## F105.7 F105.7<sub>A</sub> F155.7 F155.7<sub>A</sub>



	F106.7/106.7A	F156.7/156.7A
BASE ENGINE POWER	99 kW - 133 HP	129 kW - 173 HP
OPERATING WEIGHT	12 180 kg	16 200 kg



# **OUTSTANDING PRECISION FOR HIGH**

- New more spacious cab with outstanding visibility.
   Console lockable in 4 working positions
- Excellent panoramic view thanks to sloping tail end for improved rear visibility and safety
- CNH common rail, environmentally friendly TIER 3A engine
- Optimal weight distribution for good stability at all times, also on difficult terrain
- NoSpin differential for skid free power transmission to the rear wheels. Oscillating tandem axles



## **GRADING PERFORMANCE**

- Maintenance-friendly design, to minimise service downtime thus reducing the cost of ownership
- The rear ripper, the maintenance free front blade and the scarifier mounted over the moldboard assure maximum versatility everywhere
- Hydraulically adjustable, 5 positions saddle for moldboard slewing range of over  $90^\circ$
- All-wheel drive version with EDCV to optimise
   6 wheels traction on difficult terrain

- Wheel lean adjustment for slope work and other jobs
- Roller mounted, encapsulated, backlash-free slewing ring
- Load Sensing hydraulic system for responsive and precise control



### **JOLT FREE MOLDBOARD WITH ADJUSTABLE SADDLE**





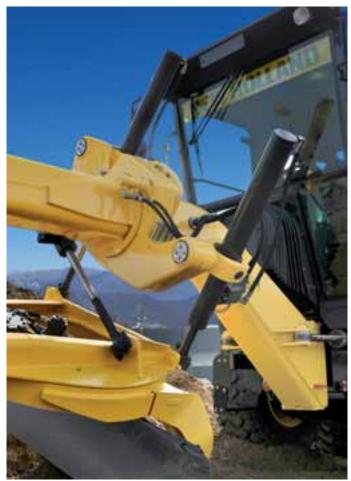
# 90° SLEWING RANGE ON BOTH SIDES

The roller mounted slewing ring, with internal gearing, sealed and backlash free, develops very low friction, while generating extraordinary torque for jolt free, very smooth and glitch free moldboard functions. The moldboard has a slewing range of over 90°, fine tuned through sophisticated geometry and a five positions, hydraulically adjustable, slewing saddle. The infinitely variable cutting angle adjustment is also hydraulic. This ensures efficient handling of the most varied ground conditions and tasks.

- Extremely high resale value
- Replaceable cutting edge
- Encapsulated slewing ring extends maintenance intervals
- Multi-functional moldboard adjustment
- Matching all deployment conditions

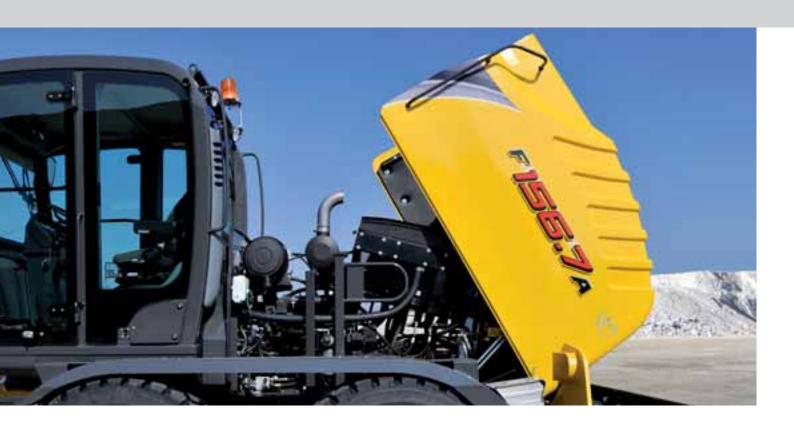
#### LOAD SENSING HYDRAULICS





Thanks to very responsive and precise control, the excellent efficiency of the fuel sparing, Load Sensing hydraulics makes for easy grader operation. A directly actuated axial piston pump delivers only as much oil as it is needed at any time. A high speed function steps up the pace of work at higher engine speeds. Pressure compensation in the control valves allows the moldboard to be parallel lifted or lowered.

