

Operator's Manual

Challenger[®]

Application System

700 Gal Liquid System
AGCCLQ07.F...1001-



North America
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Original Operator's Manual

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1.1.4 Follow safety instructions

Carefully read, learn and understand all safety messages and or information in this manual and on machine's safety signs. Keep safety signs in good condition. Replace missing or damaged safety signs. Make sure the new equipment components and or repair parts include current safety signs. See local dealer for replacement safety signs.

Never operate machine or equipment without correct instruction and a complete understanding of control operation.

Learn to operate the machine and how to use all controls correctly before operation. Do not let operator's not authorized operate the machine, systems and or do service and or maintenance procedures without correct instruction.

Keep machine, all components and systems, in correct working condition. Modifications to the machine not authorized by AGCO can decrease functionality and or safety, decrease machine life and void machine warranty.

IMPORTANT: *Any modifications to machine or systems not authorized by AGCO void the warranty.*



Fig. 4

1.1.5 Prepare for emergencies

Keep a first aid kit and a fire extinguisher handy. Keep emergency numbers for doctors, ambulance service, hospital, and the fire department readily available always.

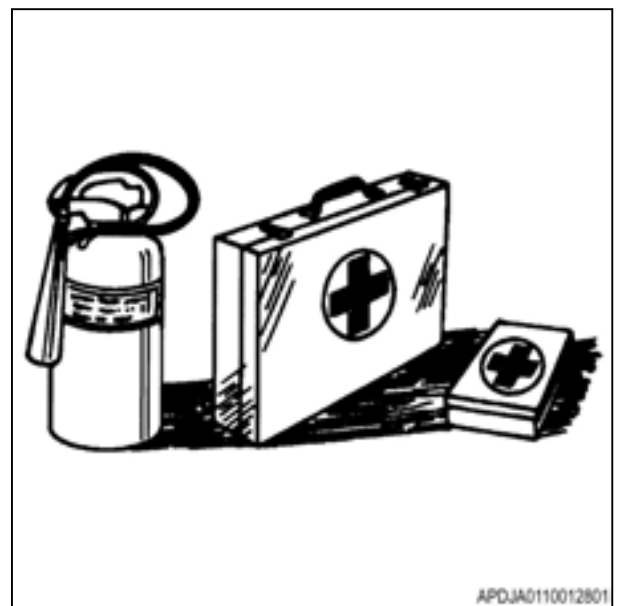


Fig. 5

The chemical manufacturer Material Safety Data Sheet (MSDS) provides specific instructions on dangerous chemical products: health hazards, safety procedures, and emergency response techniques.

Check the MSDS before starting any job using a dangerous chemical. Know exactly what the risks are and how to do the job safely. Follow the procedures and equipment recommendations.

See the chemical manufacturer for MSDSs on chemical products used with the equipment. MSDS information may be available at chemical manufacturer's website.

Never apply chemicals when the wind exceeds the chemical manufacturer's recommendation. NEVER let chemicals touch the skin or eyes.



Fig. 24



Fig. 25

1.3.4 Work in a clean area

Thoroughly clean work area, machine, systems, and components before starting work. Dirty and greasy areas can create work hazards.

NOTE:

Let the work lights cool for ten minutes after operation before washing.



Fig. 26

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3.1.4 Keypad controls

Model year 14/15

- (1) Left boom swing - Push and hold to move the left boom out from the transport cradle.
- (2) Right boom swing - Push and hold to move the right boom out from the transport cradle.
- (3) Product pump - Push to turn pump on, push again to turn off.
- (4) Left boom swing - Push and hold to move the left boom into the transport cradle.
- (5) Right boom swing - Push and hold to move the right boom into the transport cradle.
- (6) Electric sump valve, if equipped
- (7) Left boom tip fold - Push and hold to extend boom tips while in the transport cradle.
- (8) Right boom tip fold - Push and hold to extend boom tips while in the transport cradle.
- (9) Sparge - Push to open sparge valve, push again to close valve.
- (10) Left boom tip fold - Push and hold to fold boom tips in after placing in the transport cradle.
- (11) Right boom tip fold - Push and hold to fold boom tips in after placing in the transport cradle.
- (12) Dual foam marker - Push to apply foam from both boom tips.



