350 MH
Material Handler - Wheeled Carrier

The 350 Wheeled Material Handler combines the Cat® 350 MH base machine upper components with a Pierce Pacific self propelled wheeled carrier (powered by a Caterpillar® 3306B engine) to provide the scrap and material handler customer with a highly mobile, purpose-built material handler.

Note: For standard specifications and features, refer to the standard Caterpillar specalog for this machine.

Cat 350 MH Upper Cat 3306 DIT ATAAC Engine	213 kW	286 hp
Operating Weight	68 812 kg	151,800 lbs
Travel Speed	19 km/h	12 mph
Cat Special Material Handling Linkage Arrangements		
Three-Piece	17.1 m	56'3"
Two-Piece	16.5 m	54'2"
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 16.5 m (54'2") from swing center and a maximum vertical pin height of 15.4 m (50'7") 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.

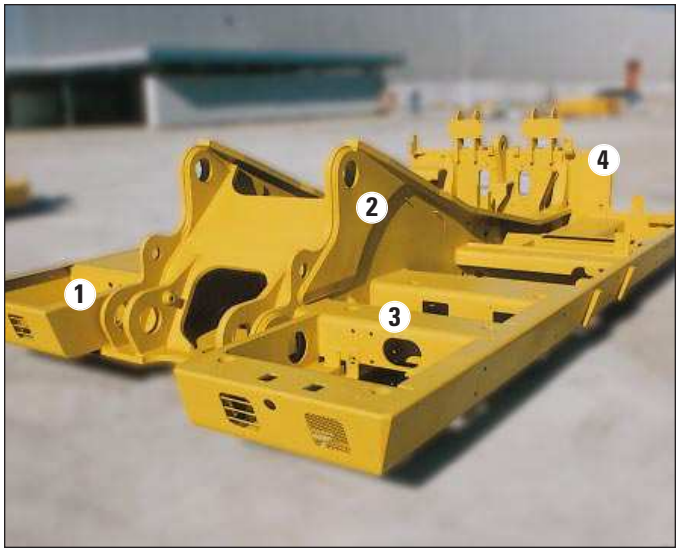
- **Efficient design of welded box-section structures** with thick, multi-plate fabrications in high stress areas allows structures to flex, dissipating stresses and maximizing strength.
- **Stress relieving** booms and sticks maximizes strength and minimizes structure weight.

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.

Courtesy of Crane.Market

The Caterpillar 350 Material Handler (MH)

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 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 33kW generator system.
- **The upper frame** 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.
- **Easy clean out cooling core.** Cooling system designed for easy clean out when operating in debris laden environment.
- **33kW Generator Set, hydraulically driven and designed by Crane Systems,** can power magnets up to 2.0 m (78 inches) in diameter. Baldor generator and Square D magnet controller are price list options and can be installed at the factory.

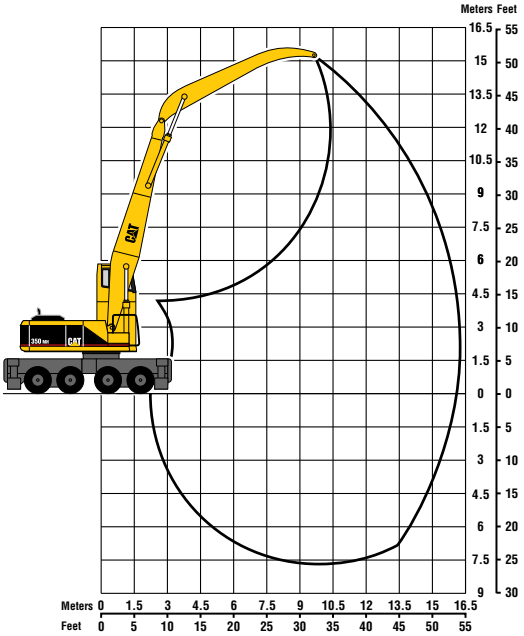
Courtesy of Crane.Market

Working Range/Lift Chart – Two-Piece Front

Machine equipped with 16.5 m (54'2") Cat two-piece MH front.
Lift is hydraulically limited through 360° rotation with outriggers down.

