International

BTD-6

DIESEL CRAWLER TRACTOR

FOUR OR FIVE ROLLER TRACK FRAMES

INTERNATIONAL HARVESTER

Power for greater earn

The International BD-264 engine enjoys a customer-endorsed reputation for durability and fuss-free retention of performance. Records of over 5,000 hours' service (before low-cost reconditioning is required) make it easy to understand why the BTD-6 engine is such a profit earner.

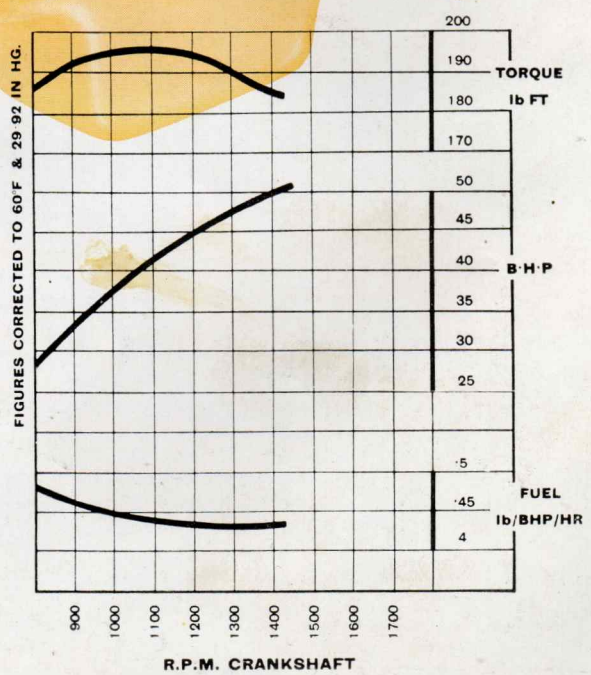
This all-weather glowplug starting, 4-stroke, 4-cylinder diesel has indirect injection for smooth power and economy. The rigidly-ribbed monobloc crankcase is cast in heavy-duty alloy iron, with replaceable 'dry' cylinder liners for added rigidity. The 3-main-bearing induction hardened crankshaft forging is dynamically balanced; offset connecting rod caps are a feature of easy servicing. Low expansion aluminium alloy pistons have 3 compression rings and a 4-component oil control ring for improved oil control . . . now in the once-a-week top-up category.

BD-264 POWER CURVES

The BD-264's centrifugal governor instantly matches fuel requirement to the load demand.

50 h.p. is developed at the low-wearing crankshaft speed of 1,450 r.p.m. Torque shows a peak of 194 lb. ft. (operators will tell you how this engine really hangs on, to keep hydraulic response alive for equipment control and to maintain forward travel!). The BD-264 is a real fuel-miser at 0.43 lb./b.h.p./hr. On the job, the BTD-6 works for about a gallon an hour.

Engine directly connected to dynamometer and fully-equipped with fan, radiator, air-cleaner and clutch.



pacity

STARTING

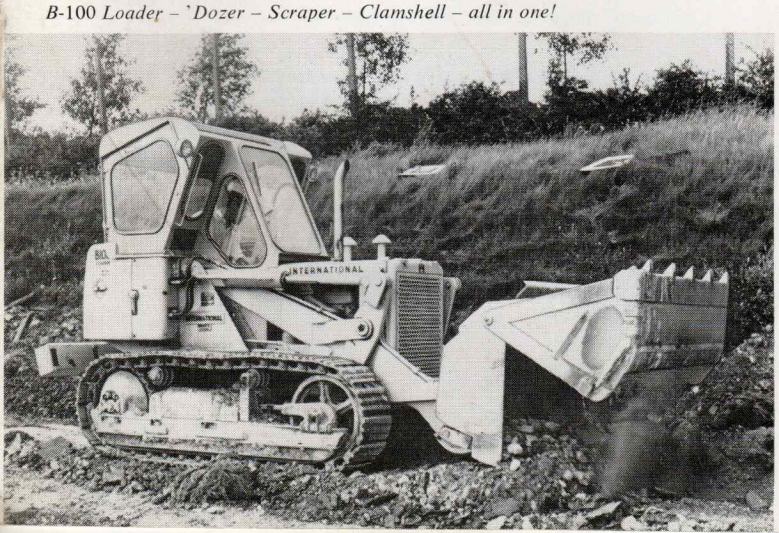
Easy all-weather 'in-seat' starting even when it is as low as 42 degrees F of frost! Combustion chamber glow-plugs (one for each cylinder) get this indirect injection engine on the job fast, without the need of an auxiliary starting engine. The BD-264's starting system is simple and reliable.

