



Cat[®] Center-Lock[™] Pin Grabber Coupler

311–390 HYDRAULIC EXCAVATORS

FEATURES:

All the Convenience of a Pin Grabber Coupler

- Pin grabber couplers allow work tools to be changed quickly — improving overall production and increasing machine versatility. Coupler is pinned on in place of the bucket using standard pins and allows one machine to be used for multiple tasks on the job site.
- Cat[®] Center-Lock[™] Pin Grabber Coupler is built around the same interface as previous pin grabber couplers and will engage and disengage virtually any Cat bucket or work tool equipped with pins. The key difference is the patent pending locking mechanism integrated into Center-Lock.

Confident, Secure Operation

- Cat Center-Lock Pin Grabber Coupler gives operators confidence through its locking system and visible locking mechanism. At the heart of the Center-Lock is “Over-Center Locking Technology.” This technology — very similar to Vise-Grip[®] locking pliers — uses proven principles of physics to keep the coupler locked tight.
- Once Center-Lock has engaged a work tool, the lock is so secure it will stay locked — even in the event of hydraulic failure. Should a pin be inadvertently missed while engaging a work tool, either coupler hook is strong enough to hold the full weight of the work tool on its own.
- The physical locking mechanism is backed up by positive “always on” hydraulic pressure, and a counterbalance valve on the cylinder together provide additional layers of locking protection.
- The lock on the front pin of the work tool is clearly visible to the operator, always showing the status of the coupler: open or closed. This gives the operator confidence a tool is engaged, and makes changing tools faster. Those on the job site within view of the secondary lock can also be reassured the coupler is engaged and locked tight on to the tool.

Improved Productivity

- Center-Lock is easy to operate, regardless of operator skill level, and it is easier to train new operators to use. The ability to see when the coupler is open, or closed, makes it intuitive to use, and saves time each time a tool is changed.
- Because engaging the locking mechanism in Center-Lock does not require gravity to actuate — there is no need to boom in, stick up, and invert the attachment to lock on. Simplified operation allows quicker tool change regardless of boom or stick position. And, it is possible to engage and disengage work tools in limited overhead situations.

Broad Compatibility

- Available for 311-390 Hydraulic Excavators.
- Picks up virtually any Cat bucket or work tool with pins. Also compatible with a wide range of non-Cat buckets.

Easy to Maintain

- Straightforward design requires only daily greasing to maintain.
- No external or internal locking bars, springs or other loose parts.
- Connector lines are routed through the coupler to protect hoses from damage.



Cat Center-Lock Pin Grabber Coupler

The solution is obvious: Over-Center Technology

Improved Pin Grabber Coupler

Center-Lock Pin Grabber Coupler engages and disengages tools in a similar fashion to other pin grabber couplers. The difference with this coupler is found in the patent pending locking mechanism inside the coupler.

■ **Cylinder walls** are much thicker and the diameter of the cylinder itself is much larger — giving increased closing power and resistance to extreme forces.

■ A highly visible **Secondary Lock** clearly shows an operator when the coupler is locked on to the pin of a bucket or work tool.

Visibility gives confidence to make tool changes quickly and safely — saving time with every tool change.

