

ORIGINAL INSTRUCTIONS

PUMA 130 CVT
PUMA 145 CVT
PUMA 160 CVT
Tractors

OPERATOR'S MANUAL

Part Number 84345407

1st edition English
November 2010



Contents

1 GENERAL INFORMATION

METRIC AND IMPERIAL UNITS ABBREVIATIONS	1-1
TO THE OWNER	1-3
PRODUCT IDENTIFICATION	1-5
ENGINE IDENTIFICATION	1-6
DRIVELINE IDENTIFICATION	1-7
CAB IDENTIFICATION	1-7
PRODUCT IDENTIFICATION PLATE	1-7
ECOLOGY AND THE ENVIRONMENT	1-8
PROGRAMMING TRACTOR FUNCTIONS	1-9
BEFORE OPERATING THE TRACTOR	1-10
INTERNATIONAL SYMBOLS	1-11
MACHINE STABILITY	1-12
INSTRUCTOR'S SEAT	1-16
SELECTIVE CATALYTIC REDUCTION (SCR) SYSTEM	1-17

2 SAFETY INFORMATION

SAFETY DECALS	2-1
SAFETY PRECAUTIONS	2-8
BEFORE DRIVING THE TRACTOR	2-9
DRIVING THE TRACTOR	2-10
OPERATING THE TRACTOR	2-11
OPERATING THE P.T.O.	2-13
OPERATING THE EXTERNAL CONTROLS	2-13
SERVICING THE TRACTOR	2-14
DIESEL FUEL	2-16
PREVENTION OF FIRE OR EXPLOSION	2-17
FIRE EXTINGUISHER	2-18
PROTECTION OFFERED BY THE TRACTOR	2-19
INTENDED USE STATEMENT	2-22

3 CONTROLS/INSTRUMENTS

ACCESS TO OPERATOR'S PLATFORM

INTRODUCTION	3-1
CAB AIR FILTERS	3-5
IN CAB STORAGE (where fitted)	3-6
CABLE AND WIRING ROUTING	3-7
MOBILE TELEPHONE USAGE	3-7
IMPLEMENT MONITOR INSTALLATION	3-8
CAB AIR PRESSURISATION MONITOR (where fitted)	3-8

OPERATOR'S SEAT

AIR SUSPENSION SEAT DELUXE	3-10
SEAT BELT	3-15

INSTRUCTOR'S SEAT

INSTRUCTIONAL SEAT (where fitted)	3-16
---	------

FORWARD CONTROLS

KEY- START SWITCH	3-17
HAZARD WARNING LIGHT SWITCH.....	3-17
LIGHT-/ TURN LEVER	3-18
FOLLOW ME HOME LIGHTS.....	3-18
WINDSHIELD WIPER AND WASHER CONTROLS	3-19
ELECTRONIC PARK BRAKE	3-20
CLUTCH/ INCHING PEDAL.....	3-24
FOOT BRAKES	3-24
EXHAUST BRAKE (where fitted).....	3-25
STEERING COLUMN	3-26

LEFT-HAND SIDE CONTROLS

HANDBRAKE.....	3-27
----------------	------

RIGHT-HAND SIDE CONTROLS

INTEGRATED CONTROL PANEL	3-28
--------------------------------	------

REARWARD CONTROLS

SWITCH PANEL C- PILLAR.....	3-29
HYDRAULIC MASTER SWITCH.....	3-30
HEATED SCREENS (where fitted).....	3-31
FAST STEERING SYSTEM (where fitted)	3-32
BATTERY ISOLATOR SWITCH	3-34
CLIMATE CONTROLS	3-35
MANUAL TEMPERATURE CONTROL	3-37
AUTOMATIC TEMPERATURE CONTROL (ATC).....	3-38

OVERHEAD CONTROLS

SWITCH PANEL WORKLIGHTS.....	3-40
RADIO/CASSETTE/CD PLAYER (where fitted).....	3-40
INTERIOR LIGHT	3-41

INSTRUMENT CLUSTER

INTEGRATED CONTROL UNIT.....	3-42
GAUGES	3-42
INDICATOR AND WARNING LIGHTS	3-43
DISPLAYS	3-46
KEYPAD BASIC	3-47
KEYPAD ENHANCED	3-48
SELECTING OR CHANGING THE DISPLAY SETTINGS	3-50
ADJUST MENU	3-51
CONFIGURE MENU	3-53
PERFORMANCE MONITOR.....	3-57
ARMREST COLOUR DISPLAY	3-61
POP- UP SCREENS ON COLOUR DISPLAY.....	3-63
PERFORMANCE MONITOR ON COLOUR DISPLAY	3-69
PROGRAMMING THE DISPLAYS	3-72
ALARM FUNCTIONS.....	3-75
ACCESSING STORED ERROR CODES	3-77
WARNING AND ADVISORY SYMBOLS	3-78

