



S305/S320
S325/S340
S365/S390

**Mobile Scrap and
Demolition Shears**



Shear Model (Reach Boom Mounted)

S320

S325

S340

S365

S390

Cat Excavator

312B L, 315B L, M312*, M315*

315B L, 318B L, 320B L, M312*, M315*, M318*, M320*

322B L, 325B L, 330B L

330B L, 345B L**

365B L, 375 L

* See the description on page 7, the Matching Guide

** Working range only over front

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 strong 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 scrap shear, Caterpillar® offers a new line of steel cutting shears that meets your requirements in scrap recycling as well as primary demolition. These new hydraulic scrap shears are versatile demolition tools well suited for 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. These new S300 series shears can also be used for preparing long structural beams and bulk scrap for further processing on stationary shears.

Key features

- The S300 series are all equipped with a hydraulically operated swing gear that makes a 360-degree left and right rotation possible. The shears can grab and pick material from a pile easily, without requiring movement of the base carrier.
- The S300 series are very efficient tools because of the high force to weight ratio as compared to most competitive shears.
- The blades are made of exceptionally long wear alloy steel. Depending on the model of the shear, all four cutting edges of the blades can be used approximately two to four times before they are discarded. Except for the side cutter. A single cutting edge has a service life of approximately 100 hours per edge, depending on variable working conditions and maintenance procedures.
- Proven speed valves mounted on powerful and reliable quality hydraulic cylinders speed up cycle times from 6 up to 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 cutting edges are mounted on the side of the shear jaws, this way they are visible for the operator. Due to the locking system the cutting edges can be removed safe and easily. These features provide the operator control of the cutting process and improving the cutting performance.
- The S300 shears can be mounted either on the boom or the stick of an excavator. Boom mounted in recycling operations it is possible to use a more powerful shear on a smaller excavator which still have an optimum production at lower overall cost. Stick mounted shears have of course more reach and can demolish larger and higher structures.
- 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.

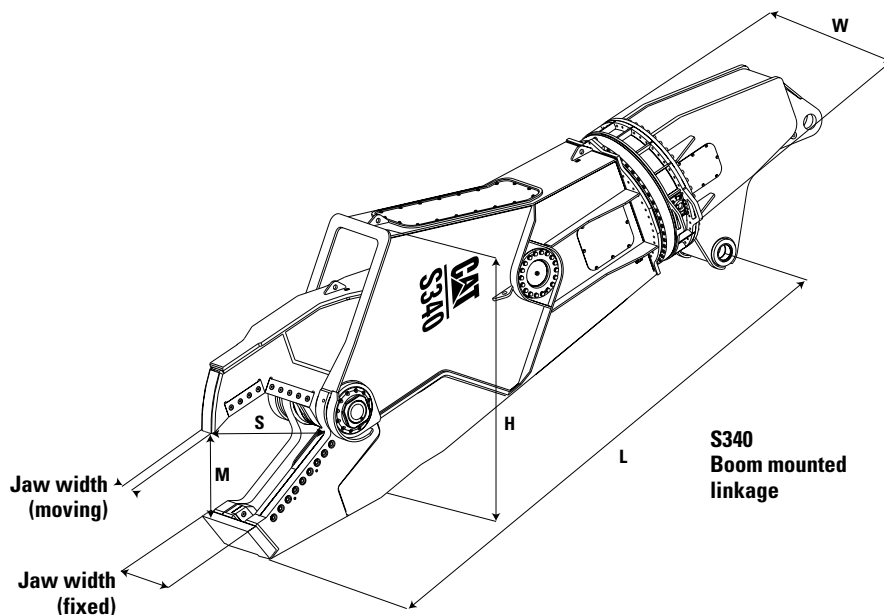


Specifications

All dimensions and weights are approximate

		S305	S320	S325	S340	S365	S390
Weight* total	kg	580	2150	3000	4250	6500	9700
Dimensions							
L Length	mm	1886	3044	3453	3900	4617	5348
H Height	mm	660	1183	1374	1506	1810	2117
W Width	mm	390	800	800	1010	1180	1400
Jaw width (fixed)	mm	230	335	375	440	510	620
Jaw width (moving)	mm	60	90	100	120	150	180
M Jaw opening	mm	240	390	490	580	740	860
S Jaw depth	mm	290	440	570	680	830	1020
Shear forces							
Tip	kN	400	900	1250	1550	1950	2500
Primary blade center	kN	900	2200	3200	3800	4800	6050
At throat	kN	1750	3800	5900	7300	9850	12 600
Hydraulic for cutting							
Max. operating pressure	kPa	25 000	35 000	35 000	35 000	35 000	35 000
Recommended flow	L/min	60	150	200	300	400	800
Return flow (during opening)	L/min	100	240	300	510	680	1520
Time open	sec	3.5	4	5	4.5	5.5	4
Time close	sec	2.5	3	3	3.5	4	3
Connector-size	ORFS	1 3/16	1 7/16	1 7/16	1 11/16	SAE 1 1/4"	SAE 1 1/2"
Hydraulic for rotating							
Max. operating pressure	kPa	10 000	14 000	14 000	14 000	14 000	14 000
Recommended flow	L/min	20	40	40	40	80	80
Connector-size	ORFS	1 3/16	1 3/16	1 3/16	1 3/16	1 3/16	1 3/16
Excavator size; Stick mounted							
Min.	kg	5000	15 000	20 000	30 000	40 000	65 000
Max.	kg	7500	25 000	35 000	45 000	65 000	90 000
Excavator size; Boom mounted							
Min.	kg	3000	10 000	15 000	20 000	30 000	40 000
Max.	kg	6000	15 000	25 000	35 000	45 000	65 000

