

ORIGINAL INSTRUCTIONS

# **PUMA2304**

## Tractor

# OPERATOR'S MANUAL

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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 <sup>a</sup> |
|                                     |                        | 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 | parts per million     | ppm                |
| 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                |
|                                     | millibar               | mbar   |                       |                    |
|                                     | bar                    | bar    |                       |                    |

## 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            | m <sup>3</sup>      | cubic yard            | yd <sup>3</sup>      |
|   |                        |                     |                       | cu yd                |
|   | liter                  | l                   | cubic inch            | in <sup>3</sup>      |
|   | 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 | m <sup>3</sup> /min | cubic foot per minute | ft <sup>3</sup> /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                   |
| Water hardness  |                        |                     |                       |                      |
|   | German hardness        | °dH                 | English hardness      | °e                   |
|   | French hardness        | °fH                 | parts per million     | ppm                  |

## 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.

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 in Maintenance of this Manual, are carried out at the recommended intervals.

### Operators manual

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

The manual is prepared 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.

### 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.

### 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.

### 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. The first sheet (page ) is your copy of the service performed. The second sheet (page ) 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 its 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 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!*

### **Electro magnetic interference(EMC)**

This tractor complies strictly with the European regulations on electro magnetic emissions. However, interference may arise as a result of add on equipment which may not necessarily meet the required standards. As such interference can result in serious malfunction of the unit and/or create unsafe situations, you must observe the following:

- Ensure that each piece of non Case IH equipment fitted to the tractor bears the CE mark.
- The maximum power of emission equipment (radio, telephones, etc,) must not exceed the limits imposed by the national authorities of the country where you use the tractor.
- The electro magnetic field generated by the add on system should not exceed **24 V/m** at any time and at any location in the proximity of electronic components.

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



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