

**AXIAL-FLOW® 7230**  
**AXIAL-FLOW® 8230**  
**AXIAL-FLOW® 9230**

**Tier 4a**  
**Combine**

*PIN YDG222001 and above*

# OPERATOR'S MANUAL

**Part number 47529561**

1<sup>st</sup> edition English

August 2013



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# 1 - GENERAL INFORMATION

## Note to the owner

This manual contains information concerning the adjustment and maintenance of your new equipment. You have purchased a dependable machine, but only by proper care and operation can you expect to receive the performance and long service built into this equipment. Please have all operators read this manual carefully and keep it available for ready reference.

Your CASE IH dealer will instruct you in the general operation of your new equipment. (Refer to the 'Delivery Report' at the back of this manual.) Your dealer's staff of factory-trained service technicians will be glad to answer any questions that may arise regarding the operation of your machine.

CASE IH Max Service is also available. Call 1-877-4CASEIH (1-877-422-7344) or email [maxservice.na@cnh.com](mailto:maxservice.na@cnh.com).

Your CASE IH dealer carries a complete line of genuine CASE IH service parts. These parts are manufactured and carefully inspected to ensure high quality and accurate fitting of any necessary replacement parts. Be prepared to give your dealer the model and product identification number of your new equipment when ordering parts. Locate these numbers now and record them below. Refer to the 'General Information' section of this manual for the location of the model and product identification numbers of your machine.

### PLEASE RECORD THE FOLLOWING INFORMATION

**Model**

---

**Product Identification Number (PIN)**

---

**Date Purchased**

---

**Header Width (As Applicable)**


---

**Engine Model (As Applicable)**

---

**Engine PIN (As Applicable)**

---

	<p>This is the safety alert symbol. It is used with and without signal words to alert you to potential personal injury hazards. Obey all safety messages that follow this symbol to avoid possible death or injury.</p>
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### **WARNING**

Illustrations in this manual may show protective shielding open or removed to better illustrate a particular feature or adjustment.

Replace all shields before operating the machine.

Failure to comply could result in death or serious injury.

W0012A

## Improvements

CNH America LLC is continually striving to improve its products. We reserve the right to make improvements or changes when it becomes practical and possible to do so, without incurring any obligation to make changes or additions to the equipment sold previously.

## Intended use

The CASE IH combine harvesters are designed as self-propelled units and powered by an on-board diesel engine. The machines are intended to be used for agricultural purposes on cultivated land to harvest cereal crops, small seed crops, maize, soybeans, etc., by cutting or picking up from a swath, threshing and separating the grain from the straw, and temporarily storing it until it is unloaded into vehicles for transport.

The harvesting speed and performance may depend on a number of limitative parameters, such as weather and terrain conditions, crop variety, and maturity. Though the machine is designed to perform in most crops and conditions, there may be a number of combinations of the above parameters, for which there is severe degradation of performance of the machine or systems thereof. If you notice degradation of performance, contact your CASE IH dealer for assistance. They may have useful information for improvements, or a kit may be available to enhance the performance.

## Prohibited usage

No parts or attachments should be fitted to this machine, which have not been released by CASE IH. They might affect machine operation, safety of the user or other people, stability, or wear characteristics of the machine.

***NOTICE:*** *DO NOT use this machine for any purpose or in any manner other than as described in the manual, decals, or other product safety information provided with the machine. These materials define the machine's intended use.*

Do not use your machine for another purpose than intended by the manufacturer (a list of combinable crops can be found further on in this manual) and within its limits.

## Limits of the machine:

- Up/down/side slope.
- Maximum throughput: variable, depending on crop, variety, maturity, humidity, engine power and power transmission.
- Crop flow characteristics: variable, depending on crop, variety, maturity, humidity.
- Maximum harvesting speed: variable, depending on crop, variety, maturity, humidity, grain losses, engine power and power transmission.
- Mobility: variable, soil condition.

Do not use the machine for pulling anything but the header trailer. Though engine and transmission are strong and robust, the frame is not designed for pulling heavy loads.

