

ORIGINAL INSTRUCTIONS

OPERATOR'S MANUAL

T7.220

T7.235

T7.250

T7.260

Sidewinder II

Power Command - Tractor

Part number 47894472

6th edition English

August 2015

Replaces part number 47794149



Contents

1 GENERAL INFORMATION

Metric and imperial units abbreviations.....	1-1
To the owner.....	1-3
Product identification.....	1-5
Engine identification.....	1-6
Drive line identification.....	1-7
Cab identification.....	1-7
Product identification plate.....	1-8
Ecology and the environment.....	1-9
Programming tractor functions.....	1-10
Operator's manual storage.....	1-11
Before operating the tractor.....	1-11
International symbols.....	1-12
Machine stability.....	1-13
Selective catalytic reduction (SCR) system.....	1-17

2 SAFETY INFORMATION

Safety precautions.....	2-1
Safety decals.....	2-3
Safety rules.....	2-11
Burn prevention.....	2-18
Prevention of fire or explosions.....	2-19
Fire extinguisher.....	2-20
Protection offered by the tractor.....	2-21
Hazardous substances.....	2-24
Emergency exit.....	2-25
Wheel chocks.....	2-26
Intended use statement.....	2-27
Instructor's seat.....	2-29

3 CONTROLS AND INSTRUMENTS

ACCESS TO OPERATOR'S PLATFORM

Introduction.....	3-1
Cab - Localization overview.....	3-5
Cab air filters.....	3-7
In cab storage (where fitted).....	3-8
Cable and wiring routing.....	3-9
Mobile telephone.....	3-10
Implement monitor installation.....	3-11
Cab air pressurisation control (where fitted).....	3-11

OPERATOR'S SEAT

Air suspension seat.....	3-13
Air suspension seat deluxe.....	3-15
Armrest control.....	3-19

Seat belt	3-20
INSTRUCTOR'S SEAT	
Instructional seat	3-21
FORWARD CONTROLS	
Ignition key	3-22
Hazard light switch	3-22
Lights and turn indicator lever	3-23
Follow me home lights.....	3-23
Windshield wiper and washer controls	3-24
Electronic parking brake.....	3-25
Anti-lock braking system ABS Operation	3-29
Clutch pedal	3-37
Foot brakes.....	3-38
Exhaust brake (where fitted)	3-39
Steering column	3-40
LEFT-HAND SIDE CONTROLS	
Handbrake.....	3-41
RIGHT-HAND SIDE CONTROLS	
Integrated control panel	3-42
REARWARD CONTROLS	
Switches on (C) pillar	3-43
Hydraulic master switch	3-44
Heated screens (where fitted)	3-45
Fast steering system (where fitted).....	3-46
Battery isolator switch (where fitted)	3-48
Climate controls	3-49
Manual temperature control	3-51
Automatic temperature control	3-52
OVERHEAD CONTROLS	
Switch panel work lights.....	3-53
Interior light.....	3-54
INSTRUMENT CLUSTER	
Analogue digital instrument cluster.....	3-55
Gauges	3-55
Indicator and warning lights	3-56
Displays	3-58
Transmission display	3-61
Keypad enhanced	3-62
Selecting or changing the display settings	3-64
Ground speed calibration.....	3-65

Performance monitor	3-68
Armrest color display	3-74
Pop-up screens on color display	3-76
Performance monitor on color display	3-82
Programming the displays	3-85
Alarm functions	3-88
Accessing stored fault codes	3-90
Warning and advisory symbols	3-91
Warning and advisory symbols	3-101

4 OPERATING INSTRUCTIONS

COMMISSIONING THE UNIT

Refueling the tractor	4-1
-----------------------------	-----

STARTING THE UNIT

Starting the engine	4-3
Grid heater cold start aid (where fitted)	4-5
Fuel heater (where fitted)	4-5
Coolant immersion heater (where fitted)	4-5
Transmission oil heater (where fitted)	4-7
Boosting the battery	4-8

STOPPING THE UNIT

Stopping the engine	4-9
Automatic engine shut down	4-9
Automatic engine shut down with enhanced keypad (where fitted)	4-10

MOVING THE UNIT

Operating in cold temperatures	4-11
Reversible engine fan	4-12

5 TRANSPORT OPERATIONS

PREPARING FOR ROAD TRANSPORT

Tractor transporting	5-1
Secure the high visibility roof panel	5-1

RECOVERY TRANSPORT

Freeing a stuck tractor	5-1
Towing the tractor	5-3

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	6-12
Quick guide	6-12
Explanation of symbols	6-14
Recording and replaying	6-15
Recording a sequence	6-18
Replaying a sequence	6-20
Headland function and color display screen	6-24
Deleting a sequence with color display	6-27

