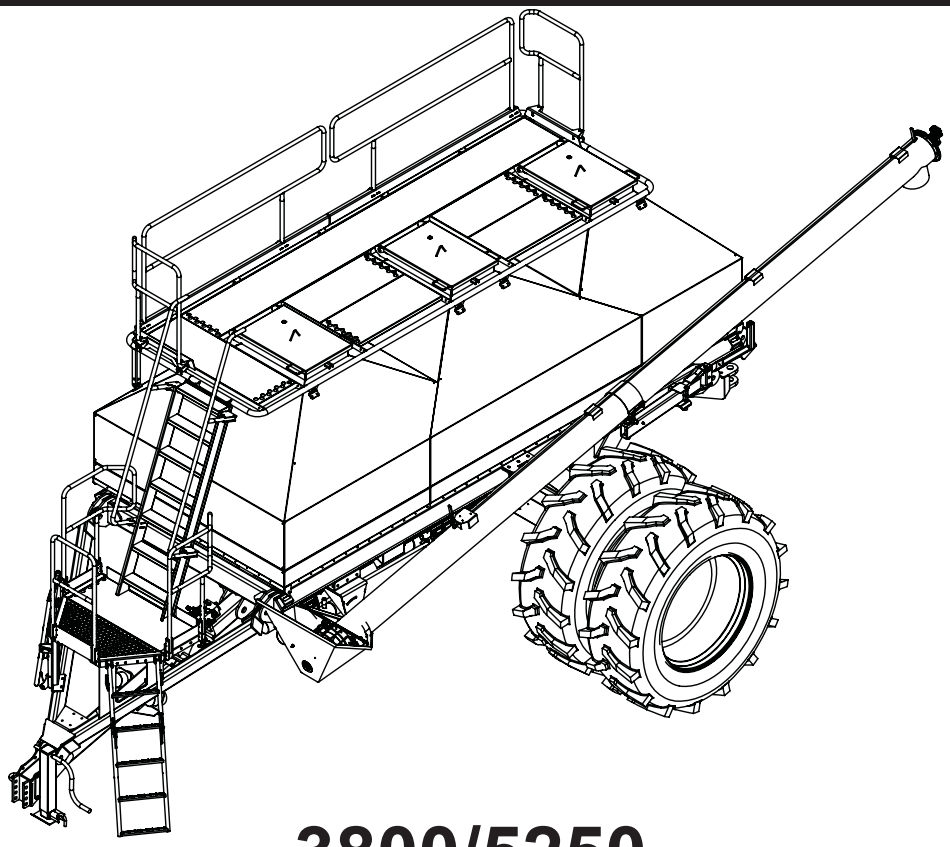
concord®

OPERATORS MANUAL



3800/5250

ZONERIGHT™ SECTION CONTROL

AIR CART

Printed in USA (333060_02) 07/20

AGCO-Amity JV LLC LIMITED WARRANTY TERMS AND CONDITIONS – UNITED STATES AND CANADA

EFFECTIVE FOR EQUIPMENT RETAILED AND DELIVERED AFTER JANUARY 1, 2020

WHAT IS WARRANTED AGCO Amity JV warrants its new equipment to be free of defects in material and workmanship at time of delivery to the first retail purchaser, renter, or lessee. These terms apply to all 10K, Amity, Concord, Wil-Rich and Wishek brands of new equipment originally marketed in the United States and Canada.

WARRANTY PERIOD

- 12 Months from the date of delivery to the first retail purchaser, renter or lessee.
- 483 Disk Chisel, Field Cultivator and Disk Cultivators: 3 years on main frames, wing frames, and shank assemblies
- Precision Shank Drill: 3 years on main frame, wing frame, and rockshafts.

EXCEPTIONS FROM THIS WARRANTY

- **Freight Charges -** This warranty does not cover freight charges.
- **Improvements, Changes, or Discontinuance** AGCO Amity JV reserves the right to make changes and improvements in design or changes in specifications at any time to any product without incurring any obligations to owners of products previously sold.
- **Repairs and Maintenance Not Covered Under Warranty -** This warranty does not cover conditions resulting from misuse, natural calamities, use of non-AGCO-Amity JV parts, negligence, alteration, accident, use of unapproved attachments, usage which is contrary to the intended purposes, or conditions caused by failure to perform required maintenance. Replacement of Wear or Maintenance items (unless defective) such as but not limited to, filters, hoses, belts, lubricants, light bulbs, wheel alignment, tightening of nuts, belts, bolts, and fittings, service tune-up, computer parameter adjustments and general adjustments which may from time to time be required are not covered.
- **Rubber Tire Warranty -** Rubber tires are warranted directly by the respective manufacturer only and not by AGCO Amity JV.
- **Satellite Outages -** Interruptions in satellite interfaces and satellite communications are outside the control of this product and are not covered by this warranty. The company is not responsible for issues or degradation of system performance resulting from such interruptions in satellite interfaces and satellite communications where the issues are not related to defects in this product.

OWNER'S OBLIGATION

It is the responsibility of the Owner to transport the equipment or parts to the service shop of an authorized AGCO Amity JV Dealer or alternatively to reimburse the Dealer for any travel or transportation expense involved in fulfilling this warranty. This Warranty does NOT cover rental of replacement equipment during the repair period, damage to products which have been declared a total loss and subsequently salvaged, overtime labor charges, freight charges for replacement parts, or special handling requirements (such as, but not limited to, the use of cranes).

EXCLUSIVE EFFECT OF WARRANTY AND LIMITATION OF LIABILITY

THIS WARRANTY IS IN LIEU OF ALL WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PURPOSE OR OTHER REPRESENTATIONS, WARRANTIES OR CONDITIONS, EXPRESSED OR IMPLIED. The remedies of the Owner set forth herein are exclusive. The Company neither assumes nor authorizes any person to assume for it any other obligation or liability in connection with the sale of covered machines. Correction of defects, in the manner and for applicable period of time provided above, shall constitute fulfillment of all responsibilities of AGCO Amity JV to the Owner, and AGCO Amity JV shall not be liable for negligence under contract or in any manner with respect to such machines. IN NO EVENT SHALL THE OWNER BE ENTITLED TO RECOVER FOR INCIDENTAL, SPECIAL OR CONSEQUENTIAL DAMAGES SUCH AS BUT NOT LIMITED TO, LOSS OF CROPS, LOSS OF PROFITS OR REVENUE, OTHER COMMERCIAL LOSSES, INCONVENIENCE OR COST OF RENTAL OR REPLACEMENT EQUIPMENT.

Some States or Provinces do not permit limitations or exclusions of implied warranties or incidental or consequential damages, so the limitations or exclusions in this warranty may not apply.

"AGCO Amity JV" AS REFERRED TO HEREIN WITH RESPECT TO SALES IN: UNITED STATES and CANADA: AGCO Amity JV LLC
PO Box 1030
Wahpeton, ND 58074

Additional Warranty Information

New Equipment Warranty - Equipment is eligible for warranty service only if it qualifies under the provisions of the New Equipment Warranty. The selling dealer will deliver this Warranty to the original retail purchaser at the time of sale, and the dealer will register the sale and Warranty with AGCO Amity JV LLC.

Subsequent Owners - This Warranty covers the first retail purchaser and all subsequent owners of the equipment during the specified warranty period. Should the AGCO Amity JV Dealer sell this equipment to a subsequent owner, the Dealer must deliver the warranty document to the subsequent owner so the subsequent owner can register ownership with AGCO Amity JV and obtain the remaining warranty benefits, if available, with no intermission in the Warranty Period. Subsequent Owner Procedure will apply. It is the responsibility of the subsequent owner to transport the equipment to the service shop of an authorized AGCO Amity JV Dealer or alternatively to reimburse the Dealer for any travel or transportation expense involved in fulfilling this warranty. This Warranty does NOT cover charges for rental or replacement equipment during the repair period, products which have been declared a total loss and subsequently salvaged, overtime labor charges, freight charges for replacement parts, or units sold at auction.

Warranty Service - To be covered by Warranty, service must be performed by an authorized AGCO Amity JV Dealer. It is recommended that you obtain warranty service from the Dealer who sold you the equipment because of that Dealer's continued interest in you as a valued customer. In the event this is not possible, warranty service may be performed by any other authorized AGCO Amity JV Dealers in the United States or Canada. It is the responsibility of the Owner to transport the equipment to the service shop of an authorized AGCO Amity JV Dealer or alternatively to reimburse the Dealer for any travel or transportation expense involved in fulfilling this warranty.

Maintenance Service - The Owner's Manual furnished to you with the equipment at the time of delivery contains important maintenance and service information. You must read the manual carefully and follow all the maintenance and service recommendations. Doing so will result in greater satisfaction with your equipment and help avoid service and warranty problems. Please remember that failures due to improper maintenance of your equipment are not covered by warranty.

Maintenance Inspections - To insure the continued best performance from your agricultural equipment, we recommend that you arrange to make your equipment available to your selling Dealer for a maintenance inspection 30 days prior to warranty expiration.

380 / 525 Bushel Air Carts

1. Safety

1.1 Introduction

1.1.1 Safety alert symbol

The safety alert symbol means Attention! Become Alert! Your Safety Is Involved!

Look for the safety alert symbol both in this manual and on safety signs on this machine. The safety alert symbol will direct your attention to information that involves your safety and the safety of others.

Fig. 1

1.1.2 Safety messages

The words DANGER, WARNING or CAUTION are used with the safety alert symbol. Learn to recognize these safety alerts and follow the recommended precautions and safety practices.

DANGER:
Indicates an imminently hazardous situation that, if not avoided, will result in DEATH OR VERY SERIOUS INJURY.

WARNING:
Indicates a potentially hazardous situation that, if not avoided, could result in DEATH OR SERIOUS INJURY.

CAUTION:
Indicates a potentially hazardous situation that, if not avoided, may result in MINOR INJURY.

Fig. 2

1.1.3 Informational messages

The words important and note are not related to personal safety, but are used to give additional information and tips for operating or servicing this equipment.

IMPORTANT: *Identifies special instructions or procedures which, if not strictly observed, could result in damage to or destruction of the machine, process, or its surroundings*

NOTE: *Identifies points of particular interest for more efficient and convenient repair or operation.*

1.1.4 Safety signs

WARNING:
Do not remove or obscure safety signs. Replace any safety signs that are not readable or are missing. Replacement signs are available from your dealer in the event of loss or damage. The actual location of the safety signs is illustrated at the end of this section.

Keep signs clean by wiping off regularly. Use a mild soap and water solution if necessary.

If parts have been replaced or a used machine has been purchased, make sure all safety signs are present and in the correct location and can be read. Illustrations of safety sign locations are located at the rear of this section.

Replace any safety signs that can not be read, are damaged, or are missing. Clean the machine surface thoroughly with a mild soap and water solution before replacing signs. Replacement safety signs are available from your dealer.

1.1.5 A word to the operator

It is your responsibility to read and understand the safety section in this manual and the manual for all attachments before operating this machine. Remember you are the key to safety. Good safety practices not only protect you, but also the people around you.

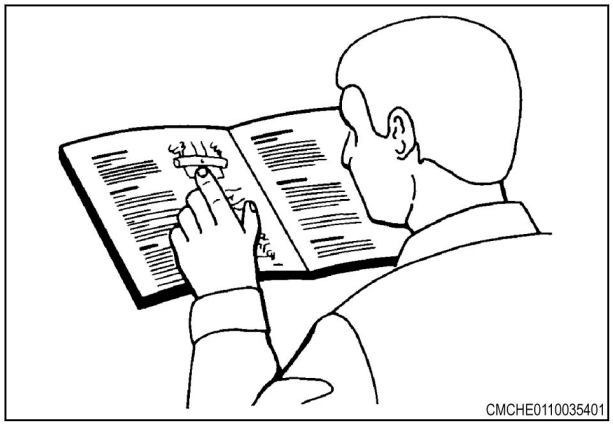


Fig. 3

Study the content in this manual and make the content a working part of your safety program. Keep in mind that this safety section is written only for this type of machine. Practice all other usual and customary safe working precautions, and above all remember - safety is your responsibility. You can prevent serious injury or death.

This safety section is intended to point out some of the basic safety situations that may be encountered during the normal operation and maintenance of your machine. This section also suggests possible ways of dealing with these situations. This section is not a replacement for other safety practices featured in other sections of this manual.

Personal injury or death may result if these precautions are not followed.

Learn how to operate the machine and how to use the controls properly.

Do not let anyone operate the machine without instruction and training.

For your personal safety and the personal safety of others, follow all safety precautions and instructions found in the manuals and on safety signs affixed to the machine and all attachments.

Use only approved attachments and equipment.

Make sure your machine has the correct equipment needed by the local regulations.

WARNING:
An operator should not use alcohol or drugs which can affect their alertness or coordination. An operator on prescription or 'over the counter' drugs needs medical advice on whether or not they can properly operate machines.

CAUTION:
If any attachments used on this equipment have a separate Operator Manual, see that manual for other important safety information.

1.1.6 This manual

This manual covers general safety practices for this machine. The operator manual must always be kept with the machine.

Right-hand and left-hand, as used in this manual, are determined by facing the direction the machine will travel when in use.

The photos, illustrations, and data used in this manual were current at the time of printing, but due to possible in-line production changes, your machine can vary slightly in detail. The manufacturer reserves the right to redesign and change the machine as necessary without notification.

WARNING:
In some of the illustrations and photos used in this manual, shields or guards may have been removed for clarity. Never operate the machine with any shields or guards removed. If the removal of shields or guards is necessary to make a repair, they must be replaced before operation.

1.2 Operation

1.2.1 Prepare for operation

Read and understand all operating instructions and precautions in this manual before operating or servicing the machine.

Make sure you know and understand the positions and operations of all controls. Make certain all controls are in neutral and the park brake is applied before starting the machine.

Make certain all people are well away from your area of work before starting and operating the machine. Check and learn all controls in an area clear of people and obstacles before starting your work. Be aware of the machine size and have enough space available to allow for operation. Never operate the machine at high speeds in crowded places.

Emphasize the importance of using correct procedures when working around and operating the machine. Do not let children or unqualified persons operate the machine. Keep others, especially children, away from your area of work. Do not permit others to ride on the machine.

Make sure the machine is in the proper operating condition as stated in the Operator Manual. Make sure the machine has the correct equipment required by local regulations.

1.2.2 General information

When parking, park the machine and the tractor on a solid level surface. put all controls in neutral and apply the tractor park brake. Stop the tractor engine and take the key with you.

Make sure the tractor and implement are in the proper operating condition according to the operator manuals. Make sure the tractor brakes and the machine brakes are adjusted correctly.

The tractor must have enough weight and braking capacity, especially when operating on roads and terrain that is not even. Use a tractor of recommended size and weight to tow the machine. See the machine specifications for the minimum tractor size and weight.

Tractor must be equipped with rollover protective structure (ROPS) and a seat belt. use seat belt during operation.

Do not dismount from moving machinery.

Always operate the machine with the terminal turned on.

Never start the tractor with the PTO engaged or terminal turned on.

Stay off slopes too steep for operation.

Where possible avoid operating the machine near ditches, embankments, and holes. Reduce ground speed when operating on rough, slippery, or muddy surfaces and when turning or crossing slopes.

Be aware of the size of the machine and have enough space available to allow for operation.

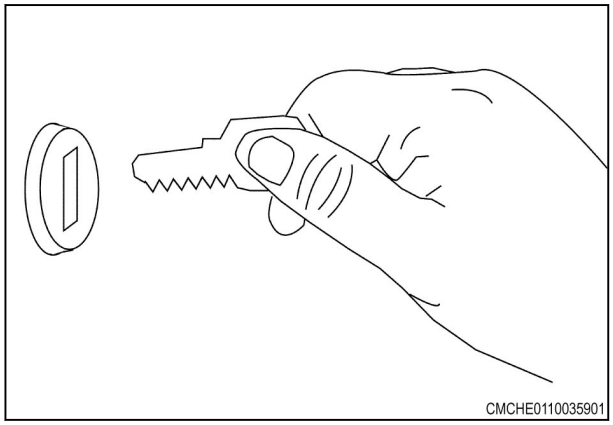


Fig. 4

Always lower the machine when not in use and relieve the pressure in the hoses and cylinders.

Do not stand between the tractor and the implement to install the hitch pin when the tractor engine is running.

Avoid contact with electrical power lines. Contact with electrical power lines can cause electrical shock, resulting in very serious injury or death.

Watch for overhead wires or other obstructions when raising the markers, and when moving the machine with the markers raised.

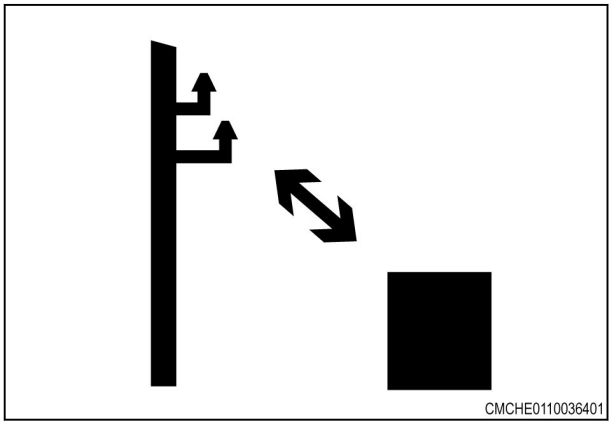


Fig. 5

1.2.3 Personal protective equipment

Wear all personal protective equipment (PPE) and protective clothing issued to you or called for by job conditions and country/local regulations. PPE includes, but is not limited to, equipment to protect eyes, lungs, ears, head, hands and feet when operating, servicing, or repairing equipment.

Always keep hands, feet, hair, and clothing away from moving parts. Do not wear loose clothing, jewelry, watches, or other items that could entangle in moving parts. Tie up long hair that can also entangle in moving parts.

