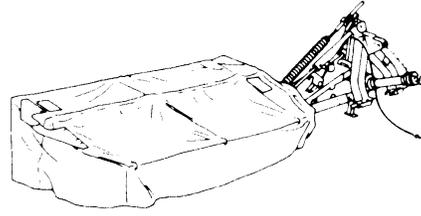


Product: New Holland 615/616/617 Disc Mowers Service Repair Manual  
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# NEW HOLLAND

# 615

# 616

# 617

# REPAIR MANUAL



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# PRECAUTIONARY STATEMENTS

## PERSONAL SAFETY

Throughout this manual and on machine decals, you will find precautionary statements (“CAUTION”, “WARNING”, and “DANGER”) followed by specific instructions. These precautions are intended for the personal safety of you and those working with you. Please take the time to read them.



**CAUTION: THE WORD “CAUTION” IS USED WHERE A SAFE BEHAVIORAL PRACTICE ACCORDING TO OPERATING AND MAINTENANCE INSTRUCTIONS AND COMMON SAFETY PRACTICES WILL PROTECT THE OPERATOR AND OTHERS FROM ACCIDENT INVOLVEMENT.**



**WARNING: THE WORD “WARNING” DENOTES A POTENTIAL OR HIDDEN HAZARD WHICH HAS A POTENTIAL FOR SERIOUS INJURY. IT IS USED TO WARN OPERATORS AND OTHERS TO EXERCISE EVERY APPROPRIATE MEANS TO AVOID A SURPRISE INVOLVEMENT WITH MACHINERY.**



**DANGER: THE WORD “DANGER” DENOTES A FORBIDDEN PRACTICE IN CONNECTION WITH A SERIOUS HAZARD.**

**FAILURE TO FOLLOW THE “CAUTION”, “WARNING”, AND “DANGER” INSTRUCTIONS MAY RESULT IN SERIOUS BODILY INJURY OR DEATH.**

## MACHINE SAFETY

Additional precautionary statements (“ATTENTION” and “IMPORTANT”) are followed by specific instructions. These statements are intended for machine safety.

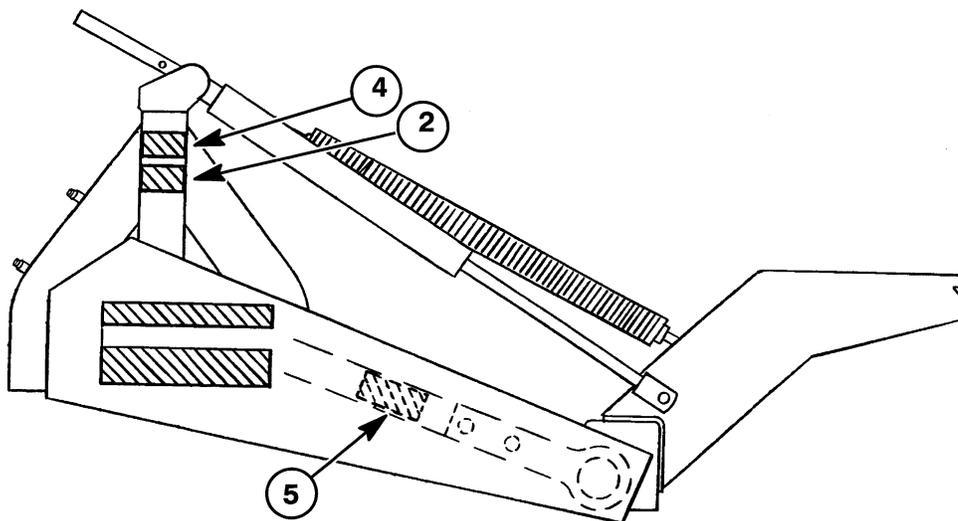
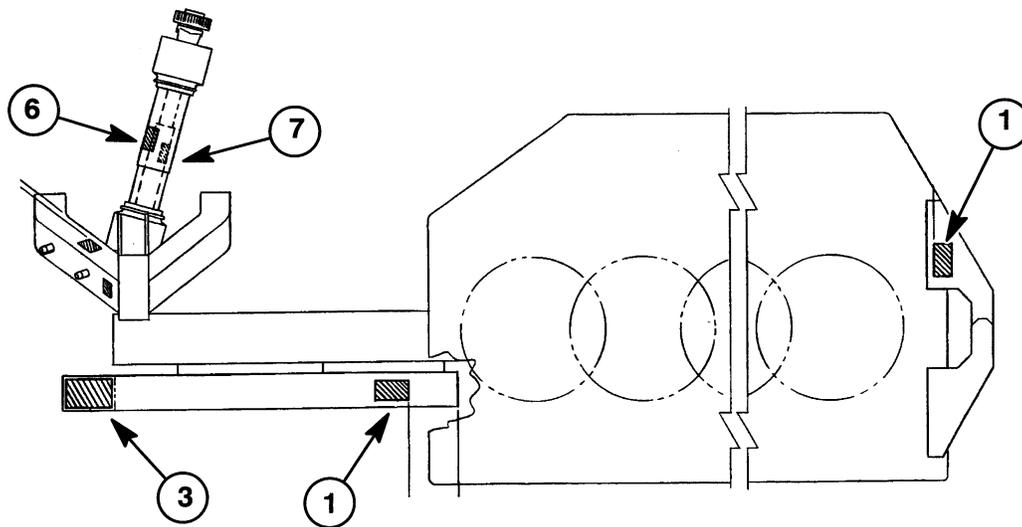
*ATTENTION: The word “ATTENTION” is used to warn the operator of potential machine damage if a certain procedure is not followed.*

*IMPORTANT: The word “IMPORTANT” is used to inform the reader of something he needs to know to prevent minor machine damage if a certain procedure is not followed.*

---

## SAFETY DECALS

The following safety decals have been placed on your machine in the areas indicated. They are intended for your personal safety and for those working with you. Please take this manual and walk around your machine to note the content and location of these warning signs. Review these warning signs and the operating instructions detailed in this manual with your machine operators.



1

**WARNING**

**STAND CLEAR!**

**ROTATING CUTTERS UNDER THIS COVER MAY CONTINUE TO ROTATE FOR SEVERAL MINUTES AFTER POWER IS SHUT OFF.**

**SHUT OFF TRACTOR AND DISENGAGE PTO BEFORE LEAVING TRACTOR: THEN LOOK AND LISTEN FOR EVIDENCE OF ROTATION BEFORE LIFTING COVER.**

**FAILURE TO DO SO MAY RESULT IN SERIOUS INJURY.**



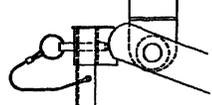
3

**WARNING**

**BEFORE DISMOUNTING MACHINE FROM TRACTOR:**

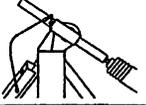
1. RAISE CUTTERBAR SO JACK PIN CAN BE REMOVED FROM FLOTATION ROD.
2. REMOVE JACK PIN FROM FLOTATION ROD AND JACK FROM FRAME.
3. INSTALL JACK AND PIN IN JACK RECEPTACLE.
4. LOWER CUTTERBAR AND JACK BASE TO GROUND.

**FAILURE TO DO SO WILL RESULT IN UNEXPECTED MOTION OF MOWER FRAME WHICH COULD RESULT IN SERIOUS INJURY.**



**AFTER MOUNTING MACHINE TO TRACTOR:**

1. LIFT THREE-POINT LIFT ARMS AND REMOVE JACK AND JACK PIN FROM RECEPTACLE.
2. STOW JACK ON FRAME.
3. RAISE CUTTERBAR UNTIL HOLE IN SPRING ROD SLIDES PAST UPPER PIVOT CASTING.
4. INSTALL JACK PIN IN FLOTATION ROD.



2

**WARNING**

**-MACHINE CAN THROW STONES AND OTHER DEBRIS TOWARD OPERATOR OR BYSTANDERS.**

**-A TRACTOR WITH AN ENCLOSED CAB IS RECOMMENDED. ADJUST MACHINE TO REDUCE HITTING OBJECTS. KEEP ALL SHIELDS AND COVERS IN PLACE AND IN GOOD WORKING ORDER. KEEP BYSTANDERS AWAY FROM MACHINE WHILE IN OPERATION.**

**-FAILURE TO DO SO MAY RESULT IN SERIOUS INJURY.**

4

**CAUTION**

**BEFORE OPERATING THIS MACHINE, READ THE OPERATOR'S MANUAL AND ALL SAFETY INSTRUCTIONS. IF YOU DO NOT HAVE A MANUAL, CONTACT YOUR FORD NEW HOLLAND DEALER OR PHONE THE CONSUMER SERVICES DEPARTMENT, FORD NEW HOLLAND INC., NEW HOLLAND, PENNSYLVANIA AT (717) 335-1345**

1. MAKE CERTAIN EVERYONE IS CLEAR OF MACHINE BEFORE STARTING ENGINE OR OPERATION.
2. DISENGAGE DRIVES INCLUDING PTO. STOP ENGINE. WAIT FOR ALL MOVEMENT TO STOP BEFORE LEAVING OPERATOR'S POSITION.
3. KEEP ALL SHIELDS IN PLACE. KEEP HANDS, FEET, CLOTHING AND HAIR AWAY FROM MOVING PARTS.
4. KEEP RIDERS OFF THE MACHINE.
5. NEVER ADJUST, LUBRICATE, CLEAN OR UNLOAD MACHINE WITH THE ENGINE RUNNING. SEE OPERATOR'S MANUAL FOR ALL ADJUSTMENT AND LUBRICATION PROCEDURES.
6. USE SLOW-MOVING VEHICLE IDENTIFICATION EMBLEM ON ALL EQUIPMENT. USE FLASHING WARNING LIGHTS ON TRACTORS AND SELF-PROPELLED EQUIPMENT WHEN OPERATING ON HIGHWAYS, EXCEPT WHEN PROHIBITED BY LAW.

