



JOHN DEERE

Product Services Information

INSTALLATION INSTRUCTIONS

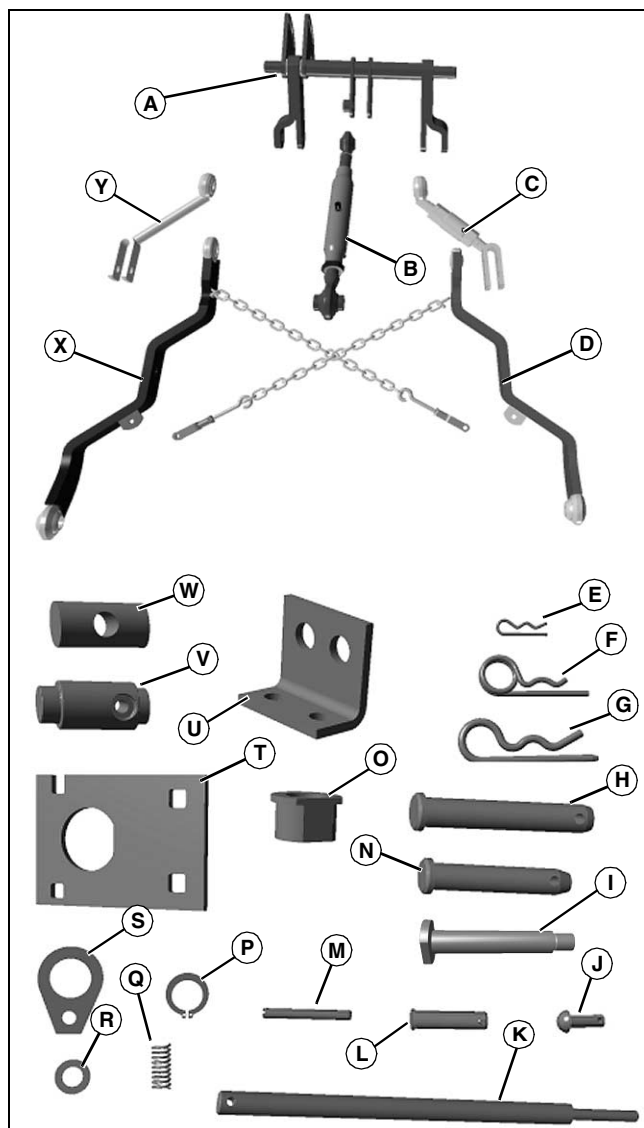
(Includes English, French, German, Spanish and Italian)



JOHN DEERE

THREE POINT HITCH

Parts in Kit



MX12061c, MX49343

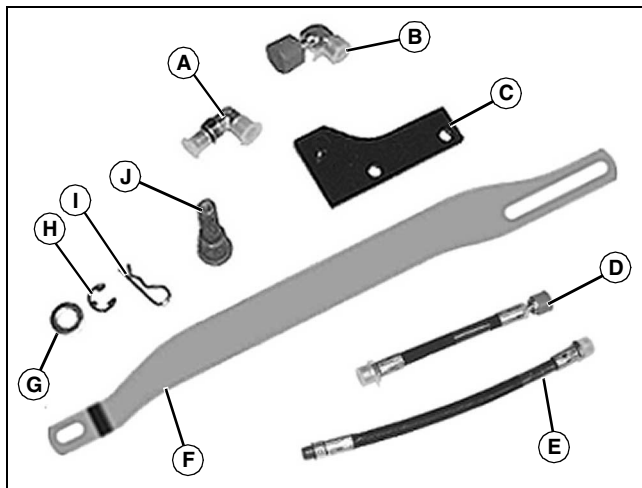
Qty.	Description
1	Right Lower Link Assembly (D)
2	Spring Locking Pin, Small (E)
5	Spring Locking Pin, 77.8 mm (F)
3	Spring Locking Pin (For Attachment) (G)
2	Pin, Special Headed (For Attachment) (H)
1	Pin, Shoulder (I)
2	Pin, Drilled, 8 mm (J)
1	Rod, Depth Control (K)
5	Pin, Drilled, 15.9 x 64 mm (L)
1	Pin, Slotted Spring (M)
1	Pin (For Attachment) (N)
2	Bushing, Rockshaft Bearing (O)
2	Snap Ring (P)
1	Spring, Compression (Q)
1	Washer (R)
1	Retainer (S)
2	Plate, Rockshaft Reinforcement (T)
2	Angle Bracket (U)
1	Pivot, Depth Stop (V)
1	Pivot, Depth Stop (Painted) (W)
1	Left Lower Link Assembly (X)
1	Left Lift Link Assembly (Y)
4	Carriage Bolt, M10x25
4	Carriage Bolt, M8x25
4	Capscrew, Hex, M12x30
1	Screw, Self-Tapping, M8x16
1	Locknut, M8 Flange
4	Nut, Serrated Flange, M8
4	Nut, Serrated Flange, M10
6	Locknut, M12

Qty.	Description
1	3-Point Hitch (Rockshaft) Assembly (A)
1	Upper Center Link Assembly (B)
1	Right (Adjustable) Lift Link Assembly (C)

Qty.	Description
1	Nut, Heavy-Duty Square
1	Nut, Flange, M10
2	Carriage Bolt, M12x50

Retro-Fit Parts

NOTE: These retro-fit parts are required for X700 Ultimate Series machines. The lift strap is required for X400 and X500 Series machines.



MX49345

Qty.	Description
1	Elbow Fitting, 90°, Small (A)
1	Elbow Fitting, 90°, Large (B)
1	Lift Bracket (C)
1	Hydraulic Hose, Short (D)
1	Hydraulic Hose, Long (E)
1	Lift Strap (F)
1	Washer, 17/32 in. (G)
1	Retaining Ring (H)
1	Spring Locking Pin (I)
1	Shoulder Pin (J)
2	Bolt, Flange, M8x25
2	Nut, M8

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.