The successor to the famous BTD-6 Loader . . . the B-100 Loader with 4-in-1 Bucket.

LUBRICATION

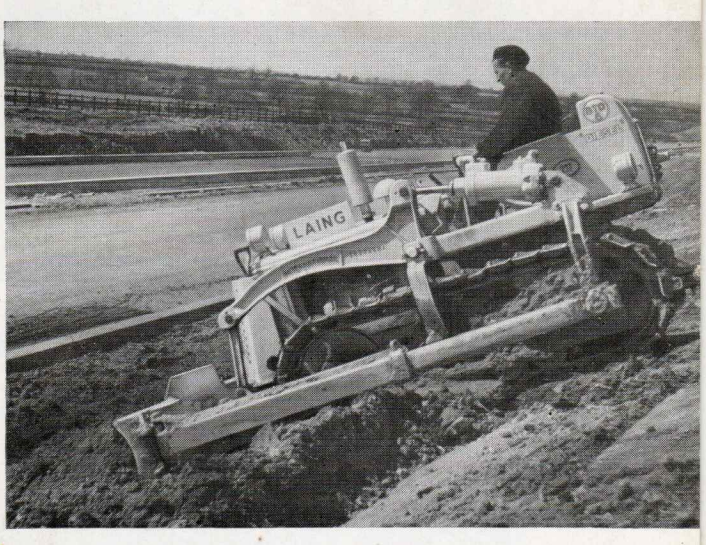
Double gear-type pump provides force-feed lubrication to all shell bearings and valve levers. Auxiliary gears scavenge oil from the rear of the sump for all-angle protection. Gauze strainer and big 240-hour capacity cartridge filter protects the complete system.

B-100 Loader – 'Dozer – Scraper – Clamshell – all in one!



