

DOZENS OF ADVANTAGES — HUNDREDS OF REFINEMENTS
AND QUALITY FEATURES ARE INCORPORATED IN THE
ZETOR 25 AND *ZETOR 25 K* TRACTORS

● With their electrical equipment they are ready to work at any time, by day or at night, in any weather, under any soil conditions.

● Their high travelling speed and pulling capacity make them excellent for various hauling jobs.

● Remarkable drawbar capacity.

● Extreme versatility.

● Easy maintenance and service.

● Sound design, quality material, durability.

● Low maintenance costs.

● Short turning radius- excellent manoeuvrability.

● Axles securing good stability on hillsides.

● Electric starting system. Easy starting in cold weather.

● Efficient oil, fuel and air filters.

● Adjustable tread of front and rear wheels.

● High clearance under the axles of the *ZETOR 25 K* row-crop tractor enables good inter-row work in grown up crops.

● Hydraulic power lift and mounted implements save money and time. They allow road transport at high speeds.

● Differential lock eliminates slippage in fluffy or water soaked difficult soils.

● Spring controlled overload release attachment disengages the tractor clutch when an obstruction is met by the implement.

● Spring cushioned driver's seat signifies less fatigue and better control.

● Rear pneumatic tyres of agricultural type with high open- centre traction bars preventing clogging and slippage.

● Our line of mounted implements designed and built specially for the *ZETORS* opens up for them new fields of economical use.

MOTOKOV

PRAHA - CZECHOSLOVAKIA

THE ZETOR 25 K

is a highly efficient, reliable tractor outstanding for its low fuel consumption. Six forward and two reverse gears with their wide range of suitable speeds, high arch type front axle, large diameter rear wheels with narrow tyres and hydraulic power lift predestine it for inter-row work with mounted implements.

Its excellent manoeuvrability and stability make cultivation on hillsides an easy task. It is equipped with a wide spring cushioned and upholstered seat contributing to riding comfort and positive control. All control levers are conveniently located and are easily accessible from the seat. The differential lock eliminating the spinning of rear wheels is put into action by a hand lever which may be operated either by the hand or by knee.

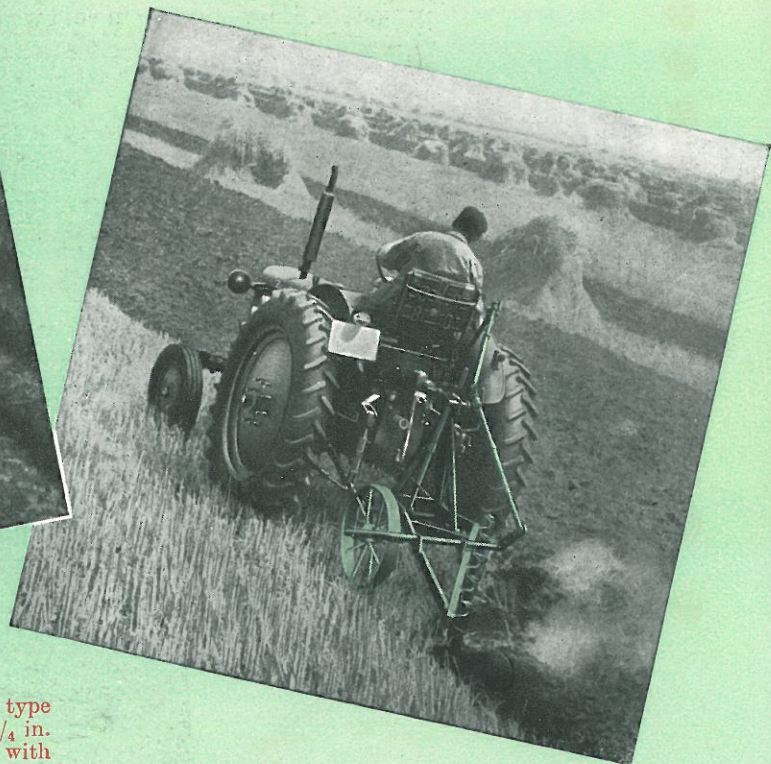
A simple remote-control mechanism for mounted implements facilitates very substantially operation as the driver can adjust the cutting depth without having to get down from the seat and without having to stop the tractor.

On headlands the implement is lifted from the furrow into the transport position and lowered into the working one by a slight movement of a single finger-top lever controlling the hydraulic lift.

Mounted implements built for the ZETOR tractors are efficient and manoeuvrable even under the most awkward conditions, where conventional trailed types fail to do good work. They are a decisive step towards better farming with better machinery.

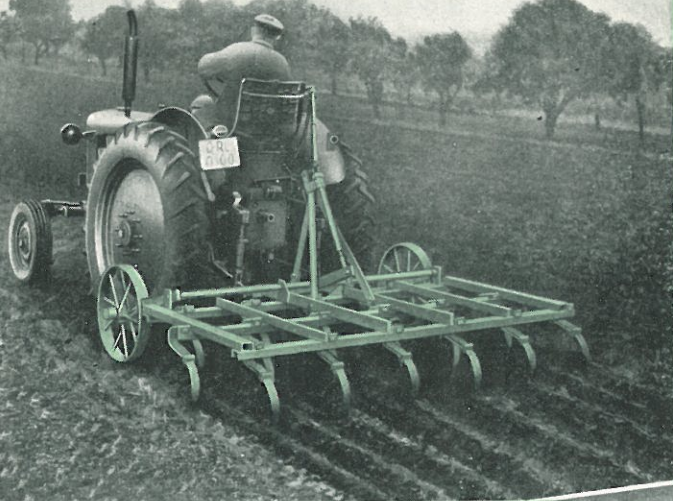
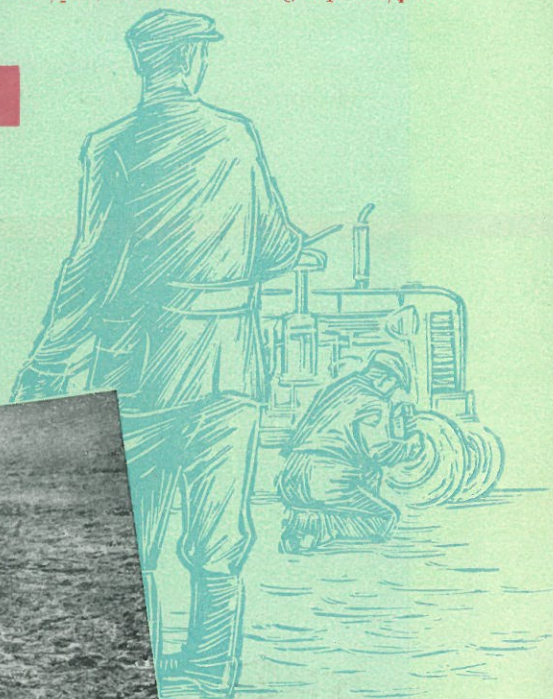


THE PN 252 TWO-BOTTOM MOUNTED PLOUGH is a sturdy type designed for deep ploughing up to 11 in. Its cutting width is $23\frac{3}{4}$ in. The depth is controlled from the driver's seat. It is equipped with 2 skim coulters and a disc coulters. The bottoms are of general purpose type.



THE PN 532 FIVE-BOTTOM MOUNTED PLOUGH is used for ploughing-in stubble and for shallow ploughing generally, in regions, where deep tillage is not required. It is provided with the same remote control mechanism as the twofurrow type, enabling the driver to adjust the cutting depth from his seat. The shape of the bottoms results in good turning. Maximum working depth is 4 in., the total cutting width $49\frac{3}{16}$ in. A disc coulters is installed in front of the rear body.

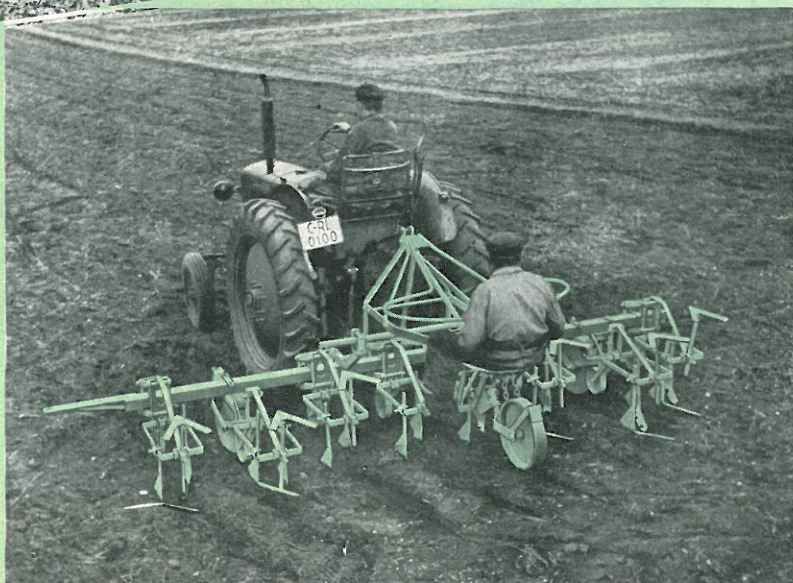
THE KN 171 MOUNTED SPRING-TINE FIELD CULTIVATOR is used for soil tillage, breaking up soil crust, pulverizing and aerating seed beds, for the eradication of noxious weeds and — if conditions permit — for breaking up stubble land. Its working width is $94\frac{1}{2}$ in. maximum cutting depth $4\frac{3}{4}$ in.