Fig. 4

Model year 16

- (1) Left boom swing - Push and hold to move the left boom out from the transport cradle.
- (2) Right boom swing - Push and hold to move the right boom out from the transport cradle.
- (3) Product pump - Push to turn pump on, push again to turn off.
- (4) Left boom swing - Push and hold to move the left boom into the transport cradle.
- (5) Right boom swing - Push and hold to move the right boom into the transport cradle.
- (6) Electric sump valve
- (7) Left boom tip fold - Push and hold to extend boom tips while in the transport cradle.
- (8) Right boom tip fold - Push and hold to extend boom tips while in the transport cradle.
- (9) Sparge increase- Push to increase the sparge valve setting.
- (10) Left boom tip fold - Push and hold to fold boom tips in after placing in the transport cradle.
- (11) Right boom tip fold - Push and hold to fold boom tips in after placing in the transport cradle.
- (12) Sparge decrease- Push to decrease the sparge valve setting.

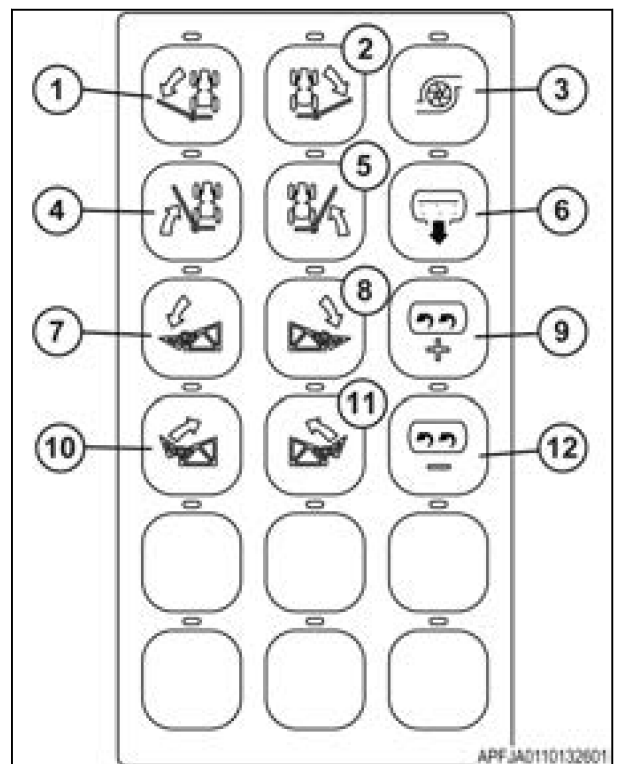








Fig. 5

3.2 System guide

3.2.1 Application system control - symbol definitions

Symbol	Definition
 <p data-bbox="532 583 665 604">APFJAO110093101</p>	<p data-bbox="930 363 1421 394">Valve - manual 2 position rinse tank - OFF</p>
 <p data-bbox="532 850 665 871">APFJAO110093201</p>	<p data-bbox="1144 632 1206 657">Filter</p>
 <p data-bbox="532 1119 665 1140">APFJAO110093301</p>	<p data-bbox="1128 900 1222 926">Eductor</p>
 <p data-bbox="532 1388 665 1409">APFJAO110093401</p>	<p data-bbox="1073 1169 1278 1194">Rinse water tank</p>
 <p data-bbox="532 1656 665 1677">APFJAO110093501</p>	<p data-bbox="1096 1438 1255 1463">Solution tank</p>
 <p data-bbox="532 1923 665 1944">APFJAO110093601</p>	<p data-bbox="1128 1707 1222 1732">Fill tank</p>

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10. Turn on the remote throttle control (1).

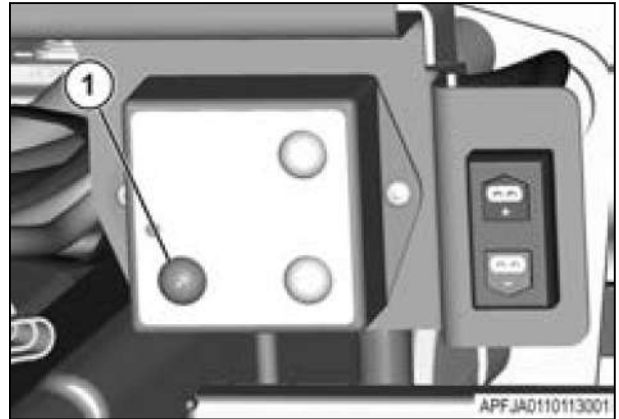


Fig. 37

11. Increase the engine speed with the remote throttle switch (1).
12. Continue to fill the product tank.
13. When the product tank is near full, decrease the engine speed with the remote throttle switch (2).
14. Close the reload valve when the product tank is full.