TRANSMISSION

Full powershift transmission	6-28
Foot throttle pedal	6-28
Hand throttle lever	6-29
Shuttle lever	6-30
Fault codes	6-33
Transmission operation	6-34
Powershift control lever	6-35
Driving the tractor	6-36
Speed matching	6-38
Auto shift function	6-39
Auto shifting field mode	6-40
Auto shifting in road mode	6-43
Auto shifting and 'go to' modes	6-46
Setting the forward and reverse gear ratios	6-47
Creeper gears (where fitted)	6-48

REAR POWER TAKE-OFF

Power Take-Off (PTO) operating precautions	6-49
Changing the PTO output shaft	6-49
Attaching PTO driven equipment	6-50
PTO operation	6-51
PTO 2 speed system	6-56
PTO shiftable multi speed	6-58
PTO electronic Electronic (where fitted)	6-61
External PTO controls	6-62
Auto PTO operation	6-64

FRONT POWER TAKE OFF

Power Take-Off (PTO) operation	6-67
Auto PTO operation	6-69

REAR HITCH

Electronic Draft Control (EDC)	6-71
Settings and display	6-75
Electronic Draft Control (EDC)	6-77
External hitch controls	6-82

FRONT HITCH

Settings and adjustments.....	6-84
Hitch operation	6-87
Auxiliary front couplers (where fitted).....	6-93
External hitch controls	6-95
Front hitch management FRONT HITCH MANAGEMENT	6-96

ELECTRO-HYDRAULIC REMOTE CONTROL VALVES (where fitted)

Remote control valves.....	6-100
Settings and adjustments.....	6-107
Setting the remote valve priority	6-112
Creating timer programs.....	6-113
Connecting remote cylinders	6-120
Operating with remote valves	6-122
Joystick operation with a front loader.....	6-124
Mid mount remote valves.....	6-130
External EHR controls	6-131
Hydraulic oil level when using remote hydraulic equipment.....	6-132

HYDRAULIC POWER BEYOND PORT

Power beyond circuit	6-134
Power beyond valve - Static description	6-134
ISO Power beyond couplings.....	6-136

THREE POINT HITCH

Attaching three-point hitch equipment.....	6-137
Lift rod adjustment.....	6-139
Top link adjustment	6-142
Flexible link end adjustment.....	6-144
Quick hitch.....	6-145
Lower links	6-147

DRAWBARS AND TOWING ATTACHMENTS

Drawbars and towing attachments	6-151
Swinging drawbar	6-153
Automatic pickup hitch	6-156
Automatic pickup hitch	6-160
Rear tow hitch	6-164

TRAILER BRAKING SYSTEMS

Air-operated trailer brakes.....	6-170
Air-operated trailer brakes (Italian type).....	6-173
Trailer brake bias control	6-174
Auxiliary air supply connector (where fitted).....	6-174
Hydraulic trailer brakes	6-175
Hydraulic trailer brakes (Italian type).....	6-176

WHEEL TRACK ADJUSTMENT

Front wheel track adjustment.....	6-177
Front wheel alignment.....	6-182
Steering stops.....	6-183
Front axle oscillation stops.....	6-183
Front fender.....	6-184
Rear wheel track adjustment.....	6-186
Flange type axle (where fitted).....	6-186
Bar type axle (where fitted).....	6-190
Dual rear wheels (where fitted).....	6-196

BALLASTING AND TIRES

Ballasting and tires.....	6-199
Iron weights (where fitted).....	6-202
Liquid ballast.....	6-204
Tire inflation.....	6-206
Tire pressures and permissible loads.....	6-207

AUXILIARY POWER CONNECTIONS

Diagnostic socket.....	6-209
Trailer electrical socket.....	6-209
Electrical power connectors.....	6-210
Internal power connectors.....	6-210
External power connectors.....	6-212

7 MAINTENANCE

GENERAL INFORMATION

Introduction.....	7-1
Fuel requirement.....	7-2
Biodiesel fuel.....	7-4
Change the engine oil.....	7-6
Protective devices.....	7-7
Lubricants and coolants.....	7-9
Tractor jacking points.....	7-11
General specifications.....	7-12
Capacities.....	7-13
Organic Acid Technology (OAT) coolant.....	7-14

MAINTENANCE CHART

Maintenance chart.....	7-15
------------------------	------

WHEN THE WARNING LAMP LIGHTS

Change the engine air cleaner outer element.....	7-17
Drain the fuel system water separator.....	7-18
Check the brake fluid level.....	7-19

EVERY 10 HOURS OR EACH DAY

Check the engine coolant level	7-20
Check the engine oil level	7-21
Check the remote control valve drain bottles	7-21
Check windscreen washer reservoir	7-22
Drain air reservoir on air operated trailer brake	7-22

FIRST 50 HOURS

Service operations	7-23
--------------------------	------

EVERY 50 HOURS

Clean the cab air filter	7-24
Clean the SCR cover air ducts	7-26
Clean the cooler section	7-27
All grease fittings	7-28
Check the front and the rear wheel nuts	7-35
Check the tire pressures and the tire condition	7-35