- Responsive work thanks to Load Sensing hydraulics
- Offset work possible thanks to articulated steering (crab mode)
- Moving the moldboard to right or left creates an optimal surface without ruts



#### TIER 3A COMMON RAIL ENGINE

This new generation CNH Common Rail engine represents "state of the art" technology, designed to increase performance and production whilst reducing fuel consumption and pollution.

The Common Rail system guarantees that fuel is injected in the cylinders at very high pressure, thus optimising its nebulization and its mix with an increased quantity of turbocharged and after cooled air. Moreover, the quantity of fuel introduced in the cylinders is electronically controlled so that the "right quantity" is injected at the "right moment" and combined with extra fresh air to provide peak efficiency output from the engine, whilst reducing fuel consumption and emissions of dangerous pollutants. In addition, thanks to its electronic management, this jewel of technology features ENGINE DUAL POWER. It means that, when shifting from 3rd to 4th gear and up, the engine automatically delivers a higher power than on the first 3 gears, thus granting superior working performances and higher production.

The hydraulically driven fan is thermostatic controlled, this means that its speed varies according to engine coolants and hydraulic oil temperatures. An advanced solution which saves engine power to be used while working and giving noticeable noise reduction.



# MAINTENANCE & SERVICEABILITY

Thanks to one piece tiltable hood, swinging doors and walk-on fenders offered as standard equipment and accessible from the cab platform, all maintenance and service points are easy to reach and to check. These features, combined with long maintenance intervals and a fully sealed, self adjusting slewing ring, contribute to highly reduce operating costs while increasing operators convenience and comfort.

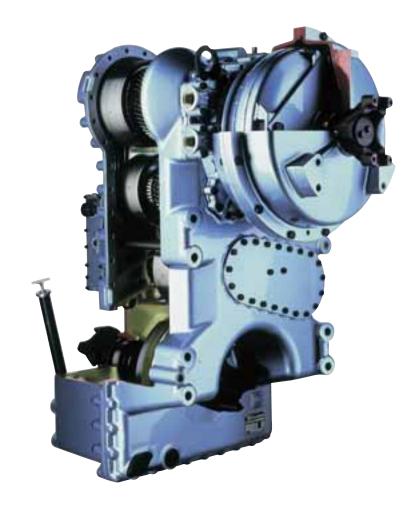
# ERGO POWER TRANSMISSION & REARTANDEM

## Tried and tested Ergopower transmission with comfortable Tip-Shift gear

The Ergopower transmission is a standard-setter in travel performance, shiftability and noise reduction. Slim contoured gearing, generous helical overlapping and distortion proof, short shafts cut noise emissions by over one half. With each of the six couplings having its proportional pressure regulator, shifting is smooth, with no interruption in tractive force.

In fact, the operator barely notices the automatic gear shifting.

In NEW HOLLAND graders, jolts from shifting gears are a thing of the past.







The rear tandem has been completely redesigned: **final reductions** are now located in the axle body while the brakes are positioned, for all models, in the hubs. A simple design which assures high durability.

The independent oscillation of both right and left rear tandem, grants optimum contact on all ground conditions, thus enhancing traction and performance.

The already appreciated and best in market solution, **Automatic** "No-Spin Differential", grants the following outstanding advantages:

- The wheels speed self adjusts automatically, according to the working and ground conditions;
- The wheel which is rotating slowerer thanks to better grip, receives from the differential up to 100% torque

Which means no tractive force to eliminate tyres consumption or wheel slippage on icy terrains and full tractive force on the wheel which has grip: the best traction conditions are always and automatically granted.



# WHEEL LEAN ADJUSTMENT ELECTRONIC DRIVE CONTROL EDCV

Wheel lean adjustment permits sound and safe work on embankments with no thrust loss from repeated steering adjustments, and guarantees precision tracking. On the all-wheel drive models, the front wheels are driven by a variable displacement pump and hubmounted motors. The E.D.C.V. (Electronic Drive Control Volume) uses a hydraulic differential to match oil volume and, hence, the front wheel speed automatically to the speed of the rear wheels.

