



Core Harvester Adapter Kit

Retrofits Cushman® Core Harvester® Models 4119652, 890009, 894754, and 2701530 to the Heavy-Duty Workman® Vehicles

Model No. 44242

Installation Instructions

Installation

Loose Parts

Use the chart below to verify that all parts have been shipped.

Description	Qty.	Use
No parts required	—	Drill the mounting holes.
Mounting plate (HD/HDX)	1	Install the harvester.
Mounting plate (3000/4000)	1	
Mounting bracket	1	
Bolt (5/16 x 2-3/4 inches)	2	
Washer (3/8 inch)	4	
Lock washer (5/16 inch)	2	
Nut (5/16 inch)	2	
Bolt (3/8 x 1-3/4 inches)	2	
Washer (7/16 inch)	2	
Lock washer (3/8 inch)	2	
Nut (3/8 inch)	2	
Bolt (1/2 x 1-1/4 inches)	3	Mount the core harvester to the machine.
Bolt (1/2 x 1 inch)	1	
Flat washer (1/2 inch)	4	
Lock washer (1/2 inch)	4	
Nut (1/2 inch)	3	
No parts required	—	Modify the frame on the core harvester.
Handle extension	1	Install the extension handle.
Bolt (1/4 x 1-1/2 inches)	1	
Lock washer (1/4 inch)	1	
Nut (1/4 inch)	1	
Hose retainer	3	Install the hose support.
Bolt (3/8 x 1 inch)	3	
Lock washer (3/8 inch)	3	
Nut (3/8 inch)	3	
Hose retainer (2-1/2 inches)	3	
Manual tube	1	Install the manual tube.
R-clamp	2	



Description	Qty.	Use
Upper bracket	1	Mounting the brackets to the conveyor.
Lower bracket	1	
Hose mount	1	
Bolt (3/8 x 1 inch)	8	
Lock washer (3/8 inch)	8	
Flat washer (3/8 inch)	8	
Nut (3/8 inch)	8	
Hose retainer (2-1/2 inches)	1	
No parts required	—	Check the inflation.
90° fitting (5/8 x 1/2 inch)	1	Install the hydraulic components (serial no. 240000001 and above).
Straight fitting	2	
Hydraulic hose A—254 cm (100 inches, 8 FJ to 6 MP)	1	
Hydraulic hose B—330 cm (130 inches, 8 MP to 6 MP)	1	
Hose cover—122 cm (48 inches)	1	
Hose cover—147 cm (58 inches)	1	
Hose cover—224 cm (88 inches)	1	
Hydraulic motor—Acquired separately (Part No. 92-4240)	1	Install the hydraulic components (serial no. 239999999 and below).
Seal—Acquired separately (Part No. 92-4329)	1	
Elbow—Acquired separately (Part No. 01-201-4210)	2	
Barb fitting—Acquired separately (Part No. 01-201-4500)	1	
Tee fitting—Acquired separately (Part No. 01-201-4510)	1	
Fitting cap—Acquired separately (Part No. 01-201-4520)	1	
Hydraulic hose—Acquired separately (Part No. 01-312-5610)	1	
Hydraulic coupler	1	
90° fitting (5/8 x 1/2 inch)	1	
Hydraulic hose A—254 cm (100 inches, 8 FJ to 6 MP)	1	
Hydraulic hose B—330 cm (130 inches, 8 MP to 6 MP)	1	
Hose cover—122 cm (48 inches)	1	
Hose cover—147 cm (58 inches)	2	
Hose cover—224 cm (88 inches)	1	
No parts required	—	Check the hydraulic fluid.
No parts required	—	Check for interference.

Preparing for the Install

Important: The machine must have the 2/3 or full truck bed installed on the machine.

Important: Machines with serial numbers 239999999 and below must have the remote hydraulic control kit installed.

Machines with serial numbers 240000000 and above must have the high flow hydraulic kit installed.

1. Park the machine on a level surface.
2. Engage the parking brake.
3. Shut off the engine and remove the key from the key switch.
4. Read and become familiar with the *Operator's Manual* that you received with the core harvester.

Drilling the Mounting Holes

Drilling the Mounting Holes on a Full Bed

Perform this procedure only if required.

1. Locate and mark the hole location on the bed (Figure 1).

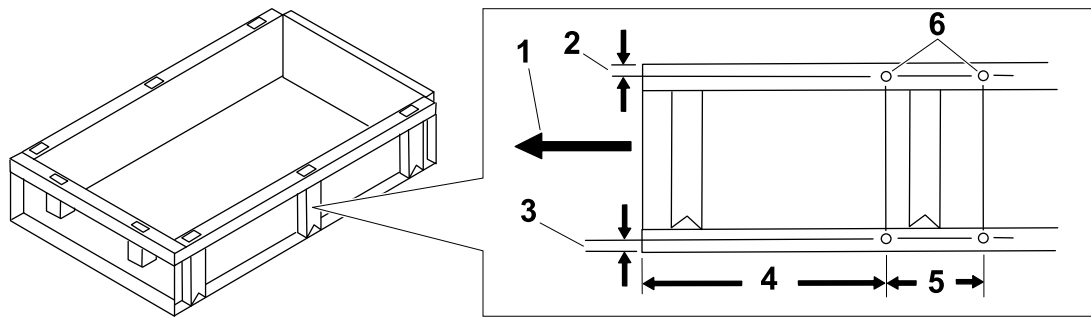


Figure 1

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- | | | |
|-------------------------|--------------------------|-----------------------------|
| 1. Front of the machine | 3. 2.5 cm (1 inch) | 5. 29.8 cm (11-3/4 inches) |
| 2. 1.6 cm (5/8 inch) | 4. 66.3 cm (26.1 inches) | 6. 13/32 inch diameter hole |

2. Use a 13/32 inch drill bit and drill a hole at the locations that you marked (Figure 1).

Drilling the Mounting Holes on a 2/3 Bed

Perform this procedure only if required.

1. Locate and mark the hole location on the bed (Figure 2).

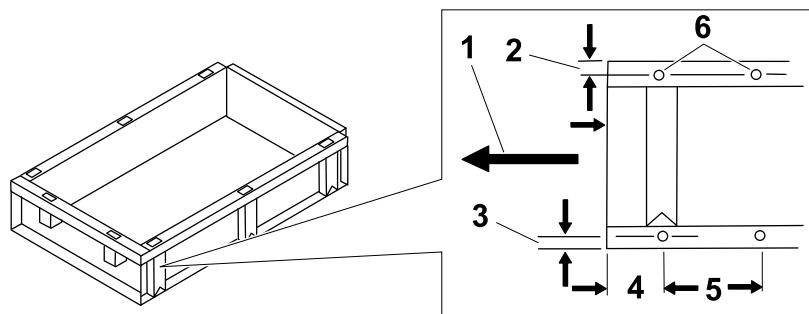


Figure 2

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- | | | |
|-------------------------|-------------------------|-----------------------------|
| 1. Front of the machine | 3. 2.5 cm (1 inch) | 5. 29.8 cm (11-3/4 inches) |
| 2. 1.6 cm (5/8 inch) | 4. 9.8 cm (3.86 inches) | 6. 13/32 inch diameter hole |

2. Use a 13/32 inch drill bit and drill a hole at the locations that you marked (Figure 2).

Drilling the Hose Support Holes

Perform this procedure only if required.