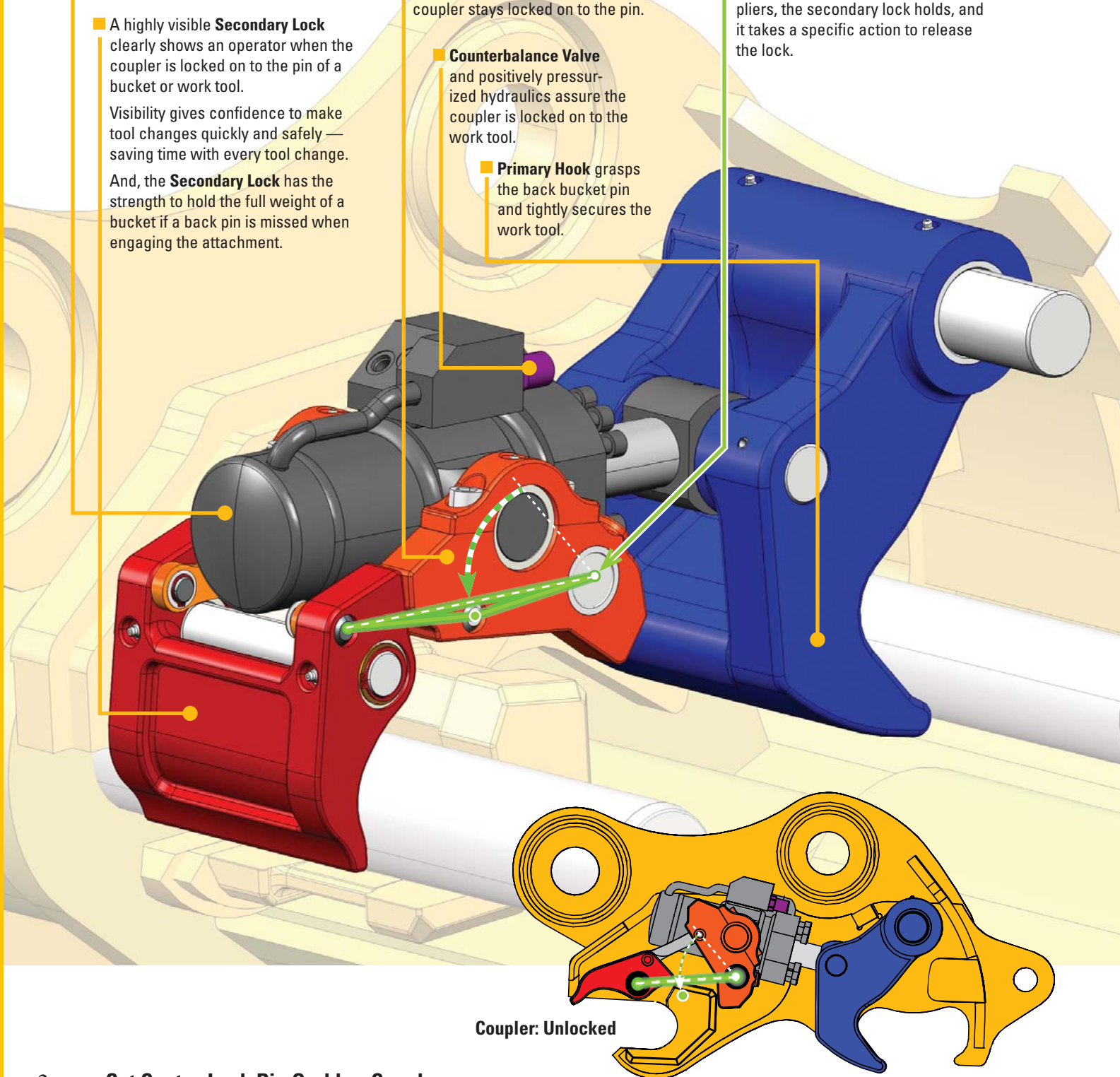
And, the **Secondary Lock** has the strength to hold the full weight of a bucket if a back pin is missed when engaging the attachment.

■ Hydraulic pressure pushes the **Center-Lock Rocker** into place and keeps the **Secondary Lock** securely locked over the front bucket pin. Even in the event of hydraulic failure the coupler stays locked on to the pin.

■ **Counterbalance Valve** and positively pressurized hydraulics assure the coupler is locked on to the work tool.

■ **Primary Hook** grasps the back bucket pin and tightly secures the work tool.

■ **Over-Center Technology:** Once the locking mechanism passes over center, the **Secondary Lock** is held firmly over the front bucket pin. Just like the jaws on a set of locking pliers, the secondary lock holds, and it takes a specific action to release the lock.