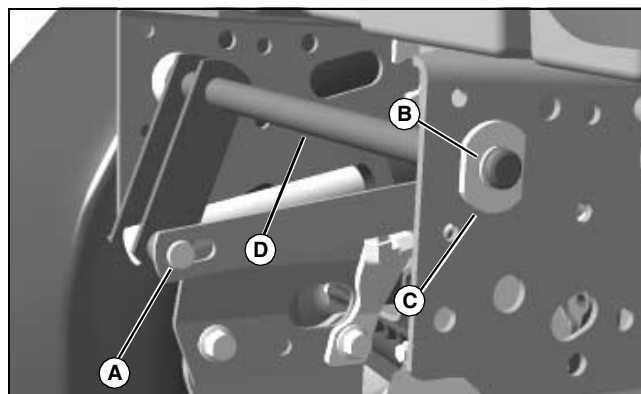
4. Lock the park brake.
5. Stop the engine.
6. Remove the key.
7. Wait for engine and all moving parts to stop before you leave the operator's seat.
8. Close fuel shut-off valve, if your machine is equipped.
9. Disconnect the negative battery cable or remove the spark plug wire(s) (for gasoline engines)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

Prepare Machine

1. Remove mower deck.

NOTE: Only X400 and X500 Series machines require removal of the rockshaft.

2. Remove rockshaft.

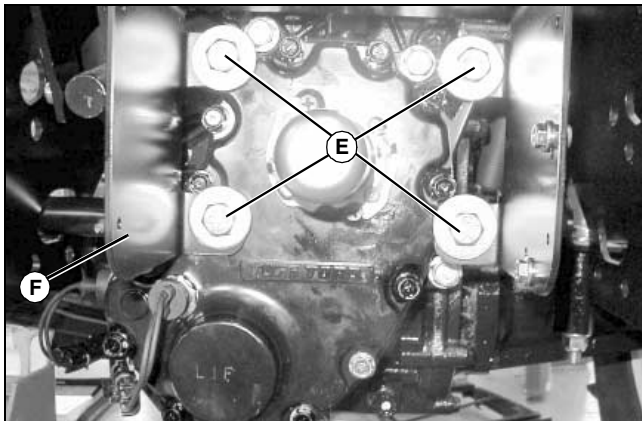


MX11020

- Remove drilled pin (A).
- Remove snap ring (B) and bearing (C) from each side of machine frame.
- Remove mower deck rockshaft (D).



CAUTION: Avoid injury! If PTO is installed, PTO shield must be in place when operating machine. Replace PTO shield after installing 3-point hitch.



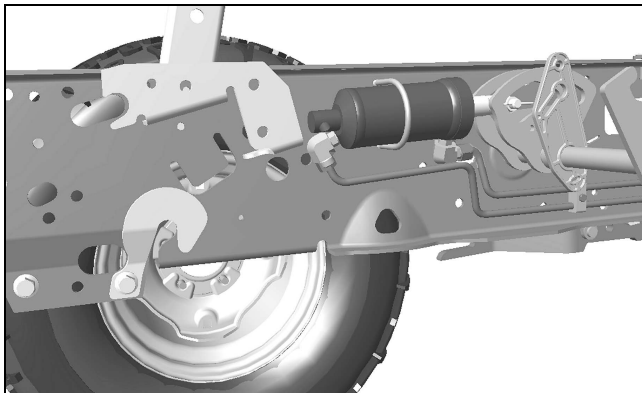
MX8297

3. If machine is equipped with a rear PTO, remove and save the four capscrews (E), washers and outer shield (F).

Install Retro-Fit Kit (X700 Ultimate Series)

NOTE: These retro-fit parts are required for X700 Ultimate Series tractors. On X400 and X500 series tractors, refer to "Install Retro-Fit Kit (X400 and X500 Series)".

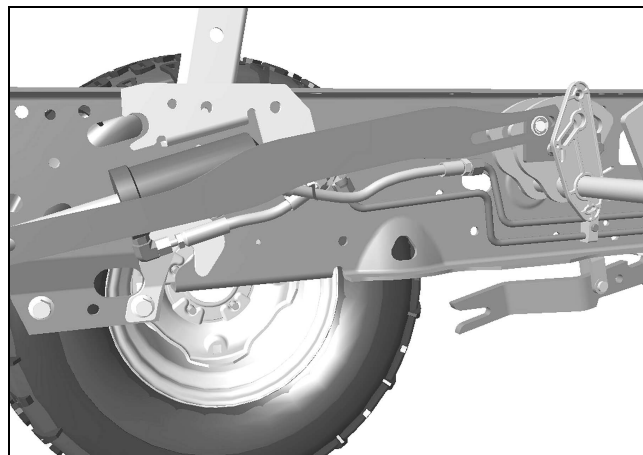
Assembly Before Install



MX35455

Picture Note: Inside left frame rail shown.

Assembly After Retro-Fit Kit is Installed



MX38735

Picture Note: Inside left frame rail shown.

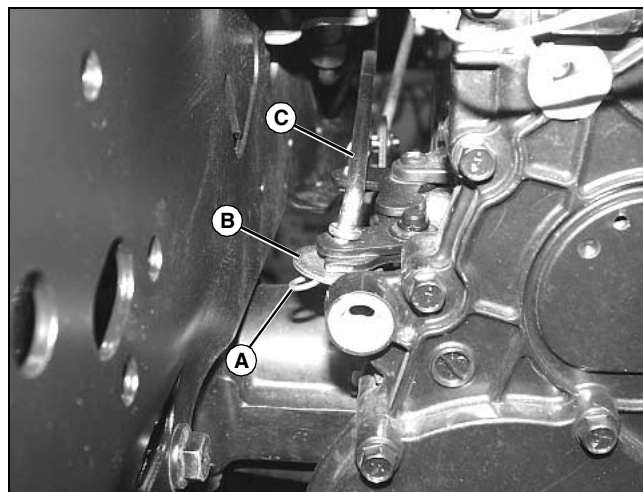
1. Retract lift cylinder.



CAUTION: Avoid injury! The machine can fall or slip from an unsafe lifting device or supports.

- Use a safe lifting device rated for the load to be lifted.
- Lower machine onto jack stands or other stable supports and block wheels before servicing.