1. Locate and mark the hole location on the bed (Figure 3).

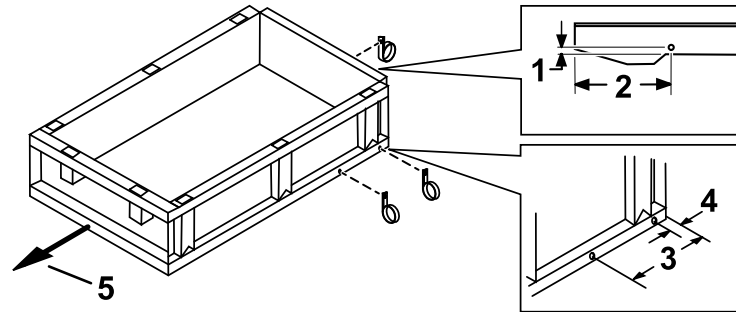


Figure 3

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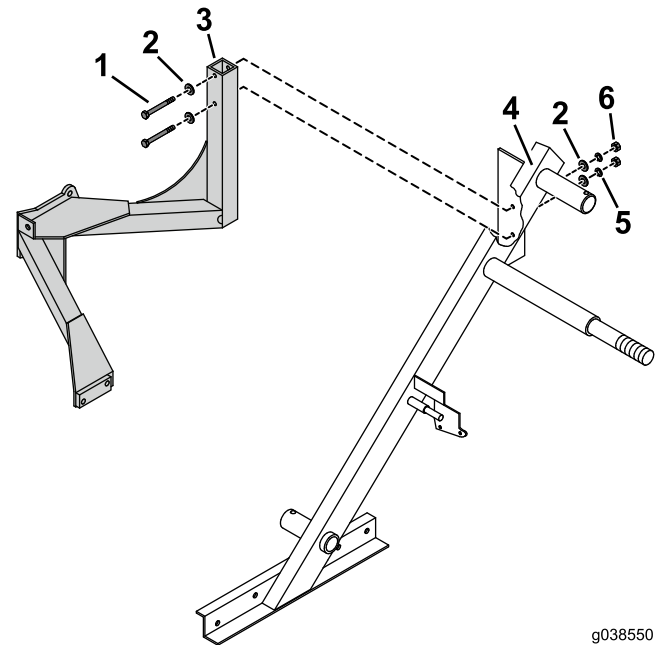
- | | | |
|------------------------|------------------------|-------------------------|
| 1. 1.6 cm (5/8 inch) | 3. 40.6 cm (16 inches) | 5. Front of the machine |
| 2. 48.3 cm (19 inches) | 4. 7.6 cm (3 inches) | |

2. Use a 13/32 inch drill bit and drill a hole at the locations that you marked (Figure 3).

Mounting the Harvester

Installing the Mounting Bracket

1. Use the 2 bolts (5/16 x 2-3/4 inches), washers, lock washers, and nuts to secure the upper portion of the mounting bracket to the harvester frame (Figure 4).



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Figure 4

- | | |
|-------------------------------|----------------------------|
| 1. Bolt (5/16 x 2-3/4 inches) | 4. Harvester frame |
| 2. Washer (3/8 inch) | 5. Lock washer (5/16 inch) |
| 3. Mounting bracket | 6. Nut (5/16 inch) |

2. Use the 2 bolts (3/8 x 1-3/4 inches), washers, lock washers, and nuts to secure the lower

portion of the mounting bracket to the harvester frame (Figure 5).

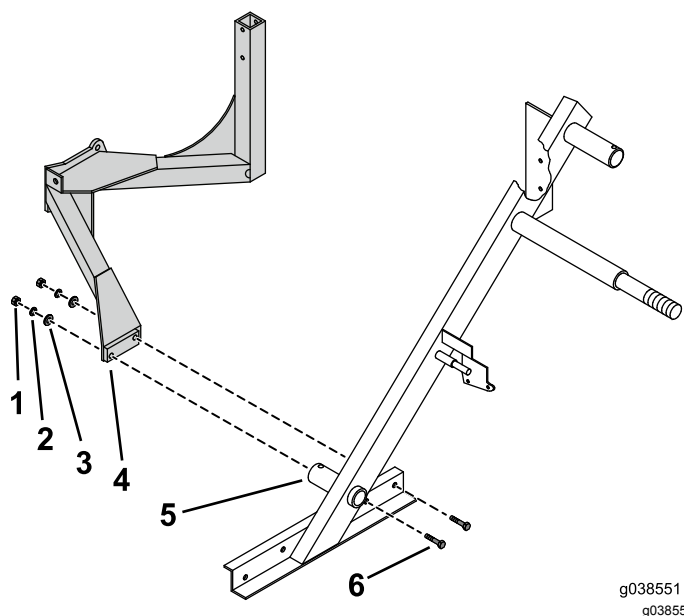


Figure 5

- | | |
|---------------------------|------------------------------|
| 1. Nut (3/8 inch) | 4. Mounting bracket |
| 2. Lock washer (3/8 inch) | 5. Harvester frame |
| 3. Washer (7/16 inch) | 6. Bolt (3/8 x 1-3/4 inches) |

Mounting the Core Harvester to the Machine

Mounting the Frame to the Mounting Plate

Series 3000 and 4000

1. Use the 3 bolts (1/2 x 1-1/4 inches), flat washers, lock washers, and nuts to secure the mounting plate to the mounting bracket (Figure 6).

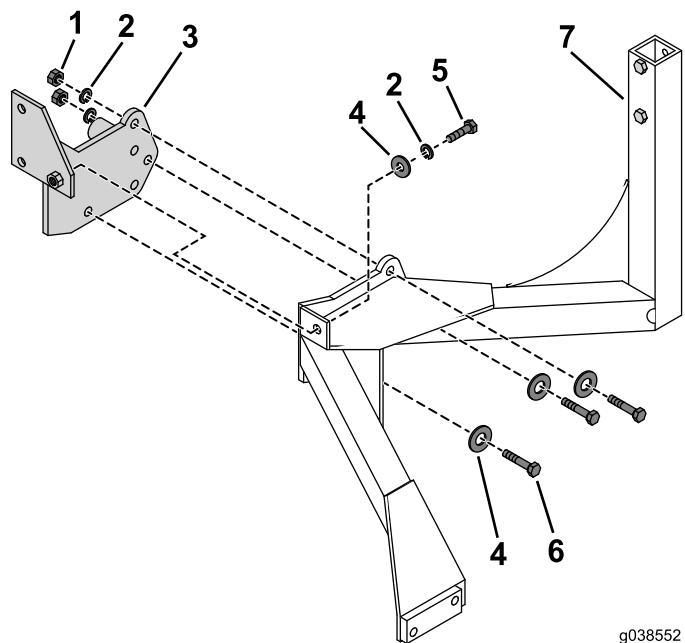


Figure 6

Core Harvester and Frame are not Shown

- | | |
|---------------------------|------------------------------|
| 1. Nut (1/2 inch) | 5. Bolt (1/2 x 1 inch) |
| 2. Lock washer (1/2 inch) | 6. Bolt (1/2 x 1-1/4 inches) |
| 3. Mounting plate | 7. Mounting bracket |
| 4. Flat washer (1/2 inch) | |