40352

5

**WARNING**

**STAND CLEAR!**

**ROTATING ELEMENTS MAY CAUSE SERIOUS BODILY INJURY.**

705923

6

**! DANGER**



**ROTATING DRIVELINE**  
CONTACT CAN CAUSE DEATH  
**KEEP AWAY!**

DO NOT OPERATE WITHOUT —

- ALL DRIVELINE, TRACTOR AND EQUIPMENT SHIELDS IN PLACE
- DRIVELINES SECURELY ATTACHED AT BOTH ENDS
- DRIVELINE SHIELDS THAT TURN FREELY ON DRIVELINE

WEASLER

7

**! DANGER**



**SHIELD MISSING**  
**DO NOT OPERATE**

WEASLER

**! DANGER**



**SHIELD MISSING**  
**DO NOT OPERATE**

WEASLER

**! DANGER**

# SECTION 1

## GENERAL INFORMATION



**DANGER: TO PREVENT INJURY TO BYSTANDERS, THIS MOWER IS NOT INTENDED FOR ROADSIDE OR MUNICIPAL MOWING. THIS MOWER IS INTENDED FOR AGRICULTURAL USE ONLY.**

On New Holland equipment, left and right are determined by standing behind the unit, looking in the direction of travel.

The serial number plate, 1, for the Models 615, 616, and 617 is located on the left side of the main frame. Record this serial number in the space listed below.

Serial Number: \_\_\_\_\_

Give your dealer the model and serial number of your disc mower when ordering parts. Always order genuine New Holland parts from your New Holland dealer.

### BEFORE USING THE NEW MACHINE

1. Thoroughly read and understand this manual. Pay particular attention to all safety precautions.
2. Check all grease fittings and the gearbox oil levels to insure the machine has been lubricated as recommended in this manual.
3. Check all adjustments to insure they have been made as detailed in the "Maintenance" section of this manual.

### After 8 Hours Of Operation

1. Check for loose hardware and tighten any loose bolts.
2. Visually check the entire cutter bar for leakage and correct any leakage before operation.
3. Check mower drive belts for correct tension, and readjust as required.

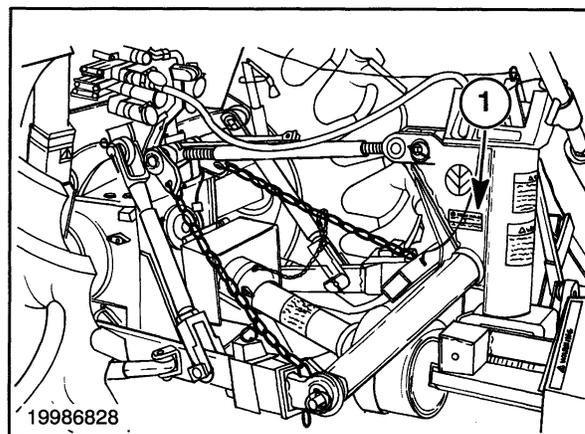


Figure 1-1

### Tractor Requirements

The Model 615 disc mower above serial number 628301 is designed to fit tractors with 540 RPM PTOs with standard ASAE Category I three-point hitches.

The Models 615 below serial number 628300, 616, and 617 disc mowers are designed to fit tractors with 540 RPM PTOs with standard ASAE category II three-point hitches.

The tractor must also have adjustable sway bars or a means of locking the lower lift arms from moving sideways.

For the 615 disc mower above serial number 628301, the tractor front axle weight should be 782 kg (1725 lbs.) or greater prior to attaching the disc mower. This is for tractors with a wheel base range of 78" to 84". Add additional weight if required to achieve 782 kg (1725 lbs.) or greater.

The tractor must also be equipped with one remote hydraulic circuit with a minimum of 104 bar (1500 PSI) and a maximum of 193 bar (2800 PSI).

The tractor should be 45-horsepower minimum for the Model 615, 55-horsepower minimum for the Model 616, and 60-horsepower for the Model 617. Insufficient tractor horsepower may cause stripping and poor cutting.

The tractor must have adequate ballasting, wheel spacing, and tire spacing to be stable on hillsides. Too small a tractor may create a stability concern when mowing in hilly conditions.



**CAUTION: A TRACTOR WITH AN ENCLOSED CAB IS RECOMMENDED WHEN OPERATING A ROTARY DISC CUTTING MACHINE.**

## ATTACHING THE MOWER TO THE TRACTOR

### Model 615 Serial Number 628301 and Above

1. Clean all paint or rust from the hitch pins.
2. Attach the plate on the end of the check chains to the outer end of frame hitch pins, 1, as required to clear obstructions on the tractor. Install the check chain plates before attaching the tractor lower links.
3. Back the tractor to the mower and attach the lower links, 2, to the outer end of the frame hitch pins. Secure the links with linchpins. Install the linchpins from the top down.

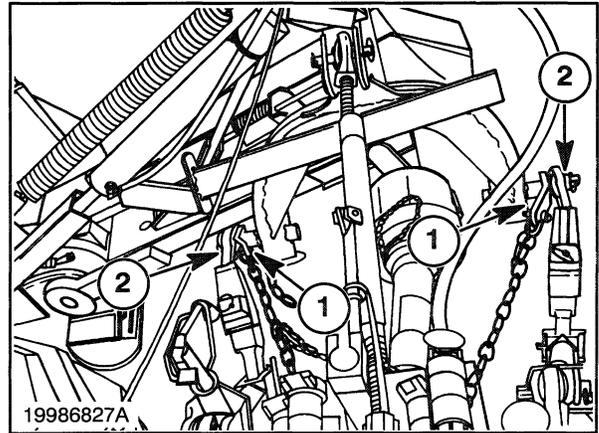


Figure 1-2

4. Attach the top link to the tractor, 1, using the pin provided with the tractor top link.
5. Attach the top link to the mower, 2, in the front hole using the pin provided with the mower.

**NOTE: If necessary, the top link may be mounted in the rear hole on the mower to allow greater top link length range.**

6. Attach the check chain plates to the tractor at a top link mounting position, 3, with the pin provided.

**NOTE: If the check chains interfere with or could damage the tractor PTO shield, relocate the check chain plates to the opposite end of the mower frame hitch pins, or attach to a different location on the tractor.**

**NOTE: It may be necessary to position the tractor drawbar to the side or remove it to prevent interference with the check chains or PTO shaft.**

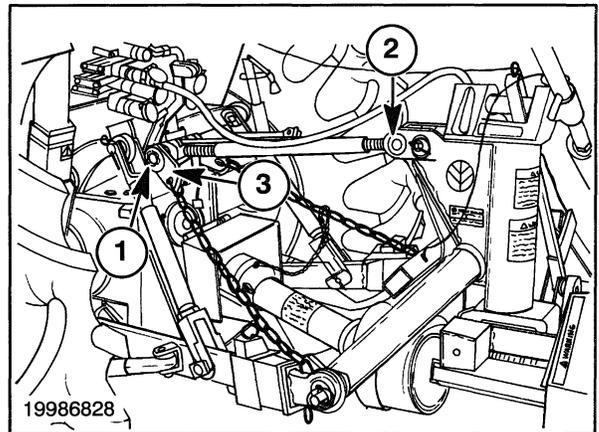


Figure 1-3

7. The PTO assembly must be fitted to the tractor being used. The tubes must overlap at least 102 mm (4"). At the same time, the tubes, 1 and 2, must be short enough so they do not bottom out.

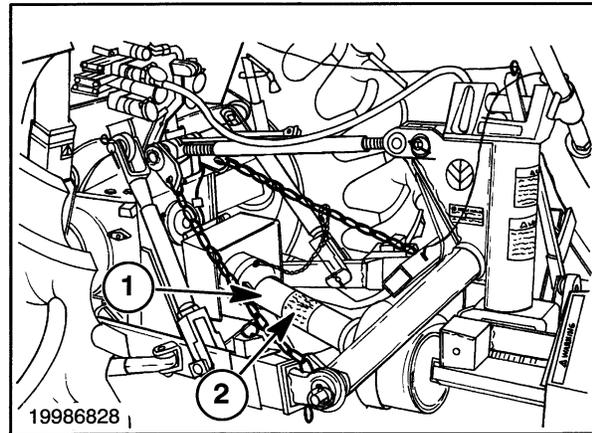


Figure 1-4

The assembly must also be long enough so it does not pull apart when the breakaway system, 1, operates.

**NOTE: Most tractors will not require the PTO to be shortened.**

Separate the front and rear PTO shafts. Connect the front half to the tractor PTO and the rear half to the disc mower input shaft. Raise and lower the machine to find the position where the PTO would be the shortest. Hold the shafts side by side and mark the length to provide 10 mm (3/8") clearance between the end of the shafts and the yoke.

