

FENDT



FARMER

303LS 305LS 309LS
304LS 306LS *TURBO*
308LS

THE SUPER SET THE PACE IN TECHNOLOGY,

FARMER 303 LS TURBOMATIK	38 kW/52 HP
FARMER 304 LS TURBOMATIK	43 kW/58 HP
FARMER 305 LS TURBOMATIK	46 kW/62 HP
FARMER 306 LS TURBOMATIK	52 kW/70 HP
FARMER 308 LS TURBOMATIK	57 kW/78 HP
FARMER 309 LS TURBOMATIK	63 kW/86 HP



FARMERS ECONOMY AND RIDE COMFORT

The Fendt Super-Farmers help to increase cost-effectiveness in the use of tractors. Six different power classes are available to choose from – all with the same basic design. Engines, gearbox, hydraulics, driver platform layout

and safety features have been designed to the latest advances in research and development combined with an intimate knowledge of farming practice. The forward-looking technology built into the tractors increases productivity, boosts the power and makes for even

better fuel economy. The exceptionally well designed driver's space with its first-class ride comfort sets new standards for these power classes. Their extremely high cost-efficiency makes the Fendt Super-Farmers a profitable investment for the successful farmer.



HIGHLY ADVANCED MULTI-PURPOSE TRACTORS MEET THE DEMANDS

A New Design Concept

Based on comprehensive research and development work, Farmer tractors have been designed as multi-purpose machines with tyres of varying, closely matched sizes. For ploughs, tandem tippers and hydraulic tools, the largest possible tyres have been fitted to the rear. The 4-wheel drive front tyres are almost as large as on models with four identical wheels. The front wheel tyre width has been selected to combine the increased traction of multiple tread contact with a good steering lock to give a tight turning radius. The variable weight distribution achieved by quick-action ballasting weights gives the machines outstanding traction when ploughing and using semi-mounted implements as well as low

ground pressure for surface cultivation. Investigations have shown that the ideal working position for the driver is directly above the rear axle. From here, the driver has an excellent view and control over rear-mounted implements as well as a good field of vision in the forward direction.



Excellent Ploughing Performance

Tyres are dimensioned to locate 60% of the 4-wheel drive machine's static weight on the



Dynamic action at work (with weights).

rear axle, 40% on the front axle. Ballasting with fast-fitted weights retains this ideal weight ratio for ploughing. In combination with the modern hydraulic implement control system, plough and drawbar weight is transmitted to the rear wheels. In addition, the modern radial tyres transfer engine power efficiently to the ground. The heavy-duty 4-wheel drive, engaged under load, is fitted with a Lokomatic automatic differential lock. Generous swing travel of the 4-wheel drive axle keeps ground contact of all four wheels uniform even on very rough terrain.



Mowing and loading are possible in a single operation thanks to the front hydraulics and front PTO.

ROPOSE TRACTORS TO MEET OF THE FUTURE

Front Hydraulics and Front PTO Save Time and Money



Mowing and loading in a single operation and multi-tool combinations when cultivating and harvesting root crops save time and money. Here again the advantages of the Super-Farmer design come into play as with front-mounted tools some 50% of the weight is distributed at the front and rear. The slim, forward-sloping bonnet gives an excellent view of the implements mounted at the front.

Overdrive Gear with 40 km/h Economy Operation

The 40 km/h overdrive can save up to 30% on transportation time or up to 30% on fuel consumption by actually travel-

ling at 25 km/h with a reduced engine speed. Because the machines are not top-heavy they handle well even at high speeds. A high degree of safety is provided by the 4-wheel braking system which is fitted as standard to all 40 km/h tractors.



Static (without weights)

Ideal for Front Loader Operation

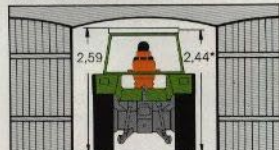
Large-size tyres and the heavily weighted rear give the tractors extra forward thrust. With the new 3-circuit hydraulics, lifting rate is fast even at low fuel-saving revs. The full-synchromesh reversing drive ensures



fast direction change-over (Forward reserve). The fully hydrostatic steering, fitted as standard, makes the tractor very easy to control.

A new changeover system enables the front loader to be fitted in a matter of minutes.

Low Height



* Low roof and 14.9 R 30 tyres (on-303 LS/304 LS only).

The overall height of 2.59 m (with 16.9R 34 tyres) is a great advantage when there is not much headroom. With the low-slung cab roof and 16.9R 30 tyres (3-cylinder model) the overall height of Farmer tractors can even be reduced to 2.44 m.

High efficiency and low soil pressure, which can be further reduced by using twin tyres.

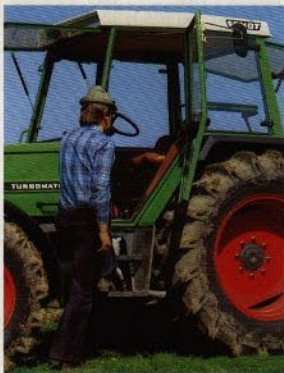


FIRST-CLASS RIDING COMFORT PROMOTES GOOD HEALTH

Sound-Insulated Cab

The exemplary cab layout relieves the driver from strain, preserves his health and improves his performance. Tractor and cab form a well-matched unit. The floor platform of 0,7 sq.m area has been kept entirely free of obstructing levers. The gear lever for the full-synchromesh drive is located on the right as on passenger cars. Clutch and brake pedals are hung at the front to ergonomic measurements to keep floor openings to the minimum and so reduce noise. Hydraulic power assistance eliminates physical effort. Large windscreen and panes (4 sq.m of glass) give an excellent all-round view from the cab for efficient control of implements.

Generous use of sound-insulating materials and cab antivibration rubber mounts ensure a remarkably low noise level. On the functionally laid out attractively styled instrument panel, the driver reads off all operating data at a glance.



Wide Doors for Easy Entry

Two non-slip steps, wide doors with a broad opening swing and the level cab platform allow the driver to mount and sit down with effortless ease.





Heating and Ventilation

Windscreen, rear and side window panes and doors can all be propped open to allow unobstructed fresh-air ventilation. A heater with separate air flow directed to the feet, keeps the cab comfortably warm, pre-



vents icing up of windows. An air-conditioning system with 3-stage fan, feeding filtered fresh air at slight over-pressure into the cab, is available as an extra option.

Cab on Anti-vibration Mountings

Rubber anti-vibration mountings specially adapted to Farmer tractors make sure that the driver does not suffer from harmful vibration.



Modern Standards of Comfort Make the Driver's Life Easier

The entire cab layout has been designed in accordance with the latest ergonomic research. Frequently used levers like the fully synchromesh gear lever and the hydraulic control lever are located beside the driver on the right. As he takes his hand from the steering wheel it moves almost automatically to the lever required. A first-class view of the front wheels facilitates accurate working without strain. The steering wheel can be raised 30 mm or lowered 15 mm from the standard level. The cab interior is finished in hard-wearing, easy-to-care-for material in a warm brown shade. The hydrostatic steering, electrical windscreen washer and interior cab lighting are all standard, just like the modern radio mounting frame and loudspeaker.