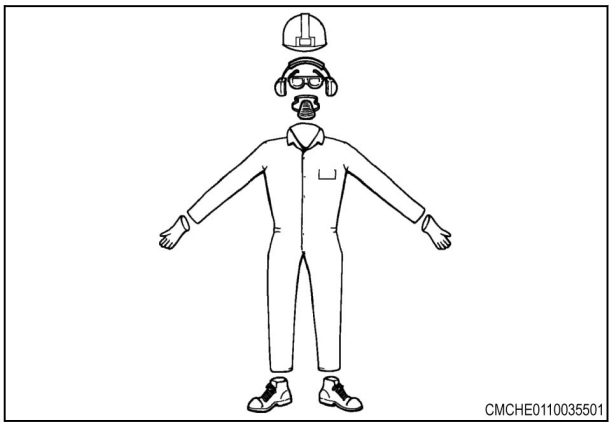


Fig. 6

1.2.4 Seat instructions

Securely fasten the seat belt before operating the machine. Always remain seated and have the seat belt fastened while operating the machine. Replace the seat belts when they become worn or broken.

Never wear a seat belt loosely or with slack in the belt system. Never wear the seat belt in a twisted condition or pinched between the seat structural members.

When using the instructional seat, if equipped, securely fasten the seat belt. The instructional seat is to be used only to train new operators or diagnose a problem. The instructional seat is only intended for short periods of use. Extra riders, especially children, are not permitted on the machine.

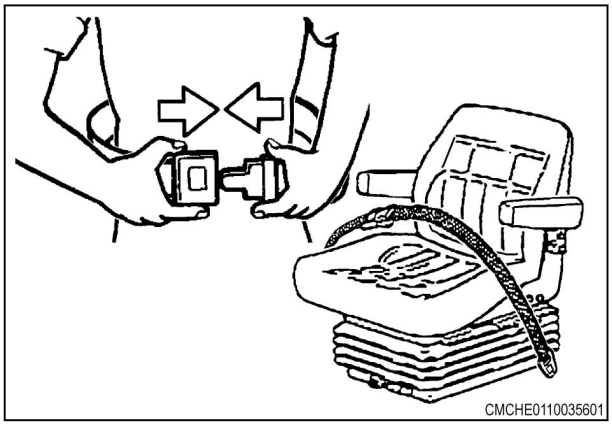


Fig. 7

When the instructional seat is used the machine must be driven at a slower speed and on level ground. Avoid quick starts, stops, and sharp turns. Avoid driving on highways or public roads.

1.2.5 Shield and guards

All shields and guards must be in the correct operating position and in good condition.

Do not open, remove, or reach around shields while the engine is operating. Entanglement in rotating belts and components can cause serious injury or death. Stay clear of rotating components.

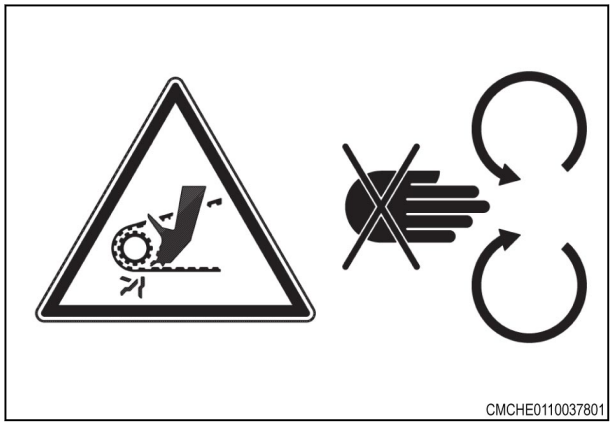


Fig. 8

Do not operate the machine with the drive shaft shields open or removed. Entanglement in rotating drive shafts can cause serious injury or death. Stay clear of rotating components.

Make sure rotating guards turn freely.

Fig. 9

1.2.6 Exhaust warning

Never operate the engine in a closed building unless the exhaust is vented outside.

Do not tamper with or modify the exhaust system with unapproved extensions.

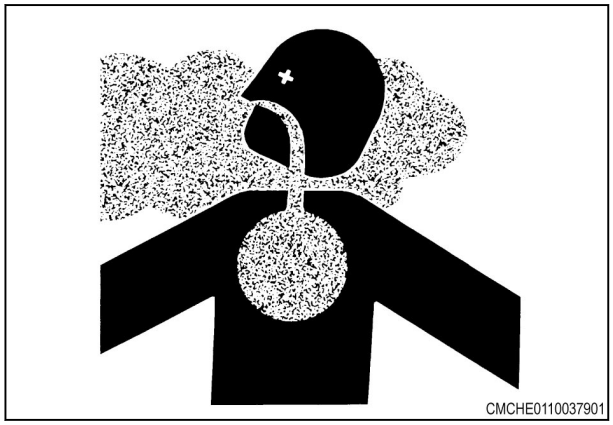


Fig. 10

1.2.7 Flying debris

WARNING:
Be careful when operating along the side of a road or building. Rocks or other debris can be thrown from the machine during operation possibly resulting in injury.

Never stand near the machine during operation. Debris can be thrown from the machine during operation possibly resulting in injury.

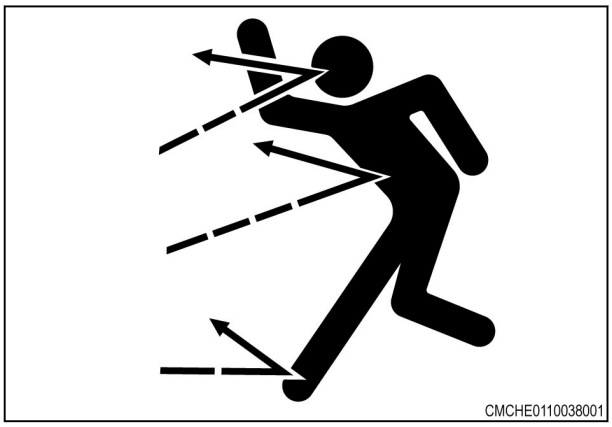


Fig. 11

1.2.8 Agricultural chemicals

Agricultural chemicals can be very hazardous. Improper use of fertilizer, fungicides, herbicides, insecticides and pesticides can injure people, plants, animals, soil and other people's property.

Always read and follow all manufacturers' instructions before opening any chemical container.

Even if you think you know the instructions, read and follow instructions each time you use a chemical.

Use the same precautions when adjusting, servicing, cleaning or storing the machine as used when installing chemicals into the hoppers or tanks.

Inform anyone who comes in contact with chemicals of the potential hazards involved and the safety precautions required.

Stand upwind and away from smoke from a chemical fire.

Store or dispose of all unused chemicals only in a manner as specified by the chemical manufacturer.

1.3 Travel on public roads

Make sure you understand the speed, brakes, steering, stability, and load characteristics of this machine before you travel on public roads.

Use good judgment when traveling on public roads. Maintain complete control of the machine at all times. Never coast down hills.

The maximum speed of farm equipment is governed by local regulations. Adjust travel speed to maintain control at all times.

Familiarize yourself with and obey all road regulations that apply to your machine. Consult your local law enforcement agency for local regulations regarding movement of farm equipment on public roads. Use head lamps, flashing warning lamps, tail lamps and turn signals, day and night, unless prohibited by local law.

Make sure all the flashers are operating prior to driving on the road. Make sure reflectors are correctly installed, in good condition, and wiped clean. Make sure the Slow Moving Vehicle (SMV) emblem is clean, visible, and correctly mounted on the rear of the machine.

Lock brake pedals together (if equipped with dual brake pedals) so both wheel brakes will be applied at the same time.

Raise implements to transport position and lock in place. Place all implements into narrowest transport configuration.

Disengage the power take-off and differential lock.

With towed implements, use a proper hitch pin with a clip retainer and safety transport chain.

Be aware of other traffic on the road. Keep well over to your own side of the road and pull over, whenever possible, to let faster traffic pass.

Be aware of the overall width, length, height, and weight of the machine. Be careful when transporting the machine on narrow roads and across narrow bridges.

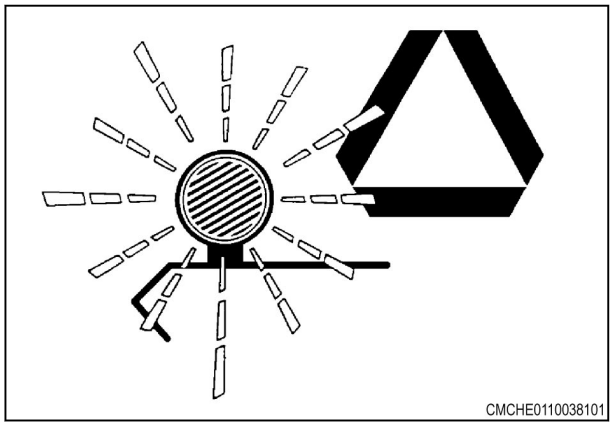


Fig. 12

Watch for overhead wires and other obstructions. Avoid contact with electrical power lines. Contact with electrical power lines can cause electrical shock, resulting in very serious injury or death.

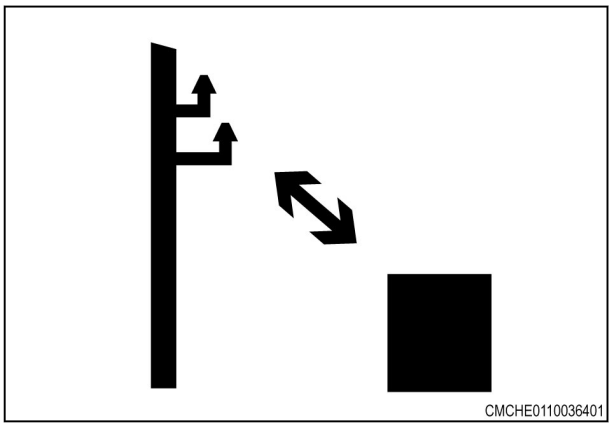


Fig. 13

1.4 Maintenance

1.4.1 General maintenance information

Before doing any unplugging, lubricating, servicing, cleaning, or adjusting:

- Park the machine on a solid level surface.
- Disengage the tractor power take-off.
- Make sure all controls are in the neutral position and apply the park brake.
- Make sure all implements and attachments have been lowered to the ground.
- Stop the engine and take the key with you.
- Look and Listen! Make sure all moving parts have stopped.
- Put blocks in front of and behind the wheels of the machine before working on or under the machine.

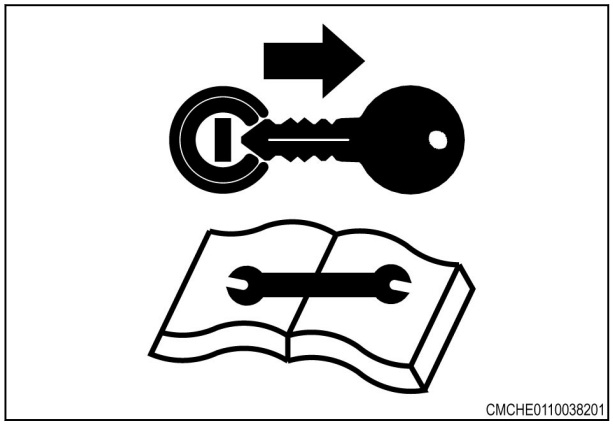


Fig. 14

Do not leave the tractor or implement unattended with the engine running.

Do not pull crop or any other object from the machine while the machine engine is running. Moving parts can pull you in faster than you can move away.

Check all nuts and bolts periodically for tightness, especially wheel mounting hardware.

Do not attempt to service or adjust the machine until all moving parts have stopped.

Be aware of the size of parts when doing service work. Never stand under or near a part being moved with lifting equipment.

After unplugging, lubricating, servicing, cleaning, or adjusting the machine make sure all tools and equipment have been removed.

Make sure electrical connectors are clean and free of dirt or grease before connecting.

Check for loose, broken, missing, or damaged parts. Make sure the machine is in good repair. Make sure all guards and shields are in position.

Always raise implement, shut off tractor engine, apply the parking brake, shift to park position (or neutral) remove the key and install the cylinder stops channels before working around the machine.

Avoid working under the machine. However, if it becomes unavoidable to do so, make sure the machine is securely blocked and the cylinder lockup channels are in position.

When working around discs, be careful to not get cut on sharp edges.

Never service, check or adjust drive chains or belts while the engine is running.

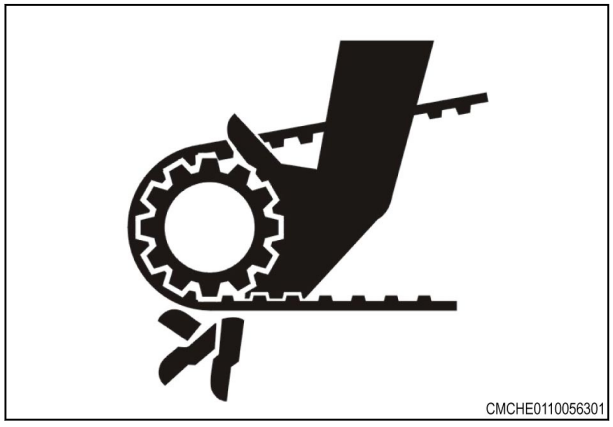


Fig. 15

Do not operate the machine with the drive shaft shields open or removed. Entanglement in rotating drive shafts can cause serious injury or death.

Stay clear of rotating components.

Make sure rotating guards turn freely.

A loose yoke can slip off a shaft and result in injury to persons or damage to the machine.

When installing a quick disconnect yoke, the spring activated locking pins must slide freely and be seated in the groove on the shaft. Pull on the driveline to make sure the quick disconnect yoke can not be pulled off the shaft.

Remove spilled oil, antifreeze or fuel immediately from the steps, platform, and other access areas.

Keep all access areas clean and free of obstructions.

Fig. 16

Fig. 17

1.4.2 Fire prevention and first aid

Be prepared for emergencies.

Keep a first aid kit handy for treatment of minor cuts and scratches.

Always carry one or more fire extinguishers of the correct type. Check fire extinguishers regularly as instructed by the manufacturer. Make sure fire extinguishers are properly charged and in operating condition.

Due to the nature of the crops this machine will operate in, the risk of fire is of concern. Use a water type fire extinguisher or other water source for a fire in crop.

For fires involving anything other than crop, such as oil or electrical components, use a dry chemical fire extinguisher with an ABC rating.

Mount fire extinguishers within easy reach of where fires can occur.

Frequently remove accumulated crop material from the machine and check for overheated components. Check the machine daily for any noises that are not normal. Such noises could indicate a failed component that can cause excess heat.

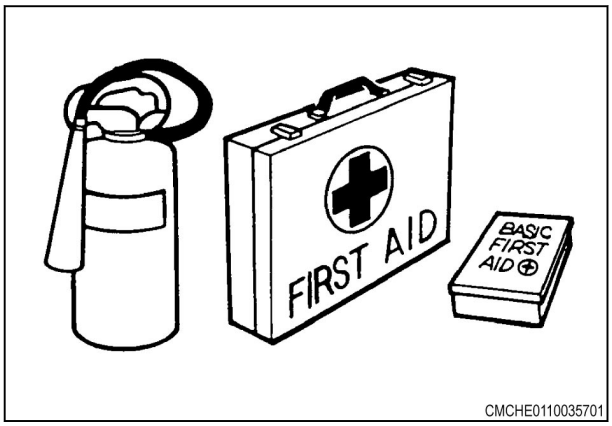


Fig. 18

If any flame cutting, welding, or arc welding is to be done on the machine or attachments, make sure to clear any crop material or debris from around the area. Make sure the area below the work area is clear of any flammable material as falling molten metal or sparks can ignite the material.

If fire occurs stand upwind and away from smoke from the fire.

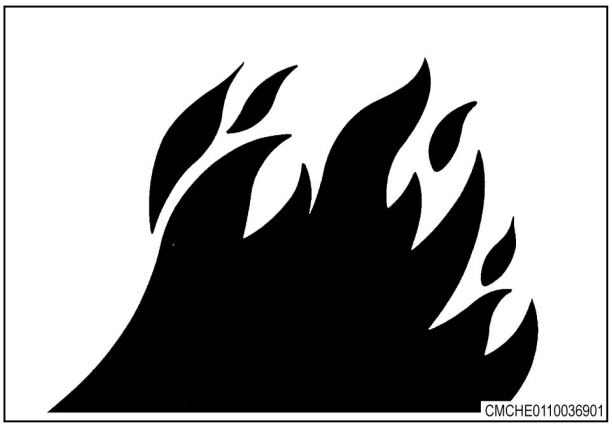


Fig. 19

1.4.3 High pressure leaks

Fluid leaking from the hydraulic system or the fuel injection system under high pressure can be very hard to see. The fluid can go into the skin causing serious injury.

Fluid injected into the skin must be surgically removed within a few hours. If not removed immediately, serious infection or reaction can develop. Go immediately to a doctor who knows about this type of injury.

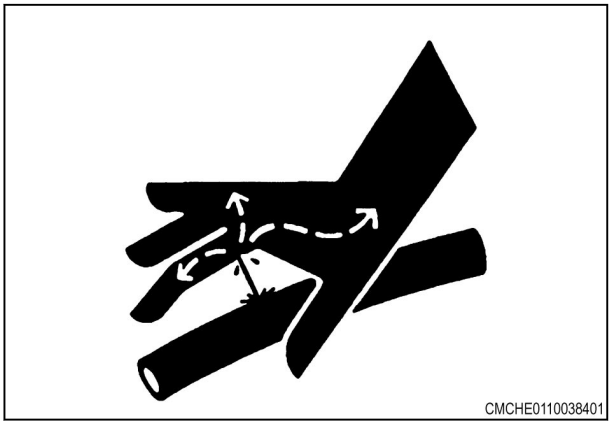


Fig. 20

Use a piece of cardboard or wood to search for possible leaks. Do not use your bare hand. Wear leather gloves for hand protection and safety goggles for eye protection.

Relieve all pressure before loosening any hydraulic lines. Relieve the pressure by lowering raised equipment, shutting off accumulator valve, if equipped, and shutting off the engine. Tighten all connections securely before applying pressure.