Besides ensuring exceptionally high use of engine power, E.D.C.V. delivers very high thrust forces for superb earthmoving and grading performance, especially when the going gets tough. Combined with wheel lean, the result is precision tracking at all times. To spare the drive components during road travel, the all-wheel drive can be switched off in the front wheels or, depending on the soil, switched to push or pull mode to achieve an even grade.







#### THE OPERATOR AND HIS WORKPLACE

The new, more spacious grader cab is an outstanding operator station positioned for unobstructed all-round visibility thanks to an increased tinted glazing to the front and floor to ceiling glazing at the sides. Even when comfortably seated, the operator has a full view of the moldboard ends. In reversing, the rounded tail-end guarantees an excellent and safe rear view of any persons or objects in the immediate vicinity of the work area. The neat control console can be locked in four working positions and the operating elements are always easily accessible, enabling the operator to concentrate on his work from the most comfortable position. A highly effective heating/ventilation system creates an agreeable working climate and prevents window fogging.

Besides high operating comfort and visibility, the oversized ROPS/FOPS cab also offers the necessary safety and a seat, with increased adjustment possibilities, that gives the driver a firm hold even when working along slopes. The new fully swinging doors permit easier access from both sides and allow better protection against noise, dust and heat dispersion. Moreover the cab is mounted on the rear frame: a highly valuable advantage versus main competitors in terms of operators comfort and convenience:

- Operators keep moving in travel direction
- Operators are anytime aware of articulation angle
- Moldboard visibility is even improved thanks to the further back cab positioning Perfect visibility, optimum controllability and working precision.



#### **NEW INSTRUMENT PANEL**

The New Holland graders are equipped with a new, elegant, car style instrument panel which groups high visibility analogic gauges monitoring: engine coolant, hydraulic oil temperature, fuel level and trasmission oil temperature. Further vital information, messages and some programming of the main components, are provided by the on-board computer and displayed in the new multilanguage, digital LCD screen, conveniently located in the centre of the dashboard, just in front of the operator.

A new high-tech instrument panel which grants machine efficiency and durability, providing at the same time maximum operator confidence, comfort and productivity.

# F106.7/106.7A

#### **SPECIFICATIONS**



#### **ENGINE TIER 3A**

Maximum Power (ISO 14396/ECE R120)	
From 1st to 3rd gear	99 kW/133 hp
From 4th to 6th gear	
Governed	
Make & model	
Type diesel, common rail, dual power, turboch	nerged and intercooler
Displacement	6,7
Number of cylinders	6
Bore & stroke	
Maximum torque at 1400 rpm	632Nm
B	

Remote engine oil filter for easy replacement

- 25°C outside temperature start as standard equipment The engine complies with 97/68/EC standards TIER 3A



#### **TORQUE CONVERTER**



#### **TRANSMISSION**

Full powershift transmission with 6 forward and 3 reverse gears. Electric single-lever shift with reverse-lock in ranges 3-6.

Speeds in km/h

Forwards	Reverse
4.9	5.2
7. <del>4</del>	12.2
11.5	27.4
17.2	-
26.0	-
37.7	-
	4.9 7.4 11.5 17.2 26.0



#### **AXLE FRONT**

Oscillating axle with wheel spindle steering and hydraulic wheel lean adjustment

	F106./	F106./A
Axle oscillation	± 15°	± 15°
Wheel lean	± 21.5°	± 21.5°
Ground clearance	485 mm	485 mm



#### **AXLE REAR TANDEM**

NEW HOLLAND tandem grader axle with automatic No-Spin differential

Oscillating tandem drives with heavy-duty roller chains.