POWER

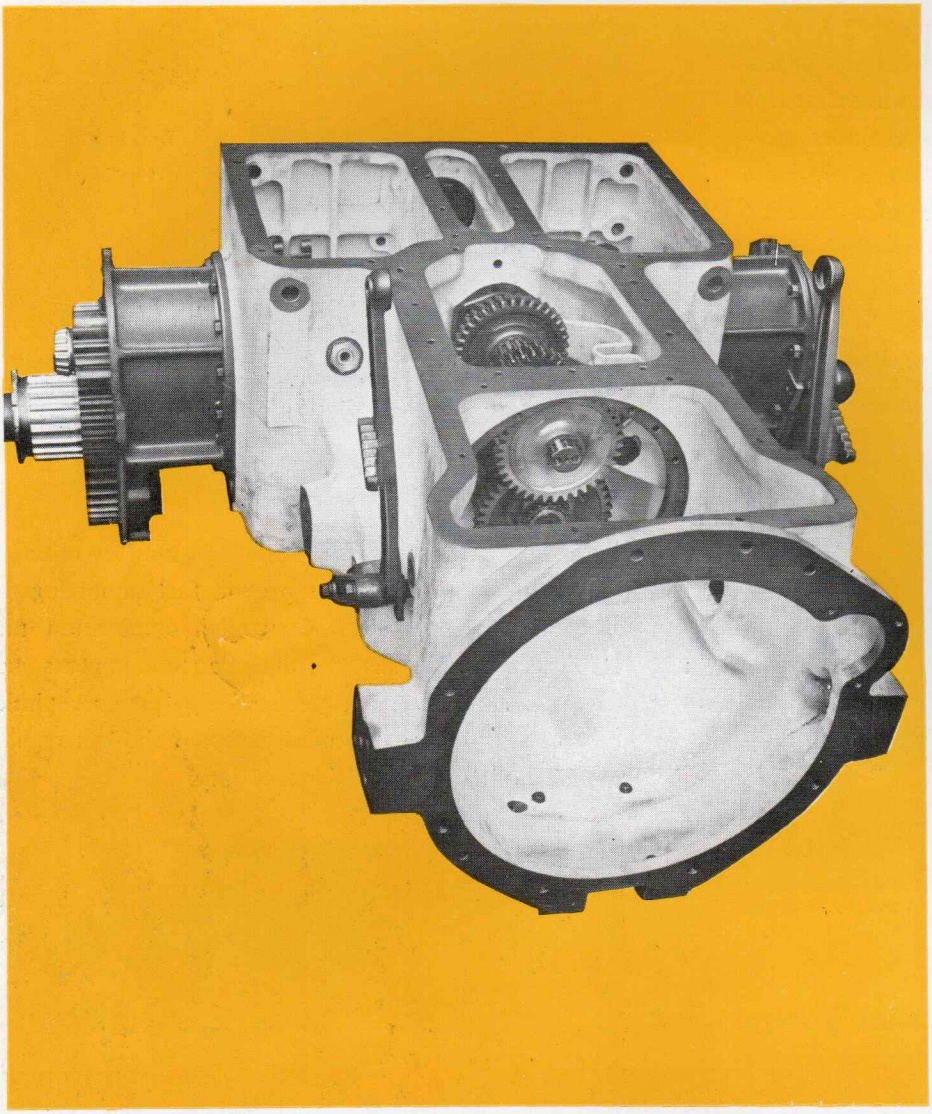
International's indirect injection system gives thorough fuel/air mixing for complete combustion. Controlled combustion rate eliminates violent shocks to engine components and develops a steady power stroke. High-pressure pintle-type nozzles prevent harmful carbon build-up; regular servicing of the injector is unnecessary.



COOLING

The closed pressurised system makes for high efficiency, eliminates radiator spill, evaporation and after-boil losses. The thermostat prevents circulation through the radiator when the engine is cold, giving fast warm-up. Six-blade blower fan prevents core choking.

BTD-6 gear train puts extr



The rigid one-piece transmission frame provides perfect bearing alignment for all the power-matched drive shafts. Each unit is in a separate compartment for easy maintenance and servicing. Steering clutches can be removed independently or together, as the situation demands, and without disturbing neighbouring assemblies. Transmission gears are produced under laboratory supervision. Attention at every stage of gear manufacture results in long life and quiet running. The sprocket drives are each enclosed in a sealed compartment, and both the gear and the pinion are supported on load-absorbing tapered roller bearings. Pinions are crown-shaved to centralise the load on to the strongest part of the tooth, for perfect mesh when transmitting the heaviest loads.

JOB SPACED SPEEDS

Speeds computed at rated governed engine r.p.m.