## Engine tampering

**ATTENTION:** *The fuel system and engine on your machine are designed and built to government emissions standards. Tampering by dealers, customers, operators and users is strictly prohibited by law. Failure to comply could result in government fines, rework charges, invalid warranty, legal action and possible confiscation of the machine until rework to original condition is completed. Engine service and/or repairs must be done by a certified technician only!*

## Electro-Magnetic Compatibility (EMC)

Interference may arise as a result of add-on equipment that may not necessarily meet the required standards. As such interference can result in serious malfunction of the unit and/or create unsafe situations, you must observe the following:

- The maximum power of emission equipment (radio, telephones, etc.) must not exceed the limits imposed by the national authorities of the country where you use the machine
- The electro-magnetic field generated by the add-on system should not exceed **24 V/m** at any time and at any location in the proximity of electronic components
- The add-on equipment must not interfere with the functioning of the on board electronics

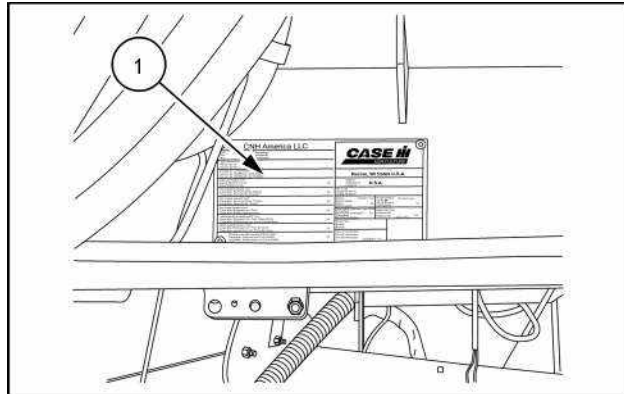
Failure to comply with these rules will render the CASE IH warranty null and void.

## Product identification

The Product Identification Number (PIN) of the combine and the engine can be found at the following locations:

### Base Unit

The combine PIN plate (1) is located below the right side operator's platform, it can be viewed by looking over the right front tire or track.



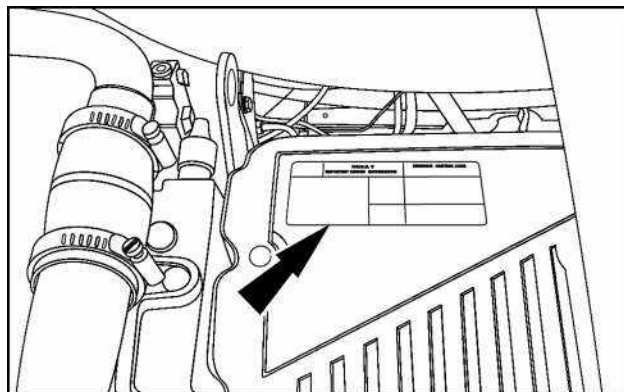
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CNH America LLC		<b>CASE IH</b> AGRICULTURE	
Type & Designation Type & Désignation Type & Designation		Racine, WI 53404 U.S.A.	
Type approval number Numéro Tipo de homologación		Made in U.S.A.	
Product ID Number (PIN) Identification number Número de identificación		Net Code	
Net weight Poids net Peso neto	kg	Unladen mass Léevings Poids vide	kg
Permissible total mass Charge admissible sur chassis Avant Masse totale admissible	kg	Chassis load Charge chassis Masse sur chassis	kg
Permissible rear axle load Charge admissible sur l'essieu Arrière Masse d'essieu	kg	Permissible road train mass Poids Masse sur route	kg
Permissible total mass Charge admissible sur l'ensemble Masse totale	kg	Rated net power (ISO 9122) Puissance nette nominale Potencia neta nominal	kW
Independent front axle load Masse indépendante à l'essieu indépendant Masse axiale à l'essieu indépendant	kg	Model Year Modèle Año de Construcción	
Permissible front axle load Charge admissible sur l'essieu Avant Masse d'essieu	kg	Year of Construction Année de Construction Año de Construcción	
Permissible total mass Charge admissible sur l'ensemble Masse totale	kg	Plate number	84129927 B

