Lincoln Automatic Lubrication System

Installation Instructions

2055, 2155 and 2555 Cotton Picker

Rac 6-11290
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NOTE: Case Corporation reserves the right to make improvements in design or changes in specifications at any time without incurring any obligation to install them on units previously sold.
LINCOLN AUTOMATIC LUBRICATION SYSTEM OPERATION

How The Auto Lube System Works

There are 3 different Auto Lube systems available for installation: 4 Row Wide only machines without drum tilt linkage, 4 row machines with drum tilt linkage, and 5 row machines. Primary considerations are: presence or lack of drum tilt linkage, and number of picking units on the machine. These two factors affect the total number of final grease distribution points on a particular machine and thus the design of the proper lubrication system.

Auto Lube System components:
- Reservoir / pump and motor assembly
- Divider valves:
  - 4 Row Wide only has 3 chassis valves + 1 for each drum
  - 4 Row Adjustable has 4 chassis valves + 1 for each drum
  - 5 Row has 4 chassis valves + 1 for each drum

**NOTE:** Auto lube chassis divider valves are not interchangeable.

High pressure hoses supply primary grease flow between pump assembly and divider valves.

1/4 inch Nylon hoses supply secondary grease flow from divider valves to distribution points.

Quicklinc® push-in hose fittings and 1/4-28 adapters connect 1/4 inch nylon hose to existing machine grease lines.

Grease is dispensed from the reservoir by an electrically powered motor and pump. The pump pushes grease through the high pressure lines to the divider valves which are connected in series. The grease flow moves spools back and forth inside the divider valve which creates a metering effect at the valve output. The 1/4 inch nylon hoses are connected to the factory installed grease lines on the picker by means of an adapter. Grease flows, in pre-measured pulses, down through the 1/4 inch nylon hose, through the factory grease line and to the final distribution point.

Each divider valve has an indicator pin. The pin moves slowly in and out as grease flows through the valve providing an indication of proper grease movement in the system. The pin can be used as a diagnostic tool if a blockage should occur.

An electrical harness connects the pump assembly to the machine. Electrical power is supplied to the pump assembly whenever the harvesting fan is engaged. In addition the pump is controlled to operate only 15 minutes of each harvesting fan hour. This controlled pump operation automatically provides the proper amount of grease to each lubrication point on an hourly basis throughout the work day.

**IMPORTANT: DO NOT CHANGE PUMP OPERATION TIME. UNAUTHORIZED PUMP OPERATION CAN DAMAGE THE COTTON PICKER.**

A grease agitation paddle is in the reservoir and rotates only when the pump operates, that is 15 minutes out of each hour that the harvesting fan is engaged.

The grease reservoir can be filled using a standard grease gun and the fitting located on the pump assembly. Due to the precision of the components contamination cannot be tolerated in the Auto Lube system. To reduce the possibility of contamination, fill reservoir only through the pump assembly fitting.

**IMPORTANT: FILL RESERVOIR ONLY THROUGH THE FITTING ON THE PUMP ASSEMBLY. DO NOT REMOVE RESERVOIR CAP.**

Because the Auto Lube system is a pressure feed system the grease distribution lines can be of random lengths. However, when installing or replacing a grease line it is important that the installed line be pre-charged with grease. This will prevent an interruption of regular grease delivery to the lubrication point.

**IMPORTANT: USE ONLY PRE-FILLED GREASE LINES WHEN INSTALLING OR SERVICING THE AUTO LUBE SYSTEM.**

The pump assembly is equipped with high pressure relief valves at each outlet hose connection. If a system blockage occurs grease will purge out of this valve. This is the indication to the operator that the lube system is not operating properly.

**IMPORTANT: IF GREASE PURGES FROM HIGH PRESSURE RELIEF VALVE, STOP MACHINE AND IDENTIFY CAUSE OF BLOCKAGE. CORRECT BEFORE RESUMING MACHINE OPERATION. REFER TO TROUBLESHOOTING SECTION.**
Maintenance

The Lincoln automatic lubrication system is designed as a fully automatic system with minimum maintenance required. To insure long life and a maximum satisfaction it is recommended that the operation of the lubrication system should be checked periodically per the below schedule.

Daily:

Observe grease level in reservoir. Fill reservoir if required.

