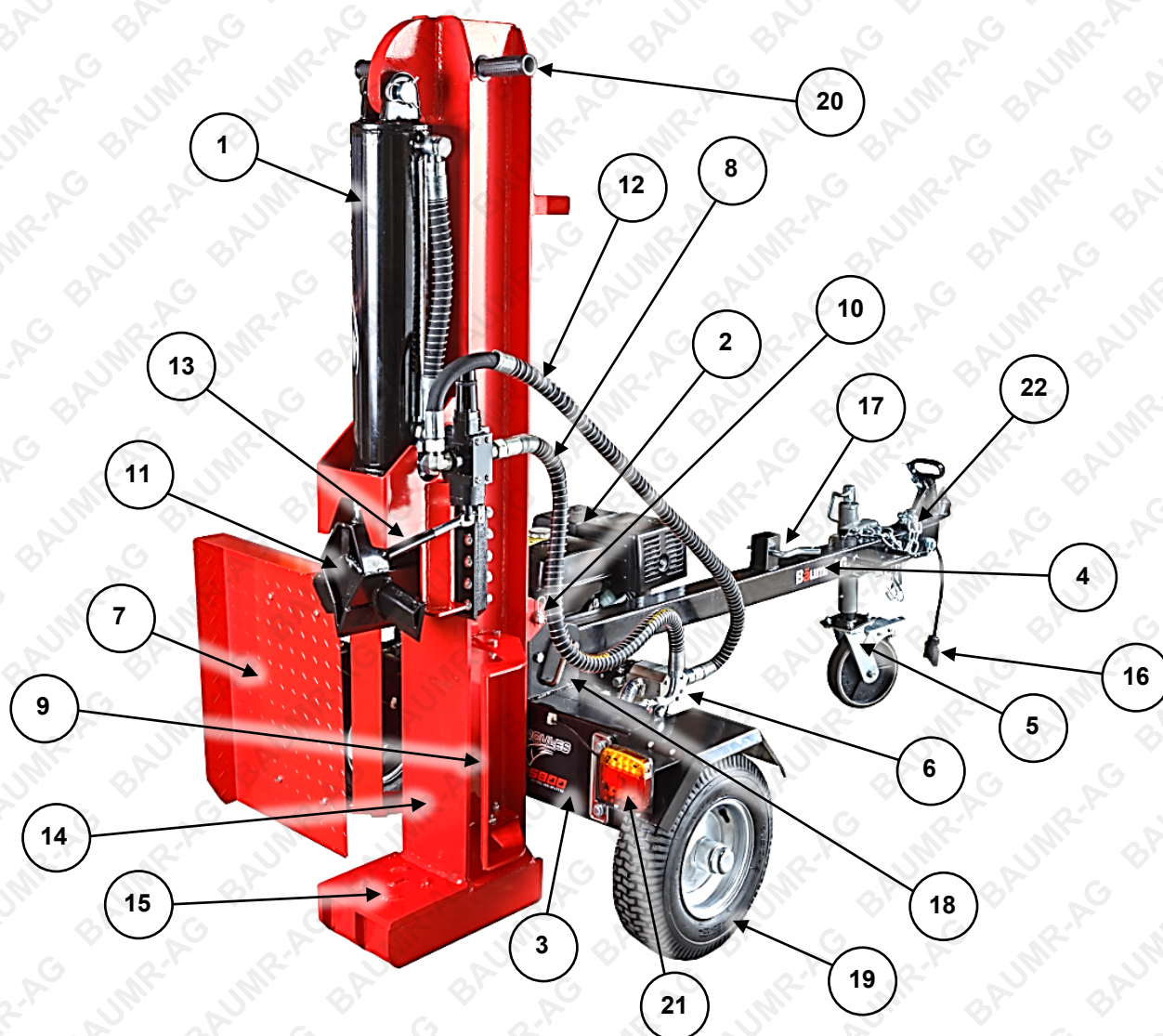
No.	Name	No.	Name
1	Hydraulic Ram Assembly	17	M10x30 Bolt (18)
2	Engine (petrol version shown)		M10x25 Winged Bolt (1)
3	Oil Tank / Rear Axle Assembly		M8x35 Bolt (4)
4	Tow Arm / Jockey Wheel Assembly		M8x25 Bolt (4)
5	Wheel (2)		M5x10 Bolt (4)
6	Oil Pump		Self-Tapping Screw (4)
7	Log Table		M20 Castellated Nut (2)
8	Engine Mounting Bracket		M12 Nut (2)
9	Mudguard (left and right)		M10 Nut (22)
10	Log Cradle with Table Mounts		M8 Nut (4)
11	Log Table Support		M20 Washer (2)
12	Log Cradle		M12 Washer (2)
13	4-Way Splitting Wedge		M10 Large Washer (4)
14	Oil Supply Hose (includes 2 hose clamps)		M10 Washer (22)
15	Trailer Lamps (left / right and number plate)		M10 Rubber Washer (6)
16	Ram Lifting Handle (2)		M8 Washer (8)
17	Tools / Fasteners / Accessories: Hydraulic Oil Spark Plug Tool M12x100 Bolt (2) M10x75 Bolt (4)		M8 Spring Washer (4)
			M6 Washer (2)
			M6 Spring Washer (2)
			Split Pin (2)
			17mm O-Ring (2)
			M8 Nut (2)
			Hub Cap (2)
			Exhaust Shroud
			Pump Coupling Spacer
			Pump Coupling
			Cable Ties
			Woodruff Key (for engine output shaft)
			Rubber Engine Mount (4)

HPS500

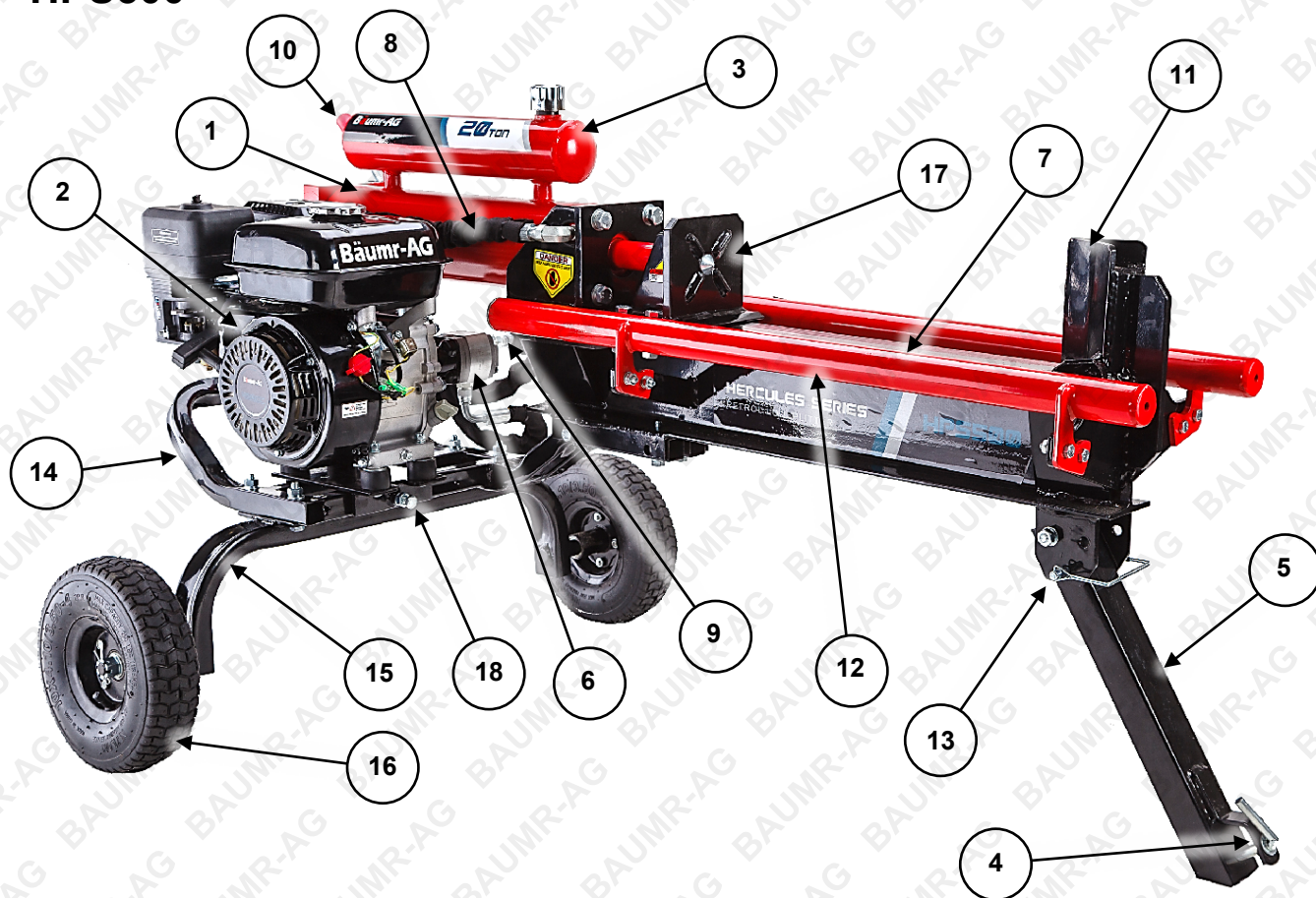
No.	Name	No.	Name
1	Main Machine Assembly (includes hydraulic ram, oil tank, slide, log cradle, wedge etc)	7	Tools / Fasteners (pre-assembled to associated parts) / Accessories (not shown):
2	Engine		Spark Plug Tool
3	Rear Frame		M10x100 Bolt (2)
4	Axle Assembly		M10x50 Bolt (6)
5	Wheel (2)		M8x65 Bolt (5)
6	Support Leg		M8x25 Bolt (4)
			M16 Castellated Nut (2)
			M10 Nut (7)
			M8 Nut (8)
			M16 Washer (2)
			M10 Washer (9)
			M8 Washer (8)
			M10 Spring Washer (9)
			M8 Spring Washer (8)
			Split Pin (2)
			Pump Coupling Spacer
			Pump Coupling
			Locking Pin
			Woodruff Key (for engine output shaft)
			Rubber Engine Mount (4)

Controls and Features Identification

HDS800 / HPS800



No.	Name	No.	Name
1	Hydraulic Ram	12	Pump Outlet Hose
2	Engine (petrol version shown)	13	Control Lever
3	Oil Tank	14	Slide
4	Tow Arm	15	Foot
5	Jockey Wheel	16	Trailer Electrical Connector
6	Oil Pump	17	Ram Horizontal Position Latch
7	Log Table	18	Ram Vertical Position Latch
8	Return Hose	19	Wheel
9	Log Cradle	20	Ram Lifting Handle
10	Ram Pivot Pin	21	Lamp
11	Splitting Wedge	22	Safety Chain

HPS500

No.	Name	No.	Name
1	Hydraulic Ram	10	Control Lever
2	Engine	11	Splitting Wedge
3	Oil Tank	12	Log Cradle
4	Tow Hitch	13	Locking Pin
5	Support Leg	14	Rear Frame (includes engine mount)
6	Oil Pump	15	Rear Axle
7	Slide	16	Wheel
8	Return Hose	17	Pusher Plate
9	Pump Outlet Hose	18	Engine Position Adjustment Bolt

Before Use Checklist



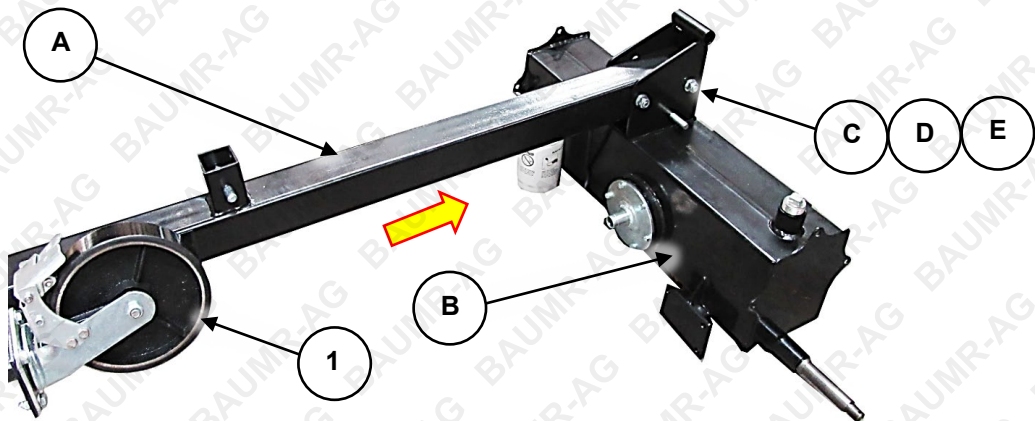
Ensure that you carry out all procedures below before starting the engine or operating the equipment. All procedures described are generic in nature and slight variations between different models may exist. **Failure to follow the checklist and carry out the procedures correctly may result in making the product warranty void.** The product is NOT supplied with engine oil, although traces of oil from the manufacturing process may be present. It is essential to add adequate engine oil of the correct type to the engine before use – see [Engine Oil](#). **Failure to add engine oil will void the product warranty.**

Assembly – HDS800 / HPS800



2 or more persons are required for assembly. • Suitable tools (not supplied) are required for correct assembly. • Check all parts have been supplied and are in good condition before commencing assembly. • Washers are to be placed under nuts unless otherwise stated. • Firmly secure all fasteners.

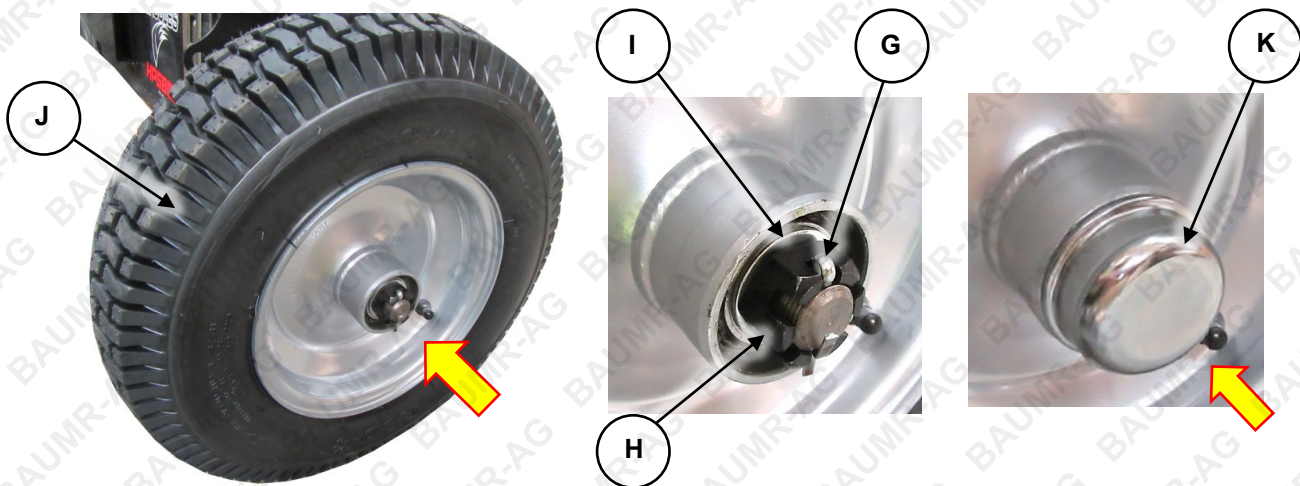
1. Attach the tow bar assembly (A) to the mounting bracket at the top of the oil tank assembly (B) using 2 M12x100 bolts (C), 2 M12 washers (D) and M12 nuts (E). Once attached, lower the jockey wheel (1) before continuing assembly.



