INTELLIGENT DESIGN CONNECTS WITH BRUTE STRENGTH
A patented, new tooth system featuring hammerless fastener technology.
WHAT'S SO SMART ABOUT SMARTFIT™?

A patented, new tooth system featuring hammerless fastener technology.

Smart is improving productivity. Smart is seeing more profit. This patented, new system improves wheel loader, excavator and loader backhoe performance with teeth that stay sharper longer and penetrate deeper than our previous system. It’s exactly what you demand from a tooth system.

Design is the difference. SmartFit’s computer-designed shape, based on decades of engineering expertise, improves penetration and system life. We strengthened the tooth pocket and nose, and added a simple, practical and reusable locking pin.

Realize more productivity and a better return on every load with SmartFit.

SmartFit's larger, more robust outline as compared to a competitive system.
“It’s like we combined David with Goliath. The system works smarter, and you’ve got a strong tooth. We all know teeth are integral to the loader’s performance. What we’re saying here is we’ve just stepped up a significant notch.”

– CNH Engineering
SMART DESIGN, PERFECT FIT.

SmartFit – Proven design of a strong, square nose and hammerless fastener.

- **A**: Large bearing contact area to prevent rearward tooth migration resulting in consistent replacement tooth fit.
- **B**: Large radius and nose/body interface to reduce stress.
- **C**: Every pocket is tested to fit perfectly every time. That’s smart.
- **D**: Strong nose, easy fitting.
- **E**: Easy fastening — insert pin by hand and turn wrench to lock in place. Lasts a minimum of five tooth changes with proper use and maintenance.

Install and switch teeth quickly, easily and safely.

Smart is not wasting time. Attach or change teeth in minutes. Unlock the SmartFit fastener with a socket, tap the pin out and attach a new tooth. Rigorous factory testing ensures teeth fit perfectly every time.

Observing proper safety procedures, place tooth onto adapter.
“We’ve responded to the industry. Customers want high wear, productivity and ease of installation. SmartFit’s hammerless design answers the call.”

– CNH Engineering

/ STEP 2 / Insert the fastener. Be sure it’s in the unlocked position.

/ STEP 3 / Finish installation using the correct-size socket to rotate the pin-locking shaft 90 degrees clockwise as shown.

TO REMOVE: Using the correct-size socket, rotate the pin-locking shaft 90 degrees counterclockwise and tap out pin.

- Increased pin strength.
- Greater resistance to torsion.
- Not under load during operation—fatigue does not impact fastener life.
- Larger radius to reduce stress concentrations in tooth pocket.
INTRODUCING THE MUSCLE.

Gain up to 34% more strength

FEA simulation comparing SmartFit to the previous CNH tooth system reveals 24% less stress and fatigue on the nose and 34% less on the pin hole. Tests simulated two scenarios.

**SIMULATION 1**
A 100% vertical load on the tooth, SmartFit versus the previous tooth system.

**SIMULATION 2**
A 50% vertical and 25% horizontal load on the tooth, SmartFit versus the previous tooth system.

**STRESS LEVELS**
Testing by CNH Engineering at the loader production facility in Fargo, N.D., confirmed SmartFit’s superior strength. During load testing on Wheel Loaders, SmartFit teeth and adapters, unlike the previous system, did not break.

47 kpsi less stress : 34% more strength
Achieve a 60% consumption ratio.
Consumption ratio is the percentage of tooth consumed at the end of its useful life as compared to the total amount of original tooth material. The more you consume, the higher the consumption ratio, the longer the tooth stays in service.

High consumption adds value.
Teeth are steel castings sold on weight. Buckets operating with 25 lb teeth at a 40% consumption ratio lose 10 pounds of material with every worn tooth. But, a 25 lb tooth at a 60% consumption ratio loses 15 pounds of material. SmartFit delivers long-lasting performance and value.

Remain sharp. Penetrate longer. Scrap less.
SmartFit strikes the optimal balance of wear protection and productivity. It’s exactly what you demand from a tooth system.
Hardness throughout the system.

SmartFit is one of the industry’s most durable tooth systems. Its teeth range in hardness from 555 to 477 Brinell, surface to center. They're hard throughout, unlike some competitive teeth with soft interiors.

Better penetration increases buckets per day.

SmartFit’s streamlined design and self-sharpening teeth improve bucket penetration. Cycle times drop, dependence on hydraulic pressure decreases, fuel consumption decreases, and overall productivity rises.
Intelligence delivers efficiency.

Everything about a tooth system comes down to performance. High performance is the result of innovative design throughout the system. This is where the SmartFit excels.

Through smart design, it delivers:

- Significant stress reduction and increased strength
- Safe, easy tooth installation and removal
- A unique, reusable fastener
- Hardness throughout the tooth, documented by its outstanding Brinell rating
- An excellent consumption ratio for longer life
- Excellent penetration and cycle times
- Self-sharpening teeth
- Corner switching design to extend tooth life
- A system to tackle everything from loose dirt to crushed concrete to abrasive materials
A TOOTH FOR EVERY TASK.

Light-duty general purpose to heavy-duty abrasion.

Loader Point Shapes

TY & TYL: This standard loader tooth point is an excellent choice for general purpose applications with moderate impact and abrasion. The center rib provides strength. Its thin profile with heavy bottom pad allows for penetration and bottom wear. Remains sharp as it wears. Exchange corner teeth to extend wear life.

RL: The Rock Loader tooth point provides good penetration and excellent wear for the toughest applications. The tooth point is spaded to assist in penetration, while the center rib and extra-heavy bottom pad provide strength and wear life. Use it where impact and abrasion resistance are more critical than penetration. Exchange corner teeth to extend wear life.

Excavator Point Shapes

SYL: Standard symmetrical tooth point, an excellent choice for general purpose applications with moderate impact and abrasion. The center rib provides strength while its thin profile allows for penetration. Retains its shape as it wears. Flip tooth to extend wear life.

RC: Rock Chisel symmetrical tooth point for good penetration. The center rib and extra wear material provide strength for the toughest applications. Use it where impact and abrasion resistance is more critical than penetration. Flip tooth to extend wear life.
**HP:** Heavy Penetrator Rock Chisel tooth point for excellent penetration includes extra wear material for tough applications. A relief in the bottom of the tooth keeps the tooth sharp as it wears. Use it in high-impact and abrasion situations where penetration is more critical than strength.

**TV:** Tiger pick tooth point for conditions where hard materials are difficult to penetrate. Tiger points provide excellent penetration but lack significant wear material. Use this tooth when penetration is critical and other shapes are unsuccessful.

**UT:** Twin Tiger pick tooth points are used for conditions in which hard materials are difficult to penetrate. Twin Tigers are used on the corners to cut clearance for the bucket. The outside tines experience the heaviest wear, so the teeth should be switched from corner to corner to extend tooth life. Use this tooth when penetration is critical and other shapes are unsuccessful.

**F:** Flare tooth point, an excellent choice for light-duty, low-impact applications. Used for general-purpose digging and applications where a continuous flat edge is advantageous, such as digging foundations or trench bottoms. Wide tooth profile helps hold more material in the bucket and increases bucket carrying capacity.