**IMPORTANT: FILL RESERVOIR ONLY THROUGH THE FITTING ON THE PUMP ASSEMBLY. DO NOT REMOVE RESERVOIR CAP.**

Inspect high pressure relief valve on pump assembly for grease. If external grease accumulation is observed investigate cause and correct before continuing cotton picker operation. Refer to Troubleshooting Section.

**IMPORTANT: IF GREASE PURGES FROM HIGH PRESSURE RELIEF VALVE, STOP MACHINE AND IDENTIFY CAUSE OF BLOCKAGE. CORRECT BEFORE RESUMING MACHINE OPERATION. REFER TO TROUBLESHOOTING SECTION.**

Observe operation of pump assembly (as indicated by rotation of grease agitation paddle in reservoir) to ensure no disruption of electrical power to pump assembly. Reminder- Pump only operates 15 minutes out of every fan hour.

50 Hours

Using manual start switch on pump assembly, start lube cycle to check pump and grease agitation paddle operation. See Step 37.

Inspect all valves, lines, and connection points for evidence of grease leakage.

Inspect all lines for evidence of abrasion, punctures, or cuts.

Inspect all lubrication points for indications of fresh grease.

Make any necessary repairs prior to resuming harvesting operation.

**IMPORTANT: USE ONLY PRE-FILLED GREASE LINES WHEN INSTALLING OR SERVICING THE AUTO LUBE SYSTEM.**
# Troubleshooting Lincoln Automated Quicklub® System

<table>
<thead>
<tr>
<th>SYMPTOM</th>
<th>POSSIBLE CAUSE</th>
<th>SOLUTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Pump will not operate.</td>
<td>Not Receiving 12 Volts</td>
<td>Check fuses, timer and electrical supply. (12 Volts from fan engage solenoid). Check the electrical supply to the pump. If no current is received by the pump, trace to the electrical source and repair. If pump is receiving current and not turning, check for blockage and repair. Replace the pump motor if no blockage is found.</td>
</tr>
<tr>
<td><strong>NOTE:</strong> Pump is controlled to operate only 15 minutes every 1 harvesting fan hour.</td>
<td>Blocked pump ccm.</td>
<td></td>
</tr>
<tr>
<td>2. The pump motor is running but there is no grease being discharged.</td>
<td>Air pocket at pump element inlet.</td>
<td>Disconnect the chassis supply hose and the drum supply hose from the pump assembly. Using the manual start switch (See Step 37), operate the pump until solid grease (no bubbles) flows from the outlets. If solid grease does not discharge after 20 minutes of operation, the pump inlet is blocked. <strong>NOTE:</strong> Depending on operating temperatures and types of grease, it may require 10 minutes to achieve full volume at the outlet.</td>
</tr>
<tr>
<td>Blocked pump inlet.</td>
<td>Remove the pump element from the pump body and inspect the suction inlet port for foreign particles. Reassemble the pump and element and cycle the pump. If the pump element does not discharge grease, replace the element.</td>
<td></td>
</tr>
<tr>
<td>3. Grease is discharged at the relief valve.</td>
<td>Blockage in the meter valves, hose, tubing, or connected lubrication point.</td>
<td>Using the manual start switch (See Step 37), start the pump and loosen each outlet on the primary valve one at a time. The blocked outlet will start flowing grease and the indicator pin will index. Retighten all of the outlets from the primary valve. Repeat the process of loosening each outlet one at a time until the blocked feed line is located. Retighten all outlets. Repair the lubrication fitting blockage. If a metering valve is creating the blockage, replace the valve.</td>
</tr>
<tr>
<td>4. Indicator pin on the primary valve does not move.</td>
<td>Refer to No. 3</td>
<td>Refer to No. 3.</td>
</tr>
<tr>
<td>5. Lubrication point not receiving grease.</td>
<td>Refer to Numbers 1, 2 and 3 above “before” leaking hose or tubing. Cut hose or tubing.</td>
<td>Refer to Numbers 1, 2 and 3 above. Replace complete hose or tube. IMPORTANT: USE ONLY PRE-FILLED GREASE LINES WHEN INSTALLING OR SERVICING THE AUTO LUBE SYSTEM.</td>
</tr>
</tbody>
</table>
### KIT CONTENTS