Oscillatio ± 15°

Tandem box dimensions:

Height	599 mm
Width	201 mm
Wall thickness	
Chain pitch	51 mm
Tandem wheelbase	1241 mm

#### **[⊒**

#### **ALL WHEEL DRIVE**

Selectable in addition to the hydrodynamic rear-wheel drive • Hydrostatic front-wheel drive with E.D.C.V. (Electronic Drive Control Volume) • A bi-directional swash plate pump (forward/reverse) drives wheel-hub mounted motors in each of the front wheels • Hydraulic No-Spin differential prevents one-sided wheel spin and proportions torque when cornering • A microprocessor monitors and matches front- and rear-wheel drive forces • A stepped switch allows the operator to adapt front-wheel thrust to existing job conditions.



#### **BRAKES**

Hydraulic, dual-circuit accumulator pump braking with 4 oil bath disc brakes acting on tandem-wheels. Parking brake: disc brake acting on transmission



#### **STEERING**

Operated from the adjustable steering and control console. Front-wheel spindle steering, all hydraulic, volume control

	F 106.7	F 106.7A
Steering wheel lock, left/right	40°	40°
Articulated frame,		
with 2 double-flow steering cylinders:		
Articulation angle	± 28°	± 28°
Minimum turning radius:		
across tyres	6700 mm	6700 mm
across front blade	7450 mm	7450 mm



#### **TYRES**

405/70 R20 Dunlop (Std. equipment) 420/75 R20 Michelin 455/70 R20 Dunlop



#### **MOLDBOARD CONTROL**

Load Sensing for maximising functions controllability • Control levers for precision metering of adjustment speed • Pressure compensation in each of the control valve units permits parallel moldboard lifting or simultaneous operation of two other functions, with no disruptive interaction • A pedal allows the operator to switch to max. output for faster functioning (high-speed model) • Unlockable check valves maintain lift/cutting angles and wheel lean cylinders constant



#### **A-FRAME**

Robust welded box section A-frame L-profile with 125 x 120 x 8 mm cross section.



#### **SLEWING RING**

Internal gearing, sealed roller-mounted, backlash-free, self-adjusting
• Driven by hydraulic motor and moldboard mechanism

Diameter	. 1150 mm
Action radius	360°



#### **MOLDBOARD**



#### **MOLDBOARD SETTINGS**

Shifting	to the right	
	to the left	708 mm
Reach across tyres wa	o articulated steering:	
right horizontal	-	1865 mm
Reach across tyres wi	th articulated steering:	
right horizontal		2490 mm
left horizontal		2150 mm
	right	
1 0	left	
Max. lift height above	ground	394 mm
	ent, hydr	



#### **HYDRAULIC SYSTEM**



#### **FRAME**

Front frame: stiff, welded section from high-strength fine-grain steel Cross-sectio270  $\times$  270mm 
Wall thickness 
L2 mm Rear frame torsion resistant frame Cross-sectio220  $\times$  60 mm



#### **CAB**

Elastically mounted, noise insulated ROPS/FOPS cab with two swinging doors • Either side access • Tinted glass • Rear-frame mounted cab • Heater/defroster nozzles • Ventilation options: recirculation/outside air, filter unit

ROPS according to EEC sample testing	ISO 3471
FOPS according to EEC sample testing	ISO 3449



#### **ELECTRICAL SYSTEM**

Voltage	24 V
Batteries	
Alternator	70 A
Starter	4 kW



#### CAPACITIES

		litres
Lube oil		12.5
Coolant		37.0
Transmission and converter		21.0
Axle gear		31.0
Tandem		120.0
Worm gear		2.5
Hydraulic tank		70.0
Hydraulic oil, total		F 106.7A
•	170.0	185.0
Fuel tank		278.0

# F156.7/156.7A

#### **SPECIFICATIONS**



#### **ENGINE TIER 3A**

Maximum Power (ISO 14396/ECE R120)	
From 1st to 3rd gear	129 kW/173 hp
From 4th to 6th gear	
Governed	2100 rpm
Make & model	
Type diesel. common rail. dual power. turb	ocherged and intercooler
Displacement	6.7
Number of cylinders	
Bore & stroke	
Maximum torque at 1400 rpm	850Nm

Remote engine oil filter for easy replacement

- 25°C outside temperature start as standard equipment The engine complies with 97/68/EC standards TIER 3A



#### **TORQUE CONVERTER**



#### **TRANSMISSION**

Full powershift transmission with 6 forward and 3 reverse gears. Electric single-lever shift with reverse-lock in ranges 3-6.