2. Use the bolts (1/2 x 1 inch), nuts, and lock washers to secure the mounting bracket to the mounting plate (Figure 6).

Mounting the Frame to the Mounting Plate

Series HD and HDX

1. Use the 3 bolts (1/2 x 1-1/4 inches), flat washers, and nuts to secure the mounting plate to the mounting bracket (Figure 7).

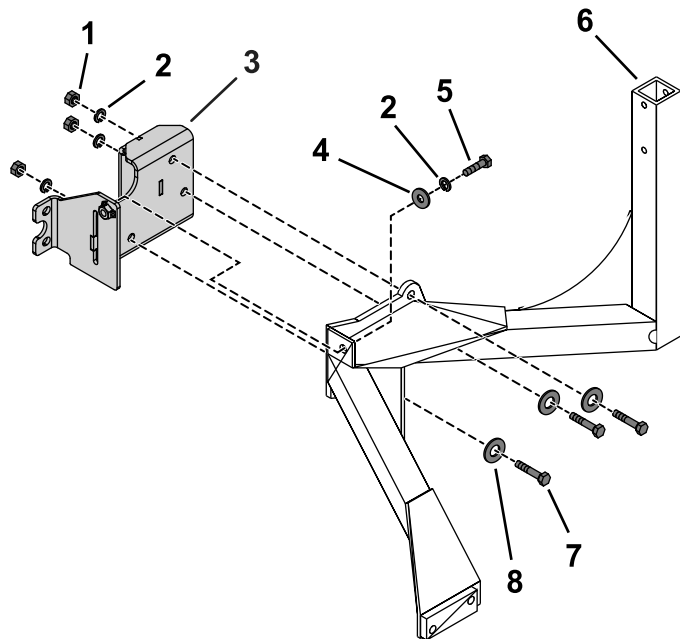


Figure 7

Core Harvester and Frame are not Shown

- | | |
|---------------------------|------------------------------|
| 1. Nut | 5. Bolt (1/2 x 1 inch) |
| 2. Lock washer (1/2 inch) | 6. Mounting bracket |
| 3. Mounting plate | 7. Bolt (1/2 x 1-1/4 inches) |
| 4. Flat washer (1/2 inch) | 8. Flat washer (9/16 inch) |

2. Use the bolts (1/2 x 1 inch), nuts, and lock washers to secure the mounting bracket to the mounting plate (Figure 7).

Modifying the Core-Harvester Frame

Important: Perform this procedure if necessary.

1. Ensure that there is clearance between the core-harvester frame and the front tire when you turn them from side to side.
2. If required, use a cutting tool to remove the corner on the core-harvester frame to eliminate the interference with the front tire (Figure 8).

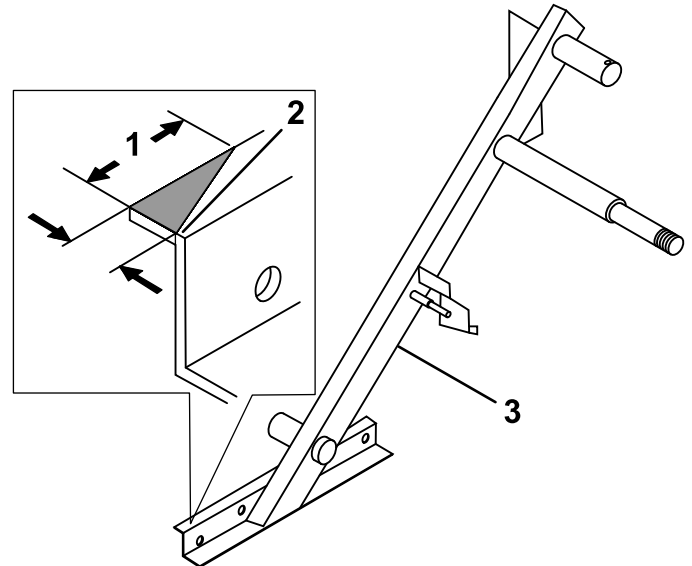


Figure 8

- | | |
|-----------------------------|-------------------------|
| 1. 6.4 cm (2-1/2 inches) | 3. Core-harvester frame |
| 2. Flush at the inner angle | |

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Installing the Handle Extension

1. Remove and set aside the grip from the handle on the core harvester (Figure 9).

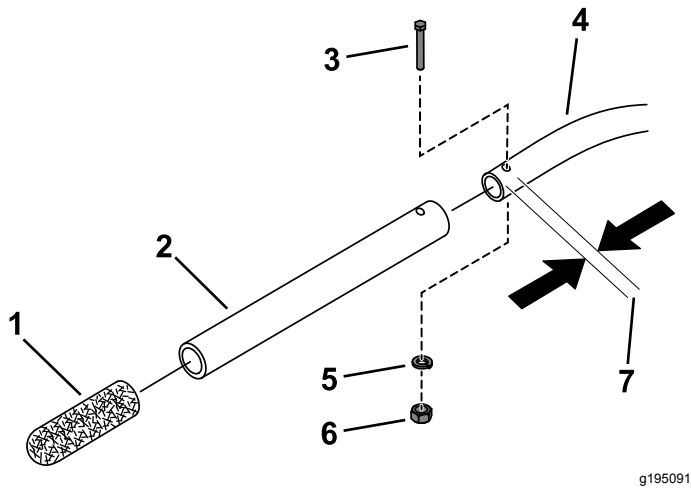


Figure 9

- | | |
|------------------------------|-------------------------------|
| 1. Grip | 5. Lock washer (1/4 inch) |
| 2. Handle extension | 6. Nut (1/4 inch) |
| 3. Bolt (1/4 x 1-1/2 inches) | 7. Distance from end (1 inch) |
| 4. Core-harvester handle | |

2. Drill a 9/16 hole, 2.5 cm (1 inch) from the end hole of the core-harvester handle (Figure 9).
3. Use the bolt (1/4 x 1-1/2 inches), lock washer, and nut to secure the handle extension to the core-harvester handle (Figure 9).
4. Slide the grip onto the handle extension (Figure 9)

Installing the Hose Retainer

Use the 3 bolts (3/8 x 1 inch), washers, and lock washer to secure the hose retainer to the bed (Figure 10).

