S305/S320
S325/S340
S365/S390

Mobile Scrap and Demolition Shears

Shear Model	Cat Excavator
S320	312B L
	315B L
	M312*
	M315*

Shear Model	Cat Excavator
S325	315B L
	318B L
	320B L
	M312*
	M315*
	M318*
	M320*

Shear Model	Cat Excavator
S340	322B L
	325B L
	330B L
S365	345B L
S390	365B L
	375 L

Reach Boom Mounted

* Must be operated with Dozer blade and stabilizer down or two sets or stabilizers down.


CAT
325B L H
CAT

Cat® S305, S320, S325, S340, S365, S390 Mobile Scrap and Demolition Shears

360 degrees hydraulic rotation exceptional productivity and low maintenance cost.

Experience gained over the last 20 years has enabled Cat to design and manufacture a third generation of Cat shears offering a high force to weight ratio. This important ratio ensures maximum productivity and minimum downtime in each shear weight class since tool strength is perfectly balanced against high, potentially destructive shear force.

With the introduction of the Cat® S305, S320, S325, S340, S365 and S390 hydraulic shears, Caterpillar® offers a line of steel cutting shears that meets your requirements in scrap recycling as well as primary demolition. These shears are versatile tools well suited for stick or boom mounting on Caterpillar hydraulic excavators.

Shears are widely used for demolishing steel structures, cutting up cars, trucks and farm machinery, railroad cars, rubber tires and reinforced concrete structures. Shears can also be used for preparing long structural beams and bulk scrap for further processing on stationary shears.

Key features of the shears are:

- All six shear models are equipped with 360° rotators of a proven design - identical to those on the Cat Multi-Processors. These rugged rotation systems ensure quick and precise placement of the jaws in optimum cutting position without requiring movement of the excavator.
- The S 300 series are very efficient tools because of the high force to weight ratio as compared to most competitive shears.
- Shear blades are made of exceptionally long-wearing alloy steel. Shear knives are reversible: side cutters have two cutting edges per blade, and the rest have four cutting edges per blade. The knives have an excellent service life, with individual cutting edges lasting in excess of 100 hours, depending on working conditions, maintenance procedures and operator experience.
- Proven speed valves mounted on powerful and reliable quality hydraulic cylinders speed up cycle times to 6 - 9.5 seconds depending on shear type and excavator model.
- The jaw openings of the shears are matched to the high shear force contributing to the optimal force to weight ratio, cycle time and the competitive shear cost.
- The shear blade fasteners utilize unique steel retainers which are more durable than typical bolts. Tight tolerances between the knives in the upper and lower jaws optimize cutting force and prevent jamming; these tolerances can be easily maintained in the field via the easily adjustable main pivot pin assembly or by shimming.
- S300 shears can be mounted on either the boom or the stick of the excavator. Boom-mounted shears are preferred in scrap processing where optimization of shear force is desirable. Boom-mounting allows a larger, more powerful shear to be used on a given machine, when compared to a stick-mount. In demolition, or anywhere where reach is a greater concern than total force, stick-mounted shears are typically preferred.
- The robust rotation system with up to two hydraulic motors on the largest shears provide system integrity under demanding conditions in scrap yards as well as on demolishing sites. The motor torque and the structural strength of the slewing ring make it possible to handle heavy loads commensurate with the lift capacity of the matching excavators.