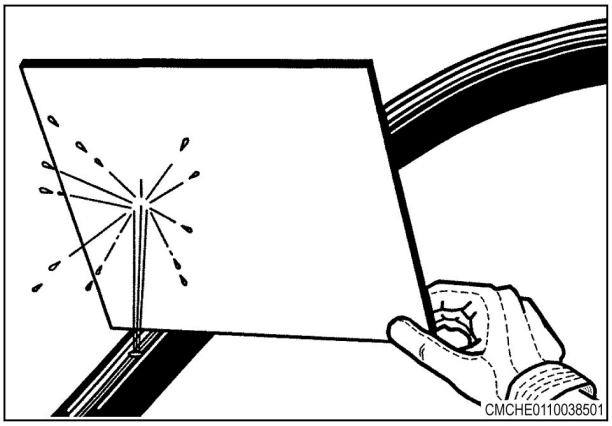


Fig. 21

1.4.4 Tire safety

Check tires for cuts, bulges, and correct pressure. Replace worn or damaged tires. When tire service is needed, have a qualified tire mechanic service the tire. Tire changing can be very hazardous and must be done by qualified tire mechanic using proper tools and equipment. See the Specifications Section for the correct tire size.

Tire explosion and/or serious injury can result from over inflation. Do not exceed the tire inflation pressures. See the Specifications Section for the correct tire pressure.

Do not inflate a tire that is seriously under inflated or has been run flat. Have the tire checked by qualified tire mechanic.

Do not weld on the rim when a tire is installed. Welding will make an air/gas mixture that can cause an explosion and burn with high temperatures. This danger applies to all tires, inflated or deflated. Removing air or breaking the bead is not enough. The tire must be completely removed from the rim prior to welding.

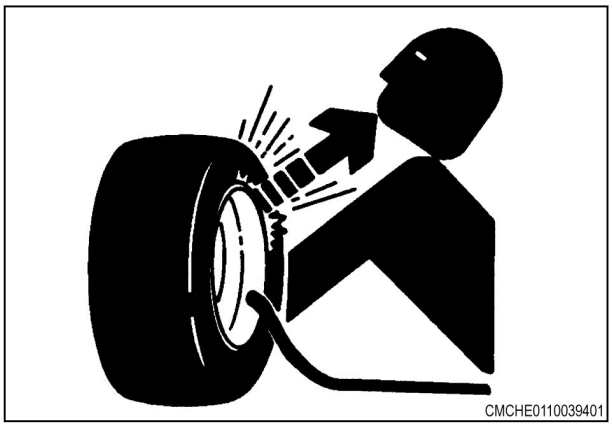


Fig. 22

1.4.5 Replacement parts

Where replacement parts are necessary for periodic maintenance and servicing, genuine replacement parts must be used to restore your equipment to original specifications.

The manufacturer will not accept responsibility for installation of unapproved parts and/or accessories and damages as a result of their usage.

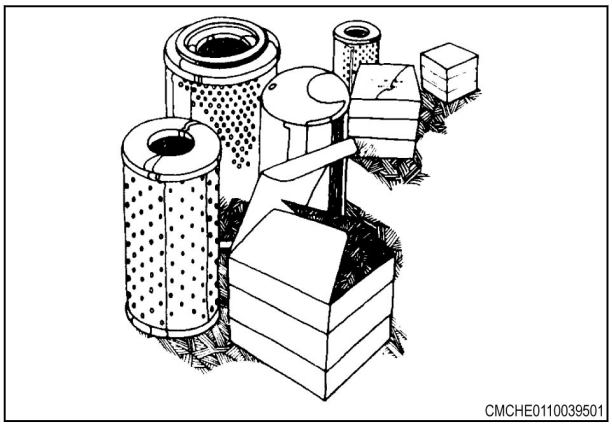


Fig. 23

1.5 Marker lamps

The machine is equipped with marker lamps and reflectors that must be used when transporting the machine on public roads.

The front of the machine is equipped with two amber lamps (1) located at the front.

The rear of the machine is equipment with a bar that has marker lamps (2) mounted at each end. Each lamp contains a yellow lens pointing toward the front and a red lens pointing toward the rear.

The machine is equipped with yellow reflectors mounted on the front and sides of the machine and red and orange reflectors mounted on the rear that must be visible when transporting the machine on public roads. See the safety sign location information for the location of these reflectors.

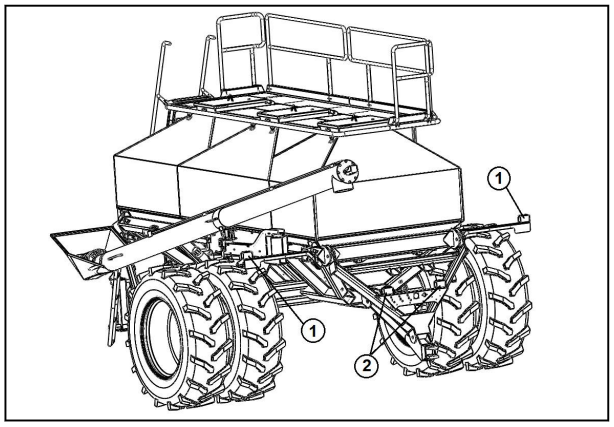


Fig. 24

1.6 Safety sign location

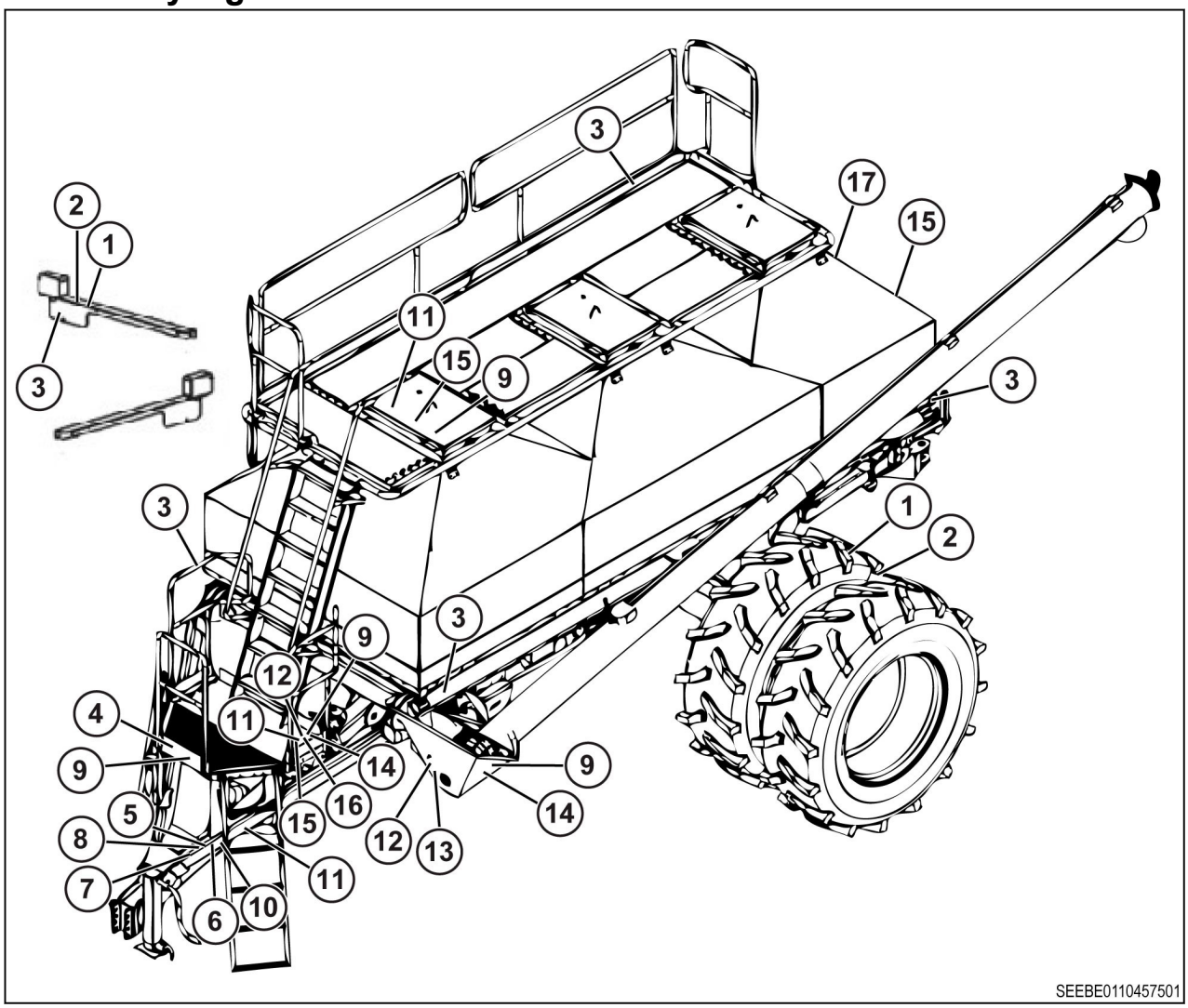


Fig. 25

Item	Reference number	Description
1	997661	Reflector, red
2	997662	Reflector, orange
3	997663	Reflector, yellow
4	9971009	Speed sign, 30 km/h
5	997861	Safety sign, read manual
6	997857	Safety sign, fasten safety chain
7	997853	Safety sign, unhitching hazard
8	997859	Safety sign, engine off
9	997863	Safety sign, high voltage
10	997867	Safety sign, fluid under pressure
11	997840	Safety sign, chemical hazard
12	700732049	Safety sign-exploding parts read manual
13	9971011	Safety sign, moving part hazard

Item	Reference number	Description
14	997841	Safety sign, crushing hazard
15	9971015	Safety sign, fall off hazard
16	700731523	Safety sign, safety sign-hot surface, hand
17	65329	SMV Emblem

Most of the safety signs on this machine have two panels with few or no words. The hazard panel (A) depicts the hazard and the consequence of encountering the hazard. The avoidance panel (B) depicts the action required to avoid the hazard.

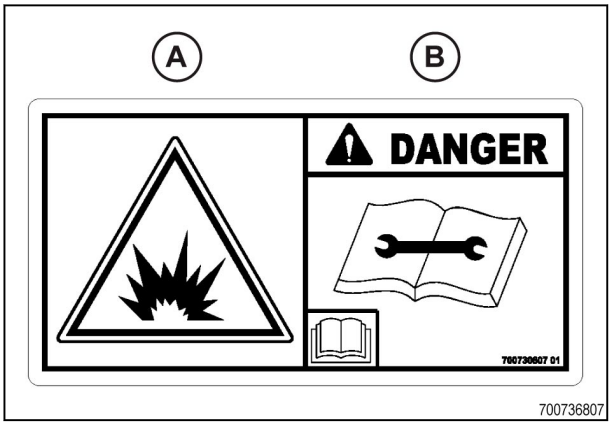


Fig. 26

Reflector, red (1)

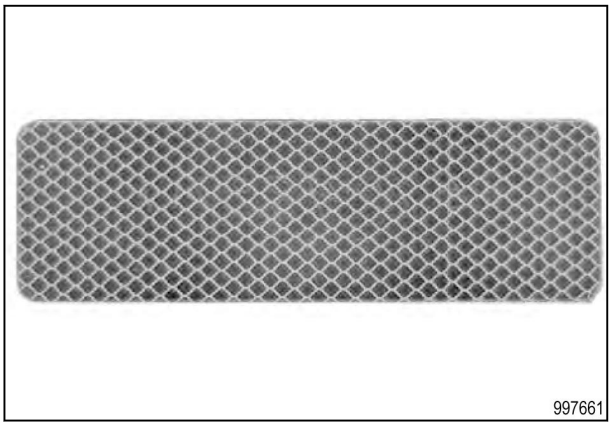


Fig. 27

Reflector, orange (2)

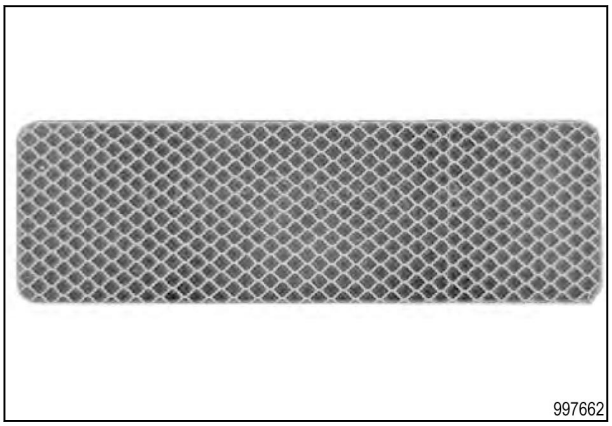


Fig. 28

Reflector, yellow (3)

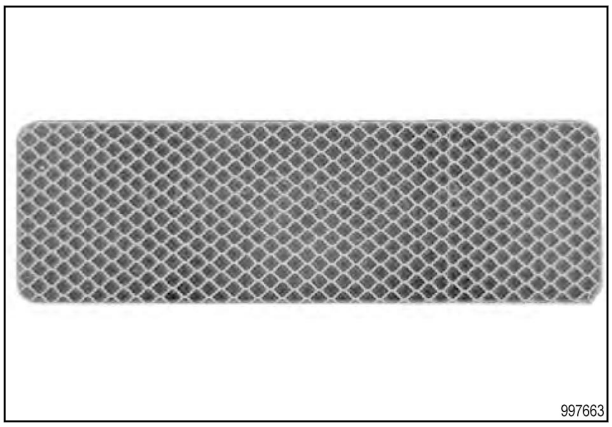


Fig. 29

North American models, safety sign, speed sign (4)

Do not exceed the maximum speed of 20 mph

Fig. 30

Non-North American models, safety sign, speed sign (4)

Do not exceed the maximum speed of 30 kph.

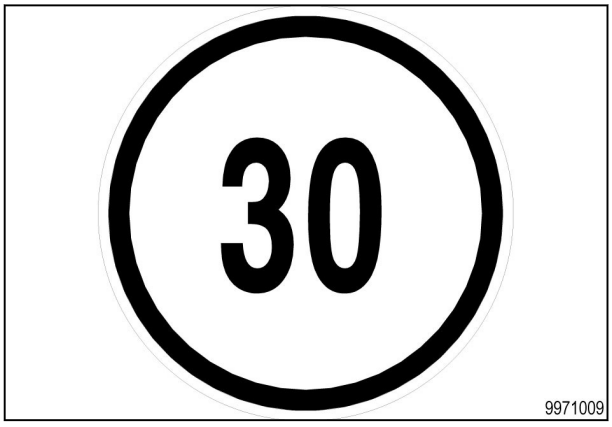


Fig. 31

Safety sign, read manual (5)

Hazard (A) - General safety alert

Avoidance (B) - Read and understand the Operator's Manual before operating the equipment. Follow safety and operating instructions.

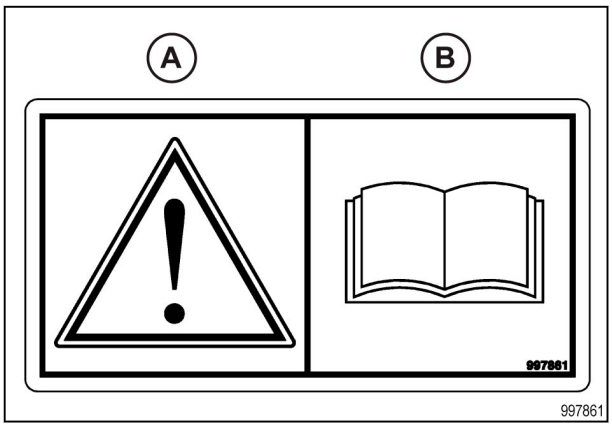


Fig. 32

Safety sign, fasten safety chain (6)

Hazard (A) - Loss of machine control

Avoidance (B) - Install the safety chains when attaching the implement to the tractor. Read the Operator Manual for safety information and operating instructions before operating the machine.

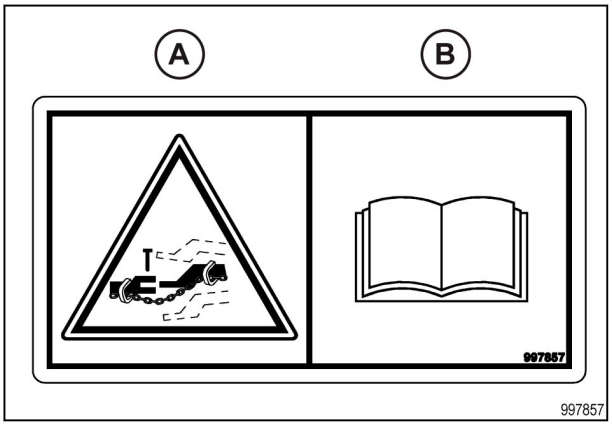


Fig. 33

Safety sign, unhitching hazard (7)

Hazard (A) - Negative tongue weight will cause immediate elevation of the tongue.

Avoidance (B) - Stay clear of the tongue when disconnecting the implement form the tractor. Read the Operator Manual for safety information and operating instructions before operating the machine.

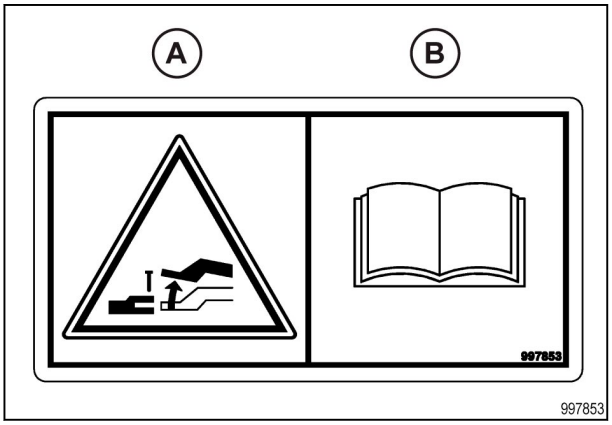


Fig. 34

Safety sign, engine off (8)

Hazard (A) - General safety alert

Avoidance (B) - Shut off engine and remove the key before performing maintenance or repair work.