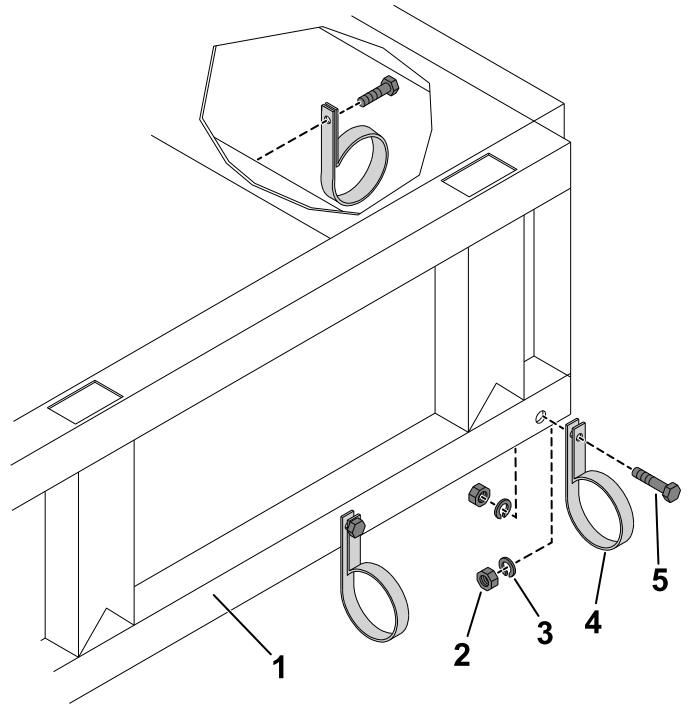


Figure 10

- | | |
|---------------------------|---------------------------------|
| 1. Bed | 4. Hose retainer (2-1/2 inches) |
| 2. Nut (3/8 inch) | 5. Bolt (3/8 x 1 inch) |
| 3. Lock washer (3/8 inch) | |

Installing the Manual Tube

1. Remove and set aside the existing hardware on the core-harvester elevator shown in [Figure 11](#).

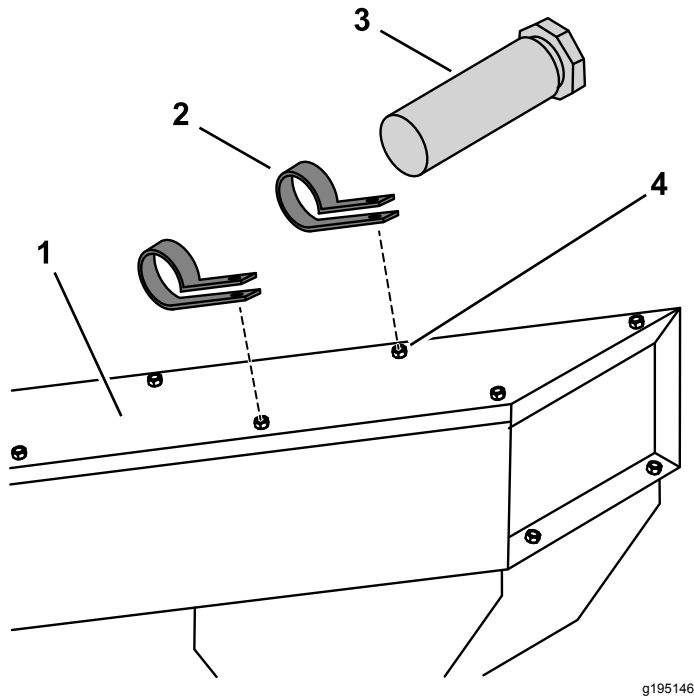


Figure 11

- | | |
|----------------------------|----------------------|
| 1. Core-harvester elevator | 3. Manual tube |
| 2. R-clamp | 4. Existing hardware |

2. Use the existing hardware to loosely install the 2 R-clamps to the core-harvester elevator ([Figure 11](#)).
3. Insert the manual tube into the R-clamps.
4. Tighten the loose hardware to secure the manual tube to the core-harvester elevator.

Mounting Brackets to the Conveyor

1. Use the existing hardware to secure the conveyor to the upper bracket ([Figure 12](#)).

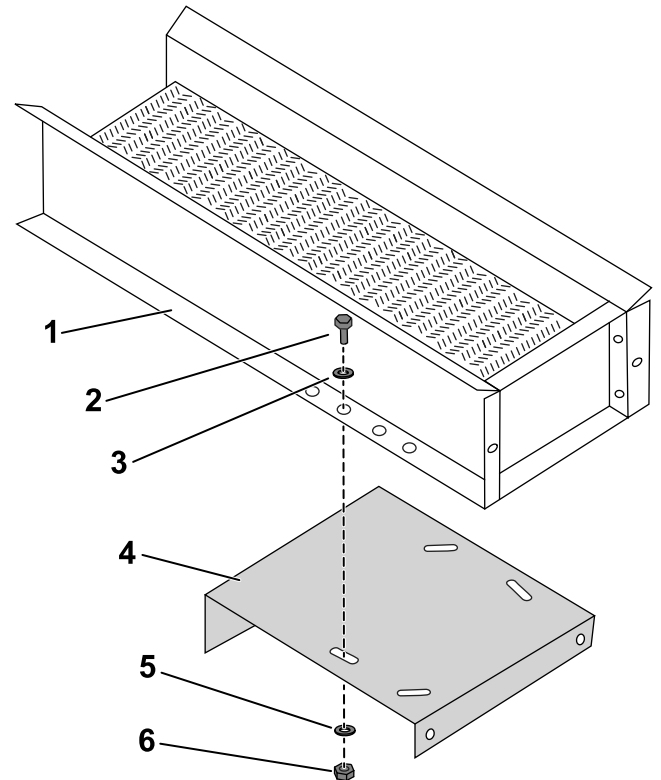


Figure 12

- | | |
|----------------------|--------------------|
| 1. Conveyor assembly | 4. Upper mount |
| 2. Existing bolt | 5. Existing washer |
| 3. Existing washer | 6. Existing nut |

- Use the 2 bolts (3/8 x 1 inch), washers, and nuts to secure the lower bracket to the upper bracket (Figure 13).

