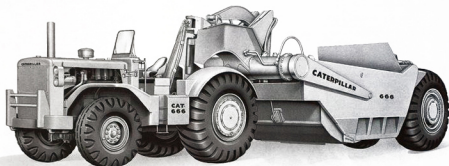


WHEEL TRACTOR-SCRAPER

CATERPILLAR

666

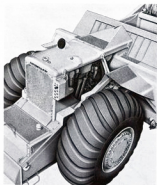
54 CU. YD. HEAPED CAPACITY



The CAT 666 —

**Four wheel tractor with scraper,
tandem powered**

- 980 HP (max.) total—560 HP tractor engine and 420 HP scraper engine for efficient, hard lugging power.
- Cat power shift transmissions with exclusive, automatic shifting in each of three ranges — plus loading range. Top speed is 42 MPH.
- Operating ease and safety that increase productivity. Hydraulic retarders are standard.
- New 54 cu. yd. (heaped), 40 cu. yd. (struck) Positive Action Scraper for fast, easy loading.
- Service accessibility means more working time — less maintenance time.



FOUR-WHEEL TRACTOR

ENGINES:

Four-cycle, turbocharged, valve-in-head, diesel.

	Tractor	Scraper
Horsepower (Maximum)	560	420

The maximum rating of the diesel engines used in the 666 are shown for comparative purposes.

Horsepower (Flywheel) @ 1900 RPM	450	335
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Flywheel horsepower is the net horsepower at the flywheel of the standard engine operating under normal temperature and barometric conditions (up to 85° F. and 2500 ft. altitude). Standard engine equipment includes fan, air cleaners, water pump, lubricating oil pump, fuel pump and generator.

Number of cylinders	8	6
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Bore and stroke, in.	5.4 x 6.5
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Piston displacement, cu. in.	1190	893
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NACC horsepower for USA tax purposes	93	70
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Lubrication	Full pressure
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Bearings: Main and connecting rod bearings are steel-backed aluminum alloy, lead-tin plated, precision-type.

Crankshafts: High carbon steel with "Hi-Electro" hardened journals.

Air cleaners: Dry type

FUEL:

Burns economy-type No. 2 Fuel Oil (ASTM Specification D396-48T, often called No. 2 furnace or burner oil, with a minimum cetane rating of 35. Expensive, premium-quality diesel fuel can be used, but is not required.

STARTING METHODS:

Tractor (Optional),

24-volt starting system for direct electric starting of diesel.

Gasoline starting engine with 24-volt starting motor.

Scraper, separate starting motor for scraper engine. Tractor engine must be started first.

TRANSMISSIONS (tractor and scraper synchronized):

Caterpillar-built power shift with exclusive TORQUE DIVIDER, providing three automatically shifted speeds in each of three manually selected ranges plus loading range, 9 forward speeds, 3 reverse speeds. Scraper transmission may be shifted to neutral independently.

STANDARD ELECTRIC ACCESSORIES:

Four sealed beams (two headlights—two floodlights) flash lights and batteries. Charging alternator and full transistor voltage regulator on direct electric starting system. Optional on gasoline starting system.

SEAT:

Torsionflex, bucket type, upholstered, mounted on torsion spring and shock absorber suspension assembly.

STEERING:

Full time hydraulic boost.

FRONT AXLE:

Oscillating type, wishbone construction with transverse leaf spring.

FINAL DRIVES (tractor and scraper):

Type	Planetary
Axle	Full-floating
Bearings	Split-roller
Scraper differential	No-Spin

TIRES (Tubeless):

Drive	37.5-39 (28 PR)
Front	18.0-25 (20 PR)

BRAKES:

Air actuated (synchronized to brake scraper first.) Drive wheels may be braked individually.

Diameter and width

30" x 8"
Hydraulic retarder is standard

CAPACITIES, U.S. Gallons:

	Tractor	Scraper
Fuel tank	180	125
Lubricating System:		
Crankcase	15	9.75
Transmission	33	31
Differential	25	29
Final drive (each side)	7	6
Cooling system	38	31
Total hydraulic system (steering and scraper)	92	
Retarder system	7	7

WEIGHTS, total unit

On wheels of 666, approx., lb.