Maximum reach at ground level	16.5 m	54'2"
Maximum height at 10.0 m (32'10")	15.6 m	51'3"

Lift capacities are all hydraulic limited and are stated at 87% of actual per SAE standard J1097.



Lift Capacities

350 MH equipped with Cat 2-piece, 16.5 m (54' 2") Front

Load Point Height | Load at Maximum Reach | Load Radius Over Front | Load Radius Over Side

		3.0 m (10.0 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)				
																						m ft
15.0 m	kg																			8 000	8 000	10.44
50.0 ft	**lb**																			**16,200**	**16,200**	**33.20**
13.5 m	kg											10 500	10 500	7 700	7 700					7 600	7 600	12.06
45.0 ft	**lb**											**19,700**	**19,700**							**15,200**	**15,200**	**38.90**
12.0 m	kg													10 000	10 000					7 300	7 300	13.31
40.0 ft	**lb**											**20,800**	**20,800**	**18,900**	**18,900**					**14,700**	**14,700**	**43.20**
10.5 m	kg											10 700	10 700	10 000	10 000	9 200	9 200			7 200	7 200	14.30
35.0 ft	**lb**											**20,900**	**20,900**	**19,500**	**19,500**	**16,900**	**16,900**			**14,400**	**14,400**	**46.60**
9.0 m	kg											10 900	10 900	10 200	10 200	9 500	9 500	7 400	7 400	7 200	7 200	15.07
30.0 ft	**lb**											**21,400**	**21,400**	**19,800**	**19,800**	**18,400**	**18,400**			**14,400**	**14,400**	**49.20**
7.5 m	kg											11 300	11 300	10 400	10 400	9 600	9 600	8 900	8 900	7 300	7 300	15.65
25.0 ft	**lb**											**22,100**	**22,100**	**20,200**	**20,200**	**18,600**	**18,600**	**16,900**	**16,900**	**14,500**	**14,500**	**51.20**
6.0 m	kg									13 300	13 300	11 900	11 900	10 700	10 700	9 800	9 800	9 000	9 000	7 500	7 500	16.08
20.0 ft	**lb**									**25,800**	**25,800**	**23,000**	**23,000**	**20,800**	**20,800**	**19,000**	**19,000**	**17,400**	**17,400**	**14,800**	**14,800**	**52.70**
4.5 m	kg					20 300	20 300	16 600	16 600	14 200	14 200	12 400	12 400	11 100	11 100	10 000	10 000	9 100	9 100	7 700	7 700	16.35
15.0 ft	**lb**					**39,400**	**39,400**	**32,300**	**32,300**	**27,500**	**27,500**	**24,000**	**24,000**	**21,400**	**21,400**	**19,300**	**19,300**	**17,500**	**17,500**	**15,300**	**15,300**	**53.60**
3.0 m	kg			31 200	31 200	22 700	22 700	18 000	18 000	15 000	15 000	13 000	13 000	11 400	11 400	10 200	10 200	9 200	9 200	8 000	8 000	16.48
10.0 ft	**lb**			**60,400**	**60,400**	**43,900**	**43,900**	**34,800**	**34,800**	**29,100**	**29,100**	**25,000**	**25,000**	**22,000**	**22,000**	**19,600**	**19,600**	**17,500**	**17,500**	**15,900**	**15,900**	**54.10**
1.5 m	kg			15 300	15 300	24 400	24 400	19 100	19 100	15 700	15 700	13 400	13 400	11 700	11 700	10 300	10 300	9 200	9 200	8 100	8 100	16.47
5.0 ft	**lb**			**32,500**	**32,500**	**47,100**	**47,100**	**36,800**	**36,800**	**30,300**	**30,300**	**25,700**	**25,700**	**22,400**	**22,400**	**19,700**	**19,700**	**17,500**	**17,500**	**15,700**	**15,700**	**54.10**
0.0 m	kg			11 900	11 900	23 500	23 500	19 600	19 600	16 000	16 000	13 600	13 600	11 700	11 700	10 300	10 300	9 000	9 000	8 000	8 000	16.33
0.0 ft	**lb**			**24,600**	**24,600**	**48,100**	**48,100**	**37,700**	**37,700**	**30,800**	**30,800**	**26,100**	**26,100**	**22,500**	**22,500**	**19,600**	**19,600**	**17,100**	**17,100**	**15,400**	**15,400**	**53.60**
-1.5 m	kg	8 000	8 000	11 600	11 600	19 000	19 000	19 400	19 400	16 000	16 000	13 500	13 500	11 600	11 600	10 100	10 100	8 700	8 700	7 800	7 800	16.04
-5.0 ft	**lb**			**23,800**	**23,800**	**39,500**	**39,500**	**37,300**	**37,300**	**30,600**	**30,600**	**25,800**	**25,800**	**22,100**	**22,100**	**19,100**	**19,100**	**16,500**	**16,500**	**15,100**	**15,100**	**52.60**
-3.0 m	kg	9 300	9 300	12 200	12 200	17 800	17 800	18 600	18 600	15 500	15 500	13 100	13 100	11 200	11 200	9 600	9 600	8 200	8 200	7 600	7 600	15.59
-10.0 ft	**lb**	**18,700**	**18,700**	**24,900**	**24,900**	**36,800**	**36,800**	**35,600**	**35,600**	**29,500**	**29,500**	**24,900**	**24,900**	**21,300**	**21,300**	**18,200**	**18,200**	**15,300**	**15,300**	**14,600**	**14,600**	**51.10**
-4.5 m	kg			13 000	13 000	17 700	17 700	17 200	17 200	14 500	14 500	12 300	12 300	10 500	10 500	8 900	8 900			7 300	7 300	14.99
-15.0 ft	**lb**			**26,400**	**26,400**	**36,500**	**36,500**	**32,800**	**32,800**	**27,500**	**27,500**	**23,200**	**23,200**	**19,700**	**19,700**	**16,600**	**16,600**			**14,000**	**14,000**	**49.1**
-6.0 m	kg					18 000	18 000	15 200	15 200	12 900	12 900	11 000	11 000	9 300	9 300	7 700	7 700			6 900	6 900	14.20
-20.0 ft	**lb**					**33,900**	**33,900**	**28,700**	**28,700**	**24,400**	**24,400**	**20,600**	**20,600**	**17,300**	**17,300**	**14,000**	**14,000**			**13,100**	**13,100**	**46.40**
-7.5 m	kg									10 800	10 800	9 200	9 200	7 600	7 600							
-25.0 ft	**lb**									**20,000**	**20,000**	**16,900**	**16,900**									