Specifications

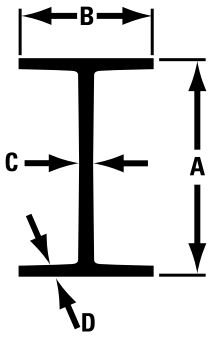
Model	S305	S320	S325	S340	S365	S390
Weight* total	**580 kg** 1,279 lb	**2150 kg** 4,741 lb	**3000 kg** 6,615 lb	**4250 kg** 9,371 lb	**6500 kg** 14,333 lb	**9700 kg** 21,389 lb
Dimensions						
Length L	**1886 mm** 74.5"	**3044 mm** 119.8"	**3453 mm** 135.9"	**3900 mm** 153.5"	**4617 mm** 181.8"	**5348 mm** 210.6"
Height H	**660 mm** 26"	**1183 mm** 45.6"	**1374 mm** 54.1"	**1506 mm** 59.3"	**1810 mm** 71.3"	**2117 mm** 83.3"
Width W	**390 mm** 15.4"	**800 mm** 31.5"	**800 mm** 31.5"	**1010 mm** 39.8"	**1180 mm** 46.5"	**1400 mm** 55.1"
Jaw width (fixed)	**230 mm** 9.1"	**335 mm** 13.2"	**375 mm** 14.8"	**440 mm** 17.3"	**510 mm** 20.1"	**620 mm** 24.4"
Jaw width (moving)	**60 mm** 2.4"	**90 mm** 3.5"	**100 mm** 3.9"	**120 mm** 4.7"	**150 mm** 5.9"	**180 mm** 7.1"
Jaw opening (M)	**240 mm** 9.4"	**390 mm** 15.4"	**490 mm** 19.3"	**580 mm** 22.8"	**740 mm** 29.1"	**860 mm** 33.9"
Jaw depth (S)	**290 mm** 11.4"	**440 mm** 17.3"	**570 mm** 22.4"	**680 mm** 26.8"	**830 mm** 32.7"	**1020 mm** 40.2"
Shear forces						
Tip	**400 kN** 44 st	**900 kN** 99 st	**1250 kN** 138 st	**1550 kN** 171 st	**1950 kN** 215 st	**2500 kN** 275 st
Primary blade center	**900 kN** 99 st	**2200 kN** 242 st	**3200 kN** 352 st	**3800 kN** 418 st	**4800 kN** 528 st	**6050 kN** 666 st
At throat	**1750 kN** 193 st	**3800 kN** 418 st	**5900 kN** 649 st	**7300 kN** 803 st	**9850 kN** 1084 st	**12600 kN** 1386 st
Hydraulic for cutting						
Max. operating pressure	**25000 kPa** 3,625 psi	**35000 kPa** 5,075 psi	**35000 kPa** 5,075 psi	**35000 kPa** 5,075 psi	**35000 kPa** 5,075 psi	**35000 kPa** 5,075 psi
Recommended flow	**60 L/min** 16 gpm	**150 L/min** 40 gpm	**200 L/min** 53 gpm	**300 L/min** 79 gpm	**400 L/min** 106 gpm	**800 L/min** 211 gpm
Return flow (during opening)	**100 L/min** 26 gpm	**240 L/min** 63 gpm	**300 L/min** 79 gpm	**510 L/min** 135 gpm	**680 L/min** 180 gpm	**1520 L/min** 401 gpm
Time open	**3.5 sec**	**4 sec**	**5 sec**	**4.5 sec**	**5.5 sec**	**4 sec**
Time close	**2.5 sec**	**3 sec**	**3 sec**	**3.5 sec**	**4 sec**	**3 sec**
Connector-size	**1 3/16 ORFS**	**1 7/16 ORFS**	**1 7/16 ORFS**	**1 11/16 ORFS**	**SAE 1 1/4"**	**SAE 1 1/2"**
Hydraulic for rotating						
Max. operating pressure	**10000 kPa** 1,450 psi	**14000 kPa** 2,030 psi	**14000 kPa** 2,030 psi	**14000 kPa** 2,030 psi	**14000 kPa** 2,030 psi	**14000 kPa** 2,030 psi
Recommended flow	**20 L/min** 5 gpm	**40 L/min** 11 gpm	**40 L/min** 11 gpm	**40 L/min** 11 gpm	**80 L/min** 21 gpm	**80L/min** 21 gpm
Connector-size	**1 3/16 ORFS**	**1 3/16 ORFS**	**1 3/16 ORFS**	**1 3/16 ORFS**	**1 3/16 ORFS**	**1 3/16 ORFS**
Excavator size; Stick mounted						
Min.	**5000 kg** 11,025 lb	**15000 kg** 33,075 lb	**20000 kg** 44,100 lb	**30000 kg** 66,150 lb	**40000 kg** 88,200 lb	**65000 kg** 143,325 lb
Max.	**7500 kg** 16,538 lb	**25000 kg** 55,125 lb	**35000 kg** 77,175 lb	**45000 kg** 99,225 lb	**65000 kg** 143,325 lb	**90000 kg** 198,450 lb
Excavator size; Boom mounted						
Min.	**3000 kg** 6,615 lb	**10000 kg** 22,050 lb	**15000 kg** 33,075 lb	**20000 kg** 44,100 lb	**30000 kg** 66,150 lb	**40000 kg** 88,200 lb
Max.	**6000 kg** 13,230 lb	**15000 kg** 33,075 lb	**25000 kg** 55,125 lb	**35000 kg** 77,175 lb	**45000 kg** 99,225 lb	**65000 kg** 143,325 lb