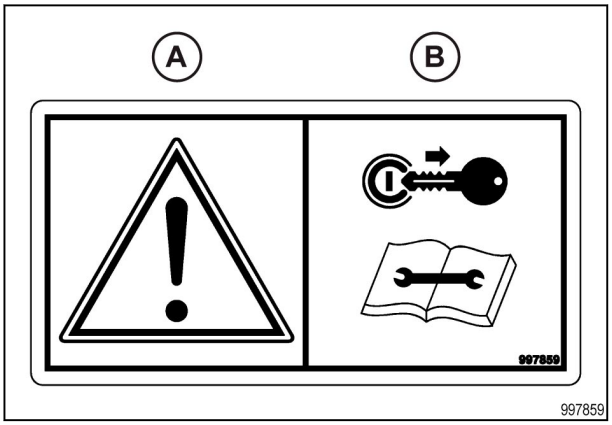


Fig. 35

Safety sign, high voltage (9)

Hazard (A) - Electrical shock hazard - risk of personal injury and component damage

Avoidance (B) - Keep sufficient distance away from electrical power lines.

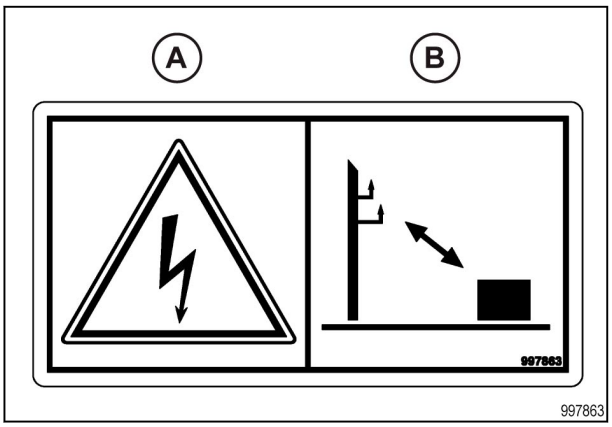


Fig. 36

Safety sign, fluid under pressure (10)

Hazard (A) - Injection hazard into skin - escaping fluid under high pressure

Avoidance (B) - Shut off engine, remove key, and relieve pressure before performing maintenance or repair work. Refer to the Operator Manual for proper service procedures.

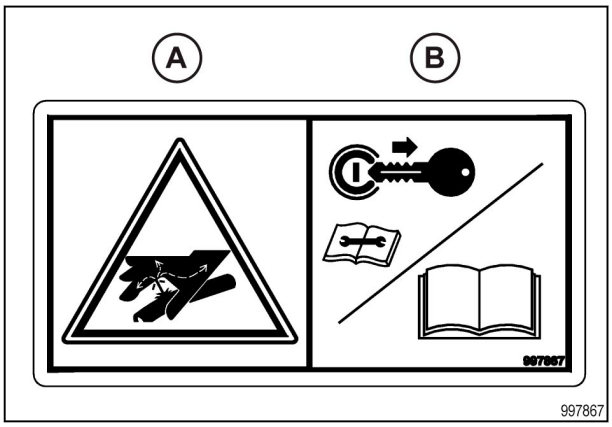


Fig. 37

Safety sign, chemical hazard (11)

Hazard (A) - Chemical injestion hazard, lungs - opening the cover.

Avoidance (B) - Refer to the Operator's Manual and the chemical manufacturer's instructions.

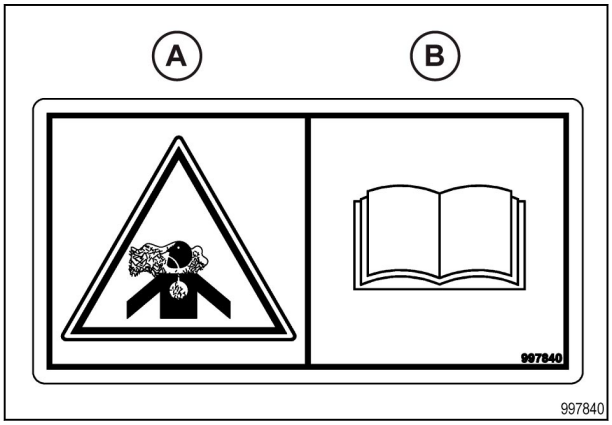


Fig. 38

Safety sign, thrown or flying object hazard (12)

Hazard (A) - Thrown or flying object hazard.

Avoidance (B) - Keep a safe distance. Read the Operator Manual for safety information and operating instructions before operating the machine.

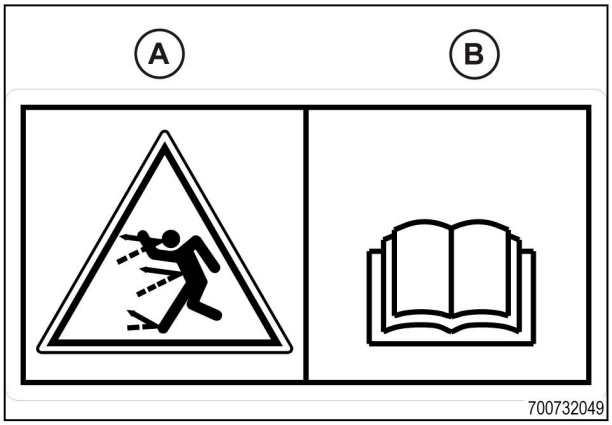


Fig. 39

Safety sign, moving part hazard (13)

Hazard (A) - Shearing hazard - finger shearing hazard - rotating components.

Avoidance (B) - Do not open, remove, or reach around shields while the engine is operating.

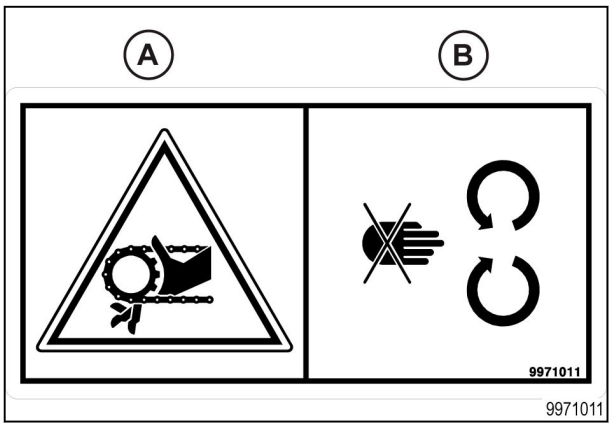


Fig. 40

Safety sign, crushing hazard (14)

Hazard (A) - Crushing hazard - risk of personal injury.

Avoidance (B) - Keep a safe distance from the machine while engine and machine are operating. Read the Operator Manual for safety information and operating instructions before operating the machine.

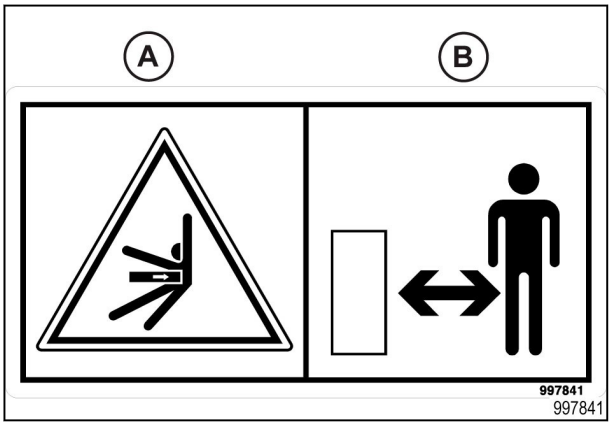


Fig. 41

Safety sign, fall off hazard (15)

Hazard (A) - Falling off

Avoidance (B) - Do not ride on the machine when it is operating or moving.

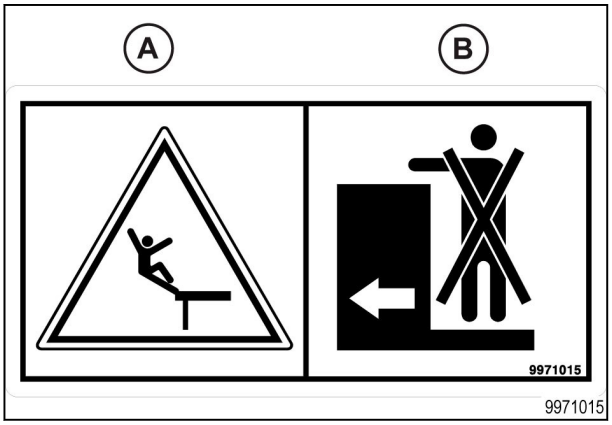


Fig. 42

Safety sign, hot surface, hand,(16)

Hazard (A) - Hand and finger burn hazard - hot surfaces.

Avoidance (B) - Stay clear and do not touch hot surfaces.

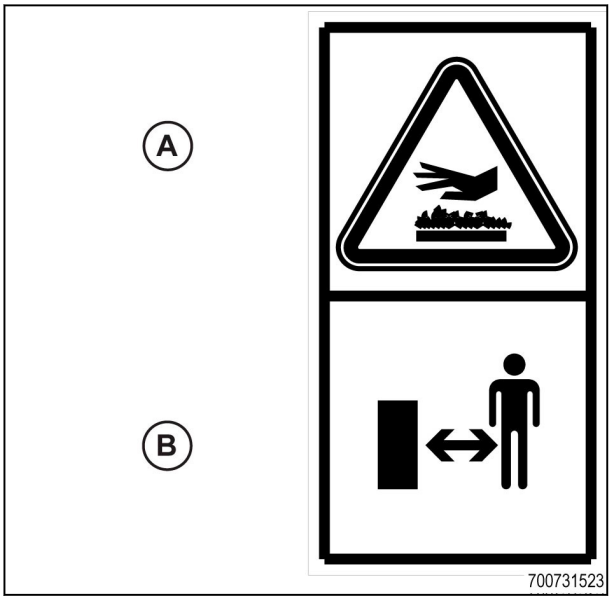


Fig. 43

SMV Emblem (17)

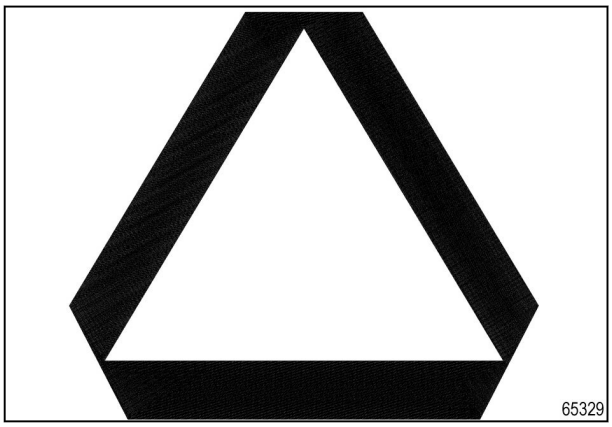


Fig. 44

2. Introduction

2.1 Introduction

CAUTION:
In some of the illustrations used in this Operator Manual, panels or guards may have been removed for clarity. Never operate the tractor with these panels and guards removed. If the removal of a shield is necessary to make a repair, it must be replaced before operation.

CAUTION:
Read this book in its entirety prior to operating machine. Use only genuine replacement parts for repairs and/or replacement.

This manual gives the operator the proper instructions needed for operation and maintenance. Read, understand, and follow these instructions for best machine performance and life. With proper maintenance and operation procedures, the machine will have better over all performance. Use normally available tools for maintenance on this machine.

All operators must read and understand this manual before operating this machine. Where possible, operators who have not operated the machine must receive instruction from an operator who has operated this machine. Your dealer can give instruction in machine operation. Keep this manual with the machine for future reference. If the original manual is damaged, order a replacement from your dealer.

See your dealer in for any service problems and adjustments. The dealer is equipped for all service work and to help with specific applications of the tractor in local conditions.

Left-hand and right-hand are determined by facing the direction the machine will travel when in use.

2.1.1 Units of measurement

Measurements are given in metric units followed by the equivalent in US units. Hardware sizes are given in millimeters for metric hardware and inches for US hardware.

2.1.2 Replacement parts

To receive prompt efficient service, remember to have the following information:

Correct part description and part number
Model number of the machine
Serial number of the machine

2.1.3 Intended use

This machine is designed solely for use in customary agricultural operations.

Do not use this machine for any application or purpose other than those described in this manual. The manufacturer accepts no liability for damage or injury resulting from misuse of this machine.

Compliance with the conditions of operation, service and repair as specified by the manufacturer constitute essential elements for the intended use of this machine.

This machine should be operated, serviced and repaired only by qualified persons familiar with its characteristics and familiar with the relevant safety rules and procedures.

All generally recognized safety regulations and road traffic regulations must be obeyed at all times.

Any unauthorized modifications performed on this machine will relieve the manufacturer of all liability for any resulting damage or injury.

2.1.4 Proper disposal of waste

Improper disposal of waste can pollute the environment and ecology. A few examples of potentially harmful equipment waste can include, but not limited to, items such as oil, fuel, coolant, brake fluid, filters, battery chemicals, tires, etc.

Use leak proof containers when draining fluids. Do not use food or beverage containers to collect waste fluids, as food or beverage container(s) may mislead someone into drinking from them.

Do not pour or spill waste onto the ground, down a drain, or into any water source.

Air conditioning refrigerants escaping into the air can damage the Earth's atmosphere. Government regulations may require a certified air conditioning service center to recover and recycle used air conditioning refrigerants.

Inquire with local environmental or recycling center on the proper way to recycle or dispose waste.

2.2 Machine identification

Each machine is identified by a model and a serial number.

Record these numbers in the spaces given.

Give the model number and serial number to your dealer when parts or service are required.

Machine model number: _____

Machine serial number: _____

Date of delivery: _____

Dealer name: _____

Dealer address: _____

_____

_____

Dealer telephone number: _____

Dealer e-mail address: _____

Dealer fax number: _____

2.2.1 Serial number plate

The serial number plate (1) is located on the frame.

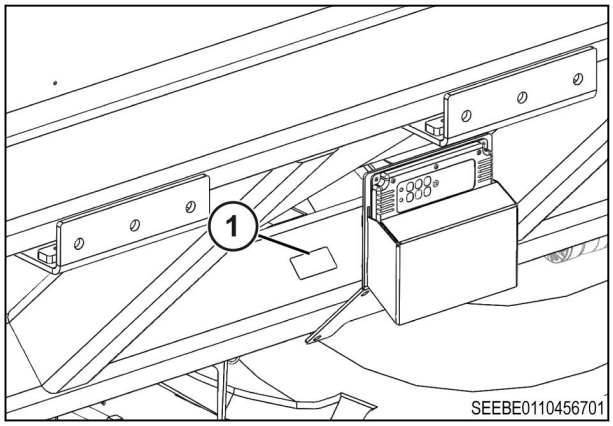


Fig. 1

2.2.2 Serial number description

Description of the serial number for model year 2010 and up.

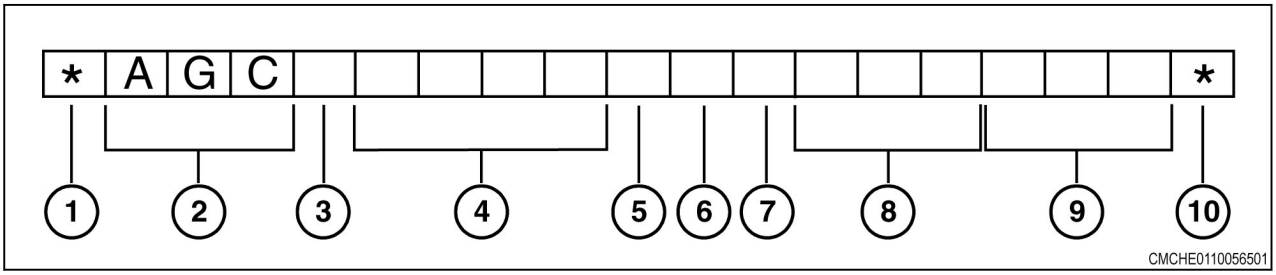


Fig. 2

(1) Beginning symbol
(2) World manufacturer code
(3) Brand code
(4) Model identifier (model number)
(5) Check letter (0 or used if model identifier is five digits)
(6) Model year code (A=2010, B=2011, C=2012, and on)
(7) Plant code
(8) Family code
(9) Unit number for the year
(10) Ending symbol

2.3 Air cart

The tanks on the air cart are made of stainless steel to prevent corrosion damage from granular fertilizer.