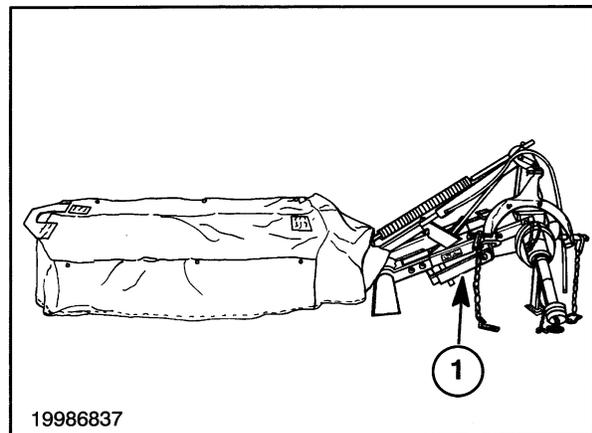


Figure 1-5

Measure how much is to be cut from your marks. Cut off an equal length from the front and rear plastic shield. Shorten the PTO telescoping shafts the same amount as the plastic shields.

**NOTE: Remove the grease sleeve from the rear half of the PTO shaft before shortening the tube.**

Remove the burrs from the shaft ends with a file or grinder. Clean out the metal chips and filings. Apply grease to the inside of the outer telescoping tube before assembly. Reinstall the grease sleeve on the end of the rear half of the PTO shaft.

Check to be sure the shafts do not bottom out, and operate the breakaway to be sure they do not come apart.

8. Attach the PTO assembly to the tractor.
9. Connect the hydraulic hose to the tractor, preferably to a valve section with a float position. Select the appropriate port to allow engaging the float position when lowering.

**NOTE: Check the tractor operator's manual for instructions on which outlet to use for single acting cylinders.**

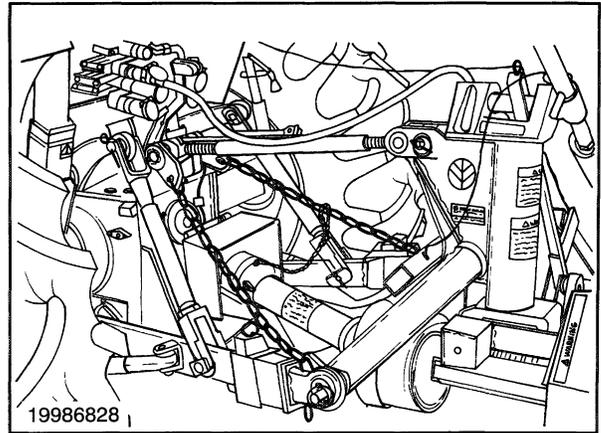


Figure 1-6

10. Raise the mower with the tractor three-point hitch. Remove pin, 2, and remove the jack stand, 1. Attach the jack stand to the mower frame by sliding the jack stand slots over lugs, 3, on the frame.

**NOTE: The pin which is attached to the jack stand with a cable will be installed in the flotation system later.**

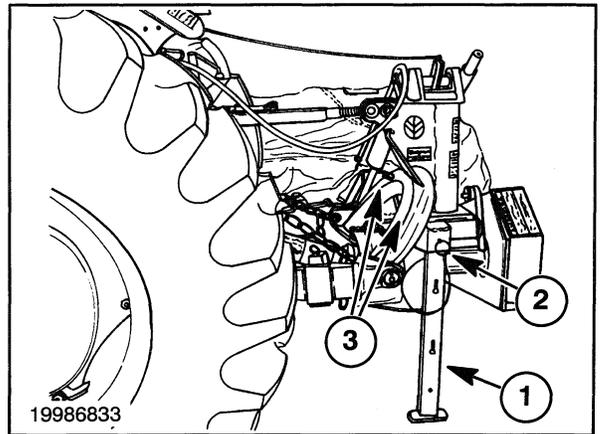


Figure 1-7

11. Level the tractor lower lift links from side to side. Adjust and lock the sway bars or whatever system the tractor has to remove as much side movement as possible.

*IMPORTANT: The tractor lower links should be positioned straight behind the tractor, or have minimal offset. Excessive offset in either direction may cause damage to the mower PTO drive shaft due to excessive operating angles or contact with hitch pins, and will also put "lead" or "lag" into the cutter bar resulting in reduced cutting width and breakaway performance.*

Adjust the limit chain length so the hitch pins, 1, are as close to (but not less than) 609 mm (24") as possible from the ground when the mower is supported by the limit chains.

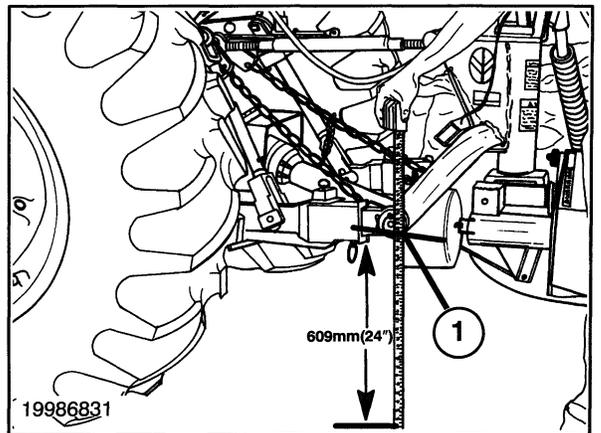


Figure 1-8

**NOTE: If the high stubble kit is installed on the mower, adjust frame height to 660 mm (26") from ground in order to provide adequate flotation.**

12. Fold the front half of the cutter bar curtain, 1, rearward. Secure the curtain with the rubber tie strap, 2. Flip the cutter bar up-stop channel, 3, toward the cutter bar and against the brace.

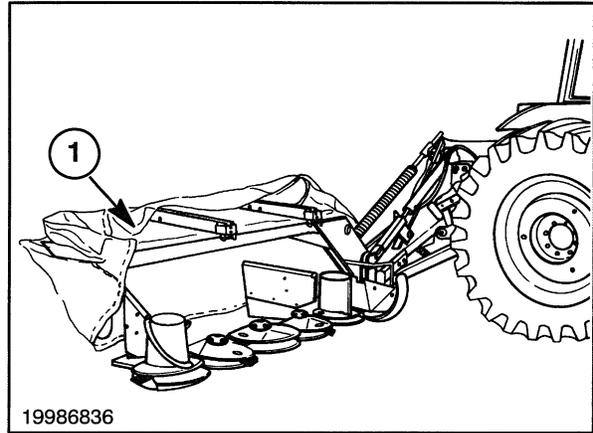


Figure 1-9

13. Raise the cutter bar with the tractor hydraulics. Raise it high enough to engage the transport latch, 1.

**NOTE:** Before raising the cutter bar with the hydraulic cylinder, make sure there is adequate clearance between the machine and the tractor. The top link may have to be lengthened for the cutter bar to clear the cab.

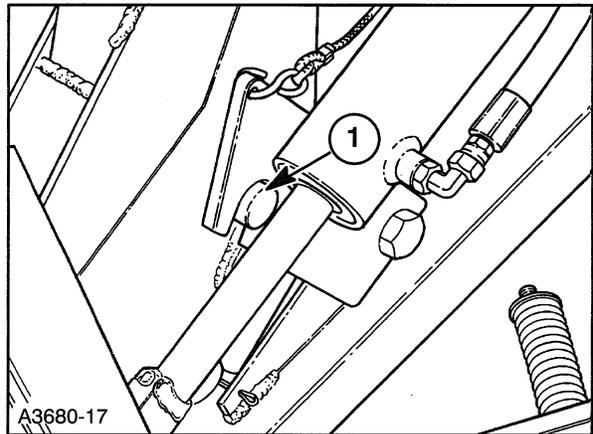


Figure 1-10

14. Install the pin, 1, which is attached to the jack stand, 2, in the upper flotation spring rod at 3. The pin has two detent balls and is properly installed when detents are on either side of the flotation spring rod.

**NOTE:** If the pin is inserted too far, the retaining ring may be knocked off and the pin may be lost, causing loss of flotation.

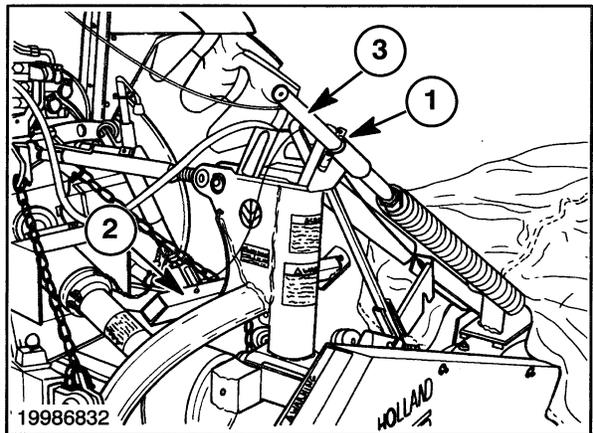


Figure 1-11

## ATTACHING THE MOWER TO THE TRACTOR

### Model 615 Below Serial Number 628300, and Models 616 and 617

Prior to installing the mower onto the tractor, the mower must be adjusted to match the tractor. Depending on the size of the tractor and the wheel spacing, it may be necessary to move the hex-shaped lower lift pins, 1.