#### Automatic Lubrication Kit No. 409552A* for Four Row Cotton Pickers With Drum Tilt includes the following:

<table>
<thead>
<tr>
<th>Part Number</th>
<th>Part Description</th>
<th>Qty</th>
</tr>
</thead>
<tbody>
<tr>
<td>399098A*</td>
<td>Kit, Automatic Lubrication</td>
<td>1</td>
</tr>
<tr>
<td>412718A*</td>
<td>Bracket, Grease Pump</td>
<td>1</td>
</tr>
<tr>
<td>412719A*</td>
<td>Angle, Grease Pump Bracket</td>
<td>1</td>
</tr>
<tr>
<td>495-8113B</td>
<td>Washer, 0.406 x 1 x 0.179</td>
<td>2</td>
</tr>
<tr>
<td>409-7616</td>
<td>Bolt, Hex Serrated Flange 3/8 x 1 Inch</td>
<td>4</td>
</tr>
<tr>
<td>231-5146</td>
<td>Nut, Serrated Flange 3/8 - 16</td>
<td>6</td>
</tr>
<tr>
<td>413-632</td>
<td>Bolt, 3/8 x 2 Inch</td>
<td>2</td>
</tr>
<tr>
<td>414644A*</td>
<td>Harness, Lubrication System</td>
<td>1</td>
</tr>
<tr>
<td>414645A*</td>
<td>Harness, Lubrication System Adapter</td>
<td>1</td>
</tr>
<tr>
<td>6-11290</td>
<td>Instruction Sheet</td>
<td>1</td>
</tr>
</tbody>
</table>

#### Automatic Lubrication Kit No. 409554A* for Five Row Cotton Pickers With Drum Tilt includes the following:

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<thead>
<tr>
<th>Part Number</th>
<th>Part Description</th>
<th>Qty</th>
</tr>
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<tbody>
<tr>
<td>399099A*</td>
<td>Kit, Automatic Lubrication</td>
<td>1</td>
</tr>
<tr>
<td>412718A*</td>
<td>Bracket, Grease Pump</td>
<td>1</td>
</tr>
<tr>
<td>412719A*</td>
<td>Angle, Grease Pump Bracket</td>
<td>1</td>
</tr>
<tr>
<td>495-8113B</td>
<td>Washer, 0.406 x 1 x 0.179</td>
<td>2</td>
</tr>
<tr>
<td>409-7616</td>
<td>Bolt, Hex Serrated Flange 3/8 x 1 Inch</td>
<td>4</td>
</tr>
<tr>
<td>231-5146</td>
<td>Nut, Serrated Flange 3/8 - 16</td>
<td>6</td>
</tr>
<tr>
<td>413-632</td>
<td>Bolt, 3/8 x 2 Inch</td>
<td>2</td>
</tr>
<tr>
<td>414644A*</td>
<td>Harness, Lubrication System</td>
<td>1</td>
</tr>
<tr>
<td>414645A*</td>
<td>Harness, Lubrication System Adapter</td>
<td>1</td>
</tr>
<tr>
<td>6-11290</td>
<td>Instruction Sheet</td>
<td>1</td>
</tr>
</tbody>
</table>

#### Automatic Lubrication Kit No. 409553A* for Four Row Cotton Pickers Without Drum Tilt includes the following:

<table>
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<tr>
<th>Part Number</th>
<th>Part Description</th>
<th>Qty</th>
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<tbody>
<tr>
<td>399068A*</td>
<td>Kit, Automatic Lubrication</td>
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<tr>
<td>412718A*</td>
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<td>1</td>
</tr>
<tr>
<td>412719A*</td>
<td>Angle, Grease Pump Bracket</td>
<td>1</td>
</tr>
<tr>
<td>495-8113B</td>
<td>Washer, 0.406 x 1 x 0.179</td>
<td>2</td>
</tr>
<tr>
<td>409-7616</td>
<td>Bolt, Hex Serrated Flange 3/8 x 1 Inch</td>
<td>4</td>
</tr>
<tr>
<td>231-5146</td>
<td>Nut, Serrated Flange 3/8 - 16</td>
<td>6</td>
</tr>
<tr>
<td>413-632</td>
<td>Bolt, 3/8 x 2 Inch</td>
<td>2</td>
</tr>
<tr>
<td>414644A*</td>
<td>Harness, Lubrication System</td>
<td>1</td>
</tr>
<tr>
<td>414645A*</td>
<td>Harness, Lubrication System Adapter</td>
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<tr>
<td>6-11290</td>
<td>Instruction Sheet</td>
<td>1</td>
</tr>
</tbody>
</table>

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### INSTALLATION INSTRUCTIONS

#### SAE FASTENER TORQUE CHART

**NOTE:** Use these torques, unless special torques are specified. Values are for LNC and UNF thread fasteners, plated or unplated, as received from supplier. Fasteners can be dry or lubricated with normal engine oil. Values do not apply if graphite, moly-disulphide or other extreme pressure lubricant is used.

