

NEW HOLLAND

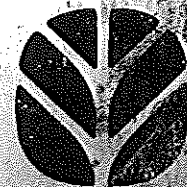
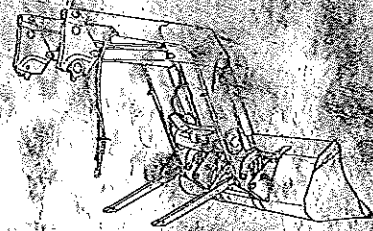
810TL

820TL

For TNA, TNDA, TDD,
TNFA, TLA and TNSA
Series Tractors

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1st Printing

OPERATOR'S MANUAL



NEW HOLLAND

SECTION 2

OPERATION

TRACTOR/LOADER STABILITY

Determination of Ballast

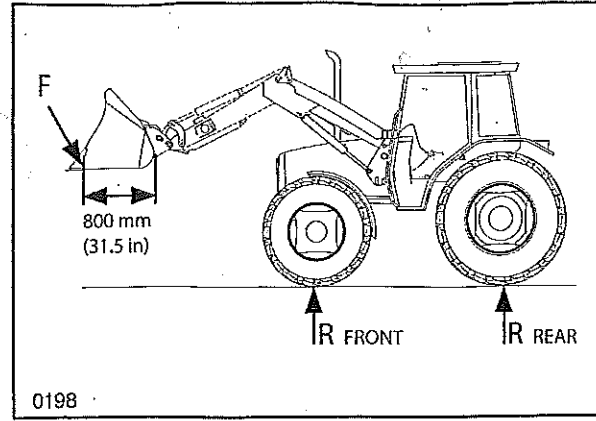


Prevent personal injury due to tractor tipping or losing traction. Make sure proper ballast is fitted.

The following information is according to ASAE EP562 March 2005.

The following information is provided to reduce risk of machine overturning during normal operation. Ballast tractor to meet requirements outlined below.

- Place mass (weight) equivalent to loader lift capacity (F) located 800 mm (31.5 in) ahead of bucket pivot.
- Raise loader until bucket pivot is level with loader arm pivot (bucket in farthest forward position)
- Apply rear wheel ballast and/or ballast box until a minimum of 25% of total weight is on rear axle. Tractor must be on level ground while measuring axle load. Total weight includes ballasted tractor, loader, bucket and payload (F).
- When using loader for dedicated applications, operator may determine appropriate ballast, based on maximum load to be carried.
- Tractor/loader with high center gravity or unusual configuration may require wider minimum tread setting to achieve same level of stability.



1

Minimum Tread Settings



Overturning risk. The tractor can overturn if its track is too narrow. Increase to maximum track for best stability.

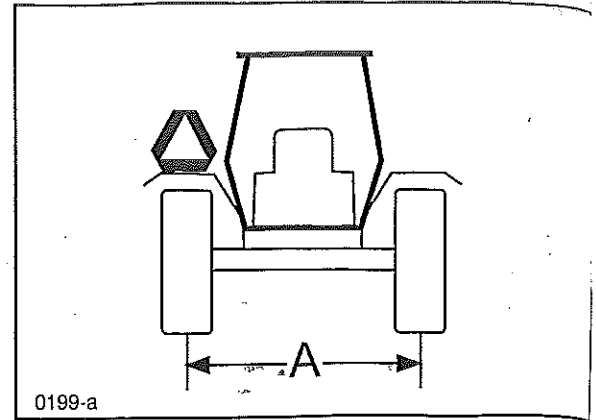
Tread should be set as wide as practical considering the environment of use. Minimum tread settings are recommended to provide static stability on a side slope of 15 degrees with loader positioned. Unless otherwise specified by tractor manufacturer, minimum rear tread settings should be selected from Table.

TRACTOR MASS (Weight)		MINIMUM REAR TREAD SETTING*	
Kg	Lbs	mm	Inches
Less than 2250	Less than 4960	1575	62.0
2250 - 3650	4950 - 8030	1675	65.9
More than 3650	More than 8030	1825	71.8

BALLAST RECOMMENDATION CHART

Recommended loader ballast for common tractor/loader combinations are listed in ballast chart. Recommendations are intended as a starting point only. Specific tractor configurations may require more or less ballast than that shown in the chart. Always confirm correct ballasting by weighting the fully loaded tractor as specified in "Determination of Ballast" section.

Recommended rear wheel ballast can be reduced by using a three point hitch counter weight.

**Recommended Tractor Ballasting**

Tractor Model	Rear Axle Ballast	3-Point Hitch Ballast
TNA/DA 60-75 (NSL)	690 kg (1520 lb)	450 kg (990 lb)
TNA/DA 60-75 (MSL)	990 kg (2180 lb)	650 kg (1435 lb)
TNFA 65-95 (NSL)	450 kg (990 lb)	310 kg (685 lb)
TNFA 65-95 (MSL)	710 kg (1565 lb)	490 kg (1080 lb)
TDD 55-70 (NSL)	640 kg (1410 lb)	420 kg (925 lb)
TDD 55-70 (MSL)	940 kg (2070 lb)	620 kg (1370 lb)
TNSA 75 (NSL)	790 kg (1740 lb)	540 kg (1190 lb)
TNSA 75 (MSL)	890 kg (1960 lb)	610 kg (1345 lb)
TNA/DA 85-95 (NSL)	870 kg (1920 lb)	580 kg (1280 lb)
TNA/DA 85-95 (MSL)	980 kg (2160 lb)	650 kg (1435 lb)
TDD 75-90 (NSL)	690 kg (1520 lb)	460 kg (1015 lb)
TDD 75-90 (MSL)	1020 kg (2250 lb)	690 kg (1520 lb)
TLA 80-100 (NSL)	540 kg (1190 lb)	370 kg (816 lb)
TLA 80-100 (MSL)	640 kg (1410 lb)	440 kg (970 lb)

NOTE: NSL - Non Self Leveling
MSL - Mechanical Self Leveling

NOTE: Choose either rear axle or 3-point hitch ballasting option.

Tractor/Loader Hydraulic Controls

The loader's hydraulic system can be connected to the tractor hydraulic system in one of two alternate ways.

Alternative 1

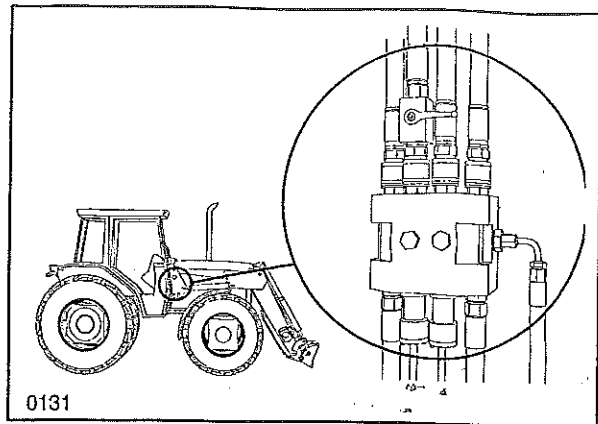
The first method means that the tractor's hydraulic system is connected to the loader's control valve.

There are two versions of this method.