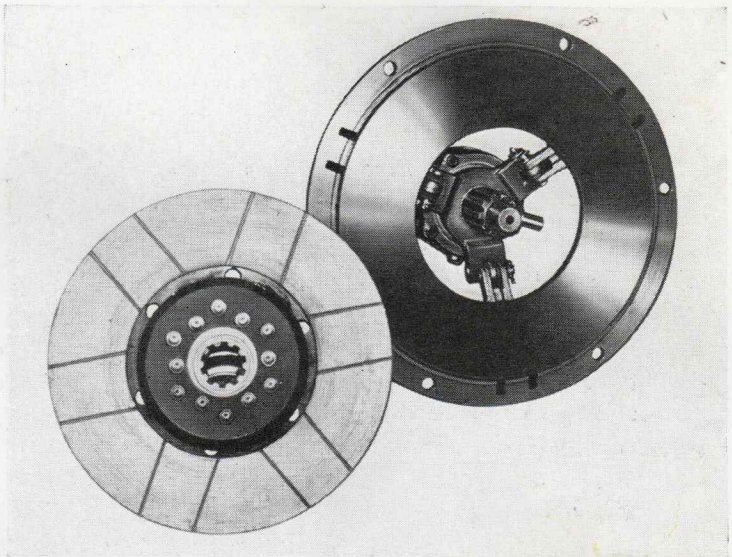
		m.p.h.	k.p.h.
1st		1·5	2·4
2nd		2·2	3·52
3rd	*	3·1	4·95
4th		3·8	6·1
5th		5·4	8·65
Rev.		1·7	2·72
High Rev.	*	3·5	5·6

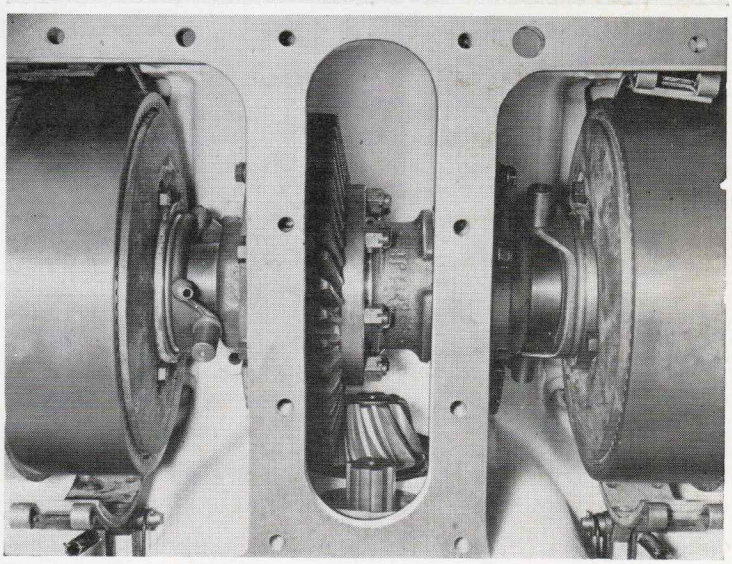
*High reverse of 3·5 m.p.h. (5·6 k.p.h.) is available as an attachment in place of 3rd speed forward.

rning power at the drawbar

NG-LIFE NGINE CLUTCH

The BTD-6's generous capacity, thirteen-inch clutch has strength to spare, even under the continuous usage found on shuttle work. Clutch facings give positive grip with over-centre operation and they are kind to their mating surfaces, which simplifies parts requirements at overhaul time. Forward pressures on the lever brakes the clutch for fast, smooth gear-changing.





HEAVY-DUTY SPIRAL BEVEL GEARING

Supported on high-capacity, load-absorbing tapered roller bearings. Spiral teeth ensure the load is distributed over greater tooth area with at least one full tooth transmitting power. The bevel gear is dowel-bolted to the hub for extremely rigid support. Matched pinions and gears pre-set up on test equipment ensure perfect gear mesh for quiet operation and long life.