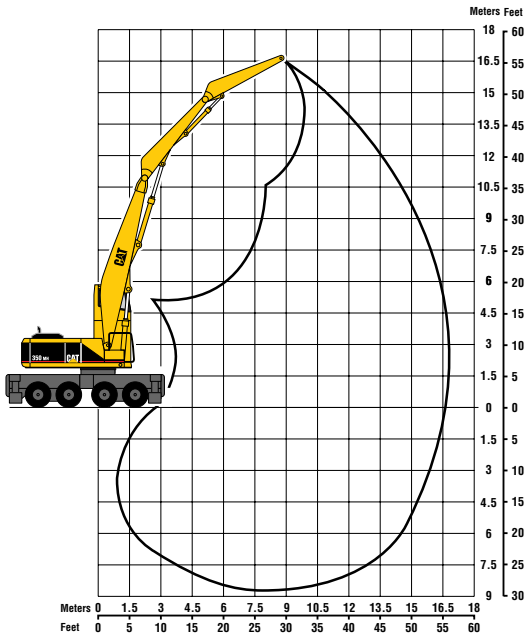
All points in above chart are limited by hydraulic capacity rather than tipping capacity. Lift capacity ratings are based on SAE standard J1097.Rated loads do not exceed 87% of hydraulic lifting capacity or 75% of tipping capacity.