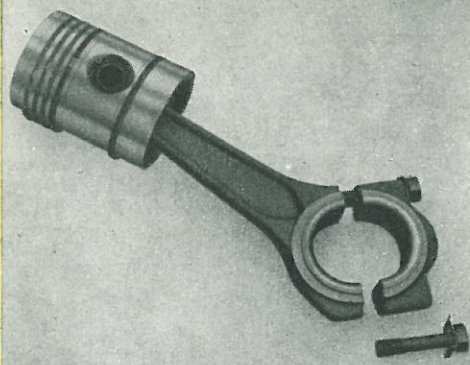


THE KPN 7 INTER-ROW CULTIVATOR is very versatile and adjustable for various spacing. According to the conditions and inter-row spacings it may handle even, six or five rows. The cultivator is of a steered type.

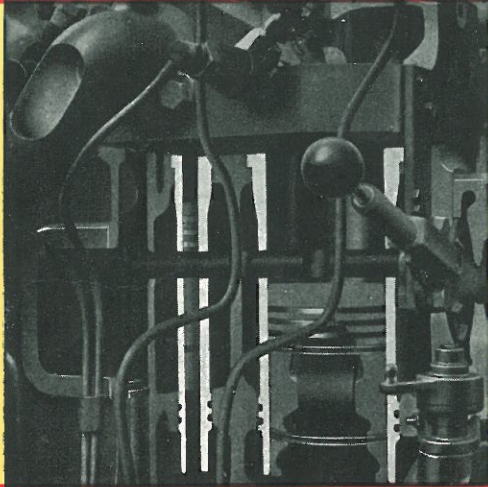


THE HN 41 MOUNTED HILLER has five complete ridging bodies and handles four rows at a time. The bodies are adjustable for varying inter-row spacings within $23\frac{3}{4}$ — $27\frac{1}{2}$ in. limits. The cutting depth is controlled by adjusting the supporting wheels and by changing the working pitch of the bodies.

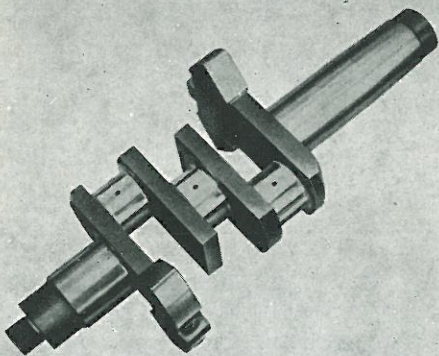




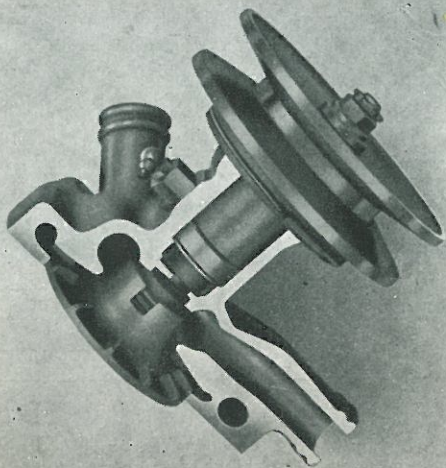
Light alloy pistons with three compression and two oil control rings. Connecting rods with oblique splitting on journal ends are provided with steel backed bearings and lead bronze linings.



Wet cylinder liners are positively cooled and are easily replaceable.



Heavy-duty drop forged crankshaft of best grade special steel with nitrided working surfaces is thoroughly balanced both statically and dynamically. Drilled oil passages deliver lubricant to three wide steel backed bearings with lead bronze linings. Three bearings secure uniform distribution of loads and smooth running.



The cooling system capacity is $3\frac{1}{2}$ gallons. The cooling water is positively circulated by an impeller type pump driven by the fan. A thermostat in the cylinder jacket outlet throat controls the operating temperature and shortens the warming up period.



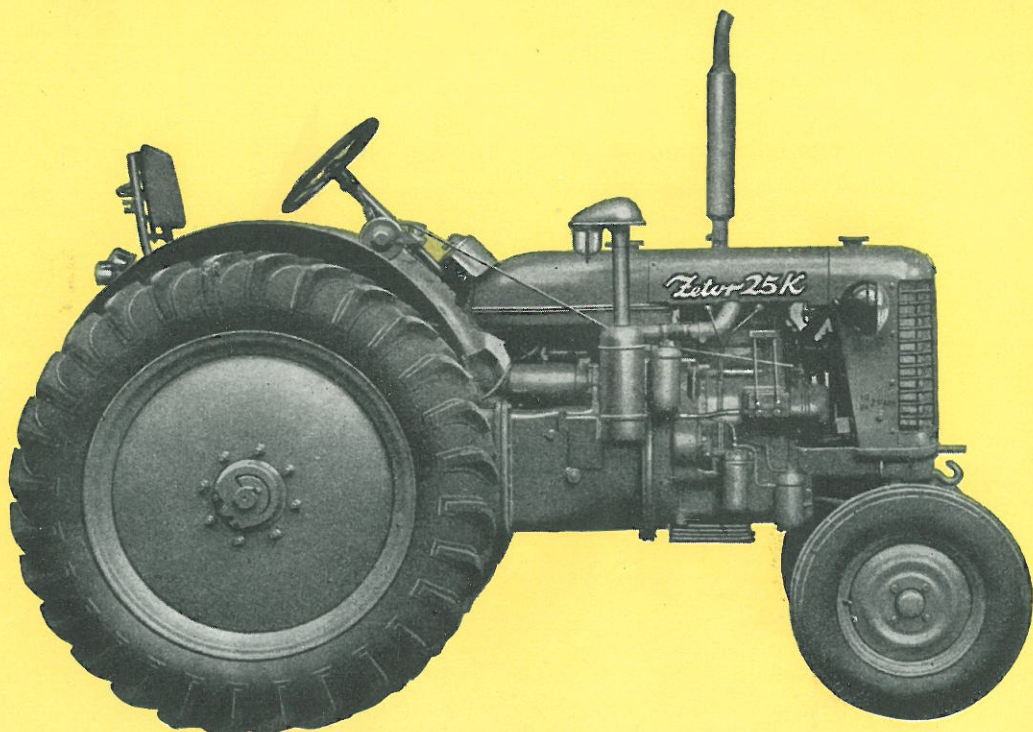
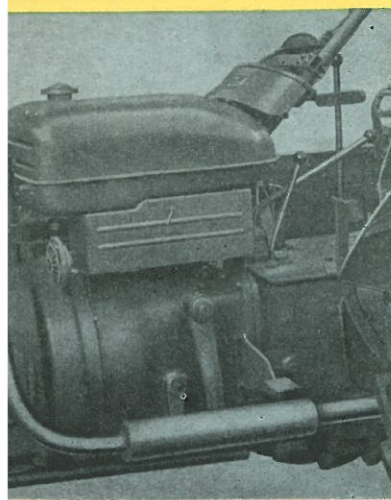
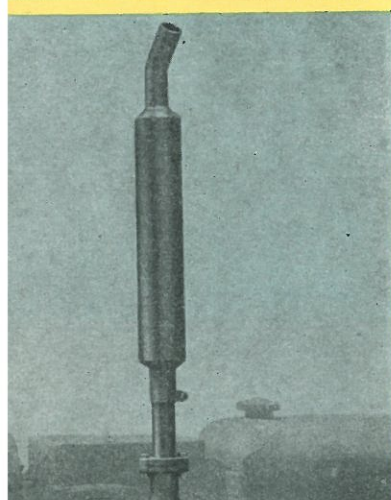
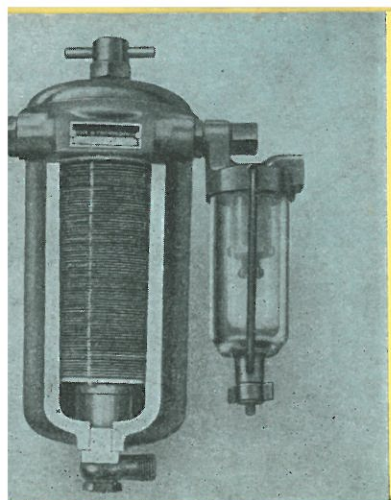
MOTOR

Zetor 25

The power unit is a 2-cylinder, four-stroke, vertical high pressure Diesel with precombustion chambers for indirect fuel injection. Cylinder bore is $4\frac{1}{8}$ in., piston stroke $4\frac{3}{4}$ in., cylinder capacity $\frac{1}{2}$ gallon. Detachable cylinder head.

The engine is of a valve-in-head design developing more horse-power per cubic centimetre of displacement and affording quick accessibility for inspection and adjustment of valves.

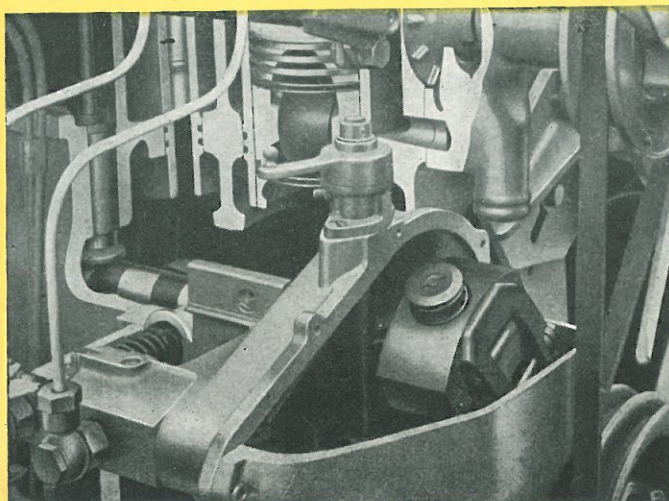
The camshaft is driven by a spur gear from the crankshaft and transmits drive to the fuel injection pump and variable speed governor.