There are two size options:

- 380 and 525 bushels

2.4 Major components

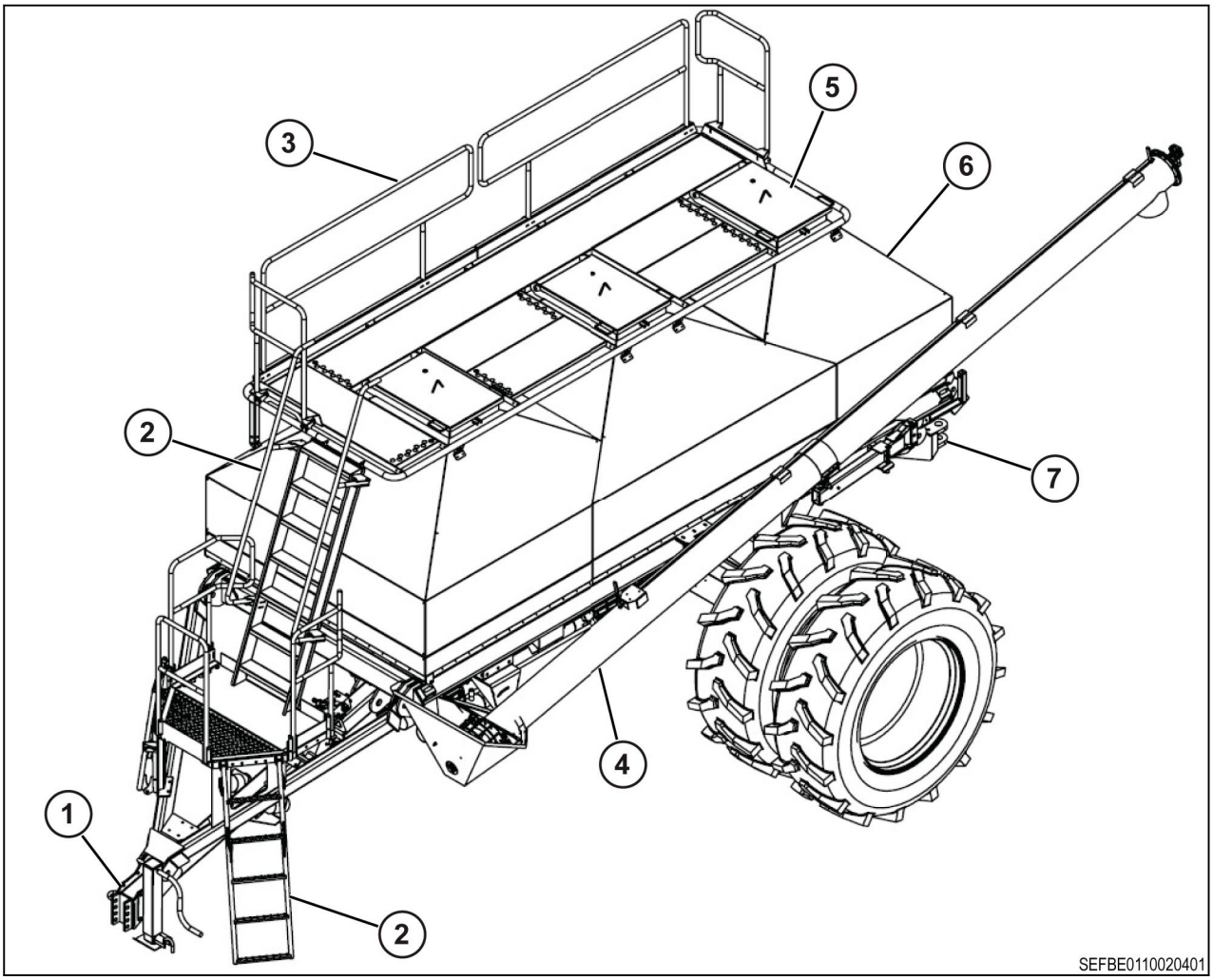


Fig. 3

The major components for the 3-bin model are shown.

(1) Front hitch
(2) Ladder
(3) Railer
(4) Auger
(5) Product bin lid
(6) Product bin
(7) Rear hitch

2.5 Operator manual

2.5.1 Operator manual storage

The Operator Manual is located in the container (1) on the machine.

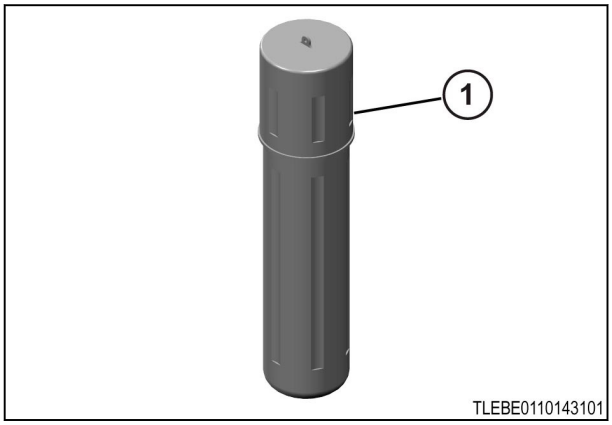


Fig. 4

Manual holder location

The manual holder (1) is located as shown.

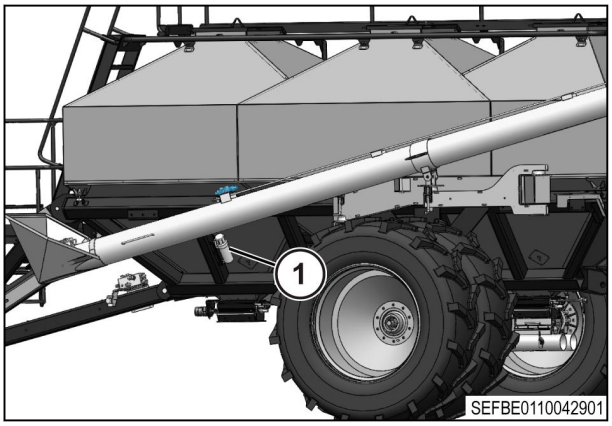


Fig. 5

3. Operation

3.1 Ladder and railings

The air cart is equipped with a ladder and railings for access to the top of the tanks. Always make sure the railings are fastened in the raised position when operating the air cart. The railings can be lowered for storage or servicing, if required.

To lower the railings:

1. Use a ladder that is of the correct height, when put on the ground to reach the top of the machine, to remove the spring pins.
2. Fold down the side railings over the top of the tank.
3. Fold down the front and rear hand rails over the side rails.
4. Install the spring pins for storage.

WARNING:

Falling hazard. Personal injury or death can occur. Do not stand on the top of the machine when raising or lowering the railings. Read and follow the instructions in the operator's manual for the movement of the railings.

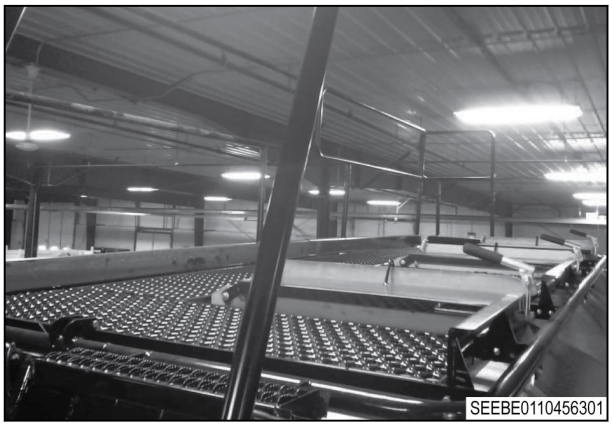


Fig. 1

3.2 Product bin lids

The product bin lids on the air cart compartments must be correctly closed and sealed for the meters to supply product correctly.

Periodically check the product bin lids for correct adjustment and inspect the seal for damage.

To determine whether the product bin lid is adjusted correctly, watch the product bin lid as the latch is opened. The product bin lid must tilt a little toward the latch end. A pull on the latch handle is required to over-center the latch.

To adjust the hinge end of the product bin lid, loosen or tighten the jam nuts (1) on the hold down bar.

To adjust the latch, loosen or tighten the nuts (2) on the toggle U-bolt.

In the off season, release the latch to relieve pressure on the gasket.

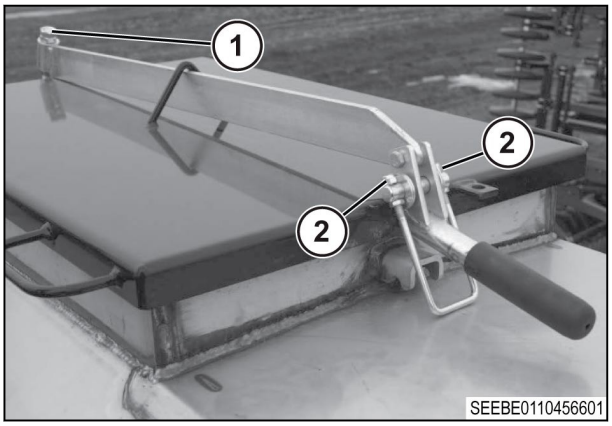


Fig. 2

3.3 Auger

The air cart is equipped with an auger (1) for loading and unloading the product bins. The auger is mounted in a swing arm. A flexible discharge hose is mounted on one end. This hose can be moved from one compartment to another without moving the hopper.

The hydraulic drive for the auger is supplied with oil from the blower hydraulics. A diverter valve in front of the machine supplies oil to the auger. The diverter valve can be switched with the blower running. The diverter valve at the front of the machine selects either the fan or auxiliary (auger and/or winch) function. Push the knob in to run the blower.

The auger has a three position variable speed valve to run the auger forward, rearward, or to stop.

Fig. 3

3.3.1 Using the auger to load products

Procedure

1. Park the machine on a solid, level surface.
2. Apply the park brake.
3. Put the auger in the operation position:

Lock Pin Location Reference				
Item	Location	Bin 1 (front bin)	Bin 2 (middle bin)	Bin 3 (rear bin)
(1)	Position 1	Stowed	Stowed	Stowed
(2)	Position 2	Not Used	Not Used	Load
(3)	Position 3	Unload	Load	Unload
(4)	Position 4	Load	Load	Load
(5)	Position 5	Not Used	Not Used	Not Used

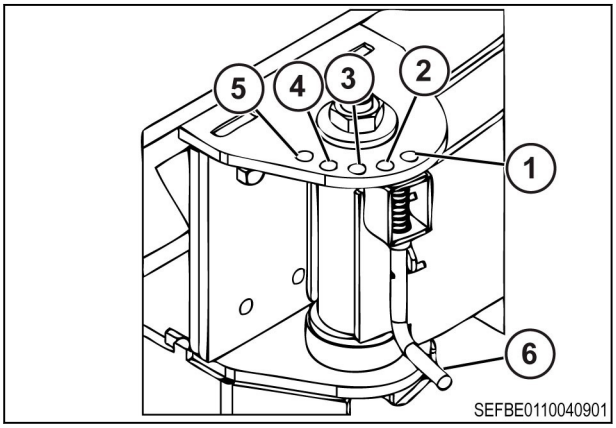


Fig. 4

a) Drop the lock pin (6) in the neutral position.
b) On the inner arm and the outer arm, pull down the spring loaded pin into the detent position.
c) Remove the auger from the clamp.
d) Pull the inner arm into position, by swinging the hopper away from the air cart.
e) Release the detent pin on the inner arm and lock into place.
f) Pull down the outer arm pin so the auger is free to move from the inner arm.

5. Put the hopper on the ground in a position perpendicular to the center tank lid. From this position the discharge end of the auger can be moved between compartments without moving the hopper.

6. Put the auger over the lid of the desired tank to be filled.

7. Push the divert valve knob in to run the blower. Pull the diverter valve out to run the auger or winch.

8. On three-bin models, put the spring loaded pin into the detent position before moving to a different compartment or damage can occur.

3.3.2 Cleaning out the auger

Procedure

1. Park the machine on a solid, level surface.
2. Apply the park brake, stop the engine, and take the key with you.
3. If desired, put a catch pan under the auger.
4. Put the hopper (1) upside down to empty.
5. If desired, put a catch pan under the auger.
6. Run the auger rearward until the auger tube is empty.

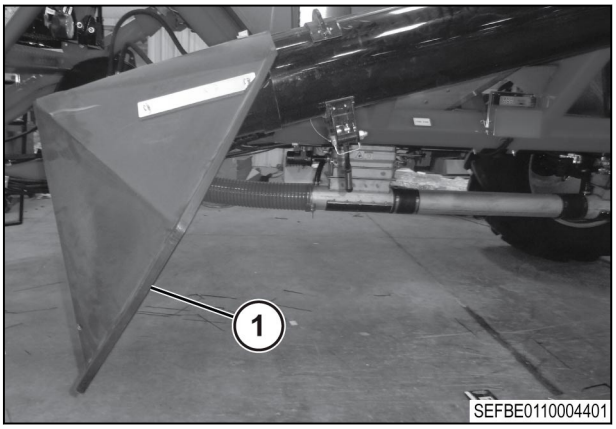


Fig. 5

3.4 Hydraulic systems

The hydraulic system on the air carts includes:

- Blower control circuit
- Auger control circuit

A control valve enables both circuits to be operated by one hydraulic remote on the tractor. This system was designed to function under a maximum hydraulic pressure of 19 995 kPa (2900 psi).

Fan only	10cc fan motor	
Fan speed	Flow	Pressure
3000 rpm	30.3 l/min (8 gal/min)	6895 to 10 342 kPa (1000 to 1500 psi)
4000 rpm	39.7 l/min (10.5 gal/min)	9653 to 13 100 kPa (1400 to 1900 psi)
5000 rpm	51 l/min (13.5 gal/min)	12 411 to 15 858 kPa (1800 to 2300 psi)
6000 rpm	60.6 l/min (16 gal/min)	15 168 to 18 616 kPa (2200 to 2700 psi)

3.4.1 Air cart to drill hydraulic coupler

The couplers connecting the air cart to the drill/implement are (3/4 inch) #12 ISO 7241 Series B, high-flow couplers. Using the high-flow couplers reduces the pressure drop across the coupler and enables the operator to easily disconnect the air cart from the drill/implement. Make sure the pressure line on the tank is connected to the pressure line on the drill.

The blower motor case drain line has a (5/8 inch) #10 ISO 7241 Series B coupler. The smaller size helps to tell the difference between this coupler and other larger couplers.

IMPORTANT:
Be sure that the case drain line on the blower motor is not connected to pressure. Damage to the shaft seal or motor will result.

3.4.2 Air cart to tractor hydraulic couplers

The couplers connecting the blower pressure and the return lines from the air cart to the tractor are (1/2 inch) #10 ISO 5675 (Pioneer) tip couplers.

A (3/8 inch) #8 ISO 16028 (flat-face) coupler tip on the air cart connects the case drain line to the tractor. The case drain line must be connected or the blower motor will be damaged. If a case drain return port is not available on your tractor, contact your dealer.

A (3/4 inch) #12 ISO 7241-1 Series A low-pressure return tip is included with all implements. The low-pressure return tip is also available through Service Parts.

If your tractor has a low-pressure port available, the low-pressure return tip can be used on the 3/4 inch blower return line. Using the low-pressure return tip can remove the pressure drop caused by the 1/2 inch Pioneer tip and the hydraulic valve of the tractor on the return side. The low-pressure return tip can also be used on the case drain line, if the 3/8 inch flat face port is not available.

Do not install a tee fitting connecting the blower return line and the blower case drain lines together. The blower case line must always be connected to a direct return to the hydraulic reservoir or blower motor failure will result.

The hydraulic line with the label pressure must be used to operate the blower. A check valve is installed in the blower circuit to protect the motor from the too much pressure in the return line and prevents cavitation during shutdown.

NOTE:
The 3/4 inch low pressure return tip is not compatible with the 3/4 inch high flow fittings used at the front of the cart. The connectors look similar, but the connectors are not compatible.

3.5 Electric drive

Section Control air systems are equipped with electric drive motors which control the meter speed independently of ground speed. Four electric motors are used to drive four meter modules on each tank. Using feedback from GPS sensors, the ECU will control the motors to provide on/off section control as well as turn compensating rate control. This gives the operator a faster calibration procedure and on-the-go rate changing capability as well as the option to apply product to a prescription map using GPS.

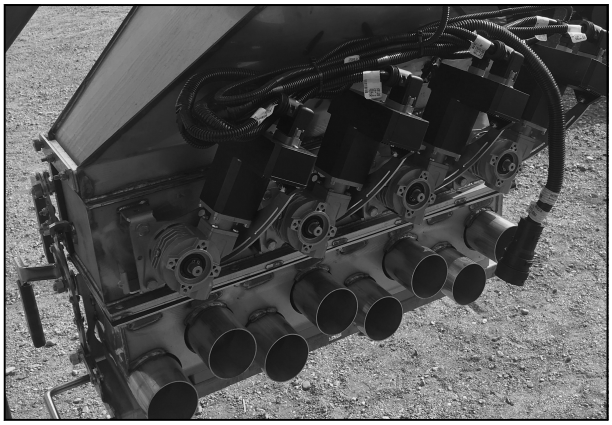


Fig. 6

3.6 Blower

The blower system for the air cart generates air pressure/flow to carry the seed or other input products through the system to the implement. A hydraulic motor drives the blower system. Two 3/4 inch hydraulic lines supply oil to the blower.

The only part on the blower that can be serviced is the shaft seal. The shaft seal can be replaced if the motor leaks at the shaft. Do not disassemble the motor to replace the shaft seal. The shaft seal is fastened by a snap ring and can be removed with a seal pick.

IMPORTANT:
Be sure that the case drain line on the blower motor is not connected to pressure. Damage to the shaft seal or motor will result.

IMPORTANT:
Do not under any circumstances disassemble the motor. The motor is very difficult to correctly assemble and motor destruction will result. If a motor failure occurs, get a replacement motor from the dealer.

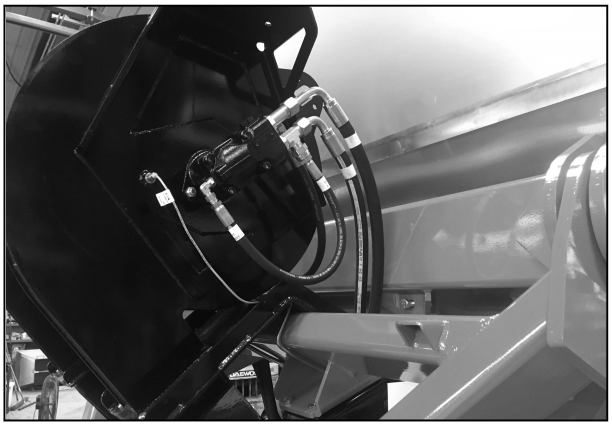


Fig. 7

3.6.1 Blower speed

Operate the blower at as slow a speed as possible to prevent damage to seed. If operated too slowly, line blockage will occur. Typical blower speeds are between 3000 and 6000 rpm. The drill width, product, rate, humidity, and other factors can change blower speed.

If a run blockage monitor is not used, make sure all runs are operating after changing blower speeds. To check the runs:

1. Turn the meter(s) with the blower running
2. Make sure there is product at each ground opener

If high rates are being applied with this implement and the implement is equipped with two fans, use the fan only circuit with the low pressure return fitting. This will help decrease the back pressure in the circuit and give the maximum output.

The number of outlets on the implement will directly change the blower rpm. The more outlets in use, the higher the pressure required to keep blower rpm. See your dealer for hydraulic adjustments to your tractor, if necessary.

A diverter valve in front of the cart selects the fan or auxiliary function. Push the knob in to run the blower. Pull the knob out to run the auger or winch.

