



JOHN DEERE

# Product Services Information

## INSTALLATION INSTRUCTIONS (Includes English, French and Spanish)



JOHN DEERE

### 54 INCH TRACTOR SHOVEL

#### Model Compatibility

This kit is compatible with 54 in. front blades used on X400 & X500 Series Tractors and X700 Ultimate Series Tractors.

#### Required Equipment

This equipment is required for installation of the 54 Inch Tractor Shovel kit:

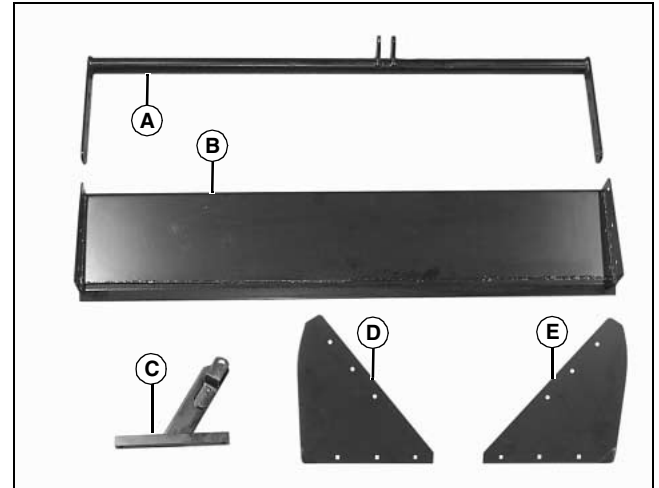
- 54 In. Quick Hitch Front Blade
- Quick Hitch Kit
- Hydraulic Angling Kit
- Hydraulic Lock Out Valve (recommended):
  - X400, X500, X700 Series - AM134625
- Rear Ballast - 113 kg (250 lb) maximum.

Exceeding 250 lb. ballast requires tow relief valve and neutral rod:

- 4WD - BW15044 (valve) and M146148 (rod)
- 2WD - BW15043 (valve) and M146148 (rod)

#### Parts in Kit

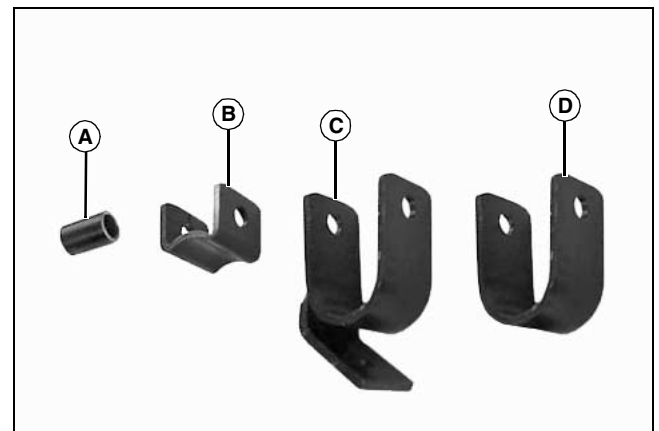
**NOTE:** The shovel pivot tube and shovel bottom may be secured together by hardware in the packaging container. This hardware is for shipping purposes only, and should be discarded after removal.



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Qty.	Description
1	Pivot Tube (A)
1	Bottom, Shovel (B)
1	Bracket, Cylinder Anchor (C)
1	Side Sheet, Right (D)
1	Side Sheet, Left (E)

#### Bag of Parts



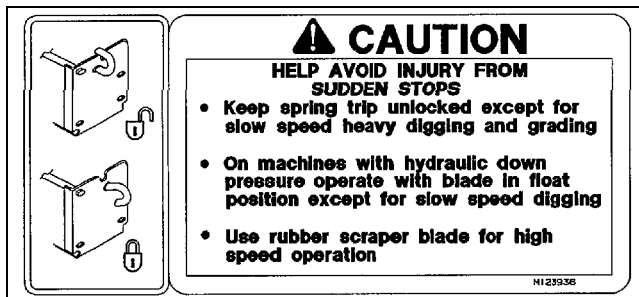
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Qty.	Description
4	Bushing (A)
4	W-Bracket (B)

Qty.	Description
2	Pivot Bracket, Inner (welded) (C)
2	Pivot Bracket, Outer (D)
4	Bolt, Flange Head, FBA/A
2	Bolt, Flange Head, FBA/FBÄ
12	Carriage Bolt, HÄ/A
6	Locknut, Serrated, FBA
12	Locknut, Serrated, HÄ
2	Drilled Pin, 1/2 x 2-1/2 in.
2	Spring Locking Pin
1	Locking Clip
1	Cotter Pin
1	Safety Label, Caution