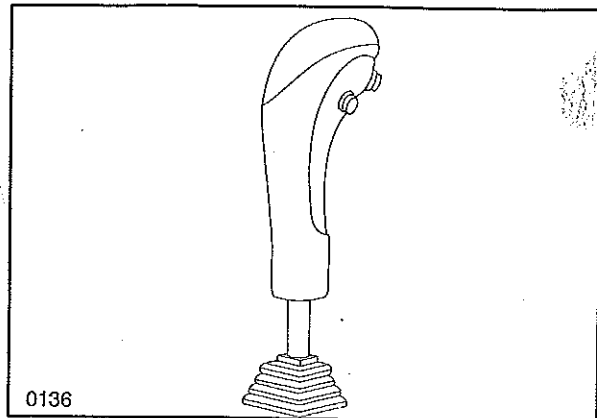
Version 1 - Control valve, mechanically operated

The control valve has a joystick-type control handle located beside the operator's seat. The lever is connected to the hydraulic control valve via two control cables.

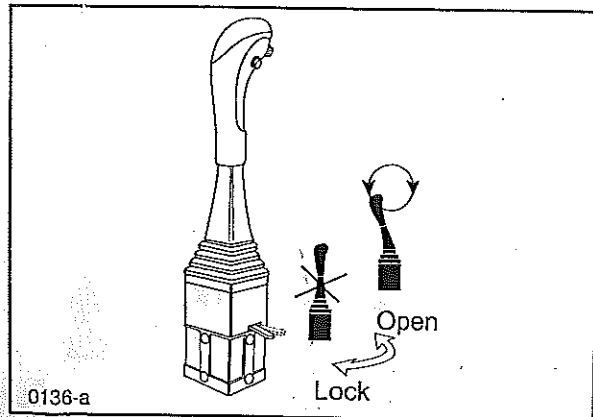
The joystick can be locked in neutral to prevent inadvertent operation of the loader. Lock the joystick by moving the tab on the front of the housing to the right. Check that the joystick is locked by moving the handle fore and aft and left and right. If the handle will not lock consult your dealer.



3



4

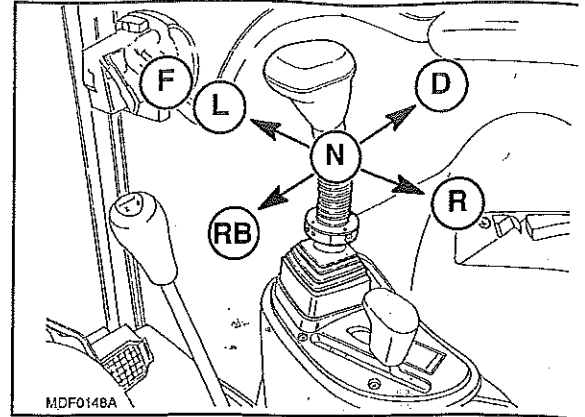


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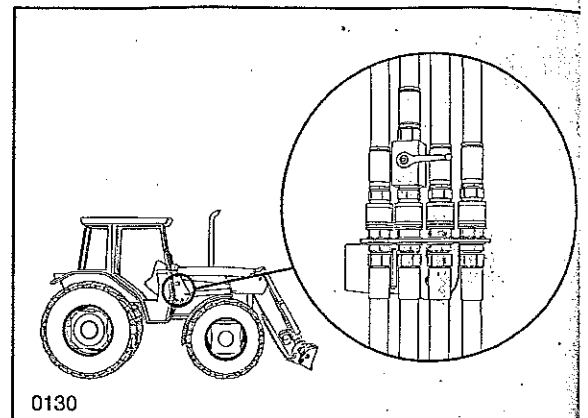
SECTION 2 - OPERATION

Alternative 2

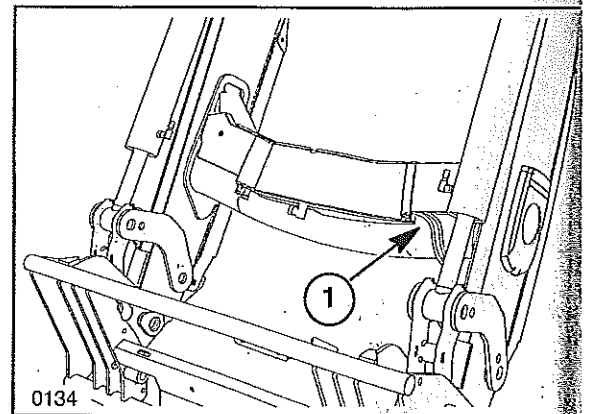
The other method is to use the tractor's original joystick control to control the movements of the loader.



Four hoses are connected directly between the tractor's hydraulic system and the loader.



The loader may be equipped with a third hydraulic function. A solenoid valve, 1, is then installed on the cross tube of the tractor or on the rear of the tractor.



OPERATION OF THE LOADER

IMPORTANT: Tractors with front axle suspension. The loader causes increased wear on the components in the front suspension. Always lock out the front suspension if this facility is available. Read the tractor's instruction manual.

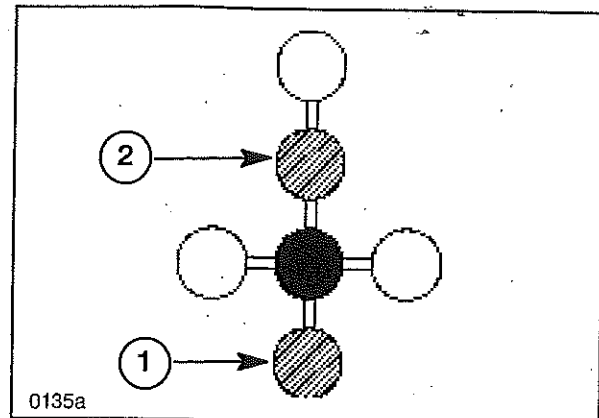
Loader-Mounted Valve

NOTE: All controls (except for float position) return to neutral when the lever is released.

Raise/Lower the Loader

Move the lever backwards, 1, to lift the loader arm.

Move the lever forwards, 2, to lower the loader arm with constant pressure.

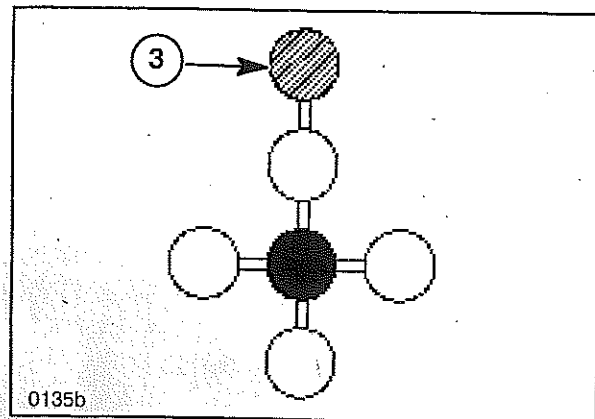


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Loader Float Position

Move the lever to the float position, 3, (does not apply to E-command, electronic control valve) and release the lever to lower the loader arm without any downward pressure.

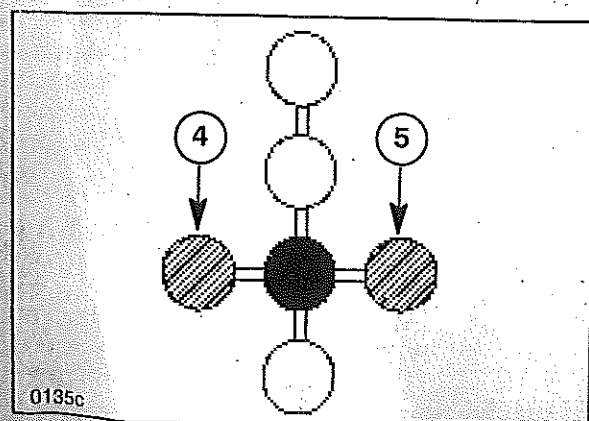
To cancel the float function, move the lever backwards somewhat (out of the float position) and release it.