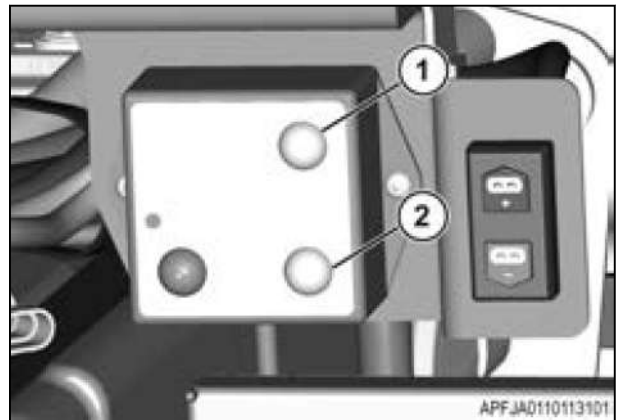


Fig. 38

15. Turn off the remote throttle control (1).

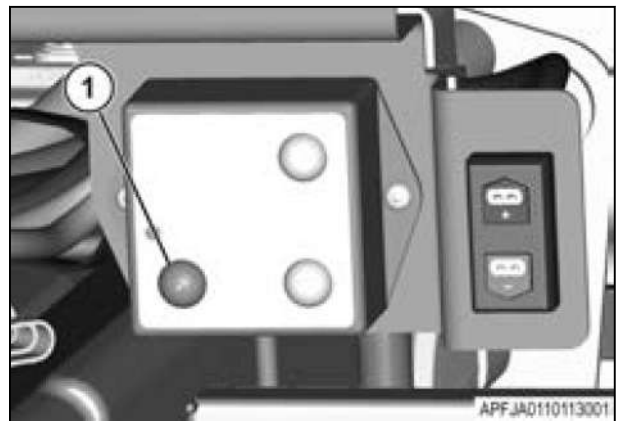


Fig. 39

16. Close the liquid tender valve (1).
17. Disconnect the liquid tender hose from the side reload valve.



Fig. 40

4. Make sure the reload valve (1) is closed.

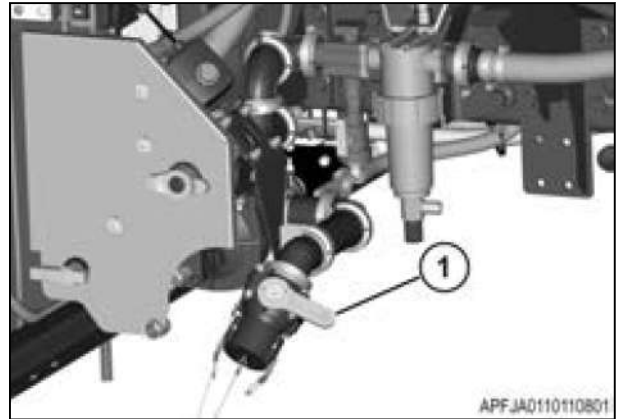


Fig. 67

5. Open the bypass valve (1).

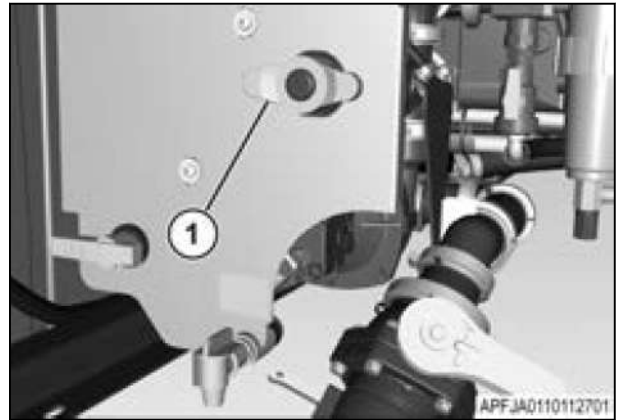


Fig. 68

6. Remove the reload valve cap (1).

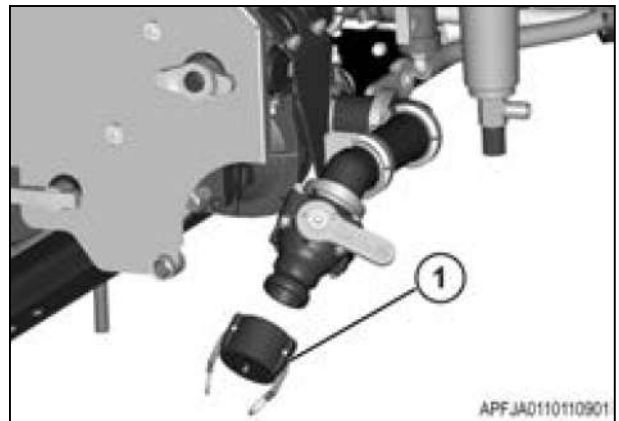


Fig. 69

10. To start application, turn the master apply switch (1) to the on position. The indicator lamp will turn green.
11. If the indicator lamp does not come on, stop and check the console programming for errors.

