

Up to three operator profiles can be stored.



## TECH SPECS

**Stoll ProfiLine FZ46-29 ISOBUS Connected**

**Maximum lift height** 4.6m

**Dump height** 3.49m

**Digging depth** 210mm

**Maximum lift capacity** 2.9t (at ground level)

**Breakout force** 4,560daN

**Tractor requirement** 140-260hp

**Boom weight** 860kg (without attachment)

# Loads better

ISOBUS makes the operation of implements more intuitive, therefore, it seems logical to integrate it into tractor loaders. *FMJ* heads to Lincolnshire to find out what the benefits of Stoll's ISOBUS Connected system are and how one operator's getting on with the technology

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**I**t seems that no bit of farm kit today can avoid tech influence. One of the latest items to have an injection of gadgetry is the humble tractor front loader, with Stoll unveiling the ISOBUS Connected system for its ProfiLine FZ and FS loaders at Agritechnica 2023.

Loaders have grown increasingly more integrated into their host

tractor, certainly in the past decade, with virtually every tractor manufacturer now offering a loader-ready option from the factory. Ticking this box on the order form sees the brackets, pipework and valve blocks all installed on the tractor as it makes its way down the assembly line, leaving the supplying dealer the relatively straightforward job of

attaching the loader booms on PDI.

Despite this manufacturer intervention, the loader's operation is still very much separate from its host's. The loader's control system works totally independently to the tractor's CAN bus system - until now.

Stoll's ISOBUS Connected system tees directly into the tractor ISOBUS loom, ▶

Below: Adding a loader to the Fastrac has made it more versatile, Rodney says.



**“Stoll's ISOBUS Connected system tees directly into the host tractor's ISOBUS loom”**

Below: Stoll's ISOBUS Connected loader integrates seamlessly into any compatible tractor and utilises its existing terminal and joystick.

**“Parameters to which the loader functions can be fine-tuned seem almost infinite and there aren't many that can't be tweaked”**



Above: A newly designed ISOBUS-compatible spool block is mounted on the loader crossbeam under this grey panel.

Below: With just three hydraulic hoses and an ISOBUS cable to tangle with, loader attachment is simple.



▶ allowing the loader's full functionality to be exploited via the in-cab terminal and configurable joystick. This gives seamless operation, effectively making it 'at one' with the tractor - like a dedicated handler.

The aftermarket loader kit is suitable for all brands - providing there's ISOBUS compatibility, a screen and a configurable electronic joystick. Stoll's UK distributor, Lynx Engineering can plug in to any potential host to check there's compatibility before any deals are done.

### Simple installation

"Installation is as simple as bolting on the loader brackets, splicing into the ISOBUS harness and supplying a hydraulic feed, return and load-sensing line to the quick coupler mounted on the bracket," says Lynx Engineering's eastern area sales manager Roy Milburn. "Other than that, it's 'plug and play'. It's a fast fitment."

Unlike normal loaders, ISOBUS Connected booms have a newly designed spool block mounted on the crossbeam, so don't require a bracket-mounted valve block, nor the



Above: Operator Rodney Wing is the main driver of the JCB Fastrac/Stoll loader combination for PC Thorold.

host tractor to have mid-mount spools. This not only simplifies installation from a dealer's perspective, but also for attachment from the operator's point of view - there's not a bunch of cumbersome hoses to tangle with, every time the loader is taken on and off.

All this technology isn't just to allow the dealer and operators a quick-fit turnaround. The biggest benefits are in its operation and the 12 additional functions over a standard loader's remit.

Plus points for introducing ISOBUS functionality, Lynx says, are enhanced operator comfort, convenience as well as safety.

In a nutshell, the parameters to

which the loader functions can be fine-tuned seem almost infinite and it's fair to say that there aren't many aspects that can't be tweaked.

Surprisingly, the loader isn't packed with sensors, it instead utilises just two potentiometers - one on the main lift pivot and the other on the crowd pin. Pressure sensors monitor what's going on in the hydraulic system.

Operators can tailor settings to their taste, and up to three profiles can be saved. "One loader boom can also be shared by two compatible tractors," Roy adds.