PROFIT EARNING PERFORMANCE

Drawbar Pull

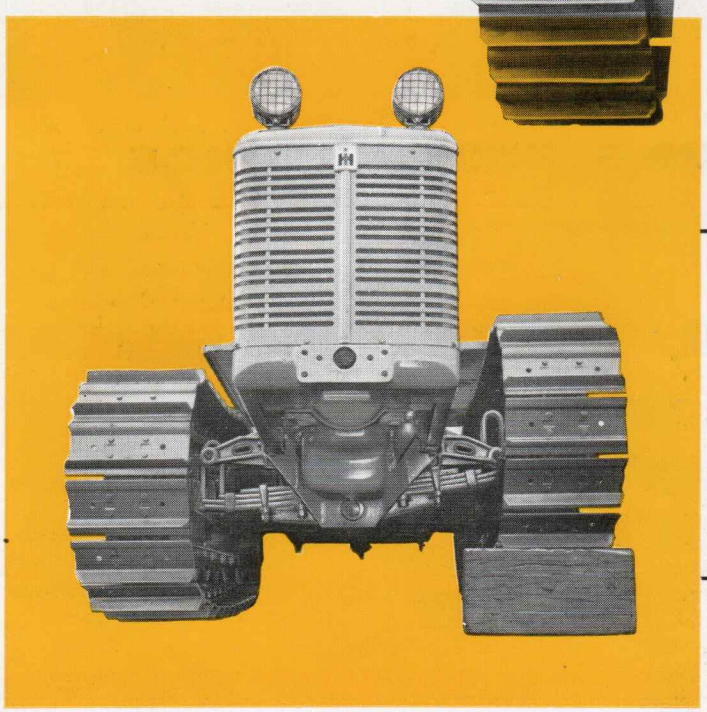
	At rated governed engine speed* (observed) lb	kg	at engine speed at maximum torque* (calculated) lb.	kg
1st	10,500	4,770	11,500	5,216
2nd	6,700	3,039	7,300	3,311
3rd	4,400	1,996	4,850	2,200
4th	3,200	1,452	3,525	1,599
5th	2,000	907	2,200	998

*With adequate tractor and mounted equipment weight and traction.

*When International engines are pulled down by overload, the torque at the engine increases, producing a higher drawbar pull at reduced speed.

Exclusive 3 point track suspension

The BTD-6 features International's *exclusive stabilised three-point track suspension system.* Each track frame is permitted to freely oscillate without imposing any shock loads on final drives or transmission case. This view of the BTD-6 shows how the track frames are able to oscillate freely and yet stay permanently aligned. Large ball-and-socket bearings (1) support the frames at the outer ends of the one-piece stationary pivot shaft. Diagonal braces (2) on special bearings prevent the frames from tilting. The track guide rollers (3) hold the two frames together and keeps them from toeing-in or -out.



The track frame stabilisers enable the BTD-6 to move over rough ground without twisting or misalignment of the track frames and final-drive parts. The large independent track movement provides the track-to-ground contact that lets the BTD-6 put its full power into the work at all times.