EVERY 100 HOURS

Inspect the poly V-belt	7-36
Inspect the compressor drive belt	7-36

EVERY 300 HOURS

Check the battery fluid level	7-37
Adjust the hand brake	7-38
Check the transmission oil level, the rear axle oil level and the hydraulic oil level	7-39
Check the 4WD front axle differential oil level and the hubs oil level	7-40
Check the front PTO gearbox oil level	7-41

EVERY 600 HOURS

Change engine oil and filter	7-42
Change the first stage fuel filter and the fuel filter element	7-44
Change the engine air cleaner outer element	7-45
Change the charge pump oil filter	7-46
Check the engine air intake connections	7-47
Check the transmission oil cooler pipe couplings	7-48
Clean the DEF/AdBlue in-line filter	7-48

EVERY 1200 HOURS OR ANNUALLY

Change the cab air filters	7-49
Change the main oil filter cartridge	7-50
Change the 4WD differential oil	7-51
Change the 4WD planetary hub oil	7-52
Change the front PTO gearbox oil	7-52
Grease the rear axle shaft bearing	7-53

EVERY 1200 HOURS OR EVERY 2 YEARS

Change the DEF/AdBlue in-line filter	7-54
Change the engine air cleaner inner element	7-55
Check the valve tappet clearance	7-56
Change the air brake drier reservoir.....	7-57
Change the poly V-belts	7-58
Change the transmission oil, the rear axle oil and the hydraulic oil	7-59

EVERY 1800 HOURS OR EVERY 2 YEARS

Change the engine breather filter	7-60
---	------

EVERY 3600 HOURS OR EVERY 2 YEARS

Change the DEF/AdBlue main filter	7-61
---	------

EVERY 3600 HOURS OR EVERY 4 YEARS

Change the engine coolant fluid - OAT type coolant	7-62
--	------

EVERY 36 MONTHS

Check the air-conditioning system	7-66
---	------

GENERAL MAINTENANCE

Cleaning the tractor.....	7-67
Check first stage fuel filter and water trap.....	7-69
Bleeding the fuel system	7-69
Hydraulic system hoses	7-70
Check the brake pedal latching/unlatching	7-70
Adjust the cab suspension (where fitted).....	7-71
Adjust the automatic pickup hitch	7-72
Adjust the automatic pickup hitch	7-73
Headlight and work light adjustment	7-74
Bulb replacement.....	7-75
Fuses and relays	7-79
Protecting the electronic and electrical systems during battery charging or welding..	7-84
Battery removal and installation	7-85

STORAGE

Tractor storage	7-86
Preparation for use after storage	7-87

8 TROUBLESHOOTING

FAULT CODE RESOLUTION

Introduction	8-1
--------------------	-----

ALARM(S)

Fault codes and symbols	8-2
-------------------------------	-----

SYMPTOM(S)

Engine	8-4
Transmission	8-5
Electrical system	8-5
Three-point hitch	8-6
Brakes	8-6
Cab	8-6
Electrical system	8-7

9 SPECIFICATIONS

General dimensions	9-1
Frame - General specification	9-1
Capacities	9-4
Transmission - Capacity	9-5
Front axle system - Capacity	9-5
Engine	9-6
Transmission	9-7
Rear Power Take-Off (PTO)	9-8
Front Power Take-Off (PTO).....	9-8
Hydraulic system	9-9
Three-point hitch	9-10
Remote control valves	9-11
Three-point hitch front	9-11
Brakes	9-12
Steering.....	9-12
Electrical equipment	9-13
Ground speed chart Full-Powershift transmission.....	9-14
Minimum hardware tightening torques	9-17

10 ACCESSORIES

Radio (where fitted).....	10-1
External rear view mirrors	10-1
Auxiliary headlights.....	10-3
Rotating beacon	10-4
Front-end loader fixation points	10-5

11 FORMS AND DECLARATIONS

Service record 1st 50 hour, Owner copy	11-3
Service record 1st 50 hour, Dealer copy	11-5

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	m ²	square foot	ft ²
			square inch	in ²
	square millimeter	mm ²	square inch	in ²
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	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	inH ₂ O
	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 ³	cubic yard	yd ³
				cu yd
	liter	l	cubic inch	in ³
	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 ³ /min	cubic foot per minute	ft ³ /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 authorized 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 authorized 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 authorized 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 7-15 of this Manual, are carried out at the recommended intervals.

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 op-

eration 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 **11-3** and **11-5**). The first sheet (page **11-3**) is your copy of the service performed. The second sheet (page **11-5**) 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 authorized, 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!*

Thank you so much for reading.
Please click the “Buy Now!”
button below to download the
complete manual.



After you pay.

You can download the most
perfect and complete manual in
the world immediately.

Our support email:

ebooklibonline@outlook.com