4 OPERATING INSTRUCTIONS

COMMISSIONING THE UNIT

TRACTOR REFUELLING	4-1
--------------------------	-----

STARTING THE UNIT

STARTING THE ENGINE	4-3
GRID HEATER COLD START AID (where fitted)	4-4
FUEL HEATER (where fitted)	4-4
COOLANT IMMERSION HEATER (where fitted)	4-5
TRANSMISSION OIL HEATER (where fitted).....	4-6
BOOSTING THE BATTERY.....	4-7

STOPPING THE UNIT

STOPPING THE ENGINE.....	4-8
AUTOMATIC ENGINE SHUTDOWN	4-8
AUTOMATIC ENGINE SHUTDOWN WITH ENHANCED KEYPAD (where fitted)	4-9

MOVING THE UNIT

OPERATING IN COLD TEMPERATURES	4-10
REVERSIBLE ENGINE FAN	4-11

5 TRANSPORT OPERATIONS

PREPARING FOR ROAD TRANSPORT

CARRYING THE TRACTOR ON A TRANSPORTER.....	5-1
SECURE THE HIGH VISIBILITY ROOF PANEL	5-1

RECOVERY TRANSPORT

TOWING THE TRACTOR.....	5-2
-------------------------	-----

6 WORKING OPERATIONS

GENERAL INFORMATION

VARIABLE ENGINE POWER MANAGEMENT	6-1
CONSTANT ENGINE SPEED	6-3
DIFFERENTIAL LOCK	6-6
FOUR WHEEL DRIVE	6-8
FRONT AXLE SUSPENSION (where fitted)	6-10
AUTOMATED HEADLAND FUNCTIONS	6-11
QUICK GUIDE.....	6-11
RECORDING AND RE-PLAYING	6-13
EXPLANATION OF SYMBOLS.....	6-16
RECORDING A SEQUENCE	6-17
RE-PLAYING A SEQUENCE.....	6-22
DELETING A SEQUENCE	6-26

TRANSMISSION

TRANSMISSION OPERATION.....	6-27
DRIVE PEDAL.....	6-27
ENGINE SPEED CONTROL	6-28
SHUTTLE LEVER	6-30
SPEED MATCHING	6-31
TRANSMISSION CONTROLS	6-32
PROGRAMME THE MAXIMUM SPEED	6-34
STATIONARY CONTROL	6-35
ANTI JACK KNIFE	6-36
TRANSMISSION DISPLAY.....	6-37
MANUAL MODE.....	6-38
AUTOMATIC MODE.....	6-39
ERROR CODES.....	6-40

REAR POWER TAKE-OFF

P.T.O. OPERATING PRECAUTIONS.....	6-41
CHANGING THE P.T.O. OUTPUT SHAFT	6-41
ATTACHING P.T.O. DRIVEN EQUIPMENT	6-42
P.T.O. OPERATION.....	6-43
TWO-SPEED P.T.O. SYSTEM	6-48
THREE-SPEED P.T.O. SYSTEM.....	6-50
GROUND DRIVE P.T.O. (where fitted)	6-51
EXTERNAL P.T.O. CONTROLS.....	6-52
AUTO P.T.O. OPERATION	6-54

FRONT POWER TAKE OFF

P.T.O. OPERATION.....	6-57
-----------------------	------

REAR HITCH

ELECTRONIC DRAFT CONTROL	6-59
SETTINGS AND DISPLAY	6-63
ELECTRONIC DRAFT CONTROL OPERATION	6-65
EXTERNAL HITCH CONTROLS.....	6-71

FRONT HITCH

SETTINGS AND ADJUSTMENTS	6-73
HITCH OPERATION.....	6-76
AUXILIARY FRONT COUPLERS (where fitted).....	6-81
EXTERNAL HITCH CONTROLS.....	6-83

HYDRAULIC REMOTE CONTROL VALVES

REMOTE CONTROL VALVES	6-84
OPERATING WITH REMOTE VALVES	6-86
CONNECTING REMOTE CYLINDERS	6-90
HYDRAULIC OIL LEVEL WHEN USING REMOTE HYDRAULIC EQUIPMENT ..	6-92

ELECTRO-HYDRAULIC REMOTE CONTROL VALVES (where fitted)

