

PUMA 130
PUMA 145
PUMA 160
Tractors

OPERATOR'S MANUAL

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EVERY 3600 HOURS OR EVERY 2 YEARS

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1 - GENERAL INFORMATION

METRIC AND IMPERIAL UNITS ABBREVIATIONS

| Typical applications | Metric unit | | Imperial unit | |
|-------------------------------------|------------------------|--------|-----------------------|--------------------|
| | Name | Symbol | Name | Symbol |
| | | | | |
| Area (Land area) | | | | |
| | hectare | ha | acre | ac |
| | square meter | m² | square foot | ft² |
| | | | square inch | in² |
| | square millimeter | mm² | square inch | in² |
| Electricity | | | | |
| | ampere | A | ampere | A |
| | volt | V | volt | V |
| | microfarad | µF | microfarad | µF |
| | ohm | Ω | ohm | Ω |
| Force | | | | |
| | kilonewton | kN | pound | lb |
| | newton | N | pound | lb |
| Force per length | | | | |
| | newton per meter | N/m | pound per foot | lb/ft |
| | | | pound per inch | lb/in |
| Frequency | | | | |
| | megahertz | MHz | megahertz | MHz |
| | kilohertz | kHz | kilohertz | kHz |
| | hertz | Hz | hertz | Hz |
| Frequency – Rotational | | | | |
| | revolution per minute | r/min | revolution per minute | r/min ^a |
| | | rpm | | rpm |
| Length | | | | |
| | kilometer | km | mile | mi |
| | meter | m | foot | ft |
| | centimeter | cm | inch | in |
| | millimeter | mm | inch | in |
| | micrometer | µm | | |
| Mass | | | | |
| | kilogram | kg | pound | lb |
| | gram | g | ounce | oz |
| | milligram | mg | | |
| Mass per Mass | | | | |
| | milligram per kilogram | mg/ kg | | |
| Power | | | | |
| | kilowatt | kW | horsepower | Hp |
| | watt | W | Btu per hour | Btu/hr |
| | | | Btu per minute | Btu/min |
| Pressure or stress (Force per area) | | | | |
| | kilopascal | kPa | pound per square inch | psi |
| | | | inch of mercury | inHg |
| | pascal | Pa | inch of water | inH2O |
| | megapascal | MPa | pound per square inch | psi |

1 - GENERAL INFORMATION

| Typical applications | Metric unit | | Imperial unit | |
|---|------------------------|---------------|-----------------------|-------------------|
| | Name | Symbol | Name | Symbol |
| Temperature (other than Thermodynamic) | | | | |
| | degrees Celsius | °C | degrees Fahrenheit | °F |
| Time | | | | |
| | hour | h | hour | h |
| | minute | min | minute | min |
| | second | s | second | s |
| Torque (includes Bending moment, Moment of force, and Moment of a couple) | | | | |
| | newton meter | N m | pound foot | lb ft |
| | | | pound foot | lb in |
| Velocity | | | | |
| | kilometer per hour | km/h | mile per hour | mph |
| | meter per second | m/s | foot per second | ft/s |
| | millimeter per second | mm/s | inch per second | in/s |
| | meter per minute | m/min | foot per minute | ft/min |
| Volume (includes Capacity) | | | | |
| | cubic meter | m³ | cubic yard | yd³ |
| | | | | cu yd |
| | liter | l | cubic inch | in³ |
| | liter | l | US gallon | US gal |
| | | | UK gallon | UK gal |
| | | | US quart | US qt |
| | | | UK quart | UK qt |
| | milliliter | ml | fluid ounce | fl oz |
| Volume per time (includes Discharge and Flow rate) | | | | |
| | cubic meter per minute | m³/min | cubic foot per minute | ft³/min |
| | liter per minute | l/min | US gallon per minute | US gal/min |
| | milliliter per minute | ml/min | UK gallon per minute | UK gal/min |
| Sound power level and Sound pressure level | | | | |
| | decibel | dB | decibel | dB |

Glossary

| Acronym | Definition |
|---------|--|
| DEF | Diesel Exhaust Fluid |
| ISO | International Organization for Standardization |
| MSDS | Material Safety Data Sheet |
| NOx | Nitrogen Oxide |
| PPE | Personal Protective Equipment |
| SCR | Selective Catalytic Reduction |
| ULSD | Ultra Low Sulfur Diesel |
| % | Percent |
| < | Less than |
| > | Greater than |

TO THE OWNER

GENERAL INFORMATION

This Manual has been prepared to assist you in the correct procedure for running- in, driving and operating and for the maintenance of your new tractor. Read this Manual carefully. Your tractor is intended for use in normal and customary agricultural applications.

If at any time you require advice concerning your tractor, do not hesitate to contact your authorised dealer. He has factory trained personnel, genuine manufacturers' parts and the necessary equipment to carry out all your service requirements.

The specification are provided for your information and guidance. For further information concerning your tractor and equipment, consult your authorised dealer.

All data given in this manual is subject to production variations. Dimensions and weight are approximate only. The illustrations do not necessarily show tractors in standard condition or imply that these features are available in all countries. For exact information about any particular tractor, please consult your authorised dealer.