2. Connect the oil supply hose (F) to the oil tank port (2) and secure it using the supplied hose clamp.



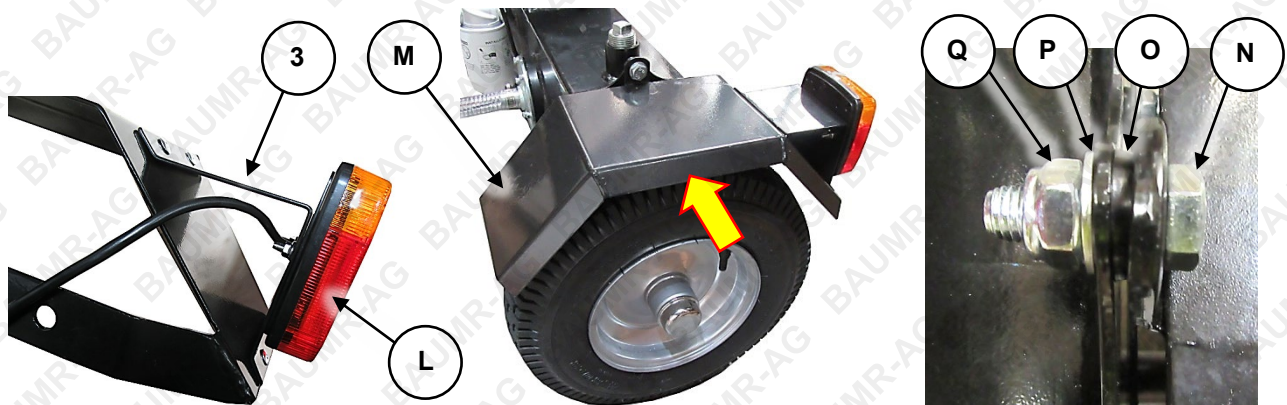
3. Remove the split pin (G), M20 castellated nut (H) and M20 washer (I) from the axle on either end of the oil tank assembly. Remove any dust covers from the wheel (J) hubs – be careful not to allow any dirt etc to get into the wheel bearings. Then, slide each wheel onto the axle – be careful not to allow the bearings to come out of the wheel hub. Place a M20 washer onto the axle, then the M20 castellated nut. After tightening the nut, insert a split pin through the nut and axle, then bend the pin legs to prevent it from falling out. Install the hub caps (K) to seal the bearings – these may require tapping on with a mallet or soft hammer etc.



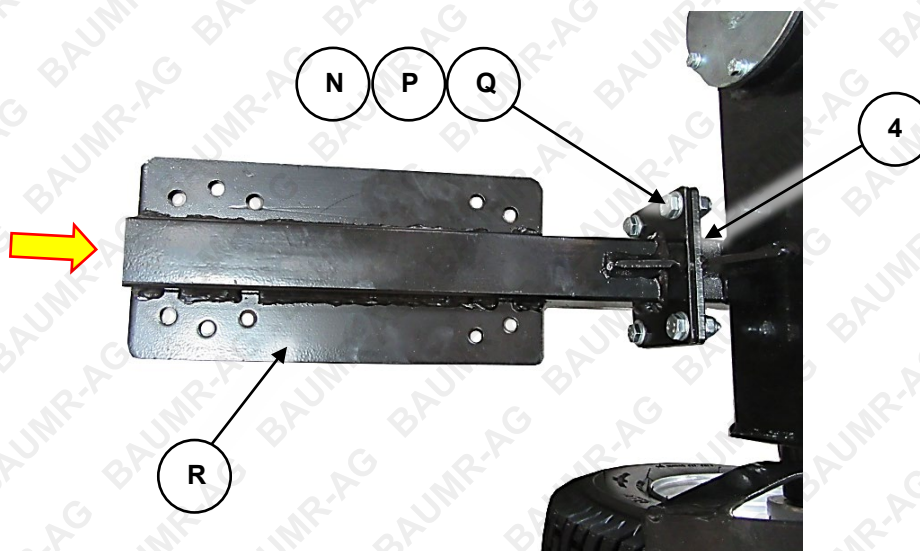
4. Remove the pre-assembled nuts from the rear lamps (L), then run the lamp wiring through the hole in the lamp mounting (3) on each mudguard (M), then secure the lamps using the previously removed nuts.

NOTE: the wiring for the right-hand side tail light is longer than for the left side.

5. Attach each mudguard to the oil tank using 3 M10x30 bolts (N), M10 rubber washers (O), M10 washers (P) and M10 nuts (Q). Place the rubber washers between the mudguard and the oil tank.

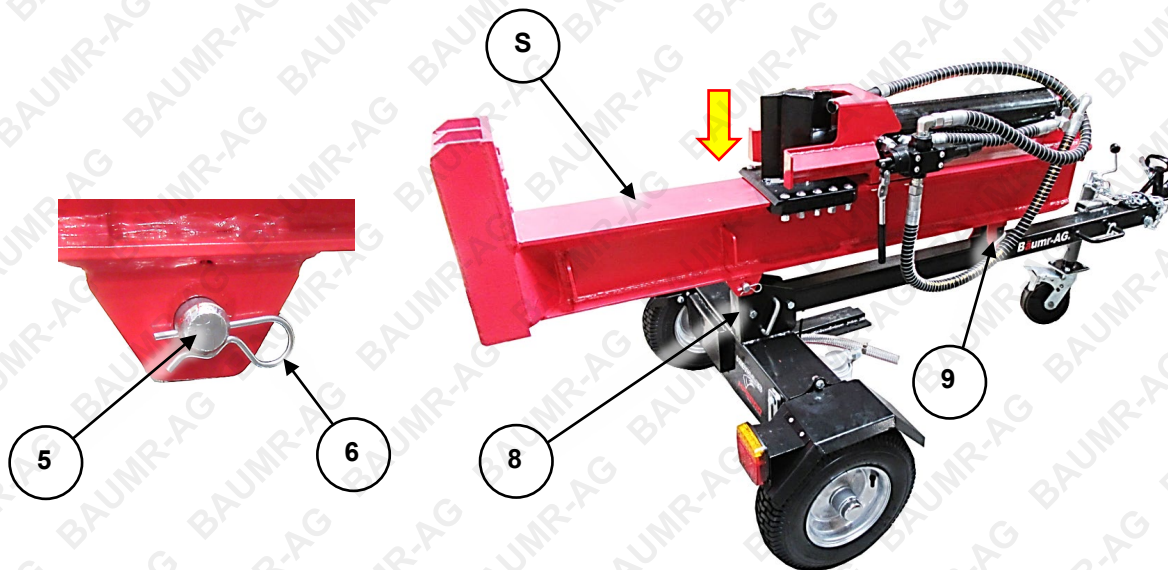


6. Attach the engine mounting bracket (R) to the oil tank mounting (4) using 4 M10x30 bolts (N), M10 washers (P) and M10 nuts (Q).



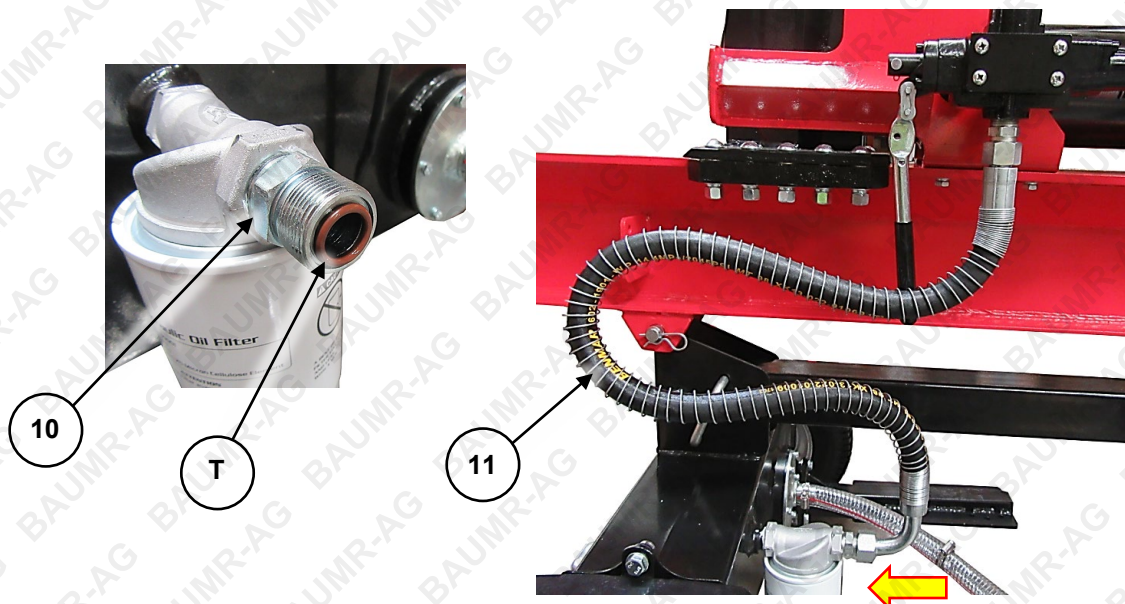
7. Remove the hinge pin (5) and R-clip (6) from the underside of the hydraulic ram assembly (S). Lower the hydraulic ram assembly onto the oil tank, so the hinge pin is aligned with the pivot (7) on the ram mounting (8). Re-install the hinge pin so the hydraulic ram assembly is secured, then insert the R-clip to

prevent the pin from falling out. Ensure that the spring-loaded pin (9) engages with the hydraulic ram assembly to lock it in the horizontal position.

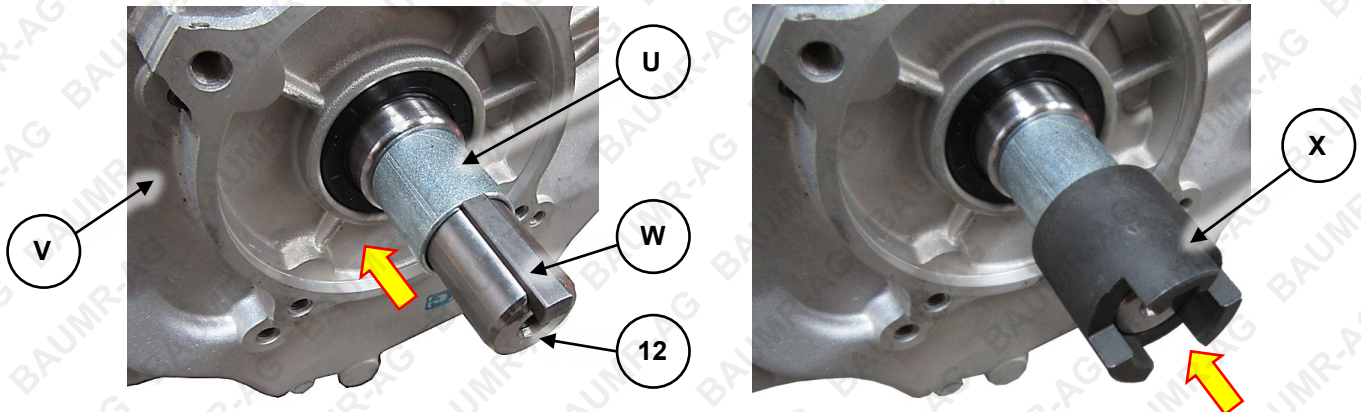


When making the high-pressure hose connections, it is **ESSENTIAL** that O-rings are correctly installed and that the connector internals are absolutely clean. • The hydraulic ram may be supplied pre-filled with oil – be aware that when removing the hose plugs that oil may escape from the hose.

8. Remove the dust cover from the oil tank "return" hose connector / filter (10), then install a 17mm O-ring (T) to the connector. Remove the plastic sealing plug from the "return" hose (11) connector (hose with 90° elbow at the end). Note that there may be an O-ring behind the plug – do not make a connection using 2 O-rings. Connect the hose to the oil tank connector and firmly secure it. Ensure that the hose is routed as shown – this will prevent the hose being stressed when the hydraulic ram is used in the vertical position.



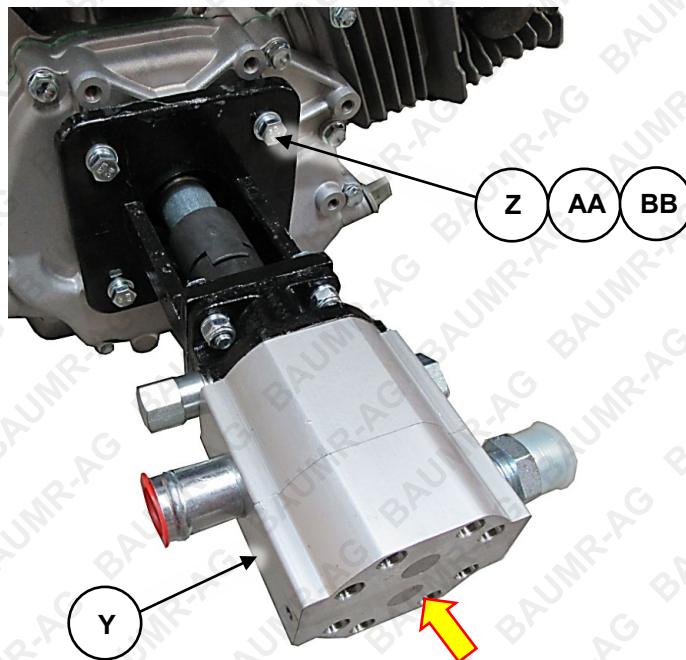
9. Slide the pump coupling spacer (U) onto the engine (V) output shaft (12), then place the woodruff key (W) into the slot in the output shaft. Then, slide the pump coupling (X) onto the output shaft (because of the woodruff key, the coupling will fit on one way only).



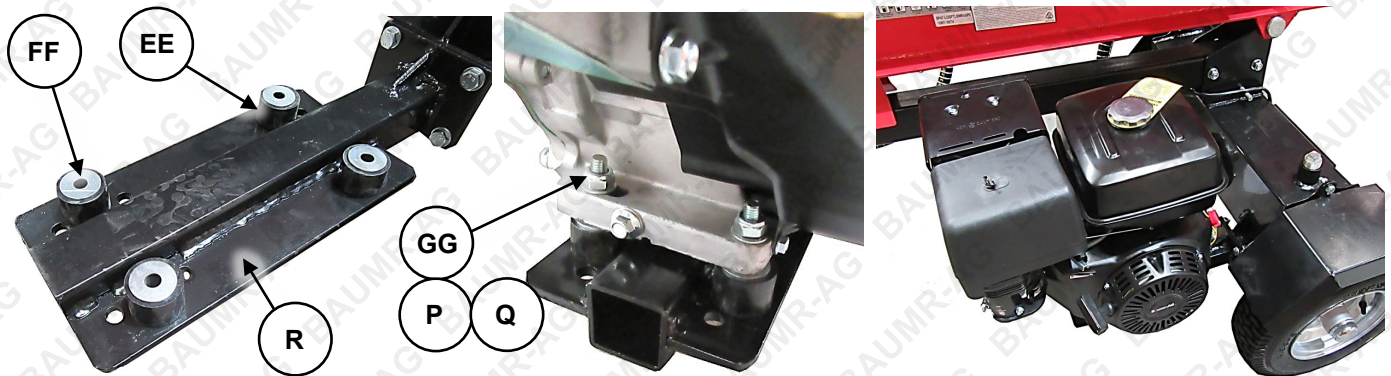
10. Bring the pump assembly (Y) into position against the engine. Ensure that the pump couplings engage as shown, then attach the pump assembly to the engine using 4 M8x25 bolts (Z), M8 washers (AA) and M8 spring washers (BB). The engine is now ready to be mounted to the machine.