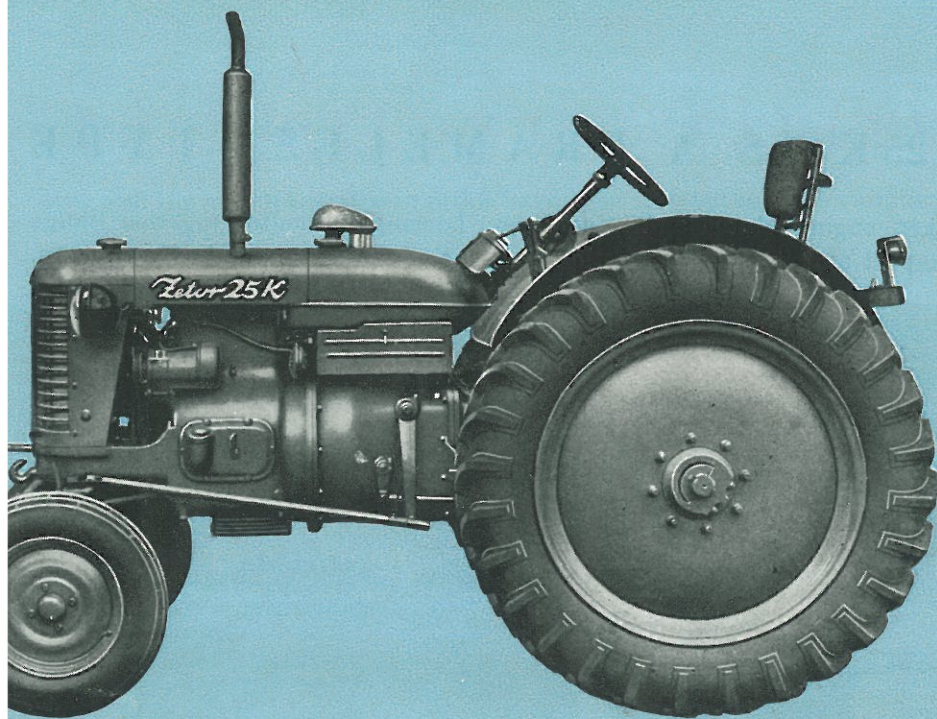


Fuel from the tank is fed by gravity into a water trap, separating water and collecting coarse particles and from here through a fine-mesh screen into the main screen type filter (1). The fuel injection pump (2) delivers fuel under high pressure to the injection valves and into the combustion chambers in the cylinder head.

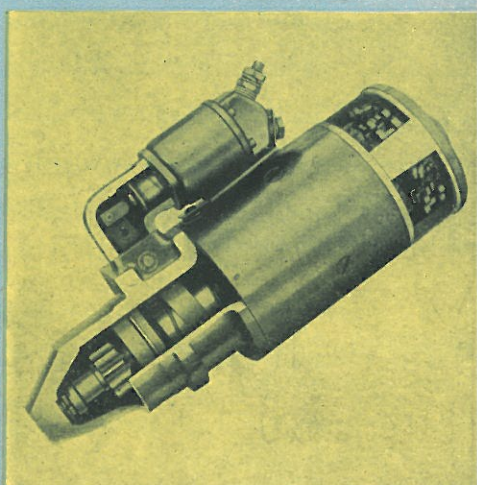
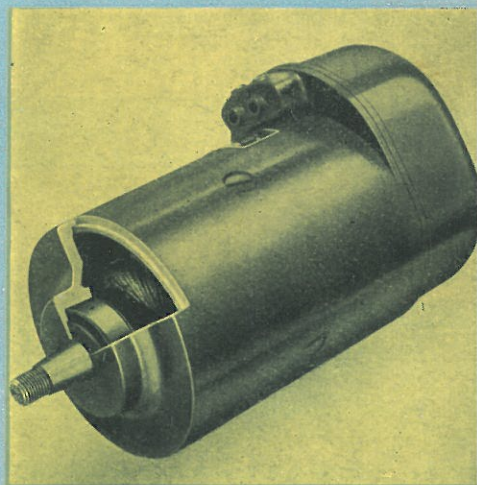
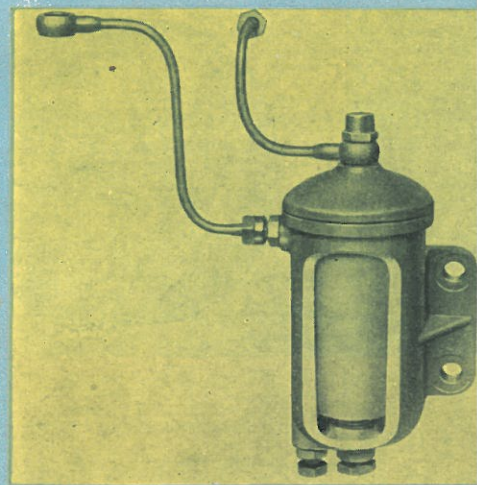
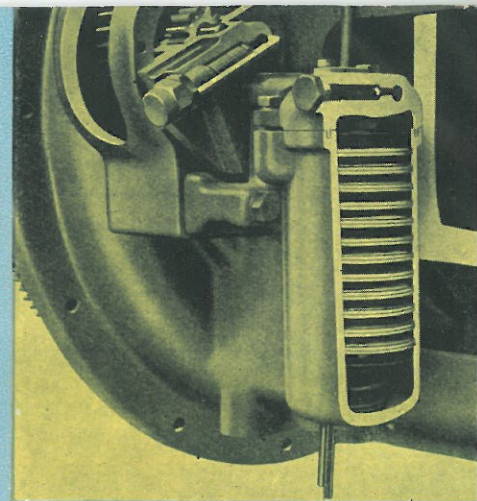
The air intake pipe is provided with a gravity precleaner. The oil bath type main cleaner permits easy servicing, washing and replacement of screens (3).

Exhaust muffler is standard on all Zetors. Row-crop Zetors are equipped with straight vertical exhaust pipe (4) whereas on standard tractors horizontal pipe (5) is regular and the vertical one optional.





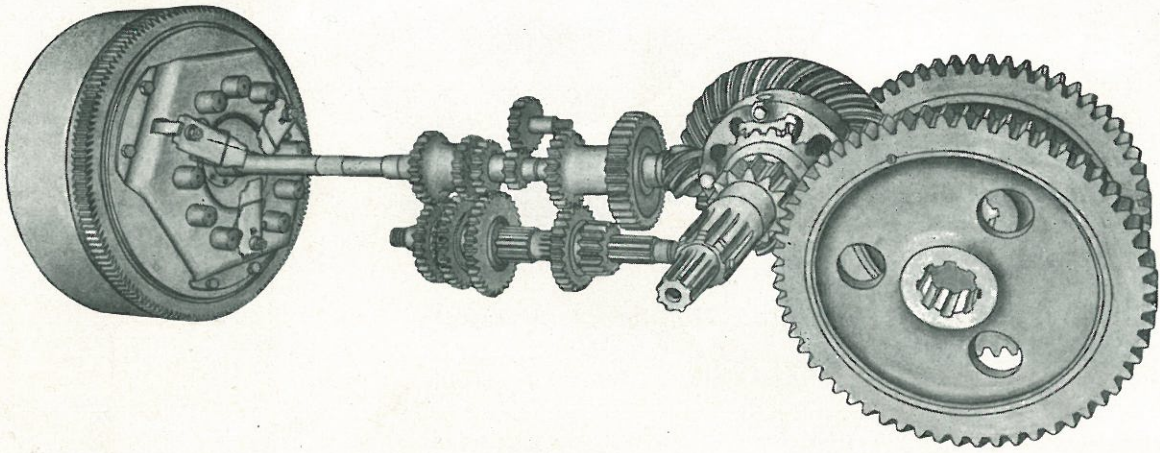
The engine of the ZETOR tractor with its full force-feed pressure lubricating system, has one of the finest oiling systems it is possible to produce. A gear type oil pump (6) delivers oil from the engine oil pan through a two-stage filtering unit consisting of a screen type filter combined with the second stage incorporating pressed felt cartridges (7) to 3 main crankshaft bearings, and connecting rod bearings. The oil channels are drilled in the crankshaft and engine case walls. From the crankshaft oil is supplied as well under high pressure to the camshaft and valve rocker arms with the rest of valve mechanism.



All ZETORS are equipped with a complete lighting and starting electrical system including the 150 Ah 12 V storage battery located under the folding seat and easily accessible for servicing, the 150 W, 12 V air cooled (8) generator of an enclosed design with the voltage regulator of a built-in type, the 4 HP, 12 V electric starting motor (9) with a solenoid switch, glowing plugs, headlights, tail light, switch board with pilot lamps, horn, stop lamp and receptacle. On special order the rear lamp for night work is supplied.

THE ZETOR 25K IS A FRAMELESS TYPE

The front axle supporting bracket, engine, clutch and transmission housing are bolted together flange to flange and provide thus a compact and sturdy construction resistant against strain and deformations.



Clutch. Dry single disc operated by a foot pedal.

Steering. Of worm and worm gear type absorbing road shocks and permitting turning within a very short radius.