Working Range/Lift Chart – Three-Piece Front

Machine equipped with 17.1 m (56'3") Cat three-piece MH front.
Lift is hydraulically limited through 360° rotation with outriggers down.

Maximum reach at ground level	17.1 m	56'3"
Maximum height at 9.45 m (31')	17.0 m	55'11"

Lift capacities are all hydraulic limited and are stated at 87% of actual per SAE standard J1097.



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

		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)				
																						m ft
15.0 m	kg									8 200	8 200									6 700	6 700	11.76
50.0 ft	**lb**									**13,100**	**13,100**									**13,500**	**13,500**	**37.7**
13.5 m	kg									9 800	9 800	7 900	7 900							6 300	6 300	13.18
45.0 ft	**lb**									**19,200**	**19,200**	**12,400**	**12,400**							**12,700**	**12,700**	**42.7**
12.0 m	kg									10 600	10 600	9 400	9 400	7 900	7 900					6 100	6 100	14.31
40.0 ft	**lb**									**19,500**	**19,500**	**18,400**	**18,400**	**12,100**	**12,100**					**12,200**	**12,200**	**46.5**
10.5 m	kg							12 400	12 400	11 500	11 500	10 500	10 500	9 000	9 000	5 900	5 900			6 000	6 000	15.20
35.0 ft	**lb**									**22,600**	**22,600**	**20,200**	**20,200**	**16,000**	**16,000**					**12,000**	**12,000**	**49.6**
9.0 m	kg							14 200	14 200	12 300	12 300	10 700	10 700	9 700	9 700	8 000	8 000			5 900	5 900	15.90
30.0 ft	**lb**							**27,600**	**27,600**	**23,700**	**23,700**	**21,000**	**21,000**	**18,800**	**18,800**	**11,800**	**11,800**			**11,800**	**11,800**	**52.0**
7.5 m	kg							14 400	14 400	12 800	12 800	11 100	11 100	9 900	9 900	8 600	8 600			5 900	5 900	16.43
25.0 ft	**lb**							**27,900**	**27,900**	**24,700**	**24,700**	**21,000**	**21,000**	**18,800**	**18,800**	**12,100**	**12,100**			**11,900**	**11,900**	**53.8**
6.0 m	kg					17 200	17 200	14 700	14 700	12 900	12 900	11 300	11 300	10 000	10 000	8 900	8 900	6 000	6 000	6 000	6 000	16.81
20.0 ft	**lb**					**33,200**	**33,200**	**28,400**	**28,400**	**24,700**	**24,700**	**21,500**	**21,500**	**19,000**	**19,000**	**16,900**	**16,900**	**12,000**	**12,000**	**12,000**	**12,000**	**55.1**
4.5 m	kg	10 400	10 400	21 100	21 100	17 700	17 700	15 100	15 100	13 000	13 000	11 300	11 300	9 900	9 900	8 900	8 900	7 700	7 700	6 100	6 100	17.04
15.0 ft	**lb**	**21,600**	**21,600**	**26,900**	**26,900**	**34,600**	**34,600**	**29,000**	**29,000**	**24,800**	**24,800**	**21,500**	**21,500**	**19,000**	**19,000**	**16,800**	**16,800**	**12,400**	**12,400**	**12,200**	**12,200**	**55.9**
3.0 m	kg	11 000	11 000	22 000	22 000	18 300	18 300	15 300	15 300	13 000	13 000	11 300	11 300	9 900	9 900	8 800	8 800	7 500	7 500	6 300	6 300	17.15