One method to determine blower RPM is to remove a final run from the seed boot or shoe. Hold the hose about 1.5 meter (5 ft) off of the ground pointing straight up. Turn product out of the meter with the blower running. The product coming from the hose must blow out of the hose approximately 203 mm (8 inches) into the air. Adjust blower RPM as required.

3.7 Selecting air stream

In dual chute equipped systems; one can switch air streams for any desired products.

Procedure

1. Release door latch by lifting on handle (1).
2. Engage door into catch (2).
3. Pull each meter module out of individual meter compartments.
4. Clean each meter module (3) and meter compartment.
5. Flip meter modules (3) 180 degrees such that the opposite letter can be observed on the front face.
6. Insert meter modules (3) back into meter compartment.
   Ensure that meter modules are flush with the front of meter. Meter door will not close properly if modules aren't fully inserted.
7. Release the meter door by pushing the latching handle (1) up, while lifting the center catch (2).
8. Apply light pressure to the front of the door and use the latching handle (1) to secure the door.
9. Using the pressure selection valves (4) at the rear of the machine, select the pressurization tube that correlates to the letter on the meter module.

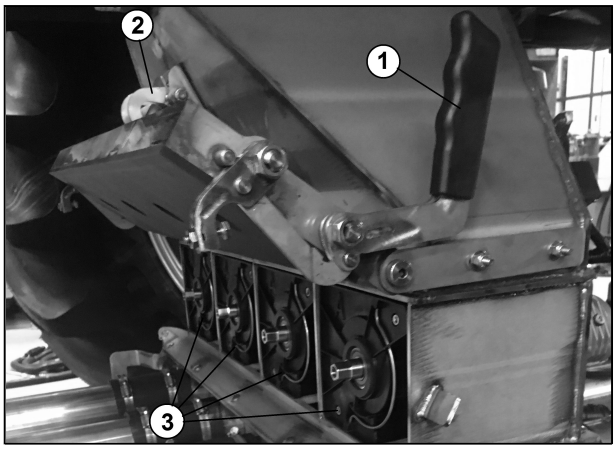


Fig. 8

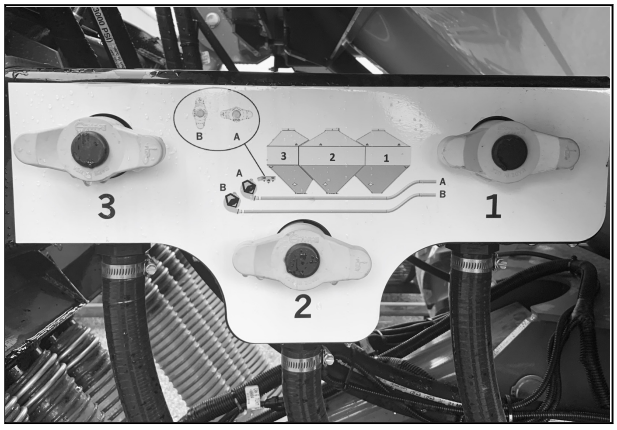


Fig. 9

Note: All meter groups must have meter modules in meter compartments prior to operating air cart.

Note: All meter compartments should be cleaned daily to ensure that no build up occurs due to old product.

3.8 Meters

3.8.1 Changing meter rolls

Procedure

1. Close the meter gate or make sure the bin is empty.
2. Empty the seed in the transition once meter gate has been closed.
3. Unlatch the meter door using latch handle (1).
4. Engage the meter door into the catch (2).
5. Pull each meter module (3) out of individual meter compartments.
6. Clean each meter compartment to ensure no old product causes fitment issues.
7. Insert the desired meter modules (3) into meter compartments.
   Ensure that meter modules are dispensing product into the desired air stream if the cart is dual chute equipped.
   Ensure that the meter modules are flush with the face of the meter. Meter door will not close properly if modules aren't fully inserted.
8. Release the meter door by pushing the latching handle (1) up, while lifting the center catch (2).
9. Apply light pressure to the front of the door and use the latching handle (1) to secure the door.

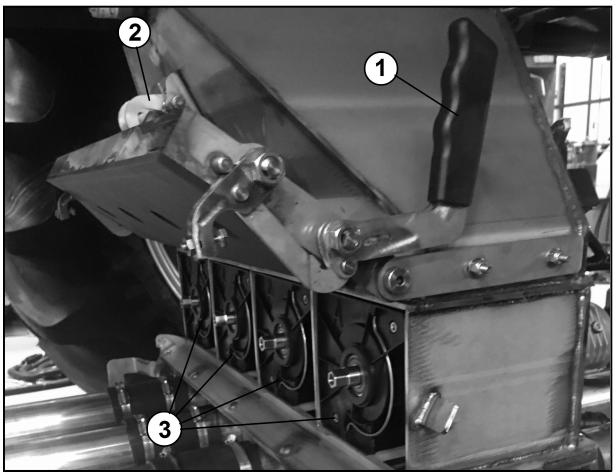


Fig. 12

Note: All meter groups must have meter modules in meter compartments prior to operating air cart.

Note: All meter compartments should be cleaned daily to ensure that no build up occurs due to old product.

3.8.2 Meter roll options

Two meter roll options are available:

- The high capacity roll has eight 11.1 mm (7/16 in) deep bars and is used for most applications.
- The fine product meter roll has a continuous pattern of shallow depressions for very low seeding rates with high accuracy.

3.8.3 Meter adjustments

The following adjustments are done at the factory and done only be done by a trained service technician.

3.8.3.1 Electric drive motors

The electric drive motors used to turn the meters can be adjusted to better align the motor shaft to the motor shaft.

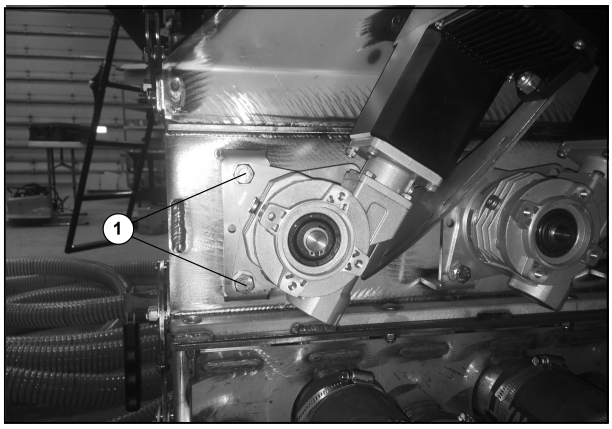


Fig. 13

To adjust the electric drive motors:

1. Remove the motor cover on the back of the meter.
2. Loosen the two bolts (1) holding the motor that needs to be adjusted.
3. Move the electric motor to the desired position.
4. Tighten the two bolts (1) holding the motor in place.
5. Reinstall the motor cover on the back of the meter.

Note: When adjusting the motor, a module should be inserted in the corresponding meter compartment to aid in aligning the motor.

3.8.3.2 Meter door latches

The tension on the meter door latches (1) can be adjusted to increase or decrease the preload on the meter door. If the preload is too small, the doors will not seal correctly. If the tension is too tight, the latches will be difficult to close.

The tension can be adjusted by opening the latch (1), loosening the jam nuts (2), and adjusting the two depth screws (3) evenly.

The top of the door can also be adjusted fore and aft by loosening the two lock nuts (4) on the side of the meter.

Ensure the meter door seal is compressed all the way around the meter box opening to prevent air and product from escaping meter box.

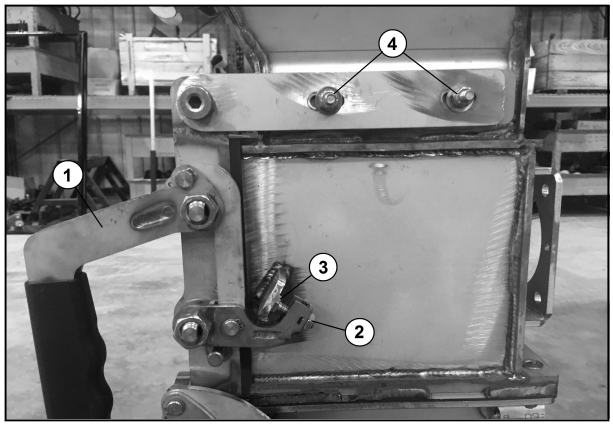


Fig. 14

3.8.3.3 Dual chute meter calibration tray

The calibration tray (1) on the bottom of the dual chute air stream tubes can be adjusted vertically in order to increase or decrease the tension between the rubber seal on the tray and the air stream tubes.

To adjust the meter calibration tray:

1. Release the calibration tray latch (2).
2. Remove the snap ring and pin (3) holding each side of the calibration tray arm.
3. Evenly tighten the bottom adjusters (4) to increase the tension or loosen the bottom adjusters (4) to decrease the tension.
4. Reinstall the calibration tray arm to each bottom adjuster using the snap ring and pin removed in step two.
5. Re-latch the calibration tray (1) when complete.

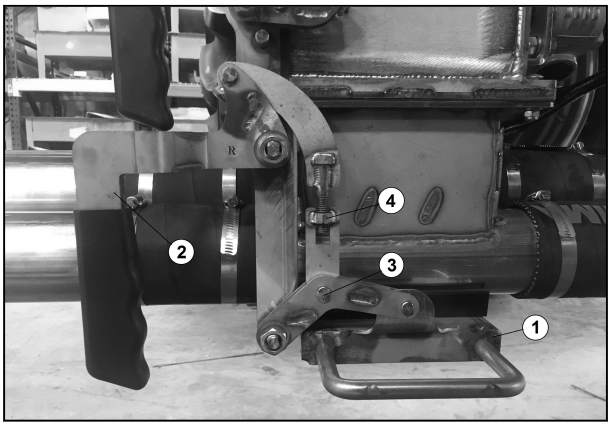


Fig. 15

3.8.3.4 Single chute meter calibration tray

The calibration tray (1) on the bottom of the single chute air stream tubes can be adjusted vertically in order to increase or decrease the tension between the rubber seal on the tray and the air stream tubes.

To adjust the meter calibration tray:

1. Release the two calibration tray latches (1) located on the front of the meter.
2. Loosen the two lock nuts (2) on either side of the meter hinge.
3. Adjust the calibration tray hinge (3) up or down as needed.
4. Tighten the two lock nuts (2) on either side of the meter hinge once the desired height has been achieved.
5. Re-latch the calibration tray when complete.

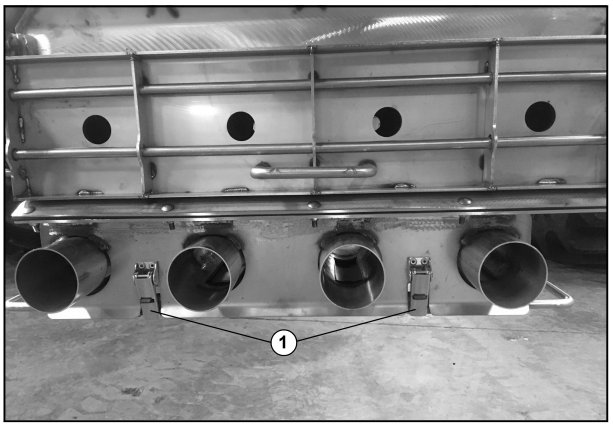


Fig. 16

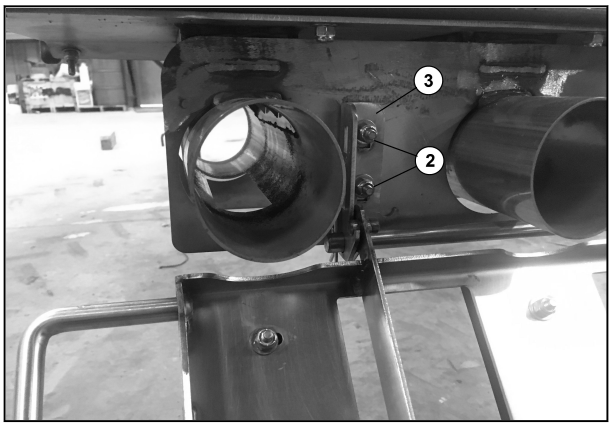


Fig. 17

3.9 Electric drive calibration and operation

3.9.1 Preparing to calibrate a meter

Calibrate meter when:

- Changing the product
- Changing the meter rolls

Calibrate one meter on each tank.

Procedure

1. Connect the machine hitch to a tractor or a drill.
2. Connect the machine terminal harness to the terminal harness.
3. Connect the cart power harness to the main power harness.
4. Start the tractor.
5. Put the transmission in park and apply the park brake.
6. Turn on the terminal.
   Make sure the terminal and the machine electronic control unit (ECU) connect.
7. Check the bin for product.
   The bin must be a minimum of 25 percent full.
8. Adjust the meter gate (1) to the open position.
9. Open the calibration door below the meter to be calibrated.

Fig. 18

3.9.2 Priming the meter

The electronic keypad (1) touch pad has calibration buttons (2). Each button controls calibration for a specific set of tank meters.

Fill each meter with seed (prime the meter) before calibrating the meter.

Fig. 19

Before starting the procedure

Before priming a meter, install a calibration bucket under the meter.

Procedure

1. Find the button on the keypad with the same number as the meter.
2. Press and release the desired meter number (2) to activate the meter.
3. Ensure that the keypad displays the proper meter number as well as the desired "A" or "B" air stream.
4. To change the air stream, press and release the meter number (2) again.
5. Ensure that both the proper meter number and air stream are displayed on the screen.
6. Press and hold the priming button (3).
   The meter roll starts to rotate.
7. Permit the meter roll to rotate two or three revolutions.
   The meter roll fills with seed.
8. Release the priming button (3) to stop the meter roll. The meter now has a prime.
9. Remove and empty the calibration bucket.
10. Repeat this procedure for each meter requiring calibration.

3.9.3 Taking a product sample for calibration

Before starting the procedure

A meter roll must have a prime of product before calibrating the meter. See the information for priming a meter.

Procedure

1. Hang the empty calibration bucket on the weighing scale included with the machine.
2. Zero out the weight of the empty calibration bucket.
3. Put the calibration bucket (1) below the calibration opening for a meter module. Make sure all product will go only into the bucket.

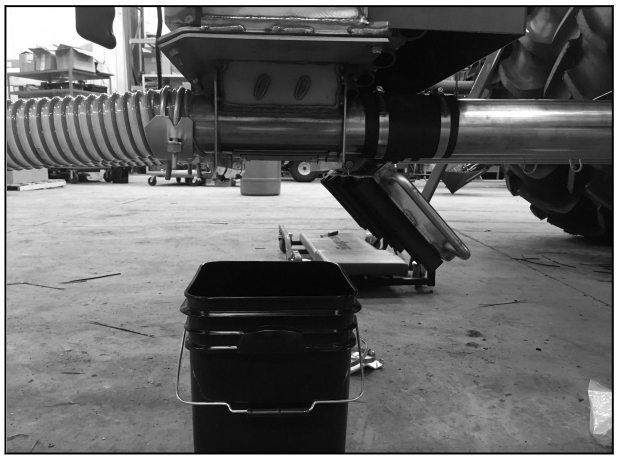


Fig. 20

4. Ensure that the correct meter and air stream is selected using the correct calibration buttons (1) on the electronic keypad (2).
5. Press and release the enter button (3) on the keypad.
   The meter roll starts to rotate.
   As the meter rotates, it will count the calculated catch weight based on the old calibration number.
6. Permit the meter roll to rotate until the calibration bucket fills a minimum of half full.
7. Press and release the enter button again to stop the meter roll.
8. Using the sample in the bucket, enter the calibration weight into the screen by following the instructions in the next section.

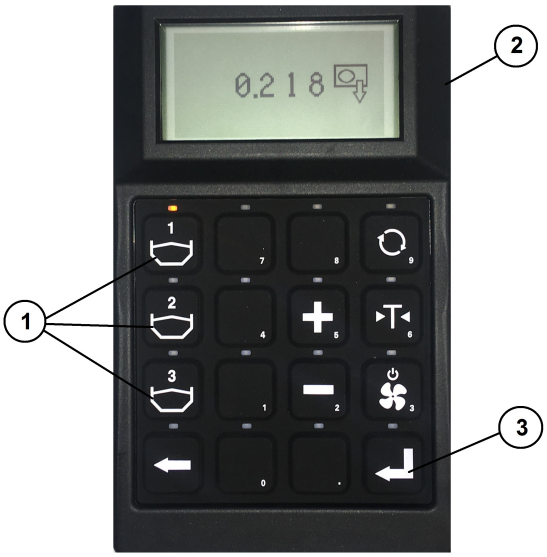


Fig. 21

3.9.4 Entering accumulated weight on the keypad

Before starting the procedure

The meter calibration procedure must be complete and before entering the accumulated weight value for a product.

The accumulated weight for each product is entered after catching a product sample.

Manually entering the accumulated weight will automatically change the motor cal value.

Procedure

1. Weigh the calibration bucket with the weighing scale.
   If not enough product went in the calibration bucket, empty the bucket and take another larger sample for calibration.
2. The screen should display a value of zero before entering in the catch weight.
3. Enter the catch weight on the keypad by pressing and releasing the desired numbered keys on the keypad.
4. Once the catch weight has been put into the keypad, push and release the enter button (1).
   This product meter is now calibrated.
5. Repeat the procedure for the remaining meter groups.

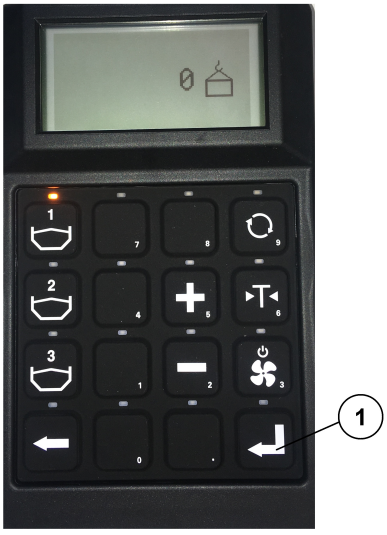


Fig. 22

Note: Only one meter from each meter group is required to calibrate. The selection of which meter module is used to calibrate can be changed from the Virtual Terminal on the calibration screen.