* Weight includes mounting bracket (stick)

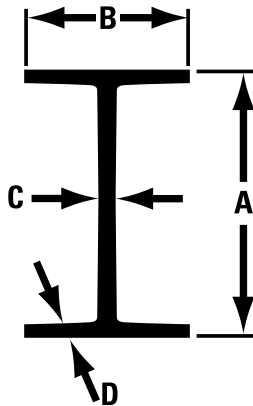


Shearing Capability

All dimensions are approximate

		S305	S320	S325	S340	S365	S390
Narrow I-beams (IPE)							
A Height	mm	200	330	450	550	600	600
B Flange width	mm	100	160	190	210	220	220
C Web thickness	mm	5.6	7.5	9.4	11.2	12	12
D Flange thickness	mm	8.5	11.5	14.6	17.2	19	19
Wide I-beams (HE-A)							
A Height	mm	114	210	270	330	440	490
B Flange width	mm	120	220	280	300	300	300
C Web thickness	mm	5	7	8	9.5	11.5	12
D Flange thickness	mm	8	11	13	16.5	21	23
Bar-round	mm	45	75	90	100	110	130
Bar-square	mm	40	70	80	90	100	100

The above profiles provide an approximation of shear cutting capabilities.
The exact cutting dimensions depend on excavator operation pressure,
the conditions of the shears knives and jaws and the steel's tensile strength (370 MPa).



Mobile Scrap and Demolition Shears

Quality steel and unique design reduce maintenance cost and downtime.

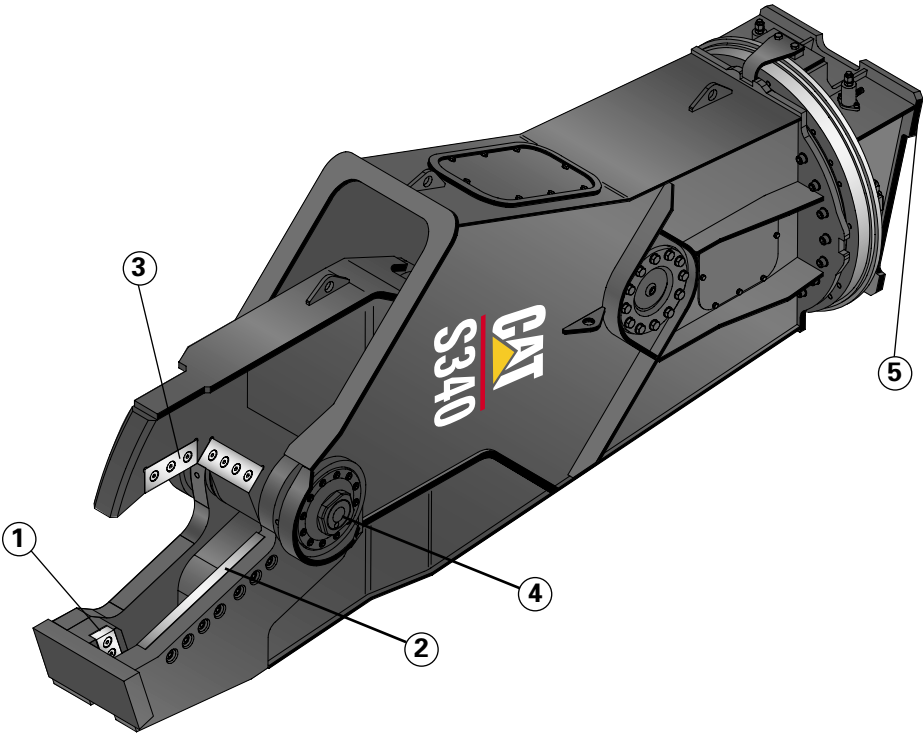
1 The steel cutting blades are made of 500 Brinell hardness steel which combines inherent hardness with exceptional tensile strength.

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 S300 shear models are equipped with a bolt-on mounting bracket, that can be configured for pin-on installation or for installation using a dedicated quick – coupler or connect’o’maat.
(Not shown in the picture.)



Caterpillar Cross Reference List

Hydraulic Scrap Shears – 360 degrees rotation

Caterpillar	Verachttert
S305	VHS-10
S320	VHS-30
S325	VHS-40
S340	VHS-50
S365	VHS-60
S390	VHS-70

Verachttert is a Caterpillar brand.

Matching Guide

		Reach Boom Mounted		Stick Mounted/Reach Boom	
Skid Steer Loader		Cat Excavator		Cat Excavator	Stick Range
S305	236	S320	312B L	S305	307B 1.67-2.21 m
	246		315B L	S320	318B L 1.80-2.70 m
	248		M312 **		320B L 1.90-2.50 m
			M315 **		320C L 2.92 m
		S325	315B L		320B L 2.50-2.95 m
			318B L		320C L* 3.20 m
			320B L		322B L 1.80 m
			M312 **		325B L 1.90 m
			M315 **		M318 ** 2.50-2.95 m
		S340	M318 **		325B L* 2.00-2.65 m
			M320 **		325B L* 2.15-3.90 m
			322B L	S325	330B L 2.15-3.90 m
			325B L		330B L* 2.15 m
		S365	330B L		345B L 2.90-3.35 m
			330B L*	S340	330B L* 2.80-3.60 m
		S390	345B L		375 L 3.40-5.50 m
			365B L	S365	
			375 L		

This is a compiled Matching Guide.
Contact your Caterpillar dealer for more information.
When ordering please indicate required linkage.

* Working range only over front

** Two sets stab down, 4 point stabilizers down or
one set stab down, dozer down

S305, S320, S325, S340, S365, S390

Mobile Scrap and Demolition Shears

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

HEHX2680 (03/2001) hr

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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