

350 MH

Material Handler



The Cat® 350 Material Handler is specifically designed for the scrap and material handling customer. This machine uses the most sophisticated manufacturing technology to ensure the highest level of manufacturing quality. This quality, with high Cat design standards, means that the 350 Material Handler will deliver the reliability and productivity you demand from Caterpillar.

Cat Turbocharged, ATAAC 3306 Diesel Engine	213 kW	286 hp
Operating Weight	61 576 kg	135,630 lb
Drawbar Pull	34 300 kg	75,600 lb
Maximum Travel Speed	4.6 km/h	2.9 mph
Cat Special Material Handling Linkage Arrangements		
Three-Piece	17.1 m	56'3"
Two-Piece	17.1 m	56'0"
Cat Cab Riser	1.9 m	6'5"

Two and Three-Piece Cat Designed and Built Fronts

A choice between two fronts for the 350 MH to meet your application needs.



350 MH two and three-piece fronts by Caterpillar meet all your application needs with excellent reach, flexibility and lift performance.

The Cat two-piece front offers a maximum horizontal reach of 17.1 m (56') from swing center and a maximum vertical pin height of 16.3 m (53'5") at 10 m (32'10") from the swing center.

The Cat three-piece front offers a maximum horizontal reach of 17.1 m (56'3") from swing center and a maximum vertical pin height of 16.8 m (55'3") at 8.9 m (29'3") from the swing center.

Booms, sticks, and jib are built for performance and long service life.

- **Efficient design of welded box-section structures** with thick, multi-plate fabrications in high stress areas allows structures to flex, dissipating stresses and maximizing strength.
- **Stress relieving booms and sticks** maximizes strength and minimizes structure weight.

Cat two and three-piece fronts are an excellent match for feeding shredders and shears when equipped with a 1.5 cu. m (2 cu. yd) four tine scrap grapple.



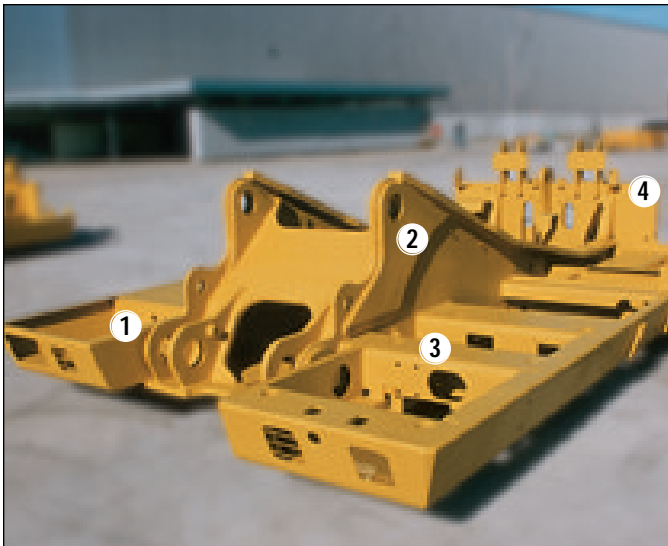
The Caterpillar 350 Material Handler

Tough, dependable, and loaded with performance-improving features.



The 350 MH arrangement is available with the following features:

- **Cat designed and built, 1.9 m (6'5") cab riser** gets your operator to an operating height with excellent visibility for loading or unloading your processing equipment, trucks and rail cars. Access to the cab is provided by a platform which extends around the riser to allow windshield cleaning. The cab riser can also be tilted forward 90° for shipping and provides ready access to service the generator system.
- **Cat Material Handler hydraulic systems** are specifically designed to meet your hydraulic attachment requirements. The grapple open/close circuit works with the Proportional Priority Pressure Compensating (PPPC) valve to deliver smooth simultaneous multi-function control. The rotate circuit provides a separate 47 lpm (12.5 gpm) gear pump and fully adjustable control valve, allowing this configuration to meet various grapple manufacturer's flow requirements. A separate fixed displacement axial piston pump is used to provide the hydraulic power to run a 25kW generator system.



- **The upperframe** is specifically designed for the scrap and material handling market. It is built of higher strength material and thicker steel sections to handle the increased swing loads developed with the longer fronts and heavier counterweights used in material handling.
 - 1 - Larger bore diameters
 - 2 - Thicker, more extensive boom foot support
 - 3 - Increased cab support
 - 4 - Larger counterweight gussets, stronger support plate
- **Special Counterweight.** The 350 MH is equipped with a counterweight which is over 70% heavier than the standard counterweight.



