



Stoll ProfiLine and Solid front loaders:

One loader, different colours

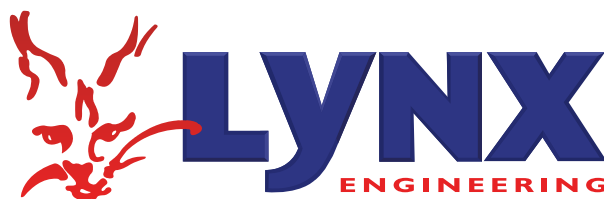
When you are looking at a pre-owned tractor with a loader fitted, it follows that the loader element will need as much checking over as the tractor itself. Here we take a look at the more specific checks applicable to Stoll ProfiLine and its more basic Solid loaders, these also carrying branding on OEM tractors from CNH and SDF

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STOLL

DEUTZ FZ PROFILINE 30



Year: **2012**
Condition: **Good**

Comment: Deutz branded Stoll ProfiLine loader with cable controls and mechanical attachment carriage. Standard hydraulic coupling. Parallel lift. All pivots and rams in good order

Price: **Will add £2,500 to £4,850 to a used tractor according to spec and condition**

STOLL

NEW HOLLAND TL750MS



Year: **2012(Tractor T6.155 2016)**
Condition: **Good**

Comment: New Holland branded equivalent to ProfiLine on OEM loader ready T6 with mechanical self-levelling, Comfort Drive, third-service with Hydro-Fix connection. Loader on its second tractor but in good order

Price: **Will add £2,500 to £4,850 to a used tractor according to spec and condition**

STOLL

ROBUST FZ+ 60.1



Year: **2009**
Condition: **Good**

Comment: Top spec Robust (ProfiLine from 2012) model with mechanical self-levelling, Comfort Drive, third service with hydraulic lock attachment carriage but individual hose couplings. PRO Control and Stoll bale handler.

Price: **Will add £3,850 to £5,650 to a used tractor according to spec and condition**

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When we have considered what to look for when buying a used tractor front loader in the past, we have suggested that the buying basics will pretty much apply to all makes and models. No change this time. All loaders tend to need the same basic checks, with key wear points pretty much the same regardless of brand. There are, however, a few Stoll specific considerations which we outline here.

Controllers

Under the paint of the Case IH, Deutz-Fahr, New Holland factory fitted loaders is the same Stoll boom that is offered by the

German loader maker for its retrofit models, but the loader's mounting brackets, controls and hydraulic valves will typically differ from Stoll's own designs. The same will also apply to a tractor originally supplied from the factory as 'loader ready' as these too will have OEM controls and hydraulics. This is worth noting. Replacement joysticks, electronic controllers or valve chest components for OEM branded or 'loader ready' tractors could need parts specific to that brand or tractor model. All boom parts will be the same but it is always worth making contact with Stoll importers, Northants based Lynx Engineering, if you are unsure.

Stoll ProfiLine loaders will have been offered from new with a choice of mechanical cable operated joystick or electronic Pro Control. The latter can be retrofitted to replace an existing mechanical joystick and will work with both open and closed centre hydraulics. All the hydraulic and electrical connections are pre-installed on ProfiLine loader booms (but check with Lynx Engineering as there may be exceptions to include OEM branded loaders). Trac Control, which essential uses the same joystick as Pro Control, will fit in place of certain OEM armrest mounted proportional joysticks and again may be offered as a retrofit. Again, seek advice if this option looks like a viable upgrade.