WARNING: Stop application immediately if the controller alarm sounds. This can indicate that the application of the chemicals is not correct. Damage to the crops and the environment can occur.

12. At the end of the row, turn off the master apply switch.
13. Turn the machine around, then turn on the master apply switch when prepared to start application.
14. Use the boom sprayer switches to close off flow to specific boom sections if needed.



Fig. 95

3.4.5 Agitate and spray

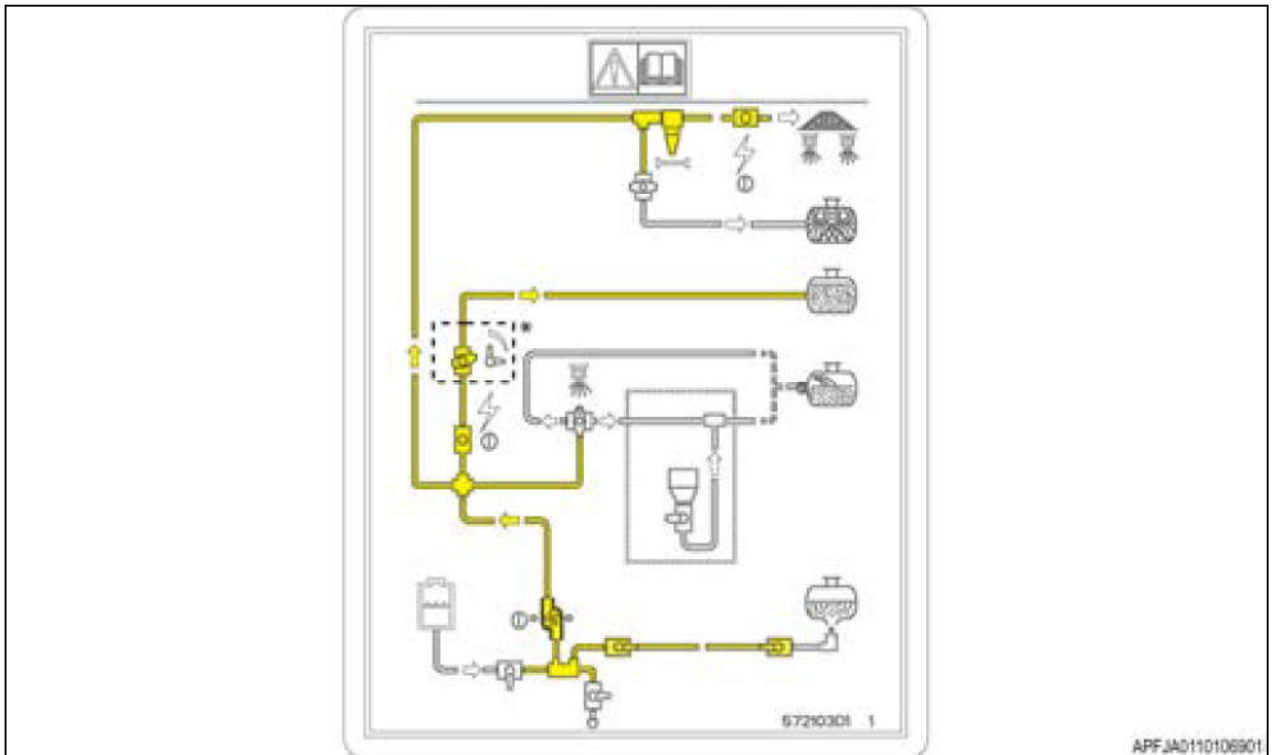


Fig. 96

*Model year 2014 and 2015 only.

This graphic shows the valve positions, the pump setting, the agitation valve and the flow control positions to enable the application of a chemical solution.