3.9.5 Manually setting the motor cal value

Procedure

1. Press the Icon to arrive at the calibration screen
2. Select the desired cal number for the corresponding product meter group.
3. Enter the new cal number.
4. Select the enter button.
5. Meter is now calibrated to custom motor cal value.

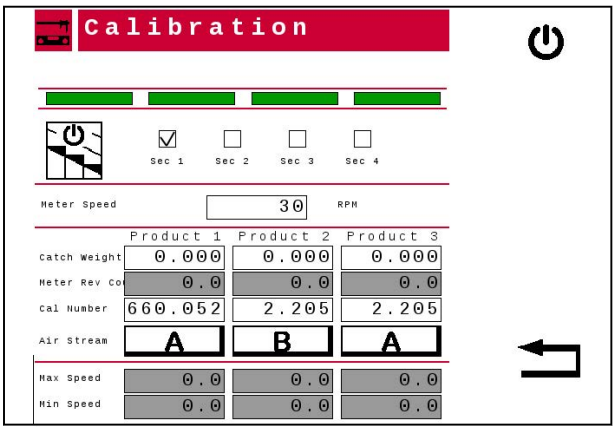


Fig. 23

3.10 Product meter wheels

3.10.1 High volume meter

The high volume meter roll (1), consists of two 322553 meter halves, with 11.9 mm (0.470 in) deep (A) x 27.79 mm (1.094 in) wide (B) flutes (2). The high capacity meter roll has 6.02 mm (0.237 in) wide x 11.9 mm (0.470 in) high bars (3).

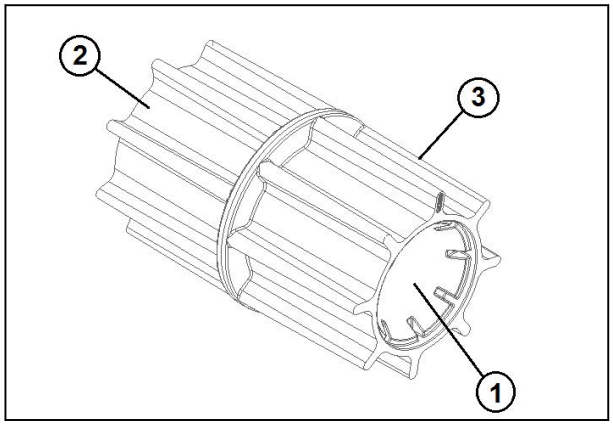


Fig. 24

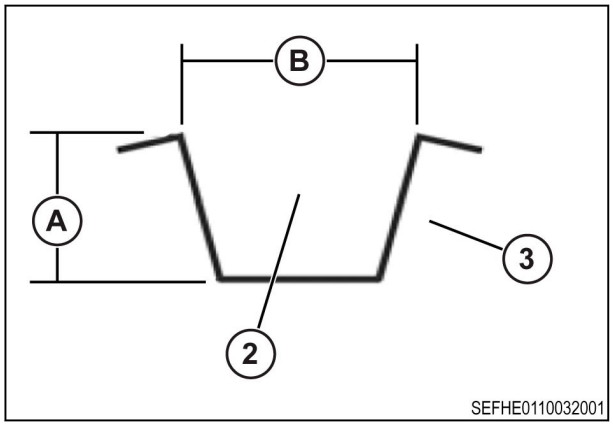


Fig. 25

3.10.2 Fine product meter

The fine product meter roll (1), consists of two 322559 meter halves, with 3 mm (0.21 in) deep (A) x 6.99 mm (0.275 in) wide (C) x 31.75 mm (1.25 in) long (B) slots (2).

The slots have an 6.35 mm (0.25 in) curve (D).

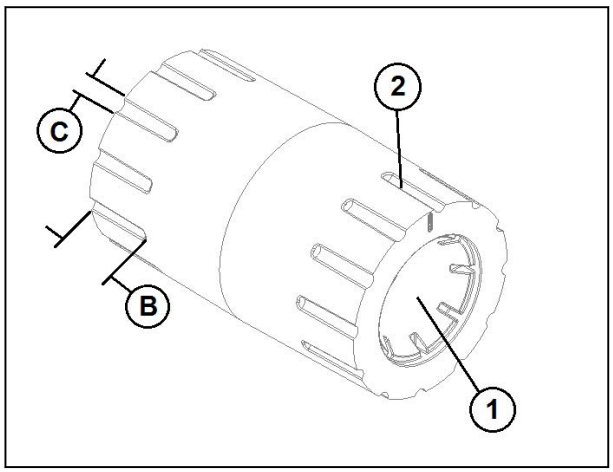


Fig. 26

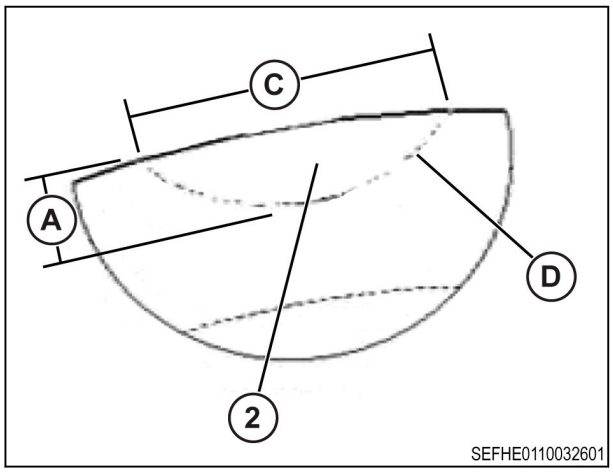


Fig. 27

3.11 Ag Control system

3.11.1 Ag Control system overview

The air cart has an electronic system to monitor and control the machine functions. The Ag Control ISO Monitor system is based on the ISO 11783 standard, also referred to as ISOBUS. ISOBUS is a communication standard that enables a variety of agricultural electronics systems to communicate to each other. The purpose is to integrate all current and future farm functions by standardizing communication between the tractor and implement. ISOBUS permits the use of the same tractor terminal on a number of different machines and control of a wide range of implements without the reprogramming a system.

3.11.2 Ag Control system hardware

The Ag Control ISO system includes an Ag Control electronic control unit (ECU), which connects different sensors and an electric meter drive system. The ECU communicates with the virtual terminal (VT) located inside the tractor cab. The terminal shown information and enables the user to configure, calibrate, and operate multiple systems from a single user interface.

3.11.2.1 Ag Control electronic control unit

The Ag Control electronic control unit (ECU) is mounted on the air system. The ECU monitors all system sensors and controls the meter drives. The ECU connects to the terminal in the tractor cab through a connecting cable that plugs into the front of the ECU on one end and into the standard ISOBUS connector on the tractor at the other end.

3.11.2.2 Virtual terminal

The virtual terminal (VT), also referred to as the terminal, in the tractor cab gives a user an interface for the system. The terminal communicates with the electronic control unit (ECU) and any other ISOBUS-compatible equipment connected to the system.

Several companies make ISOBUS-compatible virtual terminals. All terminals use the same screen icons to show the main functions. The control screens, or pages, for the implement (which are displayed in the center area of the screen) are the same for any ISOBUS-compatible terminal.

Contact the manufacturer of the virtual terminal on the tractor to make sure the terminal can be used with the ISO Drill Manager system on this machine.

3.11.2.3 Blower speed sensor

The blower speed sensor (1) is an inductive sensor on the blower fan. The blower speed sensor gives speed information to the electronic control unit (ECU).

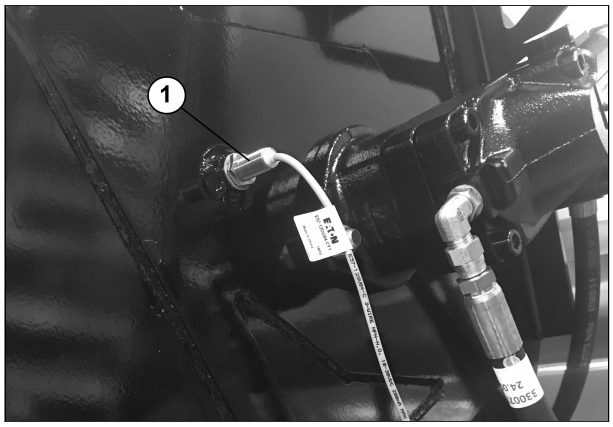


Fig. 28

3.11.2.4 Bin level sensor

Bin level sensors indicate when the level of product in the bin has decreased to the level of the sensor. The same sensor senses all types of products.

The sensor height can be adjusted to set the alarm point at any desired level.

Fig. 29

3.11.2.5 Meter box empty sensor

The meter box empty sensor is a capacitive sensor that senses when the meter box is empty. The sensor indicates if the bin is completely empty, or if the product has stopped flowing into the meter box because of bridging in the bin.

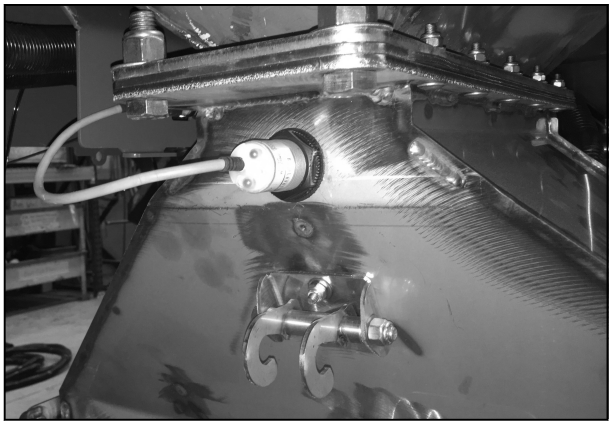


Fig. 30

3.11.2.6 Meter shaft speed sensor

An internal meter shaft speed sensor is included with each electric motor. The meter shaft speed sensor gives accurate meter speed control that is necessary.

3.11.2.7 Ground speed sensor

This unit is equipped with two GPS speed sensors. The GPS speed sensors are used only for speed sensing and cannot be used for mapping.

Fig. 31

3.12 Cart control system

3.12.1 Virtual terminal - cart control system

An ISOBUS-compatible terminal can communicate with the cart control system. When the terminal in the tractor is connected to the electronic control unit (ECU) on the cart, information automatically downloads. The information from the ECU will show on the terminal screen. The center of the terminal screen shows the information on all ISOBUS-compatible terminals.

Commonly, icons are located around or to the side of the center of the terminal screen. Selecting an icon will show another screen. The icon locations can vary with the terminal manufacturer. Some terminals are touch screens, and some have buttons next to the on-screen icons.

ISOBUS-compatible terminals can set up, operate, and monitor the cart control system. Specific terminal operation varies with each type of terminal. See the terminal operator manual for more information.

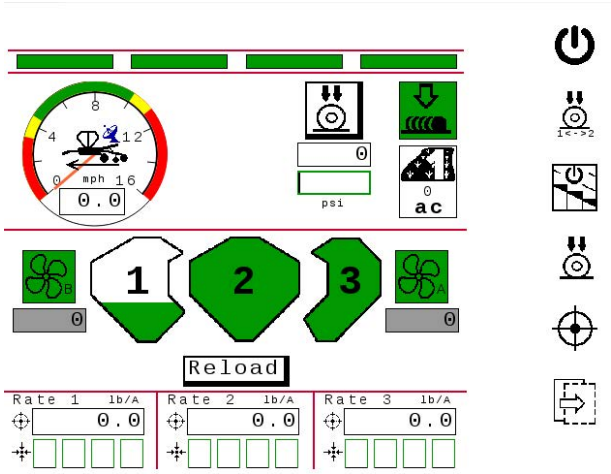


Fig. 32

3.12.2 Alarm and indicator icons

Alarms show up as separate screens and are acknowledged on the terminal. The indicators give additional information for the alarm type.

This screen shows a Motor Communication Error where none of the motors are communicating.

(1) Alarm description
(2) Identifying icon
(3) Status
(4) Suggested action

Select ESC to acknowledge the alarm and return to the previous screen.

The following is a list of alarms and indicators that can occur during system operation.

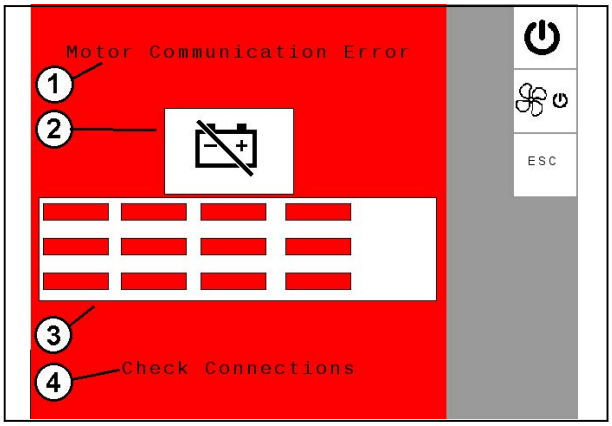


Fig. 33

Icon	Alarm description
	Rate Error
	Meter Error
	Case Drain Error
	Fan Speed Error
	Down Pressure Error

Icon	Alarm description
	Service Interval Warning

Icon	Indicator description
	Product Low in Bin
	Product Bridged in Bin
	Product Empty in Bin

3.12.3 Confirmation screen

Changing some settings or values on the cart control system can require confirmation. When confirmation is required, a confirmation screen will show.

Select  to keep the changes and go to the previous screen.

Select  to cancel the changes and return to the previous screen.

3.12.4 Main (home) screen

On the main (home) screen the following information is available:

(1) System on/standby/off - select to turn the whole system on or off. If the drill is in the up position, the system will go to standby mode. If the drill is in the down position, the system will be activated.
(2) Target speed dial - displays GPS speed when moving.
(3) Fan rpm - Shows the fan speed in revolutions per minute. The minimum and maximum alarms are set on the system settings screen. See the information for system setup.
(4) Reload navigation icon - activates reload screen where bin levels can be adjusted.
(5) Target rates - displays the target rate for each of the bins. When motors are turning, the target speed of the motors will be displayed with bar levels.
(6) Down pressure icon - activates down pressure when selected
(7) Seeder up/down - shows the current state of the drill (up or down). If there is a work switch, the icon will change as the drill changes position. If there is no work switch present, the icon will always show the down position.
(8) System on/standby/off - select to turn the whole system on or off. If the drill is in the up position, the system will go to standby mode. If the drill is in the down position, the system will be activated.
(9) Down pressure rate change - changes the down pressure between two variable settings.
(10) Virtual switch box - prompts the virtual switch box screen
(11) Down pressure settings - prompts the down pressure settings screen
(12) Target rate settings - prompts the target rate settings screen
(13) Next page - prompts icons 14-18
(14) Calibration settings - prompts the calibration screen
(15) Area screen - prompts the area screen
(16) System settings - prompts the settings screen
(17) Maintenance - prompts the maintenance screen
(18) Return - return to home page

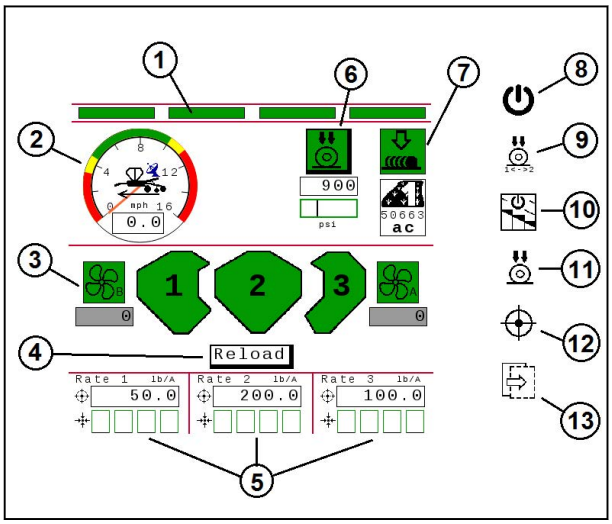


Fig. 34

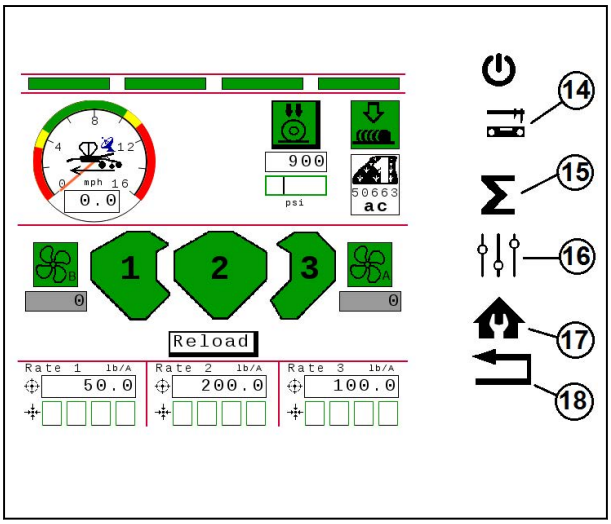


Fig. 35

3.12.5 Virtual switch box screen

The virtual switch box can be used to turn individual sections off by pressing either they (1) icons or the (3) icons.

The virtual switch box also controls which tanks will meter product when the cart is activated. By selecting and deselecting the (2) icons, the product bins are able to be turned off and on.

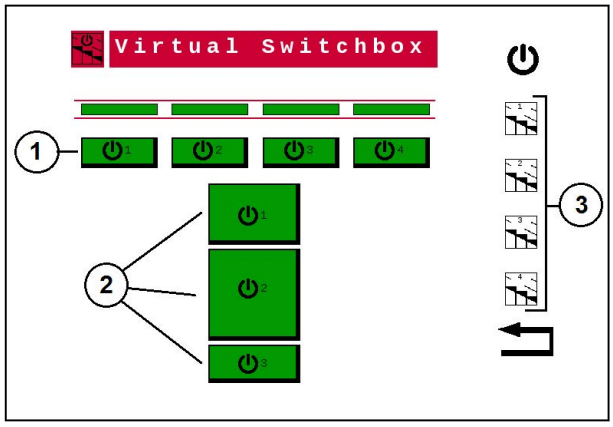


Fig. 36

3.12.6 Down pressure settings

The down pressure screen can be used to manually set a down pressure psi by selecting the (1) icon and manually entering a number.