Speeds in km/h

Carr	Fd.	D
Gear	Forwards	Reverse
I.	5.0	5.4
2.	7.7	12.6
3.	11.8	27.9
4.	17.9	-
5.	26.0	-
6.	38.0	_



#### **AXLE FRONT**

Oscillating axle with wheel spindle steering and hydraulic wheel lean adjustment

	F156./	F156./A
Axle oscillatio ± 15°	± 15°	
Wheel lea ± 20.5°	± 20.5°	
Ground clearance	554 mm	554 mm



#### **AXLE REAR TANDEM**

NEW HOLLAND tandem grader axle with automatic No-Spin differential • Oscillating tandem drives with heavy-duty roller chains

Planetary reduction

Oscillatio ± 15°

Tandem box dimensions:

landem box dimensions:	
Height	590 mm
Width	199 mm
Wall thickness	
Chain pitch	51 mm
Tandem wheelbase	1573 mm

#### **[—**[≊]]

#### **ALL WHEEL DRIVE**

Selectablein addition to the hydrodynamic rear-wheel drive • Hydrostatic front-wheel drive with E.D.C.V. (Electronic Drive Control Volume) • A bi-directional swash plate pump (forward/reverse) drives wheel-hub mounted motors in each of the front wheels • Hydraulic No-Spin differential prevents one-sided wheel spin and proportions torque when cornering • A microprocessor monitors and matches front- and rear-wheel drive forces • A stepped switch allows the operator to adapt front-wheel thrust to existing job conditions



#### **BRAKES**

Hydraulic dual-circuit accumulator pump braking system with four oil cooled disc brakes • Disc brake acting on transmission



#### **STEERING**

Operated from the adjustable steering and control console. Front-wheel spindle steering. all hydraulic. volume control

	F 156.7	F 156.7 A
Steering wheel lock. left/right	42.5°	42.5°
Articulated frame		
with 2 double-flow steering cylinders:		
Articulation angle	± 28°	± 28°
Minimum turning radius:		
across tyres	7500 mm	7500 mm
across front blade	8250 mm	8250 mm



#### **TYRES**

17.5 25EM Good Year (Std. Equipment)17.5 R 25 Michelin/Pirelli



#### **MOLDBOARD CONTROL**

Load Sensing for maximising functions controllability • Control levers for precision metering of adjustment speed • Pressure compensation in each of the control valve units permits parallel moldborad lifting or simultaneous operation of two other functions. with no disruptive interaction • A pedal allows the operator to switch to max. output for faster functioning (high-speed model) • Unlockable check valves maintain lift/cutting angles and wheel lean cylinders constant.



#### **A-FRAME**

Robust welded box section A-frame  $\cdot$  L-profile with 140 x 140 x 10 mm cross section



#### **SLEWING RING**



#### **MOLDBOARD**

Wear-resistant, high-grade steel wit	th hardened rounded guides •
Replaceable, split main and side blad	des
Width	3350/3965/3660 mm
Blade height/thickness	603/20 mm
Cutting edge height/thickness	152/19 mm
Rolt diameter	16 mm



#### **MOLDBOARD SETTINGS**

to	/ 4F
	645 mm
Reach across tyres w/o	Ç.
right horizontal	2375 mm
	2545 mm
Max. slope angle:	
	100°
left	I12°
left horizontal	1685 mm g: 3235 mm



#### **HYDRAULIC SYSTEM**



#### **FRAME**



#### **CAB**



#### **ELECTRICAL SYSTEM**

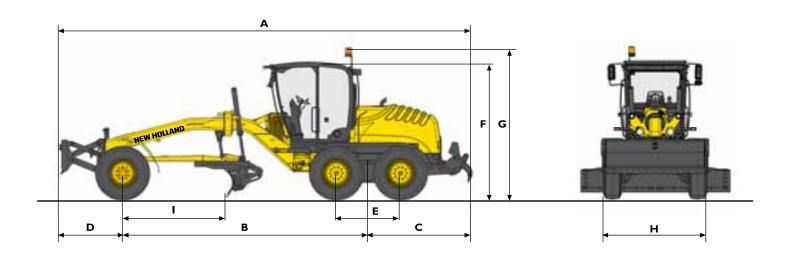
Voltage	24 V
Batteries	
Alternator	70 A
Starter	4 kW