Body-moulded Seat for Ride Comfort

The new body-hugging seat design with integral armrests provides excellent support at the sides (see picture below). The waterproof, hard-wearing upholstery with integral cover makes an extremely comfortable seat. A steplessly adjustable headrest prevents back strain. Ventilating crevices moulded into the non-slip cover inhibit perspiration. It goes without saying that the seat is

adjustable for body weight, height and leg length. A super comfort seat (pictured on the left), available as an optional alternative, has a high backrest with 30° adjustable angle and integral back support. This seat, covered with hard-wearing brown fabric, also has a transverse tilt adjustment. A horizontal spring suspension fitted to both seats absorbs the vibrations which may occur in the longitudinal axis of the tractor when travelling at speed.

Easy Handling of Rear-mounted Implements

Thanks to the fold-down driver's seat backrest and the prop-up rear window, it is possible from the driver's seat to couple the top link, operate the towing coupling and even reset the rear hydraulic lift arms.



Driver's Platform with Rubber Suspension and Safety Frame

On the cabless version, which shares all the technical features of the models with cabs, Farmer tractors are fitted with a driver platform, mounted in rubber anti-vibration bearings, which forms an integral, safety-approved unit with mudguards and roll bar frame. A sun canopy is available as an optional extra.

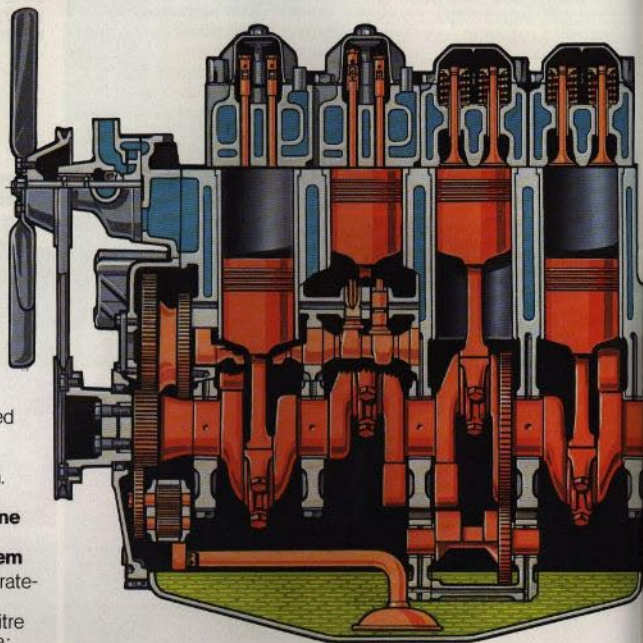
THREE AND FOUR-CYLINDER ENGINES OFFERING EXCEPTIONAL ECONOMY

Highly Esteemed Economy Engines

Practical trials and OECD tests had already shown the large-volume Farmer engines to be among the most economical of power units. Intensive research and development has now resulted in a further substantial reduction in fuel consumption. This outstanding fuel economy has been achieved by re-designing the injection nozzles and providing a completely new combustion chamber. The displacement, engine speed and torque characteristics have been finely tuned to minimize fuel consumption.

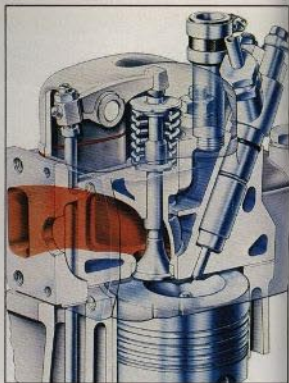
Accurately Metering In-line Injection Pump with Automatic Starting System

The long-life, rugged, accurately metering in-line injection pump is fed from the 107 litre fuel tank (3-cylinder engine: 80 litre tank). Automatic booster setting during starting ensures that the engine will fire quickly. A flame glow starter ensures reliable starting even at low temperatures.



Perfected Combustion System

The improved shape of the cylinder heads intensifies combustion air swirl flow for even more efficient mixing of air and fuel. Large capacity dry air filters, larger-diameter intake pipes and exhaust systems with a larger cross-section result in more rapid gas exchange. These improvements, in combination with a low-speed fan, increase engine performance and substantially reduce fuel consumption.

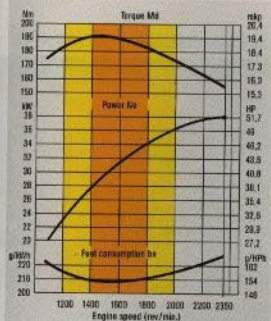


Three-cylinder Engines with Powerful Torque

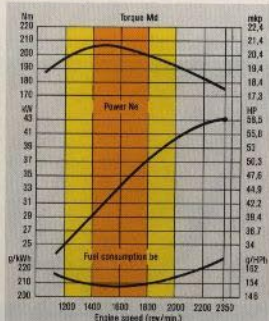
To achieve compact outside dimensions, the Farmer 303 LS and 304 LS tractors have been fitted with economical three-

cylinder engines. A 105 mm cylinder bore and 120 mm stroke mean an ample cubic capacity of 3116 cm³ (3.12 litres). This gives the outstanding torque rises of 23%

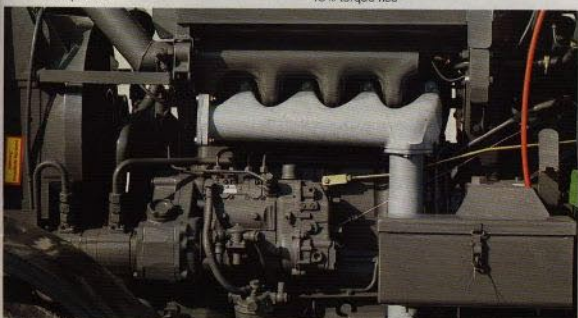
for the Farmer 303 LS and 18% for the Farmer 304 LS. These figures contribute to the exceptionally fast acceleration and outstanding tractive power of the compact 3-cylinder tractors.



Engine performance graph - Farmer 303 LS
23% torque rise

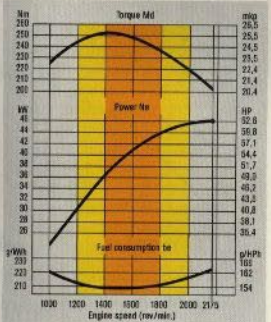


Engine performance graph - Farmer 304 LS
18% torque rise

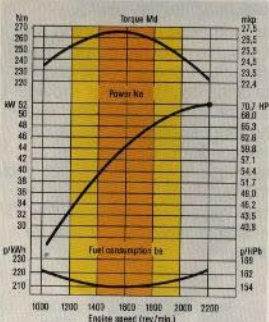


Large-capacity Four-cylinder Engines

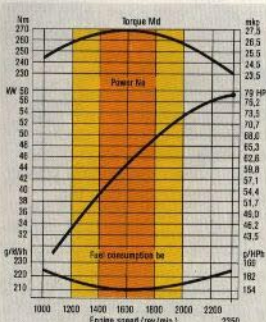
The naturally aspirated four-cylinder engines have an ample 4.2 litre (4154 cm³) cubic capacity and originate from the same family as the 3-cylinder units. The partially throttled four-cylinder engines fitted to the Farmer 305 LS (46 kW/62 HP) and 306 LS (52 kW/70 HP) are among those distinguished by their specially large displacement. The throttle characteristic was, of course, retained on the Farmer 308 LS, the engine of which is set to develop 55 kW/78 HP. Thanks to the comparatively low engine speed at maximum power, the frictional losses in the engine are small, the air aspiration of the cylinders is highly effective and the efficiency is excellent. As the torque curves show, plenty of power and torque is available even at low engine speeds. It is this which gives the Super-Farmer tractors their great tractive power and exceptionally fast acceleration.