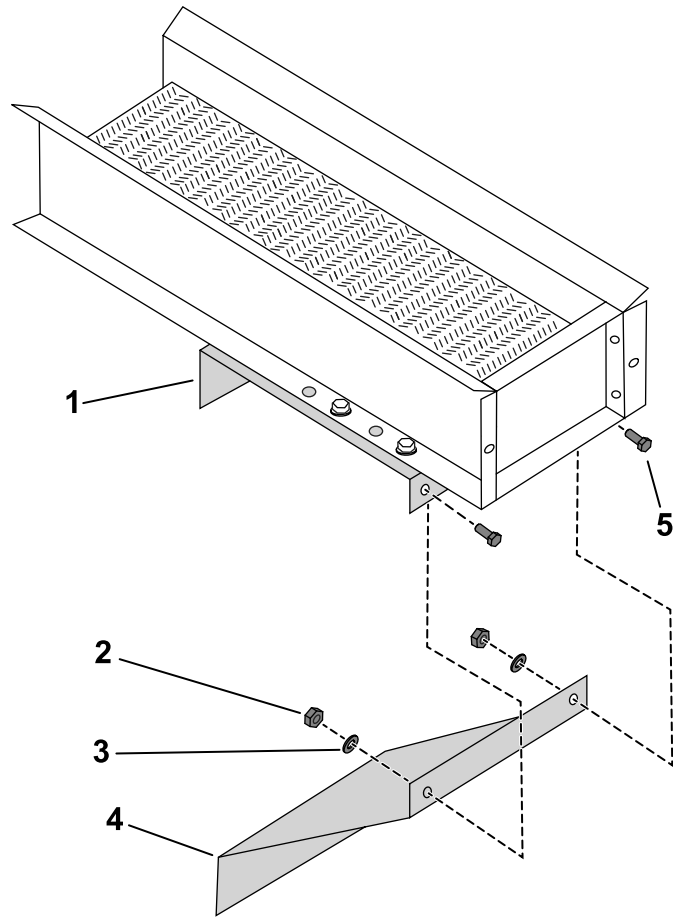


Figure 13

- | | |
|---------------------------|------------------------|
| 1. Upper bracket | 4. Lower bracket |
| 2. Nut (3/8 inch) | 5. Bolt (3/8 x 1 inch) |
| 3. Flat washer (3/8 inch) | |

- Use the 6 bolts (3/8 x 1 inch), washers, and nuts to secure the conveyor to the side of the bed (Figure 14).

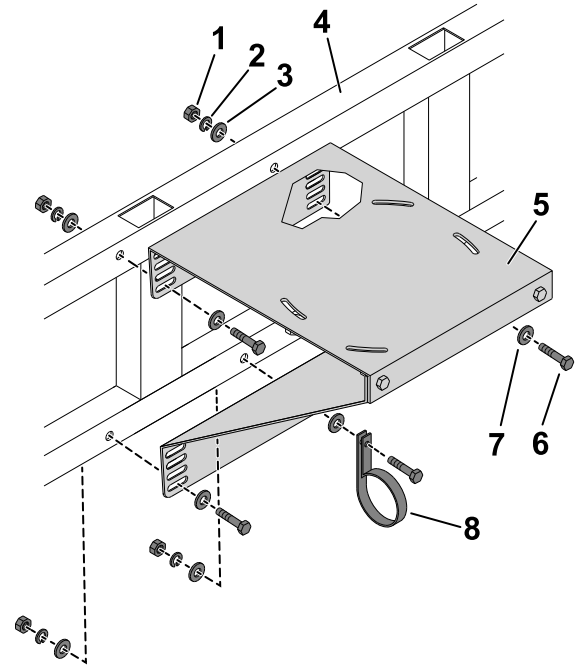


Figure 14

Conveyor assembly is not shown

- | | |
|---------------------------|---------------------------|
| 1. Nut (3/8 inch) | 5. Conveyor mount |
| 2. Lock washer (3/8 inch) | 6. Bolt (3/8 x 1 inch) |
| 3. Flat washer (3/8 inch) | 7. Flat washer (3/8 inch) |
| 4. Bed | 8. Hose retainer |

Checking the Inflation

- Inflate the air shock on the machine to level the bed.

Important: Do not exceed 1034 kPa (150 psi) air pressure when you inflate the air shock.

- Ensure that the castor tire on the core harvester is inflated to 69 to 82 kPa (10 to 12 psi)

Installing the Hydraulic Components—For Models Serial No. 240000001 and Above

Connecting the Hydraulic Hoses

Note: The machine must have the high flow hydraulic control kit (Model No. 07228 or Model No. 07316) installed.

1. Install the hose cover 147 cm (58 inches) to the hydraulic hose A—254 cm (100 inches, 8 FJ to 6 MP) as shown in [Figure 15](#).

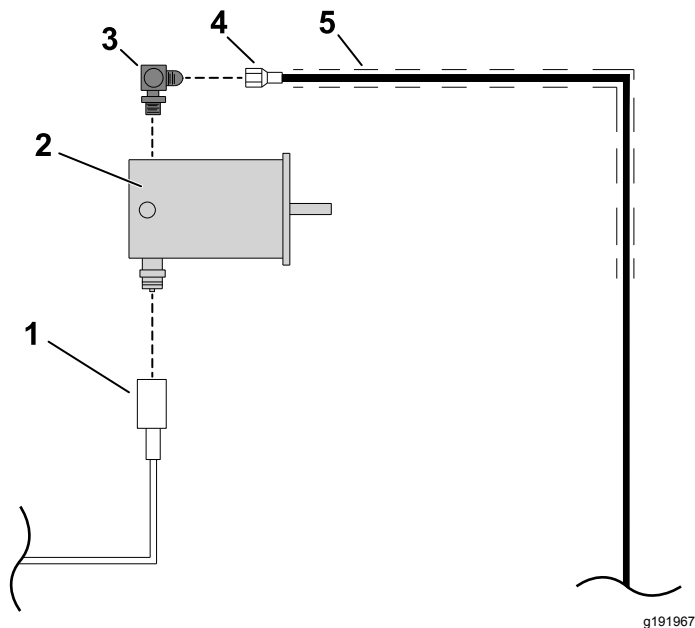


Figure 15

1. Elevator-motor hose (port A)
2. Hydraulic motor
3. 90° fitting (5/8 x 1/2 inch)
4. Hydraulic hose A—254 cm (100 inches, 8 FJ to 6 MP)
5. Hose cover—147 cm (58 inches)

2. Install one end of the 90° fitting (5/8 x 1/2 inch) to the hydraulic motor and the other end to the hydraulic hose A—254 cm (100 inches, 8 FJ to 6 MP) as shown in [Figure 15](#).
3. Connect the hydraulic hose included with the core harvester to the IN port on the conveyor motor ([Figure 15](#)).