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Attachment Roll Back/Dump

Move the lever left, 4, to roll the attachment back.
Move the lever right, 5, to dump the attachment.

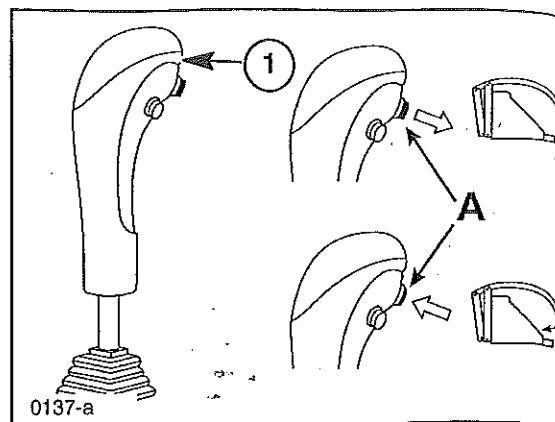


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3rd Hydraulic Function

The third hydraulic function is controlled by a switch or switches on the front of the control lever, 1.

On tractor with loader control valve, press the loader third hydraulic function button (A) and move the hydraulic control lever to the right to open the grapple, on units equipped with electric diverter valve system. On Live 3rd units press and hold the top button to open the grapple. Consult with your dealer as to the style of system on your tractor/loader.

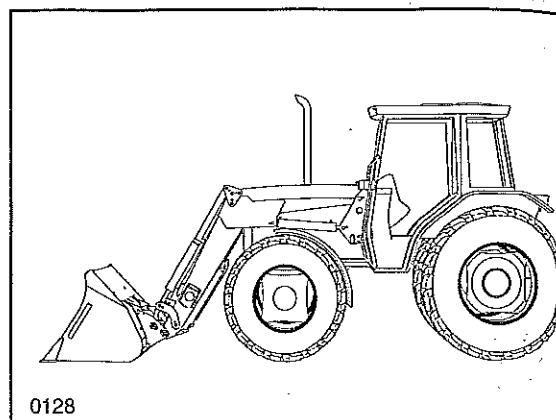


Loader with Mechanical Self-Leveling

Parallel links keep the base of the attachment in the same angular position during the entire lift/lowering movement.

Loader without Self-Leveling

The base of attachment changes its angle in relation to the ground during the entire lift/lowering movement.



INSTALLING THE LOADER

NOTE: The accessory box markings coincide with the loader and the base. The decal installed on the accessory sack for the base contains information about the number of packages and the part numbers of the components, in addition to information about the tractor model. Check that these coincide.

Read through the installation instructions which accompany each kit before making any attempt at installation.

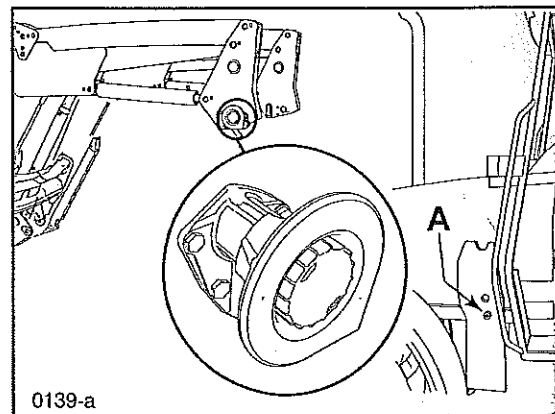


Pinch risk.

The locking wheel is spring loaded. Handle carefully.

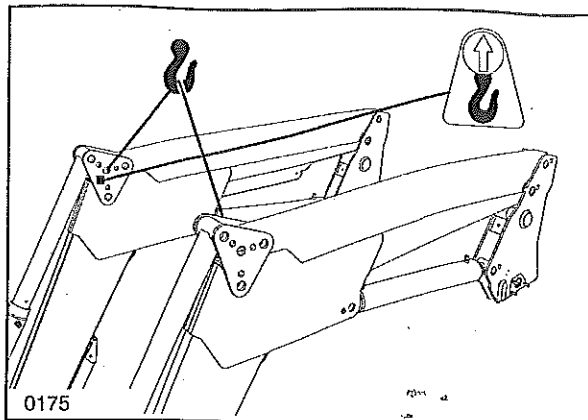
Install Quick Lock on the left and right bearing boxes. Install stop (A) on the left and right subframes.

Install the subframe set and connect the loader valve or hose kit to the tractor's hydraulics in accordance with the installation instructions.



Lift the loader up onto the subframe. Holes for attaching the lifting hooks are found on the inside of the tie plates.

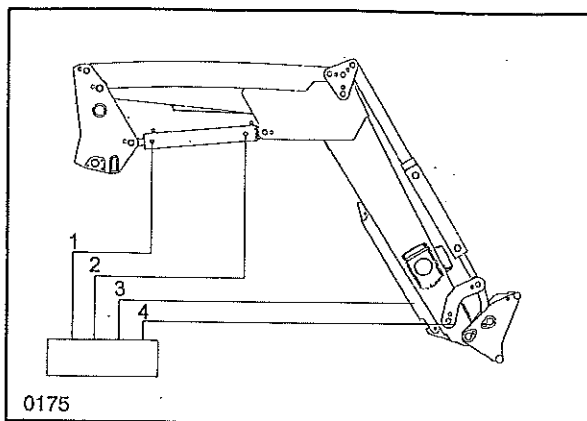
Make sure that the lock handle on Quick Lock is pulled out and rests on the heel. When the bearing box passes the stop, the Quick Lock system will lock the loader to the subframe. Make sure that the end of the lock pin is visible on the inside of both the left and right bearing boxes.



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Connect the hoses to the hydraulic source as shown in the illustration.

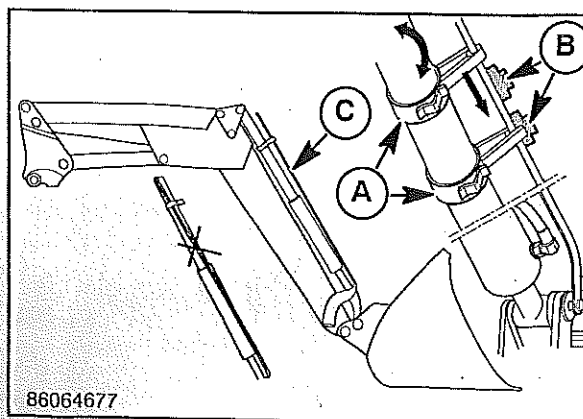
The control joystick must be connected to the valve so that the loader is raised when the joystick is moved rearwards.



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Install the Position Indicator

The position indicator can be mounted on the left or right bucket/attachment ram. Set your attachment in a level position and adjust your indicator (A) to reference point (B) on the indicator rod. Check that the indicator moves freely and adjust as needed. Incorrect installation can cause damage to the indicator.