STOLL

PROFILINE FZ 80.1



Year: **2015**
 Condition: **Excellent**
 Comment: ProfiLine with mechanical self-levelling, Comfort Drive, third-service with mechanical lock attachment carriage, PRO Control and Hydro-Fix multideck connection. Larger loaders on a powerful tractor can work hard. Check carefully.
 Price: **Will add £4,500 to £9,850 to a used tractor according to spec and condition**

STOLL

CASE LRZ130



Year: **2019**
 Condition: **Good**
 Comment OEM spec loader with boom suspension. Worked from tractor's integral joystick. Hydro-Fix multideck connection. Supplied with Stoll bucket.
 Price: **Loader will add upwards of £5,000 to used tractor price.**

STOLL

CASE LRA85



Year: **2015**
 Condition: **Good**
 Comment: Case equivalent to Stoll Classic Line /Solid. Mechanical self-levelling. Worked from tractor's integral joystick. Hydro-Fix with third-service and 1.50m muck fork.
 Price: **Loader will add upwards of £4,500 to used tractor price.**



Signs of damage to the attachment carriage should not be dismissed as these can make coupling up difficult. Pull out the manual latch to ensure the rod is not bent and check it springs closed. The pivot points in this area are typically covered in muck so often miss out on vital lubrication. Euro headstock most common, with a combo headstock to match competitor dedicated attachments available. Check if a Stoll bucket comes with a used buy. These are optimised to match the loaders tip and crowd angles. Pictures by Sam Ewbank, Stoll and Lynx Engineering

Solid and ProfiLine

Stoll now divides its tractor loaders into two ranges, entry level Solid and higher specification ProfiLine. The Solid range was launched in 2017 to replace the Classic Line and will have reduced option and upgrade choices and are typically aimed at lighter tractors. ProfiLine replaced the Robust series in round 2012. These models are offered in FS and FZ variants, the latter featuring the firm's Z-kinematics self-levelling system. This uses hidden beams to deliver parallel lift,



If possible, jiggle the loader controls as this can help show up play in the pivot points. Pivot life is clearly related to past care. New bush kits can help make a tired loader more pleasant to work with.

doing away with visibility hindering over boom parallel rods. Comfort Drive boom suspension, with the damping system incorporated within the loader cross beam, is an option on ProfiLine FS booms but is standard on the FZ variant.

Solid models can have a more basic entry-level spec, with features to include boom suspension listing as one of several options. This is an easy spot as the Solid system employs boom parallel control rods and an external accumulator adjacent to the lift ram.

Always work the loader through its full lift, crowd and tilt positions and do this repeatedly to help warm the oil. If there are any weeping seals or damaged hoses you are more likely to spot them if the loader is given something heavy to raise and lower.



A third service coupling is standard, the attachments typically fitting to the rear of the headstock so they will tilt with it. Open tilt rams and check for leaks and scoring and ensure they are straight. If the rams have a slight bow they will still function fine but over time this can lead to seal leaks so check.



If the loader is unlikely to be removed very often, individual hose couplers are fine. Note the colour coded caps are all present and correct. When unhitching and attaching the loader, follow the sequence outlined on the decal. Although most loader models have pretty much the same fitting and removal sequences still check.



Check the condition of every hose and coupling. Damaged items are best replaced before they fail for fairly obvious reasons. Dirt attracted to the grease points shows some attention has been paid to keeping the pivots greased.



All the hydraulic boom hoses connect under a protective plate at the boom cross beam. ProfiLine loaders are pre-wired and coupled to allow electronic control to be retrofitted. If a solid pipe is deformed, it should be renewed.



Ratchets within the stand legs are designed to enable the boom to be removed on less than perfectly level ground. If the supports are damaged it can compromise the security of a freestanding boom. Check the long spring and locking tab at the bottom of the long spring. These can get damaged.



Basic checks and points to note

Start at the headstock, looking for wear in the greaseable pivots and damage to the carriage. Most, but by no means all, Stoll loaders made in the last decade or so will have a standard Euro attachment carriage. Alternative carriages to suit dedicated attachments for loader makes to include Alö and MX are also available.

It follows that existing Euro attachments will fit a Euro carriage but a point on tilt and crowd angles. Bucket designs differ between loader makes and models, with Stoll OEM buckets having a back plate angle designed to ensure a fully crowded bucket is level and that the lower front plate angle will allow a clean dump at full tilt. Try and ensure a Stoll bucket comes with a used buy. Crowd and tilt angles vary between various Stoll loader models, with tilt angles of between 40° and 46° at ground level and 69° of crowd at full lift.