Engine performance graph - Farmer 305 LS
25% torque rise



Engine performance graph - Farmer 306 LS
19% torque rise



Engine performance graph - Farmer 308 LS
16% torque rise

THE FARMER 309 LS: TURBOCHARGER POWER FOR TOP PERFORMANCE

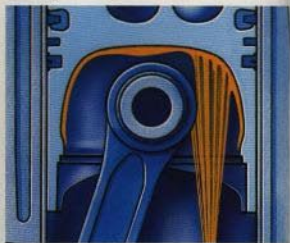
Advanced Turbocharger System Boosts Power, Saves Fuel

In the 63 kW/86 HP Farmer 309 LS the energy remaining in the exhaust gases is harnessed to drive a turbocharger and boost engine output. In this system the flow of exhaust gases drives the turbine (1) which in turn drives the integral turbocharger impeller (2) which in turn drives the integral turbocharger impeller (2). The turbocharger sucks in fresh air

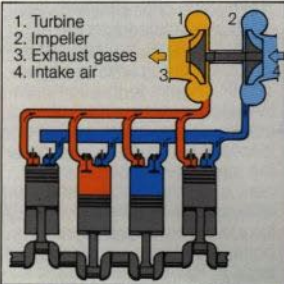
Exhaust gas turbocharger



Cooling of the piston base



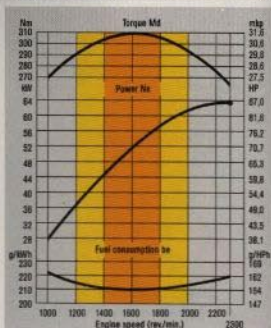
1. Turbine
2. Impeller
3. Exhaust gases
4. Intake air



through the air filter and its blades compress the air, which, with the suction valve open, enters the combustion chamber at a pressure of up to 0.8 bar. Ample air and therefore oxygen is made available for combustion. A compact exhaust gas turbocharger of the new generation with optimum blade diameter guarantees rapid acceleration of the turbine when the engine speed is increased. This has the advantage that the turbocharger comes into operation early on, taking effect at low revolutions and performing fully over the whole remaining range of engine speeds. The turbocharged engine is further characterized by its low fuel con-



sumption, the turbine-like smoothness of its running and its higher specific output. The spray oil cooling of the piston and the engine cooler provide a sure safeguard against overheating even under the heaviest load. Comprehensive research and development and the experience gained with turbocharged engines since 1970 ensure a well-above-average life for this four-cylinder unit.

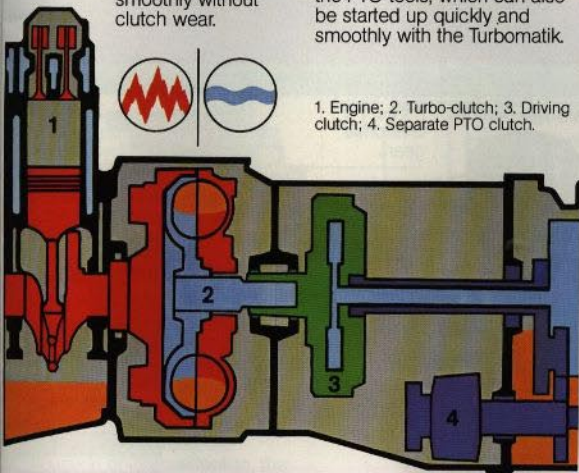


Engine performance graph - Farmer 309 LS
21% torque rise

TURBOMATIK – A STEP AHEAD

Turbomatik – the Special Bonus from Fendt

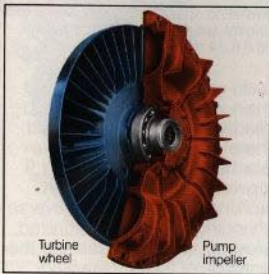
The technical superiority of Fendt Farmer tractors is demonstrated by the Turbomatik fluid clutch which is fitted as standard. This oil-hydraulic clutch enables the vehicle to move off quickly and smoothly without clutch wear.



1. Engine; 2. Turbo-clutch; 3. Driving clutch; 4. Separate PTO clutch.

As on passenger cars with automatic transmission, once the gear has been engaged and the hand brake released, all the driver has to do is step on the accelerator. There is no rolling backwards or stalling of the engine. In this situation the Turbomatik acts as a stepless, automatic start-off system. Even on a hillside, the tractor can be brought to a halt by reducing the engine speed, and can be started off again simply by accelerating (safe holding on gradients). When manoeuvring to attach imple-

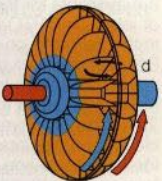
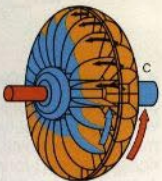
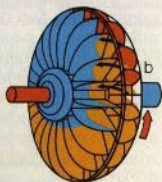
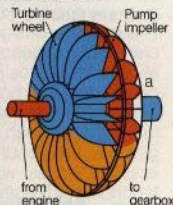
ments, the speed can be steplessly and smoothly controlled with the accelerator and brake pedals alone. The fluid clutch evens out the power surges of the engine, thereby ensuring the exceptionally long life of the gearbox and clutch. The same applies to the drive shafts and the PTO tools, which can also be started up quickly and smoothly with the Turbomatik.



Section through turbo-clutch

How the Turbomatik Works

The fluid clutch consists of the pump impeller and the turbine wheel, both designed as cell-wheels (a). When the engine starts up, the pump impeller injects oil into the compartments of the turbine wheel by centrifugal force (b). As the engine picks up speed, the centrifugal force increases and sets the turbine wheel into rotation. The Farmer tractor now moves off smoothly (c). The pump impeller and the turbine wheel rotate at almost the same speed. In contrast to other clutches, the Turbomatik fluid clutch ensures that full power transmission is continuously available while the engine is running (d).



FULLY SYNCHROMESH OVERDRIVE GEARBOX WITH 40 km/h ECONOMY OPERATION

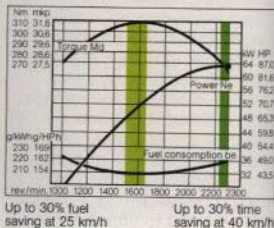
The gearbox design, the efficiency of the gears and, above all, the gear ratios play a large part in deciding how economic a tractor is in service. With its fully synchronmesh overdrive gearbox, the Fendt Super-Farmer offers the last word in gear technology. In operation, the fully synchronmesh overdrive gearbox has two outstanding advantages – a saving of up to 30% on fuel consumption by engaging the 40 km/h overdrive and actually travelling at 25 km/h at reduced engine speed, or a time saving of 30% when travelling at the full 40 km/h.