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REMOVING LOADER FROM TRACTOR

⚠
WARNING
⚠

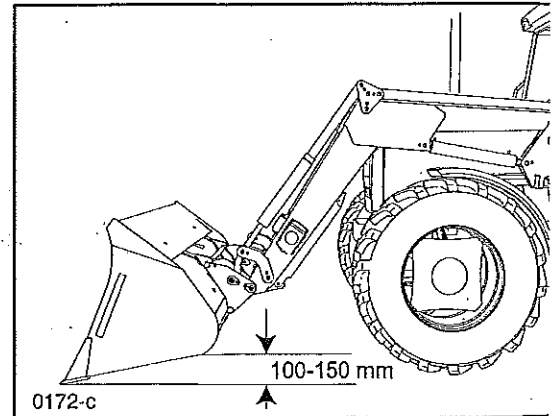
Prevent personal injury due to loader falling. Install a bucket on loader before removing loader from tractor.

IMPORTANT: If loader is equipped with an attachment with a third hydraulic function that is operated with a tractor auxiliary hydraulic circuit, disconnect hoses before removing loader from tractor.

If loader is equipped with electrical control functions, when E-command control valve is installed, also disconnect electrical coupler before removing loader from tractor.

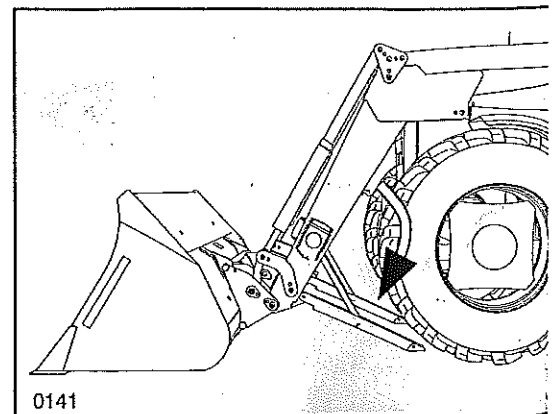
Park the tractor and the loader on flat, firm ground. Shut off the Soft-Ride.

Tip the bucket forwards and lower the loader so that the rear of the bucket is 100 – 150 mm (4 – 6 in) above the ground with the front of the bucket resting on the ground.



Parking stands are located under the front part of the loader arms. Pull up on the top end of the stands to release from the arms and fold them down to the ground. Swing the stay down and insert the bolt in the notched bar inside the stand. Select the notch with the stand resting on the ground.

NOTE: Raise the loader arms slightly if necessary to ease installation of bolt into notch. Pad on stand should be approximately 50 mm (2 inches) from ground with bolt in the selected notch and front of bucket resting on the ground.



SECTION 2 - OPERATION

Pull out lock handle (E) to unlock the lock pin and turn until the lock handle rests against the base stop (one on each side).



Pinch risk.

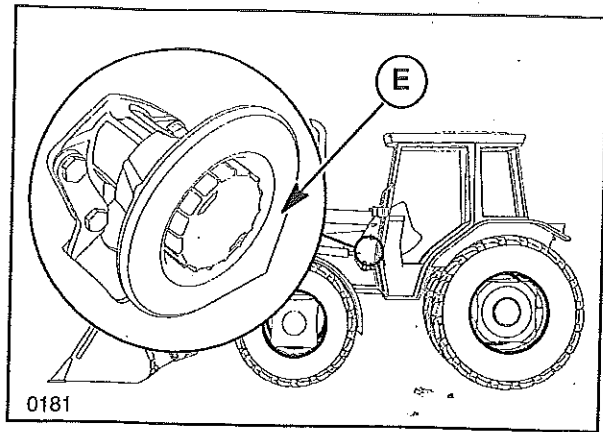
The locking wheel is spring loaded. Handle carefully.

- Release the brakes.
- Move the control joystick to the lowering position, so that the lifting cylinders are completely retracted.

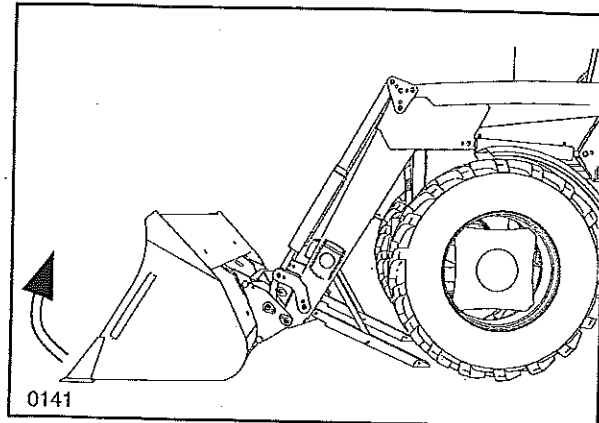
Roll back the attachment or bucket carefully. This will make the rear of the loader lift, and come loose and lift upward from the subframe.

- Stop the tractor and relieve the oil pressure to the lift cylinders, using the control valve.
- Disconnect the hose connection(s) and install dust cover on the couplings.
- Reverse the tractor carefully until it is completely clear from the loader.

IMPORTANT: Make sure that you position the hoses in the hose holder on the RH boom arm so that they do not catch on the tractor.



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RE-INSTALLING LOADER ON TRACTOR

CAUTION

Air in hydraulic lines and cylinders may cause erratic operation until air is removed from system.

Operate all controls carefully with slow engine speed.

CAUTION

Keep hands and feet away from moving parts. DO NOT use fingers to check component or hole and pin alignment.

Use a drift or steel bar.

CAUTION

Prevent personal injury due to loader falling.

Make sure a bucket is installed on the loader before the loader is installed on a tractor.

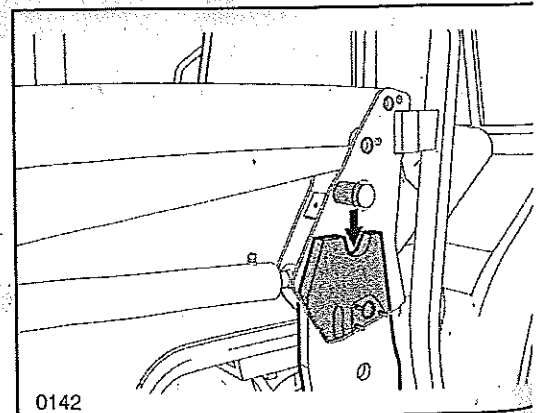
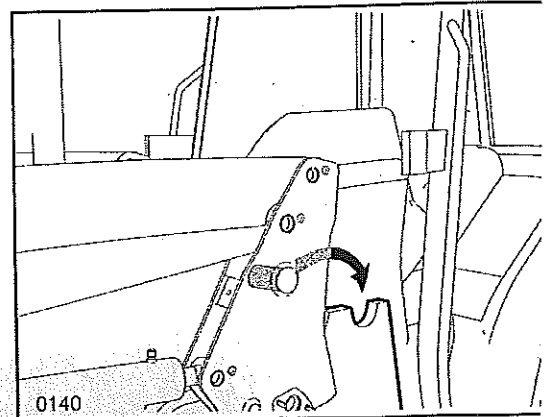
IMPORTANT: To prevent damage to tractor, keep it centered between loader arms during installation.

Drive the tractor forwards carefully until the subframe slowly enters the bearing boxes.

Connect the hydraulics. If there is any difficulty in coupling the quick release couplings, this will be because the oil pressure has not been relieved.