<table>
<thead>
<tr>
<th>SAE Grade No.</th>
<th>2</th>
<th>5</th>
<th>8*</th>
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<tr>
<td></td>
<td>LB FT Min.</td>
<td>LB FT Max.</td>
<td>Nm Min.</td>
</tr>
<tr>
<td>1/4</td>
<td>5</td>
<td>6</td>
<td>7</td>
</tr>
<tr>
<td>5/32</td>
<td>10</td>
<td>12</td>
<td>14</td>
</tr>
<tr>
<td>3/8</td>
<td>20</td>
<td>23</td>
<td>27</td>
</tr>
<tr>
<td>7/16</td>
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<td>35</td>
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</tr>
<tr>
<td>1/2</td>
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<td>61</td>
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<tr>
<td>9/32</td>
<td>65</td>
<td>75</td>
<td>86</td>
</tr>
<tr>
<td>5/32</td>
<td>95</td>
<td>105</td>
<td>129</td>
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<tr>
<td>3/16</td>
<td>150</td>
<td>165</td>
<td>203</td>
</tr>
<tr>
<td>7/32</td>
<td>160</td>
<td>200</td>
<td>217</td>
</tr>
<tr>
<td>1/4</td>
<td>250</td>
<td>300</td>
<td>339</td>
</tr>
<tr>
<td>5/32</td>
<td>900</td>
<td>880</td>
<td>1085</td>
</tr>
<tr>
<td>3/16</td>
<td>1120</td>
<td>1240</td>
<td>1616</td>
</tr>
<tr>
<td>1/8</td>
<td>1460</td>
<td>1680</td>
<td>1980</td>
</tr>
</tbody>
</table>

**NOTE 1:** Bolt head identification marks as per grade. Manufacturing marks will vary.

**NOTE 2:** Grade 8 bolts must be used with Grade 8 bolts.

#### METRIC FASTENER (ISO) TORQUE CHART

**NOTE:** Use these torques, unless special torques are specified. Values are for coarse thread fasteners, plated or unplated, as received from supplier. Fasteners can be dry or lubricated with normal engine oil. Values do not apply if graphite, moly-disulphide or other extreme pressure lubricant is used.

<table>
<thead>
<tr>
<th>ISO Class No.</th>
<th>8.8</th>
<th>10.9</th>
<th>12.9</th>
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<tbody>
<tr>
<td></td>
<td>Nm</td>
<td>LB FT</td>
<td>Nm</td>
</tr>
<tr>
<td>M4</td>
<td>3</td>
<td>4</td>
<td>2</td>
</tr>
<tr>
<td>M5</td>
<td>6.5</td>
<td>8</td>
<td>5</td>
</tr>
<tr>
<td>M6</td>
<td>10.5</td>
<td>12</td>
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</tr>
<tr>
<td>M8</td>
<td>26</td>
<td>31</td>
<td>10</td>
</tr>
<tr>
<td>M10</td>
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<td>61</td>
<td>38</td>
</tr>
<tr>
<td>M12</td>
<td>90</td>
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</tr>
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<td>M14</td>
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<td>M16</td>
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</tr>
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<td>M20</td>
<td>434</td>
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</tr>
<tr>
<td>M24</td>
<td>675</td>
<td>815</td>
<td>500</td>
</tr>
<tr>
<td>M30</td>
<td>1250</td>
<td>1500</td>
<td>920</td>
</tr>
<tr>
<td>M36</td>
<td>2175</td>
<td>2600</td>
<td>1600</td>
</tr>
</tbody>
</table>

**NOTE:** Bolt head identification marks as per grade. Manufacturing marks will vary.

*10.9 fasteners can be used satisfactorily on 12.9 fasteners.

*M14 is not a preferred size.*
Lincoln Automatic Lubrication System

Before working on the Cotton Picker be sure you have enough room and clearance to raise the basket.

**WARNING:** Never operate the engine in a closed building. Proper ventilation is required under all circumstances.

**STEP 1**

Raise the basket and engage both the front and the rear basket safety locks.