Gear box. Gear box with 6 forward and 2 reverse speeds. The gear box is of an automotive type with shafts running antifriction bearings, precision made hardened gears, constant mesh gears, countershaft and sliding gears. All the forward and reverse gears are controlled by a single gear shift hand lever. A bevel pinion with spiral teeth meshes with the differential crown wheel. From the differential the power is transmitted to the rear wheels by master spur gear pinions and large bull gears. The construction is very sturdy and the maximum load is taken by the spur gears. Brake drums are attached to the outer extending ends of the master pinion shafts. The brakes are of a combination type with external expanding service brakes and external emergency hand brakes. The rear wheel hubs are sliding on axles thus enabling convenient adjustment for various wheel treads.

THE FOLLOWING TABLES INDICATE,

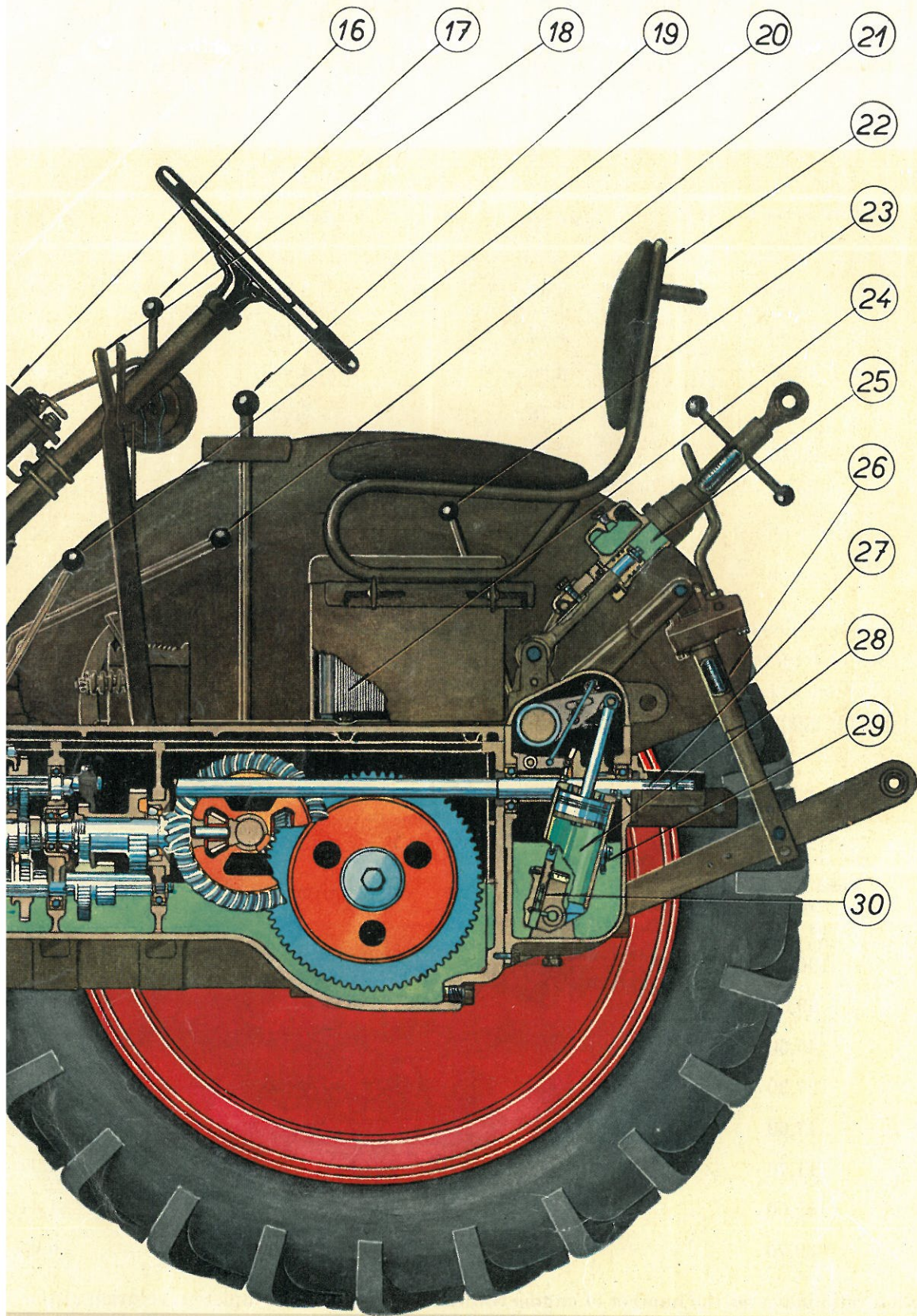
how well the gear transmission ratios have been selected to meet various jobs, conditions and requirements

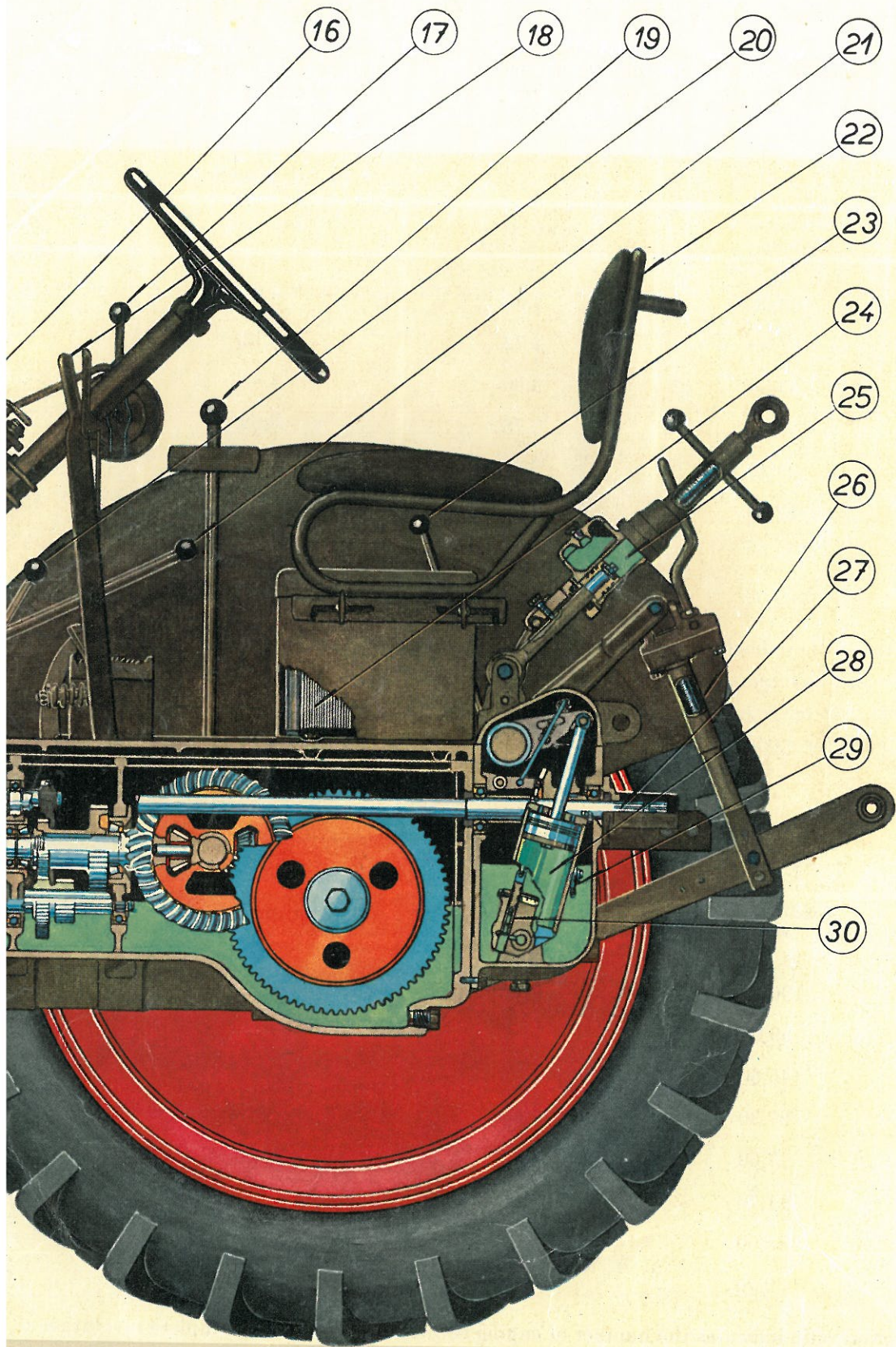
ZETOR 25 K		S p e e d miles/hr at		
Gear	Total reduction ratio	1,400 RPM	1,600 RPM	1,800 RPM
	106,00	2,06	2,38	2,59
1st	81,50	2,72	3,12	3,50
2nd	63,50	3,50	4,00	4,50
3rd	38,40	5,78	6,62	7,44
4th	29,40	7,56	8,62	9,69
5th	22,80	9,85	11,25	13,25
reverse	155,00	1,44	1,65	1,81
direct reverse	56,00	3,72	4,25	4,78