The Stoll attachment latch system is extremely simple, comprising a simple rod that is unlocked manually to release the attachment, but latches closed at full crowd. Parts to replace damaged latch parts including rods, roll pins, springs and washers are readily available. If possible, hitch on an attachment to ensure it locks in place. Hydraulic unlocking from the cab is available as an option and is increasingly fitted to more recent loaders.

Stoll offers both individual hose and Hydro-Fix fast hydraulic connectors (with electrics where applicable). If separate hose connections are fitted, a retrofit conversion coupler kit is available for around £515 but be aware that Stoll switched to a revised Hydac valve block design in around 2015. A few connectors may need changing on older loaders to allow the kit to fit.

The loader's serial number was stamped on the boom cross member and on a decal. This changed on newer models to a black metal plate located on the inner side of the left boom. This info can help identify the loader when pricing or ordering parts. The user manual and documents that came with the loader should help you identify the loader but if not, Lynx may well be able to help.

Comfort Drive damping on ProfiLine models is extremely robust, with the ram residing out of harms way with the cross beam. A simple test is to bounce on the end of the boom and see if it will move. If the boom on these models is stiff when suspension is activated, drop the boom, release the pressure and raise it again. This should allow the boom to move when a load is applied. Boom suspension will be standard on all booms with self-levelling. A replacement Comfort Drive cylinder will cost around £320



When the loader is re-mounted onto the tractor, the locking lever should be latched closed manually. The lock is simple and typically just works. If the lever is loose it can be adjusted and if seized a squirt of 'ease it' oil should cure.

Other checks

Weeping ram seals and oil leaks are obvious checks, as is pivot wear. The hardest working pivots are at the carriage end, but the lift ram and main boom pivots also need a good looking over. Ensure the pin locking tabs are in place, these simple bolt-on items occasionally coming adrift. If the tabs are missing, the pivot pin can ease out with pretty obvious problems as a result. The crowd rams are tough but not immune to



Simple flow and return buttons on the mechanical joysticks are used to work auxiliaries such as a grab. Clearly the only way to check all is working is to hitch up to an appropriate attachment. If any part of a Stoll mechanical joystick is broken, it can be replaced.



Raise, lower, tilt and crowd. Cable controlled joysticks can work really well if the cables are in good order but are becoming less popular as electronic alternatives offer smooth, proportional control and are easier to fit as there is no need to run cables to a valve chest.



OEM loader joysticks are different to those offered by Stoll. Pictured New Holland design is supplied with loader ready tractors from the factory and cannot be repaired with Stoll replacement parts.

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Stoll ProfiLine		FZ 8	FS 8	FZ 10	FS 10	FZ 20	FS 20
Deutz-Fahr ProfiLine		FZ 8	FS 8	FZ 10	FS 10	FZ 20	FS 20
Case IH LRZ Series		85		95		100	
New Holland TL700 Series		720		730		740	
MS-Self Leveling NS-Non-Self Leveling		MS	NS	MS	NS	MS	NS
Tractor power		35-65kW		50-75kW		50-80kW	
		50-90Hp		70-100Hp		70-110Hp	
Lifting force at pivot point	bottom	1,960kg		2,020kg		2,490kg	
	top	1,510kg		1,510kg		1,860kg	
Maximum lift height at pivot point		3.45m		3.85m			
Emptying width		670mm		700mm			
Lift arm pivot		1.66m		1.78m			
Tilting angle (crowd)	bottom	40°		46°			
	rescooped	51°	-	65°	-	65°	-
Tipping angle (dump)	bottom	94°	158°	93°	154°	93°	154°
	top	61°		59°			
Pump requirement		50l/min					
Loader weight without implement		406Kg	356Kg	465Kg	420Kg	475Kg	425Kg



Lift the gaiter at the base of a cable control joystick and take a look at the condition of the sockets. The upper alloy plate is a wear item, renewing it typically overcoming a 'sloppy' joystick. A new ball is £2, £56 for a triangular plate.