## Safety Labels

### CAUTION



### HELP AVOID INJURY FROM SUDDEN STOPS

- Keep spring trip unlocked except for slow speed heavy digging and grading
- On machines with hydraulic down pressure operate with blade in float position except for slow speed digging
- Use rubber scraper blade for high speed operation

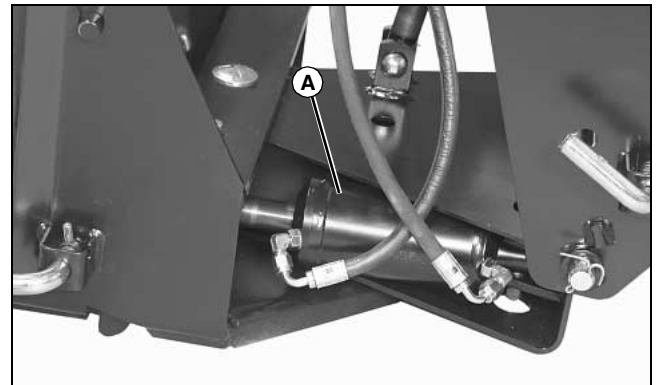
## Parking Safely

1. Stop machine on a level surface, not on a slope.
2. Disengage mower blades or any other attachments.
3. Lower attachments to the ground.
4. Lock the park brake.
5. Stop the engine.
6. Remove the key.

7. Wait for engine and all moving parts to stop before you leave the operator's seat.
8. Close fuel shut-off valve, if your machine is equipped.
9. Disconnect the negative battery cable or remove the spark plug wire (for gasoline engines) before servicing the machine.

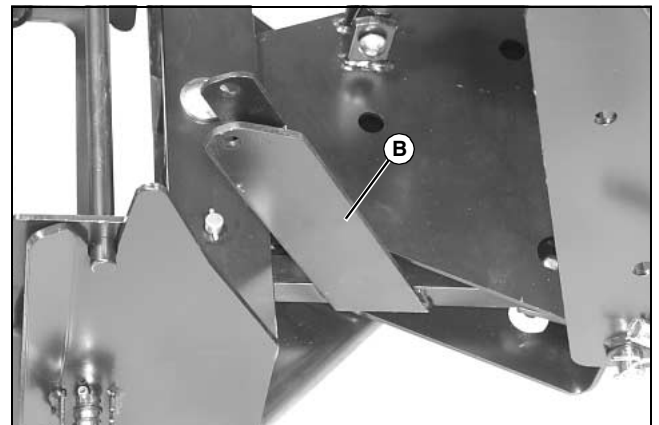
## Preparing Blade

**NOTE: Blade, quick-hitch and angling cylinder must be installed before proceeding with these instructions.**



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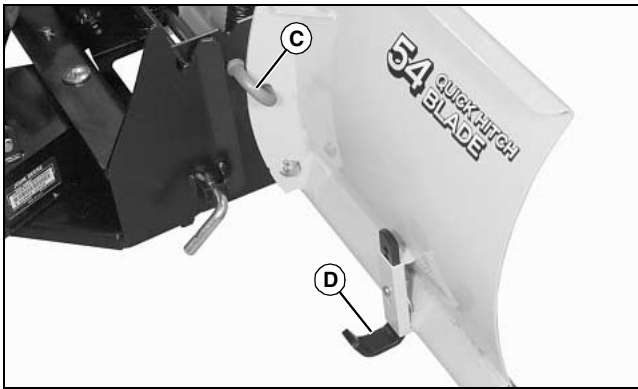
1. Remove the angling cylinder (A) from its installed location, and set it temporarily out of the way. Retain the two drilled pins that secured the cylinder for later use. Discard the two cotter pins that were removed.



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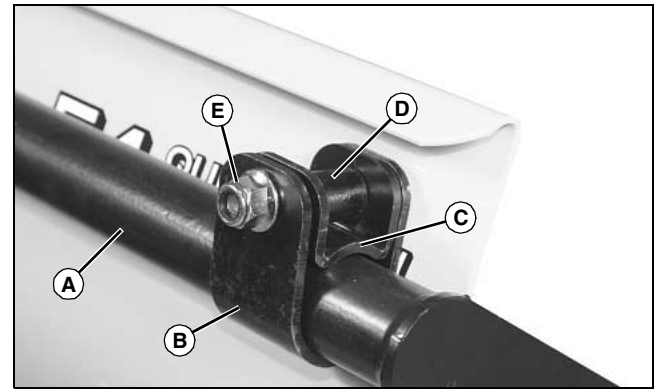
2. Install the cylinder anchor bracket (B) in the location where the angling cylinder was just removed, with the angled upright facing forward.
  - Secure the bracket using the two drilled pins removed earlier, installed from the top.
  - Install a cotter pin in the front drilled pin, and a locking clip in the rear drilled pin.

