

TS180

Towed Scraper

CATERPILLAR®



Scraper Bowl

Capacity – Heaped	14.3 m ³	18.8 yd ³
Width of Cut, to Router Bits	3200 mm	10 ft 6 in
Rated Load	20 800 kg	45,900 lb
Capacity Struck	9.9 m ³	13 yd ³
Depth of Cut – max	203 mm	8 in

TS180 Features

High-strength, Abrasion-Resistant Steel

High-strength, abrasion-resistant steel on the apron face, floor, walls, and ejector minimizes wear – yard after yard.

Standard Heavy-Duty, Construction-Grade Brakes

Standard dry-disc brakes enhance your job site safety.

Standard Radial Tires

Standard radial tires deliver reduced rolling resistance, excellent flotation, and durability.



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Originally designed by a road contractor for the construction industry, the Cat® TS180 Towed Scraper delivers outstanding performance and legendary durability. High-strength, abrasion-resistant steel in the scraper bowl minimizes wear. The rugged hitch, tongue, and structural design ensure long life in the toughest job site conditions. Designed to be pulled by Cat® Track-Type Tractors or Challenger™ Tractors, the Cat TS180 Towed Scraper raises the standard.

Scraper Bowl

Unmatched Durability

High-Strength Bowl Design

The scraper bowl is constructed using L-shaped box sections of high strength steel for superior strength and dent resistance. The floor is a box-section structure made from high-strength, abrasion-resistant steel for maximum strength during top loading and rigidity during intermittent push loading. High-strength, abrasion-resistant steel is used throughout the inside of the bowl for maximum wear resistance.

Center Lift Design

The center bowl lift design improves the strength and durability by placing the hydraulic cylinders between the tongue and spreader tube. This eliminates the need for draft arms, reduced weight and complexity.

Cutting Edges

Common Cat® Wheel Tractor Scraper cutting edges and router bits are used to ensure exceptional performance and great availability. The center cutting edge is in the stinger (drop down) position for good penetration and efficient material flow into the bowl. When worn, the cutting edges can be rotated by 180 degrees, doubling the life.

Ejector

The ejector is constructed from a single plate of high-strength, abrasion-resistant steel. The ejector extends beyond the front edge of the scraper floor to minimize carryback. To minimize wear, the ejector weight is carried on steel rollers supported by a wear strip welded to the bowl floor. At the sides, alignment is maintained by Ultra High Molecular Weight (UHMW) plastic guides.

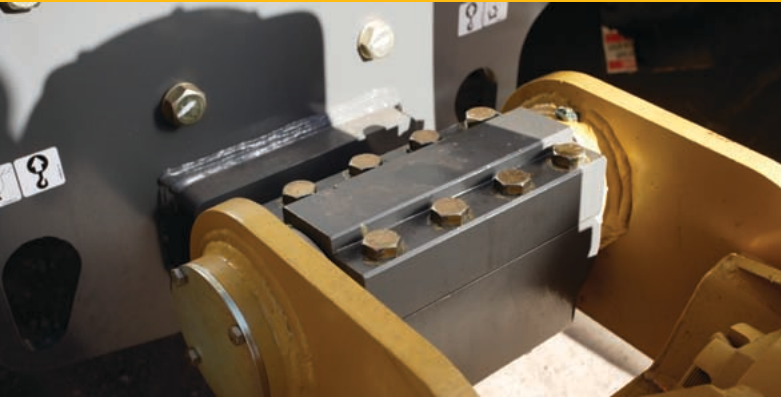
Depth Indicator

A depth indicator is mounted on trailing scrapers to provide the operator a visual reference to scraper cut depth.



Tongue and Hitch

Rugged and Dependable.



Hitches for Cat® Tractors

Robust hitches are available for Cat® Track-Type Tractors and Challenger MT800/MT900 Series Tractors. See your Cat dealer for hitches for other pulling machines.

Rugged Hitch

To prevent pin wear, the hitch uses a massive 89 mm (3.5 in) hitch pin securely held in place by eight bolts.

The hitch platform, positioned between the pulling machine and the tongue, contains two pins that allow ± 45 degrees of side-to-side oscillation (roll), ± 90 degree turns (yaw), and ± 27 degrees of uphill/downhill movement (pitch).

An integrated stop block allows a 90 degree turning radius while preventing contact between the tongue and the pulling machine tires/tracks.

An adapter is available to convert the scraper hitch for pulling drawn implements, such as disk harrows and sheepfoot compactor rollers.

Robust, Straight-Line Design

Built from 13 mm (0.5 in) structural plate steel, the tongue is built to withstand the high drawbar forces imposed by track-type tractors pulling towed scrapers.

The straight-line design eliminates draft arms, hydraulic cylinders, and lines located outside the width of the bowl, improving the overall strength to most effectively transfer the drawbar power to the cutting edges.