84129927 2

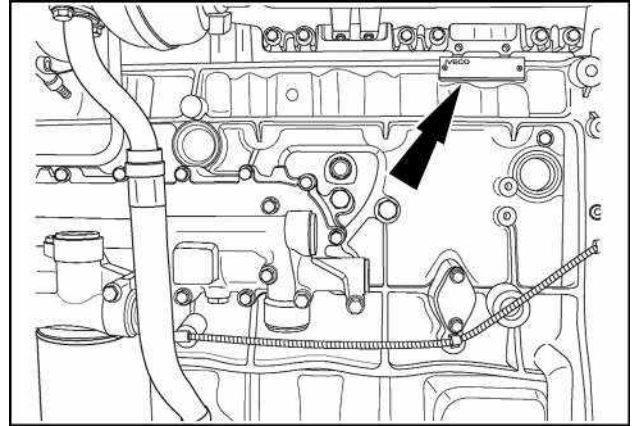
### Engine

On a plate on the valve cover.



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It is also on a plate on the left hand side or exhaust side of the engine.

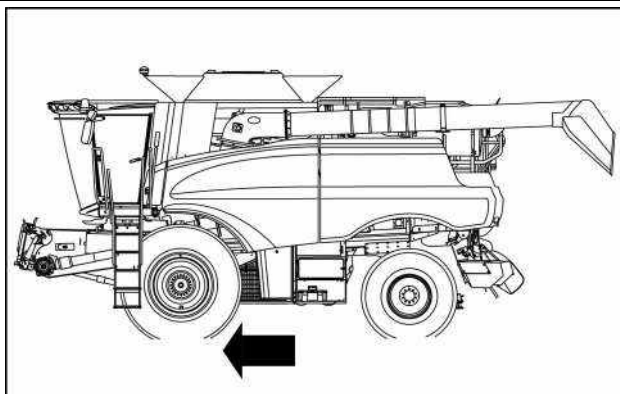


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## Machine orientation

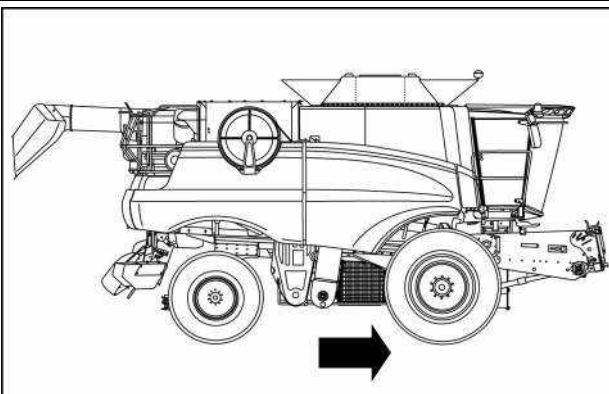
To determine "left-hand" (LH) and "right-hand" (RH) stand at the rear of the machine and face the normal direction of travel.

**NOTE:** The arrow indicates the normal direction of travel.



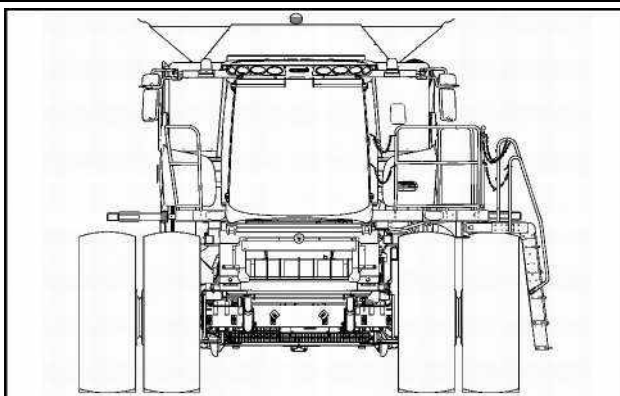
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Left-hand side



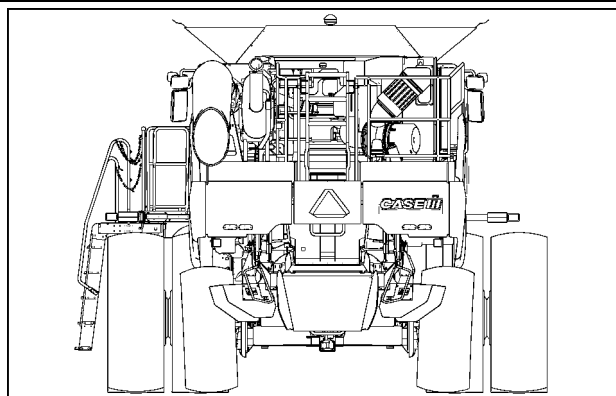
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Right-hand side