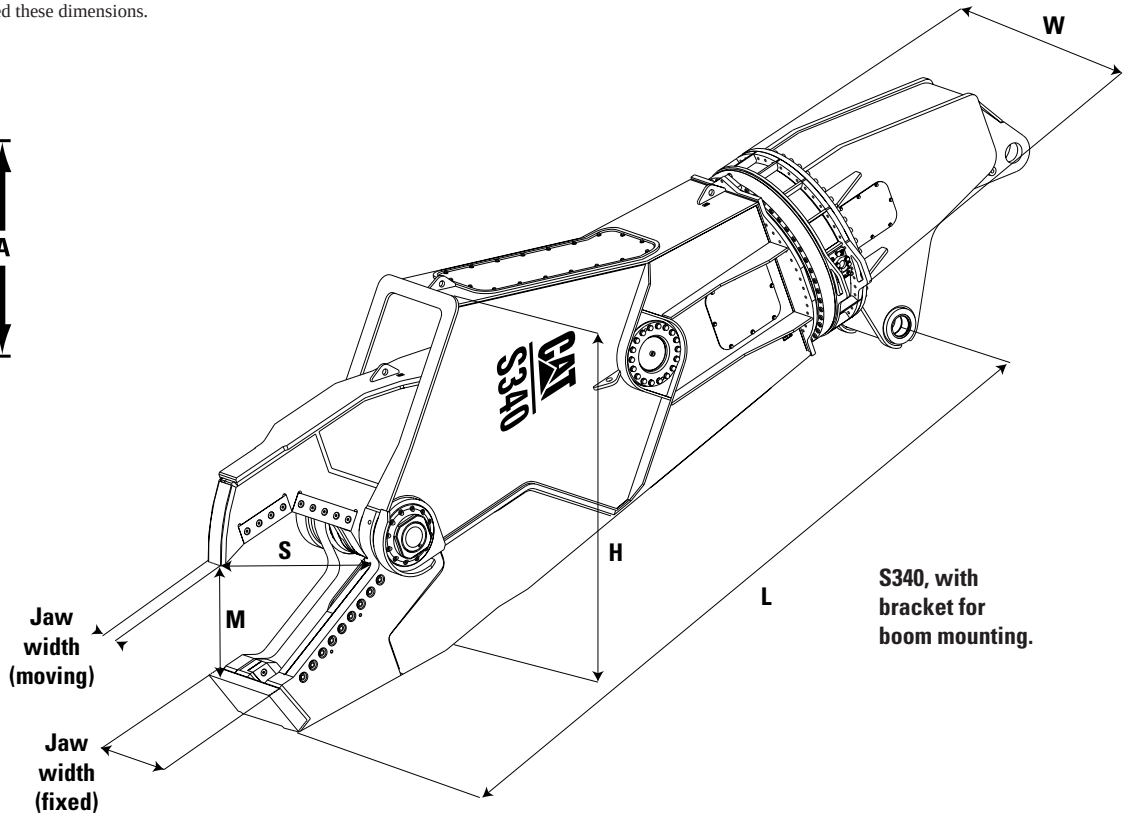
Note:
* Weight includes mounting bracket (stick). Weights are typically heavier with boom mounting brackets.