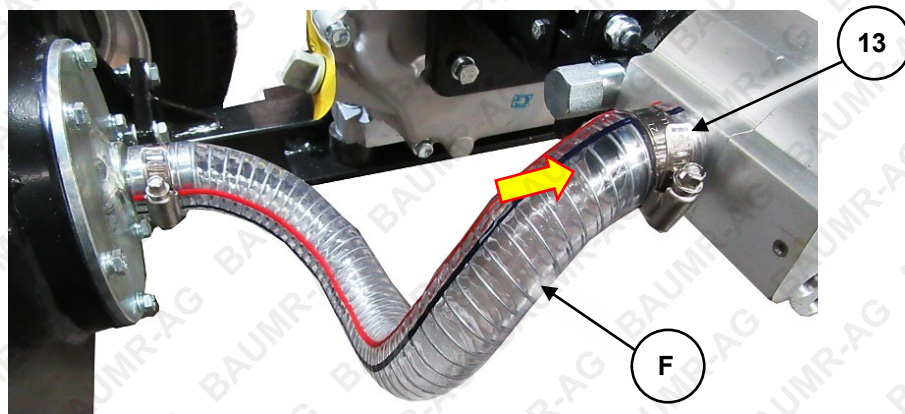
Before tightening the pump assembly mounting bolts, pull the engine starter cord several times (remove the spark plug first to make spinning the engine easier) and check that the engine-pump coupling operates smoothly. If not, adjust the position of the pump as required. When the coupling operates smoothly, tighten the fasteners.



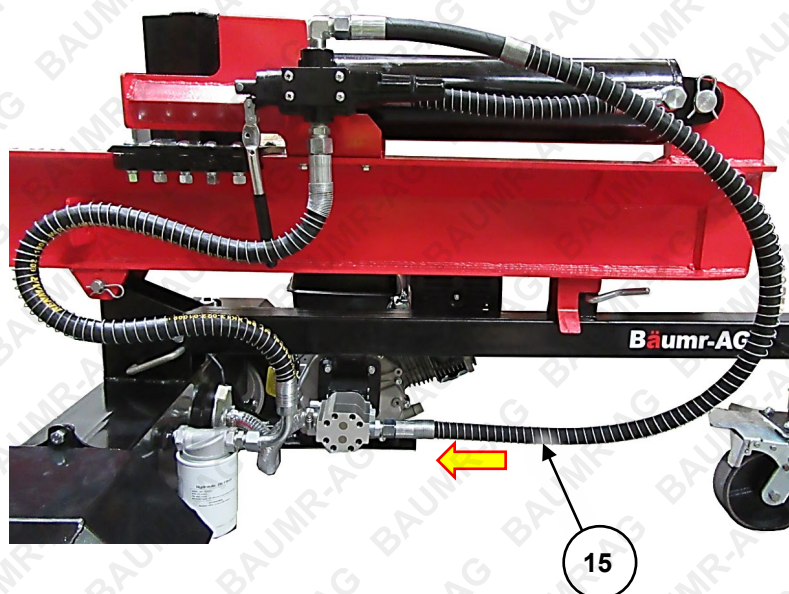
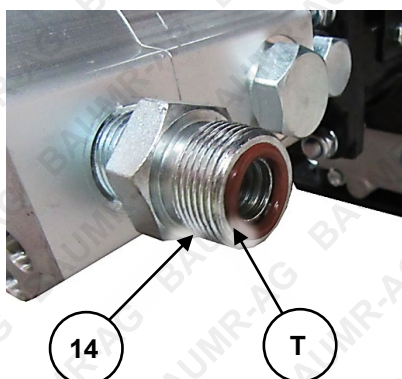
11. Place 4 rubber engine mounts (**EE**) and M10 large washers (**FF**) onto the engine mounting bracket (**R**), as shown. Carefully lower the engine onto the mounts and secure it using 4 M10x75 bolts (**GG**), inserted from under the engine mounting brackets, M10 washers (**P**) and M10 nuts (**Q**).



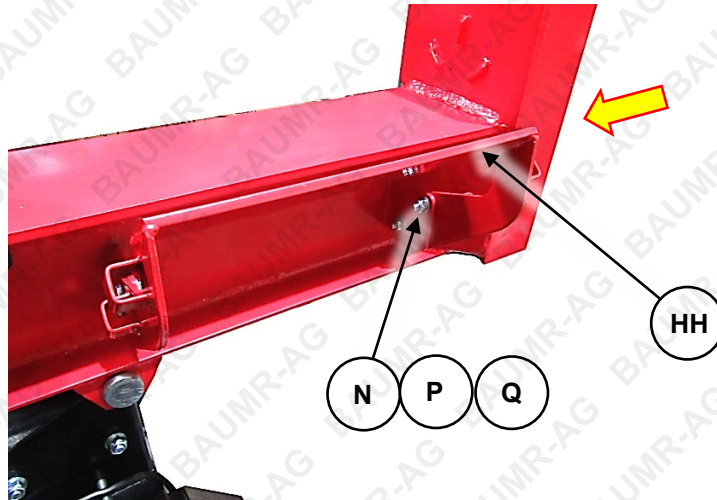
12. Connect the oil supply hose (**F**) (from oil tank) to the pump inlet port (**13**) and secure it using the hose clamp.



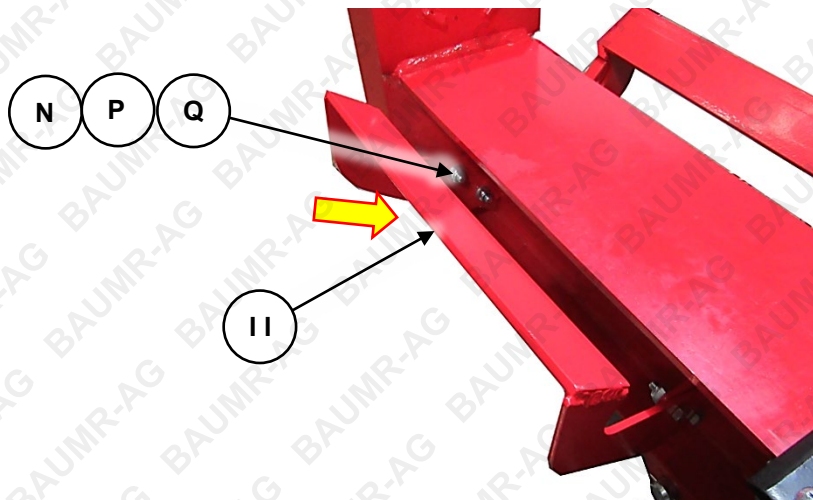
13. Remove the dust cover from the oil pump "outlet" hose connector (**14**), then install a 17mm O-ring (**T**) to the connector. Remove the plastic sealing plug from the "outlet" hose (**15**) connector. Note that there may be an O-ring behind the plug – do not make a connection using 2 O-rings. Connect the hose to the oil pump connector and firmly secure it. Ensure that the hose is routed as shown – this will prevent the hose being stressed when the hydraulic ram is used in the vertical position.



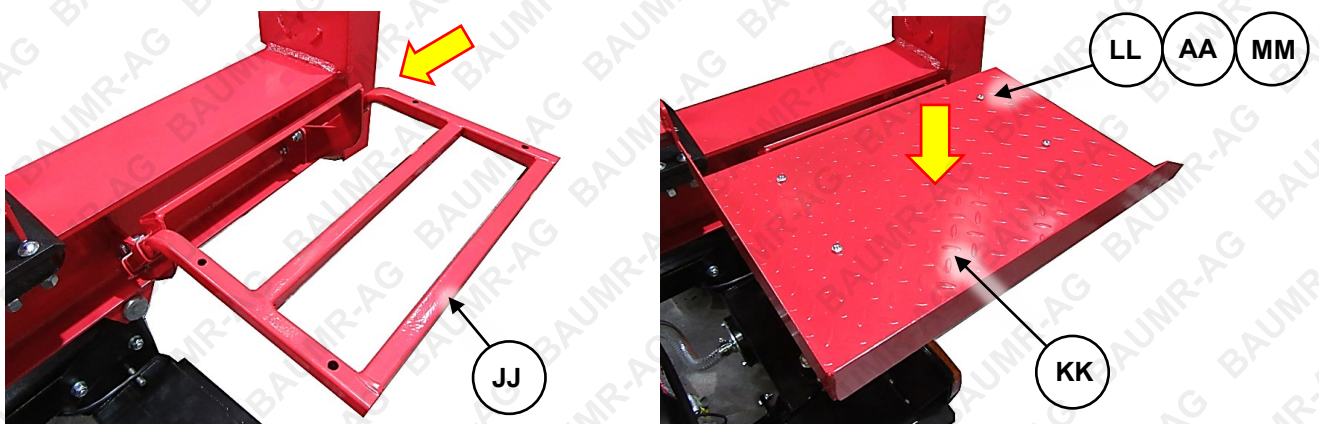
14. Attach the log cradle with log table mounts (**HH**) to the right-hand side of the hydraulic ram assembly using 4 M10x30 bolts (**N**), M10 washers (**P**) and M10 nuts (**Q**).



15. Attach the remaining log cradle (**II**) to the left-hand side of the hydraulic ram assembly using 4 M10x30 bolts (**N**), M10 washers (**P**) and M10 nuts (**Q**).

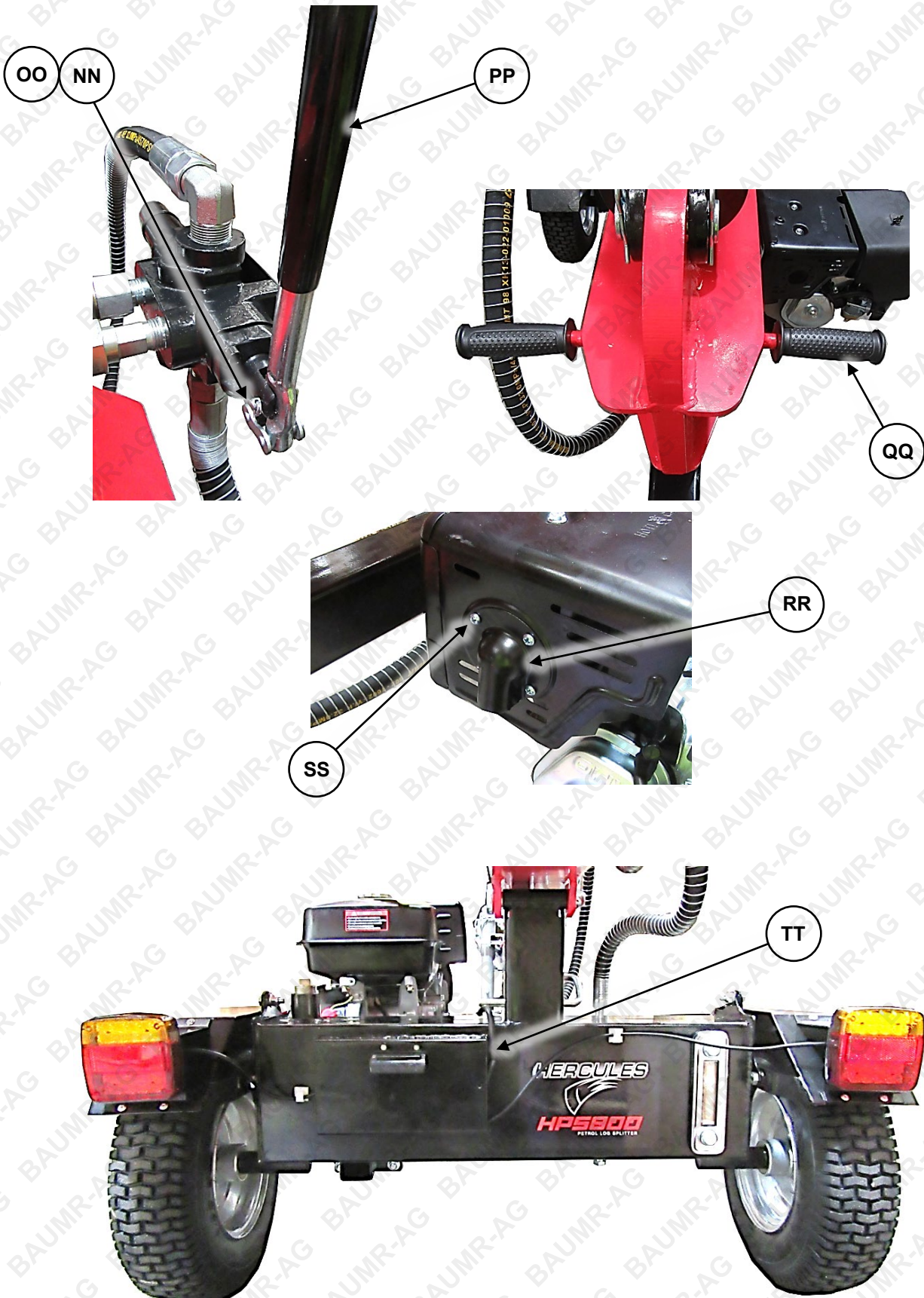


16. Insert the arms of the log table support (**JJ**) into the log cradle with table mounts. Place the log table (**KK**) on the support and secure it using 4 M8x35 bolts (**LL**), M8 washers (**AA**) and M8 nuts (**MM**). Insert the bolts from the top of the table.



17. If required, assembly the valve control lever – remove the pin (**NN**) and retaining clip (**OO**) from the lever (**PP**). Rotate the lever up, then re-insert the pin through the lever and pivot and secure using the retaining clip.
18. Screw the ram lifting handles (**QQ**) into the holes at the end of the ram assembly and firmly tighten by hand.

19. If required, place the exhaust shroud (RR) in position on the engine exhaust shield and secure it using 4 self-tapping screws (SS).
20. Join the lamp electrical connectors to the main wiring harness (TT) that runs through the tow arm, according to the labels on them – "L" to "L", and "R" to "R". Use the self-adhesive cable ties for the trailer lamp wiring.