NHPH12AF03454AA 3

Front



NHPH12AF03455AA 4

Rear



## Selective Catalytic Reduction (SCR) exhaust treatment - Product overview

### What is Selective Catalytic Reduction (SCR)?

Your CASE IH machine is equipped with additional components to comply with national and local exhaust emissions requirements. The main components of the SCR system include the SCR catalyst, the Diesel Exhaust Fluid (DEF)/AdBlue® injection unit, the DEF/AdBlue® tank, and the DEF/AdBlue® dosing control unit.

### How does Selective Catalytic Reduction (SCR) work?

During combustion, harmful Nitrogen Oxide ( $\text{NO}_x$ ) molecules are formed in the exhaust. By injecting a DEF/AdBlue® solution into the exhaust prior to a catalyst, the  $\text{NO}_x$  can be converted to harmless elemental Nitrogen and water. This happens when the  $\text{NO}_x$  molecules react inside the catalyst with the heat generated by the engine and the ammonia in the DEF/AdBlue® solution.

**NOTICE:** Prolonged idling of the machine with no load for more than **6 h** will cause damage to the SCR catalyst.

During cold engine operation at low engine coolant and ambient air temperatures, water vapor will be visible from the exhaust. This water vapor will resemble steam or light white smoke, and will dissipate as the engine and machine components warm. This water vapor is considered normal.

**NOTE:** After engine shutdown, the SCR system will perform a purge cycle, which permits the supply module to continue to run for up to 70 seconds. This is considered normal and requires no action from the operator.

### What is Diesel Exhaust Fluid (DEF)/AdBlue®?

DEF/AdBlue® is a clear, colorless, non-toxic, aqueous urea solution ( **32.5 %** ) with a slight ammonia odor. It is used to chemically reduce  $\text{NO}_x$  emissions from heavy-duty diesel-powered vehicles. DEF/AdBlue® is neither explosive nor harmful to the environment. DEF/AdBlue® is classified under the minimum-risk category of transportable fluids.

International standard **ISO 22241-1** defines DEF/AdBlue® quality. The **American Petroleum Institute (API®)** has a voluntary certification program for DEF/AdBlue®. To ensure that DEF/AdBlue® satisfies the requirements of ISO 22241, look for the API® DEF Certification Mark™ whenever you purchase DEF/AdBlue®. API Diesel Exhaust Fluid Certification Mark is a registered trademark of API in the United States and or other countries.



### Finding Diesel Exhaust Fluid (DEF)/AdBlue®

Your CASE IH dealer is fully equipped to accommodate all your DEF/AdBlue® needs.

Case IH Max Service: 1-877-422-7344  
MaxService.na@cnh.com

### Storage, handling, and transport

**NOTICE:** Storage temperatures above **30 °C (86 °F)** greatly reduce the shelf life of DEF/AdBlue®.

DEF/AdBlue® has a typical shelf life of 6-12 months. Refer to the **SHELF LIFE** table below. In order for DEF/AdBlue® to remain in a useable condition, storage requirements must be met.

- Store between **-11 °C (12 °F)** and **30 °C (86 °F)**.
- Use only an approved DEF/AdBlue® container. Contact your dealer to obtain proper storage container(s).
- Keep container tightly closed.
- Keep container in a cool, well-ventilated area.
- Keep away from heat and direct sunlight.

## Thawing

- Your CASE IH machine is equipped with an internal tank heater to thaw frozen DEF/AdBlue®. Your machine will still function until the DEF/AdBlue® begins to flow. The SCR system will then function normally.

**NOTE:** You may notice a slight reduction in engine torque in high demand situations until the DEF/AdBlue® is fully thawed.

- Do not heat DEF/AdBlue® for long periods of time at temperatures above **30 °C (86 °F)**. This causes the solution to decompose, which very slowly decreases the expected shelf life.