The anchor bracket will lock the blade in the center position.



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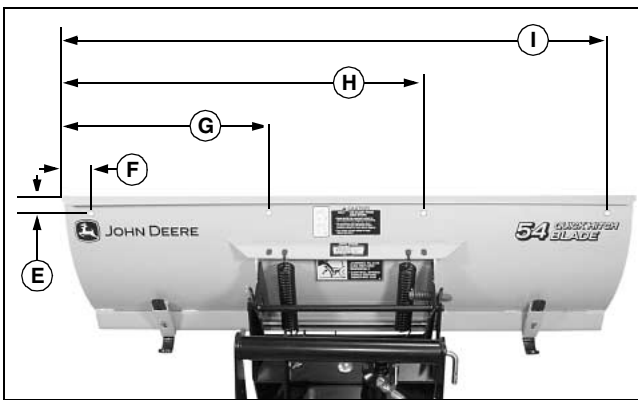
- Engage the locking pin (C) at the right side of the blade to lock the blade position and prevent float.
- Remove skid shoe retaining pins, raise the skid shoes (D) to the top position. Install retaining pins to secure.



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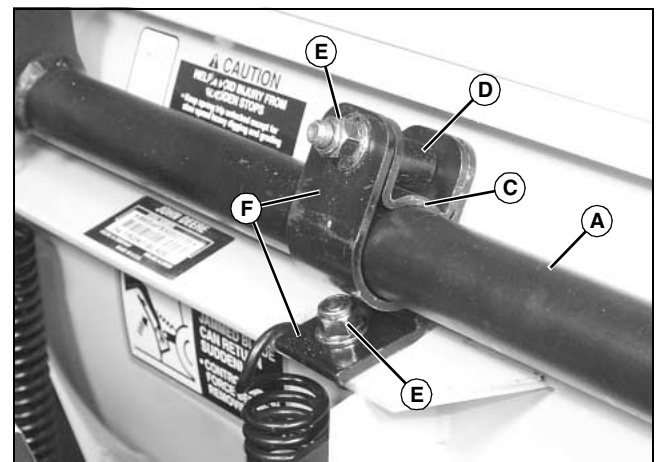
**Picture Note: Right side shown.**

- Set the pivot tube (A) on the upper spring support of the blade, with the cylinder mounting arms offset to the left side, and the side sheet mounting arms at the sides of the blade.
- Assemble outer pivot bracket (B) around the pivot tube at the right side, from the bottom. Align bracket with outer drilled hole in blade.
- Place a W-bracket (C) over the top of the pivot tube, centered between the flanges of the pivot bracket, and hold a bushing (D) between the two flanges of the W-bracket.
- Install an F&D flange head bolt, from the front, through the blade, pivot bracket, W-bracket and bushing, and secure with an F&D serrated locknut (E). Do not tighten.
- Repeat procedure at other side.



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- Mark and drill four 13 mm (1/2 in.) holes in the upper portion of the blade for mounting the pivot tube brackets:
  - Vertical location (E) for all four holes is centered 38 mm (1-1/2 in.) down from the inside of the radius at the top flange of the blade.
  - Horizontal hole locations are all measured from the left edge of the blade. The center of the first hole (F) is 63.5 mm (2-1/2 in.) from the edge. The center of the second hole (G) is at 50 cm (19-3/4 in.). The center of the third hole (H) is at 86.7 cm (34-1/8 in.) and the center of the fourth hole (I) is at 130.8 cm (51-1/2 in.).
- Deburr holes as necessary.



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**Picture Note: Right side shown.**

- Position the right side inner pivot tube bracket (F) up around the pivot tube (A) from below. Lift the pivot tube slightly, then slide the bracket inward over the upper spring support until the lower bracket hole aligns with the slotted hole just outward from the spring.
- Install an F&D flange head bolt through the spring support and pivot tube bracket from below, and secure with an F&D serrated locknut (E). Do not tighten.