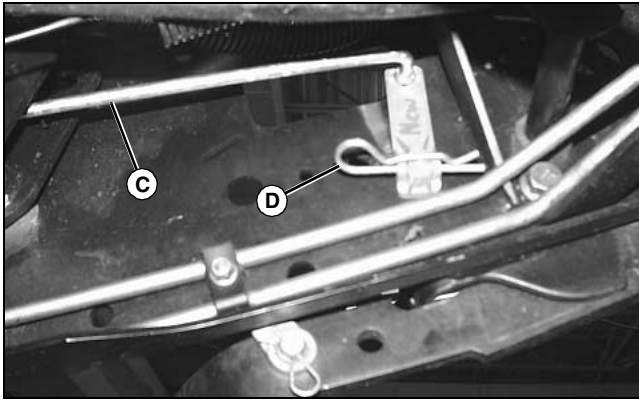
2. Secure machine from rolling with wheel stops, and unlock park brake.



MX35208

Picture Note: Left rear of machine.

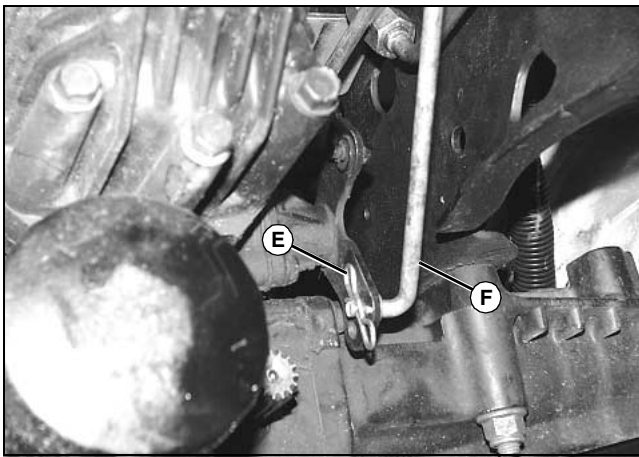
3. From left rear of machine, remove spring locking pin (A), washer (B), and differential lock rod (C) from transaxle lever.



MX35373

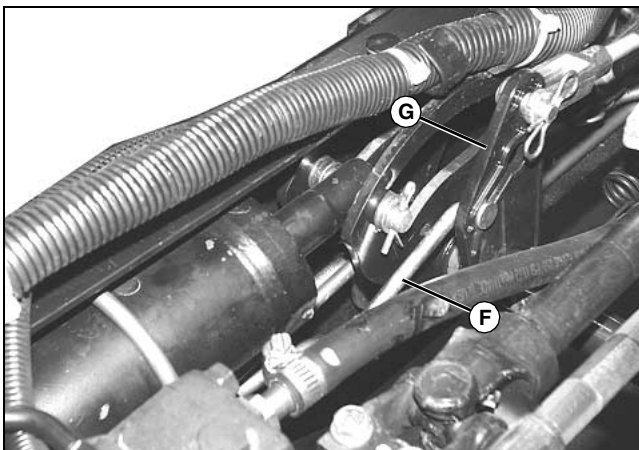
4. Remove clip (D) on front end of differential lock rod (C), and remove rod assembly from machine.

NOTE: Record which hole the brake rod is installed into on transaxle lever so that it can be installed in that same position later in this instruction.



MX35210

5. Remove clip (E) and brake rod (F) from transaxle lever.



MX35209

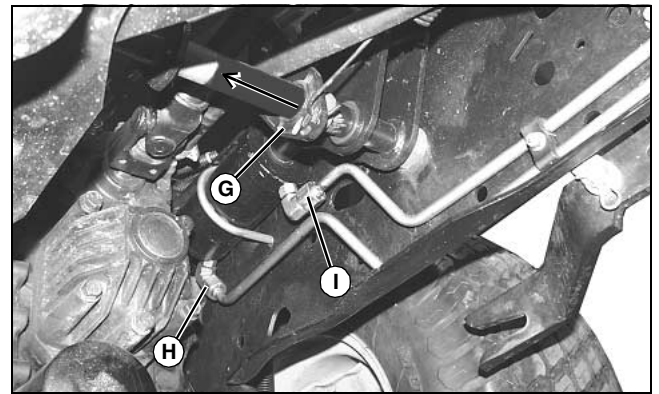
6. Remove other end of brake rod (F) from brake pivot plate (G).



CAUTION: Avoid injury! Escaping fluid under pressure can penetrate the skin causing serious injury. Avoid the hazard by relieving pressure before disconnecting hydraulic or other lines. Tighten all connections before applying pressure. Search for leaks with a piece of cardboard. Protect hands and body from high pressure fluids.

Use caution when filling and draining hydraulic oil. During periods of machine operation the hydraulic oil reservoir can get hot. Allow engine and oil reservoir to cool before servicing.

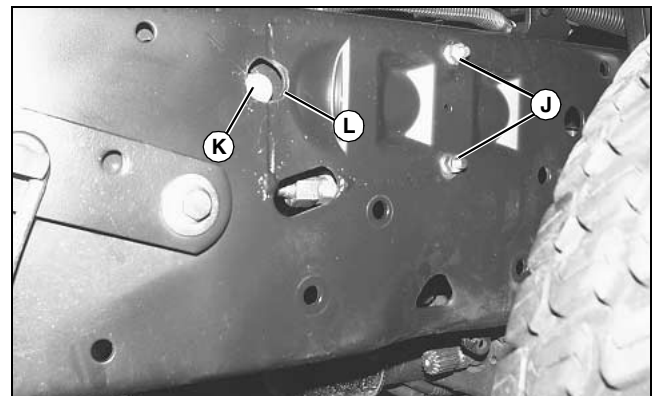
7. Move lift control valve lever to relieve hydraulic system pressure.



MX35374

8. Place a pan under lift cylinder for hydraulic fluid, and disconnect both rear (H) and front (I) steel hydraulic lines from lift cylinder.

9. Slide brake pivot plate (G) towards center of machine, as shown by arrow.



MX35375

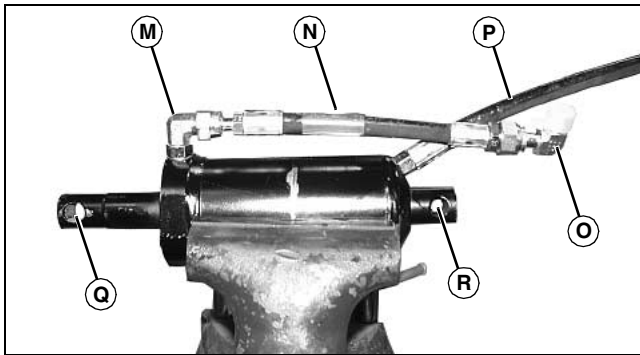
Picture Note: Left side frame rail near rear tire shown.