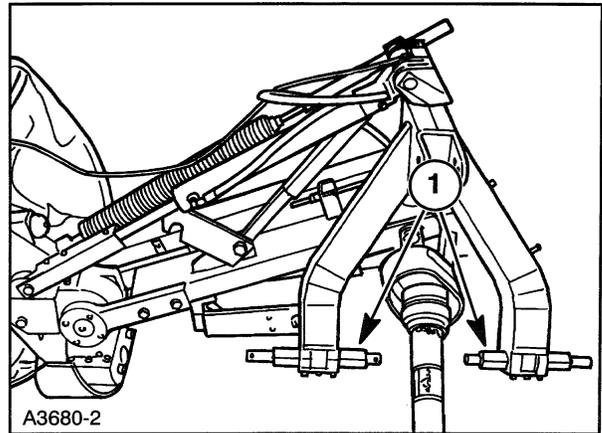


Figure 1-12

**NOTE:** Ideally a 102 mm (4") clearance should be held between the outside edge of the tractor tire and the mower inner shield for a full cut of the cutter bar at all times.

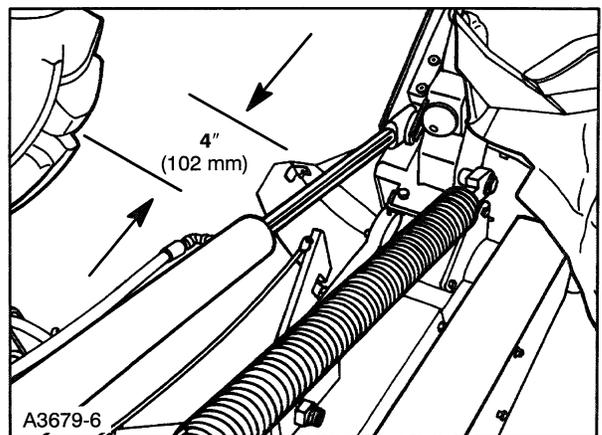


Figure 1-13

The hex-shaped hitch pins mounted on the bottom of the main frame arms can be moved to position the mower behind the tractor for different tread widths. To do this, loosen the four clamp bolts, 1, on each main frame arm until the hitch pins can be moved. Retighten the clamp bolts evenly so that both sides of the clamp block, 2, have equal clearance to the main frame arm.

**NOTE:** Always position the hitch pins so that the long round pin is towards the outside of the main frame. Do not position the long round pins inside the main frame, or damage to the mower PTO drive shaft could occur.

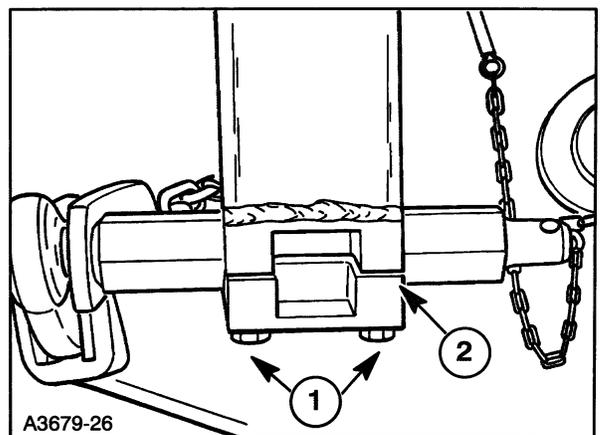


Figure 1-14

## SECTION 1 – GENERAL INFORMATION

Measure from the center of the tractor to the right side of the right tire.

For tractors that measure 940 mm (37") or less, position both hitch pins to the right so that only the round pin protrudes on the left side of the main frame arms. This will position the mower towards the left, moving the cutter bar closer to the right side tractor tire.

**NOTE: The tractor lower link arms may need to be offset slightly to the left to prevent the mower PTO shaft from contacting the inner end of the left hitch pin.**

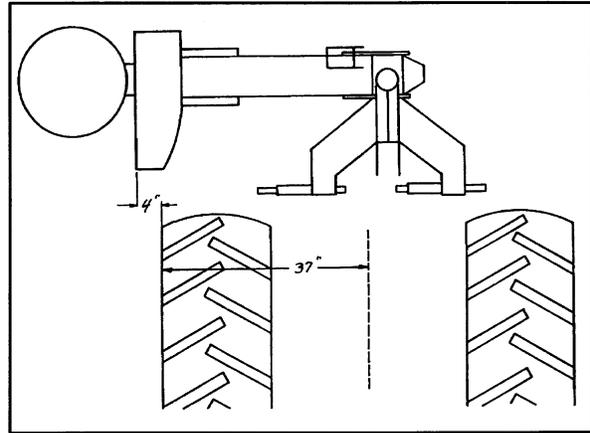


Figure 1-15

For tractors that measure 1016 mm (40"), center the hitch pins in the main frame arm.

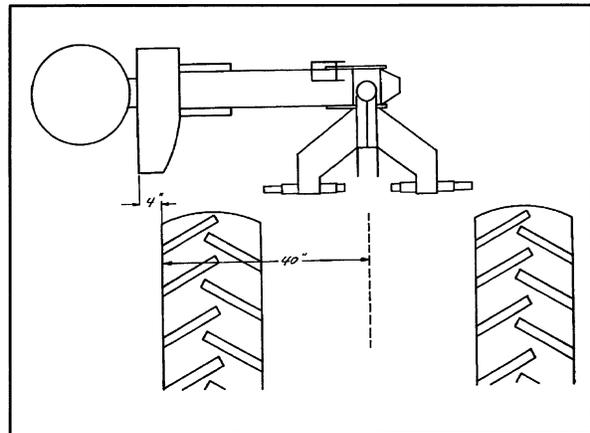


Figure 1-16

For tractors that measure 1092 mm (43"), position the hitch pins to the left so that only the round pin protrudes on the right side of the main frame arms. This will position the mower towards the right, away from the right side tractor tire.

**NOTE: The tractor lower link arms may need to be offset slightly to the right to prevent the mower PTO shaft from contacting the inner end of the right hitch pin.**

For tractors that measure more than 1092 mm (43"), the tractor lower link arm sway bars or check chains can be adjusted to further offset the mower to the right, or the right side tire should be moved inward.

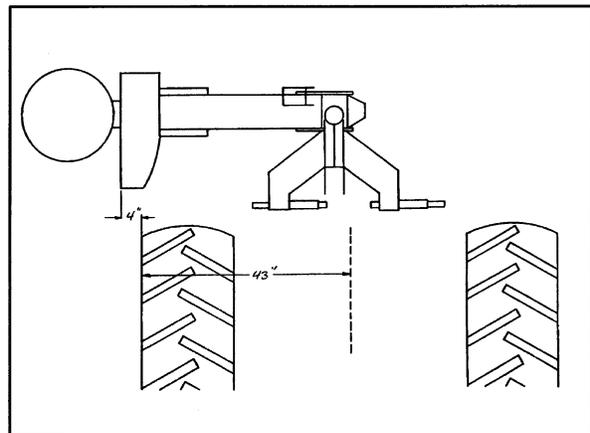


Figure 1-17

**IMPORTANT:** The tractor lower links should be positioned straight behind the tractor, or have minimal offset. Excessive offset in either direction may cause damage to the mower PTO drive shaft due to excessive operating angles or contact with hitch pins, and will also put "lead" or "lag" into the cutter bar resulting in reduced cutting width and breakaway performance.

1. Clean all paint or rust from the hitch pins.
2. Attach the plate on the end of the check chains to the inner or outer end of frame hitch pins, 1, as required to clear obstructions on the tractor. If installing on the outer end of the hitch pins, install the check chain plates before attaching the tractor lower links.
3. Back the tractor to the mower and attach the lower links, 2, to the outer end of the frame hitch pins. Secure the links with linchpins. Install the linchpins from the top down.

**NOTE: Attach the tractor lower links to the outside pins only; do not attach the lower links to the pins inside the mower frame or damage to the mower PTO drive shaft could occur.**

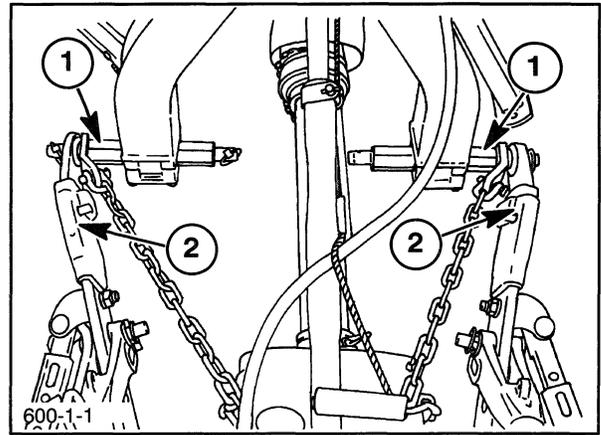


Figure 1-18

4. Attach the top link to the tractor, 1, using the pin provided with the tractor top link.
5. Attach the top link to the mower, 2, in the front hole using the pin provided with the mower.

**NOTE: If necessary, the top link may be mounted in the rear hole on the mower to allow greater top link length range.**

6. Attach the check chain plates to the tractor at a top link mounting position, 3, with the pin provided.

**NOTE: If the check chains interfere with or could damage the tractor PTO shield, relocate the check chain plates to the opposite end of the mower frame hitch pins, or attach to a different location on the tractor.**

**NOTE: It may be necessary to position the tractor drawbar to the side or remove it to prevent interference with the check chains or PTO shaft.**

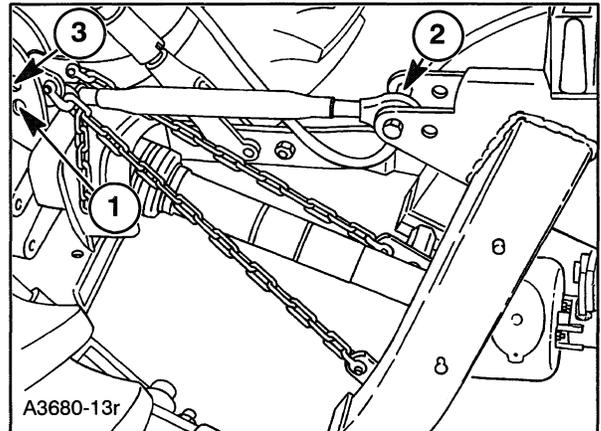


Figure 1-19

7. The PTO assembly must be fitted to the tractor being used. The tubes must overlap at least 102 mm (4"). At the same time, the tubes, 1 and 2, must be short enough so they do not bottom out.