10.0 ft	**lb**	**24,000**	**24,000**	**42,300**	**42,300**	**35,100**	**35,100**	**29,300**	**29,300**	**24,800**	**24,800**	**21,600**	**21,600**	**19,000**	**19,000**	**16,500**	**16,500**	**12,900**	**12,900**	**12,600**	**12,600**	**56.2**
1.5 m	kg	8 200	8 200	18 100	18 100	18 700	18 700	15 400	15 400	13 100	13 100	11 400	11 400	10 000	10 000	8 700	8 700	7 200	7 200	6 500	6 500	17.11
5.0 ft	**lb**	**17,100**	**17,100**	**32,900**	**32,900**	**35,900**	**35,900**	**29,600**	**29,600**	**25,300**	**25,300**	**21,700**	**21,700**	**18,800**	**18,800**	**16,000**	**16,000**	**13,500**	**13,500**	**12,500**	**12,500**	**56.1**
0.0 m	kg	7 800	7 800	11 900	11 900	19 100	19 100	15 800	15 800	13 400	13 400	11 500	11 500	9 900	9 900	8 500	8 500	6 800	6 800	6 100	6 100	16.95
0.0 ft	**lb**	**15,000**	**15,000**	**22,800**	**22,800**	**36,700**	**36,700**	**30,400**	**30,400**	**25,600**	**25,600**	**21,900**	**21,900**	**18,800**	**18,800**	**15,800**	**15,800**	**12,200**	**12,200**	**11,600**	**11,600**	**55.6**
-1.5 m	kg	7 900	7 900	10 700	10 700	19 300	19 200	15 900	15 900	13 300	13 300	11 300	11 300	9 600	9 600	7 900	7 900	5 900	5 900	5 700	5 700	16.64
-5.0 ft	**lb**	**15,600**	**15,600**	**23,800**	**23,800**	**36,500**	**36,500**	**30,300**	**30,300**	**25,300**	**25,300**	**21,300**	**21,300**	**17,900**	**17,900**	**14,600**	**14,600**			**10,600**	**10,600**	**54.6**
-3.0 m	kg	7 600	7 600	10 000	10 000	18 900	18 900	15 400	15 400	12 800	12 800	10 700	10 700	8 900	8 900	7 000	7 000			5 100	5 100	16.19
-10.0 ft	**lb**	**15,400**	**15,400**	**20,100**	**20,100**	**36,000**	**36,000**	**29,200**	**29,200**	**24,100**	**24,100**	**20,100**	**20,100**	**16,400**	**16,400**	**12,600**	**12,600**			**9,400**	**9,400**	**53.1**
-4.5 m	kg	7 400	7 400	10 100	10 100	17 400	17 400	14 200	14 200	11 700	11 700	9 600	9 600	7 700	7 700	5 500	5 500			4 400	4 400	15.58
-15.0 ft	**lb**	**14,800**	**14,800**	**20,800**	**20,800**	**33,000**	**33,000**	**26,800**	**26,800**	**21,900**	**21,900**	**17,800**	**17,800**	**13,900**	**13,900**	**9,200**	**9,200**			**7,900**	**7,900**	**51.0**
-6.0 m	kg	7 400	7 400	9 500	9 500	15 100	15 100	12 300	12 300	10 000	10 000	8 000	8 000	5 900	5 900							
-20.0 ft	**lb**	**15,000**	**15,000**	**19,600**	**19,600**	**28,100**	**28,100**	**22,800**	**22,800**	**18,400**	**18,400**	**14,300**	**14,300**	**10,000**	**10,000**							
-7.5 m	kg	7 300	7 300	9 700	9 700	11 700	11 700	9 500	9 500	7 500	7 500	5 500	5 500									
-25.0 ft	**lb**	**13,900**	**13,900**	**20,200**	**20,200**	**21,200**	**21,200**	**17,100**	**17,100**	**13,200**	**13,200**	**9,000**	**9,000**									

All points in above chart are 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.