- **25kW Generator Set, hydraulically driven and designed by Crane Systems**, can power magnets up to 1.8m (71 inches) in diameter. Baldor generator and Square D magnet controller are price list options and can be installed at the factory.
- **Easy clean out cooling core.** Cooling system designed for easy clean out when operating in debris laden environment.
- **Wide 3316 mm (10'11") track gauge** provides the over-the-side stability required to handle heavy loads and improve productivity. For shipping, track frame gauge can be adjusted to 2641 mm (8'8"), 3505 mm (11'6") to the outside of shoes, when equipped with 850 mm (34") track shoes.

Engine

Caterpillar four-stroke-cycle, 3306 turbocharged ATAAC diesel engine.

Ratings at 2000 rpm	kW	hp
Gross power	228	306
Net power	213	286

The following ratings apply at 2000 rpm when tested under the specified standard conditions for the specified standard:

NET POWER	kW	hp
Caterpillar	213	286
ISO 9249	213	286
EEC 80/1269	213	286

Dimensions

Bore	121 mm	4.8 in
Stroke	152 mm	6.0 in
Displacement	10.51 L	640 in ³

Power rating conditions

- based on standard conditions of 25°C (77°F) and 99 kPa (29.32 in Hg) dry barometer
- used 35° API gravity fuel having an LHV of 42 780 kJ/kg (18,390 Btu/lb) when used at 30°C (86°F) [ref. a fuel density of 838.9 g/L (7.001 lb/U.S. gal)]
- net power advertised is the power available at the flywheel when the engine is equipped with fan, air cleaner, muffler and alternator
- no derating required up to 2287 m (7500 ft) altitude

Features

- Direct-electric, 24-volt starting system with a 75-amp alternator.
- 7.5 kW starter and two 12-volt, 150-amp-hour batteries.

Hydraulic System

The 350 hydraulic system provides efficient, dependable power when and where it's needed.

Ratings

Maximum flow	2 X 335 liters per min	2 X 89 gpm
Maximum pressure:		
Implements	31 400 kPa	4550 psi
Travel	34 300 kPa	4980 psi
Swing system:		
Maximum flow	1 X 290 liters per min	1 X 77 gpm
Maximum pressure	27 000 kPa	3910 psi
Pilot system:		
Maximum flow	42 liters per min	11.1 gpm
Maximum pressure	3 400 kPa	498 psi
Rotate Circuit for Grapple:		
Maximum flow	47 liters per min	12.5 gpm
Maximum pressure	20 000 kPa	2500 psi
Generator Aux Pump:		
Maximum flow	159 liters per min	42 gpm
Maximum pressure	34 400 kPa	5000 psi

Features

- two variable-displacement, axial-piston pumps power the boom, sticks, grapple and travel circuits
- a third pump powers the swing circuit
- one, fixed-displacement piston-type pump powers the generator circuit
- one single-section, gear-type pump powers the pilot circuit
- one single-section, gear-type pump powers the rotate circuit
- snubbers are used at the rod ends of the boom cylinders and at both ends of the stick cylinders

Drive

Fully hydrostatic drive.

- Each track driven by an independent, two-speed, axial-piston hydraulic motor.
- Triple-reduction, planetary final drives.
- Track motors, brakes and final drives are integrated in the track roller frame for maximum protection against damage.

Maximum drawbar pull	34 300 kg 75,600 lb
Travel Speeds	4.6 km/h 2.9 mph
Gradeability	70%

Weights

Operating Weight	61 576 kg 135,630 lb
Upper	14 926 kg 32,877 lb
Counterweight	10 787 kg 23,760 lb
Undercarriage (includes carbody)	21 657 kg 47,703 lb
Three-Piece Front (with cylinders)	13 970 kg 30,771 lb
Two-Piece Front (with cylinders)	10 805 kg 23,800 lb

All weights shown are for machines equipped with 850 mm (33.5") triple grouser track and Cat 17.1m (56'3") three piece material handling front.

Service Refill Capacities

	L	Gallons
Fuel Tank	700	185
Cooling System	73	19.2
Engine Oil	30	7.9
Swing Drive	8	2.1
Final Drive (each)	16	4.2
Hydraulic system (including tank)	520	137
Hydraulic tank	240	63.4

Standard Equipment

Note: Standard equipment may vary. Consult your Caterpillar dealer for specifics.