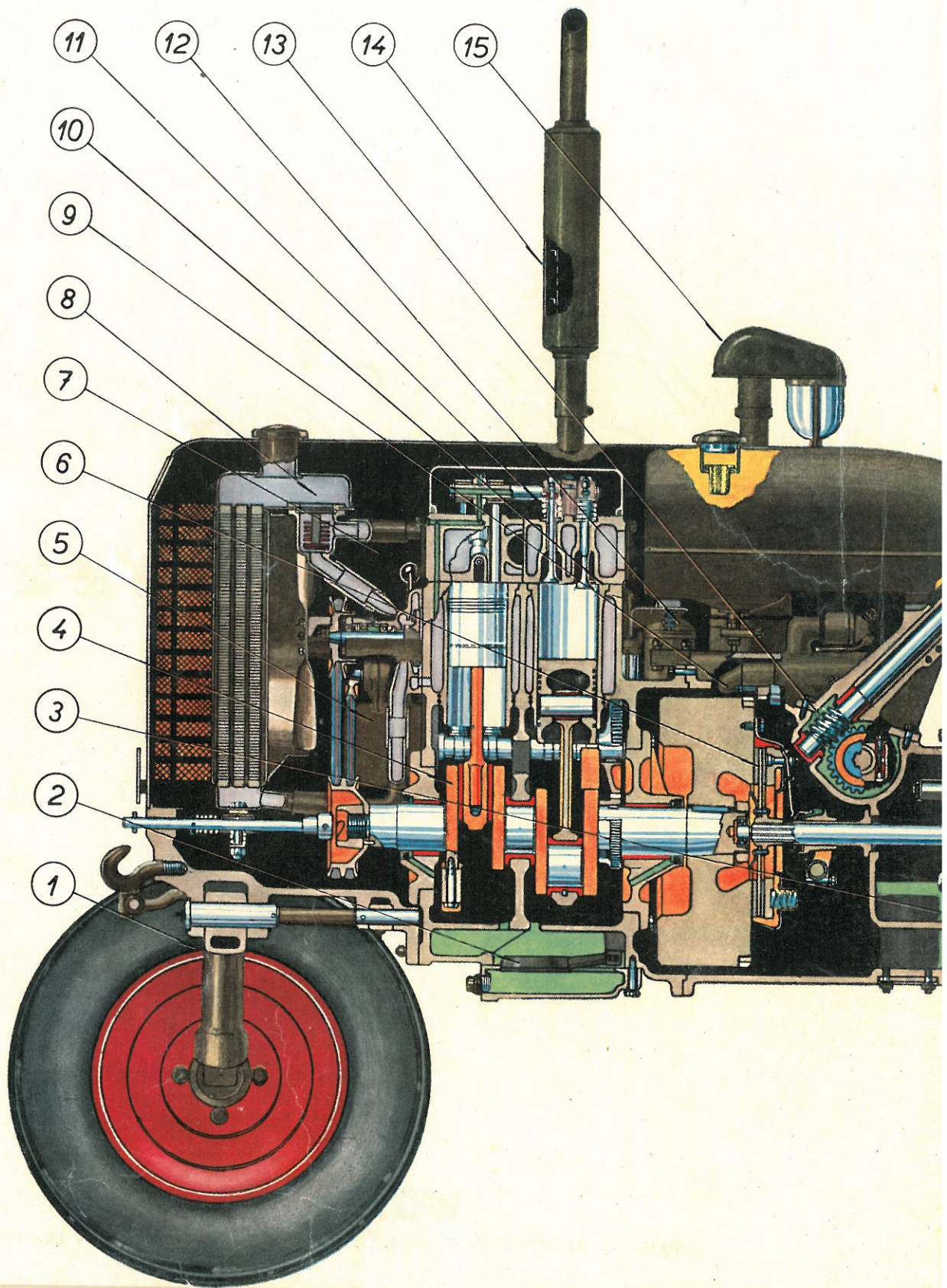
The total reduction ratio indicates the number of engine revolutions giving 1 full revolution of the rear wheels. — The speed governors of the ZETOR 25 K tractors are regularly adjusted for the rated engine speed 1,600 RPM, but on request may be adjusted for higher speed viz. 1,800 RPM. — The travelling speeds are calculated for 9,00—36 pneumatic tyres.

ZETOR 25		S p e e d miles/hr at		
Gear	Total reduction ratio	1,400 RPM	1,600 RPM	1,800 RPM
	106,50	1,66	1,90	2,12
1st	69,00	2,53	2,90	3,25
2nd	45,60	3,78	4,34	4,88
3rd	27,30	6,37	7,19	8,12
4th	17,60	9,69	11,12	12,50
5th	11,70	15,50	17,75	20,00
reverse	155,00	1,12	1,28	1,44
direct reverse	39,70	4,38	5,00	5,63

The total reduction ratio indicates the number of engine revolutions giving one complete revolution of the rear wheels. — The speed governors of the ZETOR 25 tractors are adjusted for the rated engine speed of 1,800 RPM. — The travelling speeds are calculated for 11,25—24 pneumatic tyres.

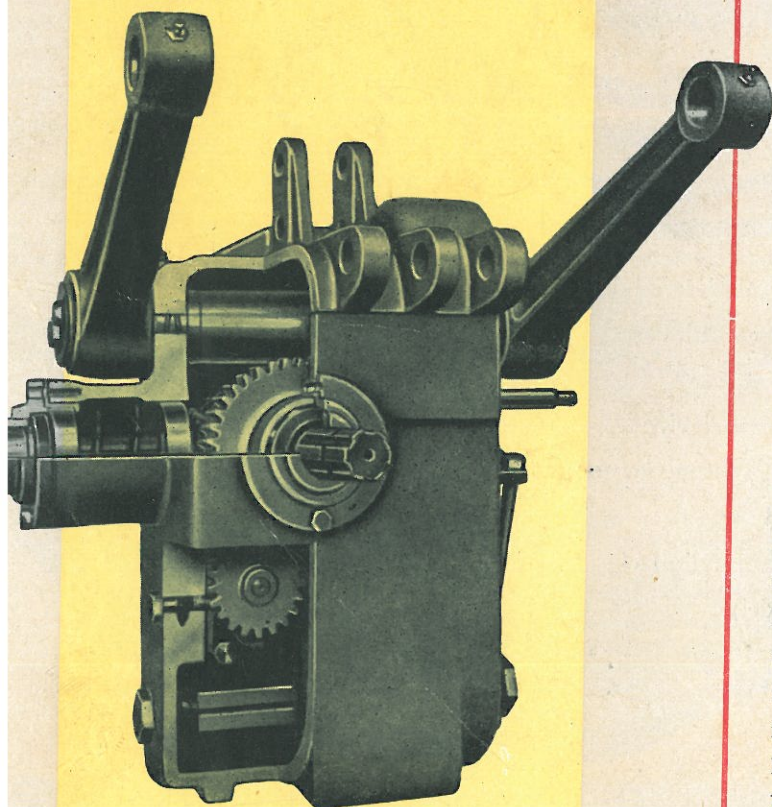
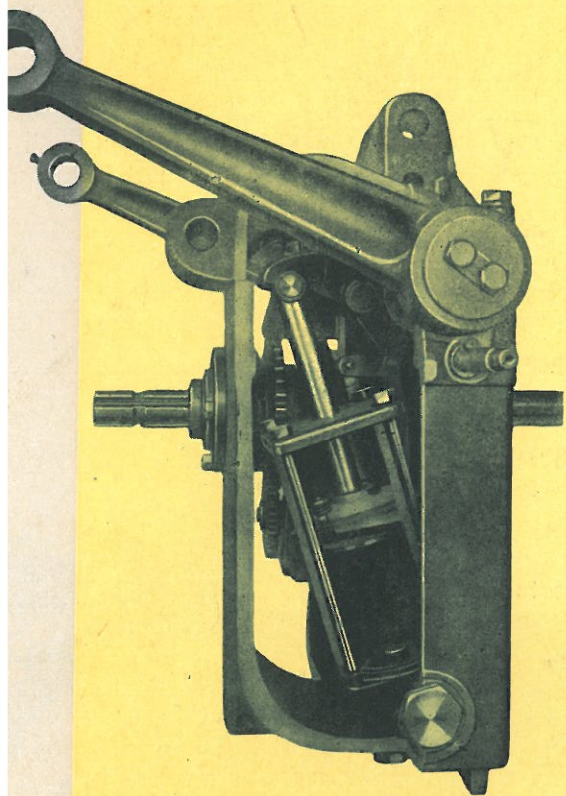






Coloured Cross-Section of the ZETOR K 25 Tractor

1. Front axle
2. Oil pump intake strainer
3. Gear box with 6 forward and 2 reverse speeds
4. Crankshaft running on three bearings
5. Fuel injection pump and variable speed governor
6. Dry, single disc clutch
7. Compression release lever
8. Radiator with impeller pump and thermostatic control
9. Electric starting motor
10. Replaceable wet cylinder liners
11. Valve mechanism
12. Fuel filter
13. Worm and worm gear type steering
14. Exhaust and muffler
15. Air cleaner
16. Dashboard
17. Gas lever
18. Hand brake lever
19. Differential lock lever
20. P. T. O. engaging lever
21. Gear shifting lever
22. Spring cushioned and upholstered driver's seat
23. Hydraulic power lift control lever
24. 12 V, 150 Ah Storage battery
25. Hydraulic overload release device
26. Three-point suspension system for mounted implements
27. Power take-off shaft
28. Hydraulic power lift ram cylinder
29. Power lift gear pump drive
30. Hydraulic lift slide valve



The ZETOR 25 K row-crop tractor is the result of long experience on the part of our specialists and is basically the improved and modified ZETOR 25, so renowned all over the world.

The ZETOR 25 standard agricultural tractor, known as a ploughing type is a general-purpose type for drawbar work especially with pull-behind equipment, belt work and for various hauling jobs.

The ZETOR 25 K row crop tractor differs from the standard one in having an arch type high clearance front axle, large-diameter rear wheels, narrow rear tyres and modified transmission ratios of lower gears. This type incorporates all the valuable features of the standard ZETOR and is designed in the first line for efficient inter-row work.