Hydraulic System

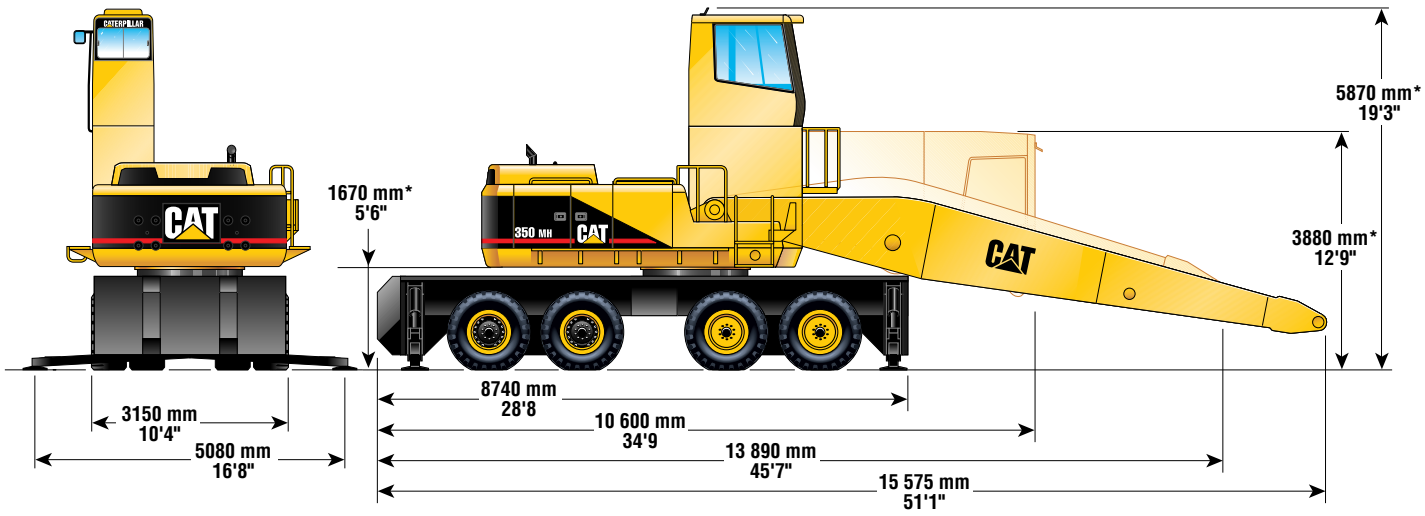
The 350 hydraulic system provides efficient, dependable power when and where it's needed.

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 Auxiliary Pump:		
Maximum flow	196 liters per min	52 gpm
Maximum pressure	34 400 kPa	5000 psi

Weights

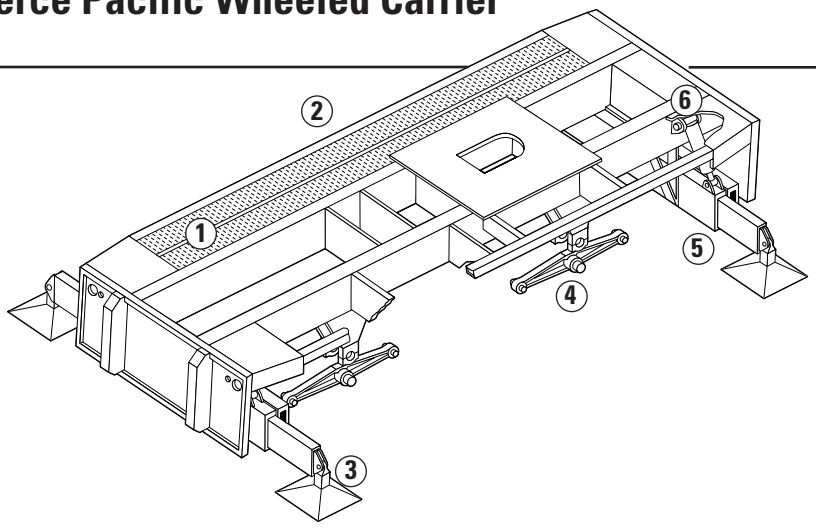
Operating Weight (with three-piece front)	68 917 kg 151,800 lb
Upper	14 926 kg 32,877 lb
Counterweight	10 787 kg 23,760 lb
Pierce Lower	29 234 kg 64,392 lb
Three-Piece Front (with cylinders)	13 970 kg 30,771 lb
Two-Piece Front (with cylinders)	10 805 kg 23,800 lb