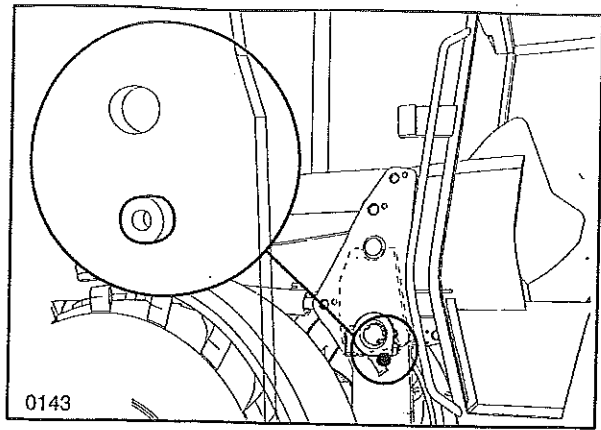
IMPORTANT: Never use force on quick release couplings by striking the valve ball. This can damage it so that coupling will not open when coupled together. (Oil can only pass in one direction.) Make sure that couplers are connected to their corresponding point to complete the hydraulic circuit. If your loader is fitted with a Quick Release Coupler system, clean the connection surfaces prior to aligning the guide pins and making the connection.

Extend the bucket cylinders (dump) to enable the stationary pins to engage and seat into saddles of subframe uprights. (Rear of bucket will come off ground, loader will pivot about parking stands and rear of loader will lower).



SECTION 2 - OPERATION

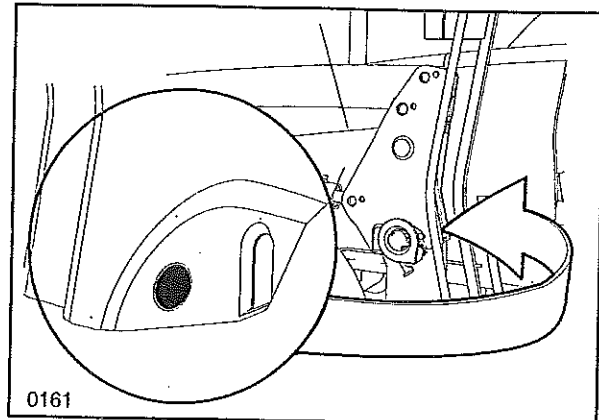
By extending the lift cylinders, the boom connecting system will be engaged by contacting the latch bolts on the subframes. When the end of the locking pin is visible on the inside of the bearing boxes, the loader is locked in place.



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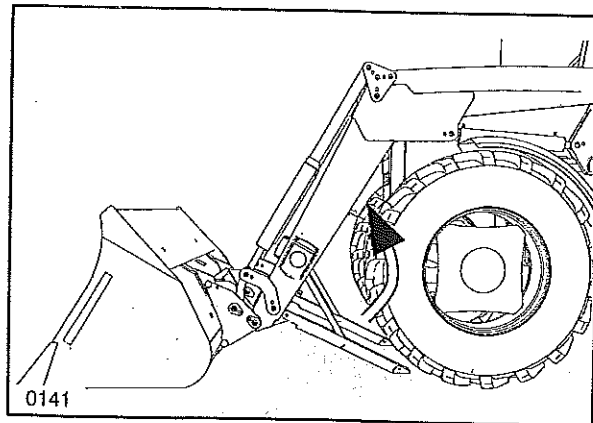
⚠ CAUTION ⚠

Make sure that the end of the locking pins are visible on both right and left bearing boxes.



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Fold the parking stands and secure in the storage position.



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SECTION 2 - OPERATION

CHECK LIST

When the loader has been installed - check carefully that everything works before it is taken into service. The following points must always be checked. Mark them off and do the necessary adjustments if necessary.

1. Check that everything has been installed in accordance with the installation instructions.
2. Check that a counterweight is fitted, which is appropriate for the bucket and attachment application rating.
3. Check that all screws are tightened.
4. Check that the front wheels clear the loader and base during full wheel lock and oscillation of the front axle - if this is not the case, oscillation stops or limitation of steering lock must be installed.
5. Test operate the loader, make sure that the ends of the lock pins are visible on the inside of both the left and right bearing boxes.
6. Check that no oil leakage occurs.
7. Operate all loader functions several times to remove air from the system.
8. Check the tractor oil level - top off as necessary.
9. Check that the lock pins engage when a bucket or attachment is connected.
10. Check that the loader does not have any visible defects.

LOADER OPERATION

⚠ DANGER ⚠

Electric shock, crushing and pinch risk.

When driving with the loader lifted, make sure that there is enough room between the loader and power lines, and other overhead hazards.

⚠ CAUTION ⚠

Crushing and pinch risk.

People can be inside the working area.

Make sure that nobody is close to the tractor when work starts. Only operate the tractor when sitting in the intended place in the operator's seat.

⚠ CAUTION ⚠

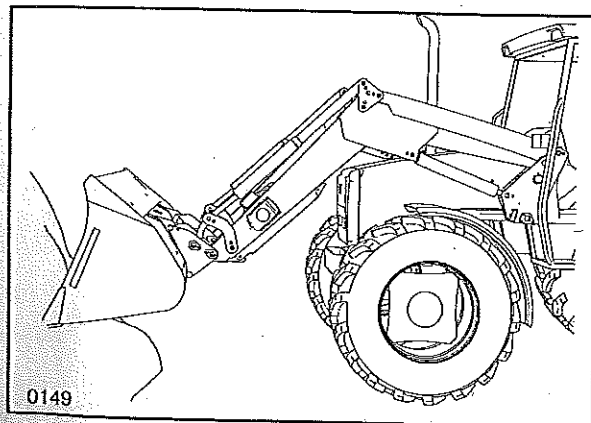
Crushing and pinch risk.

Lower the bucket to the ground, lock the brakes and shut the engine off before dismounting the tractor. Remove the ignition key if the machine is left unattended.

When operating on a slope, approach load uphill, fill and back downhill. Operating sideways on a slope may cause tractor to tip.

Bucket is filled most effectively by driving straight into stock pile with bucket level. Raise loader slightly while forcing bucket into pile to tear material loose for easier filling. Then roll bucket back to contain material.

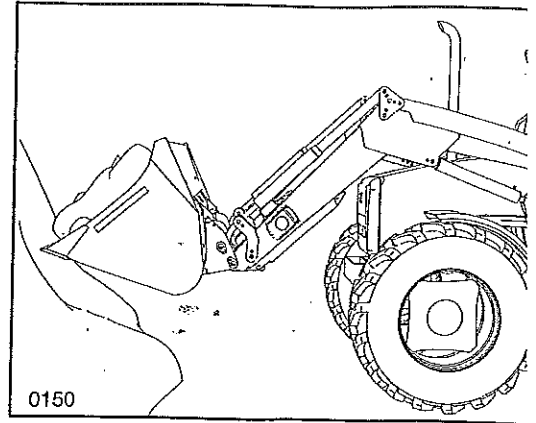
NOTE: Remove top layers first when working in deep material.