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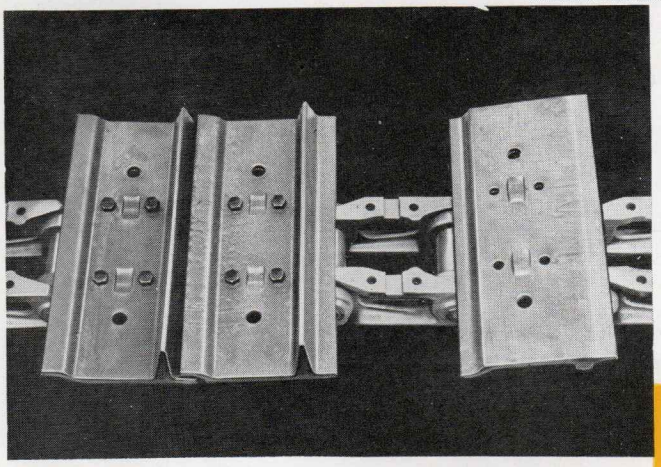
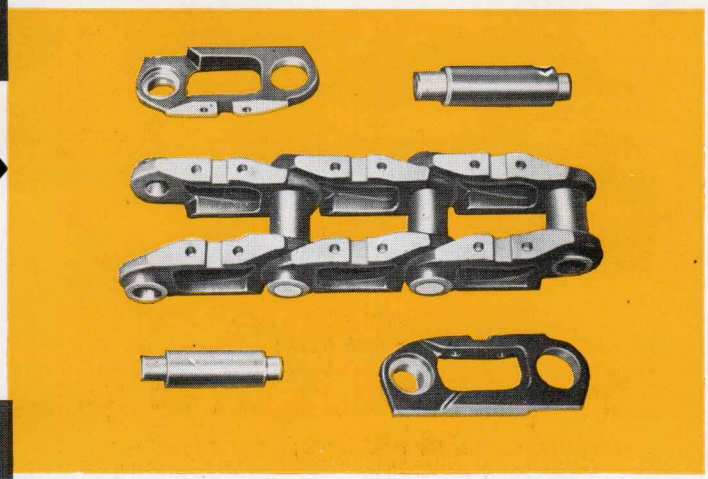
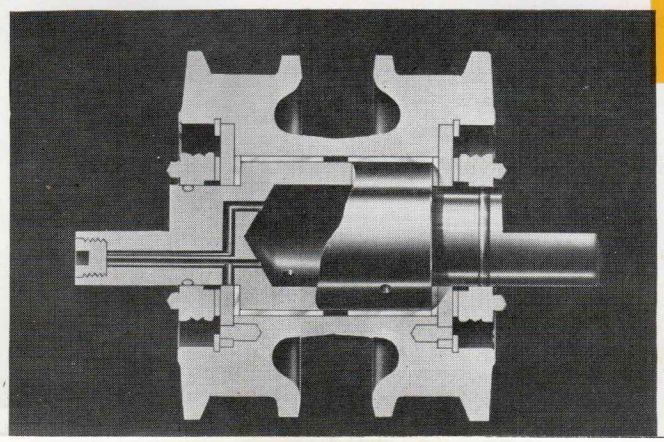


DURABLE TRACK SHOES Extra strength and long life are built into these track shoes. Heat treatment gives them a tough skin and a shock-resistant core. Integral keys on each shoe fit into slots in the track links; these hold the shoes rigidly in position and relieve the bolts of all shear stress.

LONG-LIFE TRACK CHAINS These tough, interlocking track links are drop-forged, heat-treated steel and are broached on both surfaces for complete parallelism. The hardened bushes and pins are inserted under pressure. 100% quality control is maintained on the parts at every stage of manufacture and assembly.





VENTED TRACK ROLLERS These are welded, heat-treated steel forgings with large bronze bushings. They rotate on induction-hardened and ground shafts. Bellows-type leather seals prevent dirt and water from entering, and oil from escaping.

A big-capacity reservoir within the steel shaft assures perfect lubrication over long periods.

BTD-6 CRAWLER TRACTOR
SPECIFICATIONS

Horsepower

Drawbar horsepower	40.6
Belt horsepower	47.9

Drawbar Pull

	At rated governed* engine speed (observed) lb.	kg.	At engine speed at maximum torque† (calculated) lb.	kg.
First gear	10,500	4,770	11,500	5,216
Second gear	6,700	3,039	7,300	3,311
Third gear	4,400	1,996	4,850	2,200
Fourth gear	3,200	1,452	3,525	1,599
Fifth gear	2,000	907	2,200	998

Maximum sustained pull 11,700 lb. (5,520 kg.).

**With adequate tractor and mounted equipment, weight and traction.*

†*When International engines are pulled down by overload, the torque at the engine increases, producing a higher drawbar pull at reduced speed.*

Speeds—*Computed at rated governed engine r.p.m.*

	m.p.h.	k.p.h.
First	1.5	2.4
Second	2.2	3.5
‡Third	3.1	5.0
Fourth	3.8	6.1
Fifth	5.4	8.7
Reverse	1.7	2.7

‡*High reverse of 3.5 m.p.h. (5.6 k.p.h.) is available as an attachment in place of third speed forward.*