**Assemble Shovel to Blade**

**NOTE:** When positioning the pivot tube on the blade for pre-assembly and assembly of brackets, note that the cylinder mounting arms on the pivot tube should be offset to the left side, aligned with the cylinder anchor bracket, installed earlier.

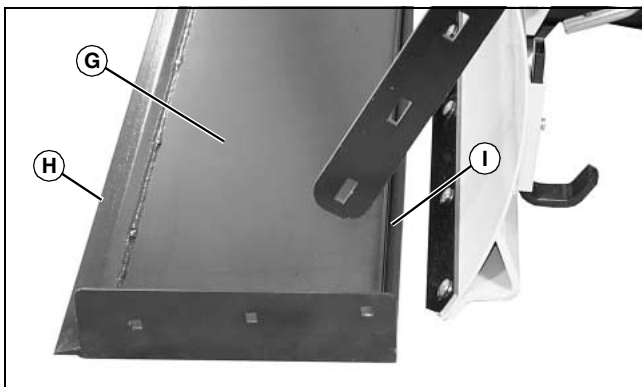
8. Place a W-bracket (C) over the top of the pivot tube, centered between the flanges of the pivot bracket, and hold a bushing (D) between the two flanges of the W-bracket.

9. Install an  $\frac{1}{2}$  x 2-1/2 in. flange head bolt, from the front, through the blade, pivot bracket, W-bracket and bushing, and secure with an  $\frac{1}{2}$  in. serrated locknut (E). Do not tighten.

10. Repeat procedure at other side.

11. Tighten all pivot tube bracket hardware to 132 N•m (97 lb-ft).

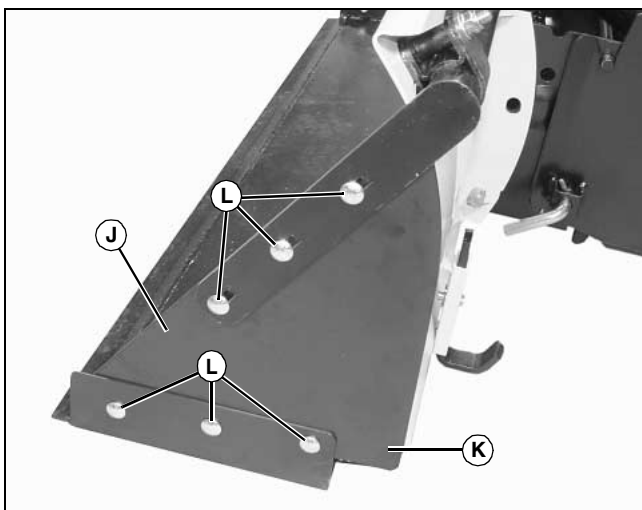
12. Start the machine and engage the hydraulic lift cylinder to raise the blade 13 mm (1/2 in.) off of the ground. Block up the quick hitch and shut off the machine.



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**Picture Note: Left side shown.**

13. Position the shovel bottom (G) with the tapered edge (H) toward the front. Slide the shovel bottom back to the blade until the scraping edge of the blade rests in the channel (I) at the back edge of the shovel bottom.



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14. Position the left side sheet (J) at the inside of the flange at the shovel bottom and the side arm of the pivot tube. The bottom rear corner (K) of the side sheet is flared outward when correctly installed.

15. Secure the side sheet with six  $\frac{1}{2}$  x 2-1/2 in. carriage bolts (L), installed from the outside, and six  $\frac{1}{2}$  in. serrated

locknuts at the inside. Do not tighten.

16. Repeat procedure at other side.

17. Tighten all side sheet hardware to 67 N•m (49 lb-ft).

18. Start the machine and raise the blade fully. Shut off the machine.

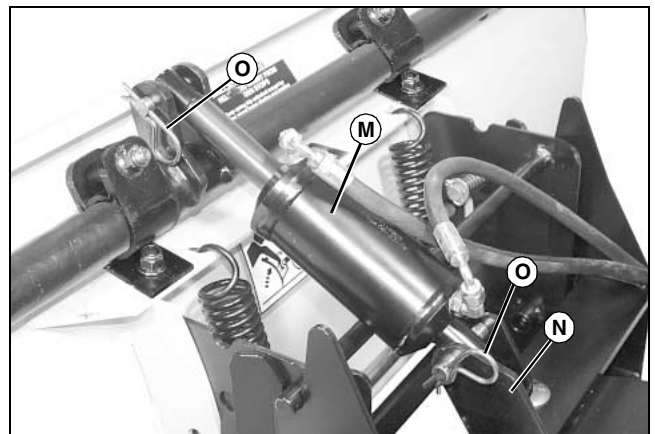


**CAUTION: Avoid injury! Fingers and hands can be pinched or crushed. Be aware of potential pinch points and keep hands away.**



**CAUTION: Avoid injury! Do not put hands between blade, mounting bracket or tractor shovel.**

**Tractor shovel may cause injury when it returns back to normal position.**



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19. Install the housing end of the angling cylinder (M), removed earlier, to the cylinder anchor bracket (N). Secure with a 1/2 x 2-1/2 in. drilled pin and a spring locking pin (O).