Settings for up to 10 different attachments can also be stored. "When the hydraulic pins latch, a prompt on the screen will ask the operator to declare what's fitted," Roy explains. "The system then recalls the implement's saved settings." These might be the level position for the attachment or tare weight.

Reliable operation requires the loader to be calibrated, which is easy enough to do. When prompted, the loader cycles and takes three readings from three different crowd angles at three different heights. "You don't need to pick up a known weight to calibrate an implement," adds Roy.

# The 12 functions

## PRESSURE REGULATION

ISOBUS Connected loaders are equipped with a true third, and optional fourth service. Attachments therefore receive the full flow from the hydraulic system. For certain jobs like handling wrapped bales with a squeezer, the operator can dial in the desired grip pressure so as not to damage the film. The spool then automatically kicks out once this is reached. This feature is also of benefit when operating a hydraulic motor to prevent it locking due to over-pressure.

## LOAD INDEPENDENT LOWERING SPEED

Regardless of the weight of the load being handled, the system automatically adapts the hydraulic flow return from the main lift rams, ensuring the same lifting and lowering speed is maintained.

## TEACH-IN

This function allows up to 200 movements split between three programmes to be recorded and stored. It's aimed at repeatable tasks such as loading muckspreaders or stacking pallets for example.

A sequence is recorded by the operator like they would with any headland management system, which can be as simple or detailed as desired. What's recorded can then be recalled, but the operator governs when each function takes place by operating the joystick.

## RETURN TO POSITION

The operator simply stores the level point of working position of the attachment in addition to the loader height. After operating the boom in various positions, pressing the recall function returns the loader and attachment to the saved point.

## ADJUSTABLE RESPONSE BEHAVIOUR

Operators can alter the loader's responsiveness from how fast it reacts when the joystick is moved to how responsive the joystick is. For example, bouncing about handling bales in the field, the operator may want to reduce its sensitivity.

A 'fine' control feature allows extra-sensitive control for precise movements. A tortoise icon on the display enables the

driver to turn these fine-tuned settings on/off easily. Turning this off puts the loader back to full-flow functionality.

## ELECTRIC FLOW SHARING

This feature allows several functions to share oil flow at the same time or allow the operator to prioritise a particular demand over another.

## END POSITION DAMPING



Before a particular movement of the loader dead-ends, resulting in an unpleasant jolt, end position dampening can be set to one of three aggression settings, regardless of where this end stage may be. As the loader reaches the end of the cycle, hydraulic flow automatically slows down, even if the operator has moved the stick fully, and the boom comes to a gentle halt.

## BUCKET SHAKE

When pressing the bucket shake button and moving the joystick slightly, the bucket starts to shake - at first with longer and slower movements. Moving the joystick further, results in short, aggressive shakes.

## VIBRATION DAMPING

Where many manufactures use a diaphragm accumulator, Stoll employs a piston type throughout its range of loaders. Located in the cross beam, the system employed on the ISOBUS loader can be altered from the cab, ensuring it works effectively regardless of the load being carried.

## ELECTRIC HYDRAULIC PARALLEL LEVELLING

More relevant to FS hydraulic levelling models for keeping attachments level, hydraulic assistance also comes into play on mechanically levelled FZ loaders.

While Stoll's FZ kinematic levelling system

is good at keeping attachments parallel, setting the zero position (level) on the display, ISOBUS ensures the implement remains in the correct position throughout the lift arc.

## WORKING WINDOW



This feature is particularly useful when working in confined spaces, such as a low sheds. The operator can set the maximum and a minimum working height using the position chart on the screen as a reference. These set positions can be overridden by releasing the joystick and pulling it again.

Crowd angles can also be set too, so you can set the bucket not to tip all the way into a lorry, for example.

## WEIGHING



A neat feature of the loader is the weighing function, which is accurate to 20-30kg, although Lynx suggests they've found it accurate to 5-10kg with the loader lower to the ground.

Although there's no printout function, nor can the weighing data be transferred, it would be handy for weighing bales as they're loaded, or, in Rodney's case, boxes of veg. Each weight reading can be saved, giving a running total. For those engaged in loading lorries, a target weight can be inputted, and as each bucket full is tipped, it counts down until the set amount is reached.