10. Remove two nuts (J) and U-bolt holding lift cylinder to machine frame.

11. Remove cotter pin, two bushings, and pin (K) from cylinder rod end. Remove pin through hole (L) on outside of

frame, and remove cylinder from machine.

12. Discard U-bolt, two nuts (J), two bushings, and cotter pin.



MX35376

13. Place cylinder in a vice, and remove two 90° elbow fittings currently on lift cylinder. Discard fittings.

NOTE: Be sure all O-rings are on fittings before installation of elbow fittings and hoses.

14. Install small 90° elbow fitting (M) from kit onto rod end of cylinder, with fitting pointing towards base end, as shown.

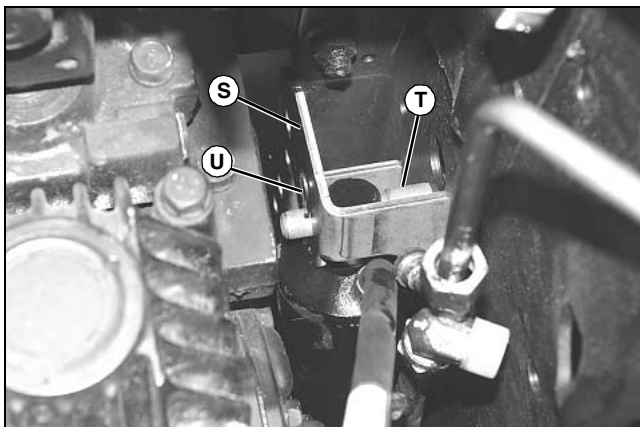
15. Install short hydraulic hose (N) onto small 90° elbow fitting. Tighten fitting at this time.

NOTE: To aid further installation, do not tighten large 90° fitting at this time.

16. Install large 90° elbow fitting (O) from kit onto short hydraulic hose, with elbow fitting facing upward, as shown. Do not tighten fitting at this time.

17. Install long hydraulic hose (P) onto base end of cylinder. Tighten hose onto cylinder.

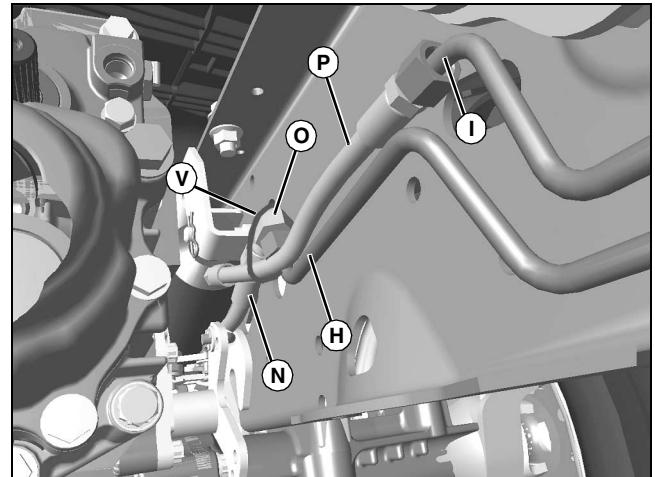
18. Rotate cylinder rod cross hole (Q) until it is in alignment with the base end cross hole (R).



MX35457

19. From the left rear of transaxle, install cylinder onto machine bracket (S), as shown, and secure base end with shoulder pin (T), and spring locking pin (U).

NOTE: Short hose should be placed along frame rail, as shown. Hold tubes and hoses against frame rail when tightening to keep routing as close to frame rail as possible. This will help prevent interference when installing brake and differential lock rods.



MX35377

Picture Note: Inside left frame rail shown.

20. Raise rod end of cylinder upward to aid in installation of large elbow fitting to steel hydraulic line.

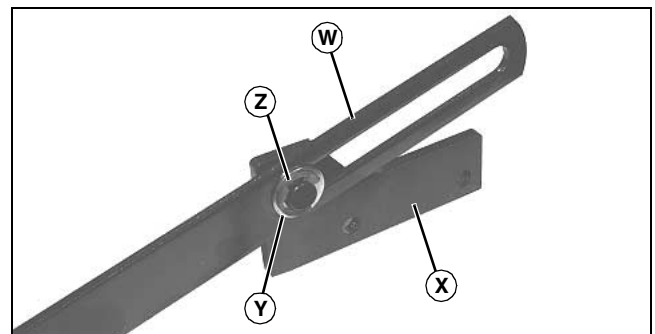
NOTE: Temporarily lift the rod end of the lift cylinder in a raised position to aid in starting the threads between fitting (O) and rear steel hydraulic line (H).

21. Connect large 90° elbow fitting (O) on short hydraulic hose (N) from the rod end of cylinder to the rear steel hydraulic line (H). Tighten both sides of 90° elbow fitting at this time.

NOTE: Be sure step 21 is done before step 22 or it will be very hard to complete hose installation procedure.

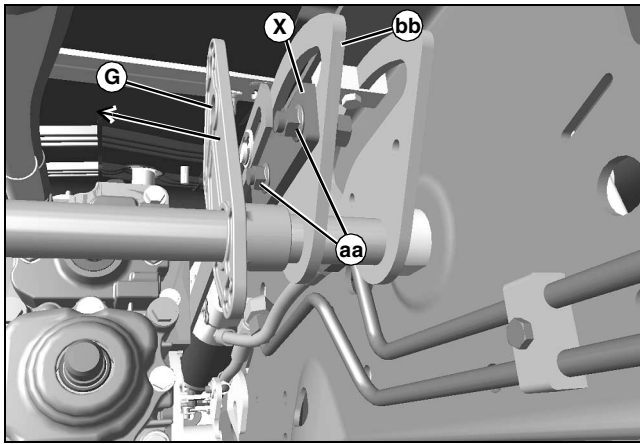
22. Connect long hose (P) from the base end of cylinder to front steel hydraulic line (I).