**NOTICE:** Do not use an anti-gelling or freeze point improver in your DEF/AdBlue®. The **32.5 %** solution is specifically designed to provide the optimum NO<sub>x</sub> reduction properties. Any further blending or adjusting of the DEF/AdBlue® mixture will lessen its ability to perform correctly and may cause damage to the SCR components.

Handling and supply of additives, if any.

- Personal Protective Equipment (PPE) is not required under normal conditions. If splashing is likely, wear eye protection. For prolonged or repeated contact, impervious gloves are recommended. Follow the precautions listed in the SAFETY INFORMATION chapter when handling any service fluid.
- No additives are required.

**NOTICE:** Contaminated DEF/AdBlue® can affect the performance of your machine. Follow all instructions in this manual when handling DEF/AdBlue®.

## Shelf life

Constant ambient storage temperature	Minimum shelf life
Less than or equal to <b>10 °C (50 °F)</b>	36 months
Less than or equal to <b>25 °C (77 °F)</b> <sup>1</sup>	18 months
Less than or equal to <b>30 °C (86 °F)</b>	12 months
Less than or equal to <b>35 °C (95 °F)</b>	6 months
Greater than <b>35 °C (95 °F)</b>	— <sup>2</sup>
<sup>1</sup> To prevent decomposition of DEF/AdBlue®, prolonged transportation or storage above <b>25 °C (77 °F)</b> should be avoided.	
<sup>2</sup> Significant loss of shelf life: check every batch before use. See your CASE IH dealer for more information on testing.	

**NOTE:** The main factors taken into account to define the shelf life in the table above are the ambient storage temperature and the initial alkalinity of DEF/AdBlue®. The difference in evaporation between vented and non-vented storage containers is an additional factor.

**NOTE:** The information in this table is for reference only and has been provided by the International Organization for Standardization, Document number **ISO 22241-3 Diesel engines - NO<sub>x</sub> reduction agent AUS 32 - Part 3: Handling, transportation and storage**.

**NOTE:** DEF/AdBlue® that remains in the tank of the machine after the season does not require any special precautions unless storage exceeds the shelf life table above.

## Disposal

- Dispose of DEF/AdBlue® and any filter accumulations in accordance with all applicable Federal, State, and local laws governing waste disposal.

## US Environmental Protection Agency (EPA) and California Emissions Control Warranty Statement

CASE IH warrants to the ultimate purchaser and each subsequent purchaser that the engine is designed, built and equipped so as to conform with US Environmental Protection Agency (EPA) regulations applicable at the time of manufacture and that it is free from defects in workmanship or material which would cause it not to meet these regulations for a period of:

- 2 years or 1,500 hours of operation, whichever occurs first, for engines less than **19 kW (25 Hp)**
- 5 years or 3,000 hours of operation, whichever occurs first, for engines greater than or equal to **19 kW (25 Hp)**

**NOTE:** This warranty applies to all units operated in the United States or Canada.

## Coverage

The model year, class of diesel engine, and emission application determination for your engine are identified on the Emission Control Information Label. This label is affixed to one of the following areas of the engine: the top of engine's rocker arm cover, the right-hand side of the oil pan, and the right-hand side of the engine front gear cover. The warranty period begins on the date the new equipment is sold to the first retail purchaser. The presence of the emission control label is the indication that the engine conforms to the applicable standards. Any emission control system parts which are proven defective during normal use will be repaired or replaced during the warranty period.

The engine owner has responsibility to perform all the required maintenance listed in the Owner's Manual. CASE IH will not deny an emission warranty claim solely because no record of maintenance exists; however, a claim may be denied if failure to perform maintenance resulted in the failure of a warranted part.

It is recommended that replacement parts used for maintenance or repairs be CASE IH Service Parts to maintain the quality originally designed into your emission certified engine. The use of non- CASE IH parts does not invalidate the warranty on other components unless the use of such parts causes damage to warranted parts.

The manufacturer is liable for damages to other engine components caused by the failure of any warranted emission control system part. CASE IH is not responsible for failures resulting from improper repair or the use of parts that are not genuine CASE IH or CASE IH approved parts.