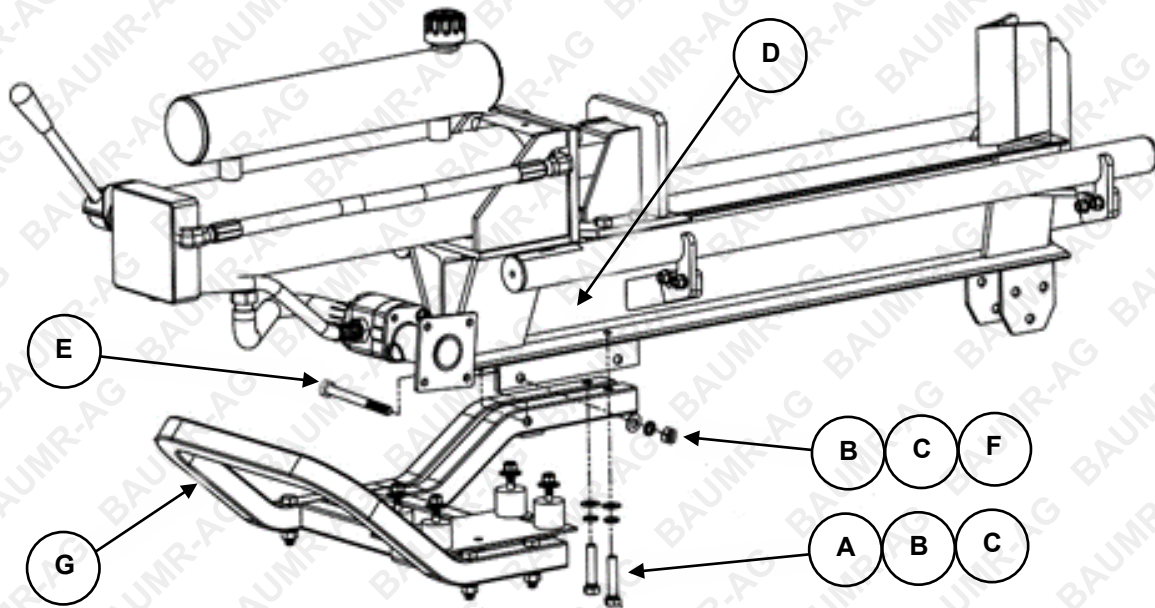


Assembly – HPS500

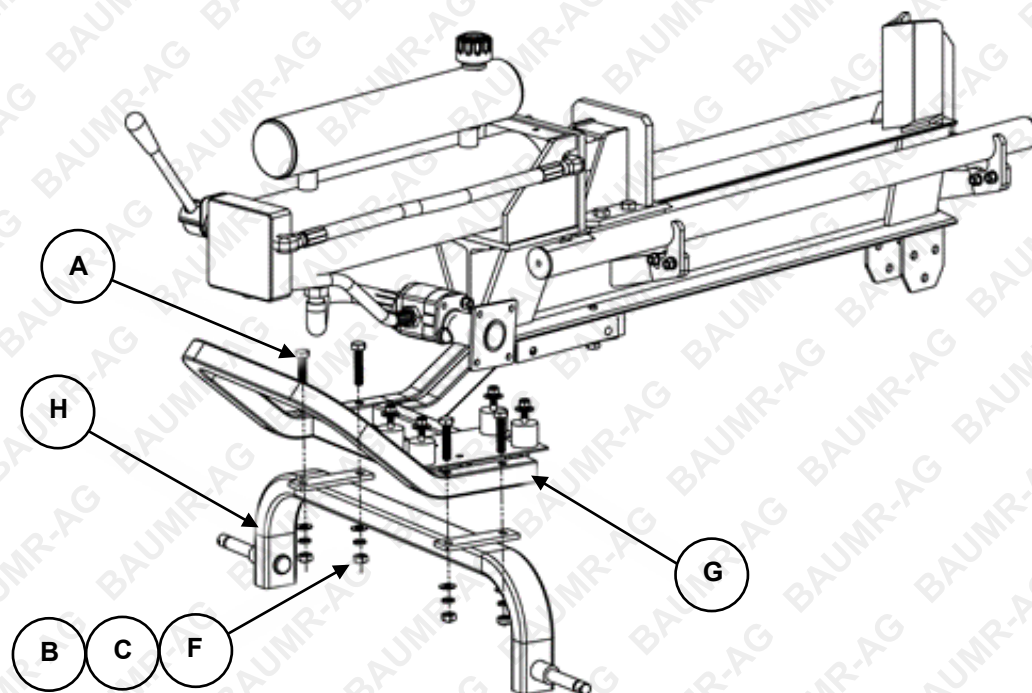


2 or more persons are required for assembly. • Suitable tools (not supplied) are required for correct assembly. • Check all parts have been supplied and are in good condition before commencing assembly. • Fasteners are pre-assembled to applicable parts. • Washers are to be placed under nuts unless otherwise stated. • Firmly secure all fasteners.

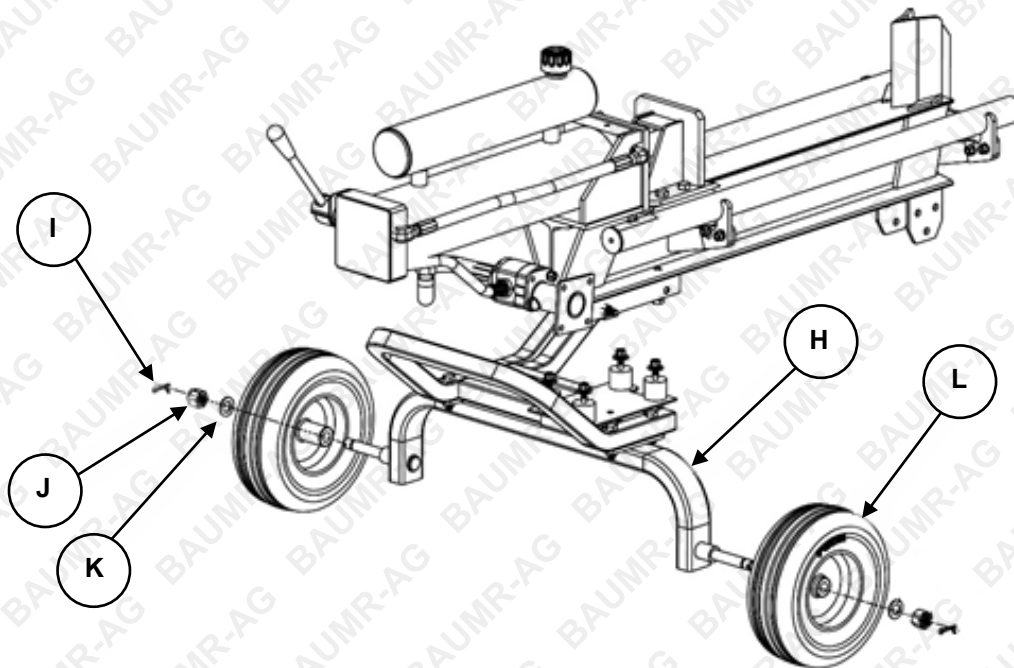
1. Remove the 2 M10x50 bolts (A), washers (B) and spring washers (C) from the main machine assembly (D), and the 2 M10x100 bolts (E), washers (B), spring washers (C) and nuts (F) from the rear frame (G).
2. Attach the rear frame (G) to the main machine assembly (D) using the previously removed fasteners.



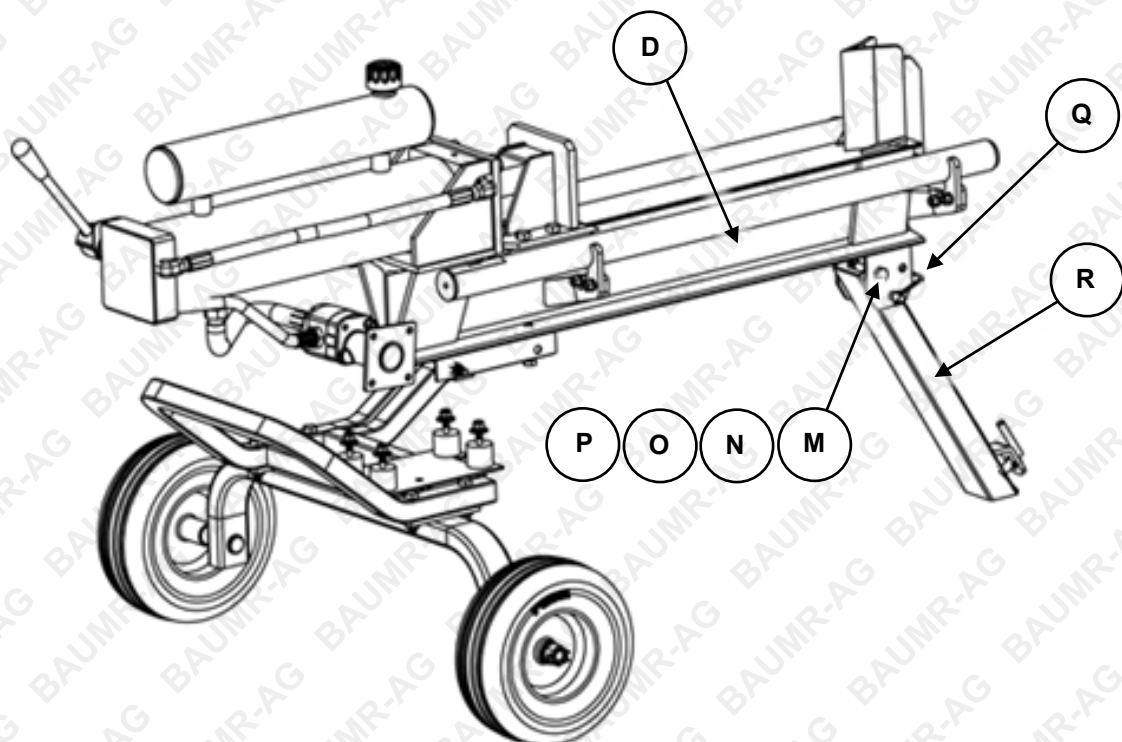
3. Remove the 4 M10x50 bolts (A), washers (B), spring washers (C) and nuts (F) from the rear frame (G).
4. Attach the axle assembly (H) to the rear frame (G) using the previously removed fasteners



5. Remove the split pin (I), M16 castellated nut (J) and M16 washer (K) from the axle on either end of the axle assembly (H). Then, slide each wheel (L) onto the axle. Place a M16 washer onto the axle, then the M16 castellated nut. After tightening the nut, insert a split pin through the nut and axle, then bend the pin legs to prevent it from falling out.



6. Remove the M8x65 bolt (M), nut (N), spring washer (O), washer (P) and locking pin (Q) from the support leg (R).
7. Attach the support leg (R) to the bracket at the front of the main machine assembly (D) using the previously removed fasteners.



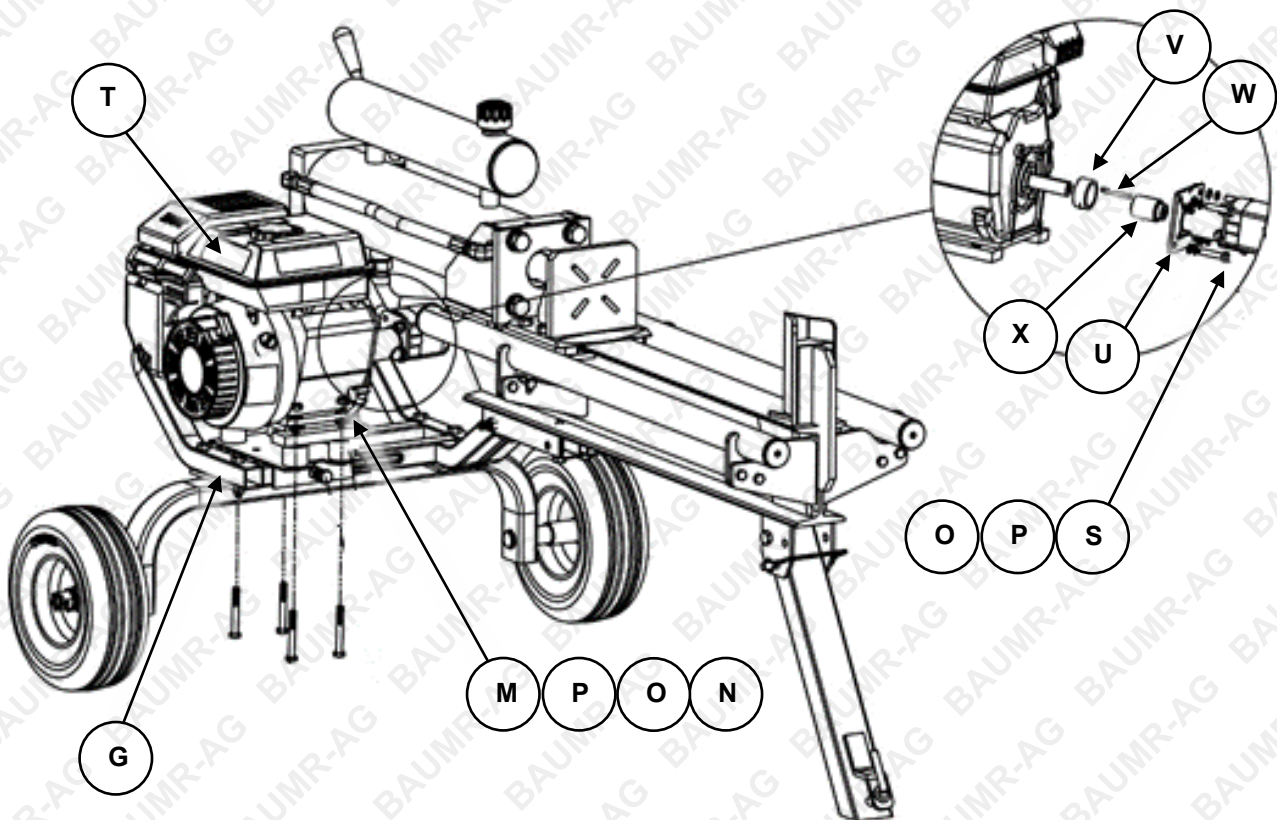
8. Remove the 4 M8x65 bolts (M), washers (P), spring washers (O) and nuts (N) from the rear frame (G), and the 4 M8x25 bolts (S), washers (P) and spring washers (O) and from the engine (T).

9. From the hydraulic pump assembly (U), install the output shaft bush (V), woodruff key (W) (this must be placed into the slot in the engine output shaft) and coupling (X) to the engine output shaft in that order.
10. Attach the pump assembly (U) to the engine (T) using the 4 previously removed M8x25 bolts, spring washers and washers.



Before tightening the engine mounting bolts, slowly pull the engine starter cord several times (remove the spark plug first to make spinning the engine easier) – ensure that the engine output shaft and pump drive assembly is aligned and that the parts engage and rotate smoothly. If required, use the "adjusting bolt" (Y) to hold the engine in the correct position. When aligned, tighten the engine mounting bolts.

11. Attach engine (T) to the rear frame (G) using the 4 previously removed M8x65 bolts, washers, spring washers and nuts.



Engine Oil

Four-stroke engines require engine oil in the crankcase for lubrication of internal components. Severe or irreparable damage may occur if the engine is allowed to run without engine oil. The engine oil level requires regular maintenance. Check the engine oil level and ensure that the oil level is at or just under the maximum level indicator.

Always check the engine oil level before starting the engine. See [Engine Oil](#).

Air Filter

The air filter is used to prevent dirt and other particles from possibly entering the engine and causing internal damage to it. The air filter requires regular maintenance.

Always check the air filter before starting the engine. See [Air Filter](#).

Fuel



Petrol/fuel/gasoline is extremely flammable – keep clear of naked flames or other ignition sources. • The engine must be cool before refuelling.

Adequately fill the fuel tank with the correct fuel type.

- For petrol engines, use non-ethanol unleaded petrol (higher RON values will provide best engine performance). Do not use old or contaminated fuel.
- For diesel engines, use commercial non-bio diesel fuel. Do not use old or contaminated fuel.