Before leaving the cotton picker, stop the engine, place all controls in neutral, set the parking brake and remove the key from the switch.

**STEP 2**

Open the conveyor fan access door.

**STEP 3**

Open the left hand and right hand engine compartment access doors and remove left hand and right hand front side panels.

**WARNING:** To prevent personal injury never work under or near the raised basket without engaging BOTH front and rear basket locks.

R194A

R142A
STEP 4

Install the grease pump mounting bracket (1) to the third step from the top of the lower basket ladder with the 3/8 x 1 inch bolts (4), 0.406 x 1.0 x 0.179 inch flat washers (6) and the serrated flange nuts (2). Install the grease pump angle bracket (3) to the lower basket ladder post with the 3/8 x 2 inch bolts (5) and the serrated flange nuts (2). Install the grease pump angle bracket (3) to the grease pump mounting bracket (1) with the 3/8 x 1 inch bolts (4) and the serrated flange nuts (2).

NOTE: The flat washers (6) are installed between the lower basket ladder third step and the grease pump mounting bracket (1).

STEP 5

Install the pump assembly to the mounting brackets with the three M8 bolts, washers and lock nuts.

NOTE: Harness, fittings and hoses will be installed later.

STEP 6

Install the mounting bracket for the chassis primary divider valve to the basket front left hand lower support with the 5/16 x 1 inch flange head bolt and whiz nut. (Four row valve shown).

NOTE: Use the middle outside hole in the basket front left hand lower support for the bracket mounting.

Mount the chassis primary divider valve to the mounting bracket with the 1/4 x 1.75 inch grade 5 bolts and lock nuts.

STEP 7

Remove the existing nut from the drum lift arm pivot pin plate on the inside of the left hand tower and install the mounting bracket for the picker drums primary divider valve. Reinstall and tighten the nut. Mount the picker drums primary divider valve to the mounting bracket with the 1/4 x 1.75 inch grade 5 bolts and lock nuts. (Four row valve shown).

NOTE: The fittings and hoses shown connected to the picker drums primary divider valve will be installed later.
STEP 8

1. 6 MM ON THIS SIDE
2. 5 MM ON THIS SIDE

3. MALE FITTING
4. FEMALE FITTING
5. HOSE

Remove the closure plug from the left hand side (or right hand side facing forward) of the lubrication pump. Install the 5 mm pump element and the outlet adapter. Install both pressure relief valves into the outlet adapters. Assemble the female fitting (4) to the hoses (5) then assemble the male fitting (3) to the female fitting (4) and connect to the female connector in the pressure relief valves.

NOTE: The hose for the picker drums primary divider valve is connected to the 6 mm pump element (1) in the lubrication pump. The hose for the chassis primary divider valve connects to the 5 mm element (2). The element size is stamped on the outside face of the insert.

STEP 9

Connect the lubrication system harness (1) to the lubrication pump. Connect the lubrication system harness connector (2) to the lubrication system adapter harness connector (3).

STEP 10

Install spiral wrap around the lubrication system harness and adapter harness and the hoses connected to the pump.
STEP 11

Route the electrical harness and hoses with the spiral wrap down the back side of the lower basket ladder as shown. Use tie straps to hold the harness, hoses and spiral wrap to the ladder. Route the hose from the harness side of the pump down to the chassis primary divider valve mounted on the basket left hand lower support. Route the other hose down to the drums primary divider valve mounted on the left hand tower. Route the lubrication system adapter harness to the hydraulic valve block mounted on the right hand side of the cotton picker.

NOTE: Keep the hoses and harness away from any sharp edges and pinch points. Use tie straps as required.

STEP 12

Trim the hose from the lubrication pump to the chassis primary divider valve to length required. Install the coupling to the hose and connect to the 90 degree inlet elbow in the chassis primary divider valve. (Four row valve shown). See Chassis Lubrication Schematics.

STEP 13

Install the chassis secondary divider valves mounting bracket to the basket support angle with the 5/16 x 3/4 inch flange head bolt and flange lock nut. Install the two or three (as required - See Schematics) chassis secondary divider valves to the mounting bracket with appropriate hardware (two 1/4 x 2.75 inch bolts or two 1/4 x 4 inch bolts with lock nuts).