Dimensions

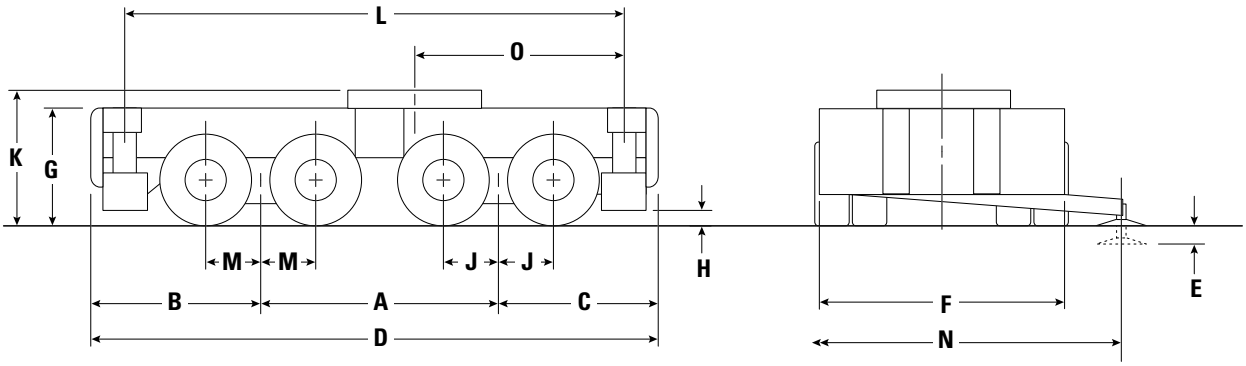


* Dimensions with machine sitting on rubber tires

Pierce Pacific Wheeled Carrier



1	Grip strut fender
2	Off-road construction
3	Double swivel pads
4	Planetary axles
5	Heavy duty outriggers
6	Special Pierce cylinders built for scrap with chrome shafts and double pilot control check valves for safety



Dimension			
A	Wheel base	3.91 m	154"
B	Front to steering axle	2.23 m	88"
C	Rear to drive axle	2.13 m	84"
D	Overall length	8.74 m	28'8"
E	Total travel with outrigger fully extended	0.30 m	12"
F	Overall width	3.15 m	10'4"
G	Deck height	1.54 m	60"
H	Ground clearance	0.25 m	10"
J	Drive axle to trunnion	0.74 m	29"
K	Height to user ring	1.67 m	66"
L	Outrigger centerline distance	7.77 m	25'6"
M	Steering axle to trunnion	0.76 m	30"
N	Outrigger fully extended	5.08 m	16'8"
O	Rear outrigger center to swing center	2.9 m	9'6"

Pierce Pacific Wheeled Carrier

Bridgestone 14.00-24 20 PR RL ES Tires

4 Outrigger Pads Pierce 610 mm (24")

4 203 mm (8") Outrigger Cylinders

Travel speed 19 km/h 12 mph

- Electric supplemental steering
- Cat 3306B engine – 214 kW/287 hp
- Cat power shift transmission (4F-4R)

The Pierce Pacific Wheeled Carrier is a self-contained unit powered by a Cat 3306B DITA engine, torque converter and Cat 4-speed power shift transmission. The Pierce walking beam suspension supports Rockwell 1927 series planetary hub drive axles. Eaton 24T5 – 2.36 m (93") tubular axles provide steering. The main frame is a fabricated box construction with high tensile alloy steel that is designed for high duty cycles. Controls for operation are all mounted in the cab for operator ease. Outriggers are controlled from the operator platform or the carrier deck and are hydraulically extended, Pierce hi-lift, scissor type with double-swivel, self-storing outrigger pads. The carrier comes equipped with full-length, heavy duty fenders, supplemental steering system, headlights, turn signals and backup alarm.

350 MH Material Handler - Wheeled Carrier

AEHQ5247(3-97)
Replaces AEHQ9008

CATERPILLAR®