To fill or top up fuel:

1. Place the machine on a flat and level surface.
2. Clean the machine around the fuel filler so that no dirt or other material enters the engine when the cap is removed.
3. Remove (rotate left) the fuel filler cap.
4. Using a funnel, carefully fill the tank with fuel. Do not fill above the top of the strainer (if equipped) or otherwise overfill the tank.
5. When finished, reinstall (rotate right) the fuel filler cap until firm. Wipe away any residual fuel from the machine. If fuel has been spilt, move the pump away from the spillage before starting the engine.

Hydraulic Oil

The hydraulic system requires adequate hydraulic oil of the correct type to operate safely and efficiently. The machine is shipped without hydraulic oil although some oil may be supplied. Check the hydraulic oil level and ensure that it is at the recommended level. See [Hydraulic Oil](#).

Engine Starting

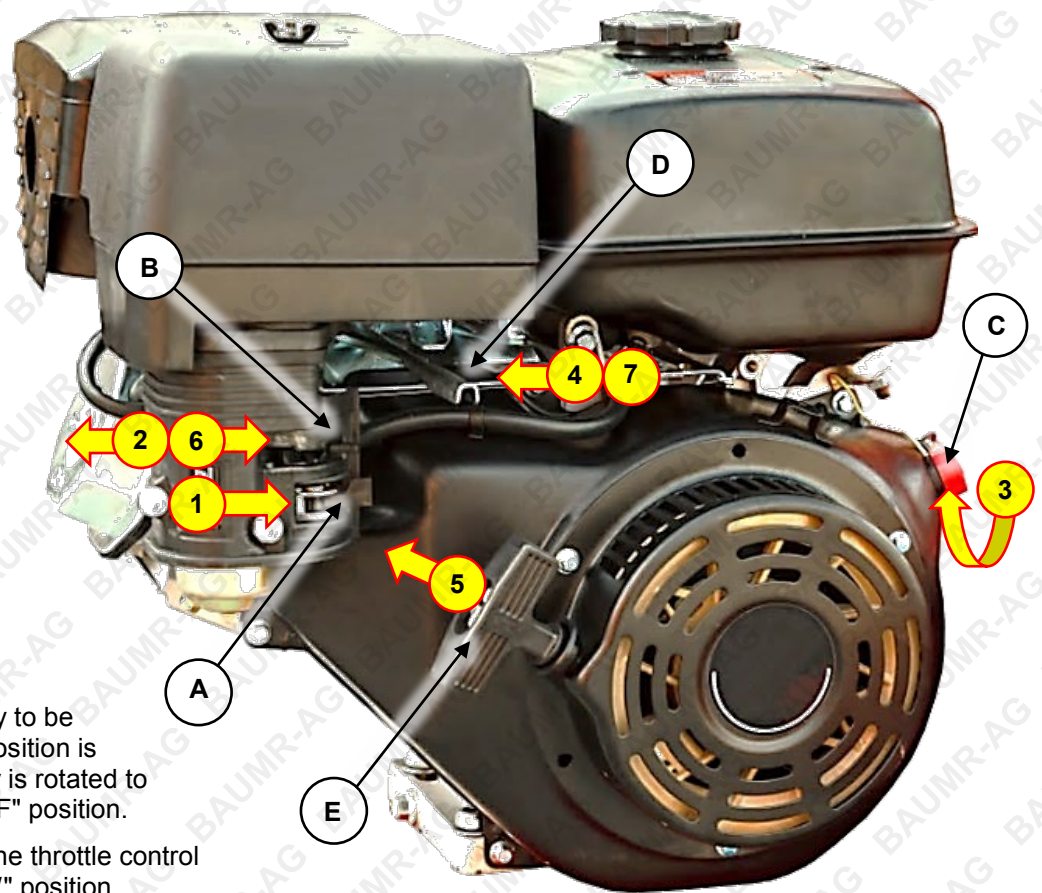


Before starting the engine, ensure that you have followed all procedures described in the [Before Use Checklist](#). **Failure to follow the checklist and carry out the procedures correctly may result in making the product warranty void.** The product is NOT supplied with engine oil, although traces of oil from the manufacturing process may be present. It is essential to add adequate engine oil of the correct type to the engine before use – see [Engine Oil](#). **Failure to add engine oil will void the product warranty.**

Different models may feature variations in design; for example, some have different engine types etc. The following procedures and images are typical to all models, however, the position or appearance of controls etc may vary. All major engine controls are identified on the machine by way of stickers or other markings.

Starting Petrol Engines

- FUEL** – Place the fuel tap (A) in the "ON" position (to the right).
- CHOKE** – If the engine is cold, place the choke (B) in the "COLD" position (to the left). If the engine is warm or ambient temperature is high, place in the "HOT" position (to the right).
- IGNITION** – Place the engine ON/OFF switch (C) or key switch (if equipped) in the "ON" ("I") position. For key switches, the "OFF" position allows the key to be removed. The "ON" position is reached when the key is rotated to the right from the "OFF" position.
- THROTTLE** – Place the throttle control (D) just off the "SLOW" position.
- START** – Slowly pull out the starter cord (E) until you feel it engage with the engine, then pull it out rapidly (use both hands if necessary). The engine should start. Allow the starter cord to rewind slowly – do not let it "snap" back.
- WARM-UP** – Allow the engine to warm-up and run smoothly. If choke is being applied, place the choke (B) in the "HOT" position.
- THROTTLE** – Adjust the throttle control (D) for the required engine speed.



If the engine does not start, repeat step 5 onward. If the engine fails to start after several attempts, refer to [Troubleshooting](#).

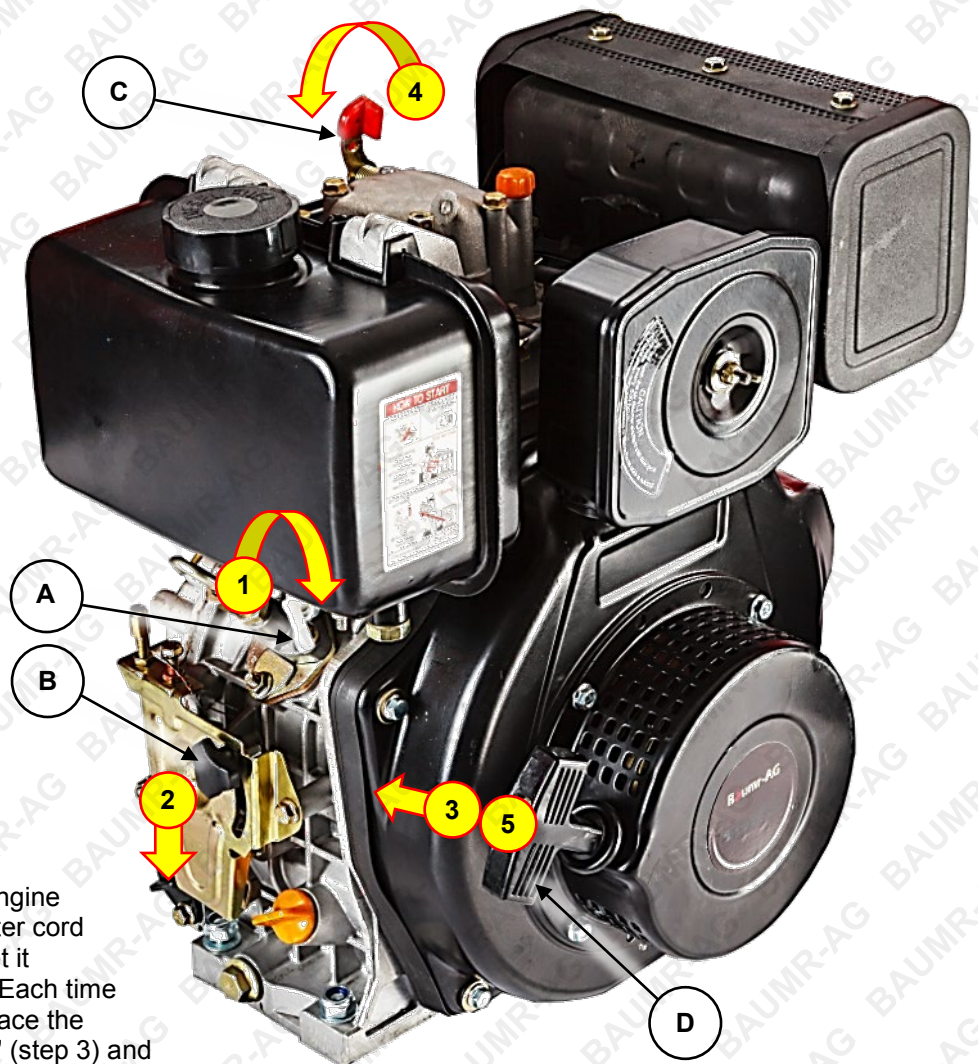
Video Tutorial:

[Starting Petrol Engines](#)



Starting Diesel Engines

- FUEL** – Place the fuel tap (A) in the "ON" position.
- THROTTLE** – Place the throttle control (B) in the "RUN" position (down). Some models use a screw to secure the throttle in position – to adjust, loosen the screw and move it to the required position, then tighten it again.
- TOP DEAD CENTRE** – Slowly pull out the starter cord (D) until you feel it engage with the engine, then allow it to return to the retracted position.
- DECOMPRESS** – Place the decompression lever (C) in the "down" position, otherwise you may not be able to start the engine.
- START** – Rapidly pull the starter cord (D) (use both hands if necessary). The engine should start. Allow the starter cord to rewind slowly – do not let it "snap" back to the engine. Each time you use the starter cord, place the engine at "top dead centre" (step 3) and the decompression lever in the "down" position (step 4) first.
- WARM-UP** – Allow the engine to warm-up and run smoothly.
- THROTTLE** – Adjust the throttle control (B) for the required engine speed. Some models use a screw to secure the throttle in position – to adjust, loosen the screw and move it to the required position, then tighten it again.



If the engine does not start, repeat step 3 onward. If the engine fails to start after several attempts, refer to [Troubleshooting](#).

Video Tutorial:

[Pull-Starting Diesel Engines](#)



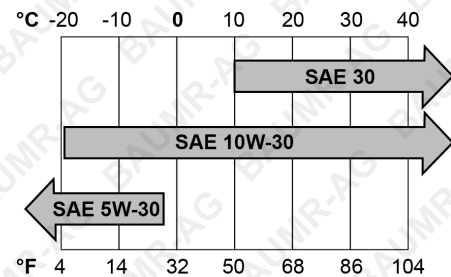
Stopping the Engine

- Place the throttle control in the "SLOW" position. For diesels, loosen the throttle control – it should automatically return to the engine OFF position (up).
- If equipped, place the engine ON/OFF switch in the "OFF" position.
- If equipped, place the fuel tap in the "OFF" position.

Environmental Considerations

Altitude – If the engine is being used in altitudes at or above 1500m (approximately 5000'), adjustments to the fuel system may be required. This is because there is less oxygen in the air as altitude increases, which effectively "enriches" the ratio of fuel to air going into the engine, and the higher the altitude, the richer the fuel mixture becomes. If the engine is being permanently operated at high altitude, it is recommended to have an authorised service centre make the necessary fuel system adjustments. If the engine is used occasionally at altitude (not extreme altitudes), no adjustments should be required, however, a slight decrease in engine performance can be expected.

Temperature – If the engine is being used in extremely cold or hot environments; for example, desert or snow conditions, the type of engine oil may need to be changed to suit environmental temperatures. Oil thickens as the temperature decreases and thins as temperature increases, which means that if the engine oil is not suited to the temperature its ability to properly lubricate the engine may be affected. Use the following chart to determine the correct engine oil:



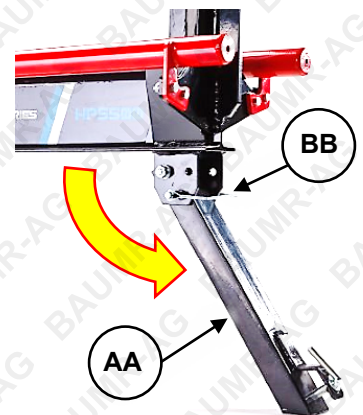
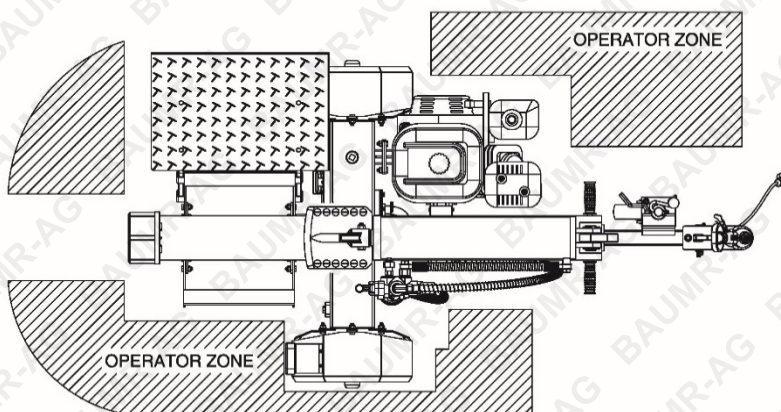
Log Splitter Operation



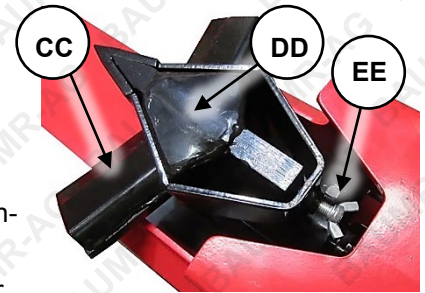
The machine must be operated by one person only. Do not allow helpers or bystanders within 30m (90') of the machine. Bystanders should wear eye protection. • Make sure there are no nails or foreign objects in logs to be split. • Log ends must be cut square. • Branches must be cut off flush with the trunk. • Always split logs in the direction of the wood grain. • Do not load or unload logs whilst the ram is moving. • Crush / amputation hazard - keep hands away from moving parts and from splits/cracks that open in logs. • Do not remove jammed logs by hand. • Ensure that when initially retracting the ram that the timber has split and is separated from the wedge. **If timber becomes jammed on the wedge and moves up when retracting the ram, do NOT fully retract the ram as this may cause injury and/or damage the machine. Remove the timber from the wedge before fully retracting the ram.** • Do not change the machine set-up between vertical and horizontal when the machine is running or timber is loaded into the machine. • Ensure that the hydraulic ram assembly is locked into position before using the machine. • Before use, check the hydraulic oil level with the ram in the fully retracted position. • Make sure all fittings are secure before applying pressure. • Make sure the hydraulic hoses do not touch any hot surfaces or are in or near the splitting area. • To avoid serious bodily injury, inspect the hydraulic system (hoses, fittings and connections, and hydraulic pump) before operating the machine. Very high fluid pressure and temperatures are created in the hydraulic system. Hydraulic fluid will escape through the smallest opening and can puncture skin and cause severe injury and blood poisoning. **Never check for leaks with your hands or any other body part while the hydraulic system is pressurised – use a piece of wood or other hard material that any leak will be visible on. Seek medical attention immediately if injured by hydraulic fluid.** • The hydraulic oil needs to be above -12°C (10°F) before starting the engine. Cold hydraulic oil can damage the hydraulic pump. If the air temperature is below 0°C (32°F), allow the oil to warm up by extending and returning the wedge several times before splitting wood.