REMOTE CONTROL VALVES	6-94
SETTINGS AND ADJUSTMENTS	6-101
SETTING THE REMOTE VALVE PRIORITY.....	6-107

CREATING TIMER PROGRAMMES	6-109
CONNECTING REMOTE CYLINDERS	6-116
OPERATING WITH REMOTE VALVES	6-118
JOYSTICK OPERATION WITH A FRONT LOADER.....	6-120
MID MOUNT REMOTE VALVES	6-123
EXTERNAL EHR CONTROLS	6-125
HYDRAULIC OIL LEVEL WHEN USING REMOTE HYDRAULIC EQUIPMENT	6-126

HYDRAULIC POWER BEYOND PORT

HYDRAULIC POWER BEYOND FOR EXTERNAL SERVICES	6-128
--	-------

THREE POINT HITCH

ATTACHING THREE-POINT HITCH EQUIPMENT	6-131
LIFT ROD ADJUSTMENT	6-133
TOP LINK ADJUSTMENT	6-135
FLEXIBLE LINK END ADJUSTMENT	6-136
QUICK HITCH	6-137
LINKAGE STABILISER ADJUSTMENT	6-139

DRAWBARS AND TOWING ATTACHMENTS

DRAWBARS AND TOWING ATTACHMENTS	6-142
SWINGING DRAWBARS.....	6-145

TRAILER BRAKING SYSTEMS

AIR-OPERATED TRAILER BRAKES	6-148
TRAILER BRAKE BIAS CONTROL	6-151
AUXILIARY AIR SUPPLY CONNECTOR (where fitted).....	6-151
HYDRAULIC TRAILER BRAKES	6-152

WHEEL TRACK ADJUSTMENT

FRONT WHEEL TRACK ADJUSTMENT	6-153
FRONT WHEEL ALIGNMENT	6-156
STEERING STOPS	6-157
FRONT AXLE OSCILLATION STOPS	6-157
FRONT FENDER.....	6-158
REAR WHEEL TRACK ADJUSTMENT	6-160
FLANGE TYPE AXLE (where fitted)	6-160
BAR TYPE AXLE (where fitted)	6-163
DUAL REAR WHEELS (where fitted)	6-168

BALLASTING AND TYRES

BALLASTING AND TYRES	6-171
IRON WEIGHTS (where fitted).....	6-174
LIQUID BALLAST	6-177
TYRE INFLATION	6-179
TYRE PRESSURES AND PERMISSIBLE LOADS	6-180

AUXILIARY POWER CONNECTIONS

DIAGNOSTIC SOCKET	6-182
TRAILER SOCKET ELECTRICAL	6-182
ELECTRICAL POWER CONNECTORS	6-183

INTERNAL POWER CONNECTORS	6-183
EXTERNAL POWER CONNECTORS	6-185

7 MAINTENANCE

GENERAL INFORMATION

INTRODUCTION	7-1
FUEL REQUIREMENT	7-2
BIODIESEL FUEL	7-4
ENGINE OIL CHANGE	7-6
PROTECTIVE DEVICES	7-7
LUBRICANTS AND COOLANTS Lubrications and Coolants	7-9
General specification	7-11
CAPACITIES	7-12

MAINTENANCE CHART

Maintenance Chart	7-13
-------------------------	------

WHEN THE WARNING LAMP LIGHTS

CHANGE THE ENGINE AIR CLEANER OUTER ELEMENT	7-15
DRAIN FUEL SYSTEM WATER SEPARATOR	7-16
CHECK BRAKE FLUID LEVEL	7-17

EVERY 10 HOURS OR EACH DAY

CHECK ENGINE COOLANT LEVEL	7-18
CHECK ENGINE OIL LEVEL	7-19
CHECK REMOTE CONTROL VALVE DRAIN BOTTLES	7-19
CHECK WINDSCREEN WASHER RESERVOIR	7-20
DRAIN AIR RESERVOIR ON AIR OPERATED TRAILER BRAKE	7-20

FIRST 50 HOURS

SERVICE OPERATIONS	7-21
--------------------------	------

EVERY 50 HOURS

CLEAN THE CAB AIR FILTER	7-22
CLEAN THE COOLER SECTION	7-24
ALL GREASE FITTINGS	7-25
CHECK FRONT AND REAR WHEEL NUTS	7-31
CHECK TYRE PRESSURES AND TYRE CONDITION	7-31

EVERY 100 HOURS

INSPECT POLY V-BELT	7-32
INSPECT COMPRESSOR DRIVE BELT	7-32

EVERY 300 HOURS

CHECK BATTERY FLUID LEVEL	7-33
ADJUST HANDBRAKE	7-34
CHECK TRANSMISSION/REAR AXLE AND HYDRAULIC OIL LEVEL	7-35
CHECK 4WD FRONT AXLE DIFFERENTIAL AND HUBS OIL LEVEL	7-36
CHECK FRONT P.T.O. GEARBOX OIL LEVEL	7-36