The down pressure can be bumped up or down in set increments. This increment is set by selecting the (2) icon and entering a desired amount. The down pressure can then be bumped up or down by selecting the (6) icons.

Two preset down pressures can be set by selecting the (3) or (4) icons and entering a desired amount of down pressure. The down pressure can then be easily switched between the two values by selecting the (5) icons.

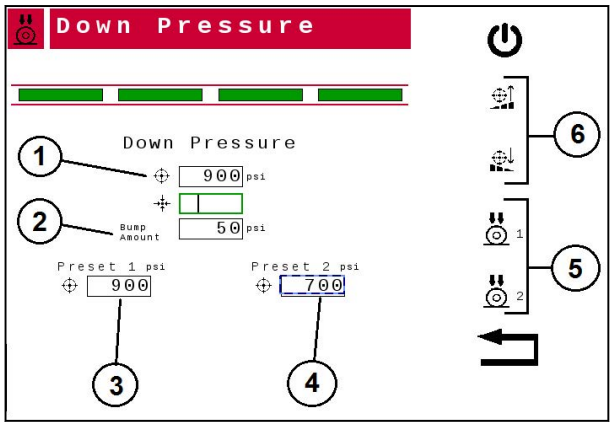


Fig. 37

3.12.7 Calibration Settings

The calibration screen can be used to change which meter module is calibrated during the calibration procedure. This can be accomplished by selecting the desired (1) box for whichever meter module needs to be calibrated.

The speed at which the motor turns the meter module during calibration can be adjusted by selecting the (2) icon and manually entering in a speed within a range of 5-70 RPM.
Note: it is best to calibrate somewhere in the middle of this range.

After calibrating the catch weight entered on the keypad for the specific product will be displayed in the (3) icon space. The cal number (4) is automatically calculated based on the catch weight and meter revolution counter. The cal number (4) can be manually adjusted by selecting the icon and manually entering the desired cal number.

The air stream icon (5) indicates which air stream the bin is dispensing product into, this is set when calibrating the meter from the keypad.

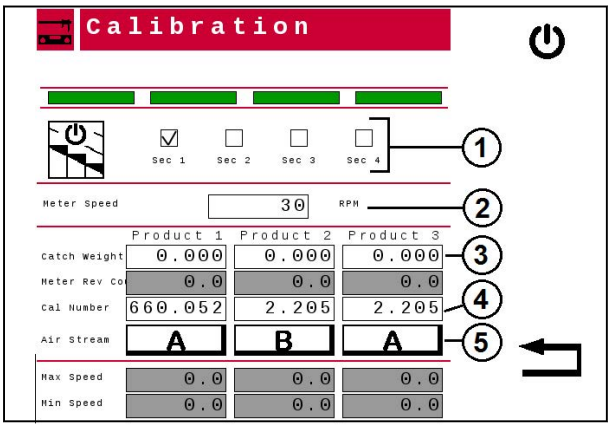


Fig. 38

3.12.8 Area Screen

The area screen can be used to observe and track the acres. There are two resettable counter icons (1) that will track acres seeded. These values are displayable on the home screen by selecting the "show on home" icon (2).

The acres on each bin can be tracked by following the (7) icons. Both the (1) and (7) can be reset by selecting the icon. Selecting any of the (1) or (7) icons produces the (8) icons which can be used to either reset the counter to zero by pressing the "0.0" icon or cancel by pressing "X".

The lifetime acres which the cart has seeded are displayed by the (3) icon.

The total number of hours that the meters have spent turning are displayed by the (4) icon.

The total pounds of product which the cart has metered are displayed by the (5) icon.

The total hours the fans have spent turning is displayed by the (6) icon.

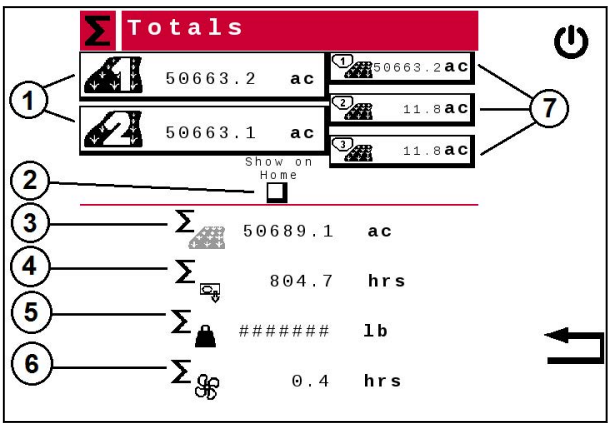


Fig. 39

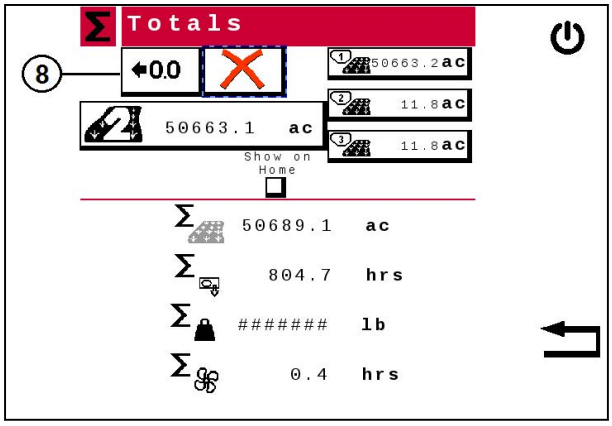


Fig. 40

3.12.9 System Settings Screen

The settings screen can be used to change various aspects of the cart. The lift switch logic can be configured in this screen using the (1) icons. These icons can be used to disable or enable the lift switch as well as determine the logic of the lift switch.

The low fan speed alarm for each fan can be set on by using the (2) icons. In order for the low fan speed alarm to trigger, the "Req. Fan #" box must be checked.

The master apply beep can be enabled or disabled using the (3) icons.

The source for the ground speed can be selected using the (4) icons.

Note: In order for the meter to turn compensate, "Drill GPS" must be used.

The rate control can be used on a per section or full width basis by using the (5) icons.

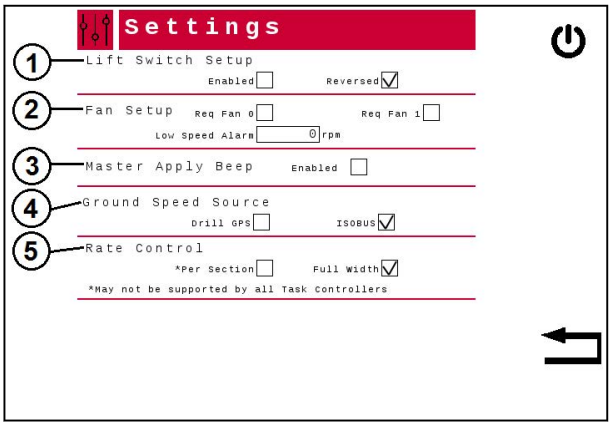


Fig. 41

3.12.10 Maintenance Screen

The maintenance screen can be used to observe current diagnostic warnings (1). The page can be scrolled using the (4) and (5) icons.

The active errors can be displayed by selecting the (2) icon.

The inactive errors can be displayed by selecting the (3) icon.

The current software version and build on the ECU of the cart are displayed at the bottom of this screen.

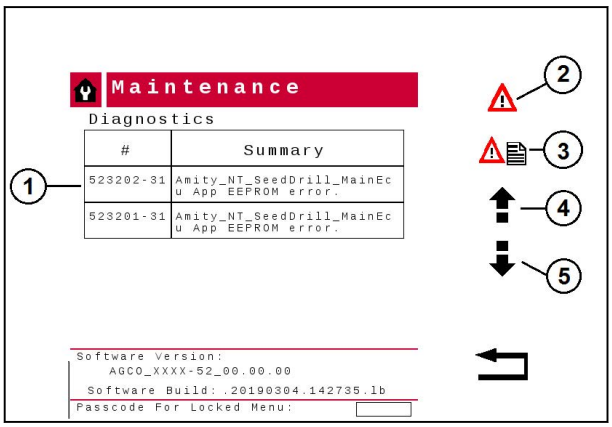


Fig. 42

3.12.11 Target rate settings

The target rate settings screen can be used to set the target rate for each product bin.

To change the target rate, the (1) icons can be selected which will prompt the keypad screen where a new target rate can be entered.

Each of the product rates can be bumped using the (3) icons on the side of the screen. The increment of the bump can be controlled by selecting the (2) icons which will prompt the keypad.

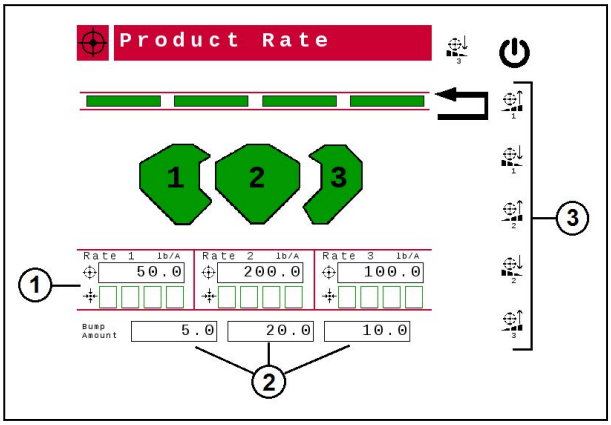


Fig. 43

4. Maintenance

4.1 Lubrication points

See the machine specification for the correct lubricant.

Do not let grease build up on or around parts, especially when operating in sandy soil.

Make sure to clean the lubrication fittings fully before connecting the grease gun. Watch each lubrication point while lubricating to make sure the lubricant applies correctly. Check for any loose, missing, or worn parts when lubricating the machine.

Check the lubrication service schedule for the correct lubrication interval.

4.1.1 Lubrication and maintenance chart

Interval	Procedure
Daily	Check the tire pressure
50 hours	Lubricate the meter box lubrication fittings
	Lubricate the driveline and steering lubrication fittings
Yearly	Lubricate the Hinge point lubrication fittings
	Check the wheel bearings
Every three years	Service the wheel bearings

4.1.2 Lubrication fitting locations

Hinge points

Find five lubrication fittings (1) on the hinge points.

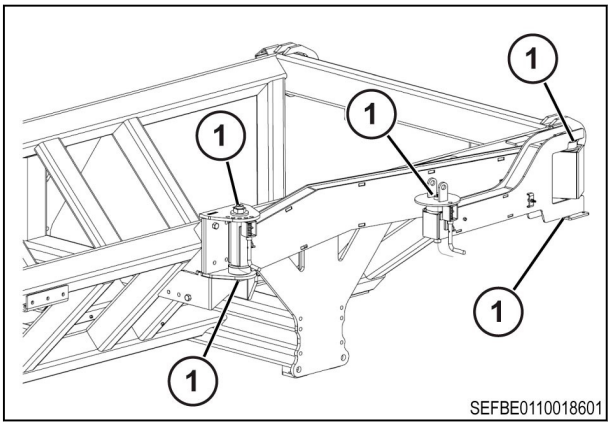


Fig. 1

Meter points

Find two lubrication fittings (1) on each of the meter groups.

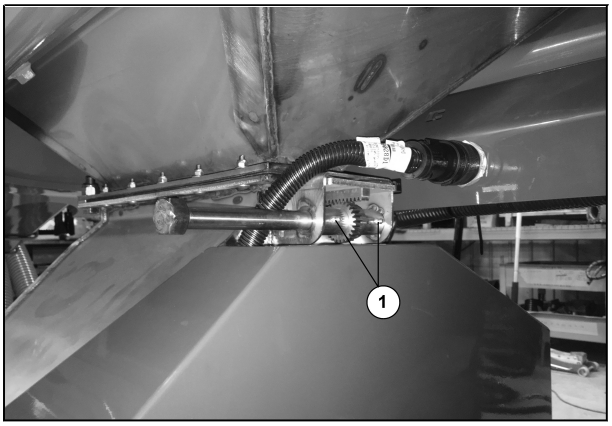


Fig. 2

4.2 Hydraulic motor maintenance

WARNING: *Park the machine on a solid, level surface. Lower and stop the machine, set the park brake, turn off the tractor engine and take the key with you before doing any maintenance on the machine.*

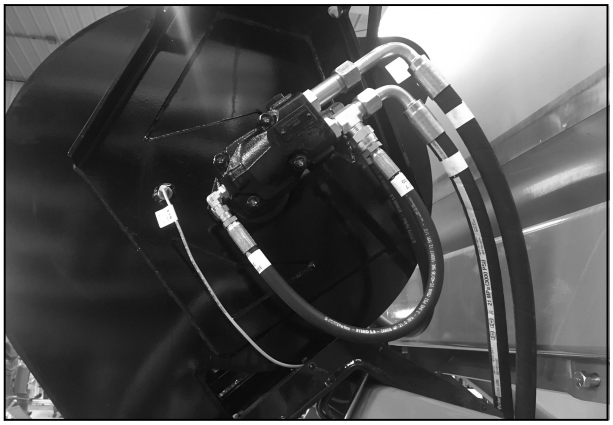


Fig. 3

The hydraulic motor can only be damaged by heat or foreign material.

Keep the tractor hydraulic oil and filter serviced regularly to give long life from the hydraulic components.

4.3 Wheel bearing maintenance

Check the wheel bearings once per year, adjust if necessary.

Service the bearings at least every three years.

4.4 Tires and wheels

Specification	
Tire size	620/70 R42 - 525 Bushel
	800/70 R38 - 380 Bushel
Load index	166 A8
Maximum pressure	103 kPa (15 psi)
Lug nut torque	678 Nm (500 lbf ft)

Put oil on the lug nuts before tightening and check the torque after ten hours of operation.

WARNING:
The maximum speed of the air cart is 32 km/hr (20 mph)

4.5 Storing the air cart

Procedure

1. **Park the machine on a solid, level surface.**
2. **Fully open the seed meters.**
3. **Open the cleanout doors on the bottom of the air tubes.**
4. **Clean all material out of the tanks.**
5. **Use water to completely clean any compartment used for fertilizer.**
6. **Completely clean fertilizer and dirt from the cup area.**
7. **Clean the inside of the seed meter door.**
8. **Clean all material out of the auger and leave the auger slide open.**
9. **Lubricate all lubrication fittings.**
10. **Release the latch on the tank covers to remove pressure on the cover gaskets.**

5. Specifications

5.1 Specifications

5.1.1 Specifications

Feature	Three-bin model 13.4 cu m (380 bushel)	Three-bin model 18.5 cu m (525 bushel)
Hopper capacity	13.4 cu m (4.5 cu m front, 5.6 cu m center, 3.3 cu m rear) (380 bushel) ((128 bushel) front, (158 bushel) center, (94 bushel) rear)	18.5 cu m (6.2 cu m front, 7.9 cu m center, 4.4 cu m rear) (525 bushel) ((175 bushel) front, (225 bushel) center, (125 bushel) rear)
Blower drive	Hydraulic drive	Hydraulic drive
Meter drive	Electric drive	Electric drive
Wheel spacing	361 cm (118 in) on centers	Inside duals 300 cm (118 in) on centers Outside duals 462 cm (182 in) on centers
Tire size	800/70R38 singles	620/70R42 duals
Fill/unload auger cupped steel flighting (poly flighting optional)	25.4 cm x 7.6 m (10 in x 25 ft)	25.4 cm x 7.6 m (10 in x 25 ft)
Total height	4.26 m (14 ft - 0 in)	4.67 m (15 ft - 4 in)
Total length	6.94 m (29 ft - 4 in)	8.94 m (29 ft - 4 in)
Maximum width	5.33 m (17 ft - 4 in)	5.33 m (17 ft - 4 in)
Fill height	3.07 m (10 ft - 10 in)	3.71 m (12 ft - 2 in)
Minimum ground clearance	45.72 cm (18 in)	45.72 cm (18 in)
Empty weight	6124 kg (13 500 lb)	7144 kg (15 750 lb)

5.1.2 Conversion factors

Area	
One hectare	2.47 acres
One acre	0.404 hectare
One acre	43 560 square feet

Distance	
One inch	2.54 centimeters
One foot	0.3048 meters
One mile	1.609347 kilometers

Weight	
One pound	0.45359 kilogram
One pound	16 ounces
One kilogram	35.3 ounces
One ounce	0.028 kilogram

Speed	
One mile per hour	1.609 kilometers per hour

Volume	
One bushel	1.2445 cubic feet
One bushel	0.0352 cubic meters
One bushel	9.31 gallons

Pressure	
1 pound per square inch	6.8948 kPa

Flow	
One gallon per minute	3.785 liters per minute

5.1.3 Formulas

$$\text{Rate (kg/min)} = \frac{\text{width (m) x speed (km/hr) x field rate (kg/hectare)}}{600}$$

$$\text{Rate (lbs/min)} = \frac{\text{width (ft) x speed (mph) x field rate (lbs/acre)}}{495}$$

$$\text{Performance (ha/hr)} = \frac{\text{width (m) x speed (km/hr)}}{10}$$

$$\text{Performance (acres/hr)} = \frac{\text{width (ft) x speed (mph)}}{8.25}$$

5.2 Approximate tank fill percentages

Approximate tank fill percentages							
Ladder rung (from the top)		Three-bin 13.4 cu m (380 bushel)			Three-bin 18.5 cu m (525 bushel)		
		Front	Middle	Rear	Front	Middle	Rear
1st		99%	99%	99%	99%	99%	99%
2nd		81%	84%	79%	85%	90%	85%
3rd		52%	51%	51%	65%	65%	65%
4th		25%	21%	25%	45%	40%	45%
5th		9%	7%	11%	20%	15%	20%
6th		does not apply	does not apply	does not apply	5%	5%	5%

5.3 Maximum transport speed

Maximum speed:

30 km/h (20 mph)