Coupler: Unlocked

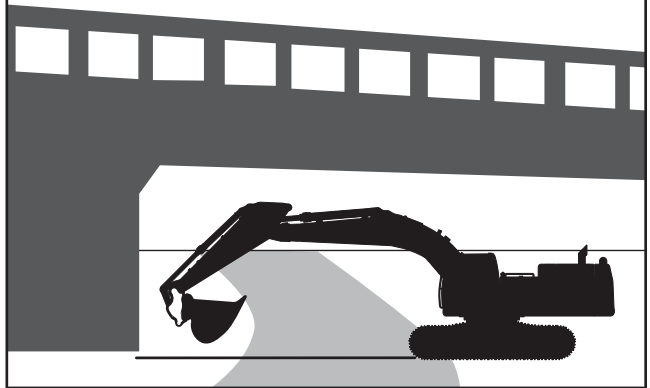
How Over-Center Technology Works

- Over-Center locking is found only in Center-Lock Pin Grabber Couplers. This technology works on the same principle as a set of Vise-Grip® locking pliers.
- As you squeeze the handles to close the jaws of locking pliers you will notice some resistance until just past halfway. Then, the jaws just seem to snap shut automatically. This is the over center lock taking place. Once locked, the only way to release the jaws is to take deliberate, specific action. Pulling and prying on the handles simply will not release the lock.
- Once the lock is engaged in the Center-Lock Pin Grabber Coupler — the operator can only unlock the coupler by moving a switch in the cab and curling the bucket. Any forces applied from either bucket pin will only cause the over center lock to close even tighter.

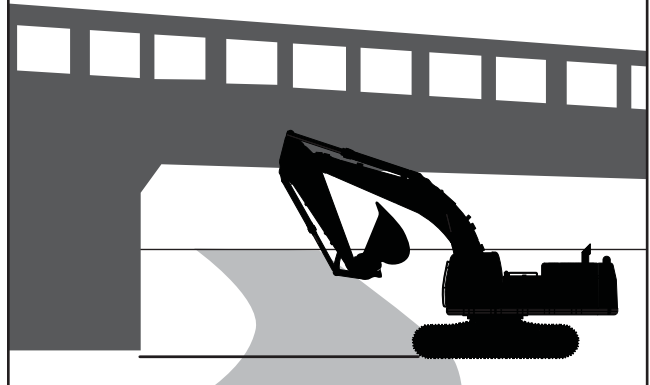
Engage & Disengage Tools in Limited Overhead Situations

There is no need to boom in, stick up and invert the attachment to unlock Center-Lock. Simplified operation allows attachments to be engaged and disengaged in limited overhead conditions such as under bridge decks and power lines.

Unlocking Center-Lock

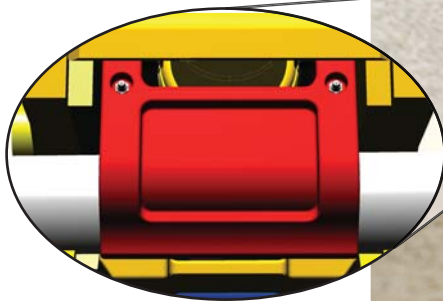


Unlocking a traditional pin grabber coupler



Visible Secondary Lock

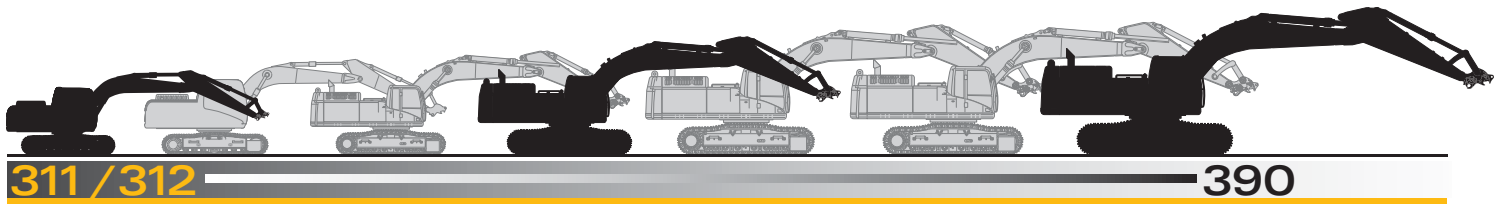
The lock on the front pin of the attachment is clearly visible to the operator — always showing the status of the coupler: open or closed.



Cat Center-Lock Pin Grabber Coupler

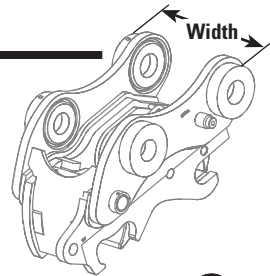
Machine Compatibility

Center-Lock is available for 311-385 Hydraulic Excavators.



Center-Lock Pin Grabber Coupler Line Up

Center-Lock Couplers are offered in eight sizes, designed to fit with eight different machine linkages (below) for the range of excavators (above).