Connecting the Elevator Motor

1. Install the hose cover 122 cm (48 inches) over the hydraulic hose included with the core harvester ([Figure 16](#)).

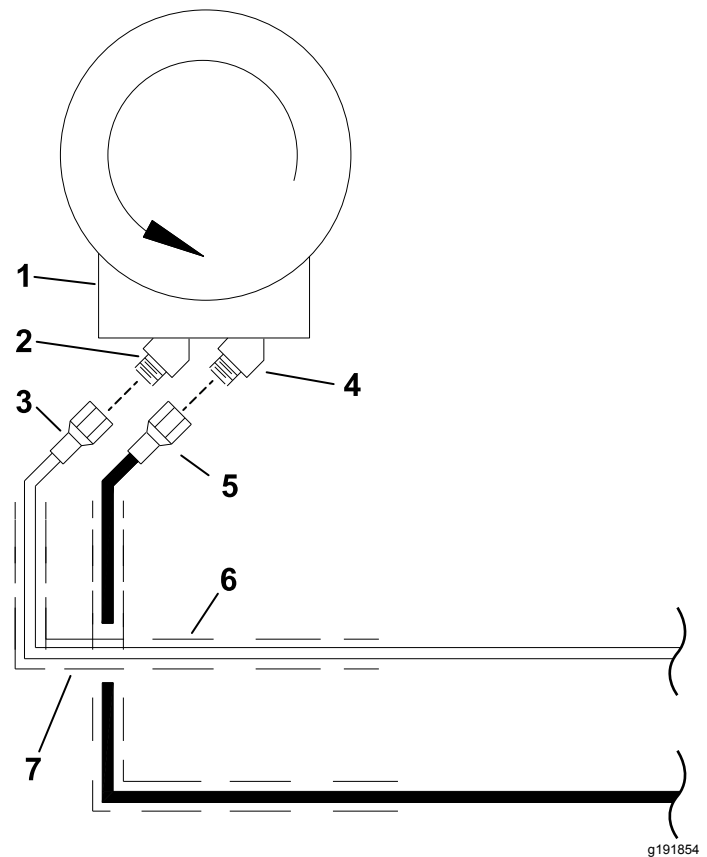


Figure 16

1. Elevator motor
2. Port A
3. Hydraulic hose from IN port on conveyor motor (supplied with core harvester)
4. Port B
5. Hydraulic hose B—330 cm (130 inches, 8 MP to 6 MP) from workman quick coupler (port B)
6. Hose cover—122 cm (48 inches)
7. Hose cover—224 cm (88 inches)

2. Install the hose cover 224 cm (88 inches) over the hydraulic hose B—330 cm (130 inches, 8 MP to 6 MP) as shown in ([Figure 16](#)).
3. Connect the hydraulic hose included with the core harvester to port A on the elevator motor ([Figure 16](#)).
4. Connect the hydraulic hose B—330 cm (130 inches, 8 MP to 6 MP) from the port T quick coupler on the workman to port B on the elevator motor ([Figure 16](#)).
5. Slide the hose covers toward the elevator motor.

Connecting the Hydraulic Hoses to the Machine

⚠ WARNING

Hydraulic fluid escaping under pressure can penetrate skin. Fluid injected into the skin must be surgically removed within a few hours by a doctor familiar with this form of injury, or gangrene may result.

- Keep your body and hands away from pinhole leaks or nozzles that eject high-pressure hydraulic fluid.
- Use cardboard or paper to find hydraulic leaks; never use your hands.

Important: Workman quick coupler (port P) is under pressure when the high flow-hydraulic switch is in the ON position.

1. Securely install the straight coupler (3/8 NPT) to the hydraulic hose 254 cm (100 inches, 8 FJ to 6 MP) as shown in [Figure 17](#).

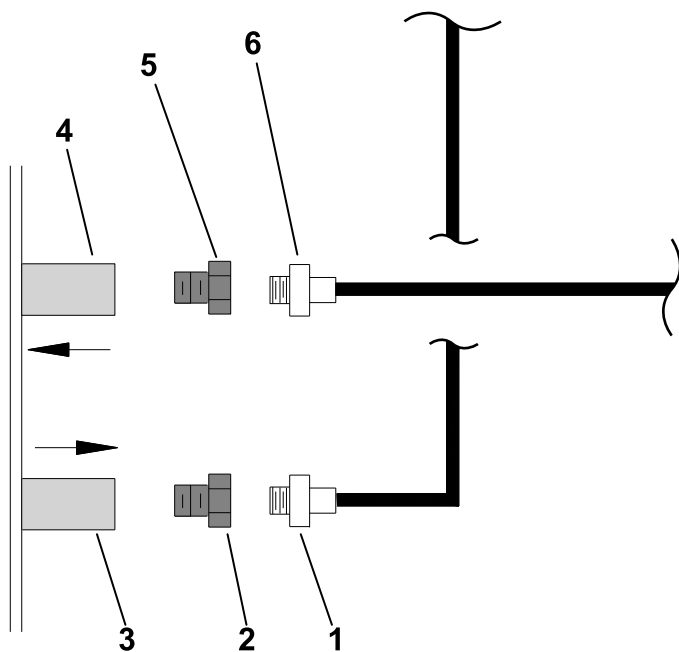


Figure 17

1. Hydraulic hose B—330 cm (130 inches, 8 MP to 6 MP)
2. Straight coupler (3/8 NPT)
3. Workman quick coupler (port P)
4. Workman quick coupler (port T)
5. Straight coupler (3/8 NPT)
6. Hydraulic hose A—254 cm (100 inches, 8 FJ to 6 MP)

2. Securely install the straight coupler (3/8 NPT) to the hydraulic hose B—330 cm (130 inches, 8 MP to 6 MP) as shown in [Figure 17](#).

3. Connect the hydraulic hose to the machine.

Important: Always cover the connectors when you disconnect them to prevent damaging the hydraulic system.

Installing the Hydraulic Components—For Models with Serial No. 239999999 and Below

Additional parts are required to install this kit to a machine with a Serial No. 239999999 and below. You can obtain the additional parts through your Toro dealer.

Connecting the Hydraulic Hoses

Note: The machine must have the remote hydraulic control kit installed.

⚠ WARNING

Hydraulic fluid escaping under pressure can penetrate skin. Fluid injected into the skin must be surgically removed within a few hours by a doctor familiar with this form of injury, or gangrene may result.

- Keep your body and hands away from pinhole leaks or nozzles that eject high-pressure hydraulic fluid.
 - Use cardboard or paper to find hydraulic leaks; never use your hands.
1. Remove the hydraulic motor (Part No. 832401) that is install on the core harvester.
 2. Install the hydraulic motor (Part No. 92-4240).