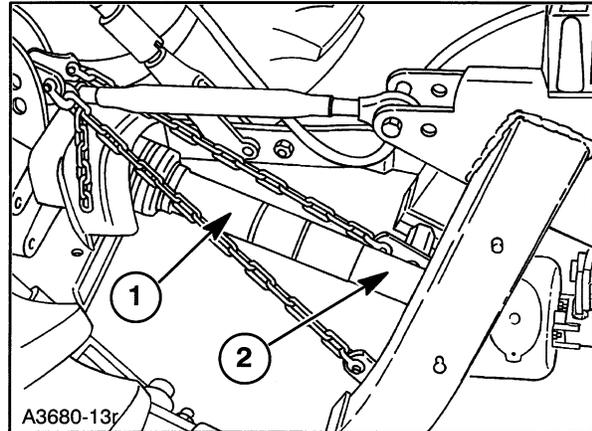


Figure 1-20

The assembly must also be long enough so it does not pull apart when the breakaway system, 2, operates.

**NOTE: Most tractors will not require the PTO to be shortened.**

Separate the front and rear PTO shafts. Connect the front half to the tractor PTO and the rear half to the disc mower input shaft. Raise and lower the machine to find the position where the PTO would be the shortest. Hold the shafts side by side and mark the length to provide 10 mm (3/8") clearance between the end of the shafts and the yoke.

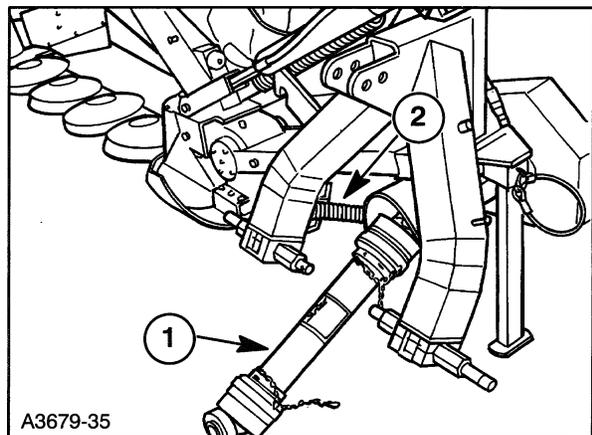


Figure 1-21

Measure how much is to be cut from your marks. Cut off an equal length from the front and rear plastic shield. Shorten the PTO telescoping shafts the same amount as the plastic shields.

**NOTE: Remove the grease sleeve from the rear half of the PTO shaft before shortening the tube.**

Remove the burrs from the shaft ends with a file or grinder. Clean out the metal chips and filings. Apply grease to the inside of the outer telescoping tube before assembly. Reinstall the grease sleeve on the end of the rear half of the PTO shaft.

Check to be sure the shafts do not bottom out, and operate the breakaway to be sure they do not come apart.

8. Attach the PTO assembly to the tractor.
9. Connect the hydraulic hose to the tractor, preferably to a valve section with a float position. Select the appropriate port to allow engaging the float position when lowering.

**NOTE: Check the tractor operator's manual for instructions on which outlet should be used for single acting cylinders.**

10. Raise the mower with the tractor three-point hitch. Remove pin, 2, and remove the jack stand, 1. Attach the jack stand to the mower frame by sliding the jack stand slots over lugs, 3, on the frame.

**NOTE: The pin which is attached to the jack stand with a cable will be installed in the flotation system later.**

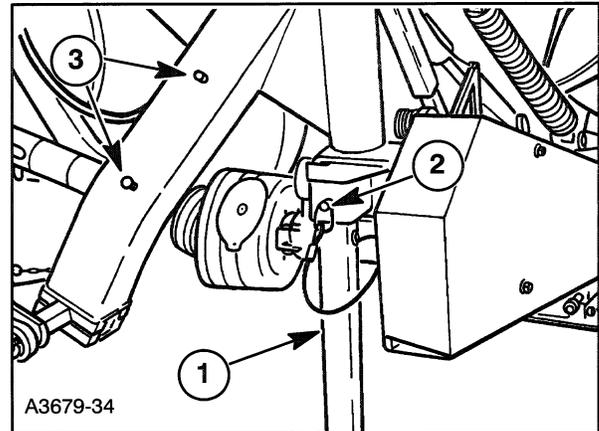


Figure 1-22

11. Level the tractor lower lift links from side to side. Adjust and lock the sway bars or whatever system the tractor has to remove as much side movement as possible.

**IMPORTANT:** The tractor lower links should be positioned straight behind the tractor, or have minimal offset. Excessive offset in either direction may cause damage to the mower PTO drive shaft due to excessive operating angles or contact with hitch pins, and will also put "lead" or "lag" into the cutter bar resulting in reduced cutting width and breakaway performance.

Adjust the limit chain length so the hitch pins, 1, are as close to (but not less than) 457 mm (18") as possible from the ground when the mower is supported by the limit chains.

**NOTE: If the high stubble kit is installed on mower, adjust frame height to 508 mm (20") from ground in order to provide adequate flotation.**

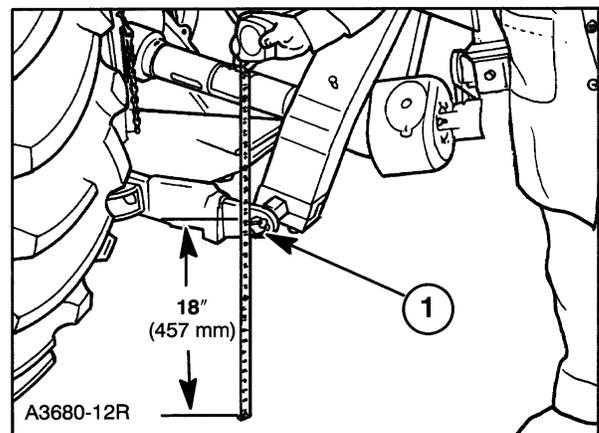


Figure 1-23

SECTION 1 – GENERAL INFORMATION

12. Fold the front half of the cutter bar curtain, 1, rearward. Secure the curtain with the rubber tie strap, 2. Flip the cutter bar up-stop channel, 3, toward the cutter bar and against the brace.

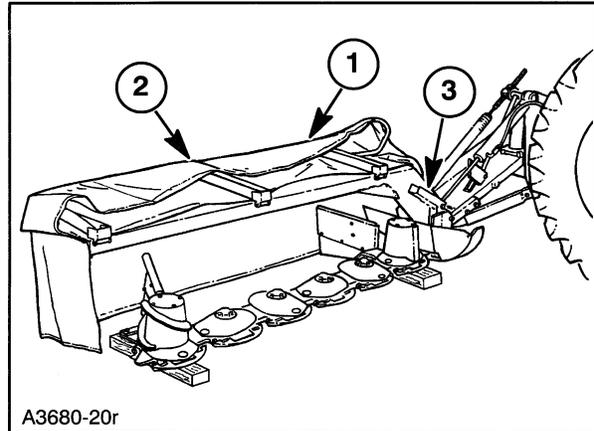


Figure 1-24

13. Raise the cutter bar with the tractor hydraulics. Raise it high enough to engage the transport latch, 1.

**NOTE: Before raising the cutter bar with the hydraulic cylinder, make sure there is adequate clearance between the machine and the tractor. The top link may have to be lengthened for the cutter bar to clear the cab.**

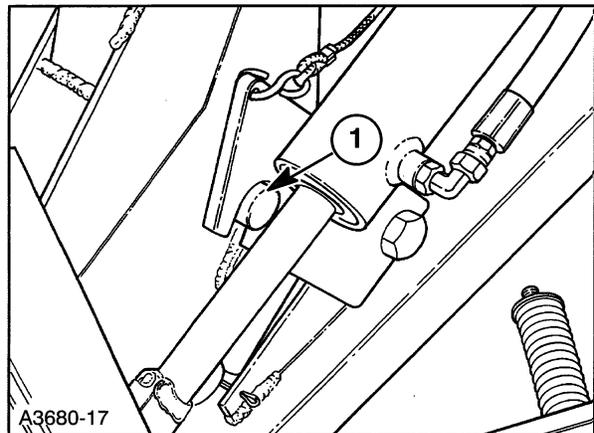


Figure 1-25

14. Install the pin which is attached to the jack stand, 2, in the upper flotation spring rod at 1. The pin has two detent balls and is properly installed when detents are on either side of the flotation spring rod.