Note that once the engine is running, the hydraulic pumping action of the machine activates. When the engine is idling (slowest continuous running speed), the hydraulic pressure is minimal. As you increase engine speed (use the engine throttle control), the hydraulic pressure increases. Note the following recommendations:

- Operate the engine at a sufficient speed to provide the desired hydraulic pressure. This may vary on the size of the timber and species etc.
- Set-up and operate the machine on a dry and level surfaces with good footing. Do not work on mud, loose, or slippery ground surfaces, and chock the wheels before use.
- Lower the support leg (if equipped) from the towing arm position:
 1. Unlock the support leg (AA) from the towing position by removing the locking pin (BB).
 2. Swing the leg down to the low position, then secure it with the locking pin.
- Maintain a clearance of at least 2.5m (7') around the machine at all times to any combustible material.



- For suitable wood types, use the 4-way splitting wedge (CC) (if equipped). To attach, place it over the standard wedge (DD), then secure it using the winged bolt (EE) (tighten by hand only).

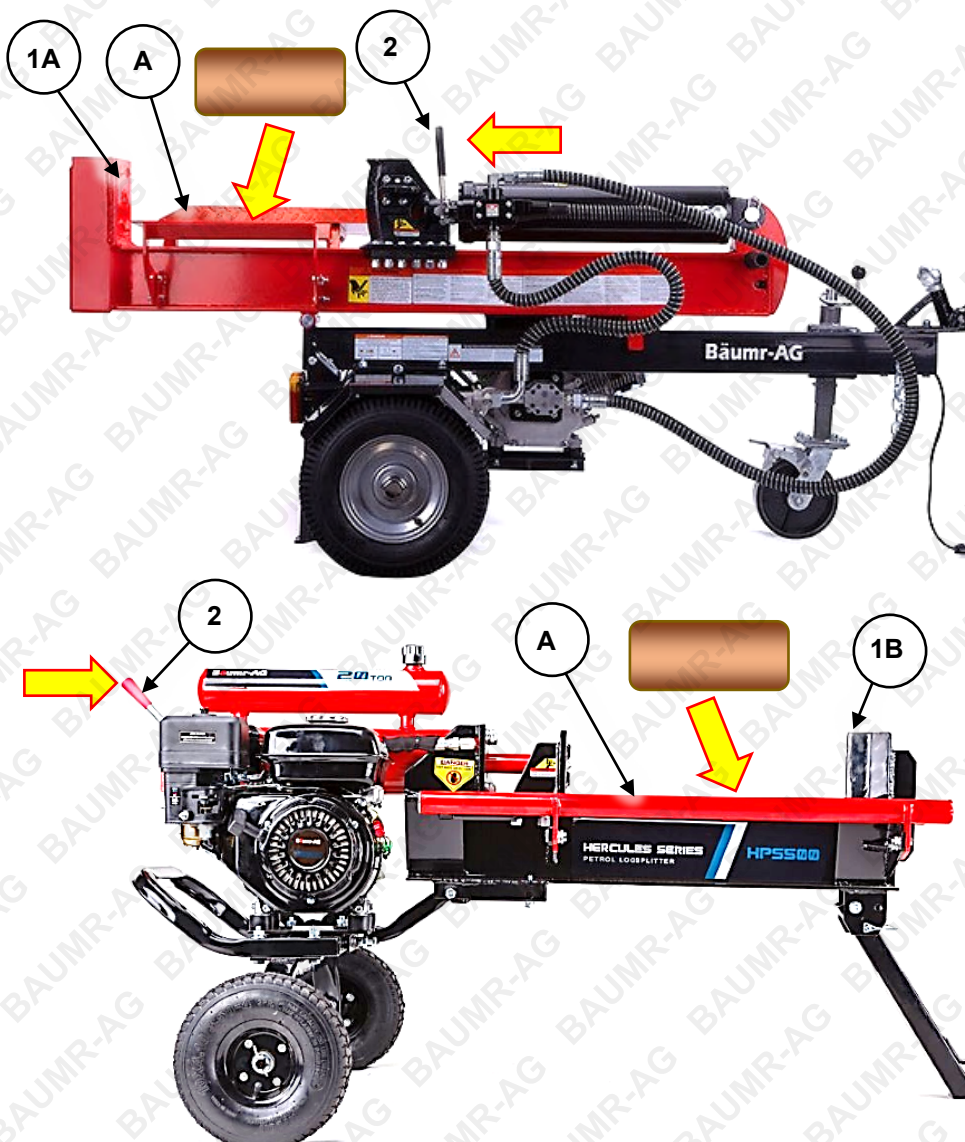


Splitting Logs

- Place the log on the slide/work table (A), with one end up against the non-moving part – that is, log stop (1A) or wedge (1B).
- Operate the hydraulic ram using the ram control lever (2). Move the lever in the direction of the log stop and hold it there for the hydraulic ram/wedge to push the forward.
- Push the wedge into the log until it splits, then release the lever.
- When the wedge is free from the log, move the ram control lever in the reverse direction to retract the ram/wedge.



Ensure that when initially retracting the ram that the timber has split and is separated from the wedge. **If timber becomes jammed on the wedge and moves up when retracting the ram, do NOT fully retract the ram as this may cause injury and/or damage the machine. Remove the timber from the wedge before fully retracting the ram.** • If the log is not splitting, do NOT keep pressure against the log for more than 5 seconds. This places additional stresses on the machine and may damage it or the hydraulic system. In such cases rotate the log 90° and attempt to split it again. If this is not successful, the log may be too hard for the capacity of the machine and should be discarded

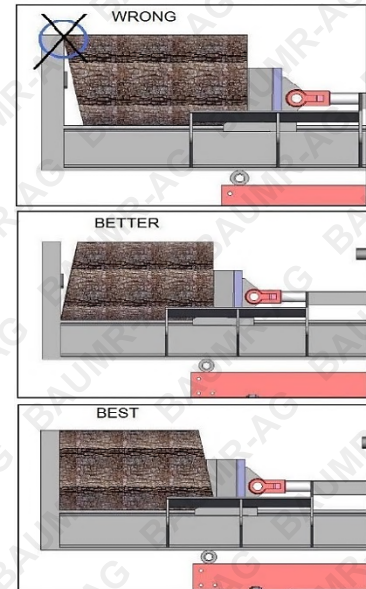


Working with Logs

- Always set logs firmly on the slide / work table.
- Ensure that logs will not twist, rock or slip while being split.
- Ensure that logs have good contact with the splitting wedge. Splitting against the top of the wedge may break the wedge or otherwise damage the machine. Use the adjacent diagram for the safest method of splitting logs with slanted faces

Extracting Jammed Logs

- Release pushing pressure against the log. Do NOT fully retract the ram/wedge.
- Insert a wooden wedge under the log at the log stop, narrow edge under the end of the log.
- Use the log splitter to push the log over the wedge to release it. Various sized wedges may need to be tried. A crowbar can also be used to lever the log from the wedge. Do not strike the jammed log to free as this may damage the machine or launch the log.

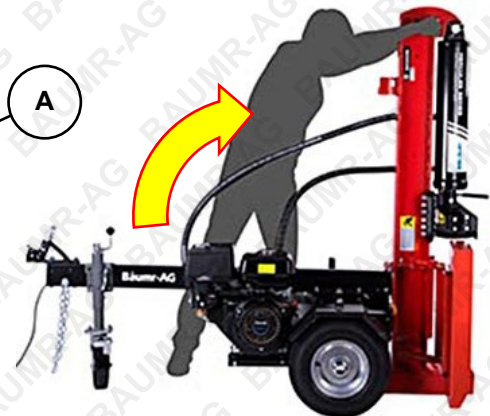


Setting-Up the Machine in the Vertical / Horizontal Position

Some model machines can be used in the horizontal or vertical position for splitting. The vertical set-up is generally better suited to larger pieces of timber. To use the vertical set-up:

1. Secure the machine in the work position with the wheels chocked.
2. Pull out and hold the spring-loaded release pin (A).
3. Whilst the release pin is in the unlocked position, use the handles to lift the top of the hydraulic ram assembly and rotate it until it is in the vertical position.

To revert to the horizontal position, use the handles to gently lower the hydraulic ram assembly, pull out and hold the spring-loaded release pin so that the ram assembly fully lowers, then release the pin. Ensure the ram assembly is held securely before proceeding.



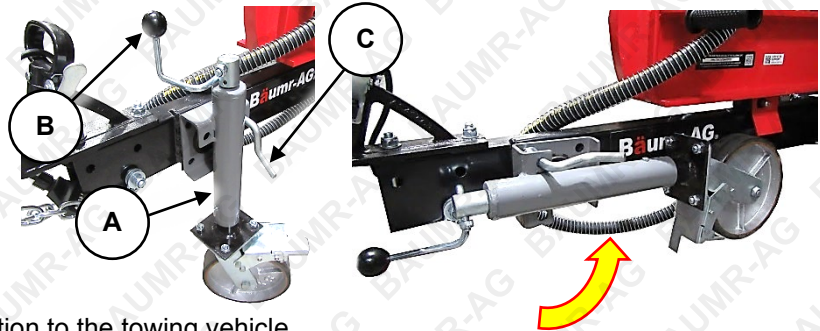
Towing



Before towing, ensure the axle nuts are tight and the axle nut split pins are securely in place. • Ensure that the tyres are inflated to the pressure marked on the tyre wall. • Do not tow if the tyres are worn, damaged or do not hold air pressure. • Do not tow the machine in the vertical position. Ensure that the hydraulic ram assembly is locked in the horizontal position before towing. • Do not carry passengers, or allow any person to sit or stand on the machine. • Always fully secure the machine to the towing vehicle hitch before towing. • Use caution when towing. Tow with an appropriate vehicle, and avoid slopes, ditches etc. Refer to the towing vehicle owner's manual for correct safety and towing instructions. • Do NOT tow on public roads.

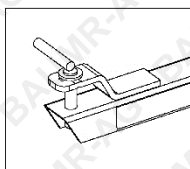
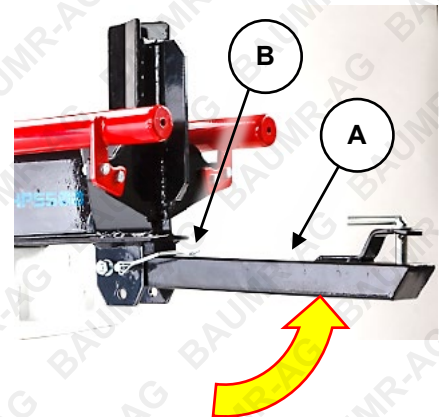
HDS800 / HPS800

1. If required, [lower the hydraulic ram assembly](#). Ensure the ram assembly is held securely before proceeding.
2. Place the tow ball socket over the towing vehicle tow ball and secure it. Rotate the jockey wheel (A) height adjuster (B) to raise/lower the tow ball socket as needed.
3. Raise the jockey wheel:
 - a. Pull out and hold the spring-loaded release pin (C).
 - b. Whilst the release pin is in the unlocked position, swing the jockey wheel up to the horizontal position, then release the pin, ensuring that it fully enters its horizontal position locating hole.
4. Connect the trailer electrical connection to the towing vehicle and ensure that the trailer lamps operate correctly.

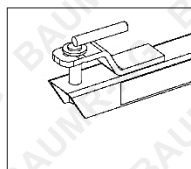


HPS500

1. Raise the front support leg and secure it in the towing position:
 - a. Unlock the front support leg (A) by removing the locking pin (B).
 - b. Swing the leg up to the horizontal towing arm position, then secure it with the locking pin.
2. Hitch the towing arm securely to the towing vehicle, then place the hitch pin in the locked position.



Pin (UNLOCK)



Pin (LOCKED)

Maintenance



Running combustion engines in confined areas **CAN KILL IN MINUTES**. Engine exhaust fumes contain carbon-monoxide – a deadly gas that you cannot smell or see. NEVER run a combustion engine in confined areas EVEN IF windows and doors are open. ONLY run combustion engines OUTDOORS and away from doors, windows and vents. • Petrol / fuel / gasoline is extremely flammable – keep clear of naked flames or other ignition sources. •

Do not have the engine running during inspection and maintenance unless specifically required. • The engine should be cool enough to touch before performing maintenance activities. • Some maintenance activities may be beyond the scope of some users. Do NOT attempt procedures that you are not comfortable with, or do not have the necessary tools, experience or knowledge for – take the unit to an authorised service centre or qualified technician for servicing. • Harsh operating environments such as extreme temperatures, dust etc may necessitate more frequent maintenance. • **Failure to follow the maintenance schedule, using incorrect or non-compatible accessories or replacements parts, or general negligence may result in making the product warranty void.**

To keep the machine performing at optimal efficiency, regular checks and maintenance is required. The maintenance schedule below specifies preventative maintenance checks and necessary maintenance tasks and how often they should be performed. The schedule applies to multiple engines; some engines may not include some components, so maintenance on those components is not applicable.

Maintenance Schedule

Use the following maintenance schedule for a list of regular maintenance tasks and how often they need to be performed. Maintenance frequency is based on average usage. Be aware of how much the machine is used and be sure to follow the schedule according to time or usage, whichever comes first.

Towards the end of this document is a form you can use for maintenance record keeping. It is recommended that you keep a reference of all maintenance.



Major Servicing and "Heavy-Duty" Usage - For engines that are subject to "heavy-duty" use, which can be defined as being used under loads of 85% or more and / or in use more than approximately 300 hours per year (for example, generators and water pumps), more frequent "Major Service" maintenance is required. In addition to normal service requirements, and as with many smaller machine and off-road bike engines, the following parts (as applicable for petrol, diesel or 2-stroke engines) may require replacement during a major service:

- Piston rings.
- Big-end bearings.
- Small-end bearings.
- Gudgeon pin.
- Oil rings.
- Gaskets and seals.
- Valve seats.

Inspection of the following items is required:

- Piston for cracks and stress fractures.
- Bore for wear requiring reconditioning.
- Full machine for broken, worn or loose parts.

Failure to follow the maintenance schedule, using incorrect or non-compatible accessories or replacements parts, or general negligence may result in making the product warranty void.

Maintenance Schedule – Petrol Engines / Machines

Component / Task	Every Use	After First 5 Hours Use	3 Months / 25 Hours Use	6 Months / 50 Hours Use	12 Months / 100 Hours Use	Major Service – Normal Use 24 Months / 200 Hours Use	Major Service – Heavy-Duty Use Every 200 Hours Use
Engine Oil ****	Check level. Adjust as necessary					Replace	
Engine Oil Filter *						Replace	
Loose Engine / Machine Fasteners						Check. Tighten as necessary	
Air Filter	Check		Clean. Replace as necessary			Replace	Replace
Spark Plug			Check			Replace	
Spark Arrestor *							
Fuel Filter *			Clean. Replace as necessary			Replace	
Fuel Strainer *	Check						
Float Bowl *						Clean	
Fuel Lines / Hoses	Check				Replace as necessary		
Fuel Injector *						Check. Clean	
Fuel Pump *							
Fuel Tank						Flush and clean	
Idle Speed						Check. Adjust as necessary	
Valve Clearance						Check. Adjust as necessary	
Cylinder Head Fasteners						Check. Tighten as necessary	
Combustion Chamber						Check. Clean / de-coke as necessary	
Battery Electrolyte *					Check level. Adjust as necessary		
Major Service						Perform	
Cutting Blade / Chain *	Check				Sharpen. Replace as necessary		
Water Pump Oil **	Check level. Adjust as necessary					Replace	
Hydraulic Fluid ***	Check level. Adjust as necessary					Replace	
Drive Belt *	Check tension. Adjust as necessary					Check. Replace as necessary	

* Where applicable. ** Pressure washers with non-sealed water pumps. *** Log splitters only.