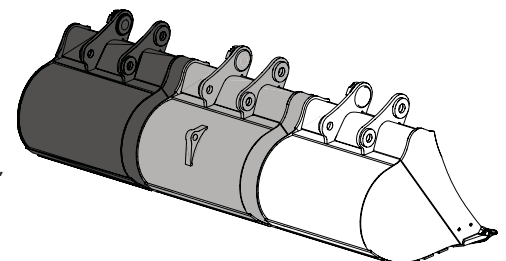
Machine Linkage	312	315	B	CB	DB	TB	VB2/VB	HB2/HB
Weight: kg (lb)	224 (494)	357 (707)	378 (833)	504 (1111)	558 (1230)	833 (1836)	1227 (2706)	1842 (4061)
Width: mm (in)	381 (15.0)	460 (18.1)	512 (20.2)	590 (23.2)	586 (23.1)	693 (27.3)	859 (33.8)	872 (34.3)
Weight: kg (lb)				Trenching Coupler 502 (1106)		Trenching Coupler 831 (1831)		
Width: mm (in)				570 (22.4)		680 (26.8)		

Work Tool Compatibility

Center-Lock Pin Grabber Couplers are designed to engage and disengage the same range of tools as previous pin grabber couplers.



Center-Lock Pin Grabber Coupler picks up a wide range of competitive buckets including: Daewoo, Fiat Kobelco, Hitachi, Hyundai, John Deere, and Komatsu.



Trenching Couplers

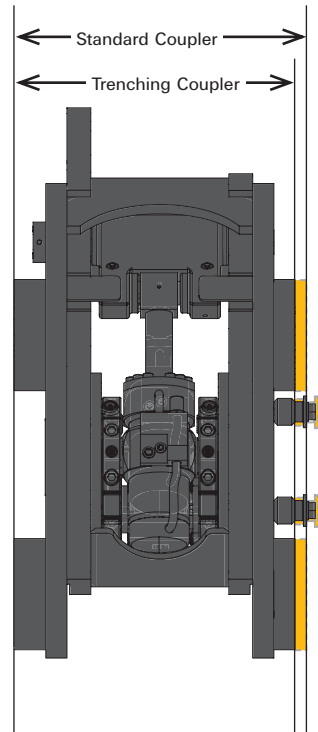
- Large-machine power across the narrowest possible cross-section for trenching situations. Reduces amount of bedding material needed when running long utility lines, especially in hard ground.
- Trenching couplers are narrower in width from standard linkage couplers at the point where it pins to the machine. Pin bosses are narrower and stick pins are shorter than standard. They are fully compatible with same buckets and tools as standard linkage couplers.
- Trenching couplers and buckets are available for machines with CB-, DB- and TB-linkages (324-345 excavators).

Couplers for Trenching Applications

Coupler Linkage	works with	Bucket Width	
		mm	(in)
CB		610	(24)
DB*		762	(30)
TB		762	(30)

*Standard coupler is the minimum size acceptable in trenching situations for this machine size class.

