MIL-STAK
LARGE BALE STACKERS

1.1

Operator's Manual

LS/1850 Large BaleStacker

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Patent Pending

MIL-STAK

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LS /1850 Specifications

Recommended Minimum Tractor size required.	**100 hp**
Hydraulic Flow gpm minimum required	**15-18 GPM**
Minumum / Max Tractor Hydraulic Pressure	**2000 PSI /2600 PSI**
Tractor Hydraulic System	**3 S.C.V.s**
Electrical System	**12 volt neg ground**
Bale Length	**7-9 ft.**
Bale weight	**Up to 2000 lbs**
Bale Size and quantity	**3x3 (6), 3x4 (6), 4x4 (4)**
Bales Per Hour	**70**
LS 1850 empty Weight.	**9000 lbs**
Tire Size	**Flotation,550/450-22.5 16 ply**
Wheel Bolt torque	**425 ft lbs**
Recomended Tire Pressure Minimum / Max (Caution .Over inflation may cause the wagon to bounce when unloaded)	**36 lbs /41 PSI max speed 25 mph**
Grease points	**Page 10**
Length overall	**27'4"**
Width outside of tires	**9'10"**
Empty Tongue weight (approx.)	**1820 lbs**
Tongue weight Loaded (approx.)	**2300 lbs**
Tongue weight unloading (approx.)	**- 400 lbs**
Gross Weight Capacity	**24000 lbs**

The MIL-STAK LS/1**850** is easy to operate. It has no computer or sensors. There is no joystick or display to mount in the tractor cab. Just plug in six hoses, connect the tail lights plug and you're ready to stack.

The simple hydraulic design allow the operator to clamp, lift and slide the bales onto the stack bed with one tractor remote. The second tractor remote is used to swing the hitch to align with the bales while loading or to side shift to the right to see the stack while unloading. The third tractor remote is to lift the stack bed for unloading.

The single axle with large flotation tires easily carries the load over any type of ground and does not damage the hay when making tight turns.

The MIL-STAK LS/1**850** comes standard with LED lighting making it easily seen when traveling between fields.

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With the **MIL-STAK LS/1850** Large Bale Stacker you can single-handedly load and stack up to 70 large square bales per hour from the comfort of your tractor cab. It is easy to operate and designed to withstand years of use in demanding conditions. The low profile and load holding ability makes it superior in loading bales on steep hillsides.

The LS/1850 picks up bales the same direction as your baler places them in the field by clamping the sides of the bale, eliminating the need to drive cross-wise or slide the bales on the ground into position.

The spring loaded bale bumper takes the shock out of non-stop loading and is easily adjusted for various bale lengths.

Quickly lifts the bales off the ground to keep from embedding dirt and debris into your hay. Also does not damage the crop by excessive sliding or twisting of the bale across the field.

Bales are placed cross-wise on the front of the stack bed and the hydraulic push-bar slides the bales back. Push-bar then stays in the up position until the next bale is loaded.

Tractor hookup

1. There are six hydraulic hoses to connect to the tractor remotes. Two are for the hitch swing left and right, two are for the bale clamp lift and lower, and two are for the stack bed raise and lower.
2. The hydraulic hoses are color coded in pairs. The stack bed hoses have red bands around them. The Bale Clamp hoses have yellow bands around them. The hitch hoses have no bands.
3. Tractor light plug is the common 7 pin connector for the clearance ,brake ,signal and works lights.

The order in which these are connected is not important and is usually the preference of the operator.

When the LS 1850 is not hooked to the tractor, keep the hydraulic hoses stored in the Hose rack on the tongue of the LS. This will keep them off of the ground and dirt, preventing any contamination or corrosion in the fittings.

Sequence valve operation

1. Tractor operator pushes and holds tractor remote lever to the 1st position.
2. This causes the bale clamp to close and tighten on the bale. As the operator continues to hold the remote lever in the 1st position, required hydraulic pressure is reached and the sequence valve opens and lifts the bale to the full up position, and simultaneously lowers the push bar to the down position.
3. Operator then releases the remote lever. (Caution)Continuing to hold the remote lever at the end of the cylinder stroke will force the hydraulic fluid to return to the tractor via the tractors relief valve and may cause strain on the system if the tractors relief is set too high.
4. Operator then pulls back and holds the remote lever into the 2nd position.
5. This causes the bale clamp to open and simultaneously the push bar to lift and push the bale out of the bale clamp onto the stack bed, as the operator continues to hold the remote lever in the 2nd position, required hydraulic pressure is reached and the empty bale clamp is lower to the down position.
6. Operator then releases the remote lever. (Caution)Continuing to hold the remote lever at the end of the cylinder stroke will force the hydraulic fluid to return to the tractor via the tractors relief valve and may cause strain on the system if the tractors relief is set too high.