**NOTE: If the pin is inserted too far, the retaining ring may be knocked off and the pin may be lost, causing loss of flotation.**

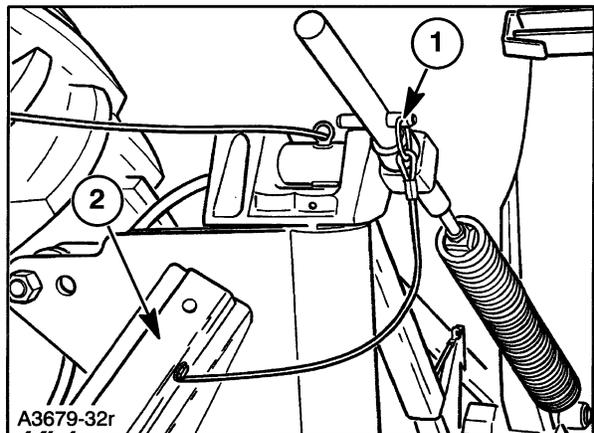


Figure 1-26

**LOWERING THE CUTTER BAR FOR FIELD OPERATION**

**NOTE:** Be sure the flotation pin, 1, is installed in the spring rod.

**NOTE:** Be sure the limit chains are attached and adjusted as explained earlier.

1. Put tension on the transport latch release rope, 2. Raise or lower the lift cylinder with the tractor hydraulics until the latch can be released.

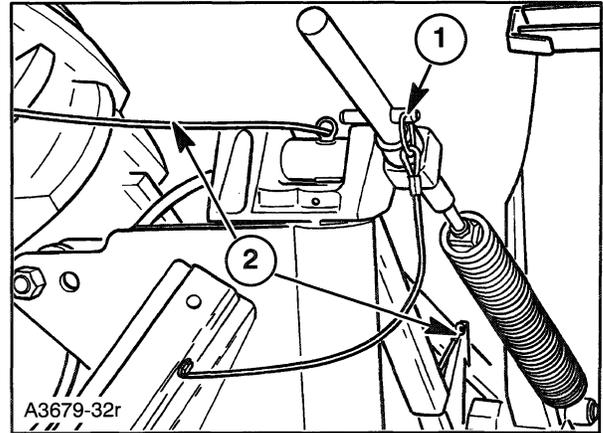


Figure 1-27

2. Lower the mower into the operating position and position the tractor valve in the float position. This will allow the mower to follow the ground properly. Be sure the up-stop channel, 2, is positioned over the lift cylinder rod to limit lift height while the curtain is down.
3. Unhook the curtain transport tie-down strap, 1, and fold the curtain forward into the mowing position.

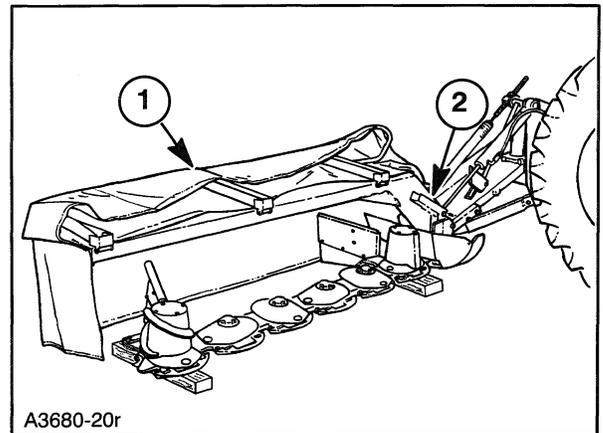


Figure 1-28



**WARNING: NEVER OPERATE THE MOWER WITH THE CURTAIN FOLDED REARWARD IN THE TRANSPORT POSITION.**

## TRANSPORTING THE MOWER

1. Fold the front half of the cutter bar curtain, 1, rearward. Secure the curtain with the rubber tie strap, 2. Flip the cutter bar up-stop channel, 3, toward the cutter bar and against the brace.

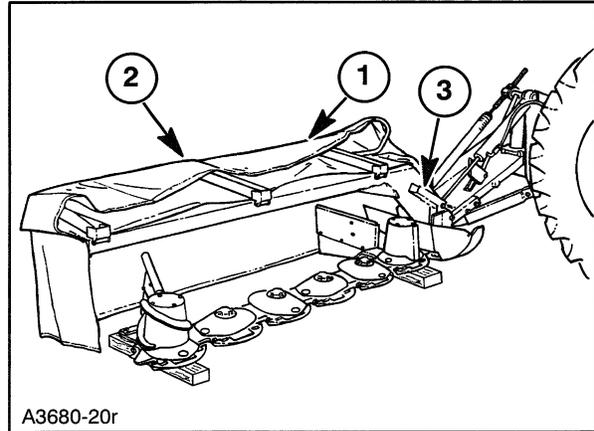


Figure 1-29

2. Raise the cutter bar with the tractor hydraulics. Raise it high enough to engage the transport latch, 1.

**NOTE:** Before raising the cutter bar with the hydraulic cylinder, make sure there is adequate clearance between the machine and the tractor. The top link may have to be lengthened for the cutter bar to clear the cab.

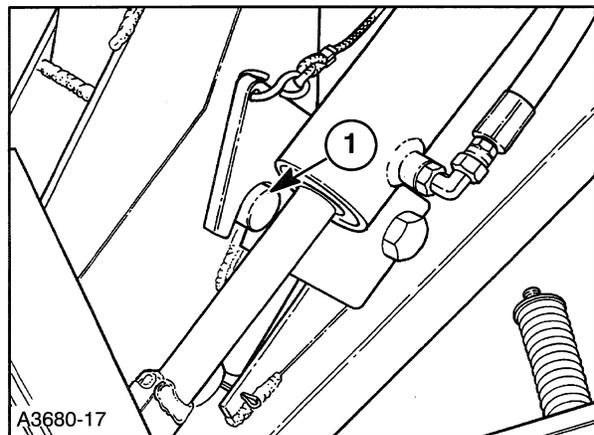


Figure 1-30

## REMOVING THE MOWER FROM THE TRACTOR

1. Fold the front half of the cutter bar curtain, 1, rearward. Secure the curtain with the rubber tie strap, 2. Flip the cutter bar up-stop channel, 3, toward the cutter bar and against the brace.

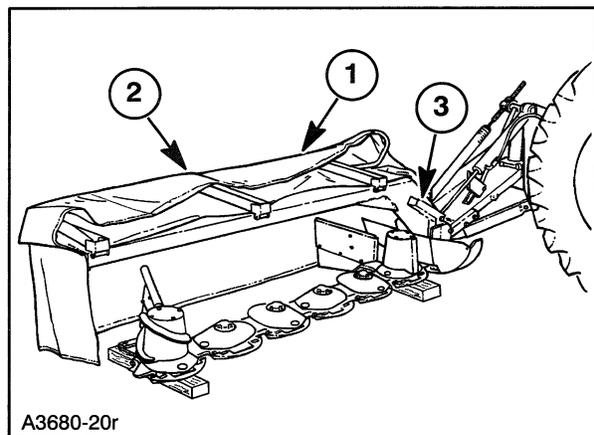


Figure 1-31

2. Raise the cutter bar with the tractor hydraulics. Raise it high enough to engage the transport latch, 1.

**NOTE:** Before raising the cutter bar with the hydraulic cylinder, make sure there is adequate clearance between the machine and the tractor. The top link may have to be lengthened for the cutter bar to clear the cab.

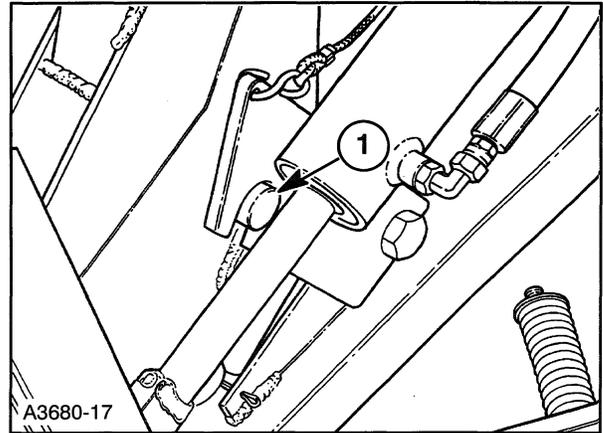


Figure 1-32

3. Remove the flotation spring pin, 1, from the spring rod.



**WARNING: DISCONNECT THE FLOTATION SYSTEM BEFORE ATTEMPTING TO REMOVE THE DISC MOWER FROM THE TRACTOR. FAILURE TO DISCONNECT THE FLOTATION SYSTEM MAY RESULT IN SUDDEN MAIN FRAME MOVEMENT, CAUSING BODILY INJURY.**

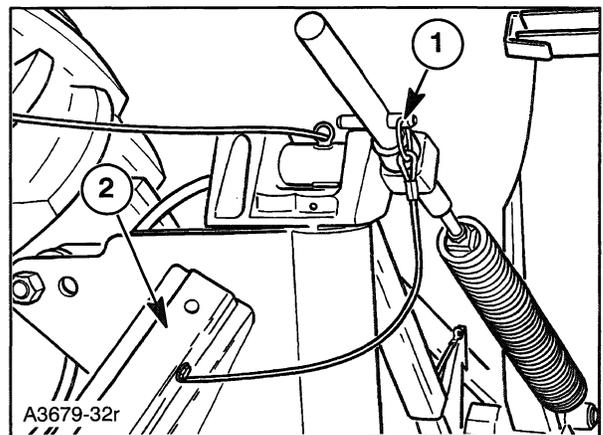


Figure 1-33

4. Remove the jack stand, 2, from the storage position.

5. Raise the tractor three-point hitch high enough to install the jack, 1, in the lift frame mount and install the pin, 2, to secure it.