Air conditioner	Catwalks, left and right
Alarm, travel	Comprehensive self-diagnostics
Alternator (75-amp)	Counterweight
Anti drift valve	Electronic Memory System
Automatic engine control	Engine, Cat 3306
Automatic swing brake	Ether starting aid
Cab, sound suppressed, includes:	Guarding, heavy duty, below engine
Ash tray	High ambient protection
Cigarette lighter	Hydraulic system pressure taps
Coat hook	Lights, working:
Compartments:	Boom, left side (2)
Literature	Frame-mounted (2)
Storage, lunch box	Locks, door and cap, one-key system
Floor mat	Mirrors:
Heater with defroster	Frame, right
Horn, signaling/warning	Cab, left
Hydraulic/starting systems lock lever	Power Mode Selector
Instrument panel with LCD gauges	Straight travel circuit
Joysticks, pilot-operated, adjustable	Travel, two-speed
Lights, interior	Track shoes
Radio mounting	850 mm (33.5") triple grouser-350L
Seat, adjustable suspension	Undercarriage, variable wide gauge
Seat belt, retractable	Ventilation, positive filtered
Skylight	
Travel controls, pedals with removable levers	
Windshield wipers and washers	

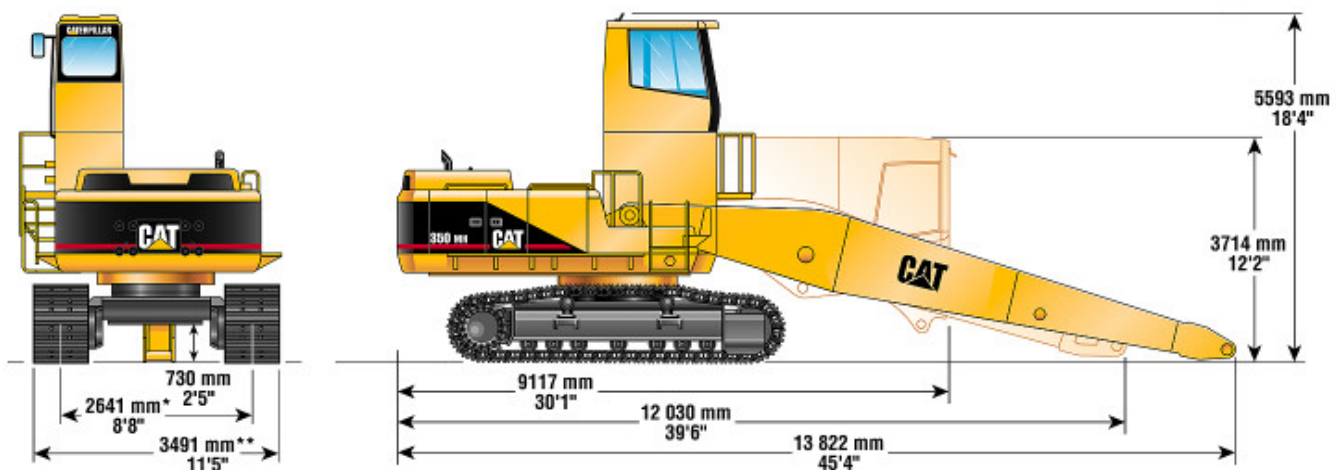
Optional Equipment

Note: Optional equipment may vary. Consult your Caterpillar dealer for specifics.

Auxiliary hydraulics
Grapple
Rotate
Generator
Boom & Stick AR
Cat 56'3" three-piece MH front
Cat 56'0" two-piece MH front
Cab riser 1.9 m (6'5")
Cold weather start
Easy clean radiator
Ether starting aid
Fast-fill fuel system
Fast-fill oil system
Generator, 25 kW by Crane Systems
Grapples, four tine, by Young Corporation
Guards:
Falling object
Front cab
Lubrication system, on board
Rain protector, front window
Track guiding guard
Track Shoes:
350L 750 mm (30") triple grouser

Dimensions

Note: Standard equipment may vary. Consult your Caterpillar dealer for specifics.