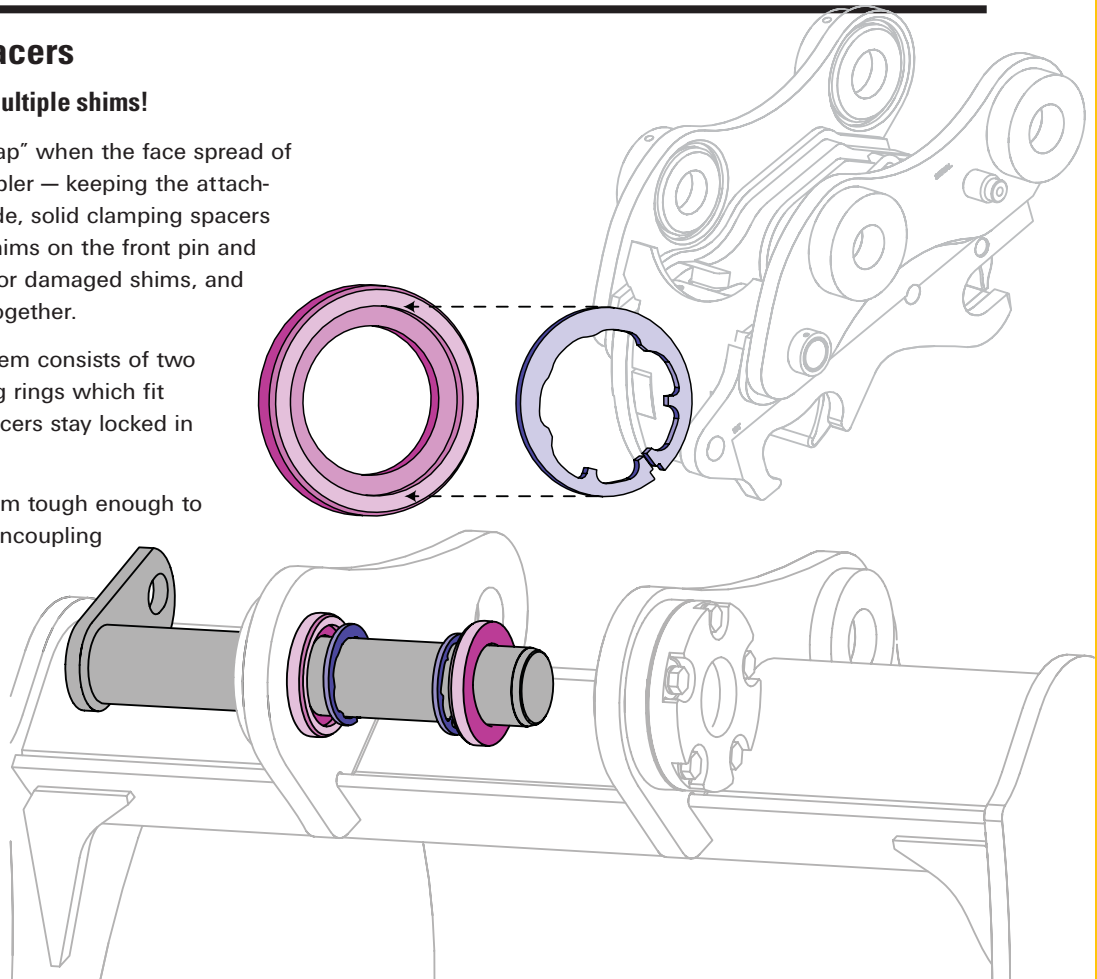
Trenching couplers keep the widest part of the coupler inside the digging width of a trenching bucket — keeping the trench narrow and reducing the amount of bedding material required.



Center-Lock Clamping Spacers

Caterpillar has a better solution to multiple shims!

- Clamping spacers easily “fill the gap” when the face spread of a tool is much wider than the coupler — keeping the attachment centered on the coupler. Wide, solid clamping spacers eliminate the need to stack thin shims on the front pin and therefore, eliminate the potential for damaged shims, and the need to weld multiple shims together.
- Center-Lock Clamping Spacer system consists of two solid steel spacers and two locking rings which fit on the front pin. Once set, the spacers stay locked in place.
- Solid steel construction makes them tough enough to withstand frequent coupling and uncoupling of tools.
- Clamping Spacers are available with several different inside dimensions (from 65.5mm to 110.5mm) and thicknesses (from 14mm to 30mm). They are designed to work with the most popular sizes of bucket pins on small, medium and large excavators.



Cat Center-Lock Pin Grabber Coupler

Center-Lock Pin Grabber Performance Bucket

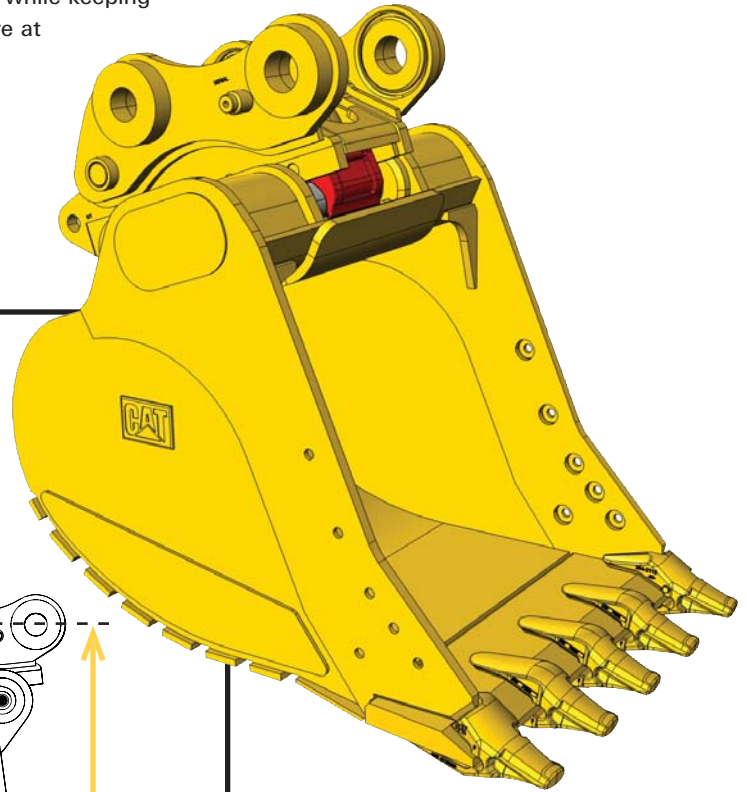
Best Bucket Choice for Optimum Performance with a Pin Grabber Coupler