6. Disconnect the limit chains, 3, from the rear of the tractor.

7. Lower the cutter bar to the ground in the mowing position and lower the tractor three-point hitch so the mower frame is sitting on the jack as shown.

8. Loosen, unlock, or remove the tractor sway bars or equivalent.

9. Disconnect the three-point hitch arms from the lift links, 4, and top link, 5, from the mower.

10. Disconnect the hydraulic hose, transport latch rope, and PTO from the tractor.

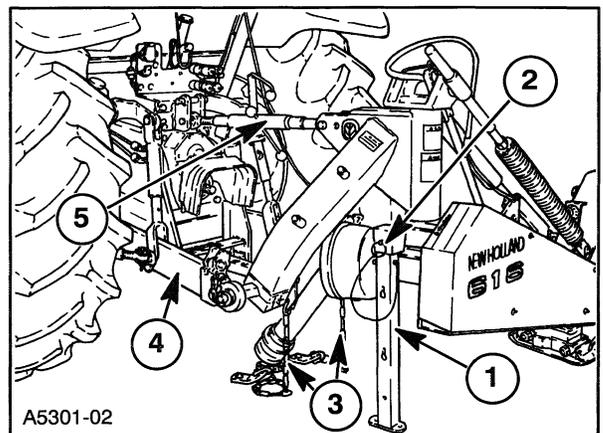


Figure 1-34

## **STORING THE MOWER**

1. \_ Clean the mower. Grease all fittings.
2. \_ Drain the oil from the bevel gearbox and all modules and refill with new, clean oil to the correct level. Run the mower for a few minutes.
3. \_ Store the cutter bar in the operating position.
4. \_ Remove the drive belt and store it in a dry place.
5. \_ Clean the cutter bar rusted area and touch up with New Holland paint. Spray cans are available from your New Holland dealer.

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# SECTION 2

## ADJUSTMENTS



**DANGER: TO PREVENT INJURY TO BYSTANDERS, THIS MOWER IS NOT INTENDED FOR ROADSIDE OR MUNICIPAL MOWING. THIS MOWER IS INTENDED FOR AGRICULTURAL USE ONLY.**

**CAUTION: A TRACTOR WITH AN ENCLOSED CAB IS RECOMMENDED WHEN OPERATING A ROTARY DISC CUTTING MACHINE.**

After the 600 Series disc mower has been lubricated, attached to the tractor, and adjusted correctly, it is ready for field operation. Refer to the other sections of this manual for the above information.

Lower the cutter bar onto the ground and position the tractor hydraulic valve in the "Float" position. Ensure that the up-stop channel is positioned over the lift cylinder rod, and the cutter bar curtain is folded forward over the cutter bar. Refer to the "General Information" section of this manual for further information.



**WARNING: NEVER OPERATE THE MOWER WITH THE CURTAIN FOLDED REARWARD IN THE TRANSPORT POSITION.**

*ATTENTION: Do not engage the PTO with the tractor running at high speed or the mower driveline may be damaged.*

Slowly engage the PTO before the unit is moved up to the standing material. Be sure the tractor PTO is running at 540 RPM before starting to cut.

*ATTENTION: Operating at excessive PTO speeds will shorten the machine life and cause structural failure.*



**CAUTION: LOOSE STONES AND FOREIGN OBJECTS CAN BE DEFLECTED TOWARD THE OPERATOR ON MACHINES WITH ROTARY DISCS.**

### OPENING FIELDS

Fields can be opened the same way with a disc mower as with sickle bar-type mowers by cutting the back swath first; cut backwards around the field, running the cutter bar along the edge of the field. After the backswath is cut, reverse direction and cut around the field in a clockwise direction; reduce ground speed to pick up most of the crop run down by the tractor tires on the backswath.

### FIELD CUTTING

1. To cut square corners:

Start turning the tractor as the rear wheels approach the edge of the standing crop; turn the tractor sharply in order to keep the cutter bar in the crop. Using the right wheel brake on the tractor may allow a sharper turn, but may also gouge the ground.

It may be necessary to slow the ground speed to turn corners, although it is almost impossible to make clean square corners. Corners will tend to stretch out as cutting continues. This operation will not cause plugging as with other types of mowers.

After the field is cut, the corners may be cut out by cutting from the center of the field to the corners to mow any standing crop; the cutter bar will not plug when cutting through previously cut material.

2. To cut oversquare corners:

Continue cutting in forward direction until the cutter bar approaches the end of the corner; turn the tractor sharply to the right, leaving the cutter bar on the ground to finish cutting the corner.

The cutter bar can be left on the ground while traveling back to the standing crop; the cutter bar will not plug when cutting through previously cut material.

**NOTE: Maintain full PTO speed when crossing previously cut material, even if the cutter bar is raised off the ground. Failure to do so may cause cutter bar wrappage and plugging.**

During field operation, the tractor hydraulic valve should remain in the “Float” position, to allow the cutter bar to follow the ground contours. Raise the cutter bar to clear obstacles or when turning on headlands by retracting the lift cylinder. Do not raise the cutter bar using the three point hitch; if the tractor hydraulic valve is in “Float” position, the right end of the cutter bar will stay on the ground as the three point hitch is raised, causing the end of the cutter bar to gouge into the ground.

**NOTE: Do not raise the cutter bar using the three point hitch, as this may cause PTO u-joint failure and/or damage to the cutter bar.**

When making left turns in the field, the cutter bar should be raised off the ground to prevent damage due to “whipping” the cutter bar around at high speed; leaving the cutter bar on the ground during a fast left turn could cause damage to the cutter bar components and/or cause the breakaway latch to trip. If it is necessary to make a sharp left turn while cutting, reduce ground speed.

The 600 Series disc mower ground speed capabilities are variable, depending on field terrain and crop conditions. Generally, 4 MPH - 6 MPH (6.4 km/hr- 9.6 km/hr) yields good results. Slower speeds may be necessary depending on crop conditions, tractor horsepower, and terrain. In light, easy to cut crops and smooth fields, higher speeds are possible.

**NOTE: Adjust the tractor ground speed by changing gears. Do not adjust ground speeds by moving the tractor throttle from the proper PTO speed. Do not overspeed the PTO or driveline damage may occur.**

If the machine vibrates, STOP OPERATION IMMEDIATELY. Determine and correct the cause of the vibration before continuing operation. FAILURE TO DO THIS WILL CAUSE SERIOUS DAMAGE TO THE UNIT.



**DANGER: DO NOT ATTEMPT TO REMOVE MATERIAL FROM THE DISC MOWER WHILE IT IS IN OPERATION. SHUT THE TRACTOR OFF AND ALLOW THE ROTATING DISCS TO STOP BEFORE LEAVING THE TRACTOR.**

**CAUTION: DO NOT OPERATE THE DISC MOWER WITHOUT THE CUTTER BAR CURTAIN IN PLACE AND IN GOOD CONDITION.**

The 600 Series disc mowers are intended for use in difficult cutting conditions. The knife speed is approximately 185 MPH (298 km/hr) and relies on plant stem integrity and strength to cut. The cutter bar operates on an impact cutting principle.

The high centrifugal force of the knife could permit crop blowdown in light or thin crops, resulting in uncut strips, or streaks. In light or thin crops, cutting a shorter stubble will sometimes reduce streaking. Do not tilt the cutter bar for a shorter stubble in stony fields.

**NOTE: Take extra precautions to prevent accumulation of baler twine or wire in fields to be cut with the 600 Series disc mowers. Twine and wire may wrap beneath the discs and overheat the disc bearings and/or damage shaft seals causing oil loss and possible module failure.**

The cutter bar may plug with dirt and debris between the stone guards when operating in newly planted fields with soft loose soil. This plugging may cause streaking to occur. Tilt the cutter bar back towards horizontal to increase the cutting height, and lighten cutter bar flotation to reduce plugging in these conditions. Clean the cutter bar off frequently to avoid unnecessary knife and disc wear. In severe conditions, install the high stubble kit to increase the cutting height.

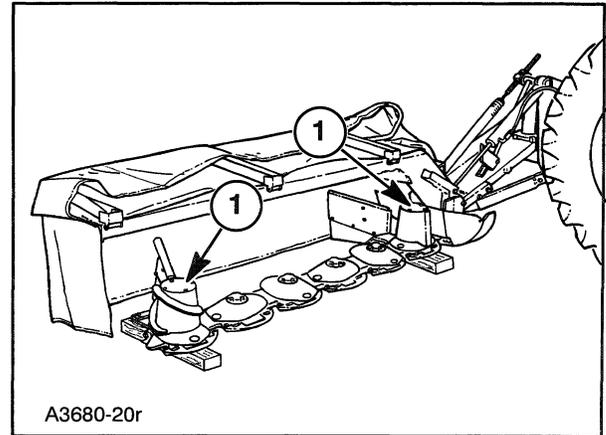
**OPERATING RECOMMENDATIONS**

**WARNING: NEVER OPERATE THE MOWER WITHOUT THE CUTTER BAR CURTAIN IN PLACE.**

1. Never operate the mower without the covers, 1, on the rotating crop divider drums (optional left swathboard kit shown installed).
2. Engage the tractor PTO and slowly increase to 540 RPM. Always operate the tractor at 540 RPM. **DO NOT OVERSPEED.** Overspeeding or underspending could damage the mower and will cause stripping or streaking in light crops.
3. Regulate ground speed according to crop conditions. A slower ground speed may be necessary in heavy down crops.
4. Make sure the knives can pivot. Replace knives if they are bent.
5. Knives can be removed and turned over to use the other cutting edge. Knives should be turned or replaced before they become excessively worn.
6. Replace knives in pairs or sets so disc balance is retained. When changing knives, always replace worn or damaged knife hardware. Refer to the "Cutterbar" section of this manual for further knife information.