Advantageous Gear Ratios

Super-Farmers are equipped with a genuinely fully synchronmesh gearbox with 15 geometrically stepped forward speeds. A number of suitable speeds are available for the full range of jobs using PTO implements, in the field and on the road. Between pairs of gears, the speed difference to the next highest gear is a mere 24–29%. This fully synchronmesh, close-ratio gearbox is therefore ideal for achieving a high performance combined with economy. The fully synchronmesh gearbox is operated by a gear lever conveniently placed at the driver's right-hand side, and the gears are so arranged that, when performing transporting jobs for example, the driver can move up from 5.6 km/h to 40 km/h just by operating the

main gear lever. The PTO and main working speeds are subdivided into the "tortoise" and "hare" groups. In all, the gearbox has 6 PTO speeds and 9 forward speeds in the main working range. Forward/reverse changing is also synchronized, allowing rapid changes and the direction of travel (reversing gearbox).



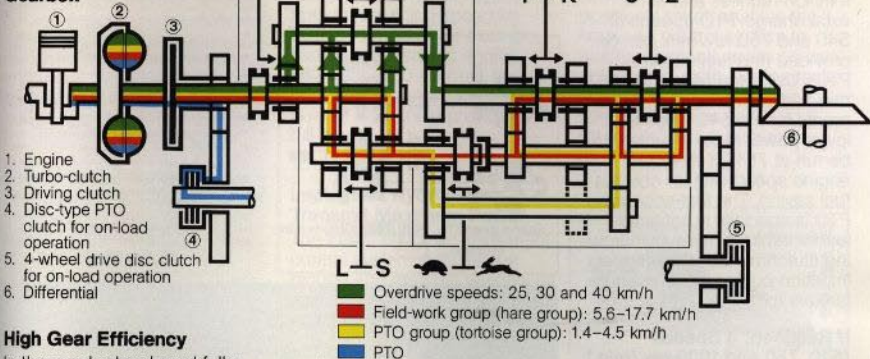
Separate Drive and PTO Clutches

The engine power is transmitted via the fluid clutch and large driving clutch to the gearbox. The main function of the driving clutch is to disconnect the engine from the gearbox when changing gear. Wear-free,

smooth starting is ensured by the turbo-clutch, which also drives the PTO. A second drive shaft transmits power from the fluid clutch to the disc clutch and so to the PTO drive. This special Fendt driving system ensures that the thermal and mechanical loads on the two

clutches remain entirely separate. Other advantages: clutch can be disengaged for any desired length of time, no axial loading of the crankshaft liable to shorten its life, and no operating instructions to master. The hydraulically actuated, self-adjusting driving clutch has an ample 310 mm diameter for extra long life.

Diagram Showing Arrangement of the Fully Synchronmesh Overdrive Gearbox



High Gear Efficiency

In the newly developed fully synchronmesh overdrive gearbox we have succeeded in achieving a marked increase in the working efficiency of all the main operating gears. This has been brought about by the meshing of the teeth, the reduction of internal friction, the most up-to-date bearing technology and the use of new materials. The term "overdrive" is applied to three separate high-speed gears giving speeds of 25, 30 and 40 km/h. Overdrive describes a shaft which transmits power as directly as possible (via only two tooth engagements) between the engine and the final drive units (the green line in the diagram). In the true sense of the word, this shaft "overrides" or by-passes the gearbox. The essential feature is that, at these overdrive speeds, the

power is not transmitted through the gearbox, with the result that a very high degree of efficiency is achieved.



1 Side shaft, seated in two bearings, 2 Toothed segment joint, 3 Floating pinion shaft, 4 Twin layshaft, 5 Rear axle half-shaft, spur gear with twin drive, 6 Rear wheel

Advance Portal Downdrive

The Fendt portal drive to the rear wheels is notable for its substantial ground clearance and high efficiency. To match the greater transmission forces on the Farmer 308 LS and 309 LS, a double portal downdrive is provided for these models. Uniform distribution of forces and excellent gear loadbearing patterns achieved by the floating arrangement (toothed segment joint) of the pinion shaft, guarantee highly efficient power transmission over a long life.

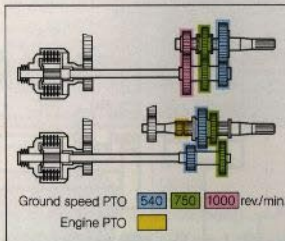
Draft-boosting Differential Lock

The heavy-duty differential lock is engaged by pedal while the tractor is under way. The pedal stays down as long as the lock is needed. A light toe jerk from below releases pedal and lock.

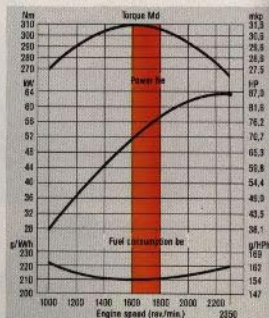
THREE PTO SPEEDS

540 and 1000 rev./min., or 540 and 750 rev./min. (Fuel-economy PTO)

Farmer 300 LS tractors are fitted as standard with two PTO stages – 540 and 1000 rev./min. On request, and at no extra charge, PTO speeds of 540 and 750 rev./min. can be provided (the fuel-economy PTO). Using the new 750 rev./min. fuel-economy PTO, implements for the 540 stage with lower power requirements can be run at 75% of the rated engine speed with an obvious fuel saving. The fuel-economy PTO is specially suitable for loader vehicles, rotary windrowing attachments, rotary tedders, irrigation pumps, liquid manure tankers and spraying systems.



Red — Speed range over which the "750" economy PTO attains 540 rpm. As the diagram shows, fuel efficiency is particularly high in this range.



If Required: 3 Speeds (540, 750 and 1000 rev./min.) from a Single PTO

Fendt Super-Farmers offer for the first time 3 driven PTO speeds which can be pre-selected from the driver's seat. This means that the ideal PTO speed is always available for tools with particularly high power requirements (1000 rev./min.), for fuel-economy (750 rev./min.) and for the wide-spread 540 implements.

Mechanical On-load PTO Actuation

The finely controllable mechanical engagement of the PTO clutch starts up implements smoothly, without the jolt produced by hydraulic operation. Heavy PTO implements such as forage harvesters can be started up through the turbo-clutch to reduce wear on implement and drive shaft.



Quick-coupling PTO Profile

The standard 1 1/8" tapered PTO stub has 6 splines. The new, tapered profile greatly assists coupling. The stub is easily turned into the position enabling it to fit into the drive shaft.