3. Install the hose cover 147 cm (58 inches) to the hydraulic hose (Part No. 01-312-5610) as shown in [Figure 18](#).

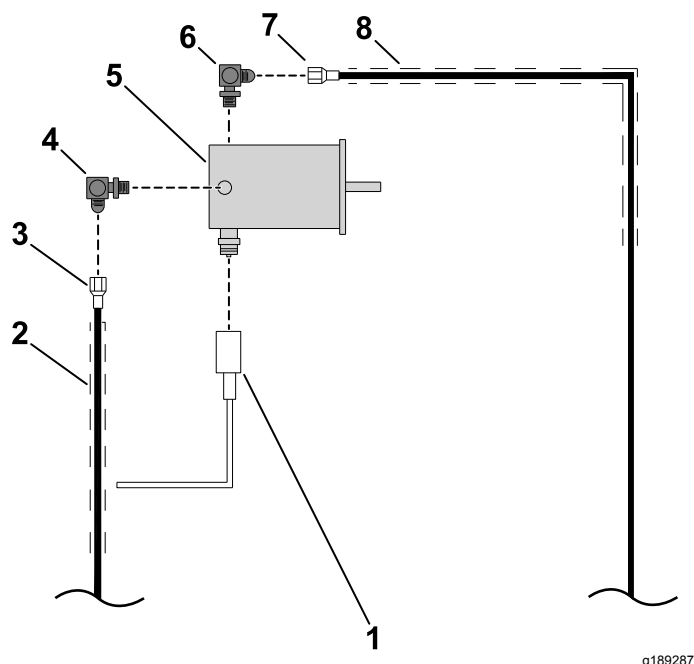


Figure 18

1. Elevator-motor hose from (port A)
 2. Hose cover—147 cm (58 inches)
 3. Hydraulic hose—(Part No. 01-312-5610)
 4. 90° fitting (5/8 x 1/2 inch)
 5. Hydraulic motor—(Part No. 92-4240)
 6. Elbow fitting—(Part No. 01-201-4210)
 7. Hydraulic hose A—254 cm (100 inches, 8 FJ to 6 MP)
 8. Hose cover—147 cm (58 inches)
4. Install the hose cover 147 cm (58 inches) to the hydraulic hose A—254 cm (100 inches, 8 FJ to 6 MP) as shown in [Figure 18](#).
 5. Install one end of the 90° fitting (5/8 x 1/2 inch) to the hydraulic motor (Part No. 92-4240) and the other end to the hydraulic hose (Part No. 01-312-5610) as shown in [Figure 18](#).
 6. Install one end of the Elbow fitting (Part No. 01-201-4210) to the hydraulic motor (Part No. 92-4240) and the other end to the hydraulic hose 254 cm (100 inches, 8 FJ to 6 MP) as shown in [Figure 18](#).
 7. Connect the hydraulic hose included with the core harvester to the IN port on the conveyor motor ([Figure 18](#)).
 8. Slide the hose covers toward the hydraulic motor.

Connecting to the PTO

1. Install the tee fitting to the power takeoff (PTO) on the machine ([Figure 19](#)).

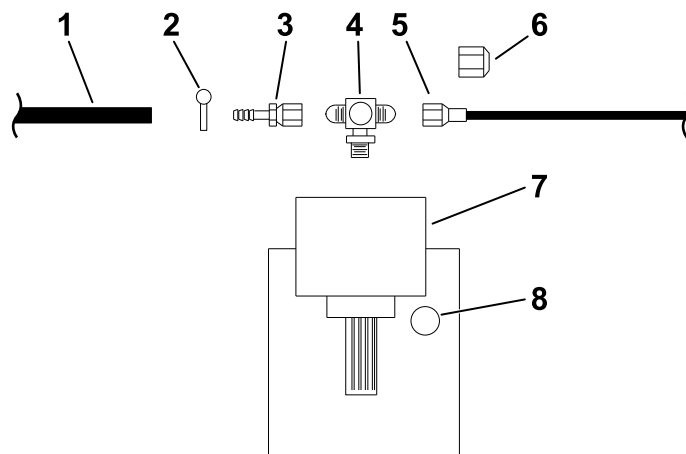


Figure 19

1. Return hose from filter
2. Hose clamp
3. Barb fitting—(Part No. 01-201-4500)
4. Tee fitting—(Part No. 01-201-4510)
5. Hydraulic hose—(Part No. 01-312-5610)
6. Fitting cap—(Part No. 01-201-4520)
7. Power takeoff (PTO)
8. Hydraulic port

Note: Connect the tee fitting (Part No. 01-201-4510) to the hydraulic port if the machine does not have a PTO drive.

2. Slide the hose clamp over the filter-return hose ([Figure 19](#)).
3. Insert the barb fitting (Part No. 01-201-4500) into the filter-return hose ([Figure 19](#)).
4. Use the hose clamp to secure the barb fitting (Part No. 01-201-4500) to the filter-return hose ([Figure 19](#)).
5. Connect the hydraulic hose (Part No. 01-312-5610) to the tee fitting (Part No. 01-201-4510) as shown in [Figure 19](#).

Important: Ensure that all the connectors are free of debris before you make the connection.

Important: Always cover the connectors when you disconnect them to prevent damage to the hydraulic system.

Connecting the Elevator Motor

1. Install the hose cover 122 cm (48 inches) over the hydraulic hose included with the core harvester (Figure 20).

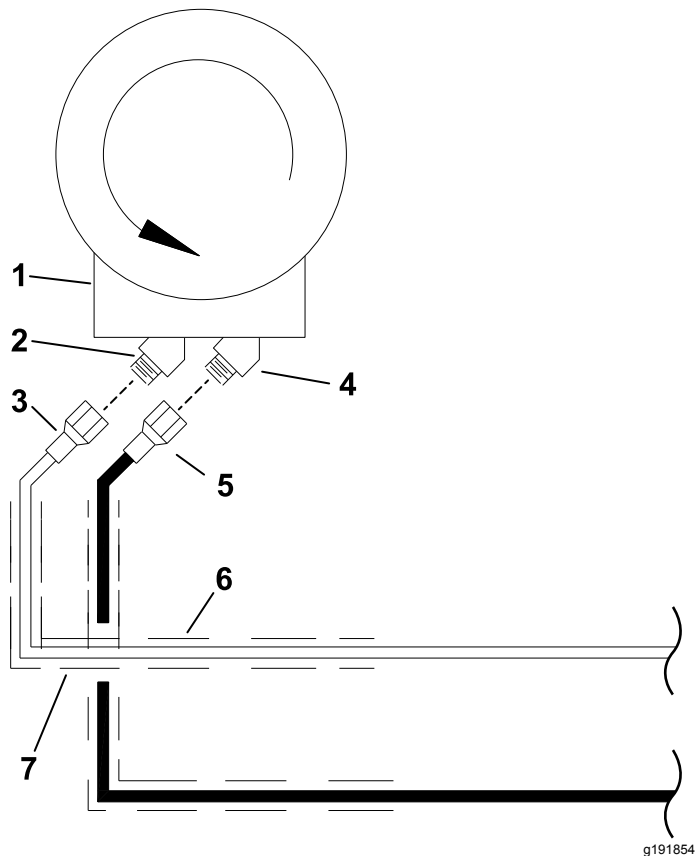


Figure 20

1. Elevator motor
2. Port A
3. Hydraulic hose from IN port on conveyor motor (supplied with core harvester)
4. Port B
5. Hydraulic hose B—330 cm (130 inches, 8 MP to 6 MP) from workman quick coupler (port B)
6. Hose cover—122 cm (48 inches)
7. Hose cover—224 cm (88 inches)

2. Install the hose cover 224 cm (88 inches) over the hydraulic hose B—330 cm (130 inches, 8 MP to 6 MP) as shown in Figure 20.
3. Connect the hydraulic hose included with the core harvester to port A on the elevator motor (Figure 20).