3.5.3 Calibration formulas

Formula to calibrate speed in all monitors and controllers

Capable of counting distance in feet.

known distance	X	original speed Cal number	/	monitor distance	=	new speed Cal number
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For example:

1. Measure off a 121.9 m (400 ft) track and flag start and finish.
2. Drive to start flag.
3. Set distance button to zero and activate counter.
4. Drive to finish flag and note how many feet counter reads.

NOTE: Accuracy at start and stop flags is important.

Original speed Cal number = 800 - radar (325 for speed transducer)

Targeted distance = 121.9 m (400 ft)

Monitor distance = 137.2 m (450 ft)

Formula to check acre counter and calibrate accuracy

Test can be done with all acre counters with distance in feet capabilities.

For example:

Liquid system with 80 foot booms

1 acre = 43,560 sq. ft.

Linear feet required to cover one acre = 43,560 divided by 80 = 544.5 rounded to 545 linear feet.

To check:

1. Set distance entry to zero.
2. Set acre entry to zero.
3. Activate acre entry to count acres by turning on master and all boom sections.
4. Drive slowly forward, while watching acre entry, count up in tenths of an acre. Stop precisely at 1.0 acre.
5. Switch over to distance entry and note distance in feet. It should be close to 545 feet.
6. If accurately tested, the error exceeds two percent, calibration of attention to monitor's electrical system is required.

starting Cal	X	known distance	/	controller - measure
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**DANGER:**

Chemical safety hazard. Personal injury or death can occur. Wear manufacturer recommended personal protective equipment when handling hazardous chemicals. Potentially dangerous chemicals used with the equipment include items such as fuel, lubricants, coolant, hydraulic fluid, paints and adhesives in addition to the agricultural chemicals being applied.

NOTE: Make sure all the spray nozzles face straight down in the open position before flushing the tubes and the nozzles.

WARNING: Always stop the machine on level ground and apply the park brake before doing procedures on the machine.

Procedure

1. Stop the machine and apply the park brake.
2. Operate the liquid system until the tank is empty or drain the tank by opening the sump valve and reload fill valve. Close the reload valve when the tank is empty.
3. Fill the product tank with enough fresh water to completely flush the system. Make sure the sump valve is open.
4. Turn on the controller.
5. Operate the engine at idle speed. Engage the liquid pump. Use the controller to adjust the product pump speed (see controller manual).
6. Open the reload valve to flush the reload line. Close the reload valve.
7. Clean out the remaining chemical from the boom tube ends. In the cab, move the boom spray controls to on to flush the pressure lines. Move the boom spray controls to off (see clean out boom tubes/nozzles procedure).
8. Clean out the remaining chemical from the boom nozzles. In the cab, move the boom spray controls to on to flush the nozzles. Move the boom spray controls to off (see procedure to clean out boom tubes/nozzles procedure).
9. Turn off the controller.
10. Disengage the liquid pump. Open the reload fill valve and discard the rinse water in an approved manner. Close the reload fill valve.
11. Repeat steps two to nine as necessary.
12. Remove and clean the system and the boom line strainers (see clean system line and clean boom line strainer procedures).

NOTE: Clean the strainer every time the system is flushed. Use a correct container to collect the product.

The system line strainer (1) - Strains and contains foreign material from the liquid system.

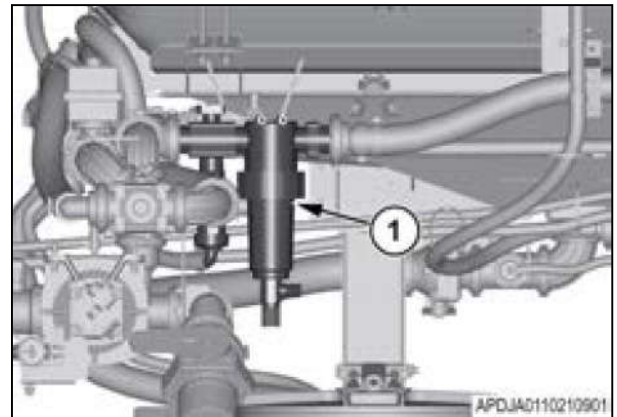


Fig. 6

Procedure

1. Make sure that the reload valve (1) is turned off. Close the bypass valve, sparge valve, low rate valve and the working valve.



CAUTION:
Reload valve can contain hazardous materials which can be poison. Before removing reload valve cap make sure reload valve is in the off position.

2. Open the lock levers and remove the cap.
3. Open the reload valve (1) and drain the solution into an approved container.



CAUTION:
Do not drain the solution onto the ground. Drain the solution into a suitable sized chemical worthy container.