23. Use tie strap (V) to secure cylinder base long hose (P) to the side of large 90° elbow fitting (O) on short hose to prevent interference with brake and differential lock rods.



MX35380

24. Position the long slotted end of the lift strap (W) over the pin on the lift bracket (X), as shown, and secure with a 17/32 in. washer (Y) and retaining ring (Z).



MX35378

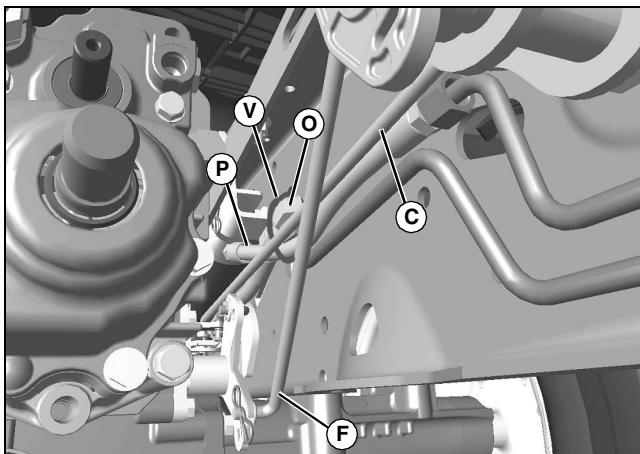
25. Slide brake pivot plate (G) towards center of machine, as shown by arrow. This aids in access for tightening M8 nuts (aa).

NOTE: The lift strap should exit the rear of the machine between the lift cylinder and transaxle housing.

26. Install the lift strap and lift plate assembly through rear of machine, and install the lift bracket (X) to the mower deck rockshaft (bb) with two M8x25 flange bolts and M8 nuts (aa). Tighten hardware to 30 N•m (22 lb-ft).

27. Slide brake pivot plate (G) back towards outside of machine as far as it will go.

NOTE: Be sure hoses and tubes are positioned between the frame rail and brake rod and differential lock rod, as shown in the next step. Hoses should be close to frame rail to avoid interference with brake and differential lock rods.



MX35379

28. Install brake rod (F) in the reverse order of removal; in the same hole on transaxle lever that it was removed from.

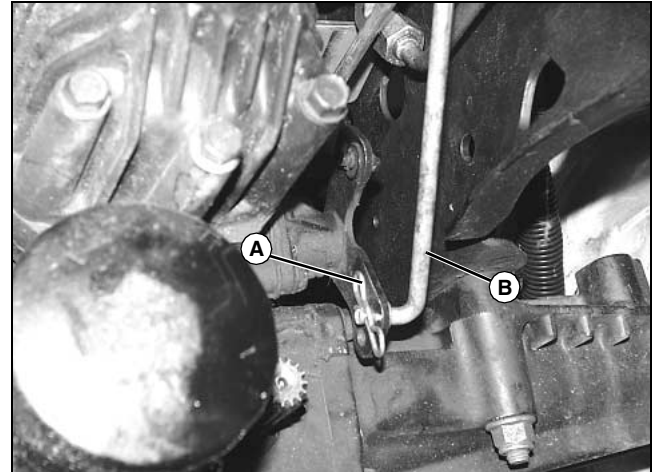
29. Install differential lock rod (C) in the reverse order of removal.

30. Check to make sure tie strap (V) is securing base hose (P) to the side of large 90° elbow fitting (O) on short hose, making sure differential lock rod and brake rod do not rub on hoses.

Install Retro Fit Kit (X400 and X500 series)

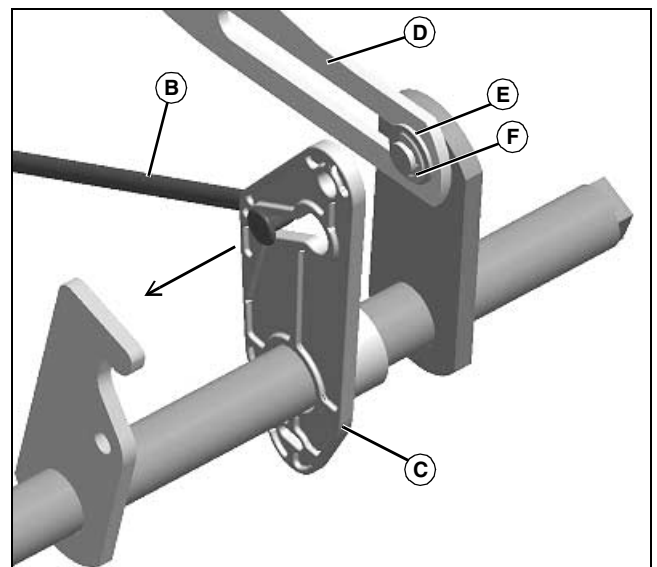
1. Retract lift cylinder.
2. Secure machine from rolling with wheel stops and unlock park brake.

NOTE: Record which hole the brake rod is installed into on transaxle lever so that it can be installed in that same position later in this instruction.



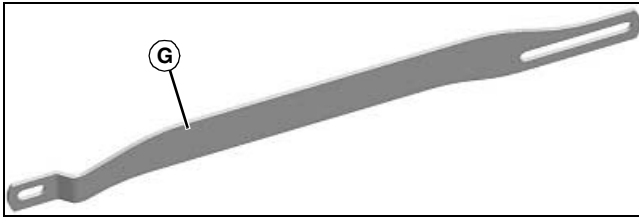
MX35210

3. Remove clip (A) and brake rod (B) from transaxle lever.



MX51197

4. Remove other end of brake rod (B) from brake pivot plate (C).
5. Slide brake pivot (C) towards center of the machine, as shown by arrow. This aids in the removal of the existing lift strap and the installation of the new lift strap.
6. Remove and save retaining ring (F) and washer (E).
7. Remove lift strap (D) and slide out through the rear of the machine.