Important: Ensure that all the connectors are free from debris before you make the connection.

4. Connect the hydraulic hose B—330 cm (130 inches, 8 MP to 6 MP) from the port B quick coupler on the workman to port B on the elevator motor (Figure 20).
5. Slide the hose covers toward the elevator motor.

Connecting the Hydraulic Hoses to the Machine

⚠ WARNING

Hydraulic fluid escaping under pressure can penetrate skin. Fluid injected into the skin must be surgically removed within a few hours by a doctor familiar with this form of injury, or gangrene may result.

- Keep your body and hands away from pinhole leaks or nozzles that eject high-pressure hydraulic fluid.
- Use cardboard or paper to find hydraulic leaks; never use your hands.

Important: Workman quick coupler (port B) is under pressure when the remote hydraulic is in the ON position.

1. Ensure that the remote-hydraulic lever is set to the OFF position.
2. Install the quick coupler included with the core harvester to the hydraulic hose A—254 cm (100 inches, 8 FJ to 6 MP) that you connected to the motor (92-4240) as shown in Figure 21.

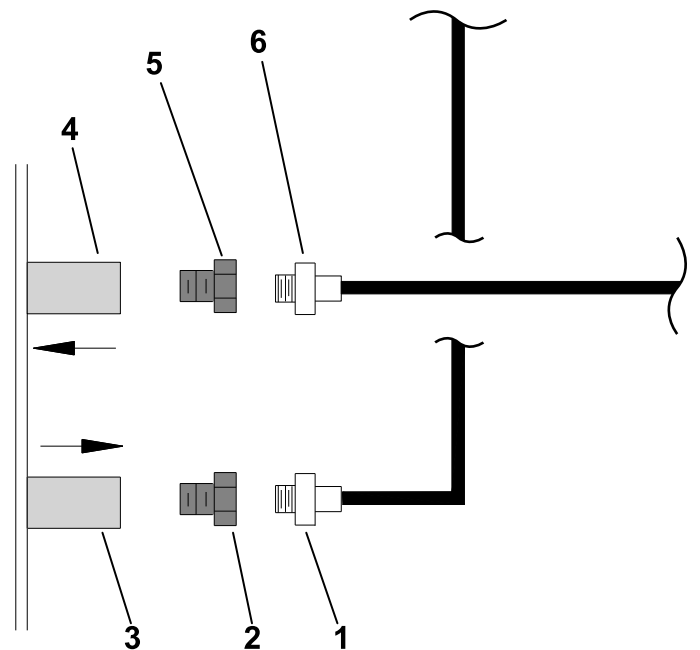


Figure 21

1. Hydraulic hose B—330 cm (130 inches, 8 MP to 6 MP)
2. Hydraulic coupler (3/8 NPT included with kit)
3. Workman quick coupler (port B)
4. Workman quick coupler (port A)
5. Hydraulic coupler (3/8 NPT included with core harvester)
6. Hydraulic hose A—254 cm (100 inches, 8 FJ to 6 MP)

3. Install the quick coupler included with the kit to the hydraulic hose B—330 cm (130 inches, 8 MP to 6 MP)
4. Connect the hydraulic hose to the machine.

Important: Always cover the connectors when you disconnect them to prevent damage to the hydraulic system.

Checking the Hydraulic Fluid

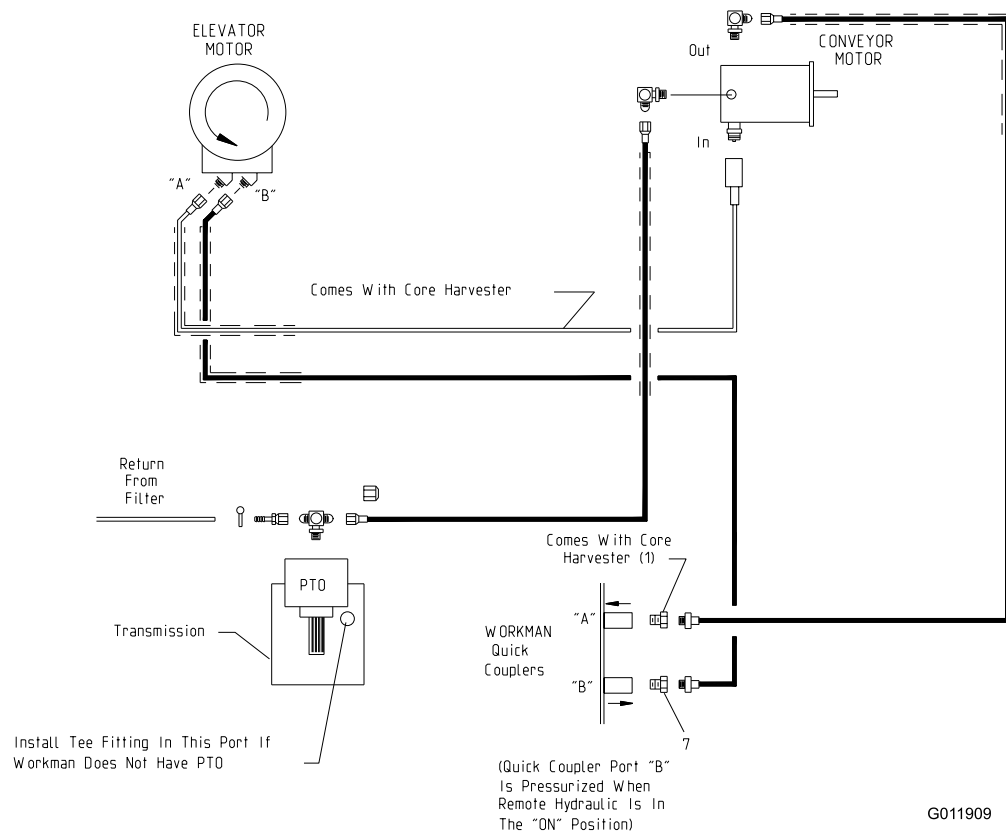
Important: The hydraulic system on the machine operates on Dexron III automatic transmission fluid. The hydraulic fluid in the core harvester must be the same or compatible fluid. Damage occurs when you use non-compatible fluid.

1. Ensure that the hydraulic fluid in the core harvester is compatible with the hydraulic fluid in the machine.
2. Ensure that the packing brake is engaged and start the machine.
3. Operate the hydraulic system.
4. Check the level of the hydraulic fluid and add if required; refer to the *Operator's Manual* for the machine.

Checking for Interference

1. Ensure that the packing brake is engaged and start the machine.
2. Ensure that the conveyor is aimed toward the center of the bed.
3. Raise and lower the bed to ensure that the it does not interfere with the elevator.
4. Ensure that the hydraulic hoses are not pinch or pulled when you raise and lower the bed.

Schematics



Hydraulic Schematic for Workman Models Prior to Serial Number 239999999 (Rev. A)

g011909