The electronic Stoll PRO Control is fully digital and can be retrofitted to most ProfiLine loaders relatively easily. A new joystick, if the original is broken, is £740, an upgrade kit costing £2350.

damage. Take a look to ensure the rams are not slightly bent through having been 'abused'. They will still work with a slight 'banana' bend, but this will put a strain on the seals and pivots so will need further investigation. Easy to miss. Take a good look at the carriage linkage arms as these can get damaged too. New replacements are available.



All the components needed to repair a mechanical Stoll joystick are available, so there is no excuse for bodged insulation tape repairs or worn lever to cable action. The left and right halves are £42 each, £35 for the switch, £23 for a rubber switch button, £29 for a Stoll Symbol or buy a complete new joystick with two buttons £261.

Boom attachment lever and stands

Stoll developed its boom hook lock bracket attachment system back in 1983 and it has not changed since. The locking levers on each side of the boom need to be manually released and secured when removing and refitting the loader. The levers can become a little stiff on loaders that have not been removed in a while but should still shift with a small degree of effort. If the locking levers are stuck or really stiff, a squirt of release fluid into the locking mechanism's Belville washers should be enough to free the latch.

The mechanism can be adjusted, and a bent lever can be eased back into shape if it has been damaged in the past.

The loader stand legs are both fitted with a simple ratchet system that enables them to lock at an angle to cope with a moderately uneven surface. The legs and the catches that lock the legs in position are liable to damage. Lower each leg and ensure it locks when pressure is applied. Pulling the locking tab back will allow the leg to fold back and lock back in its stowage position on the boom. All the key parts to fix a damaged leg are available.

FZ 30	FS 30	FZ 45	FS 45	FZ 50	FZ 60	FZ 80
FZ 30	FS 30	FZ 45	FS 45	FZ 50	FZ 60	FZ 80
120		130			160	180
750		760		770	780	790
MS	NS	NS	MS	MS	MS	MS
65-90kW		65-105kW		90-130kW	110-170kW	130-200kW
90-120Hp		90-140Hp		120-180Hp	150-230Hp	180-270Hp
2,260kg		2,590kg	2,590kg	2,750kg	2,880kg	3,020kg
1,730kg		1,990kg	2,010kg	2,240kg	2,470kg	2,590kg
4.14m				4.35m	4.54m	4.76m
785mm				785mm	800mm	840mm
1.93m				1.93m	2.03m	2.17m
46°				46°		
68°	-	-	68°	68°	69°	69°
103°	154°	154°	103°	103°	150°	154°
59°				59°		
60l/min				70l/min		
540Kg	470Kg	480Kg	580Kg	680Kg	790Kg	850Kg



If the carriage double lever arms are bent or damaged, a new one is £170, the bushes £11 each.

Stoll have used the same boom to bracket lock system since the mid-eighties, all the adjustable system's parts having replacements. If the lever sticks a little oil should free it off. If parts are needed, the main bolt is £54, the black handle £10, wedge £35 and £3 per washer.



Worn tilt links can be renewed at £62 per side.



Original boom valve block to the left was replaced by a Hydac unit in around 2015, the latter having simplified internals. When ordering spares, make sure you know which is which. The original boom valve block is £1,700, the newer design £1,600.



The mechanical lock system on the attachment carriage can get damaged, new parts typically resolving any problems. The curved handle is £99, the straight rod £50, spring £4 and washer £2.



Boom stands get bent and damaged but can be easily renewed. Note ratchet track in the leg's inner face. This allows the legs to lock at the correct height on uneven ground. A new leg is £140.