A green icon illuminates on the terminal to tell the driver when the calibration is complete.

In an emergency 'get me home' situation, if the tractor's joystick fails, it's possible to operate the loader via buttons on the touchscreen terminal.

## Early adopter

An early adopter of the system is PC Thorold, a family-run business specialising in growing brassica vegetable crops such as cauliflower, cabbage and broccoli, and other crops such as butternut squash, daffodils

and wheat. These are grown across 4,450ha, over a radius of 16-24km from their base near Spalding.

The business operates 16-17 tractors including nine vegetable harvesting rigs and hired in tractors. The main working fleet comprises Fendt and



**“When the benefits are taken into account, and the cost saving of not buying a loader valve, then the additional money is negligible”**



**Above:** Thanks to its self-levelling hydropneumatic suspension, JCB's Fastrac doesn't need a counterweight when used with a loader.

**Left:** Rodney uses the return to position function to ensure the tines return to the correct position when picking up veg boxes.

▶ John Deere, with the farm's flagship an 8RX 410.

Most produce - grown for supermarkets such as Lidl and Aldi - is packed in-house, which relies on efficient transport from field to yard.

This task falls to operator Rodney Wing, who has worked for Thorold's for the past three years, but has been involved in vegetable growing for much of his career. Working closely with the fieldsmen, it's his job to ensure that the produce arrives at the packhouse in the timeliest manner possible.

To achieve this, Rodney had been using a Fendt 516 Vario, but felt it was lacking 'go'. The business hired in a JCB Fastrac 4220, and Rodney was smitten, praising the added power, and four-wheel steering. The farm duly purchased a Fastrac 4220 Icon from local dealer Pecks, with the tractor arriving September 2025.

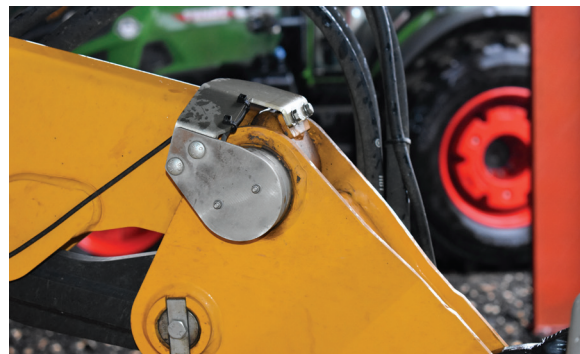
Despite the workload for lifting and

carrying, PC Thorold only own one telehandler, the remainder are hired, although there is a loader-equipped Fendt 516 in the fleet.

**More self-sufficient**

To remove the pinch-point of waiting for a telehandler to load him in the field, Rodney suggested that fitting a loader to his Fastrac would make him more self-sufficient and get more out of the tractor investment.

**Below:** Two potentiometers, one on the main pivot and the other on the crowd pivot, measure the position of the loader booms.



Thorold's approached Pecks rep, Wayne Cottam, to see what the options were. "He suggested that the Stoll ISOBUS Connected loader would be a good choice because it would better integrate with the Fastrac, and was quicker to install in the tight timeframe," says Rodney.

The loader was fitted in October 2025 and went straight to work on the butternut squash harvest. "It did take me a week or two to get used to it," Rodney admits, "but so far I can't fault it," he adds.

He finds the return to position feature particularly useful when collecting boxes from the field. "I can set the tines to where I want them, and they'll always return to that position when prompted.

"I also like the hydraulic latching pins.

"The weighing function is also useful when handling the boxes of veg. I can gauge what I'm putting on the trailer," he adds.

The combination certainly doesn't stand still and has already clocked 1,000 hours.

Rodney is keen to get more from the new loader. "I'm looking forward to the harvesting season resuming, so that I can really get to grips with it.

"I'm still finding new things that it does," he concludes.

Adding ISOBUS into the mix does increase loader cost, but when the added benefits are taken into account, and the saving of not having to pay for a loader valve, then the additional money is negligible. **EMJ**