The regular equipment of the ZETOR 25 standard tractor includes the following attachments: belt pulley, power- take-off unit and vertically adjustable drawbar. On special order standard, ploughing ZETORS may be equipped with hydraulic power lift which is regular on all ZETORS 25 K.

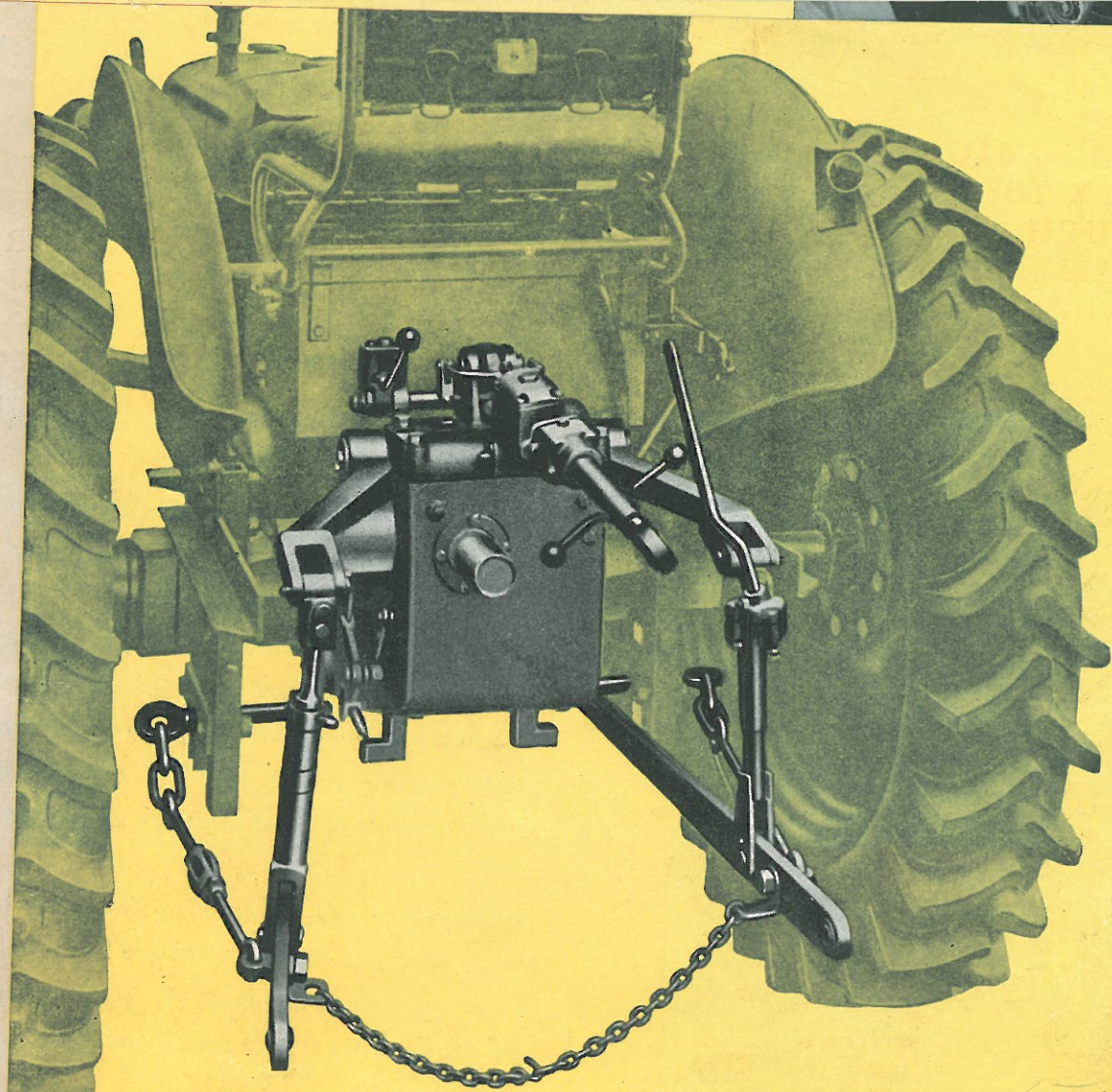
By operating a small hand lever located on the gear box cover the driver engages the power- take-off drive shaft (a) from which the power is transmitted through gears (b) to the belt pulley drive (c) and — on tractors with hydraulic power lift — to lift unit oil pump (d). To lift mounted implements from furrow and to lower them again into the working position, the driver operates a finger-top lever on the right side under his seat. During transport and turning on headlands, mounted implements are held in the lifted position by two lifting arms (e), the vertical movements of which are controlled by the oil pressure in the ram cylinder (f).

By touching the power lift finger- top control lever the pressure is released, the implement is lowered and enters the furrow.

Implements are directly mounted to the tractor by the threepoint suspension system. The front cross axle of the implement is connected by means of self adjusting bearings with the lifting rods and provide thus two lower suspension points. The rods are connected with the lifting arms by adjustable links used for levelling the implement. The top link with adjustable length is the third point of the suspension.

Hydraulic power lift cross section.

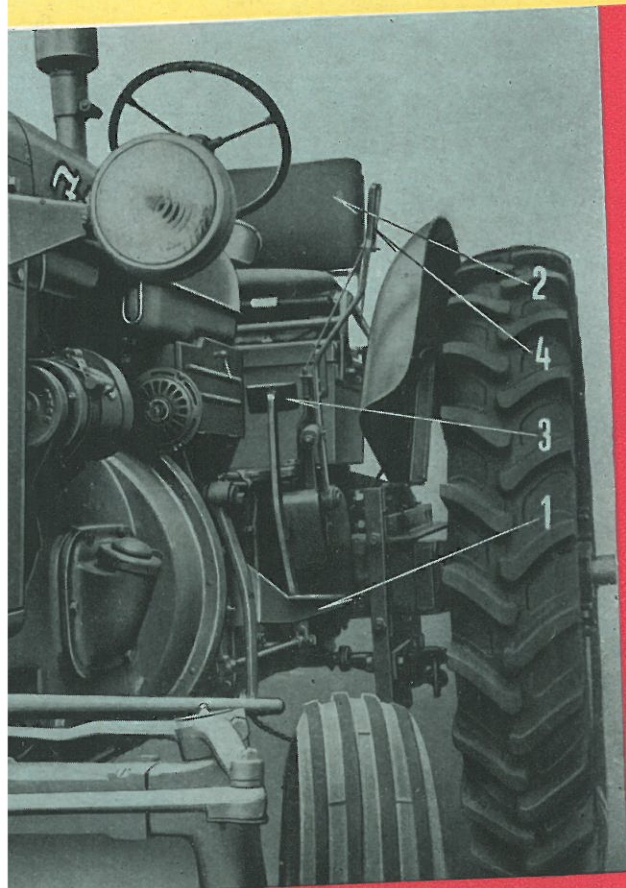
Hydraulic power lift, side view.



On special order the top link of the three-point suspension system may be provided with a hydraulic overload release device which disengages the clutch and thus stops the tractor, should the implement meet an obstacle. The implements are positively protected against breakage. After striking an obstruction it takes only a few seconds to reverse a little, lift the implement clear of the dangerous spot and again enter the furrow.

The driver can adjust the cutting depth and working width of the implement by operating the crankscrews without having to get down from his seat.

WHEN DESIGNING THE ZETOR TRACTOR NOT ONLY WAS CARE TAKEN TO OBTAIN THE MAXIMUM OF ECONOMY BY UTILISING AS MUCH AS WAS POSSIBLE ITS ENGINE POWER, BUT AT THE SAME TIME CARE WAS TAKEN TO AFFORD THE DRIVER REASONABLE RIDING COMFORT AND FACILITATE SERVICING.



To facilitate mounting, all ZETORS are equipped with foot rests on the left side of the clutch housing (1).

From his comfortable, spring cushioned and upholstered seat (2) the driver steers the tractor, controls the clutch by a foot pedal (3), emergency brake (4) and operates the gas lever (6). All controls and instruments on the dashboard are visible and accessible.

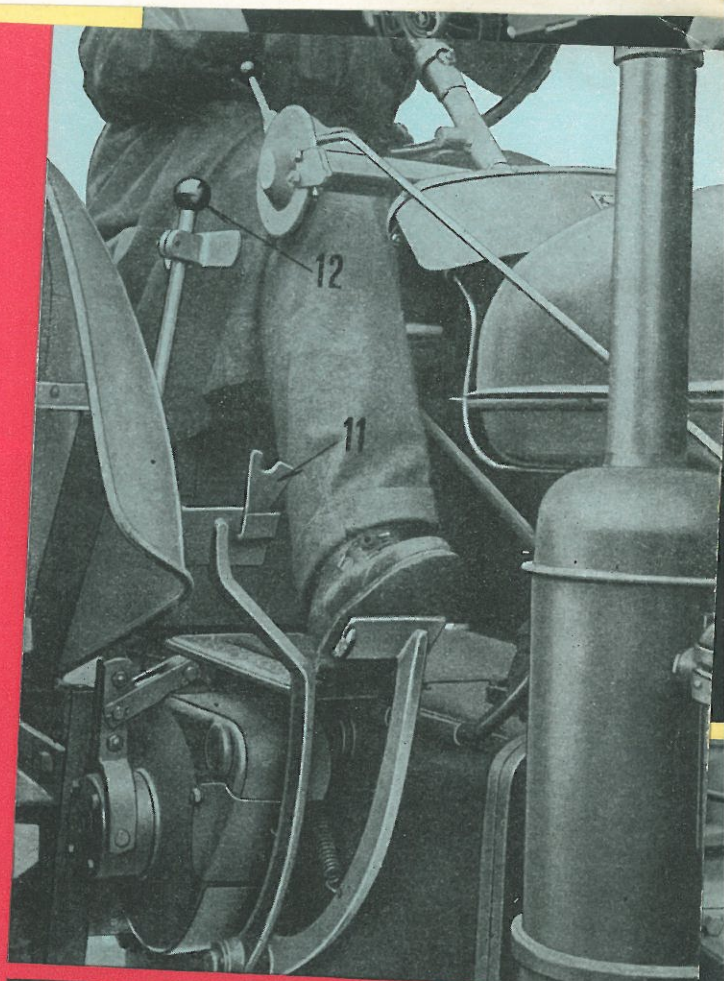
Having depressed the clutch pedal the driver can throw in any of the 6 forward and 2 reverse speeds by a single gear shift lever (7). Three lower gears are practical for field work, higher gears are used on hauling jobs.