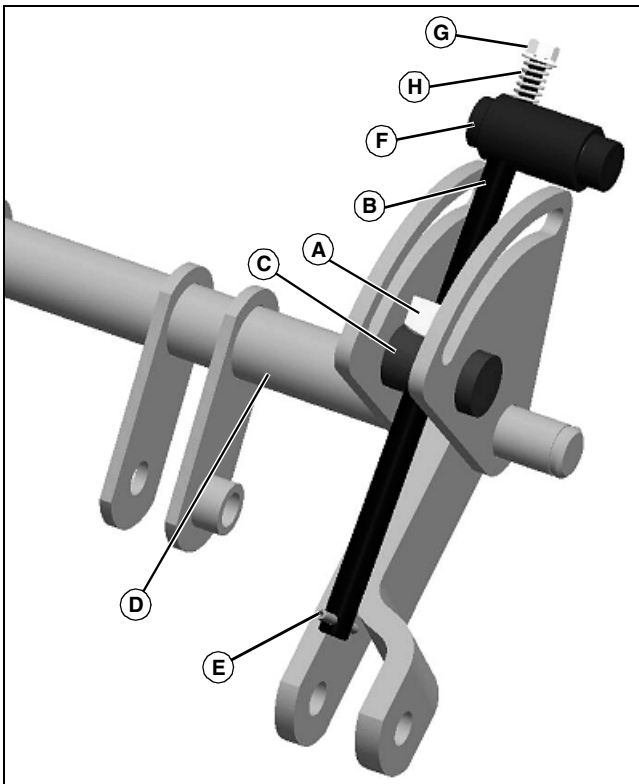


MX51198

8. Install the new lift strap (G) through the rear of the machine by positioning the long slotted end of the lift strap over the pin on the rockshaft, making sure that the arch in the lift strap is pointed up towards the top of the tractor.
9. Secure lift strap (G) with washer (E) and retaining ring (F) that were saved from an earlier step.
10. Slide brake pivot plate (C) back towards the outside of machine as far as it will go.
11. Install brake rod (B) in the reverse order of removal; in the same hole on the transaxle lever that it was removed from.

Assemble Depth Stop and Hitch (Rockshaft) Assembly

NOTE: Hitch assembly cannot be installed on machine unless square nut is threaded as far as possible on depth control rod.



MX51199

1. Thread heavy-duty square nut (A) as far as possible on depth control rod (B).
2. Install painted depth stop pivot (C) into rockshaft (D).

3. Insert threaded depth control rod (B) into depth stop pivot (C).
 4. Install slotted spring pin (E) in hole in threaded end of depth control rod (B) until pin is centered.
- NOTE:** Countersink on depth stop pivot (F) must seat against the shoulder of depth control rod (B).
5. Install depth stop pivot (F) on depth control rod (B) with countersink on pivot facing the heavy-duty square nut (A).

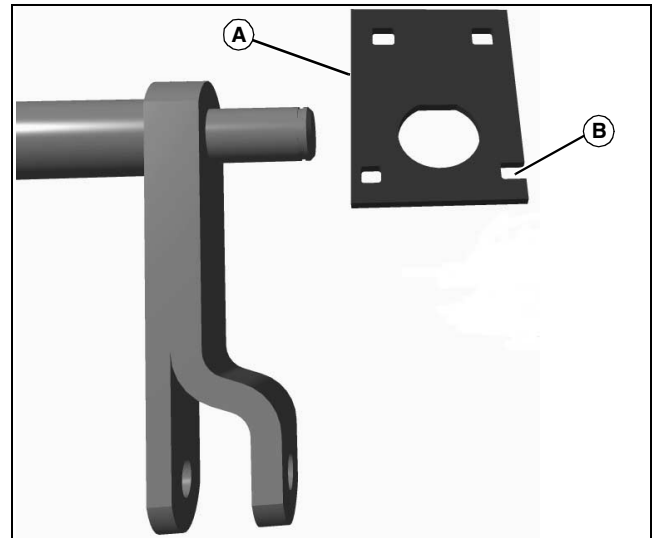
IMPORTANT: Avoid damage! Do not crush spring. Depth stop pivot (F) must rotate on depth control rod (B) after tightening self-locking M8 flange locknut (G). You must use this self-locking locknut at this point.

NOTE: Position slotted spring pin between rockshaft triangular plates to keep depth control rod from turning while tightening self-locking M8 flange locknut (G).

6. Install spring (H) and M8 flange locknut (G). Tighten nut only until one thread shows.

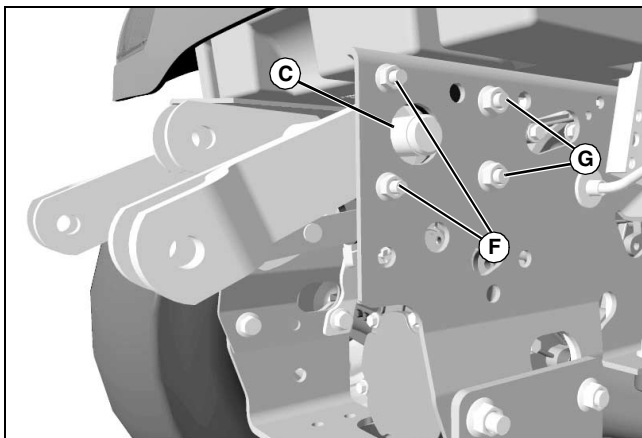
Install 3-Point Hitch (Rockshaft) Assembly

NOTE: The rockshaft cylinder must be fully retracted or you will not be able to install the assembly. Start machine and push the upper hydraulic control lever forward to retract the cylinder.