STEP 14

Connect the feed hose couplings to the inlet port (or ports) of the secondary divider valve (or valves) and to the outlet (or outlets) of the primary divider valve. (Four row valve shown). (See The Chassis Lubrication Schematics For The Appropriate Configuration).

STEP 15

Remove the existing grease fittings from the left hand lubrication bank and install the 1/4-28 straight adapters. Install the quicklinc® 90 degree push-in style fittings into the straight adapters.

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STEP 16

Remove the existing grease fittings from the right hand lubrication bank and install the 1/4-28 straight adapters. Install the quicklinc® 90 degree push-in style fittings into the adapters.

STEP 17

Cut and install tubes according to the chassis lubrication schematics.
STEP 18
Cut and install tubes according to the chassis lubrication schematics.

STEP 19
Secure the tubing to the back of the front fan with a clamp as shown. Use the existing bolt to hold the clamp in place.

STEP 20
Install the 1/4 inch OD tubing to the 90 degree fittings installed on the right hand engine shield panel according to the attached lubrication schematics.

STEP 21
Remove the cover from the hydraulic valve block. Disconnect the fan clutch solenoid from the valve block harness. Connect the harness from the lubrication pump to the valve block harness and to the fan clutch solenoid.
STEP 22
Use tie straps to secure the lubrication harness to the existing harness and throttle cable. Reinstall valve block cover.

STEP 23
Trim the hose from the lubrication pump to the drum divider valve to the proper length and install the coupling. Connect the coupling to the picker drums primary divider valve inlet port. (Four row valve shown). See Drum Lubrication Schematics.

STEP 24
Route the hoses from the picker drums primary divider valve to the picker drums. Use tie straps to retain the hoses to the conduit that retains the electrical harness, water lines and picker bar lube lines that run to each picker drum. See Drum Lubrication Schematics.
**STEP 25** Remove the front and rear top drum covers on each picker drum.

**STEP 26**

Drill a 11 mm (7/16 inch) diameter hole to each picker drum in the location shown. Install the bulkhead adapter and lock nut to each picker drum. Trim hose to length required and install the hose coupling to the hose from the picker drums divider valve and connect to the bulkhead adapter fitting in each picker drum. Install the 90 degree 1/4-28 to 1/8 NPT adapter to the inside of the bulkhead adapter fitting for each picker drum. See Drum Lubrication Schematics.

**STEP 27**

Measure over 20 mm (25/32 inch) (1) from the existing bolt in the left side of the front rotor drum housing frame and add a 7.1 mm (9/32 inch) diameter hole in each picker drum except the drum equipped with the tether box. For the drum with the tether box see next step.

**STEP 28**

For the drums with the tether box, use the dimensions shown and mark the two mounting holes in this location. Drill two 7.1 mm (9/32 inch) diameter holes in the front rotor drum housing frame.

**STEP 29**

Install the secondary divider valve to each picker drum with the two 1/4 x 1.75 inch grade 5 bolts and lock nuts. Install a 1/8 NPT swivel fitting to the valve inlet elbow. Connect a 836 mm (33 inch) hose between the bulkhead fitting and the swivel fitting of the drum valve inlet. See Drum Lubrication Schematics.
STEP 30

Front View

Rear View

Isometric View

1. 25 mm
2. 60 mm
3. 32 mm
4. 135 mm

Remove the tether box and use the dimensions shown and rework the front section and rear section of the tether box. Reinstall tether box.

STEP 31

Remove the existing grease fittings from the picker drums lubrication bank. Install the adapter with the 90 degree outlet and the quicklinc® push-in style 1/4 inch tube x 1/8 inch NPT male straight fitting to Nos. 1, 2, 3 and 5, of the lubrication bank of each picker drum. Install the adapter with the straight outlet and the quicklinc® push-in style 1/4 inch tube x 1/8 inch NPT male 90 degree swivel fitting to No. 4 of the lubrication bank of each picker drum. See Drum Lubrication Schematics.
STEP 32

2. Install the 1/4 inch OD nylon tubing into the quiklinc® push - in style adapter in port 10 of the secondary divider valve and install in the quiklinc® push - in style fitting (4) of the lubrication bank.

3. Install the 1/4 inch OD nylon tubing into the quiklinc® push - in style adapters in ports 1 and 2 of the secondary divider valve and install in the quiklinc® push - in style fittings (1) and (2) of the lubrication bank.