Countersunk Tandem Hitch

A countersunk hitch is provided in the push block of lead scrapers, allowing the scraper to be push loaded when a second scraper is not used.

Attachments

Lower the costs of Challenger™ Tractors in scraper applications.



Rubber Track Guides

Rubber Track Guides for Challenger MTS800 Series Tractors center the rubber tracks on roller wheels, and help prevent the track from moving into the machine or detacking, avoiding expensive downtime. The track guides extend the service life of the belt as the side-loading on the belt guide blocks is reduced.

Detacking is generally caused by sharp turns, usually under load. The rubber track guides can minimize tractor damage caused by detacking, but are not a replacement for sound operating techniques. Your Cat Dealer can provide training in proper towed scraper operation.

Hydraulic Hose Hanging Tower Kit

The hydraulic hose hanging tower kit for Challenger MTS800 and MTS900 Series Tractors allows the hoses to move freely and eliminate entanglement while maintaining vertical alignment for reduced hose fitting and valve wear to increase service life.

Wheels, Brakes

Raising the Standards.

Standard Brakes

Standard heavy-duty brakes bring a new level of safety to the job site. Each machine is equipped with four calipers.

The hydraulically-actuated, dry-disc brakes are identical to the brakes used on Cat Articulated Trucks.

Standard Radial Tires

Standard radial tires reduce rolling resistance and provide excellent flotation and durability. Heavy-duty, five-piece rim ensure a long service life. Wheel hubs are oil filled and sealed with Cat Duo-Cone™ seals.



Hydraulics

Tough components for tough applications.



Hose and Couplings.

Cat XT™-3 ES (Enhanced Spiral) hose is used. Cat XT-3 ES hose has an exclusive cover which is formulated and manufactured by Caterpillar to provide up to 20 times more abrasion resistance than industry-standard hose. Cat XT-3 ES hose works at half of the SAE's bend radius without sacrificing cold flex capability.

As additional protection all exposed hydraulic lines are solidly secured with rubber-lined clamps, protecting the hoses from failure caused by rubbing. All hydraulic hoses and lines use O-Ring Face Seal (ORFS) fittings for maximum leak prevention.

Steel Lines in Bowl Walls

Brake lines and hydraulic lines for the rear scraper in tandem arrangements use steel lines inside the scraper bowl walls – eliminating hose damage caused by material in the bowl or during top loading.

Cushion Hitch

The optional cushion hitch adds two hydraulic accumulators to the scraper bowl lift circuit. When the operator activates the cushion hitch feature during transport, the accumulators allow the scraper bowl lift hydraulic cylinders to act as shock absorbers. The cushion hitch can be used in single scraper operations or by a lead scraper in tandem operations when pulled by a wheeled agricultural tractor.

Hose Fittings

Three hose fitting options are available:

- 19 mm (3/4 in) poppet-style
- 13 mm (1/2 in) poppet-style
- Threaded, flat-face connectors

Easy-To-Use Connectors

Threaded flat-face connectors, available exclusively on Cat Towed Scrapers, allow connection and disconnection under pressure and are less susceptible to wear caused by hose movement.





Customer Support

Unmatched support makes the difference.

Your Cat dealer is ready to assist you with your purchase decision and everything after.

- Make comparisons of machines with estimates of component life, preventative maintenance and cost of production.
- Financing packages are flexible to meet your needs.
- Your Cat dealer can evaluate the cost to repair, rebuild and replace your machine, so you can make the right choices.
- Most Cat dealers offer operator training to help you get the most out of your machine investment.
- For more information on Cat products, the variety of dealer services, and industry solutions, visit us at www.cat.com.

TS180 Towed Scraper Specifications

Scraper Bowl

Capacity – Heaped	14.3 m ³	18.8 yd ³
Width of Cut, to Router Bits	3200 mm	10 ft 6 in
Rated Load	20 800 kg	45,900 lb
Capacity Struck	9.9 m ³	13 yd ³
Depth of Cut – max	203 mm	8 in
Ground Clearance – max	533 mm	21 in
Cutting Edge – thickness	22 mm	0.87 in
Depth of Spread – max	610 mm	24 in
Apron Opening	1600 mm	63 in

Pull Unit Recommendations

Steel Track-Type Tractor, Single Scraper	D7	
Steel Track-Type Tractor, Tandem Scrapers	D8	
Rubber Tracked Ag Tractor, Single Scraper	224-298 kW	300-400 hp
Rubber Tracked Ag Tractor, Tandem Scrapers	298-373 kW	400-500 hp
Rubber Tired Ag Tractor, Single Scraper	224-298 kW	300-400 hp
Rubber Tired Ag Tractor, Tandem Scrapers	298-373 kW	400-500 hp
Hydraulic Services Required – Single Scraper	2	
Hydraulic Services Required – Tandem Scraper	4	