Quick key checks

- Loaders tend to be abused and not given much care. A lack of grease in pivot points is common. The attachment carriage pivots are most liable to needing attention, so work back from here.
- Look for damage, and not just to the boom. The brackets and related fasteners are subject to shock loads, and the latter are meant to be checked regularly. Missing, snapped and damaged bolts are not rare on a non-dealer prepared buy. When greasing the loader, take a look at this area when a loader is in service.
- Mechanical joysticks wear can make it harder to work the loader smoothly and accurately. Lift the gaiter and look at the cable ball-ends to alloy plate socket. Play here can be rectified with a new plate.
- The mechanical joystick lock, mounted low down and on side, needs to be intact and fully working. Some knock it off and leave broken.
- Valve chest. Look for visible leaks. Leave the loader raised and check it does not sink. This can happen if there are internal leaks.
- Boom pin locking tabs can come loose, go missing or even break. If a pin tab is missing be wary. Other safety related problems may be present.
- Boom cracks in ProfiLine and Solid loaders are rare. If you do see a crack or repair it suggests the loader has been abused.
- Level indicator rod provides simple visual guide of the bucket level. Adjustable to suit different attachments, the level is mounted on the inner side of the left lift ram but it can be damaged or even lost. The thumb wheel adjuster lock can also loosen and fall off. Easy to fix with new parts.
- If Comfort Drive fails to engage initially, lower the boom for a few seconds and lift to relieve the back pressure in the system.
- The loader bracket lock handle should unlatch without undue force. If stuck, squirt in some oil and try again a bit later. Should free off easily.
- Electronic Pro-Control is fully digital. It should deliver linear control of the loader and attachments with good 'feel'. The illuminated dots in the corner of each keypad decal will show if a certain function is switched on or off. Features such as boom suspension, third service, return to level, boom raise and lower speeds, sensitivity and more can all be programmed via the controller. Have a play to check. If the controller has a fault, it may need to be replaced as opposed to repaired.
- All Stoll mechanical joystick parts can be renewed to include the top decal and plastic handle components. OEM joysticks and controllers vary in quality and some have no repair parts; you have to replace the complete unit if it is worn or damaged. The third service buttons on some designs are known to fail so check.
- A Stoll Hydro-Fix fast hydraulic connectors kit costs around £515 complete. Eases coupling under pressure.
- The tractor and its mounting brackets obviously need to match the loader. The Lynx website configurator can be used to check the boom and tractor are compatible.

If you buy a tractor with Stoll or compatible OEM loader brackets fitted, but no boom, you may strike lucky and find a used one to fit. The snag is a boom that fits is not necessarily the correct one. Considerations should include its capacity, clearance to the front wheels and bonnet. It is easy to make a mistake. Stoll standardised on a wider boom for all tractors that are compliant with Stage IV emission standards. Post Stage IV and still today, loaders come in two different widths to suit specific tractor models. Seek advice before assuming a used boom will fit.

Summary: When buying a used tractor with a loader, it is all too easy to overlook the loader itself. As these bits of kit typically work hard and often see little in the way of TLC, it pays to invest some time giving them a good looking over. If the loader is not of the spec you want, a new loader boom is an option but consider affordable upgrades to the existing unit if it is just an upgrade to the controls you are after.

Later Stoll ProfiLine models, for example, can be affordably upgraded to electronic joystick control. A Stoll Solid loader with a worn and

imprecise joystick need not be a problem either as these can be repaired or completely replaced relatively economically. The caveat is that some OEM tractor joystick controls cannot be repaired, a new joystick being the only option if the old one is badly worn.

**Thanks to Lynx Engineering and W.R Shaw, Tullamore, Co. Offaly, Ireland
James de Havilland**



Retrofit quick couplers will cost around £515 but check as different couplings may be needed for some older loaders. These couplings allow coupling under pressure.



The hose protection plate under the cross beam can get bent or removed and lost. A new cross plate is £100.



The simple rod level indicator adjusts to suit different attachments. It can get damaged or the lock nut adjuster wind off and get lost. A new tube is £30, the knob £3.00.



Stoll offer ram seal kits to include new 'O' rings. Always replace all the items when carrying out a repair. These will cost around £140.



Flat face male and female couplers to replace earlier types are available at £63 each.



A new Euro or combination attachment carriage can be fitted if the original is damaged beyond repair. Sold with handle included, they are £870. Hydrolock (right) version add £530.



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