UNLOADING

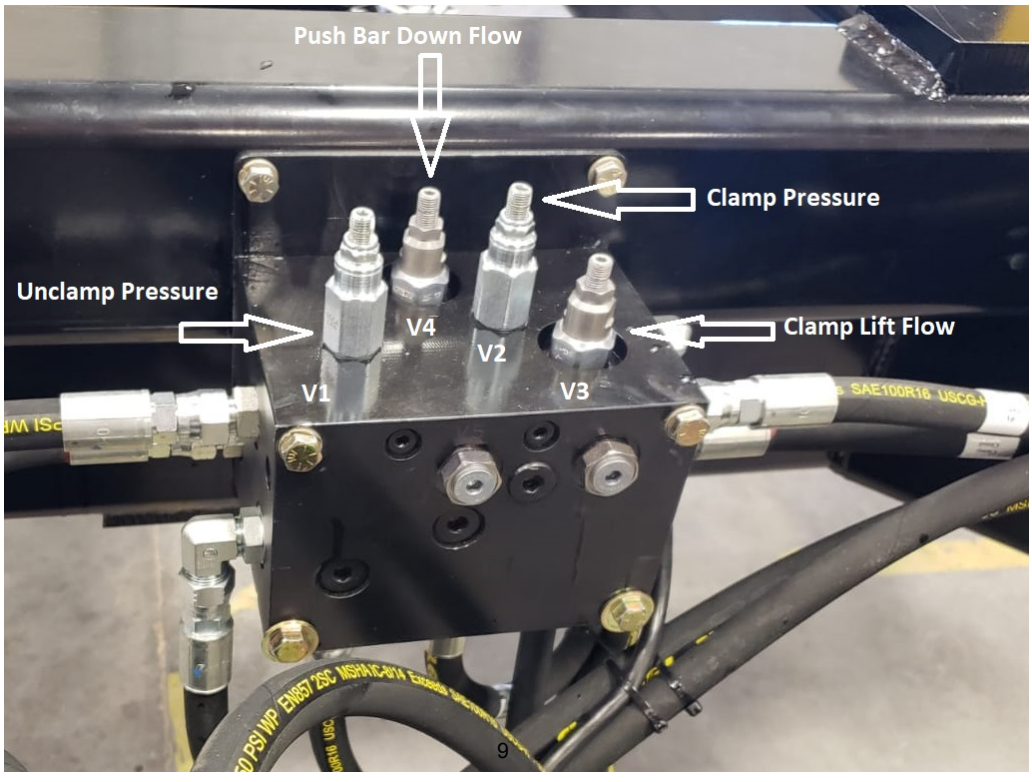
1. The second tractor remote is used to shift to the right to align with the stack while unloading.

2. The third tractor remote is to lift and lower the stack bed for unloading. With a little practice you will be creating a nearly perfect stack.

This machine is manually operated and rely's on the operator to end the function at the proper time to avoid stress at the end of the cycle. Continuing to hold the remote lever at the end of the cylinder stroke will force the hydraulic fluid to return to the tractor via the tractors relief valve and may cause strain on the system if the tractors relief is set too high.