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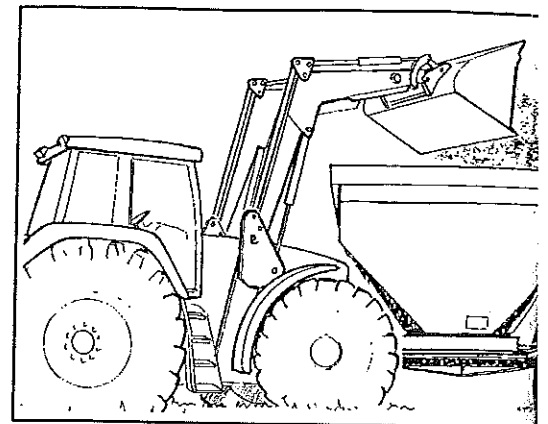
SECTION 2 - OPERATION

Back away from stock pile, lowering loader slowly. Sudden stops when lowering bucket quickly can result in damage to loader and/or tractor's hydraulic system.



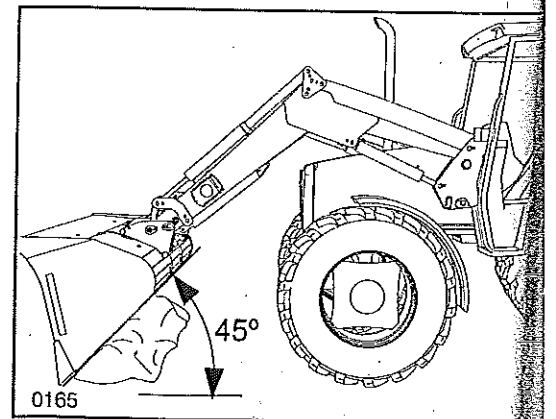
Raise loader while approaching vehicle so bucket does not strike vehicle when bucket is dumped. Release load from a low position for better loading and less spillage.

IMPORTANT: Do not use loader as a battering ram.



When back-grading, angle the bucket downward to allow cutting edge to contact ground and prevent wear on bucket rear face.

IMPORTANT: To prevent damage to loader, do not back grade material with bucket in the full dumped position. Bottom of bucket should be no more than 45° from the ground during back grading.



SOFT-RIDE LOADER SUSPENSION SYSTEM (OPTION)

CAUTION

Always lower the loader to the ground before activating/deactivating the "Soft-Ride" function.

Description

This option dampens the vertical movements of the loader when driving on uneven ground. It consists of one accumulator.

Soft-Ride can be engaged during most tasks, but can be disengaged when precision operation with exact control of the loader is required.

NOTE: The 810TL and 820TL loaders have (1) accumulator.

NOTE: The accumulators, 1, used with the Soft-Ride system are pre-charged and can not be re-charged. Contact your dealer for service.

Soft-Ride function can be shut off completely or engaged in two working modes with a knob, 2, as desired.

Position I = Shut Off

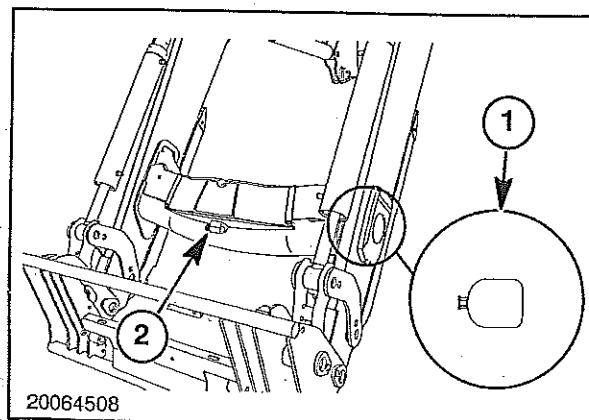
Position II = Accumulators open to the lift side of the cylinders (+).

Position III = Accumulators open to the lift side of the cylinder (+) and the rod side of the cylinder (-).

In position III, there is an internal relief port from the (-) rod side to the (+) side of the lift cylinder. When in position III you cannot maintain down pressure on the cylinders with the joystick in its neutral position.

Positions I, II, III can only be selected when the pressure has been relieved from the system. Lower the loader to the ground and shut off tractor engine. Move the joystick control lever to all control positions and return to neutral.

NOTE: When using attachments which require a double acting cylinder function, use positions I or II.



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SECTION 2 - OPERATION

REMOVE AND INSTALL BUCKET OR ATTACHMENT

Remove Attachment

Raise the loader off the ground and position the attachment level to the ground.

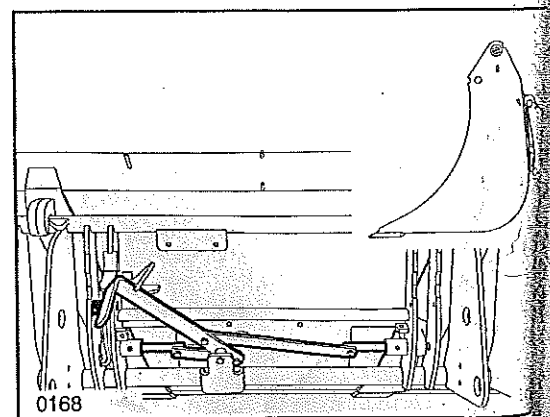
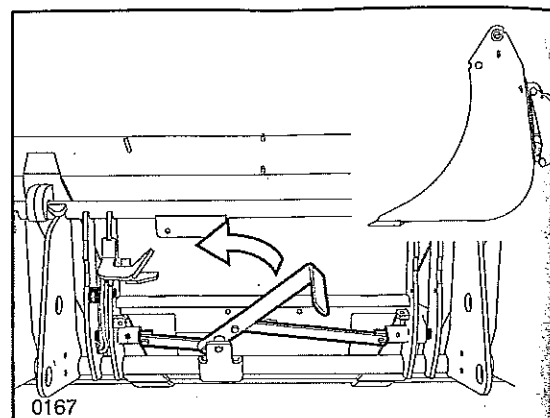
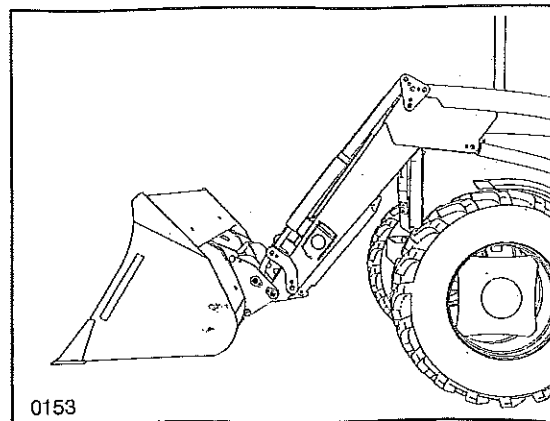
Shut the engine off and lock the joystick control lever in neutral position.

Apply the parking brake.

Pull the bucket lever to the disengaged position (left).

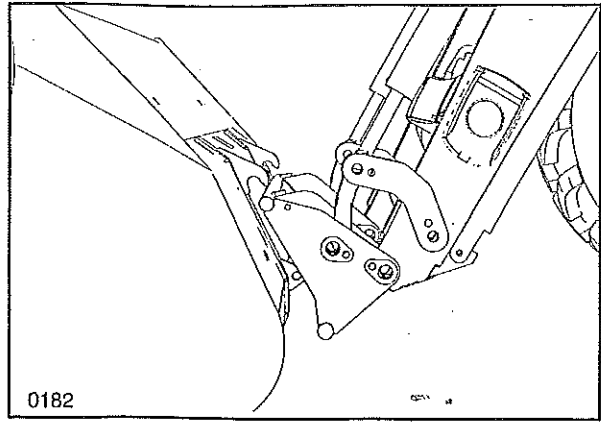
NOTE: It is easiest to move the lock lever to the open position if the loader has been lifted about 1 meter (39 inches).