The power-take-off shaft and pulley drive are controlled by a small engaging lever (8b).

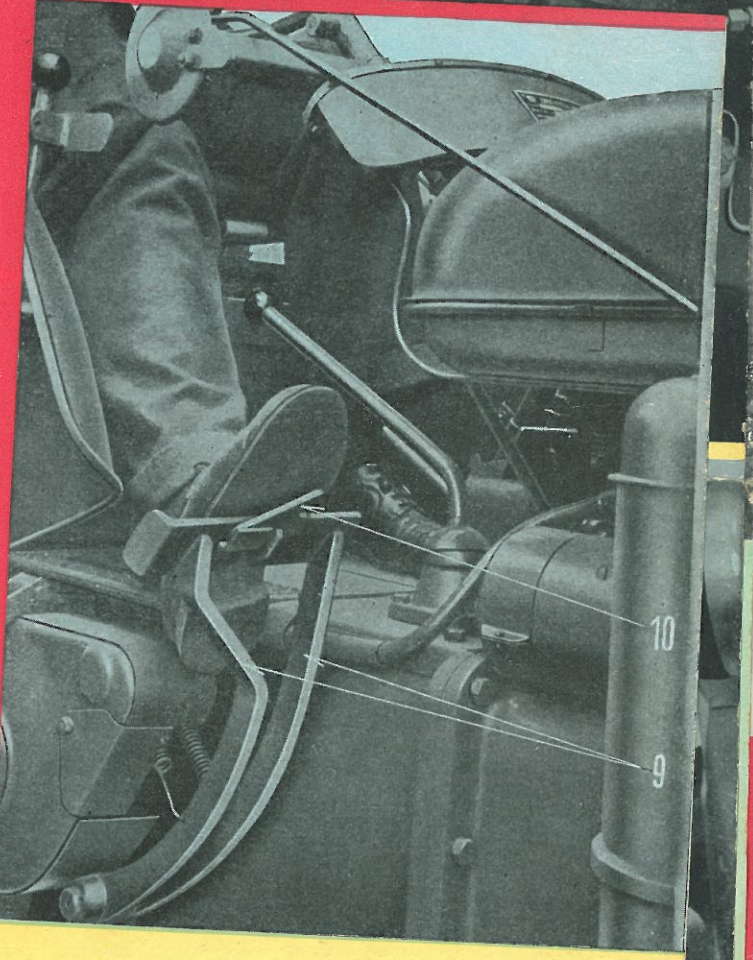
At higher travelling speeds and on hauling jobs generally the service brake pedals (9) are clamped together by clamps (10) and both rear wheels are braked simultaneously.

For field job it is possible to unclamp the pedals and brake then each wheel individually (11) shortening thus very substantially the turning radius. To prevent slippage in difficult, water soaked soil when deep ploughing, the differential is provided with a lock (12) the engaging lever of which may be operated by hand or by knee. The lever returns back into its original position automatically as soon as the pressure on it ceases.

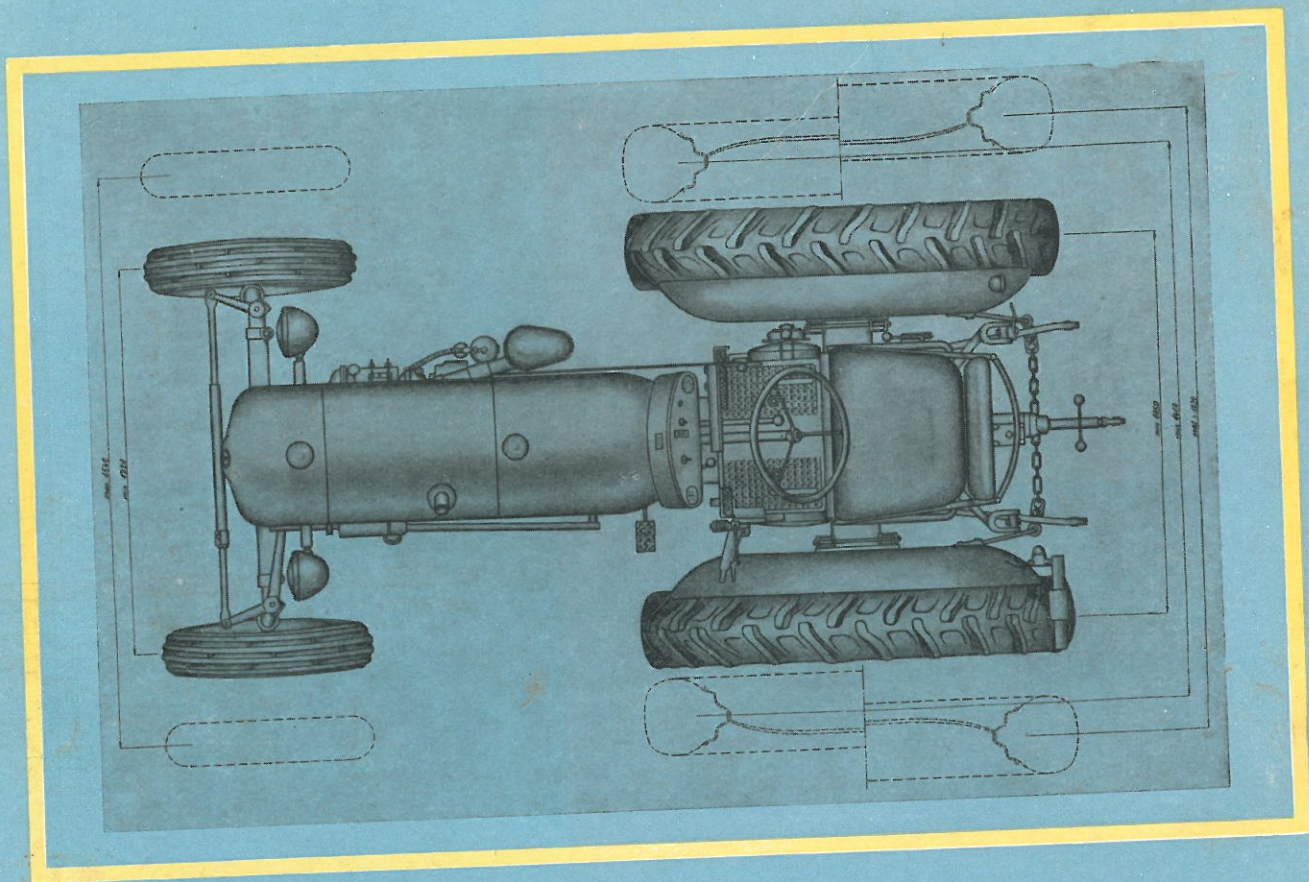


The stop light switch is controlled by brake levers and operates automatically.

Each of the headlights is provided with two bulbs. One of them is a dual bulb for full and dimmed lights, whereas the other serves as a parking position light. The switch is located on the dashboard. On the left-hand mudguard is a contact socket for connecting the trailer lights, portable lamp or special rear light for night work.



As the inter-row spacings of various crops differ very substantially, no row-crop tractor can secure good work especially in cultivating and hoeing without adjustable wheel treads. Only for ploughing and similar jobs is the adjustable tread of minor importance.



Both the standard ZETOR 25 and the row-crop ZETOR 25 K exactly meet the specific requirements of inter-row cultivating work and their wheel treads are adjustable within reasonably wide limits viz.:

ZETOR 25 K front wheels	from 48 in. to $60\frac{5}{8}$ in.
ZETOR 25 K rear wheels	from $45\frac{5}{16}$ in. to $57\frac{1}{2}$ in.
ZETOR 25 K rear wheels (after reversing the wheel discs)	from $55\frac{1}{2}$ in. to $67\frac{3}{4}$ in.
ZETOR 25 front and rear wheels	from $47\frac{1}{4}$ in. to $59\frac{1}{16}$ in.

To improve rear wheel traction in difficult conditions additional weights may be attached to the tractor rear wheels increasing its total weight by 287—309 lb.