4. After the solution has drained, close the reload valve (1) and install the cap (2).
5. Open the drain valve (1) and drain the solution into an approved container.
6. Turn the cover (2) counterclockwise to remove from the strainer body (3) and remove the strainer.



CAUTION:
Do not drain the solution onto the ground. Drain the solution into a suitable sized chemical worthy container.

NOTE: *When removing the cover, be careful with the gasket used between the strainer body and the cover. The gasket must be installed at assembly.*

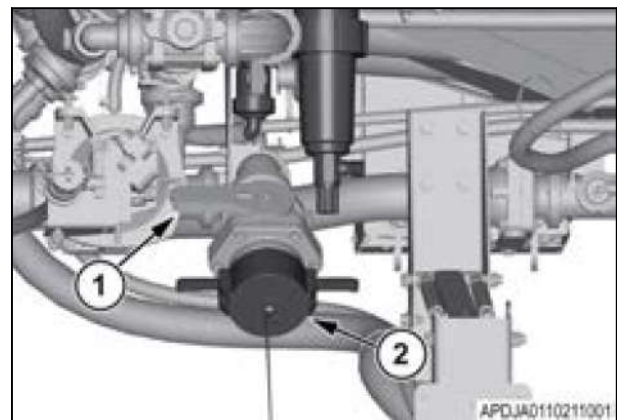


Fig. 7

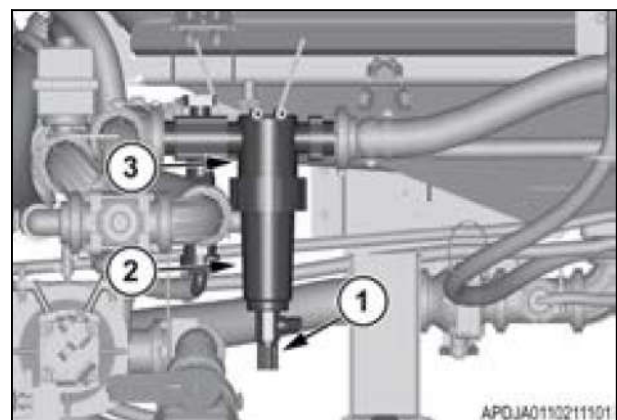


Fig. 8

4.4 Winterizing

4.4.1 Winterizing the liquid system

This procedure is for winterizing the system for below freezing temperatures.

Before starting the procedure

Remove all product from the system. Contain the product according to local regulations and laws.

NOTE:

Put the plugs in or turn the nozzles off on all boom outlets except the ends of each section of plumbing before flushing with propylene glycol and water antifreeze solution. Install a hose with a fitting in end outlets. Collect all antifreeze solution used in flushing procedure for use again.

IMPORTANT:

Operator must determine if law requires keeping the chemical rinsate and discarding the rinsate in an approved manner.

WARNING:

Direct exposure to hazardous chemicals can cause serious injury or death. Potentially hazardous chemicals used with AGCO equipment include such items as fuel, lubricants, coolants, hydraulic fluid, paints, and adhesives.

Procedure

1. Park the machine on a solid, level surface.
2. Add the correct amount of propylene glycol and water antifreeze solution into the rinse tank, the product tank, and the foamer reservoir.
3. Unfold, open, and lower the booms.
4. Close all the nozzles except the tube end nozzles.
5. Remove the end caps (1) nearest to the boom tree, from all boom tubes.
6. Raise the boom tips to drain.
7. Drain the fresh water tank.

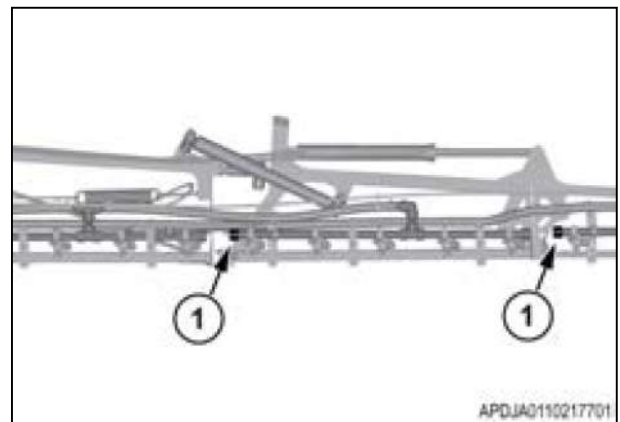


Fig. 31

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