Lock the lever behind the catch.



Start tractor and lower the loader to the ground until the attachment disengages from the loader tool carrier.

Back tractor/loader away from attachment.

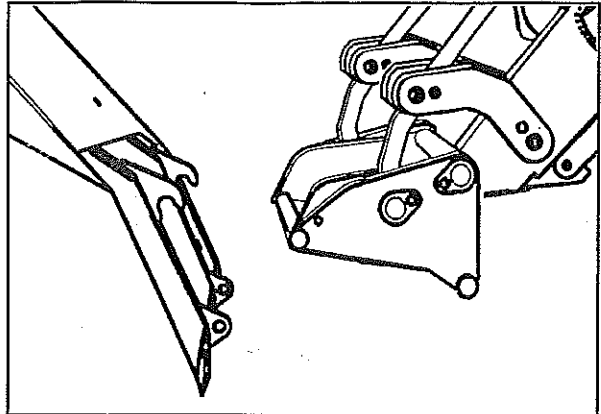


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INSTALL ATTACHMENT

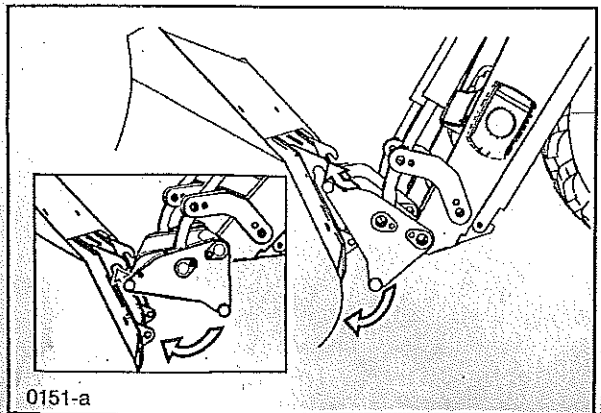
Raise/lower the loader to make the base of the attachment plate about 50 mm (2 in) from the ground. Tilt the tool forwards slightly (using the bucket level indicator as a reference).

NOTE: To improve visibility tilt the tool carrier forward.



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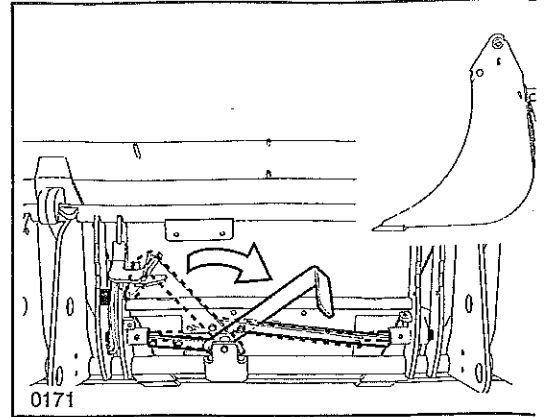
Drive the tractor forwards slowly to position the tool carrier under the hooks on the attachment.



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SECTION 2 - OPERATION

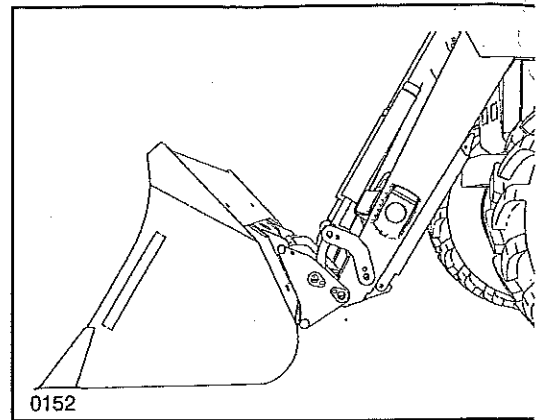
When the attachment plate contacts the attachment, raise the loader to "hook" the attachment to the plate. Roll the attachment back to engage the attachment locking system.



Read this before operating loader:

⚠ DANGER ⚠

Always check to ensure attachment is locked in position by forcing the front of the attachment against the ground and visually inspecting that the tool carrier lever has returned to the engaged position.



OPERATION WITH BALE SPIKE ATTACHMENT

⚠ WARNING ⚠

DO NOT move large round bales using loader unless equipped with an approved round bale attachment. Without these, the bale can fall on the operator when the loader is raised causing severe injury or death.

⚠ WARNING ⚠

Prevent personal injury due to machine tipping. Use extreme caution when turning, loading, and moving bale. Use adequate rear ballast.

⚠ CAUTION ⚠

Forward visibility is reduced when moving large round bales.

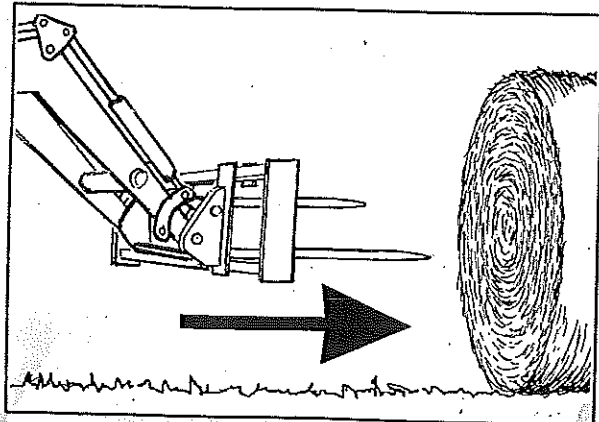
⚠ CAUTION ⚠

Prevent personal injury due to being struck by a "run-away" bale. Use proper bale handling equipment when stacking round bales. Set bales down on level ground. "Run-away" bales can cause personal injury and/or property damage.

Move the bale spike into position at the end of the bale.

Make sure the bale spike is centered left to right and top to bottom with relation to the bale.

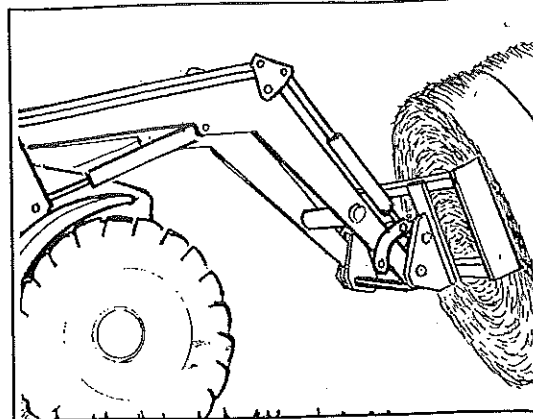
Drive forward slowly into the bale until spike fully penetrates the bale.



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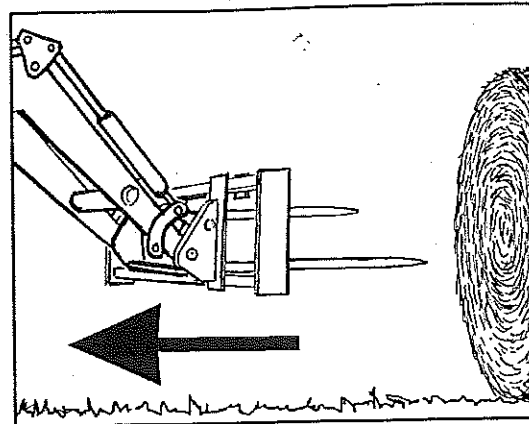
SECTION 2 - OPERATION

Tilt the bale back, lift the load carefully. Raise loader only enough for clearance under bale. Move bale slowly and carefully until ready to unload.