EVERY 600 HOURS

CHANGE ENGINE OIL AND FILTER	7-37
CHANGE FUEL PRE-FILTER AND FUEL FILTER ELEMENT	7-39
CHANGE THE ENGINE AIR CLEANER OUTER ELEMENT	7-40
CHANGE CHARGE PUMP AND GEAR PUMP OIL FILTER	7-41
CHECK ENGINE AIR INTAKE CONNECTIONS	7-42
CHECK TRANSMISSION OIL COOLER PIPE COUPLINGS	7-43
CHANGE DEF/ AdBlue FILTER	7-43

EVERY 1200 HOURS OR ANNUALLY

CHANGE CAB AIR FILTERS	7-44
CHANGE MAIN OIL FILTER CARTRIDGE	7-45
CHANGE TRANSMISSION/ REAR AXLE AND HYDRAULIC OIL	7-46
CHANGE 4WD DIFFERENTIAL OIL	7-47
CHANGE 4WD PLANETARY HUB OIL	7-48
CHANGE FRONT P.T.O. GEARBOX OIL	7-48

EVERY 1200 HOURS OR EVERY 2 YEARS

CHECK BATTERY FLUID LEVEL	7-49
CHANGE DEF/ AdBlue FILTER	7-50
CHANGE ENGINE AIR CLEANER INNER ELEMENT	7-51
CHANGE ENGINE BREATHER FILTER	7-52
CHECK VALVE TAPPET CLEARANCE	7-52
CHANGE ENGINE COOLANT FLUID	7-53
CHANGE AIR BRAKE DRIER RESERVOIR	7-57
CHANGE POLY V-BELTS	7-58

EVERY 36 MONTHS

SERVICE THE AIR CONDITIONER SYSTEM	7-60
CHECK BATTERY FLUID LEVEL	7-61

GENERAL MAINTENANCE

CLEANING THE TRACTOR	7-63
FUEL SYSTEM PRE- FILTER AND WATER TRAP	7-65
BLEEDING THE FUEL INJECTION SYSTEM	7-65
CHECK BRAKE PEDAL LATCHING/UNLATCHING	7-66
ADJUST CAB SUSPENSION (where fitted)	7-67
HEADLIGHT AND WORKLAMP ADJUSTMENT	7-68
BULB REPLACEMENT	7-69
FUSES AND RELAYS	7-73
PROTECTING THE ELECTRONIC AND ELECTRICAL SYSTEMS DURING BATTERY CHARGING OR WELDING	7-78
BATTERY REMOVAL AND INSTALLATION	7-79

STORAGE

TRACTOR STORAGE	7-80
PREPARATION FOR USE AFTER STORAGE	7-80

8 TROUBLESHOOTING

FAULT CODE RESOLUTION

INTRODUCTION	8-1
--------------------	-----

ALARM(S)

FAULT CODES AND SYMBOLS	8-2
-------------------------------	-----

SYMPTOM(S)

ENGINE	8-4
TRANSMISSION	8-5
HYDRAULICS	8-5
THREE POINT HITCH	8-6
BRAKES	8-6
CAB	8-7
ELECTRICAL SYSTEM	8-7

9 SPECIFICATIONS

GENERAL DIMENSIONS	9-1
MAXIMUM OPERATING ANGLE	9-4
TYPICAL OPERATING WEIGHTS	9-5
CAPACITIES	9-6
ENGINE	9-7
FUEL SYSTEM	9-7
AIR CLEANER SYSTEM	9-8
COOLING SYSTEM	9-8
TRANSMISSION	9-8
REAR POWER TAKE-OFF	9-9
FRONT POWER TAKE OFF	9-9
HYDRAULIC SYSTEM	9-10
THREE POINT HITCH	9-10
REMOTE CONTROL VALVES	9-12
THREE POINT HITCH FRONT	9-12
FRONT REMOTE VALVE COUPLERS	9-12
BRAKES	9-13
STEERING	9-13
ELECTRICAL EQUIPMENT	9-14
MINIMUM HARDWARE TIGHTENING TORQUES	9-15

10 ACCESSORIES

EXTERNAL REAR VIEW MIRRORS	10-1
AUXILIARY HEADLIGHTS	10-1

11 FORMS AND DECLARATIONS

Service record 1st 50 hour, Owner copy	11-1
Service record 1st 50 hour, Dealer copy	11-3

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 millimeter	mm²	square inch	in²
			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

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 7-13 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

Buy Now



Our support email:

ebooklibonline@outlook.com