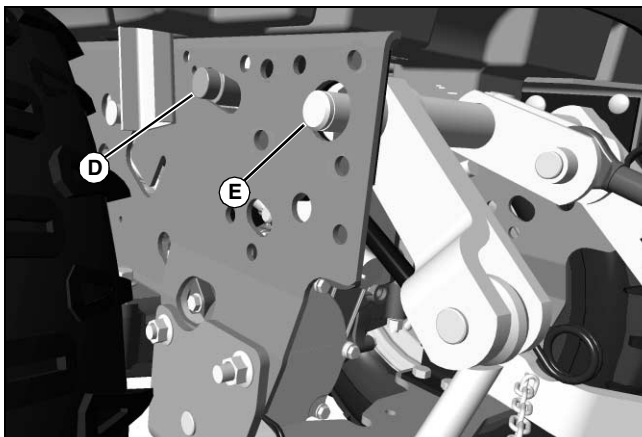
MX12067a

1. Place left and right reinforcement plates (A) on both ends of the rockshaft with slot (B) in top rear position.



MX12066a

2. Install the right end (C) of rockshaft into the right frame hole.

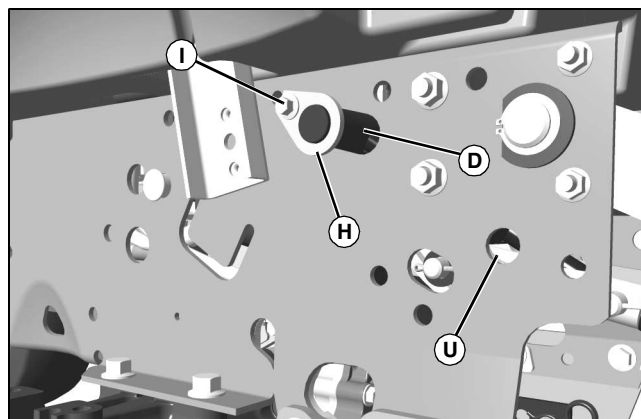


MX16924

3. Position the depth stop pivot (D) into the slotted hole in the left frame bracket, and position the left side (E) of rockshaft into the left frame hole.

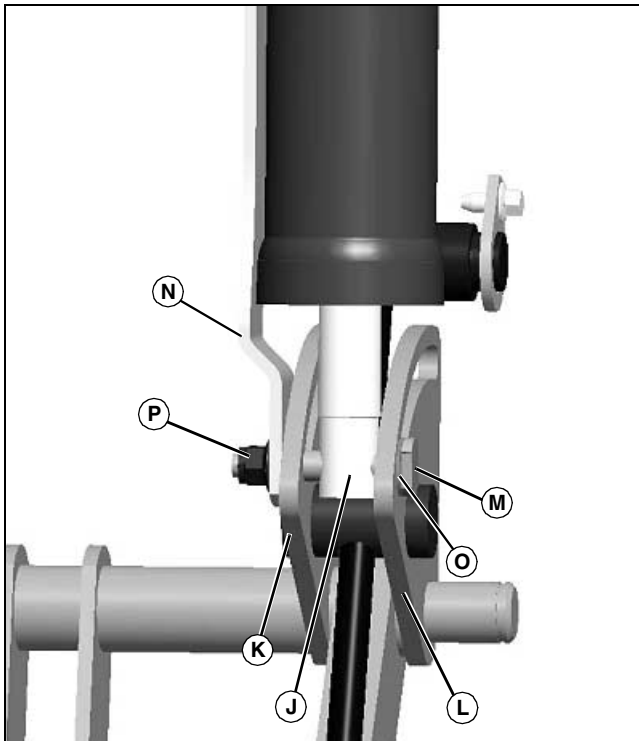
4. Line up the holes in reinforcing plates on the left and right frames. Install two M8x25 carriage bolts (F) and two M10x25 carriage bolts (G) from inside of each frame. Secure with M8 and M10 serrated flange nuts. Do not tighten nuts.

NOTE: The depth stop pivot (D) can easily slide and drop out of position. Reposition before locking in place.



MX12068a

5. Make sure depth stop pivot (D) is installed at front of slot in left frame.
6. Install depth stop retainer (H) and self-tapping M8x16 screw (I) in frame hole to lock depth stop pivot in place.
7. Start the machine and pull the upper hydraulic control lever to extend the mower deck lift cylinder until the center of the hole in the cylinder rod is 64 mm from the flat surface of the lift cylinder.



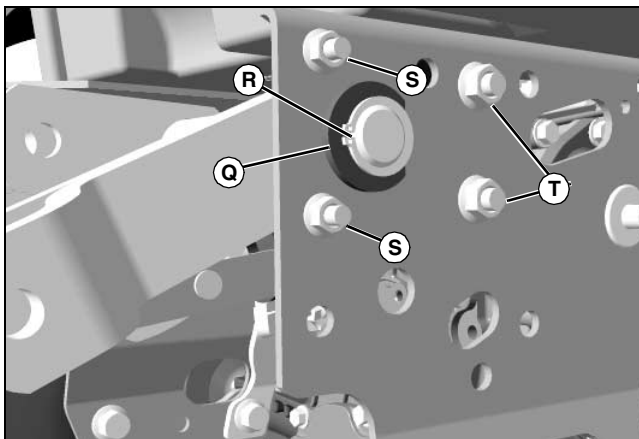
MX51200

Picture Note: Assembly shown removed and from below, for clarity only.

8. Line up the lift cylinder rod (J) with the slots in the inner (K) and outer (L) rockshaft arm triangular plates and slot (U) on the frame.

9. Install shoulder pin (M) from the outside toward the inside of the machine, through washer (O), outer rockshaft arm plate (L), cylinder rod (J), inner rockshaft arm plate (K), and mower lift strap (N).

10. Install M10 locknut (P) on threaded end of shoulder pin.



MX12069a

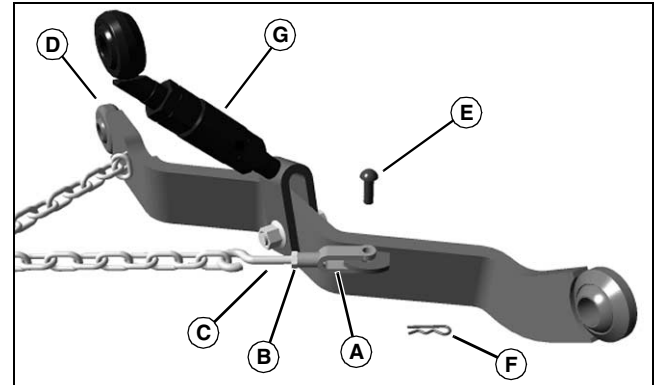
11. Install left and right rockshaft bearing bushings (Q) on end of rockshaft and into frame holes. Install snap rings (R) on the rockshaft end and seat snap ring in the shaft groove.