Tilt the bale forward to level position and place bale on the ground.

Carefully back unit away from bale.



OPERATION WITH GRAPPLE FORK ATTACHMENT

⚠ DANGER ⚠

DO NOT move large round bales using loader unless equipped with an approved round bale attachment. Without these, the bale can fall on the operator when the loader is raised causing severe injury or death.

⚠ DANGER ⚠

Prevent personal injury due to machine tipping. Use extreme caution when turning, loading, and moving bale. Use adequate rear ballast.

⚠ CAUTION ⚠

Forward visibility is reduced when moving large round bales.

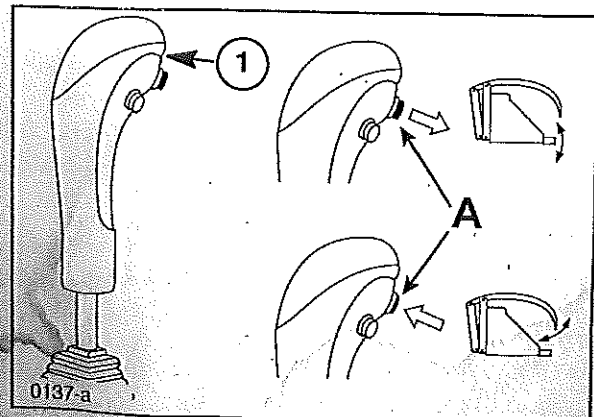
⚠ CAUTION ⚠

Make all adjustments with bucket empty, loader lowered fully to ground, engine off, hydraulic pressure released and parking brake applied.

⚠ CAUTION ⚠

Prevent personal injury due to being struck by a "run-away" bale. Use proper bale handling equipment when stacking round bales. Set bales down on level ground. "Run-away" bales can cause personal injury and/or property damage.

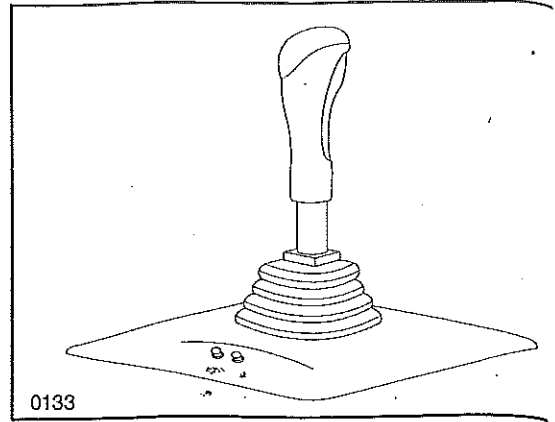
On tractor with loader control valve, press the loader third hydraulic function button (A) and move the hydraulic control lever to the right to open the grapple, on units equipped with electric diverter valve system. On Live 3rd units press and hold the top button to open the grapple. Consult with your dealer as to the style of system on your tractor/loader.



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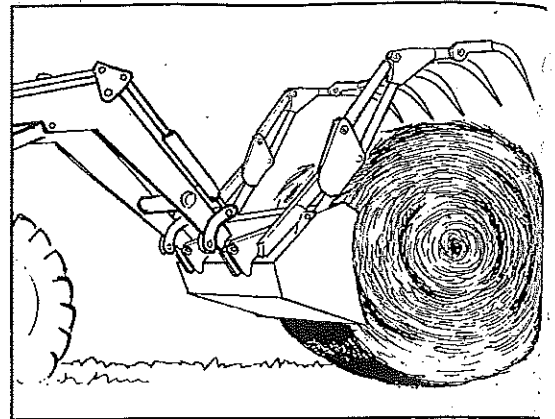
SECTION 2 - OPERATION

On tractors with electronic hydraulics or original control levers, press the third hydraulic function button (See the tractor's Operators Manual) and move the Joystick lever to the right to open the grapple.



Approach bale from the side, with loader raised, grapple tines fully open, and bucket partially dumped.

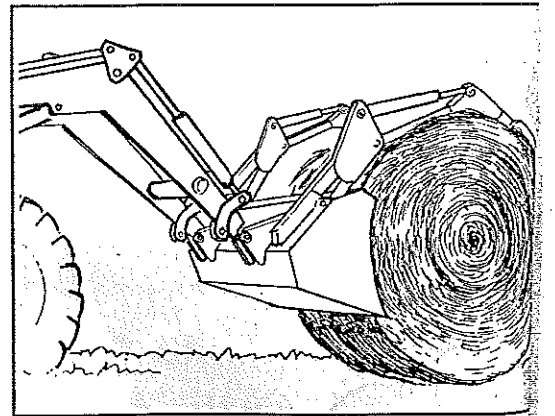
Move grapple fork over the bale.



Move the grapple down onto the bale.

Make sure grapple is as far down on the bale as possible.

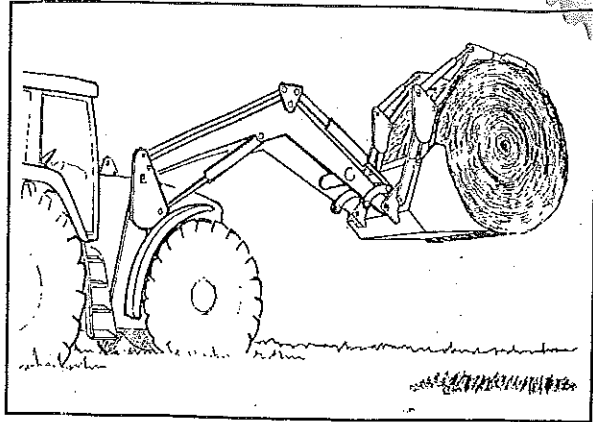
Press the loader third hydraulic function button and move the hydraulic control lever to the left to close the grapple on the bale, on units equipped with electric diverter valve system. On Live 3rd units press and hold the bottom button to close the grapple on the bale.



SECTION 2 - OPERATION

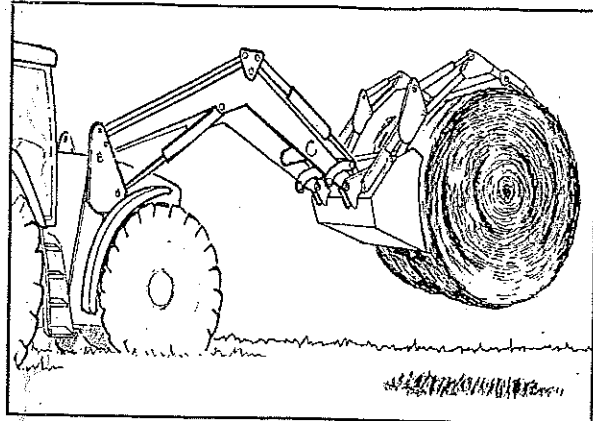
Lift the load carefully, keeping the bucket level. Raise loader only enough for clearance under bale. Move bale slowly and carefully until ready to unload.

IMPORTANT: Always roll back bucket if bale is to be lifted more than 152 mm (6 in) above ground level.



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Release bale as close to the ground as possible. Partially dump bucket while slowly opening grapple. Carefully back unit away from bale.



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