**** Briggs & Stratton "EXi" engines do NOT require engine oil changes; just ensure that oil level is correct.

Maintenance Schedule – Diesel Engines / Machines

Component / Task	Every Use	After First 5 Hours Use	3 Months / 25 Hours Use	6 Months / 50 Hours Use	12 Months / 100 Hours Use	Major Service – Normal Use 24 Months / 200 Hours Use	Major Service – Heavy-Duty Use Every 200 Hours Use
Engine Oil	Check level. Adjust as necessary					Replace	
Engine Oil Filter *						Clean. Replace as necessary	
Loose Engine / Machine Fasteners						Check. Tighten as necessary	
Air Filter	Check		Clean. Replace as necessary			Replace	
Spark Arrestor *							
Fuel Filter *			Clean. Replace as necessary			Replace	
Fuel Strainer *	Check						
Fuel Lines / Hoses	Check					Replace as necessary	
Fuel injector *						Check. Clean	
Fuel Pump *						Flush and clean	
Fuel Tank						Check. Adjust as necessary	
Idle Speed						Check. Adjust as necessary	
Valve Clearance						Check. Tighten as necessary	
Cylinder Head Fasteners						Check. Clean / de-coke as necessary	
Combustion Chamber						Check level. Adjust as necessary	
Battery Electrolyte *						Check level. Adjust as necessary	
Major Service						Perform	
Cutting Blade / Chain *	Check					Sharpen. Replace as necessary	
Water Pump Oil **	Check level. Adjust as necessary					Replace	
Hydraulic Fluid ***	Check level. Adjust as necessary					Replace	
Drive Belt *	Check tension. Adjust as necessary					Check. Replace as necessary	

* Where applicable. ** Pressure washers with non-sealed water pumps. *** Log splitters only.

Hydraulic System



Very high fluid pressure and temperatures are created in the hydraulic system. Hydraulic fluid will escape through the smallest opening and can puncture skin and cause severe injury and blood poisoning. **Never check for leaks with your hands or any other body part while the hydraulic system is pressurised – use a piece of wood or other hard material that any leak will be visible on. Seek medical attention immediately if injured by hydraulic fluid.** • Before performing any maintenance, relieve any hydraulic pressure – with the engine OFF, use the ram control lever to move the ram forward and back until it no longer moves (the pressure is released). • If any hydraulic system components are damaged or show signs of wear, replace them before using the machine. Do NOT remove the hydraulic oil fill cap when the system is pressurised, the engine is running or the oil is hot. • Always check the oil level before using the machine and ensure it is at or close to the recommended level. • Oil should be replaced approximately every 200 hours of machine use or if it has a milky or cloudy appearance, which indicates that it has absorbed considerable moisture. Before changing oil, ensure that it is cool enough to not cause burns. • Suitable hydraulic oil is 10W AW-32, ASLE H-150, or ISO 32. • **Before first use, add and hydraulic oil and double-check oil level.**

- Before each use, check all hydraulic hoses, connections and fittings for signs of wear or damage or leaks. Ensure all hydraulic connections and fittings are secure.
- Lubricate the hydraulic ram slide (A) and edges with grease before each use and ensure it is clean and free of debris after each use.



Checking and Changing Hydraulic Oil – HDS800 / HPS800



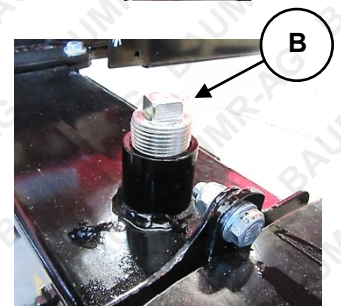
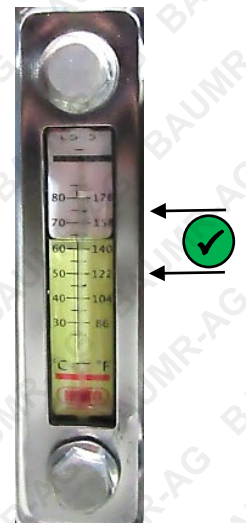
Check oil temperature from the sight glass at the rear of the hydraulic oil tank – the temperature is indicated by the height of the red mercury column with regard to the scales on the glass.

To check hydraulic oil level:

1. Place the machine on a flat and level surface.
2. View the oil level using the oil sight glass on the back of the hydraulic oil tank. Note that the scale on the sight glass refers to oil temperature, not level.
3. Ensure that the oil level is at approximately 70 to 80% full. If the oil level is low, add additional oil until the correct level is reached. If the oil level is too high, drain some oil until the correct level is reached.

To change the hydraulic oil:

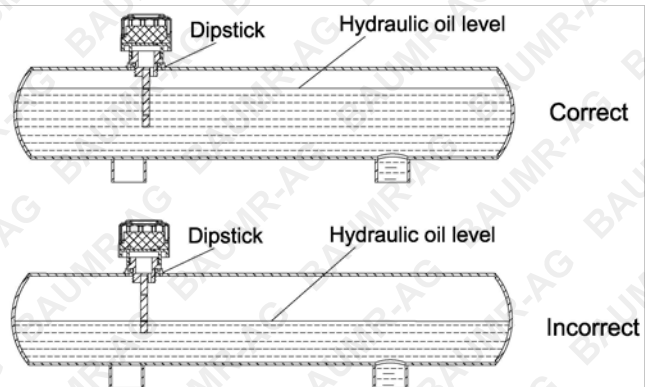
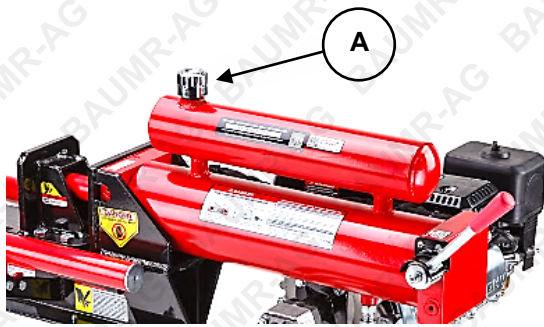
1. Place the machine on a suitable surface that is flat and level and have a container ready to catch drained oil.
2. Unscrew (rotate left) and remove the drain plug (A) and washer from the underside of the hydraulic oil tank.
3. When all oil is drained, clean the drain plug and washer and then reinstall them. Screw in fully (rotate right) and firmly tighten.
4. Remove (rotate left) the oil filler cap (B) from the top of the hydraulic oil tank.
5. Using a funnel, carefully add oil to the hydraulic oil tank until the recommended level is reached (approximately 20 litres). Double-check the oil level.
6. When finished, re-install (rotate right) the oil filler cap until firm. Wipe off any residual oil from the machine.
7. Start the engine and extend and retract the ram several times to remove any air from the hoses.



Checking and Changing Hydraulic Oil – HPS500

To check hydraulic oil level:

1. Place the machine on a flat and level surface.
2. Unscrew the oil filler cap/dipstick (A) and check how far up the dipstick oil can be seen. Note that the oil filler cap/dipstick must be fully screwed in for a correct oil level reading.
3. Ensure that the oil level is at approximately 70 to 80% full; that is, the oil level up approximately $\frac{3}{4}$ the length of the dipstick. If the oil level is low, add additional oil until the correct level is reached. If the oil level is too high, drain some oil until the correct level is reached.



To change the hydraulic oil:

1. Place the machine on a suitable surface that is flat and level and have a container ready to catch drained oil.
2. Disconnect (rotate left) the high-pressure hose (B) at the rear of the machine and allow oil to drain from the tank and hose. Be careful not to lose the O-ring in the connector.
3. When all oil is drained, clean the hose connections and O-ring and then reinstall them. Screw the connector in fully (rotate right) and firmly tighten.
4. Remove (rotate left) the oil filler cap (A) from the top of the hydraulic oil tank.
5. Using a funnel, carefully add oil to the hydraulic oil tank until the recommended level is reached (approximately 5 litres). Double-check the oil level.
6. When finished, re-install (rotate right) the oil filler cap until firm. Wipe off any residual oil from the machine.
7. Start the engine and extend and retract the ram several times to remove any air from the hoses.



Engine Oil



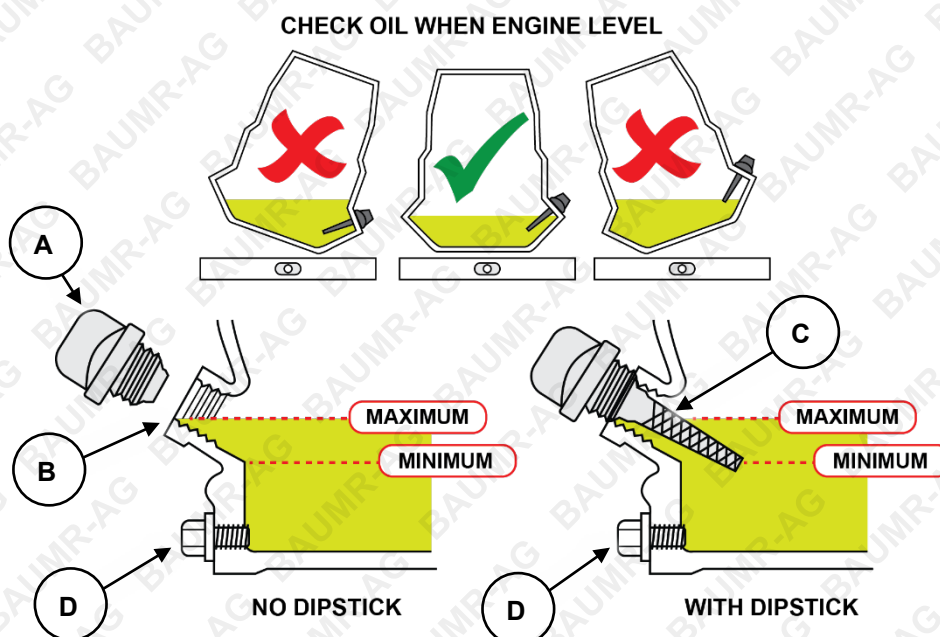
Engines are NOT supplied with engine oil, although traces of oil from the manufacturing process may be present. It is essential to add adequate engine oil of the correct type to the engine before use. **Failure to add engine oil will void the product warranty.** • Always check engine oil level when the machine is in an upright position on a flat and level surface. • Do not use used or contaminated engine oils. • Use only engine oils of the correct type (see [Specifications](#)). • Perform the first oil change within the first 20 hours of use. Subsequently, change the oil every 20 hours of use. • It is recommended that the engine be warm, but not hot, when performing oil changes. When the oil is warm it drains faster. • Using dirty or incorrect engine oil may cause engine damage and void any warranty • Always use suitable tools. • Always dispose of used oil in an environmentally responsible manner and according to regulations. • Some engines feature oil level detection, which will prevent the engine being started or automatically stop a running engine if there is insufficient oil. • **Always check the oil level and ensure is at or near the "MAX" indicator before using the machine.** • Some models may have 2 oil drain plugs and fillers on either side of the engine – it does not matter which one is used.

4-stroke engines require engine oil in the crankcase for lubrication of internal components. Severe or irreparable damage may occur if the engine is allowed to run without engine oil. The engine oil level requires regular maintenance as per the maintenance schedule.

Checking and Changing Engine Oil

To check engine oil level:

1. Place the machine on a flat and level surface.
2. Clean the machine around the oil filler cap (A) so that no dirt or other material enters the engine when the cap is removed.
3. Remove the oil filler cap (rotate left) until fully unscrewed. For machines without a dipstick, the oil level is determined by how close the oil is to the edge of the filler hole (B). For machines equipped with an oil level dipstick:
 - a. Remove the dipstick (C) and wipe clean with a piece of cloth or paper.
 - b. Insert the dipstick into the oil filler but do not screw it in.
 - c. Remove and inspect the dipstick – the oil level is determined by where oil can be seen on it.
4. Ensure that the oil level is at or just under the "maximum". If the oil level is low, add additional oil until the correct level is reached. If the oil level is too high, drain some oil until the correct level is reached.
5. When finished, re-install (rotate right) the oil filler cap until firm. Wipe off any residual oil from the machine.



To change the engine oil:

1. Place the machine on a suitable work surface that is flat and level and have a container ready to catch drained oil.
2. Clean the machine around the oil drain plug (**D**) and oil filler cap/dipstick so that no dirt or other material enters the engine when the plug or cap is removed.
3. Unscrew (rotate left) and remove the drain plug and washer.
4. Tilt the machine and drain all oil from the engine. Once drained, allow the machine to sit level again.
5. Clean the drain plug and washer and then reinstall them. Screw in fully (rotate right) and firmly tighten.
6. Remove the oil filler cap (rotate left) until fully unscrewed. Wipe the oil level indicator clean with a piece of cloth or paper.
7. Using a funnel, carefully add oil to the engine until the "maximum" level is reached. Double-check the oil level (described above).
8. When finished, re-install (rotate right) the oil filler cap until firm. Wipe off any residual oil from the machine.

Air Filter



Operating the machine without a functional air filter may cause severe engine damage and will void any warranty. • A dirty or oil saturated air filter will restrict air flow, which can be mistaken as fuel system problems. Check the condition of the air filter before adjusting engine idle speed, where applicable. • If the air filter is damaged (torn, broken, disintegrating), replace it.

The air filter is used to prevent dirt and other particles from possibly entering the engine and causing internal damage to it. The air filter requires regular maintenance as per the maintenance schedule.

Inspection and Cleaning

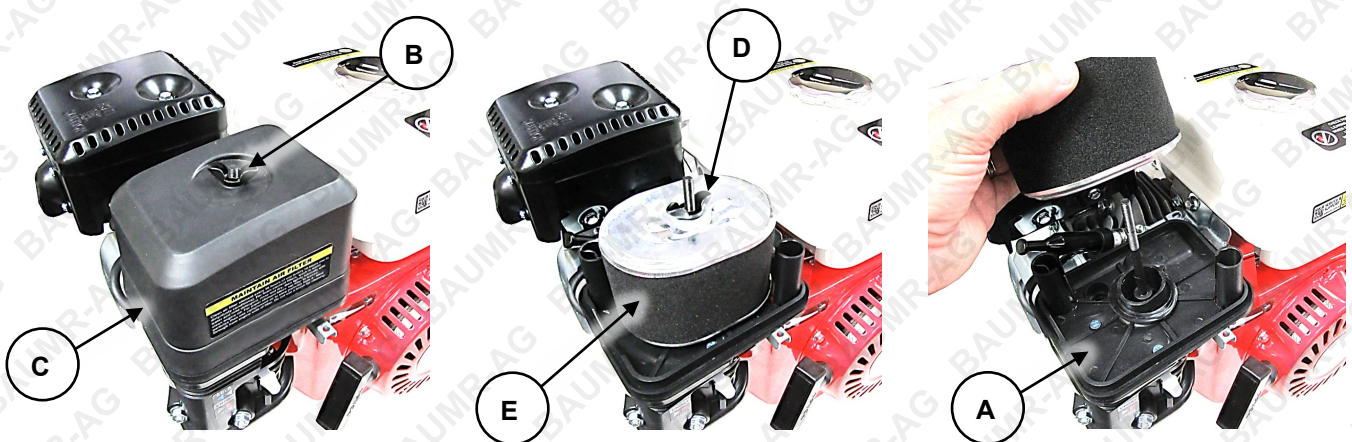
Inspect the air filter for dirtiness and debris, damage etc. Clean or replace the filter element as necessary. To clean air filters:

- For foam filters, wash the filter in warm water and mild detergent, then rinse and allow to dry.
- For paper filters, use compressed air to blow particles from it. The air should be blown from the engine side of the filter.
- Clean all other air filter assembly components using water and mild detergent, then dry them.
- For foam filters, place a few drops of clean engine oil on the filter then squeeze it a few times to spread the oil through the filter material and remove any excess oil.