4. Use tie strap to hold the nylon tubing together.

NOTE: Tubing may be routed as pictured or routing the feed tubes to grease bank positions No. 1 and 4 as shown in line art may aid installation.

NOTE: DO NOT bend the nylon tubing when routing. The nylon tubing must have a gradual curve when it is routed to the lubrication bank.

NOTE: See Drum Lubrication Schematics.

Cut the 1/4 inch OD nylon tubing to the length required to run from the picker drums secondary divider valve outlets over to the fittings in the lubrication bank.

1. Install the 1/4 inch OD nylon tubing into the quiklinc® push - in style adapters in ports 9 and 11 of the secondary divider valve and install in the quiklinc® push - in style fittings (3) and (5) of the lubrication bank.
CHASSIS LUBRICATION SCHEMATIC 4 ROW WIDE (NO DRUM TILT)

1. CHASSIS DIVIDER VALVE (No. 1, 4FW)
2. CHASSIS DIVIDER VALVE (No. 2, 4RW, 4RN AND 5 ROW)
3. CHASSIS DIVIDER VALVE (No. 3, 4RW, 4RN AND 5 ROW)
4. 5 MM PUMP ELEMENT
5. HIGH PRESSURE HOSE (4)
6. TO RIGHT HAND LIFT ARM PIVOT PIN
7. TO LEFT HAND LIFT ARM PIVOT PIN
8. TO REAR FAN IDLER PIVOT
9. TO FRONT LEFT HAND LIFT CYLINDER PIN
10. TO REAR LEFT HAND LIFT CYLINDER PIN
11. TO FRONT FAN TIGHTENER PIVOT
12. TO FRONT RIGHT HAND LIFT CYLINDER PIN
13. TO REAR RIGHT HAND LIFT CYLINDER PIN
14. TO REAR FAN FRONT BEARING
15. TO REAR FAN REAR BEARING
16. TO FRONT FAN FRONT BEARING
17. TO FRONT FAN REAR BEARING
CHASSIS LUBRICATION SCHEMATIC 4RN AND 5 ROW (WITH DRUM TILT)

1. CHASSIS DIVIDER VALVE (No. 1, 4RN AND 5 ROW)
2. CHASSIS DIVIDER VALVE (No. 2, 4RW, 4RN AND 5 ROW)
3. CHASSIS DIVIDER VALVE (No. 3, 4RW, 4RN AND 5 ROW)
4. CHASSIS DIVIDER VALVE (No. 4, 4RN AND 5 ROW)
5. 5MM ELEMENT
6. HIGH PRESSURE HOSE (4)
7. TO RIGHT HAND MAIN TOOL BAR PIVOT
8. TO LEFT HAND LIFT ARM PIVOT PIN
9. TO LEFT HAND MAIN TOOL BAR PIVOT
10. TO RIGHT HAND LIFT ARM PIVOT PIN
11. TO REAR FAN IDLER ARM PIVOT
12. TO FRONT LEFT HAND LIFT CYLINDER PIN
13. TO REAR LEFT HAND RADIUS ROD PIN
14. TO FRONT FAN TIGHTENER PIVOT
15. TO FRONT RIGHT HAND LIFT CYLINDER PIN
16. TO REAR RIGHT HAND RADIUS ROD PIN
17. TO REAR FAN FRONT BEARING
18. TO REAR FAN REAR BEARING
19. TO FRONT FAN FRONT BEARING
20. TO FRONT FAN REAR BEARING
21. TO LEFT HAND TOOL BAR RETAINER PIVOT
22. TO LEFT HAND ROCKSHAFT PIVOT
23. TO REAR LEFT HAND LIFT CYLINDER PIN
24. UPPER ROCKSHAFT CYLINDER PIN
25. TO RIGHT HAND TOOL BAR RETAINER PIVOT
26. TO RIGHT HAND ROCKSHAFT PIVOT
27. TO REAR RIGHT HAND LIFT CYLINDER PIN
28. TO LOWER ROCKSHAFT CYLINDER PIN

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1. DRUM PRIMARY DIVIDER VALVE (4RW and 4RN)
2. DRUM DIVIDER VALVE DRUM NUMBER 1
3. DRUM DIVIDER VALVE DRUM NUMBER 2
4. DRUM DIVIDER VALVE DRUM NUMBER 3
5. DRUM DIVIDER VALVE DRUM NUMBER 4 (NOT SHOWN)
6. 6 MM PUMP ELEMENT
7. HIGH PRESSURE HOSE (9)
8. BULKHEAD ELBOW
9. PIPE SWIVEL FITTING (4)
10. TO GEAR BOX SPINDLE AND DOFFER DRIVE GEARS
11. TO FRONT CAM
12. TO REAR ROTOR UPPER DRIVE GEAR
13. TO FRONT ROTOR UPPER DRIVE GEAR
14. TO REAR CAM