## Component coverage

New engines certified for sale and registered will have the following items covered by the emission warranty, depending on the emission level of the engine, if the items were first installed on the new engine as original equipment:

### Fuel injection system

- Fuel injection pump
- Fuel injectors
- Fuel injection lines

### Air induction system

- Intake manifold
- Turbocharger system (includes exhaust manifold)
- Charge air cooler

### Positive Crankcase Ventilation (PCV) system (if applicable)

- PCV valve
- Oil fill cap

### Exhaust after treatment Devices (if applicable)

- Diesel Oxidation Catalyst (DOC)
- Diesel Particulate Filter (DPF)
- Selective Catalytic Reduction (SCR)
- Diesel Exhaust Fluid (DEF) tank and dispensing systems

### Exhaust Gas Recirculation Systems (EGR)

- EGR valve assembly
- EGR cooler

### Cold Start Enrichment Systems

Electronic Control Units, Sensors, Solenoids, and Wiring harnesses used in above systems

## Emissions warranty does not cover

- Repairs arising from storage deterioration, failure to maintain the equipment, negligence, alteration, improper use of the equipment, collision or other accident, vandalism, or other casualty, or operation beyond rated capacity or specification.
- Repairs arising from abuse or neglect, including but not limited to: operation without adequate coolant or lubricants, adjustments to the fuel system outside equipment specifications, over-speeding, improper storage, starting, warm-up, or shutdown practices, incorrect fuel or contaminated fuel, oil or other fluids.
- Normal maintenance services, such as engine tune-ups, engine fuel system cleaning, checks, adjustments, shimming, etc.
- Items replaced due to customer demand.
- Labor charges performed by anyone except a dealer authorized by contract to repair the equipment, unless they qualify under special provisions (i.e. outside labor).
- Any and all travel costs for items such as towing, service calls, or transporting a unit to and from the place where the warranty service is performed.

- Normal maintenance costs, including but not limited to: lubricants, coolants, fluids, fuel, filters, and associated labor. Lubricants, filters, and coolants may qualify for warranty reimbursement if they require replacement as a DIRECT RESULT of a defect in material or workmanship.
- Claims involving the inspection or reconditioning of units after storage or prior use.
- Repairs arising from service performed by agents not approved by CASE IH.
- Repairs arising from any unauthorized modification to the product or the use of non- CASE IH parts, implements or attachments.
- Removal, replacement, or installation of non- CASE IH optional equipment, attachments or components.
- Premiums charged for overtime labor costs or out of shop expenses.
- Economic loss including lost profits, crop loss, equipment rental, or other expense.
- Unauthorized modification or updating machines without a warrantable failure.
- Any and all costs of dealer shop supplies incurred with repairs, including but not limited to: solvents, cleaners, anti-seize lubricants, loctite, sealant, adhesive, oil-dry, shop towels, etc.
- Failure of the machine, its implements or attachments caused by improper field application or loading.
- Any and all costs for coolant, fuel, or lube (oil) analysis including supplies and lab recommendations.
- Cost associated with cleaning of machine in preparation for servicing.

## 2 - SAFETY INFORMATION

### Safety alert symbol and signal word definition


#### Personal safety





This is the safety alert symbol. It is used to alert you to potential personal injury hazards. Obey all safety messages that follow this symbol to avoid possible death or injury.

Throughout this manual you will find the signal words DANGER, WARNING, and CAUTION followed by special instructions. These precautions are intended for the personal safety of you and those working with you.

Read and understand all the safety messages in this manual before you operate or service the machine.

 DANGER indicates a hazardous situation that, if not avoided, will result in death or serious injury.

 WARNING indicates a hazardous situation that, if not avoided, could result in death or serious injury.

 CAUTION indicates a hazardous situation that, if not avoided, could result in minor or moderate injury.

### FAILURE TO FOLLOW DANGER, WARNING, AND CAUTION MESSAGES COULD RESULT IN DEATH OR SERIOUS INJURY.

#### Machine safety

**NOTICE:** Notice indicates a situation that, if not avoided, could result in machine or property damage.

Throughout this manual you will find the signal word Notice followed by special instructions to prevent machine or property damage. The word Notice is used to address practices not related to personal safety.

#### Information

**NOTE:** Note indicates additional information that clarifies steps, procedures, or other information in this manual.

Throughout this manual you will find the word Note followed by additional information about a step, procedure, or other information in the manual. The word Note is not intended to address personal safety or property damage.