Your tractor has been designed and built to give maximum performance, economy and ease of operation under a wide variety of operating conditions. Prior to delivery, the tractor was carefully inspected, both at the factory and by your dealer to ensure that it reaches you in optimum condition. To maintain this condition and ensure trouble-free operation, it is important that the routine services, as specified on page 7-12 of this Manual, are carried out at the recommended intervals.

OPERATORS MANUAL STORAGE

The Operators Manual supplied with your tractor is an important source of information and should be stored safely.

The manual is written specifically for your tractor so it is important that you make a note of the print number and issue date which can be found on the cover. In the event the manual is lost or damaged it can be replaced with the correct version.

A storage pocket for the Operators Manual can be found on the rear of the seat. The manual should be kept in this pocket at all times when not in use.

ABOUT THIS MANUAL

This manual gives information for use of your machine, as intended and under the conditions foreseen by the manufacturer during normal operation and routine service and maintenance.

Read and understand; keep it in good condition and always safely store it in the provided pocket in the back of your seat for later easy retrieval.

This manual does not contain all the information related to periodical service, converting and repairs to be carried out by professional service personnel.

The Table of Contents page(s) are provided to have an overview of main manual's topics. A detailed alphabetic index is available at the end of this manual for locating specific items.

Normal operation

- Normal operation means the use of the tractor for the purpose intended by the manufacturer by an operator familiar with the tractor and the mounted or towed equipment and complying with the information for operation and safe practices, as specified by the manufacturer in this manual and by the decals on the tractor and the equipment.
- Normal operation includes the preparation and storage of the tractor, swinging components into work position and vice versa, adding or removing ballast and picking up and setting off attachments.
- Normal operation includes the adjustment and setting of the tractor and equipment, for the specific condition of the field and/ or the crop.

Routine service

- Routine service and maintenance means activities that must be done daily by an operator familiar with the tractor characteristics and complying with the information for routine service and safe practices, as specified by the manufacturer in this manual and by decals on the tractor, in order to maintain its proper function. Routine service includes activities such as fueling, cleaning, washing, topping up fluid levels, greasing, replacing of consumable articles such as lamp bulbs.

Converting, periodical service and repair

- Periodical service means activities that must be done at defined intervals by trained personnel familiar with the tractor characteristics and which are complying with the information for periodical service and safe practices, as partly specified by the manufacturer in this manual and in other Company literature, in order to maintain the expected life time of the tractor.
- Converting means activities that must be done by professional service personnel familiar with the tractor characteristics and complying with the information for converting, as partly specified by the manufacturer in this manual, in assembly instructions or in other Company literature, in order to fit the tractor to a specific configuration.
- Repair means activities that must be done by professional service personnel only familiar with the tractor characteristics and complying with the information for

repair, as specified by the manufacturer in the dealer's workshop manual, in order to restore the proper function of the tractor after a failure or degradation of performance.

CLEANING THE TRACTOR

Your tractor is a state- of- the- art machine with sophisticated, electronic controls. This should be taken into consideration when cleaning the tractor, particularly if using a high pressure washer. Even though every precaution has been taken to safeguard electronic components and connections, the pressure generated by some of these machines is such that complete protection against water ingress cannot be guaranteed.

When using a high pressure washer, do not stand too close to the tractor and avoid directing the jet at electronic components, electrical connections, breathers, seals, filler caps, etc. Never direct a cold water jet at a hot engine or exhaust.

Failure to comply with these rules will render the warranty null and void.

SAFETY

The pages in Section 2 list the precautions to be observed to ensure your safety and the safety of others. Read the safety precautions and follow the advice offered before operating the tractor.

FIRST 50 HOUR SERVICE

In Section 11, at the back of this Manual, you will find the 50- hour service reports.

NOTICE: *It is important the 50 hour service is carried out as recommended to ensure your tractor provides optimum performance and efficiency.*

After you have operated the tractor for 50 hours, take your tractor, together with this Manual, to your dealer. He will then perform the factory recommended 50 hour service and complete the service report sheets (pages **11-1** and **11-3**). The first sheet (page **11-1**) is your copy of the

service performed. The second sheet (page **11-3**) is the dealer's copy and should be removed by the dealer after the service has been carried out. Ensure that you and the dealer sign both copies.

SERVICE PARTS

It should be pointed out that genuine parts have been examined and approved by the Company. The installation and/ or use of 'non- genuine' products could have negative effects upon the design characteristics of your tractor and thereby affect it's safety. The Company is not liable for any damage caused by the use of 'non- genuine' parts and accessories. Only genuine replacement parts should be used. The use of non- genuine parts may invalidate legal approvals associated with this product.

It is prohibited to carry out any modifications to the tractor unless specifically authorised, in writing, by the After Sales Service department of the Company.

WARRANTY

Your tractor is warranted according to legal rights in your country and the contractual agreement with the selling dealer. No warranty shall, however, apply if the tractor has not been used, adjusted and maintained according to the instructions given in the Operator's Manual.

USE OF BIODIESEL FUELS

NOTICE: *Before using Biodiesel fuels in your tractor, refer to the information on page 7-4 regarding the storage and use of Bio diesel fuels.*

EMISSION CONTROLS

NOTE: *The engine and fuel system on your machine is designed and built to government emissions standards. Tampering by dealers, customers, operators and users is strictly prohibited by law. Failure to comply could result in government fines, rework charges, invalid warranty, legal action and possible confiscation of the machine until rework to original condition is completed. Engine service and/or repairs must be done by a certified technician only!*

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