The Caterpillar patented recessed pin bucket design yields maximum curl force and minimum cycle times when utilized with a pin grabber coupler. It is the best bucket choice for users who need to get the best possible performance with a pin grabber coupler.

This bucket is designed to provide maximum digging performance while keeping the versatility and convenience that a coupler offers. Curl forces are at a maximum, and cycle times are at a minimum when digging with a Center-Lock Pin Grabber Coupler and Pin Grabber Performance Bucket.

Reversible on the Coupler

These buckets are reversible on the coupler. Front shovel bucket position allows for better clean out under pipes, sidewalks and trenches.

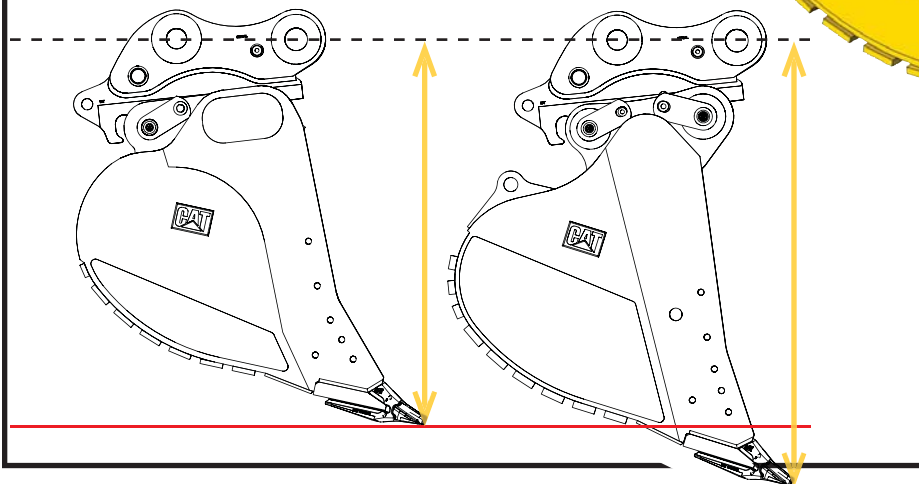


Recessed Pin Increases Performance

Patented recessed pin design reduces tip radius and gives up to 10 percent improvement in breakout force (when compared to conventional pin-on bucket and coupler systems).

