

Loader Modified With Low-Cost Quick Attach

Robert Devine turned his conventional loader and bucket into a versatile quick attach system for less than \$100. All it took was a little work with a grinder and welder.

"I looked into buying a quick-attach system, but I couldn't justify the cost," says Devine. "My concept required less fabrication than other plans I saw."

Devine used a combination of tabs and ears to adapt equipment to his system. The biggest challenge was simply separating the bucket from the loader arms.

"It was welded on very solid, but I used a torch and a real thin grinding wheel to cut it away," says Devine. "I had to take it very slow so I could save the pivot pin brackets and their alignment brace rods that allowed the bucket to tilt."

Devine reused the brackets and rods when fabricating the pick-up portion of his quick-attach. They consist of two 12-in. long, 1/4-in. thick, 4-in. channel irons. They are sized to match the distance between the brackets when they were on the buckets. He cut out half circles from either end of the channel irons and welded the brackets and the brace rods into place.

The bucket side of the quick-attach consists of a 5/8-in. thick tab near the top edge of the back of the bucket. The female or loader arm channel irons tip under and up to hook the tab.

It slips 1 to 1 1/2 in. into the channel iron.

"I didn't want the tabs to go in too far or it would hit the upper bracket bushings," says Devine.

In order to get the correct spacing, he first spot-welded the tab in place on the loader arm channel iron. He then positioned the bucket where he wanted it and bolted and welded the tabs in place, before removing the spot weld.

With the tabs in place, he welded ears to the bucket to either side of the lower ends of the channel iron. Holes drilled through the ears and the channel iron let him pin the bucket in place.

"I put a bushing with a grease zerk between the holes of the channel iron just to make it easier for the pin to slip in and out," says Devine. "I have to get off the tractor to insert the pins, but that only takes seconds and was more feasible than trying to make them spring-loaded."

Devine used a modified version of the male tabs and ears on a forklift attachment he fabricated. It uses a 50-in. wide steel plate with T-slot steel pilings at the top and bottom edge. Forks are mounted to uprights with tabs that slide in and out of the T-slots. The tab and ears are mounted on channel iron to the backside of the steel plate. The channel iron raises them above the pilings.



Devine cut the bucket off his tractor's loader arms, then used a combination of tabs and ears to turn the loader and bucket into a versatile quick attach system.



Photo shows how loader arm tabs and bucket ears attach together.

"This design lets me carry double the amount I could with forks that attached to my bucket," says Devine. "I've picked up and moved trees and off-loaded logs for a neighbor's log home."

He used the same raised concept for tabs and ears on a snow blade he fabricated for use with his loader. "I used a larger piece of

channel iron with it to compensate for the curvature of the blade," says Devine. "The quick attach system makes it easy to adapt any kind of loader attachment."

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Quick-Hitch Adapts To Small Implements

Like most small and medium-scale vegetable farmers, Reid Allaway and his colleagues at Tourne-Sol Cooperative farm use many different 3-pt hitch implements on different tractors. "It's always a tricky job switching implements because each tool is a bit different. There's a danger for pinched fingers and hands, so we'd sometimes just compromise and not change tools because it took way too long," says Allaway.

That all changed after Allaway converted all their tractors and implements to a standardized quick-hitch system. He adapted a design developed in Norway for Cat. II and III hitches but relatively uncommon in North America.

The first component of the assembly is a triangle frame fabricated out of square steel tubing. The locking mechanism uses a "male" triangle pinned to each tractor's 3-pt. lift arms. The male triangle is typically installed

with a hydraulic cylinder in place of the top link, which greatly simplifies aligning the tractor with implements. The cylinder also helps control the tool in the field.

The second part of the assembly is a "female" triangle made out of C-channel. These triangles are pinned or welded to each implement in place of the original 3-pt. connections. As the male triangle is lifted into the downward-facing C-channel of the female triangle, the implement aligns with the tractor and locks securely in place when fully seated.

"Sway bars or chains on the tractor's hitch can be kept tight and every implement will line up on center with the tractor without further adjustment," says Allaway. "If the implement doesn't have hydraulics or a pto, there's a good chance you won't need to leave your seat to hook up or unhook the implement." Unhooking is done by simply setting the implement down on a level surface, then



Female hitch is pinned or welded to implement (left) in place of the original 3-pt. connection. Male hitch on tractor installs with a hydraulic cylinder in place of top link.

pulling a rope release on the lock mechanism and driving away.

Tourne-Sol converted nearly 20 implements and three tractors at a cost of about \$3,000 in 2014. Allaway says there's no question it was time and money well spent.

"This is probably the biggest efficiency and safety improvement we've brought to our tractor operations in a decade," Allaway says.

Plans for the female triangles built with imperial-dimension steel can be found at farmhack.net or contact Allaway directly at reid@fermetourmesol.qc.ca.

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Turn Your Hay Spear Into A Handy Boom Pole

You can quickly turn an ordinary hay spear into a handy boom pole with this new lifting device that fits securely onto the end of the spear.

The patented CannonLift is small enough to fit into your tractor's toolbox. It's designed to fit most commercial bale spears and has a maximum load capacity of 10,000 lbs.

The device is forged from high grade steel and easily slides onto the end of the spear, where it locks in place using a proprietary "slip-lock" technology. The operator attaches ropes, chains, cables, come-alongs or the like to the large opening at the bottom of the CannonLift, and also attaches a safety chain via a clevis to the small hole on back.

Inventor Ron Cannon says he saw the need for an easily removable mounting apparatus that could provide a secure and fixed mounting point for attachments on bale

spears.

"Bale spears have no practical mounting surface for attaching ropes, chains, cables and so forth to lift objects," says Cannon. "When an attachment is wrapped around the spear, there is potential for slippage that can damage the object or equipment while creating an extremely dangerous condition for the operator and others nearby. The CannonLift locks in place so there's no danger of slippage when lifting."

A big advantage, he says, is that you don't have to remove the spear from your implement. "You don't have to switch to a bucket or grapple - you can just take the device out of your toolbox and slip it onto the bale spear."

The device is designed to fit most commercial bale spears and has a maximum load capacity of 10,000 lbs. "A photo on our



CannonLift lifting device slides onto end of bale spear and locks in place. Operator attaches chain to large opening at bottom.

website shows us using the CannonLift to change a flat tire on a gooseneck trailer. We were able to lift one side of the trailer right off the ground," says Cannon. "However, you should not exceed the load capacity of your spear or tractor."

The CannonLift sells for \$99.99 on Tractor Supply Company's website (www.tractorsupply.com).

To see the CannonLift device in

action, visit: <https://www.youtube.com/watch?v=TmUYp6izf6I>.

Or visit their YouTube Channel for more videos at <https://www.youtube.com/channel/UCmAXD5GXTDwzmmpp9PSx2QQ>.

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