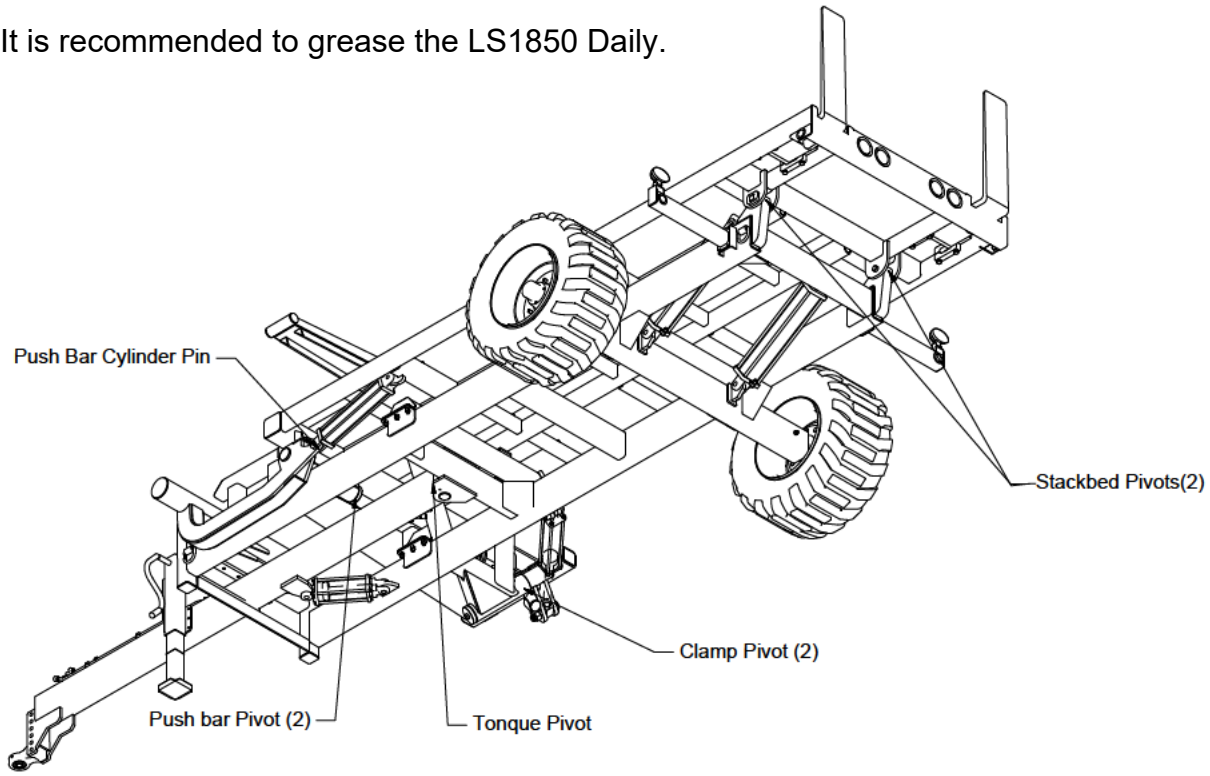
LS/1850 **Hydraulic Set up and adjustment**

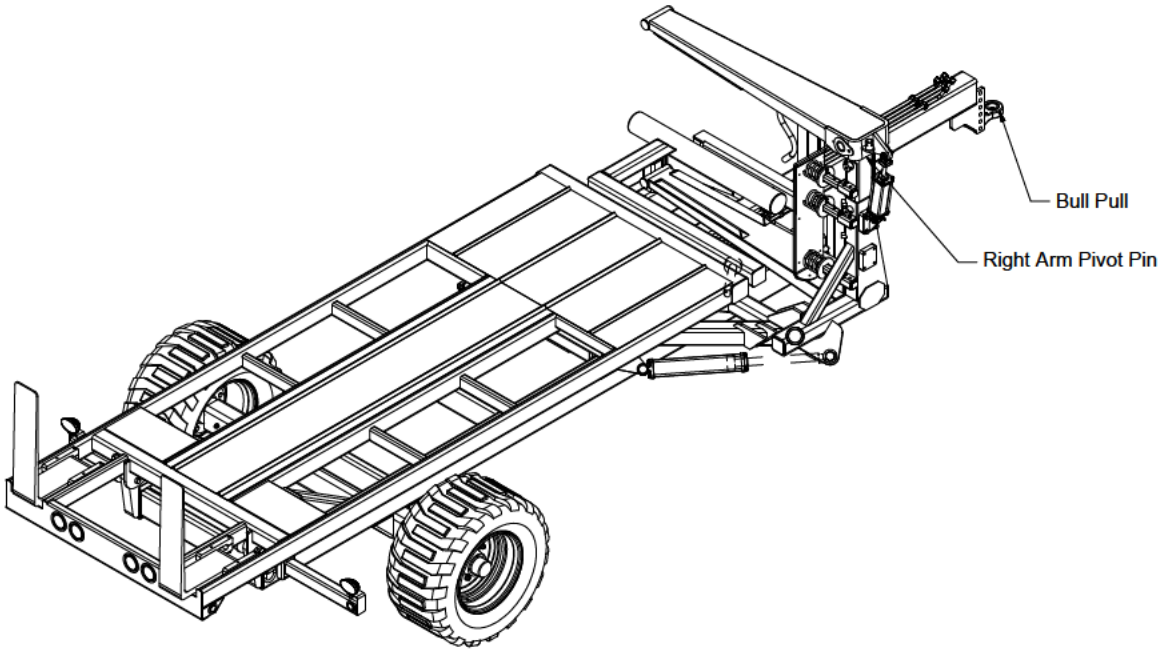
1. There are six hydraulic hoses to connect to the tractor remotes. Two are for the hitch swing left and right, two are for the bale clamp lift and lower, and two are for the stack bed raise and lower.
2. The hydraulic hoses are color coded in pairs. The stack bed hoses have **red** bands around them. The Bale Clamp hoses have yellow bands around them. The hitch hoses have no bands.
3. The Hitch and the Stack Bed are simple, direct acting, two way hydraulic functions.
4. How to adjust the Bale Clamp circuit;
   A. VERY IMPORTANT When first Operating the Bale Clamp, watch carefully to make sure the Bale Clamp and the Push Bar do not collide
   B. In normal operation, when the bale clamp is down, the push bar will be up. When bale clamp is up, the push bar will be down.
   C. There are two flow control valves. One flow control valve is used to control the speed of the push bar down (V4) and one flow control valve is used to control the speed of bale clamp up (V3).
   D. Begin by closing the bale clamp, when the hydraulic pressure reaches the factory preset amount, the bale clamp begins to lift, and the push bar begins to fall. If the push bar falls too slowly, the lifting bale clamp will collide with push bar. To correct this, the flow control (V4)needs to be opened 1 or 2 rounds (counter clockwise). If the push bar is falling to fast and/or the bale is being pushed on the ground too far before lifting, the flow control (V4)needs to be closed 1 or 2 rounds (clockwise).