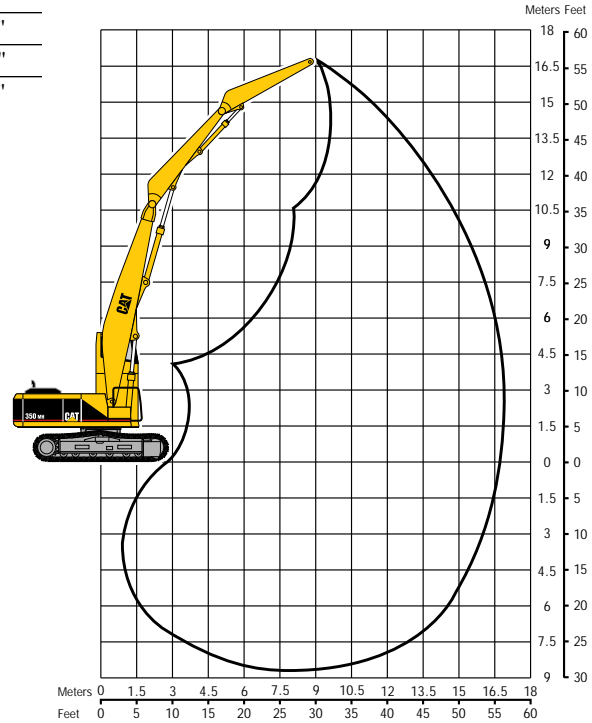
* Track gauge when extended 3316 mm (10'11")

** Track width when extended 4166 mm (13'8")

Working Ranges – Three-Piece Front

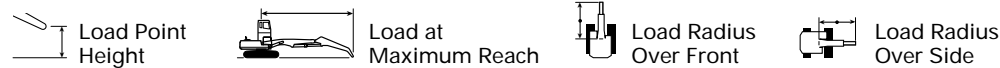
Machine equipped with 17.1 m (56'3") three-piece front. Check with your Cat dealer for other available options.

Maximum horizontal reach	17.1 m	56'3"
Maximum height at 8.96 m (29'4")	16.8 m	55'3"
Maximum depth at 8.3 m (26')	8.9 m	29'3"



Lift Capacities

350 MH equipped with Cat 3-piece, 17.1 m (56' 3") Front



Load Point Height	Load at Maximum Reach										Load Radius Over Front		Load Radius Over Side		m	ft			
	4.5 m (15.0 ft)	6.0 m (20.0 ft)	7.5 m (25.0 ft)	9.0 m (30.0 ft)	10.5 m (35.0 ft)	12.0 m (40.0 ft)	13.5 m (45.0 ft)	15.0 m (50.0 ft)	16.5 m (55.0 ft)	17.1 m (56.3 ft)	8.3 m (27.2 ft)	8.96 m (29.4 ft)							
15.0 m 50.0 ft																	*6210	*6210	11.2
																	*13,700	*13,700	36.7
13.5 m 45.0 ft																	*5810	*5810	12.7
																	*12,800	*12,800	41.8
12.0 m 40.0 ft																	*5580	*5580	13.7
																	*12,300	*12,300	44.9
10.5 m 35.0 ft																	*5440	5310	15.0
																	*12,000	11,700	49.1
9.0 m 30.0 ft																	*5400	4720	15.7
																	*11,900	10,400	51.6
7.5 m 25.0 ft																	*5350	4350	16.3
																	*11,800	9600	53.5
6.0 m 20.0 ft																	*5400	4040	16.7
																	*11,900	8,900	54.9
4.5 m 15.0 ft																	*5580	3990	17.0
																	*12,300	8,800	55.8
3.0 m 10.0 ft																	3900	5350	17.1
																	*12,300	8,600	56.2
1.5 m 5.0 ft																	3810	5260	17.1
																	*11,600	8,100	56.2
0.0 m 0.0 ft																	3720	5260	17.0
																	*11,600	8,000	55.7
-1.5 m -5.0 ft																	*4900	3720	16.7
																	*10,800	8,200	54.8
-3.0 m -10.0 ft																	*4400	3860	16.3
																	*9,700	8,500	53.4
-4.5 m -15.0 ft																	*3720	*3720	15.7
																	*8,200	*8,200	51.4
-6.0 m -20.0 ft																	*2860	*2860	14.9
																	*6,300	*6,300	48.9
-7.5 m -25.0 ft																			

* Indicates that the load is limited by hydraulic capacity rather than tipping capacity. Lift capacity ratings are based on SAE standard J1097. Rated loads do not exceed 87% of hydraulic lifting capacity or 75% of tipping capacity.

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Materials and specifications subject to change without notice.

