

BULLDOZER

DZ-109



TRAKTOROEXPORT

BULLDOZER

**The DZ-109 angling-blade bulldozer
built to dig, move and level-out ground
and other construction materials**



R DZ-109

is a powerful highly efficient machine
ground, crushed stone, gravel
materials.

*IT WILL ALSO BE HELPFUL IN PLANING
THE CONSTRUCTION SITES,
BACKFILLING TRENCHES, PITS,
EXCAVATIONS AT THE ROAD-BUILDING,
INDUSTRIAL AND WATER
ENGINEERING PROJECTS.*

*THE DZ-109 BULLDOZER IS BASED
ON THE CRAWLER TRACTOR T-130.1.G-1
POWERED BY ECONOMICAL
AND EASY-TO-OPERATE 160 hp ENGINE.*





The blade of the DZ-109 of wear-resistant steel is specially curved to facilitate the motion of the earth slices. The reversible blade bits are of high-strength steel with carbide-faced edges.

Hydraulic rams ensure reliable fixing of the bulldozer equipment in the required working or transport position.



A roomy comfortable two-man cab fitted with heat-and-noise insulation, heating and ventilation systems, windshield wipers, rear-view mirror provides excellent visibility and reduces physical and nervous fatigue of the operator. The seat is adjustable for operator's weight and stature.



The DZ-109 bulldozer equipped with a single-shank scarifier DP-26 with replaceable points can rip successfully compact ground, old asphalt pavements, and frozen ground. Two hydraulic rams fix the scarifier rigidly in the transport and working positions.

A large ripping depth and high reliability are the distinguishing features of the DP-26 ripper used with bulldozer DZ-109.

The DZ-109 bulldozer with single-shank scarifier DP-26 is called bulldozer-scarifier DZ-117. To special order the bulldozer can be furnished with a three-shank scarifier equipment.



TRAKTOROEXPORT

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BULLDOZER

SPECIFICATIONS

ENGINE		Turbocharger:	
Type	four-stroke in-line turbocharged Diesel	maximum rotor speed, rpm	42000
Service DIN power, hp (kW)	160 (118)	supercharging pressure step-up factor	1.4
PTO shaft transmission efficiency	0.97	air consumption, kg/s	0.18
Number of cylinders	4	oil pressure at turbocharger inlet, kgf/cm ²	1-3
Bore / stroke, mm	145 / 205	permissible continuous temperature of exhaust gases before turbine, °C	650
Compression ratio	14	Starting unit:	
Engine displacement, l	13.53	type	PA-700 gasoline engine with electric starter
Rated crankshaft speed, rpm	1250	power, hp (kW)	22 (16.2)
Maximum torque (at 900-1000 rpm), kgf·m, min	102	crankshaft speed, rpm	4000
Specific fuel consumption at rated power, g/hp-h	180	number of cylinders	2
Fuel system:		bore / stroke, mm	72 / 85
fuel pump	sectional, four-plunger type with gear fuel transfer pump	engine displacement, l	0.692
speed governor	centrifugal variable-speed unit with plate-type fuel feed corrector	POWER TRANSMISSION	
primary fuel filter	screen filter element	Type	mechanical, multiple-stage
secondary fuel filter	replaceable element, two layers of cotton yarn	Clutch	spring-loaded dry-friction two-disc type
fuel injectors	closed type with five atomizing orifices	Gearbox	eight-speed, four-shaft type with constant-mesh gears
Air cleaner:		Bevel gear	driving pinion integral with gearbox lower shaft; crown wheel secured on bevel gear shaft
first stage	multiple-cyclone cleaner with automatic ejection of dust	Steering clutches	multiple-disc, dry friction type with friction linings on driven discs
second stage	paper element filter	Brakes	dry-friction double-acting band type, floating, with friction linings
Lubricating system:		Final drive	two-stage type with two pairs of straight-tooth constant-mesh spur gears
type	pressure-and-splash		
oil pump	three-section gear type		
oil filter	full-flow reaction centrifuge		
Cooling system:			
type	closed-circuit forced circulation of coolant and automatic temperature control by thermostat and air stream		
pump	centrifugal		



R DZ-109

RUNNING GEAR

Suspension	three-point type with lateral equalizer leaf spring
Number of rollers in each bogie:	
track rollers	5
carrier rollers	2
Track:	
number of shoes per track	38
width of track, mm	500
Track take-up unit	hydraulic
Road clearance, mm	407
Axle base, mm	2478

ELECTRICAL EQUIPMENT

Generator	enclosed, with one-sided electromagnetic excitation and built-in regulator
Rated capacity of storage battery at 20-h discharge rate, A-h	75
Voltage, V	12

CAPACITIES, l

Engine fuel system	290
Starting engine tank	8
Diesel lubricating system	27
Diesel cooling system	75
Hydraulic system	105-110
Gearbox and bevel gear	50
Final drive	12 x 2

ROAD SPEEDS AND TRACTIVE FORCES, $\frac{\text{km/h}}{\text{kgf}}$

	Forward		Reverse
	Normal range	High-speed range	
1st gear	$\frac{2.51}{13080}$	$\frac{2.99}{10800}$	$\frac{3.56}{8990}$
2nd gear	$\frac{3.48}{9110}$	$\frac{4.14}{7470}$	$\frac{4.90}{6160}$
3rd gear	$\frac{5.06}{5905}$	$\frac{6.00}{4795}$	$\frac{7.16}{3880}$
4th gear	$\frac{8.5}{3040}$	$\frac{10.11}{2360}$	$\frac{12.05}{1830}$

Average specific static ground pressure
of T-130.1.G-1 tractor, kgf/cm^2 0.59

BULLDOZER EQUIPMENT

Bulldozer blade control	hydraulic
Oil pressure in hydraulic system, kgf/cm^2	100

Blade lifting and lowering rams:

number	2
piston diameter and stroke, mm	100 x 800
Blade lifting and lowering speed, m/s	0.25
Blade dimensions, mm:	
width	4120
height	1140
Blade back angle, degr.	20
Main cutting angle, degr.	55 ± 1
Cutting angle adjustment range, degr.	± 10
Blade angling	manual
Blade setting angle in plan, degr.	27
Cutting angle adjustment	by screw struts
Maximum blade lift above track bearing	
surface, mm	935
Cut below ground, mm	535

Bulldozer blade bits:

middle:

number	2
material	carbon steel with carbide-faced edges

side:

number	2
material	manganese steel

Mass of bulldozer equipment, kg 2350

SCARIFIER EQUIPMENT DP-26

Type	single-shank four-link system with rigidly-fixed shank
Control of scarifier equipment	hydraulic
Lifting and lowering rams:	
number	2
piston diameter and stroke, mm	120 x 500
Maximum penetration, mm	450
Ripping angle with shank in downmost position, degr.	45
Road clearance (from lowermost point of frame to bearing surface), mm	325
Distance from shank point (in the downmost position) to driving sprocket axle, mm	1220
Width of shank point, mm	75
Material of shank point	manganese steel
Mass of scarifier equipment, kg	1400

OVERALL DIMENSIONS OF DZ-109 BULLDOZER, mm

Length	5690
Width	4120
Height	3087

MASS OF DZ-109 BULLDOZER, kg

Structural	16380
Operational	16900

OVERALL DIMENSIONS OF DZ-109 BULLDOZER WITH DP-26 SCARIFIER EQUIPMENT, mm

Length	6700
Width	4120
Height	3087

MASS OF DZ-109 BULLDOZER



Structural	17780
Operational	18300

V/O "Traktoroexport" reserves the right to modify the design of the machine without additional notice.