#### **CAPACITIES**

		litres
Lube oil		12.5
Coolant		37.0
Transmission and converter		21.0
Axle gear		36.0
Tandem		128.0
Worm gear		2.5
Hydraulic tank		
Hydraulic oil, total		F 156.7A
,	185.0	200.0
Fuel tank		278.0

### **DIMENSIONS (mm) - OPERATING WEIGHTS**



MACHINE WITH:		F106.7	F106.7A	F156.7	F156.7A
Front & rear counterweight	kg	11030	11330	14600	15000
Front blade & rear c/w	kg	11130	11430	14770	15170
Front c/w & rear ripper	kg	11330	11630	15040	15440
Front blade & rear ripper	kg	11430	11730	15200	15600
Full equipment	kg	11880	12180	15800	16200

HYDRAULICALLY CONTROLLED FRONT DOZER BLADE:		F106.7 F106.7A	F156.7 F156.7A
Blade width	mm	2350	2450
Blade height	mm	765	870
Penetration depth	mm	136	174
Max. ground clearance	mm	509	547

F106.7-F106.7A EQUIPPED WITH:		FRONT & REAR COUNTERWEIGHT	FRONT BLADE & REAR COUNTERWEIGHT	FRONT COUNTERWEIGHT & REAR RIPPER	FRONT BLADE & REAR RIPPER
A Total lenght	mm	7610	8284	8179	8853
<b>B</b> Wheelbase	mm	5243	5243	5243	5243
C Rear attachment end	mm	1605	1605	2174	2174
<b>D</b> Front attachment end	mm	762	1436	762	1436
E Tandem base	mm	1241	1241	1241	1241
F Cab height:		3240	3240	3240	3240
<b>G</b> Max machine height	mm	3586	3586	3586	3586
H Width of tyres	mm	2350	2350	2350	2350
I Blade base	mm	1981	1981	1981	1981

HYDRAULICALLY CONTROLLED REAR RIPPER FOR HEAVY DUTY APPLICATIONS		F106.7 F106.7A	F156.7 F156.7A
Ripping width	mm	2000	2220
Ripping depth	mm	361	361
Number of shanks	n°	3/5	3/5
Interval of shanks	mm	1000/500	1110/555

Dimensions referred to a machine equipped with 405/70R20 tires. Machine height and width over tires may vary with other tires.

F156.7-F156.7A EQUIPPED WITH:		FRONT & REAR COUNTERWEIGHT	FRONT BLADE & REAR COUNTERWEIGHT	FRONT COUNTERWEIGHT & REAR RIPPER	FRONT BLADE & REAR RIPPER
A Total lenght	mm	8612	9371	9285	10044
<b>B</b> Wheelbase	mm	6018	6018	6018	6018
C Rear attachment end	mm	1785	1785	2458	2458
<b>D</b> Front attachment end	mm	809	1568	809	1568
E Tandem base	mm	1573	1573	1573	1573
F Cab height:		3330	3330	3330	3330
<b>G</b> Max machine height	mm	3674	3674	3674	3674
H Width of tyres	mm	2550	2550	2550	2550
I Blade base	mm	2504	2504	2504	2504

THE MOVABLE MOLDBOARD RIPPER CAN BE OPERATED IN BOTH DIRECTIONS.		F106.7 F106.7A	F156.7 F156.7A			
Number of shanks	n°	4	6			
Ripping width	mm	900	1100			
Ripping track displacement						
Left	mm	420	580			
Right	mm	950	1200			
Ripping depth	mm	134	78			

Dimensions referred to a machine equipped with 17.5R25EM tires. Machine height and width over tires may vary with other tires.