Cutting Table

Model	S305	S320	S325	S340	S365	S390*
Narrow I-beams (IPE)						
A= Height	**200 mm** 7.9"	**330 mm** 13"	**450 mm** 17.7"	**550 mm** 21.7"	**600 mm** 23.6"	**600 mm** 23.6"
B= Flange width	**100 mm** 3.9"	**160 mm** 6.3"	**190 mm** 7.5"	**210 mm** 8.3"	**220 mm** 8.7"	**220 mm** 8.7"
C= Web thickness	**5,6 mm** 0.22"	**7,5 mm** 0.30"	**9,4 mm** 0.37"	**11,2 mm** 0.44"	**12 mm** 0.47"	**12 mm** 0.47"
D= Flange thickness	**8,5 mm** 0.33"	**11,5 mm** 0.45"	**14,6 mm** 0.57"	**17,2 mm** 0.68"	**19 mm** 0.75"	**19 mm** 0.75"
Wide I-beams (HE-A)						
A= Height	**114 mm** 4.5"	**210 mm** 8.3"	**270 mm** 10.6"	**330 mm** 13"	**440 mm** 17.3"	**490 mm** 19.3"
B= Flange width	**120 mm** 4.7"	**220 mm** 8.7"	**280 mm** 11"	**300 mm** 11.8"	**300 mm** 11.8"	**300 mm** 11.8"
C= Web thickness	**5 mm** 0.20"	**7 mm** 0.28"	**8 mm** 0.31"	**9,5 mm** 0.37"	**11,5 mm** 0.45"	**12 mm** 0.47"
D= Flange thickness	**8 mm** 0.31"	**11 mm** 0.43"	**13 mm** 0.51"	**16,5 mm** 0.65"	**21 mm** 0.83"	**23 mm** 0.91"
Bar-round	**45 mm** 1.8"	**75 mm** 3"	**90 mm** 3.5"	**100 mm** 3.9"	**110 mm** 4.3"	**130 mm** 5.1"
Bar-square	**40 mm** 1.6"	**70 mm** 2.8"	**80 mm** 3.1"	**90 mm** 3.5"	**100 mm** 3.9"	**100 mm** 3.9"

The above profiles provide an approximation of shear cutting capabilities.
The exact cutting dimensions depend on excavator operation pressure,
the conditions of the shear's knives and jaws and the steel's tensile strength (370 mPa).
* Dimensions given reflect largest I-beam stock available at time of testing.
Shear capabilities exceed these dimensions.





Mobile Scrap and Demolition Shears

Features

1. The steel cutting blades are made of 500 Brinell hardness steel which combines inherent hardness with exceptional tensile strength.

2. The jaw design features blades in the lower jaw mounted in a straight line. This prevents the steel from being compressed in a narrow apex area. The steel is therefore flattened out over a larger area and moved further back in the jaw where the shear force is greater. This means the shear force is more effectively utilized increasing the productivity of the tools.

3. The fasteners are keeping the reversible steel cutting blades in place. They are equipped with unique steel retainers, which cover the otherwise exposed bolt sections in the bolt head holes facing the inside walls of the knife pockets. These retainers, partially anchored in the jaw, prevent potentially premature shearing or breakage of the bolts.

4. The hub area surrounding the main pivot pin is easily adjusted to eliminate unwanted play caused by shearing heavy steel extensively and/or ignoring proper maintenance, working with dull edges and excessive tolerances between the blades in the upper and lower jaws.

5. The S 300 shear models are equipped with bolt-on mounting brackets, configured for either pin-on installation or for installation using a Dedicated Quick Coupler.

Matching Guide

	Machine Model
Shear Model	**Skid Steer Loader**
S305	236
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Stick Mounted / Reach Boom

Shear Model	Cat Excavator	Stick Range	
S305	307B	1.67 - 2.21 m	5' 6" - 7' 3"
S320	318B L	1.80 - 2.70 m	5' 11" - 8' 10"
	320B L / 320C L	1.90 - 2.50 m	6' 2" - 8' 2"
	322B L	2.50 - 3.60 m	8' 2" - 11' 10"
	325B L	3.20 m	10' 6"
	M318*	1.80 m	5' 11"
	M320*	1.90 m	6' 3"
S325	322B L	2.50 m	8' 2"
	325B L	2.65 m	8' 8"
	330B L	3.3 - 3.90 m	10' 10" - 12' 10"
S340	345B L	2.90 - 3.35 m	9' 6" - 11' 0"
	345 B Series II	3.40 - 3.90 m	11' 0" - 12' 10"
S365	365B	2.80 - 3.60 m	9' 4" - 11' 10"
	375 L	3.40 - 5.50 m	11' 2" - 18' 1"

Reach Boom Mounted

Shear Model	Cat Excavator
S320	312B L
	315B L
	M312*
	M315*
S325	315B L
	318B L
	320B L
	M312*
	M315*
	M318*
	M320*
S340	322B L
	325B L
	330B L
S365	345B L
S390	365B L
	375 L

* Must be operated with Dozer blade and stabilizer down or two sets or stabilizers down.

Contact your Caterpillar dealer for more information.

When ordering please indicate required linkage.

Caterpillar recommends falling object guards in applications where there is a possibility of falling objects. Please consult your Caterpillar dealer for these guards.

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