Pin Grabber Performance Bucket & Coupler

Standard Bucket & Coupler



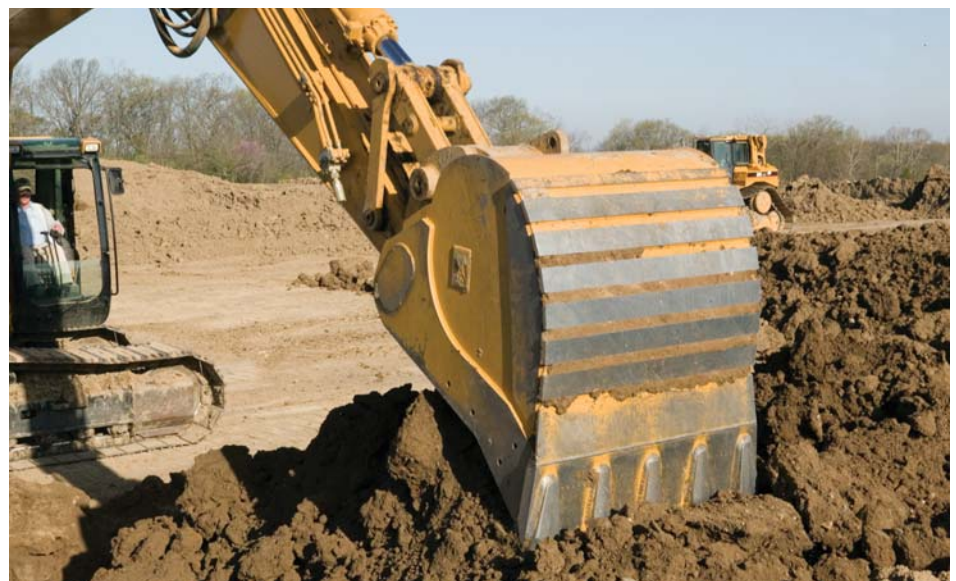
Three Durabilities to Match Your Application