A HYDRAULIC SYSTEM FOR THE PRESENT – AND THE FUTURE

Two Hydraulic Pumps Supply the Power

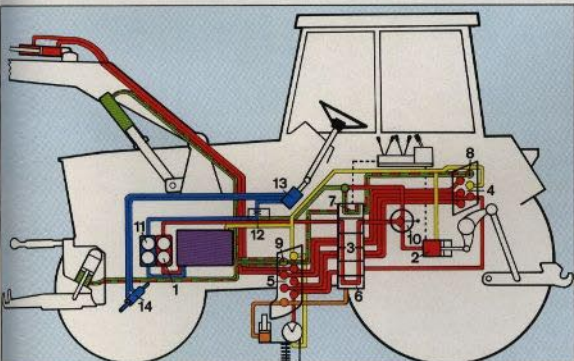
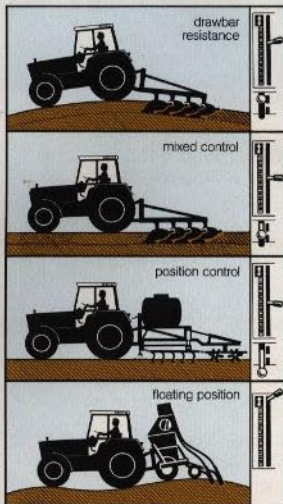
A notable further development of the Fendt hydraulics is the multi-circuit flow system. A geared sleeve pump delivers 40 litres per minute at 175 bar, while a second pump, delivering 35 litres, operates independently of the first oil pump and feeds the second, hydraulic steering circuit. An important advantage of the multi-circuit hydraulics is that the tractor can operate at normal, fast or crawler speed depending on the setting of a 3-way cock. The crawler speed (powered by part of the steering oil flow) has its own hydraulic circuit and allows independent operation of the pick-up, very slow tipping with hydraulic tippers

and the independent powering of hydraulic motors. In front loader operation, both pumps can operate in series (fast speed) to direct up to 66 litres of oil per minute to the front loader rams. This increases the front loader lifting speed by 30% and means, for example, that at a fuel-saving engine speed of 1500 rev./min. the front loader can be lifted as quickly as it could previously at full power.

Implement Hydraulics Transmit Maximum Power

The Fendt hydraulic implement control system enables the plough and drawbar weights as well as the ground resistance to act on the rear wheels.

Wheel slip is thereby reduced to a minimum and the tractive effort and power are substantially increased. The combination control system, which can be steplessly adjusted between drawbar resistance and position control, enables the hydraulic control system to function perfectly even on variable terrain. With two hydraulic rams, the maximum lifting power of the Farmer 309 LS, for example, is a generous 36.3 kN (3700 kgf).



No. 1 hydraulic circuit (red):

1. Pump; 2. Regulating control with power lift; 3. Additional controls; 4. Rear connections; 5. Central connections; 6. Mower control valve (orange).

No. 2 hydraulic circuit (green):

7. Control (single-acting); 8. Rear connection; 9. Central connection.

Fast operation (green/red combination of Nos. 1 and 2 circuits): 10. 3-way cock.

No. 3 hydraulic circuit (blue):

11. Pump; 12. Flow control; 13. Steering; 14. Balanced steering cylinder, free return (yellow).

Optionally, four further single-acting or three double-acting control valves with six sockets in the rear and centre can be fitted. An additional single-acting (flow) control valve operates hydraulic, side-mounted mowing equipment.

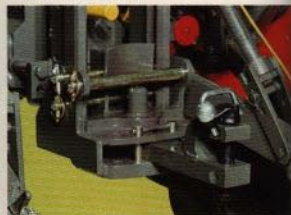
Towing Coupling with One-hand Quick Re-set

Running in slide bars, this towing coupling can be set for height with one hand over a range extending below the PTO. For each trailer the correct height at maximum traction can be set in next to no time. The coupling does not obstruct the top link when working with 3-point implements. An automatic trailer coupling with remote control from the driver's seat is available on request.



Swivel Drawbar with Static Eye Bolt

The swivel drawbar, which can be used as a fixed or mobile element, can remain on the tractor when 3-point implements are fitted.



1. Lower link with quick-action coupler; 2. No-chain sideways lock; 3. Trailer coupling with quick-action height adjustment; 4. Upper link with quick-action coupler; 5. Cab

suspension on rubber bearings; 6. Standard PTO for on-load engaging; 7. Fold-away rear window for operation from seat of top link, setting handles and attached

implements; 8. Handle for adjusting lower link; 9. Remote control for raising and lowering the rear hydraulics (implement attachment).

FRONT HYDRAULICS AND FRONT PTO FOR ALL-ROUND VERSATILITY

Integrated Front Hydraulics

The front hydraulics and front PTO enable the farmer to make up time and money-saving combinations for bringing in the fodder harvest and cultivating the soil. Specially developed for Farmer tractors, the front hydraulics have been cunningly integrated into the overall

tractor design. The slim, forward-sloping bonnet gives an excellent view of the front attachments. Even heavy implements can be mounted by standard category 2 connections to the rugged half-frame at the front. A lifting power of 24.6 kN (2510 kgf) is available and is fully adequate

for heavy drum mowers. The lower links are fitted as standard with quick-action, two-stage couplers. A lateral tilt balancing system in the lower links keeps front implements in close ground contact even on rough terrain.



Front PTO with Direct Engine Drive

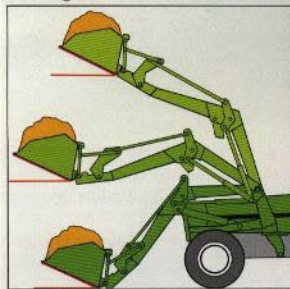
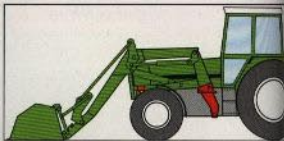
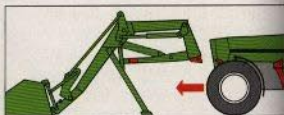
The standard 1000 rev./min. front PTO is driven directly by the engine crankshaft. This type of drive is remarkable for its exceptionally high transmission efficiency. The PTO can, of course, be engaged and disengaged while travelling and under load by means of an amply dimensioned multi-disc clutch.

FENDT FRONT LOADER TECHNOLOGY LEADS THE FIELD

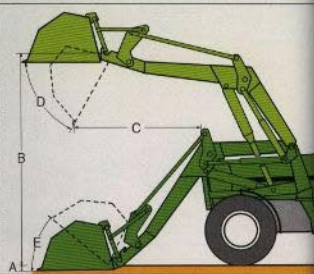
Fendt drive-in front loaders (sizes 3 and 3S), which have been purposely designed to suit the Super-Farmer tractors, can be fitted or dismantled in a matter of minutes. The completely new parallel guide mechanism (Z-Kinematic) of the 3S size front loader with hydraulic implement control ensures that the scoop is automatically held in the same position irrespective of the lifting height (see sketch below). The maximum deviation is less than 2°. This means not only that the performance is increased with this new front loader but also that the strain on the driver is greatly reduced. On the standard version, the working attachments and

scoop are operated electromagnetically. The angled shape of the front loader swing frame and the slim, forward-sloping bonnet provide an excellent view of the loader. Additional transverse members fitted to the loader swing frame and made of high-strength, fine-grain steel provide a reliable safeguard against twisting. The break-out force of 19.8 kN (2023 kgf) and the lifting capacity of 16.1 kN (1641 kgf) of the 3S front loader are at the

top of the range for this class.