Grease Points.

It is recommended to grease the LS1850 Daily.



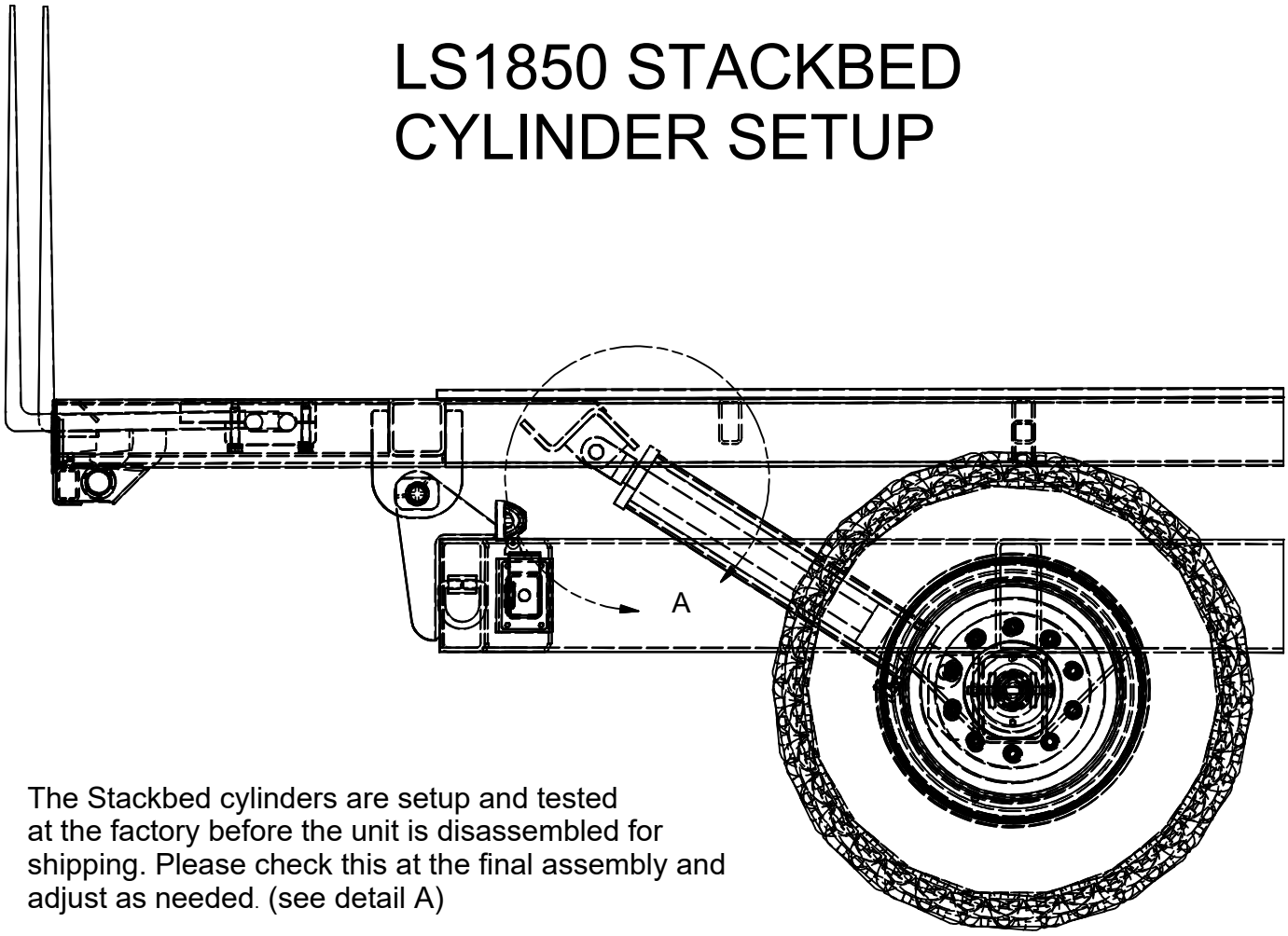


First 50 Hours

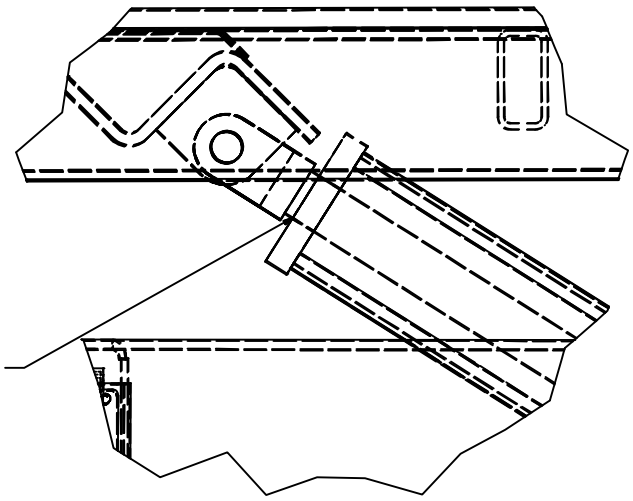
After the first 50 hours of operation it is important to perform the following maintenance. Failure to do so can cause damage to the LS1850

1) Inspect hydraulic system for leaks.
2) Ensure tires are inflated to 36 PSI.
3) Torque wheel lug nuts to 420 ft-lb.

LS1850 STACKBED CYLINDER SETUP



The Stackbed cylinders are setup and tested at the factory before the unit is disassembled for shipping. Please check this at the final assembly and adjust as needed. (see detail A)



DETAIL A
SCALE 0.13 : 1

Stackbed Cylinder adjustment.
If there is more than 2.mm of unused cylinder rod exposed with the stackbed down, make the adjustment by threading the cylinder clevis outward to allow the cylinder rod to retract to 1 to 2 mm short of full retract. This will allow the stackbed to rest on the front pads and not the cylinder rams. Also prevents the cylinders from pulling and stressing the stackbed beyond its limits.

Warranty

MIL-STAK, INC. LIMITED EIGHTEEN (18) MONTH WARRANTY

WARRANTY VOID IF NOT REGISTERED

MIL-STAK, INC. LIMITED Eighteen (18) MONTH WARRANTY

Mil-Stak, Inc. provides the following limited Eighteen (18) month warranty to the original retail purchaser for products manufactured by it to be free from defective materials or defective factory workmanship.

The warrantor's obligation shall be limited to repairing or replacing, by a Mil-Stak Authorized Dealer, any part or parts which shall fail within the Eighteen (18) month period. Mil-Stak reserves the right to request the defective part or parts to be shipped back to the Mil-Stak factory for inspection prior to warranty claim approval.