Removal/Installation – Petrol Engines

To remove the air filter:

1. Unscrew (rotate left) the wing nut (**B**) securing the air filter cover (**C**) and remove the cover from the air intake assembly (**A**).
2. Unscrew (rotate left) the wing nut (**D**) and remove the filter element (**E**).



To install the air filter:

1. Re-install the filter element and ensure it is seated correctly on the air intake assembly.
2. Re-install (rotate right) the wing nut and tighten by hand so that the filter element is secure. Do not over-tighten.
3. Re-install the filter cover and secure it with the wing nut (rotate right). Tighten the nut by hand. Do not over-tighten.

Removal/Installation – Diesel Engines

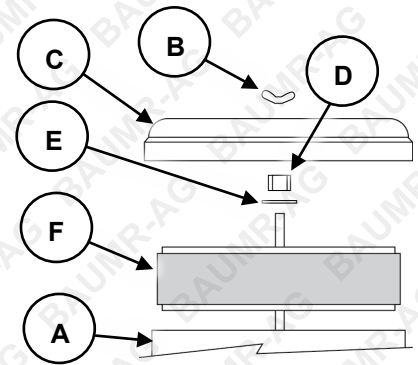
Some engine may feature a 2-stage air filter, with a foam "envelope" around a paper element. Cleaning procedures are as per [Inspection and Cleaning](#).

To remove the air filter:

1. Unscrew (rotate left) the wing nut (**B**) securing the air filter cover (**C**) and remove the cover from the air intake assembly (**A**).
2. Unscrew (rotate left) the nut (**D**) and washer (**E**) and remove the filter element (**F**).

To install the air filter:

1. Push the filter element onto the mounting screw and secure with the washer and nut (rotate right) and tighten. Do not over-tighten.
2. Place the air filter cover in position. Reinstall the wing nut (rotate right) and tighten by hand so that all filter components are secure. Do not over-tighten.



Spark Plug



If the spark plug is damaged (cracked insulator, broken or eroded electrodes etc), replace it. • Always use spark plugs of the correct "heat range" - see [Specifications](#). Spark plug maintenance is not applicable to diesel engines.

The spark plug is used to ignite the air/fuel mixture inside the engine. The spark plug has electrodes on one end and an electrical terminal on the other. The spark plug requires regular maintenance.

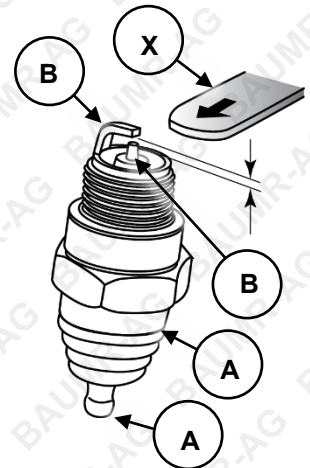
Cleaning and Gap Checking

The spark plug should be checked and cleaned as per the maintenance schedule.

1. Remove any carbon deposits on the spark plug (A) electrodes (B) with a wire brush.
2. Clean the spark plug threads and the electrical terminal (C) on the top.

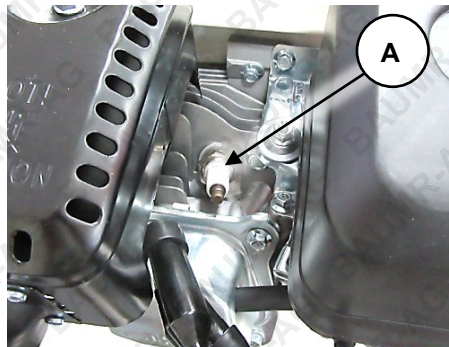
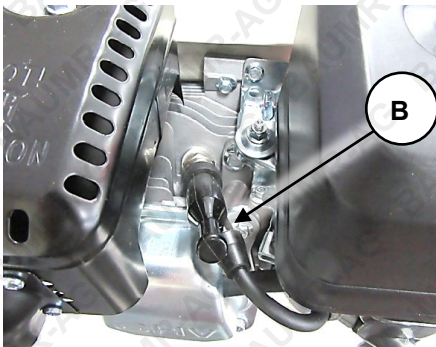
To check and adjust the spark plug "gap":

1. Use "feeler" or "thickness" gauges (X) to measure the existing gap. The gauge must drag a little when being slid between the electrodes (2) – this means the measurement is fairly accurate.
2. Adjust the gap to within specification (see [Specifications](#)). If the gap needs to be reduced, gently tap the electrode as required. If the gap needs to be increased, use pliers to gently pull the electrode as required.
3. Measure the gap again and ensure it is within the specified range before re-installing the spark plug.



Removal/Installation

1. Pull the electrical lead (B) from the terminal on top of the spark plug (A).
2. Clean the area around the spark plug so that no dirt or other material can enter the engine when the spark plug is removed.
3. Use the spark plug tool (C) to remove the spark plug (rotate left).



To re-install the spark plug:

1. Place the spark plug in its hole and screw it in (rotate right) until "finger tight".
2. Use the spark plug tool to tighten the spark plug approximately one quarter turn (do not over-tighten).
3. Place the electrical lead over the spark plug terminal and push it down so that it connects firmly with the terminal

Transportation and Storage



Always ensure that the machine is cool enough to touch before transporting or storing. • Petrol/fuel/gasoline is extremely flammable – keep clear of naked flames or other ignition sources. • Always transport the machine with the fuel tap and engine ON/OFF switch in the "OFF" position. • Drain the fuel tank before transportation or storage.

Preparing for Transport and Storage

- Clean the machine down by removing debris, dirt etc before storing it.
- Drain the fuel system. It is advised to have the fuel tank as empty as possible before draining.
 - a. Place the fuel tap in the "OFF" position.
 - b. Unscrew (rotate left) the carburettor drain plug. Use a suitable container to catch the draining fuel.
 - c. Place the fuel tap in the "ON" position and allow the fuel to drain. Store the drained fuel in a properly sealed container.
 - d. Place the fuel tap in the "OFF" position.
 - e. Re-install (rotate right) the carburettor drain plug and tighten.
- Lightly lubricate all machine surfaces and moving parts to prevent corrosion.
- Store the unit in a dry, well-ventilated area and out of the reach of children.

Long Term Storage

Follow the normal procedures for storage, then:

- Remove the spark plug and pour 10ml of clean engine oil into the cylinder. Pull the starter cord slowly to distribute the oil. Re-install the spark plug.
- Cover the equipment to protect it.

Troubleshooting



Running combustion engines in confined areas **CAN KILL IN MINUTES**. Engine exhaust fumes contain carbon-monoxide – a deadly gas that you cannot smell or see. NEVER run a combustion engine in confined areas EVEN IF windows and doors are open. ONLY run combustion engines OUTDOORS and away from doors, windows and vents. •

Petrol/fuel/gasoline is extremely flammable – keep clear of naked flames or other ignition sources. • The product is NOT supplied with engine oil, although traces of oil from the manufacturing process may be present. It is essential to add adequate engine oil of the correct type to the engine before use – see [Engine Oil](#). **Failure to add engine oil will void the product warranty.** • Do not have the engine running during inspection and maintenance unless specifically required. • The engine should be cool enough to touch before performing maintenance activities. • Some maintenance activities may be beyond the scope of some users. Do NOT attempt procedures that you are not comfortable with, or do not have the necessary tools, experience or knowledge for – take the unit to an authorised service centre or qualified technician for servicing.

The following information may assist in identifying a problem and rectifying it.

Difficulty starting the engine.

Possible Fault	Action
Lack of fuel	Check that there is fuel in the tank and the fuel tap is in the "ON" position. • To further check if fuel is reaching the carburettor, remove the carburettor drain plug and check if fuel drains.
Engine "OFF"	Ensure engine ON/OFF switch is in the "ON" position.
Carbon build-up on spark plug	Remove the spark plug and clean any carbon from the electrodes before re-installing it. Not applicable to diesel engines.
Spark plug faulty	Remove the spark plug, then reconnect the plug lead to it. Place fuel tap in the "OFF" position and the engine ON/OFF switch in "ON" position. Touch the spark plug electrode to a part of the engine crankcase, away from the spark plug hole, and attempt to start the engine – a spark should be visible across the electrodes as the engine is rotated. If no spark is visible, replace the spark plug. Not applicable to diesel engines.
Engine "flooded" with fuel	Place the choke in "HOT" or "RUN" position. Leave the ON/OFF switch in the "OFF" position. Pull the starter cord several times to assist clearing excess fuel from engine before attempting to start engine.
Not enough or too much engine oil	Check oil level and ensure that the level is at or just below the recommended maximum level.

Engine starts but does not idle.

Possible Fault	Action
Blocked air filter	Perform an air filter service .
Idle speed requires adjustment	Adjust idle speed until engine runs smoothly and at a reasonable speed when idling. For fuel-injected models, idle speed adjustment should not be required.

Difficulty restarting the engine after use or engine stops suddenly during use.

Possible Fault	Action
No fuel or engine oil	Check fuel level and ensure adequate fuel is available. For some engines, an engine oil sensor will automatically switch off the engine or prevent starting if a low engine oil level is detected.



Overheating	Allow engine to cool before restarting. If possible, improve engine cooling, such as operating in lower temperatures.
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Carbon build-up on spark plug	Perform a spark plug service . Not applicable to diesel engines.
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Fuel system blockage	Clean the fuel system.
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Reduced engine speed/power during use.

Possible Fault	Action
Blocked air filter	Perform an air filter service .



Carbon build-up in engine and/or entry to exhaust silencer	Remove the engine cylinder head and clean any carbon from the combustion chamber. For the exhaust silencer, remove it and clean any carbon deposits from the exhaust entry port.
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Carbon build-up on spark plug	Perform a spark plug service . Not applicable to diesel engines.
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Fuel system blockage	Clean the fuel system.
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Ram not moving.

Possible Fault	Action
Lack of hydraulic oil	Check oil level and ensure that the level is at the recommended level.



Hydraulic system blockage	Flush hydraulic system.
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Faulty control valve	Repair or replace control valve.
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Internal seal faulty	Replace worn or damaged seals.
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Engine bogs down during splitting.

Possible Fault	Action
Engine speed too slow	Increase engine speed.



Control valve setting incorrect	Adjust control valve to provide correct pressure.
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Ram speed slow when extending / retracting.

Possible Fault	Action
Engine speed too slow	Increase engine speed.
↓	
Lack of hydraulic oil	Check oil level and ensure that the level is at the recommended level.
↓	
Excessive pump inlet vacuum	Ensure pump inlet hose is not blocked, kinked etc.
↓	
Hydraulic system blockage	Flush hydraulic system.
↓	
Faulty control valve	Repair or replace control valve.
↓	
Internal seal faulty	Replace worn or damaged seals.

Wood not splitting or splitting very slowly.

Possible Fault	Action
Engine speed too slow	Increase engine speed.
↓	
Lack of hydraulic oil	Check oil level and ensure that the level is at the recommended level.
↓	
Air bubbles in hydraulic oil	Allow oil to "settle" for several hours for air bubbles to escape from oil. Air bubbling can build-up in the oil if the machine is used for prolonged periods.
↓	
Excessive pump inlet vacuum	Ensure pump inlet hose is not blocked, kinked etc.
↓	
Hydraulic system blockage	Flush hydraulic system.
↓	
Faulty control valve	Repair or replace control valve.
↓	
Internal seal faulty	Replace worn or damaged seals.

Specifications

Hydraulic System – HDS800 / HPS800

Log Capacity	HDS800 / HPS800 - Maximum diameter 65cm / maximum length 55cm HPS500 – Maximum diameter 30cm / maximum length 46cm
Oil Capacity	HDS800 / HPS800 – Approximately 22 litres HPS500 – Approximately 5 litres.
Oil Type	10WT AW32 / ASLE H-150 / ISO 32

Petrol Engines

Engine Type	4-stroke, single cylinder
Fuel Type	Unleaded non-ethanol petrol
Fuel Tank Capacity	6.5l
Spark Plug Type	F7TC, F7RTC
Spark Plug Gap	0.7 to 0.8mm (0.028 to 0.032")
Valve Clearance	Inlet: 0.15mm \pm 0.02mm (0.006" \pm 0.001") Exhaust: 0.2mm \pm 0.02mm (0.008" \pm 0.001")
Engine Oil Type	SAE 10W-30 automotive engine oil recommended for general use
Engine Oil Capacity	Approximately 1.1l (always check level)

Diesel Engines

Engine Type	4-stroke, single cylinder, diesel
Fuel Type	Unleaded non-bio diesel
Fuel Tank Capacity	6.5l
Valve Clearance	Inlet: 0.15mm \pm 0.02mm (0.006" \pm 0.001") Exhaust: 0.15mm \pm 0.02mm (0.006" \pm 0.001")
Engine Oil Type	SAE 10W-30 automotive engine oil recommended for general use
Engine Oil Capacity	Approximately 1.1l (always check level)

Use the following tables as a record of machine servicing and maintenance. Keeping accurate records will help ensure longest machine service life and may simplify fault diagnosis and any possible warranty claims. Fill out date, number of hours of use and the activity performed, as required (see [Maintenance Schedule](#)).

[illegible]



Some experts believe the incorrect or prolonged use of almost any product could cause serious injury or death. For information that may reduce your risk of serious injury or death, consult the points below and additionally, the information available at www.datastreamserver.com/safety

- | | |
|---|--|
| <ul style="list-style-type: none"> • Consult all documentation, packaging and product labelling before use. Note that some products feature online documentation which should be printed and kept with the product. • Check product for loose / broken / damaged / missing parts, wear or leaks (if applicable) before each use. Never use a product with loose / broken / damaged / missing parts, wear or leaks (if applicable). • Products must be inspected and serviced (if applicable) by a qualified specialist every 6 months assuming average residential use by a person of average weight and strength, above average technical aptitude, on a property matching average metropolitan specification. Intended use outside these guidelines could indicate the product is not suitable for intended use or may require more regular inspection or servicing. • Ensure all possible users of the product have completed an industry recognized training course before being given access to the product. | <ul style="list-style-type: none"> • The product has been supplied by a general merchandise retailer that may not be familiar with your specific application or your description of the application. Be sure to attain third-party approval for your application from a qualified specialist before use regardless of prior assurances by the retailer or its representatives. • This product is not intended for use where fail-safe operation is required. As with any product (take an automobile, aircraft, computer or ball point pen for example), there is always a small chance of technical issues that needs to be repaired or may require replacement of the product or a part. If the possibility of such failure and the associated time it takes to rectify could in any situation inconvenience the user, business or employee then the product is not suitable for your requirements. This product is not for use where incorrect operation or a failure of any kind, including but not limited to a condition requiring product return, replacement, service by a technician or replacement of parts could cause a financial loss, loss of employee time or an inconvenience requiring compensation. • If this item has been purchased in error after considering the points above, simply contact the retailer directly for details of their returns policy, if required. |
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