Front loader size	Farmer 303-308 LS	Farmer 305-308 LS	
	3	3 S	3 S w. hydr. impl. contr. and parall. guid. mech.
Break-out force (kN/kgf)	18.5/1884	19.8/2023	19.8/2023
Lifting capacity (kN/kgf)	13.4/1365	16.1/1641	16.1/1641
A lowest position below ground level (mm)	226	236	66
B lifting height (mm)	3445	3780	3780
C drop width (mm)	967	801	1030
D emptying range	-	-	90°
E re-tip range	-	-	40°
Maximum capacity of earth scoop (m³)	0.31	0.31	-
Earth scoop capacity, heaped (m³)	0.37	0.37	-
Heavyweight scoop capacity, full (m³)	-	-	0.50
Heavyweight scoop capacity, heaped (m³)	-	-	0.57
Universal scoop capacity, full (m³)	0.52	0.52	0.61
Universal scoop capacity, heaped (m³)	0.63	0.63	0.71



ADVANCED FOUR-WHEEL DRIVE

Four-wheel Drive with Full Loading Capability

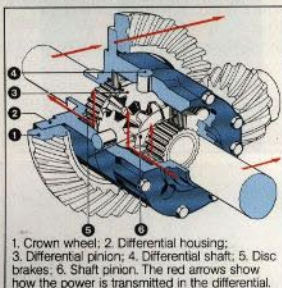
Farmer tractors are built as genuine 4-wheel drive machines, so that the front axle can be put under full load without restriction even under the toughest working conditions. The 4-wheel drive at the side can be engaged while driving and under load by a totally enclosed dry multi-disc clutch. The side-mounted universal shaft transmits the power to the front axle without

restricting the steering lock or the ground clearance. The differential transmits the power onwards to the planetary gears located directly in the wheel hubs. The long-life double universal shafts ensure a smooth ride and a tight turning circle.

Automatic Differential Lock (Lokomatic)

Fitted as standard to the Farmer 306 LS, 308 LS and 309 LS 4-wheel drive models, the Lokomatic automatic differen-

tial lock substantially improves traction and power, particularly on heavy soil. The Lokomatic design features two opposing disc brakes, each made up of several steel discs coated with wear-resistant molybdenum, located in the differential housing. Should one front wheel start to slip, the expanding thrust forces exerted on the sliding axle bevel gears generate pressure on the discs and so apply the lock. The locking thrust forces adjust automati-

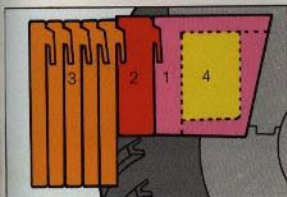


1. Crown wheel; 2. Differential housing; 3. Differential pinion; 4. Differential shaft; 5. Disc brakes; 6. Shaft pinion. The red arrows show how the power is transmitted in the differential.

cally to the varying axle torque and torque rise in each gear. A special advantage of the Lokomatic is that the locking action is initiated smoothly without any jolt.

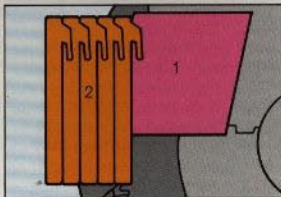
Quick-mounting Weights

These fast mounted weights ensure ideal weight distribution for all duties. Maximum ballasting at front: 520 kg.



Farmer 306-309 LS:

1. Front axle weight (standard); 2. Mounting plate (100 kg); 3. Quick-mounting weights (maximum 10 weights of 32 kg each); 4. Inside weights (maximum 100 kg).



Farmer 303-305 LS:

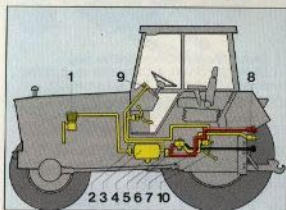
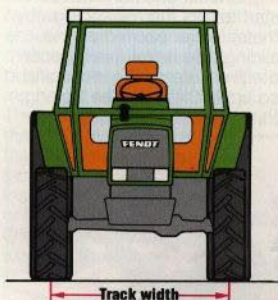
1. Front axle weight (steel structure); 2. Quick-mounting weights (maximum 10 weights of 32 kg each).

Track Widths to Match Practical Service

As the table below shows, the Farmer 300 LS tractors are arranged as standard for the tracks used in the respective power class. On four-wheel-drive tractors a second track

width can be set by simply turning the rims round. On the Farmer tractors with rear-wheel-drive the front axle is built as a multiple adjustable telescopic axle which allows track widths

from 1360 to 2000 mm. For use in special cultures, so-called adjustable rims are available (for track widths see table).



Compressor Plant

1 Compressor (106 cc/rev), 2 Pressure controller with (16 bar) non-return valve and tyre inflating port, 3 Air reservoir (15 l), 4 Automatic condensate drain valve, 5 Pressure limiting valve, 6 Trailer brake valve, 7 Trailer control valve, 8 Coupling heads, 9 Pressure gauge, 10 Hand brake lever.

Four-wheel Braking System for All-round Safety

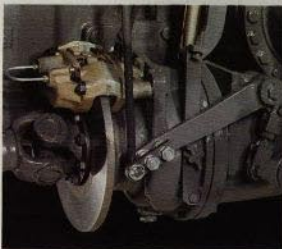
The four-wheel braking system is adjusted to a speed of 40 km/h and gives first-class

Track widths

Type	Rear-wheel-drive			Four-wheel-drive			
	303 LS 304 LS	305 LS	306 LS 308 LS 309 LS	303 LS 304 LS	305 LS	306LS	308 LS 309 LS
Standard	1500	1500		1500	1570		1700
Front	On Request	1360	1360	1573	1500		1680
		1800	1600	1800	1650		1600
			1700			1370*	1500*
			1800			1500	1600
			1900			1600	1700
			2000			1700	1800
					1800		
Standard	1500	1500		1500			1680
Rear	On Request	1360	1680	1360		1680	1500
		1360*	1360*	1360*		1360*	
	1500	1500		1500		1500	
	1600	1600		1600		1600	
	1700	1700		1700		1700	
	1800	1800		1800		1800	
		1900				1900	
Measures in mm		2000				2000	

Telescopic front axle
Adjustable rims

*only with cultivation tyres



safety in busy road traffic. Large hydraulically actuated disc brakes slow down the rear wheels. Adhesive-bonded linings have increased the wear margin from 1.25 mm to 4 mm, more than trebling their life. With these special linings and the new integrated brake cylinders, the brake responds smoothly and gently to light touches on the pedal. On 4-wheel drive tractors in the

40 km/h version, the front axle is acted on by a disc brake mounted on the universal shaft which functions even when the four-wheel drive is disengaged. Farmer tractors with rear wheel drive can also be equipped with a 4-wheel braking system. Hydraulically operated drum brakes are mounted in the front wheels for this purpose.