Upon warranty claim approval by Mil-Stak, a Mil-Stak Authorized Dealer shall affect the repair or replacement within a reasonable period of time.

Paint and other coatings are not covered by this warranty, or any warranty of Mil-Stak, Inc.

Mil-Stak, Inc. warranty does not apply to products which have been altered, damaged by accident, negligence, misuse, improperly maintained, or not used in accordance to manufacturers specifications or load ratings.

All implied warranties including the warranties of merchantability and fitness for a particular purpose are excluded. This warranty excludes all incidental or consequential damages. No other warranties either expressed or implied are made by Mil-Stak, Inc.

Mil-Stak, Inc. reserves the right to make changes in design without being obligated to make the same changes on other products covered by similar warranty.

The eighteen (18) month limited warranty period shall commence with the date the product is sold to the purchaser by the dealer, but if the date of purchase cannot be established, or if the product has been used by the dealer, the eighteen (18) month warranty period shall begin the date the product was sold by Mil-Stak, Inc. The warranty registration card must be filled out completely and returned to Mil-Stak, Inc. for the warranty to be valid.

This eighteen (18) month limited warranty is not transferable.

x	x
Dealer Signature	Purchaser Signature
x	x
Dealer (Print Name)	Purchaser (Print Name)
Product Purchased	Purchaser Mailing Address
Serial Number of Product (Complete)	City State Zip
Date	Telephone No.