**DANGER: DO NOT ATTEMPT TO REMOVE MATERIAL FROM THE MOWER WHILE IT IS IN OPERATION. TURN OFF THE TRACTOR ENGINE AND ALLOW THE ROTATING DISCS TO STOP BEFORE LEAVING THE TRACTOR.**



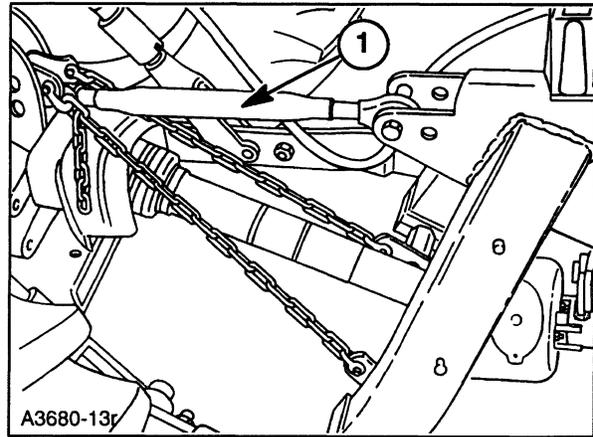
**Figure 2-1**

**ADVERSE FIELD CONDITIONS**

**WARNING: DO NOT USE THIS MACHINE IN ROCKY FIELD CONDITIONS.**

Take extra care and precautions in rough, stony, or debris-ridden fields. Make the following adjustments to the mower in these conditions to minimize the possibility of stones and foreign objects being deflected by cutting blades.

1. Tilt the angle of the cutter bar back by adjusting the top link length, 1, to raise the cutting height of the knives. Do not tilt the cutter bar rearward past horizontal position or premature knife wear will result.
2. Make sure the cutting knives can pivot if an obstruction is hit.
3. Install the high stubble kit, if crop conditions allow a higher cutting height, to provide additional clearance from stones or foreign objects.



**Figure 2-2**



**WARNING: NEVER OPERATE THE MOWER WITHOUT THE CUTTER BAR CURTAIN IN PLACE.**

**WARNING: DO NOT LEAN OR STAND ON THE CURTAIN OR CURTAIN SUPPORT AS THEY ARE NOT INTENDED FOR THIS USE AND INJURY COULD RESULT.**

**CAUTION: LOOSE STONES AND FOREIGN OBJECTS CAN BE DEFLECTED TOWARD THE OPERATOR ON MACHINES WITH ROTARY BLADES.**

**WARNING: TILT THE CUTTER BAR BACK IN FIELDS WHERE STONES AND FOREIGN OBJECTS ARE PRESENT TO RAISE THE CUTTING KNIVES AND MINIMIZE DEFLECTION FROM THE KNIVES.**

**WARNING: STAND CLEAR! NEVER LEAVE THE TRACTOR WITH THE MOWER RUNNING. NEVER OPERATE THE MOWER IF BYSTANDERS ARE NEAR. ROTATING ELEMENTS MAY CAUSE SERIOUS BODILY INJURY.**

## CUTTER BAR FLOTATION

Cutter bar flotation is controlled by the height of the frame off the ground and the length of the flotation spring.

Adjust the limit chains so the hitch pins, 1, are as close to (but not less than) 457 mm (18") as possible from the ground. This adjustment is explained in detail in the "Attaching the Mower to the Tractor" section of this manual.

**NOTE: If the high stubble kit is installed on the mower, adjust frame height to 508 mm (20") from ground in order to provide adequate flotation.**

The tractor hydraulic valve should be placed in the "float" position to allow the cutter bar to follow the ground.

**Model 615 Below Serial Number 603822**  
**Model 616 Below Serial Number 606812**  
**Model 617 Below Serial Number 607111**

Initially the flotation spring should be adjusted to a length, A, between the ends of the spring coils of between 864 mm (34") for the 615 disc mower to 902 mm (35-1/2") for the 617 disc mower.

**Model 615 Above Serial Number 603823**  
**Model 616 Above Serial Number 606813**

Initially the flotation spring should be adjusted to a length, A, between the ends of the spring coils of 845 mm (33-1/4") for the 615 disc mower or 902 mm (35-1/2") for the 616 disc mower.

The flotation spring can be lengthened or shortened as field conditions vary to achieve the flotation desired; lengthening the spring increases the amount of flotation (makes the cutter bar lighter), while shortening the spring decreases the amount of flotation (makes the cutter bar heavier).

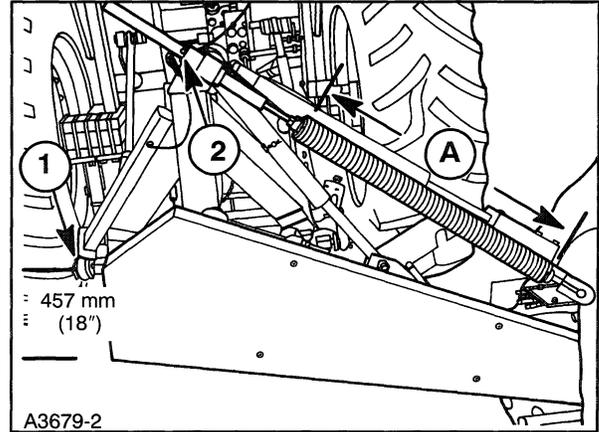


Figure 2-3

SECTION 2 - ADJUSTMENTS

Lighter cutter bar weight will reduce pull on the tractor, but setting flotation too light will prevent the cutter bar from staying on the ground at faster ground speeds. The cutter bar weight may be felt by lifting on the right end of the canopy support, 1.

**NOTE:** When completing adjustment, position flotation spring rod so that hole, 2, Figure 39, is slightly above horizontal as viewed from the rear before tightening the jam nut, as this will ease flotation pin installation.

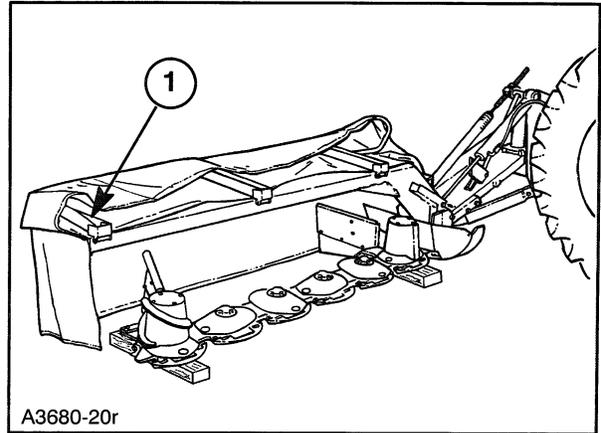


Figure 2-4

After adjustment, reinstall the pin, 1, which is wired to the jack stand in the flotation spring rod hole. The pin has two detent balls and is properly installed when detents are on either side of the flotation spring rod.

**NOTE:** If the pin is inserted too far, the retaining ring may be knocked off and the pin may be lost, causing loss of flotation.

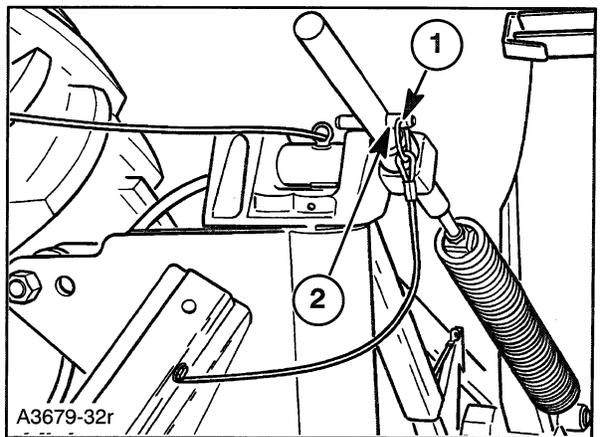


Figure 2-5

**Model 617 Above Serial Number 607112**

Cutter bar flotation is controlled by the height of the frame off the ground and the length of the flotation spring.

Adjust the limit chains so the hitch pins, 1, are as close to, but not less than, 457 mm (18") as possible from the ground. This adjustment is explained in the "Attaching the Mower to the Tractor" section of this manual.

**NOTE:** If the high stubble kit is installed on the mower, adjust the frame height to 508 mm (20") from the ground in order to provide adequate flotation.

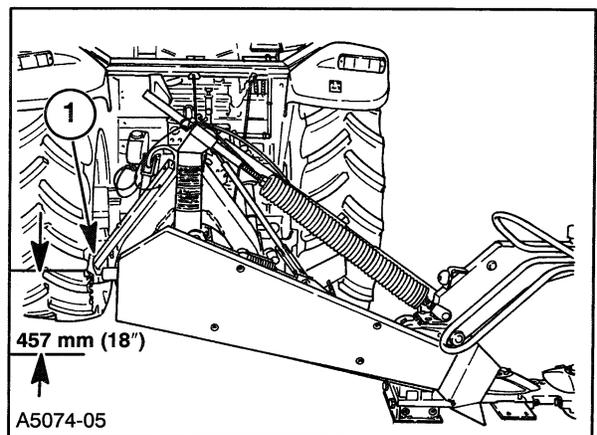


Figure 2-6