Empty:	
Tractor front	22,700
Tractor driver	43,100
Scraper	59,200
Total	125,000

Loaded, based on 122,000 lb. average load:
(3000 lb./cu. yd. material x 54 cu. yd.
heaped capacity x .75 load factor)

Tractor front, 12%	30,000
Tractor driver, 34%	84,300
Scraper, 54%	132,700
Total	247,000

Width required for non-stop turn.....45'6"

CONVERSION TABLE

1 Mile = 1.609 Kilometers	1 Sq. In. = 6.452 Sq. Centimeters
1 Foot = 30.48 Centimeters	1 Lb. = .4534 Kilogram
1 Inch = 2.54 Centimeters	1 Sq. Yd. = 0.846 Sq. Meters
1 U.S. Gal. = 3.785 Liters	1 Sq. Ft. = 929 Sq. Centimeters
1 U.S. Gal. = 0.833 Imp. Gals.	
1 U.S. Gal. Diesel Fuel = 7.3 Lb. (approx.)	
1 U.S. Gal. Coolant = 8.3 Lb. (approx.)	

SCRAPER

CAPACITY:

Heaped, SAE rating.....	54 cu. yd.
Struck, SAE rating.....	40 cu. yd.

CONSTRUCTION:

- Complete bowl is box section for maximum strength, minimum weight.
- High tensile strength steel used in high wear and stress areas.
- Draft arms removable for shipping.

BOWL:

Average height of sides.....	6'10"
Inside width.....	11'8"
Maximum depth of spread.....	24"
Maximum depth of cut.....	19"
Maximum hydraulic penetration force at cutting edge, approx.....	147,000 lb.

CUTTING EDGE:

Width of cut (outside router bits).....	11' 11.5"
Dimensions: Center section	1.12" x 16" x 68.25"
Each end section	1" x 13" x 35.5"
Type.....	"Hi-Electro" hardened-reversible

EJECTOR:

Type.....	dozer, 2-speed, positive return
Control lever has detent for holding ejector return.	

APRON:

Opening (bowl 6" off ground level).....	9' 2"
Closure force (cutting edge fully raised, apron open 12"), approx.....	36,000 lb.

METHOD OF OPERATION:

Closed hydraulic system powered by vane type pump. Bowl, apron and ejector are independently controlled.

HYDRAULIC CYLINDERS:

- Bowl lift (2), double acting with quick drop valves, cylinders isolated from circuit when carrying load.
 - Bore and stroke..... 9.25" x 43.7"
- Apron (1), double acting with sequence valve for positive closure.
 - Bore and stroke..... 9.25" x 33.2"
- Ejector (2), double acting, 2-speed.
 - Bore (telescoping) and stroke, 8.25" to 6.5" x 89"

HYDRAULIC PUMP:

Output.....	145 GPM @ 2050 RPM
Relief valve setting.....	2000 PSI

WHEELS:

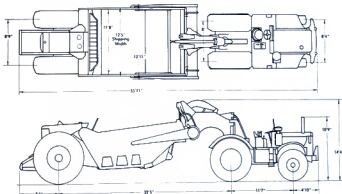
- Axles..... Cantilever mounted
- Bearings, preadjusted, lifetime lubricated, tapered roller with face type floating ring seals.
- Rims (6" taper)..... 32.00-51

TIRES (Tubeless)..... 37.5-51 (36 PR)

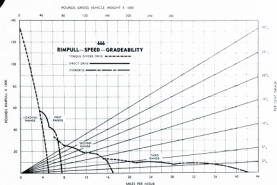
BRAKES:

- Diameter and width..... 30" x 8"
- Hydraulic retarder is standard

DIMENSIONS:



WHEEL TRACTOR-SCRAPER

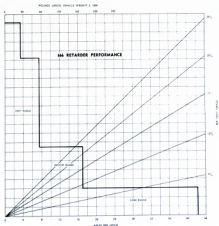


Usable rimpull will depend upon traction available and total weight on tractor drive wheels.

CHART INSTRUCTIONS

To determine gradeability performance (top): Read down from gross weight to existing grade. (Add rolling resistance to actual grade, 20 lb./ton = 1% grade). From weight-grade point, read horizontally to maximum speed.

To determine retarded performance (bottom): Read down from gross weight to existing grade. (Subtract rolling resistance from existing grade, 20 lb./ton = 1% grade). From weight-grade point, read horizontally to maximum constant descent speed under retarder control.



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Materials and specifications are subject to change without notice.