Engine—*4 cycle diesel valve-in-head type, with electric glowplug all-weather starting.*

IH model	BD-264
Brake horsepower	50
Number of cylinders	4
Bore and stroke, in. (mm.)	4 (101·6) x 5½ (133·35)
Piston displacement, cu. in. (litres)	264 (4·326)
Rated governed speed r.p.m.	1,450
Maximum torque, lb. ft.	194
R.p.m. at maximum torque	1,100

Electric Starting and Lighting—*Twelve-volt electric starting and lighting system, which includes manually engaged starter motor, glowplugs, resistance indicator, generator batteries, two headlights and one rear light.*

Engine Clutch—*Single plate, overcentre with automatic clutch brake.*

Diameter, in. (cm.)	13 (33)

Transmission—*Selective sliding gear type. Carburised alloy steel gears.*

Bevel gears (spiral):	
Tooth angle	20°
Bearings	*Tapered roller*
Adjustment, type	*Threaded adjuster and spacer*
Ratio	4·17 : 1

Steering Clutches (*one for each track*)

Diameter, in. (cm.)	10⅞ (27·6)
Friction surfaces (*each clutch*)	22
Effective friction area (*each clutch*), sq. in. (cm.²)	1.022 (6,605)

Steering Brakes (*one for each track*)

Diameter, in. (cm.)	12⅛ (30.7)
Friction area (*each brake*), sq. in. (cm.²)	61 (394)

Final Drive (*mounted on tapered roller bearings*)

Speed reduction ratio, bull gears	4·7

Track Dimensions

	in.	
Gauge, centre to centre of tracks	50	
Length of tracks on ground:		
4-roller	58⅜	
5-roller	70⅝	
Track shoes, width, regular	14	
Height of grouser	1 1/16	
Track pin diameter	1¼	3
Track pin bushing diameter	1 13/16	4.6
Track shoe bolt diameter	7/16	1.15
Track-driving sprocket pitch diameter	24·19	61.5
Number of track rollers (*each side*)	4 or 5	
Number of track idlers (*each side*)	1 or 2	
Number of track shoes (*each side*)	32 or 36	

Area of ground contact:	sq. in.	cm.²
4-roller with 14-in. shoes	1,643	10,600
16-in. shoes	1,876	12,100
5-roller with 14-in. shoes	1,978	12,758
16-in. shoes	2,260	14,577
Pull-bracing grouser area with:		
4-roller with 14-in. shoes	543	3,510
16-in. shoes	620	4,000
5-roller with 14-in. shoes	651	4,199
16-in. shoes	744	4,799

Tractor Dimensions

	in.	cm.
Length, overall	104	264
Width, overall, 50-in. gauge		
14-in. shoes	64	162
16-in. shoes	66	168
Height, grouser tip to highest point, less exhaust pipe	59½	151
Turning radius	74	188
Minimum ground clearance from base of shoe (at equaliser spring)	7⅜	18·5
Drawbar, height (centre line of clevis to bottom face of track shoe)	12¼	31·2
Drawbar, lateral movement at pin	19¾	50

Capacities

Cooling system, gals. (litres)	9½	(43)
Fuel tank, gals. (litres)	16¾	(76)
Engine lubrication, quarts (litres)	8	(9·1)
Transmission case, gals. (litres)	4	(18·2)
Final drive cases (*each*) quarts (litres)	1½	(1·7)
Air cleaner cup, pints (litres)	2⅛	(1·2)

Ground Pressure

Ground pressure based on operating weight and regular 14-in. track shoes,		
4-roller frame, lb. per sq. in. (kg. per cm.²)	5·54	(0·39)
5-roller frame, lb. per sq. in. (kg. per cm.²)	4·70	(0·33)

Operating Weight

	lb.	kg.
Operating weight approximate, with fuel, water and including driver		
4-roller frame	9,100	4,150
5-roller frame	9,520	4,310

Specifications subject to change without notice.

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