Hydraulics

Front Bowl Cylinder Bore	127 mm	5 in
Front Bowl Cylinder Stroke	508 mm	20 in
Apron Cylinder Bore	102 mm	4 in
Apron Cylinder Stroke	813 mm	32 in
Ejector Cylinder Bore	127 mm	5 in
Ejector Cylinder Stroke	1372 mm	54 in

Weights

Empty Weight	11 748 kg	25,900 lb
Distribution, Empty – Tongue	28%	
Distribution, Empty – Axle	72%	
Distribution, Loaded – Tongue	29%	
Distribution, Loaded – Axle	71%	

Brakes and Tires

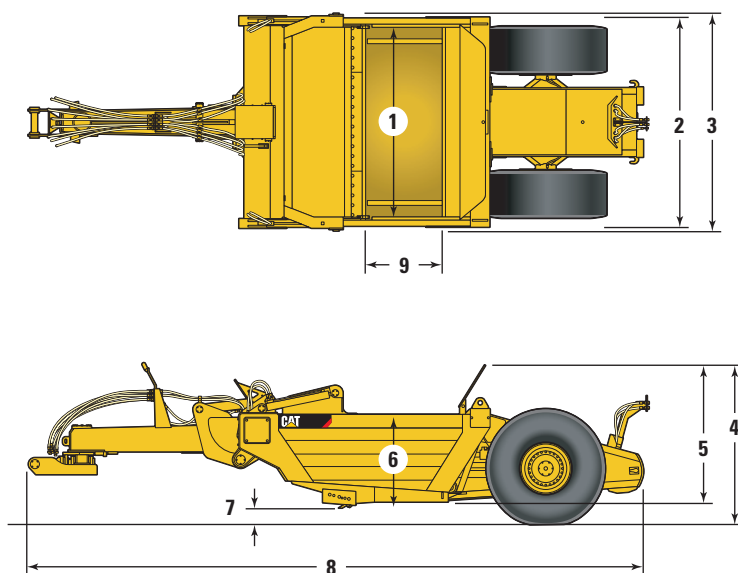
Brake Type	Dry-Disc
Calipers, Lead – qty	2 per side
Calipers, Trail – qty	1 per side
Tires – qty	2
Tire – Standard	29.5R25
Tire – Optional	875 65R29

Dimensions

Width – inside of bowl	3048 mm	120 in
Width – outside rear tires	3099 mm	122 in
Width – outside bowl	3378 mm	133 in
Height – overall shipping	2362 mm	93 in
Height – Floor to top of Ejector	1930 mm	76 in
Height – Sidewall	1219 mm	48 in
Height – Ground to Cutting Edge – Max	657 mm	25.9 in
Length – max	8915 mm	351 in
Length – Floor	1295 mm	51 in

Dimensions

All dimensions are approximate.



1 Width – Inside of bowl	3048 mm	120 in
2 Width – Outside rear tires	3099 mm	122 in
3 Width – Outside bowl	3378 mm	133 in
4 Height – Overall shipping	2362 mm	93 in
5 Height – Floor to top of ejector	1930 mm	76 in
6 Height – Sidewall	1219 mm	48 in
7 Height – Ground to cutting edge – Maximum	657 mm	25.9 in
8 Length – Maximum	8915 mm	351 in
9 Length – Floor	1295 mm	51 in

TS180 Standard Equipment

Standard equipment may vary. Consult your Caterpillar dealer for details

BOWL

Capacity, heaped, 14.3 m³ (18.8 yd³)

Capacity, struck, 9.9 m³ (13 yd³)

Center Lift System

Cutting Edges, Reversible

Router Bits

UHMW Plastic Alignment Guides

Ejector Roller System

Apron Lock Mechanism

HITCH AND TONGUE

Hitch Pin, 89 mm (3.5 in) diameter

Hitch platform

Integrated stop blocks

Rear hitch countersunk in push block for tandem operation (Lead)

Literature Storage Container

HYDRAULICS

Cat® XT™-3 ES Hose

Hydraulic connections for tandem operation (Lead Scraper)

Manual Lowering Valve

ORFS Fittings

Poppet-style Fittings, 19 mm (0.75 in)

WHEELS AND TIRES

Braking System (hydraulic)

Caliper Disc (Lead – 2 per wheel; Trail – 1 per wheel)

29.5 R25 Radial Tires (2)

Five-Piece Rim

STRUCTURES

Push Block

Rear Tow Hooks

TS180 Optional Equipment

Optional equipment may vary. Consult your Caterpillar dealer for details

HYDRAULICS

Quick-Connect Fittings

Poppet-style fittings, 13 mm (0.5 in)

Threaded, flat-face connectors

WHEELS AND TIRES

875 65R29 Radial Tires (2)

Spare Rim

TS180 Towed Scraper

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Materials and specifications are subject to change without notice. Featured machines in photos may include additional equipment. See your Caterpillar dealer for available options.

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