12. Tighten M8 serrated flange nuts (S) and M10 serrated flange nuts (T) on the left and right sides of the frame.

Assemble Draft Links

1. Lay out the two draft links with chains attached.

NOTE: Remove excess paint, if present, from yoke end of chain to improve fit of 8 mm drilled pin. It may be necessary to assemble the yoke (A), nut (B) and eyebolt (C) as shown.



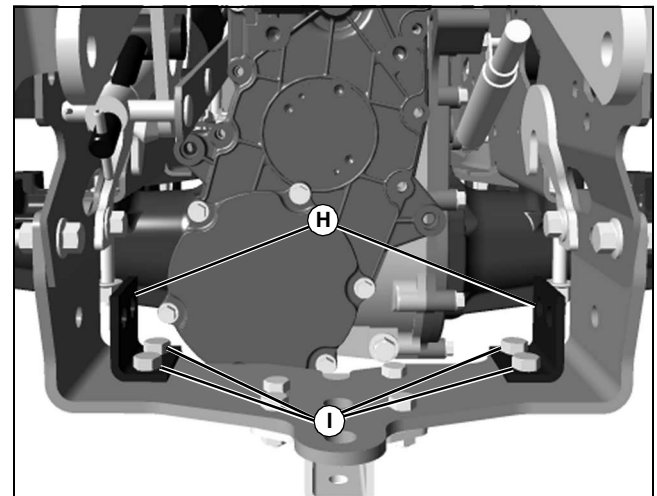
MX12070a

2. Install yoke end of chain (A) from one draft link to the tab hole of the opposite draft link (D) using 8 mm drilled pin (E) and small spring locking pin (F).

NOTE: Adjustable lift link (G) must go on right side.

3. Install lift links on draft links using M12x50 carriage bolts and M12 locknuts. Tighten locknuts on arm until all joint clearance is eliminated. Lift link should move freely after tightening locknuts.

NOTE: On All Wheel Steer (AWS) machines, install capscrews from the bottom up with locknuts on the top. If nuts are on the bottom, the hardware may contact the AWS linkage.

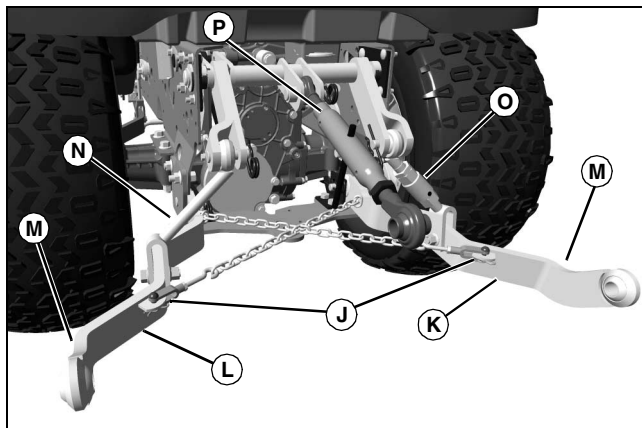


MX12064a

4. Install angle brackets (H) with four M12x30 capscrews and M12 locknuts (I).

NOTE: If **CLICK-N-GO™** bracket is used, use the shoulder pin from the **CLICK-N-GO** kit in the next step.

Tab (J) for chain connections must be on top when installing right and left draft links (K and L). The offset (M) in the draft links must be up.



MX12073a

5. Install right and left draft links (K and L) on hitch plate brackets using 15.9 x 64 mm drilled pin from outside hitch inward. Install 77.8 mm spring locking pin in pin hole.
6. Install lift links (N) and (O) using 15.9 x 64 mm drilled pin from outside rockshaft arm in and secure with a 77.8 mm spring locking pin.
7. Use 15.9 x 64 mm drilled pin and 77.8 mm spring locking pin to install center draft link (P).



CAUTION: Avoid injury! If PTO is installed, PTO shield must be in place when operating machine. Replace PTO shield after installing 3-point hitch.

8. Install PTO shield using the four capscrews and washers removed earlier. Tighten to 54 N•m (40 lb-ft).

Operating 3-Point Hitch

NOTE: Sway chains may need to be readjusted depending on implement used.



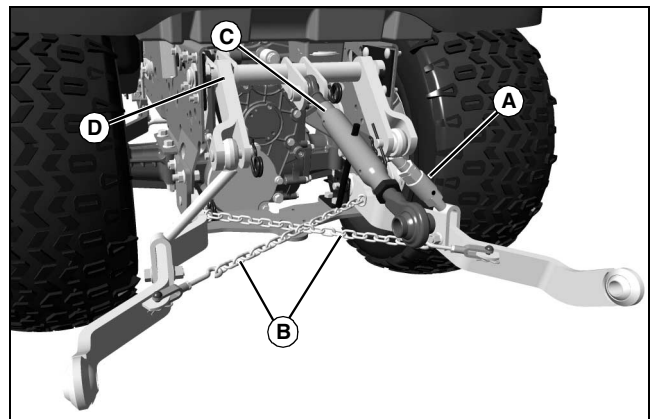
MX13547

1. Check operation of 3-point hitch.
 - Pull back upper hydraulic lift lever (A) to raise hitch.
 - Push forward upper hydraulic lift lever to lower hitch.

Adjust 3-Point Hitch

These adjustments must be made when using a 3-point hitch.

NOTE: Do not over-extend right adjustable lift link.



MX12073a

- Adjust right lift link (A) to level implement side-to-side.
- Adjust sway chain (B) to limit side-to-side movement of implement.
- Adjust center link (C) to level implement front-to-rear.
- Adjust depth control rod (D) to set working depth of implement.

NOTE: Attachment pins and spring locking pins for implements are included in the 3-point hitch kit.

Test Assembly Procedure

1. Make sure the differential lock rod is connected at both ends.
2. Make sure the brake rod routing and brake rod is installed in the correct hole position on the transaxle lever. Make sure the brake rod is connected at both ends.
3. Check to make sure all hardware is tight.
4. Raise and lower 3-Point Hitch:
 - Check for any hydraulic leaks, and tighten fittings as necessary.
 - Check the brakes and differential lock for proper functioning.
 - Check for clearance between the differential lock rod and hydraulic hoses. Adjust tie strap as necessary.
 - Check for clearance between the lift strap and hydraulic hoses.
 - Check to make sure sway chains clear the hitch plate as the hitch plate is raised.