NOTE: Primary divider valve for drum number 4 not shown.
1. DRUM PRIMARY DIVIDER VALVE (5 ROW)
2. DRUM DIVIDER VALVE DRUM NUMBER 1
3. DRUM DIVIDER VALVE DRUM NUMBER 2
4. DRUM DIVIDER VALVE DRUM NUMBER 3
5. DRUM DIVIDER VALVE DRUM NUMBER 4
6. DRUM DIVIDER VALVE DRUM NUMBER 5 (NOT SHOWN)
7. 6 MM PUMP ELEMENT
8. HIGH PRESSURE HOSE (12)
9. BULKHEAD ELBOW (5)
10. PIPE SWIVEL FITTING (5)
11. TO GEAR BOX SPINDLE AND DOFFER DRIVE GEARS
12. TO FRONT CAM
13. TO REAR ROTOR UPPER DRIVE GEAR
14. TO FRONT ROTOR UPPER DRIVE GEAR
15. TO REAR CAM

NOTE: Primary divider valve for drum number 5 not shown.
STEP 33 System Checkout

1. Inspect all fitting connections, make sure there are no loose connections.

2. Inspect all supply and feed lines, make sure they are protected from rubbing, chaffing and adequate slack has been allowed at all articulating and moving parts.

3. Carefully operate machine through the full range of motions to make sure all supply and feed lines have free and unrestricted movement. Adjust and correct any supply and feed lines that are too tight or may require additional protection.

4. Fill the reservoir with 488 cubic inches (8000 cubic centimeters) of Case IH 251H EP grease or equivalent NLGI No. 2 Multi-Purpose Lithium Grease. Use the reservoir fill grease fitting (4) located on the pump assembly. Fill the reservoir up to the "MAX" indication mark located on the reservoir.

IMPORTANT: DO NOT REMOVE RESERVOIR OR RESERVOIR LID TO FILL RESERVOIR.

5. To prime the system, loosen the chassis supply hose fitting (6) and the drum supply hose fitting (3). Start the machine and engage the harvesting fan. The pump should start operation as indicated by the revolving grease agitation paddle. Paddle will turn clockwise. If paddle does not turn and pump does not operate see Step 37 and Troubleshooting section.

Operate the pump until grease flows from the supply outlets without any bubbles. Tighten the supply hose fittings. Torque fittings. Note length of time the pump operates. Pump should operate 15 minutes every 1 hour of harvesting fan operation.

6. Manually start lube cycle (See Step 37). Inspect to verify that fresh grease is present at all system distribution points. Repeat manual start if necessary.

7. Inspect all high pressure hose connections, divider valve connections, 1/4 inch nylon hose connections and adapter connections for leakage. Correct if necessary.

8. Inspect both drum and chassis high pressure relief valves on pump assembly for grease accumulation. If grease is purging, refer to Troubleshooting section.

STEP 34 Install the front and rear top drum covers on each picker drum.

STEP 35

Close the conveyor fan access door.
STEP 36

Disengage the basket safety locks front and rear and lower the basket.

STEP 37 Manual Start Switch

1. Manual start switch, depress for two seconds to start a lubrication cycle.
2. Battery indicator lamp illuminates when electrical power is supplied to the pump assembly. (When the harvesting fan is engaged).
3. Motor indicator lamp illuminates when pumping lubricant. (15 minutes only out of each 1 harvesting fan hour).
4. Pump timer adjustment knobs (DO NOT ADJUST).

IMPORTANT: DO NOT CHANGE PUMP OPERATION TIME. UNAUTHORIZED PUMP OPERATION CAN DAMAGE THE COTTON PICKER.

NOTE: If the harvesting fan is not engaged within 5 days or more the pump control will reset and automatically start a lubrication cycle when the harvesting fan is first engaged.

NOTE: Pump bypass fittings are located on the drum supply and chassis supply hose fittings. The fittings provide a method to lubricate the cotton picker in the event the auto lube system pump is inoperable.