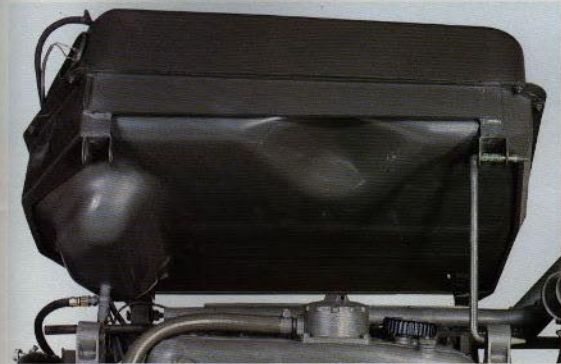
UP-TO-DATE EASY SERVICING

Easy, Low-cost Servicing

Right from the drawing board stage, Fendt designers took care to make the Farmer 300 tractors exceptionally easy to service. Engine oil is changed only every 200 duty hours, the

few greasing points are served by gun every 50 hours. After taking off the radiator screen, the level in the translucent battery casing and condition of the large-size dry air filter with extra safety cartridge element are

quickly checked. Hydraulically operated driving clutch and brakes are self-resetting and maintenance-free. After taking off the fixing bolts, the entire cab can be swung away on its rotatable rear rubber bearings.



The PTO clutch is easily and quickly replaced without separating the tractor sections.

Tilting Fuel Tank

The 107 litre capacity (80 litres on 3 cylinder models) fuel tank is mounted above the engine and can be tilted out of the way. All parts are readily accessible for engine maintenance (e.g. valve resetting). A dimple in the bottom of the fuel tank makes sure that the fuel can be used down to the last drop and prevents feed flow troubles when driving up or downhill and working on sloping ground.

Tilting Cab

Close attention has also been paid to easy servicing when designing the cab mounting. The rubber pivot bearings at the back enable the cab to be tilted back out of the way when the fastening bolts have been released.



Top Quality Workmanship

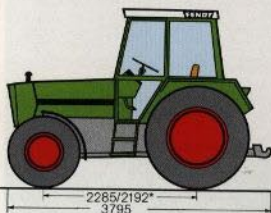
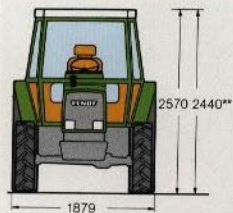
Fendt tractors combine the last word in technology with really first-rate workmanship. The cab, for example, is treated with an expensive electrophoretic primer to protect against rust. It really does pay off to buy a Fendt Farmer LS.

IT PAYS TO WORK WITH A SUPER-FARMER





TECHNICAL DATA



*4-wheel drive

**Low roof and smallest possible tyres

Farmer LS Tractors (Three and Four Cylinders) Comprehensive Standard Equipment

Integrated platform cab on rubber bearings, noise and vibration damped, safety cell for driver. Two doors for easy cab access from right and left. Warm water heating system with two-stage blower. Opening front and rear windows. Radio kit. Comfort driver's seat with additional horizontal suspension. Windshield washer. Interior lighting. Vertically adjustable steering wheel. Hydrostatic steering. Gear lever positioned at driver's side. Radial tyres. Turbomatic. 40 km/h or 30 km/h overdrive, fully synchronesh gearbox. 4-wheel braking system (on 40 km/h models standard, on 30 km/h models on request).

Farmer 305 LS 4WD to 309 LS 4WD only 40 km/h version, lockable at 30 km/h on request. 540/1000 rev./min. or 540/750 rev./min. (fuel-saving) PTO shiftable under load. Differential lock rear. Automatic differential lock (Lokomatic) front (Farmer 306 LS, 308 LS, 309 LS) on four-wheel drive. Removable strainer in front of radiator. Spring-suspended telescopic front axle (rear-wheel drive). Four-wheel drive axle with planetary drive, four-wheel drive connectable under load. Rear operation of hydraulic lift control. One single-acting and one double-acting ancillary valve. Farmer 308 LS and 309 LS with double-acting ancillary valve and third hydraulic circuit with single-acting ancillary valve for preselectable fast or crawler speed.

Engine

KW/DIN-HP	38/52	43/58
No. of cylinders/cooling	three cylinder/ water cooled	
Injection type	perfected direct injection	
Bore / stroke (mm)	105/120	105/120
Cubic capacity (cc)	3116	3116
Rated speed (r.p.m.)	2350	2350
Optimum fuel consumption (g/KWh/g/HP)	208/153	208/153
Max. consumption (g/KWh/g/HP)	228/168	229/169
Max. torque (Nm/revs.)	190/1500	205/1500
Torque increase (%)	23	18
Tank capacity (l)	80	80

Gearbox - PTO

Gearbox design	Overdr. fully synchronesh, close-ratio gearbox
Gears forward/reverse (40 km/h version)	15/4
Gears forward/reverse (30 km/h version)	14/4
PTO connectable under load (rev./min.)	540/1000 or 540/750, o.r. 540/750/1000*-1

Hydraulic System

Gear pump/pressure (bar)/capacity (l)	175/40	175/40
Separate gear pump for steering/pressure (bar)/capacity	175/35	175/35
Hydraulic connections, central and rear (max)*	4 single-acting or 3 double-acting valves	
Hydraulic lifting capacity (kN/kg)	20.2/2060	20.2/2060
Control hydr. oil reserve (l)	drawbar resistance/post/comb. control syst.-1 23	

Brakes

Rear brakes	Hydraulic drum brake
Front brakes, 4-wheel drive*	Disc brake on universal shaft
Front brakes, rear-wheel drive* (standard on 40 km/h version)	Hydraulic drum brake

Electrical Equipment

Battery (Ah)	88	88
Generator	144 W/14 V/33 A	

Cab

Type

Window area m ²	Integrated, rubber bearings, noise-insulated
Floor platform	Safety cell for driver
Heating	4 m ²
Air conditioning	0.70 m ²
	Warm water heating with two-stage blower
	Opening front and rear windows
	Air-conditioning system with fan in roof*

Dimensions and Weights

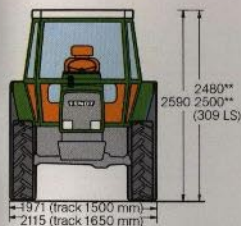
Dry weight, rear-wheel drive 30 km/h / 40 km/h (kg)	3205/3245	3205/3245
Dry weight, 4-wheel drive (kg)	3375	3375
Maximum permissible all-up weight (kg)	4700	4700
Maximum load on rear towing hitch (kg)	1400	1400
Overall length (mm) / 4-wheel drive	3795	3795
Wheelbase, rear wheel / 4-wheel drive (mm)	2285/2192	2285/2192
Overall width 30 km/h / 40 km/h (mm)	1878/1969	1878/1969
Turning circle radius, rear wheel / 4-wheel drive without steering brake (m)	4.1/4.8	4.1/4.8
Maximum ground clearance (mm), rear wheel / 4-wheel drive	445/340	445/340
Overall height with 16.9-30/13.6-38 (m)	2.55/2.57	2.55/2.57
Height with low roof, with 14.9-30 (m)	2.44	2.44