Several suggestions for operating and servicing the ZETORS

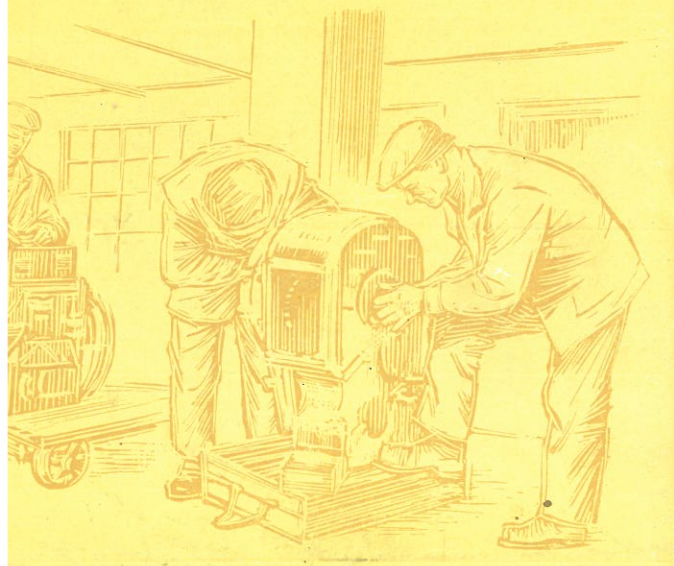
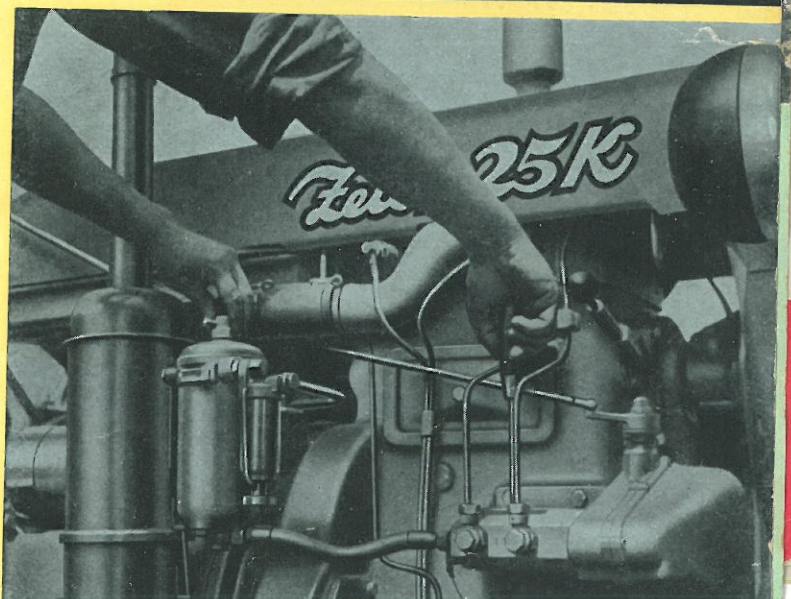
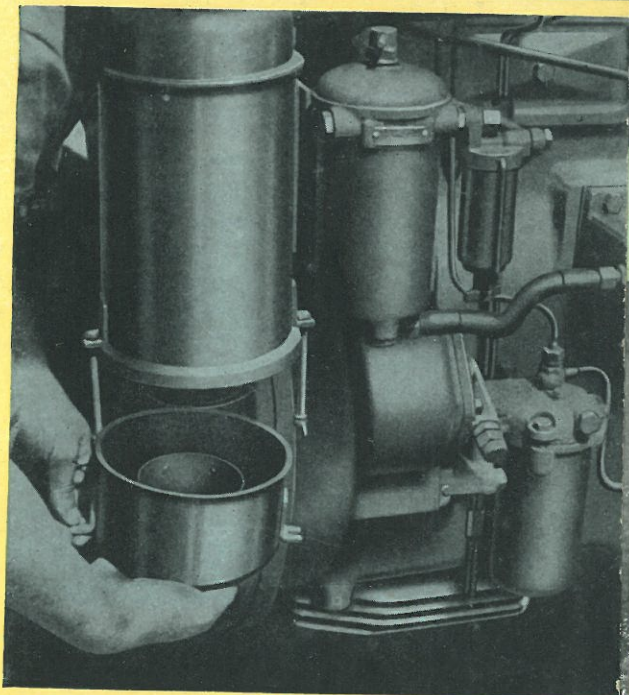
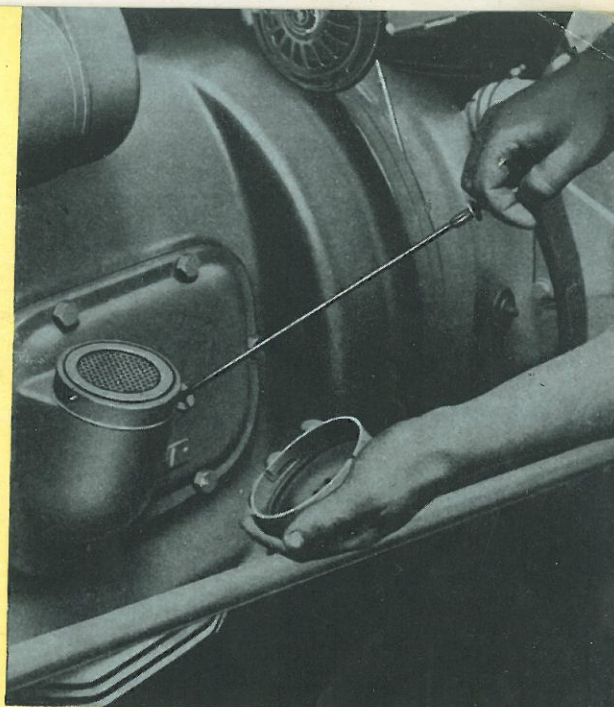
ZETOR products are a combination of advanced engineering, skilled manufacturing, and quality material. Thousands of economical working hours are built into each machine. Whether or not the owner derives the maximum of service from his machine depends largely on the care exercised in its operation, maintenance and repairs.

Make it your regular practice to fill the engine fuel tank at such time intervals as to always secure a reasonably high level of fuel. If the tractor is operated with only a little fuel in its tank, it may happen, especially on hillsides, that air will get into the fuel line and stop the tractor. After refilling the tractor do not try to start it without having previously primed the fuel system. To do so open the fuel filter vent valve. When the flow of fuel through the vent becomes continuous and contains no air bubbles, close the vent. Open and close it several times in succession to be sure, that all of the air has been bled from the line and filter. Having done so, tighten the filter vent plug and loosen the vent plug in the injection pump body between the fuel lines. Proceed in the same manner as indicated for the filter. Then start the engine.

Too much emphasis can not be placed on the importance of using only clean Diesel fuel. The best fuel may be rendered unsatisfactory by inadequate storage facilities or careless handling.

Use only quality oils for lubricating your tractor. Select the grade or viscosity of oil recommended by the manufacturer and do not deviate from it. Check oil level regularly and be very particular to keep the time intervals prescribed by the lubricating chart for changing oil. Never attempt to prolong them.

Check the tractor over briefly each day to see that there are no loose parts or leaks. This spot check will add much to the performance, economy and long life of your machine.



Z E T O R 25 K A N D Z E T O R 25 S P E C I F I C A T I O N S

ENGINE Two cylinder, vertical, four-cycle high pressure Diesel with valves in head and replaceable, wet cylinder liners.

Bore $4\frac{1}{8}$ in., stroke $4\frac{3}{4}$ in.

Displacement $\frac{1}{2}$ gallon, compression ratio 18 : 1.

Cylinder head with precombustion chambers is common for both cylinders. Fuel consumption 7 ounces HP/hr.

STEERING Worm and worm gear type with reduction ratio 1 : 17.

Steering wheel dia $16\frac{1}{2}$ in. is provided with electric horn button.

Minimum turning radius ZETOR 25 K 21 ft. $3\frac{7}{8}$ "', ZETOR 25 16 ft. $4\frac{7}{8}$ "'

CLUTCH Dry, single-disc, dia 11 in. with 9 pressure springs.

GEAR BOX With 6 forward and 2 reverse speeds.

	S p e e d s miles per hour/hr	
	ZETOR 25 K	ZETOR 25
First gear	2,40	2,12
Second gear	3,12	3,25
Third gear	4,00	4,88
Fourth gear	6,62	8,12
Fifth gear	8,66	12,50
Sixth gear	11,25	20,00
First reverse	1,65	1,44
Second reverse	4,25	5,63

REAR AXLE The differential driving pinion is made of the best nickel chromium alloy steel and runs on 2 tapered roller bearings. Reduction ratio of the pinion and differential crown wheel is 4,7 : 1. The final reduction ratio to the rear wheel axles is 4,8 : 1.

FRONT AXLE Steel casting of square section.

WHEELS ZETOR 25 K.

Front: automotive with pneumatic tyres 5,50—16.

Rear: discs with pneumatic tyres 9,00—36.

On special order discs for 13,00—28 tyres may be supplied.

ZETOR 25.

Front: automotive with pneumatic tyres 5,50—16.

Rear: cast hubs with pressed rims. Tyres 11,25—24.

On special order steel ploughing wheels with spade lugs are available.

P. T. O. Speed 535 RPM at the rated engine speed 1,600 RPM. Spline shaft dia $1\frac{3}{8}$ in. (S. A. E. standard).

BELT PULLEY Dia $9\frac{7}{8}$ in. Speed 880 RPM at the rated engine speed of 1,600 RPM. Belt speed 3ft. $9\frac{5}{8}$ "'/sec. On tractors with hydraulic power lift the belt pulley speed is 1,100 RPM at an engine speed of 1,600 RPM and belt speed 4 ft. 8"'/sec. On special order the belt pulley shield is supplied.

DASHBOARD The following instruments are concentrated on the dashboard: oil pressure gauge, water temperature gauge (— both with indirect light —), headlights switch, glowing plug and starter switch, charging pilot lamp (on request it may be substituted by an ammeter).