- General Purpose
- Heavy Duty
- Heavy Duty Rock

Pin Grabber Performance Buckets for Small and Medium Excavators

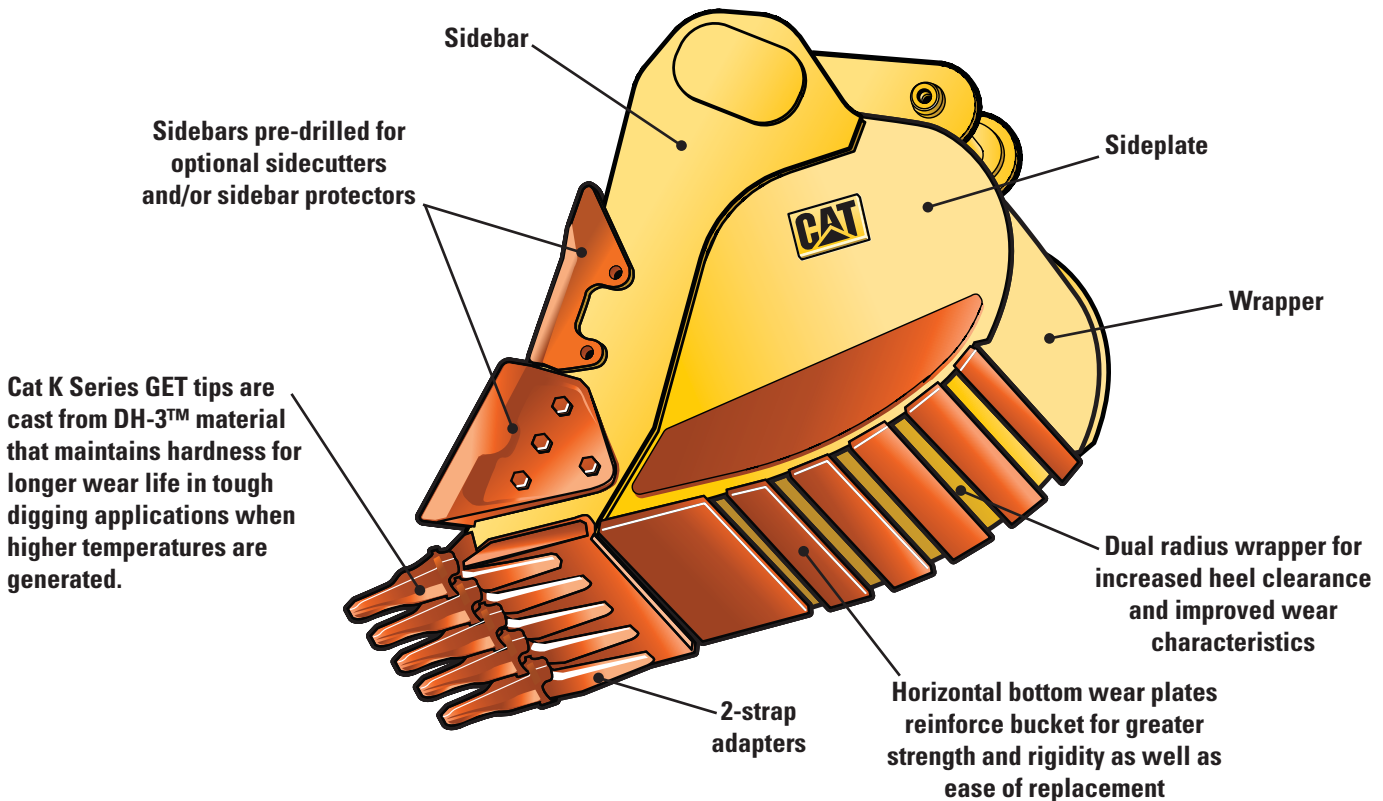
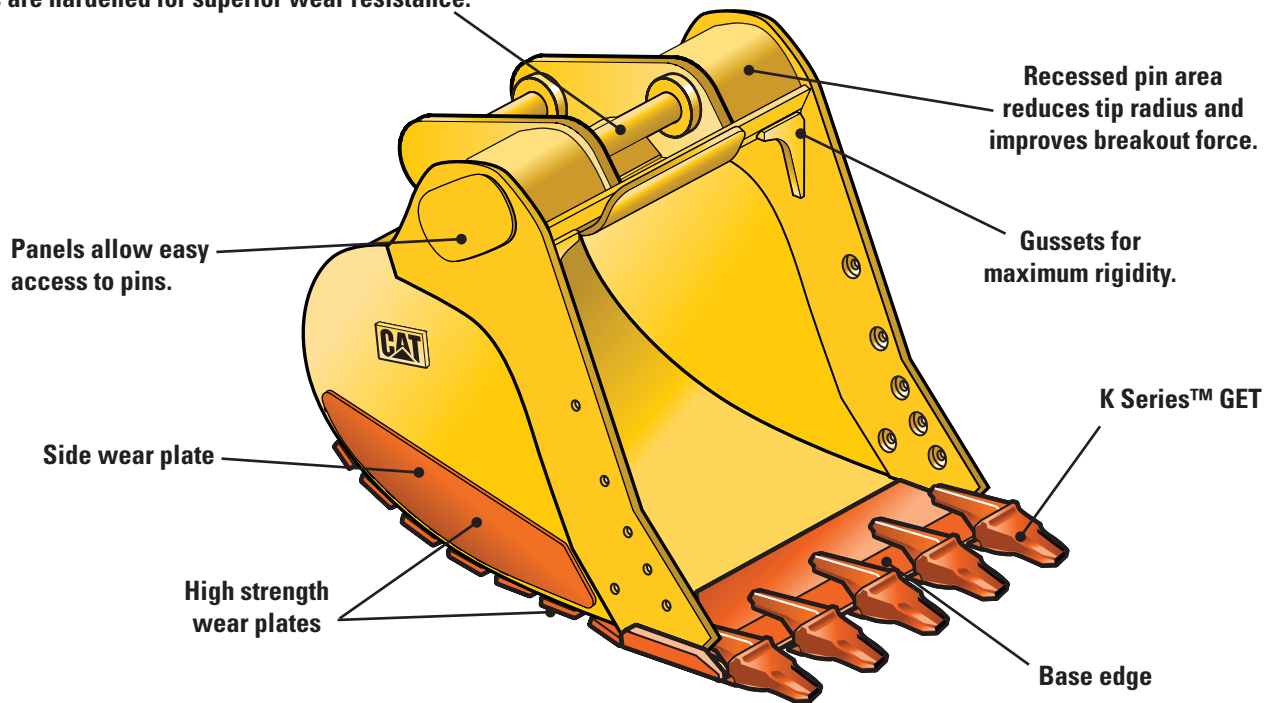
Pin Grabber Performance Buckets are available for machines sized from 315 through 345.

Linkage	Bucket Width Range	
	mm	(in)
315	610-1219	(24-48)
B	610-1372	(24-54)
CB	610-1372	(24-54)
DB	762-1676	(30-66)
TB	762-1880	(30-74)



Cat Center-Lock Pin Grabber Coupler

Cat production pins included with the bucket.
Pins are hardened for superior wear resistance.



■ T1 equivalent, high-strength, quenched and tempered steel: 90,000+ psi yield strength.

■ 400Brinell, high-strength, abrasion-resistant steel: 135,000 psi yield strength. 30% more wear resistant than T1.

Bucket shaded to differentiate material types. Actual bucket color is Cat yellow.

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For more complete information on Cat products, dealer services, and industry solutions, visit us on the web at www.cat.com

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