20. Install the rod end of the angling cylinder between the mounting arms on the pivot tube. Secure with a 1/2 x 2-1/2 in. drilled pin and a spring locking pin (O).



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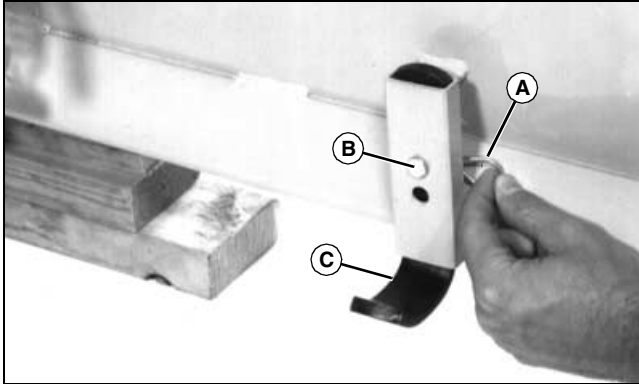
21. Install included CAUTION label (P) on the center of the blade immediately below the existing WARNING label (Q),

where it is clearly visible.

## Removing and Installing the Shovel / Blade Assembly

### Removing

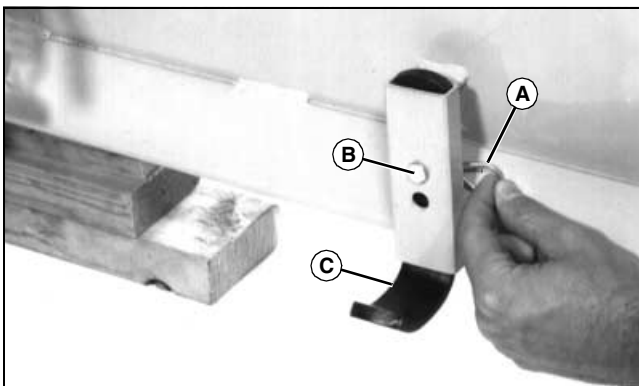
1. Raise blade /shovel assembly and put blocks under the center of the blade.



2. Remove spring locking pin (A) and drilled pin (B) at each side of the blade.
3. Lower both skid shoes (C) to the lowest position.
4. Install drilled pins and spring locking pins.
5. Remove shovel / blade assembly and quick hitch according to instructions in the appropriate attachment manuals.
6. Store with skid shoes in lowered position.

### Installing

1. Install shovel / blade assembly and quick hitch according to instructions in the appropriate attachment manuals.
2. Raise blade /shovel assembly and put blocks under the center of the blade.



3. Remove spring locking pin (A) and drilled pin (B) at each side of the blade.

4. Raise both skid shoes (C) to the highest position.
5. Install drilled pins and spring locking pins.
6. Raise blade / shovel assembly, remove blocks, then lower to ground.

## Using Tractor Shovel



**CAUTION: Avoid injury! Attachment is heavy and can crush.**

**Keep hands and arms from under attachment when in the raised position.**

The 54 Inch Tractor Shovel can be used to pick up, transport, and unload a variety of loose materials including soil, gravel, mulch and snow.

Use the hydraulic angling cylinder control to raise and lower the shovel, independent of the blade:

- For shovel operation, lower the shovel fully so that the scraping edge of the blade rests in the channel at the back of the blade bottom. To unload material, operate the angling cylinder control to raise shovel.
- For blade operation with shovel attached, raise the shovel fully with the angling cylinder control. Blade position is fixed in the straight position.

Use the blade lift cylinder control to raise and lower both the blade and shovel together.

## Shovel Specifications

### Specifications

Length of Tractor Shovel	.....137.2 cm (54 in.)
Depth of Tractor Shovel	.....30.5 cm (12 in.)
Capacity (volume)	.....0.064 m <sup>3</sup> (2.25 cu ft)
Capacity (weight - level load)	.....90.7 kg (200 lb)
Lift Height (depending on tractor model)	20.3 - 30.5 cm (8 -12 in.)

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