Tyres

Tyres four-wheel drive front standard (30 km/h)	12.5-20MPT	12.5-20MPT
rear	13.6R 36	13.6R 36
Tyres four-wheel drive front standard (40 km/h)	12.5-20MPT	12.5-20MPT
rear	16.9R 30	16.9R 30
Tyres four-wheel drive front on request*	10.5-20 MPT	10.5-20 MPT
rear	14.9-30	14.9-30
front	9.5-24	9.5-24
rear	13.6-36	13.6-36
front	9.5-24	9.5-24
rear	12.4-36	12.4-36
Tyres front, rear-wheel drive, standard on request*	7.50-18	7.50-18
	10.00-16 ASF	10.00-16 ASF
	7.50-16 ASF	7.50-16 ASF

Cultivation tyres

*) On request (surcharge)



*4-wheel drive
**Low roof and smallest possible tyres

Special Equipment for Farmer LS Tractors (Three and Four Cylinders)

40 km/h overdrive fully synchronesh gearbox and 4-wheel braking system (standard on 308 LS 4WD and 309 LS 4WD). Super comfort seat. Additional cab ventilation with three-stage blower in cab roof. Plough light. Mudguard extensions. Sun roof. Ballast weights, front and rear. Quick-coupler. Super crawler gear. Ground speed PTO. Front hydraulics. Front PTO. On-load connectable 3-stage PTO for 540, 750 and 1000 rev./min. Single-acting and double-acting hydraulic valves. 3-circuit hydraulic system with fast and crawler speeds (Farmer 303 LS, 304 LS, 305 LS and 306 LS). Automatic hitch. Swinging drawbar. Air compressor. Twin tyres. Front loader size 3 and size 3 S with electrical release. Front loader with hydraulic implement actuation and parall. gui mech. Hydraulic standard and double-bladed mowers. Exhaust to top. Clock.

The details of specification, appearance, performance, dimensions, weights, fuel consumption and operating costs of the vehicles were correct at the time of printing. They may not be up to date at the time of vehicle purchase. Your Fendt agent will be glad to inform you of any changes that have taken place.

Xaver Fendt & Co. D-8952 Marktoberdorf

	Farmer 305 LS	Farmer 306 LS	Farmer 308 LS	Farmer 309 LS
Engine				Turbocharger 63/86
kW/DIN/HP	46/62	52/70	57/78	
No. of cylinders/cooling	four cylinder / water cooled			
Injection type	perfected direct injection			
Bore / stroke (mm)	105/120	105/120	105/120	105/120
Cubic capacity (cc)	4154	4154	4154	4154
Rated speed (r.p.m.)	2175	2200	2350	2350
Optimum fuel consumption (g/kWh/g/HP)	209/154	209/154**	209/154**	210/154**
Max. consumption (g/kWh/g/HP)	222/163	224/165**	228/168**	220/162**
Max. torque (Nm/revs.)	253/1500	268/1500	272/1500	311/1600
Torque increase (%)	25	19	16	21
Tank capacity (l)	107	107	107	107
Gearbox - PTO	Overdr., fully-synchronesh, close-ratio gearbox			
Gears forward/reverse (40 km/h version)	15/4	15/4	15/4	15/4
Gears forward/reverse (30 km/h version)	14/4	14/4	14/4	14/4
PTO connectable under load (rev./min.)	540/1000 or 540/750, o.c. 540/750/1000*			
Hydraulic System				
Gear pump/pressure (bar)/capacity (l)	175/37	175/38	175/40	175/40
Separate gear pump for steering/pressure (bar)/capacity	175/32	175/33	175/35	175/35
Hydraulic connections, central and rear (max. (on request)*	4 single-acting or 3 double-acting valves			
Hydraulic lifting capacity (kN/kgf)	27.2/2770	27.2/2770	36.3/3700	36.3/3700
Control	drawbar resistance/posit./comb. control systems			
hydr. oil reserve (l)	25			
Brakes				
Rear brakes	Hydraulic drum brake			
Front brakes, 4-wheel drive*	Disc brake on universal shaft			
Front brakes, rear-wheel drive* (standard on 40 km/h version)	Hydraulic disc brake			
Electrical Equipment				
Battery (Ah)	110	110	110	110
Generator	144 W/14 V/33 A (55A)*			
Cab				
Type	Integrated, rubber bearings, noise-insulated			
Window area m ²	Safety cell for driver			
Floor platform	4 m ²			
Heating	0.70 m ²			
Air conditioning	Warm water heating with two-stage blower			
	Opening front and rear windows			
	Air-conditioning system with fan in roof*			
Dimensions and Weights				
Dry weight, rear-wheel drive 30 km/h / 40 km/h (kg)	3330/3370	3495/3535	3625/3665	3675/3715
Dry weight, 4-wheel drive (kg)	3500	3705	3970	4010
Maximum permissible all-up weight (kg)	5000	5000	6000	6500
Maximum load on rear towing hitch (kg)	1295	1295	1350	1350
Overall length (mm) / 4-wheel drive	3910/3920	3910/3920	3940/4000	3940/4000
Wheelbase, rear wheel / 4-wheel drive (mm)	2320/1971	2320/1971	2320/2115	2320/2115
Overall width 30 km/h / 40 km/h (mm)	1971	1971	1971	1971
Turning circle radius, rear wheel / 4-wheel drive without steering brake (m)	4.4/5.1	4.4/5.1	4.4/4.9	4.4/4.9
Maximum ground clearance (mm), rear wheel / 4-wheel drive	472/430	472/430	475/410	475/410
Overall height with 16.9-34 (m)	2.59	2.59	2.59	2.59
Height with low roof, with 16.9-30 (m)	2.48	2.48	2.48	2.48
Tyres				
Tyres four-wheel drive front standard rear	12.4R 24 16.9R 34	12.4R 24 16.9R 34	13.8R 24 16.9R 34	13.8R 24 16.9R 34
Tyres four-wheel drive front rear on request*	13.6R-24 16.9R-34	13.6R-24 16.9R-34	12.4-28 14.9-38	12.4-28 14.9-38
front rear	14.5-20MPT 16.9R-30	14.5-20MPT 16.9R-30	14.9R-24 14.9-38	12.9R-24 14.9-38
front rear	12.4R-24 13.6R-38	12.4R-24 13.6R-38	13.6R-24 16.9R-34	14.9R-24 18.4R-34
front rear	11.2-24 18.4R-30	11.2-24 18.4R-30	13.6R-24 18.4R-34	13.6R-24 18.4R-34
Tyres front, rear-wheel drive on request*	7.50-20 10.00-16	7.50-20 10.00-16	7.50-20 10.00-16	7.50-20 10.00-16
10.00-16				11.00-16
Cultivation tyres	9.5-44 with 9.5-28			
	9.5-48 with 9.5-32			

*) On request (surcharge) **) Data from neutral OECD test reports

FENDT LEADS THE WAY