# STANDARD EQUIPMENT

- · Battery main switch
- Cab equipped with two fully swinging doors for both side access, tinted safety glasses, front and rear sunshield
- Caliper disc parking brake operating on transmission
- CNH TIER 3A engine with electronic management and "Dual Power"
- Cold start
- Control levers for precise and simultaneous moldboard operations
- · Front counterweight
- Front & rear fenders
- Front wheel spindle steering with adjustable steering column
- · Heating system
- High grade steel moldboard with hardened rounded guides
- Hydraulic & dual-circuit accumulator brake system operating on tandem wheels
- Hydraulically adjustable for 90° bank slope
- Hydrostatic front-wheel drive with E.D.C.V. Electronic Drive
- \* Only on F106.7A & F156.7A

- Control Volume & hydraulic differential \*
- Internal gearing, sealed, backlash-free & self-adjusting slewing ring operating on  $360^{\circ}$
- · Load sensing hydraulic system with variable
- displacement pump
- · Mechanical suspension seat
- Moldboard cutting angle hydraulically adjustable
- · Oscillating front axle with hydraulic lean adjustement
- · Oscillating tandem axle with automatic no-spin differential
- Powershift transmission with 6 forward & 3 reverse speeds, with integrated torque converter
- · Rear counterweight
- · Road traffic lights
- Rops/Fops suspened cab, mounted on rear frame

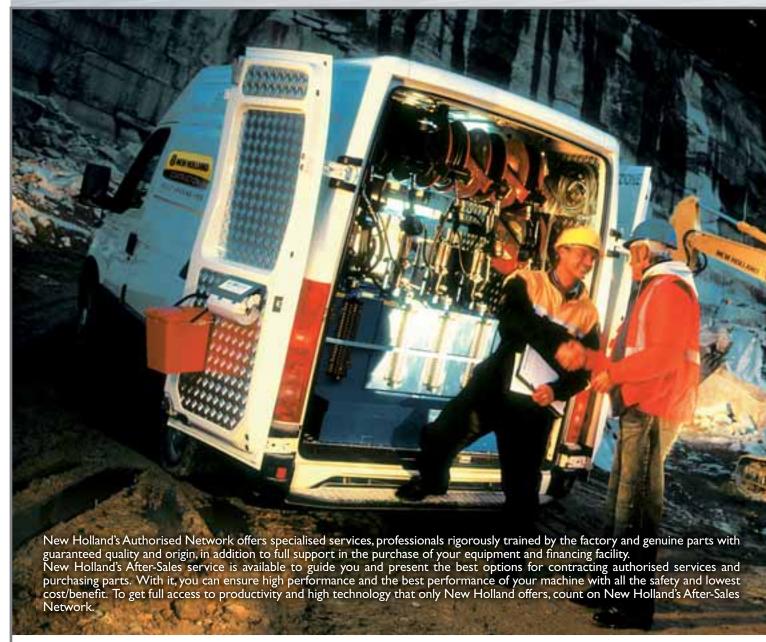
### **OPTIONS**

- · Additional electric fan in cab
- · Air conditioning
- Air suspension seat
- Back-up alarm
- · Biological hydraulic oil
- · Floating valve for moldboard
- · Front lights on cab
- Fuel refilling pump
- · Left & right molboard side plates

- Overload clutch on moldboard
- Parallel front blade
- · Rear lights on cab
- Rear ripper
- · Rear ripper with protection device
- Ripper on moldboard
- Right moldboard extension
- Rotating beacon
- Tow coupling

Note: standard and optional equipment may vary by country. Consult your NEW HOLLAND dealer for specific details.

# After Sales of New Holland's Authorised Network. HIGH PERFORMANCE AND PRODUCTIVITY WARRANTY



#### AT YOUR OWN DEALERSHIP

The information contained in this brochure is intended to be of general nature only. The NEW HOLLAND CONSTRUCTION MACHINERY S.p.A. company may at any time and from time to time, for technical or other necessary reasons, modify any of the details or specifications of the product described in this brochure. Illustrations do not necessarily show products in standard conditions. The dimensions, weights and capacities shown herein, as well as any conversion data used, are approximate only and are subject to variations within normal manufacturing techniques.

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