## Safety signs or informational decals - Safety signs

ISO two panel pictorial symbol safety signs are defined as follows:

- The first panel **(1)** indicates the nature of the hazard.
- The second panel **(2)** indicates the appropriate avoidance of the hazard.
- Background color is YELLOW. Prohibition symbols such as STOP, if used, are RED.



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## Safety rules

### General recommendations

Most farm machinery accidents can be avoided by the observance of a few simple safety precautions.

#### WARNING

##### Misuse hazard!

**Multiple sensors on your machine control safety functions. For example, a sensor in the operator's seat automatically disengages the drive to the attachment when the operator leaves the seat. To ensure a safe operating mode, DO NOT disconnect or bypass these sensors. Repair all inoperable sensors. Failure to comply could result in death or serious injury.**

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1. Read this manual thoroughly before starting off, operating, servicing, refuelling, storing or carrying out any other operation on the machine. A few minutes reading will save you time and hassle later. Lack of knowledge can lead to accidents.
2. Your machine was designed with safety very much in mind. However, there is no real substitute for caution and attention in preventing accidents. Once an accident has happened it is too late to think about what you should have done!
3. The machine must be operated only by responsible persons who have been adequately trained and authorized to use the machine. All persons who will be operating this machine shall possess a valid local vehicle operating permit and/or other applicable local age work permits.
4. The machine may only be used by a skilled operator familiar with all the controls and harvesting techniques on cultivated land with slopes up to maximum **26 % ( 15 ° )** uphill and downhill.  
  
Raised equipment, full tanks and other loads will change the center of gravity of the machine. The machine can tip or roll over when near ditches and embankments or uneven surfaces.  
  
The table lists the "MAXIMUM %" sideways driving that is permitted [provided good even ground and sufficient tire adherence conditions exist].
 

Traction tire	Overall width	Side slope
710/70R42	3.5 m	35 % ( 19 ° )
800/70R32	3.7 m	35 % ( 19 ° )
800/75R32	3.7 m	35 % ( 19 ° )
900/60R32	3.8 m	40 % ( 22 ° )
900/60R38	3.9 m	40 % ( 22 ° )
900/65R32	4.0 m	40 % ( 22 ° )
1050/50R32	4.2 m	40 % ( 22 ° )
Tracks 24 in	3.5 m	35 % ( 19 ° )
Tracks 30 in	3.8 m	40 % ( 22 ° )
5. The machine has only one operator station and this is the cab of your machine, which is a one man operated machine. Never permit anyone other than the operator to ride on the machine, never permit anyone to ride on or in an attachment. Do not allow riders on the machine; do not allow people standing on the ladder and the platform next to the cab when harvesting. Your view to the left will be obstructed and a rider risks to fall from the machine during unforeseen or abrupt movements of the machine. There is no need for other people on or around the machine during normal operation.
6. The instructional seat is installed in order to allow a trainer or a trainee to be seated in a safe way while teaching a new Operator. It can be used also by dealer personnel when monitoring the function of the machine during harvest. In all other circumstances, you shall not allow occupants on the seat, nor during transfer between the fields, nor during operation in the field. You will be hindered and the view to the left for unloading will be seriously obstructed.
7. When the instructional seat is occupied, the following precautions must be followed:
  - The machine should be driven only at slow speeds and over level ground.
  - Avoid driving on highways or public roads.
  - Avoid quick starts or stops.
  - Avoid sharp turns.
  - Always wear correctly adjusted seat belts.
  - Keep doors closed at all times.
8. No-one should be standing on the ladders or platforms when the machine is moving.
9. Before starting the machine, always make sure that there are no persons, pets or obstacles nearby. Warn bystanders by sounding the horn several times.
10. Take the necessary precautions (e.g. assistance) to always be aware of the possible presence of bystanders and pets, certainly when manoeuvring in confined areas, such as the farm yard and sheds. Be conscious about the fact that the audible reversing alarm may not be sufficient. Children may not know the meaning of such an alarm or people may not react fast enough to go to a safe area.
11. Keep bystanders and pets away from the machine during harvest. Ask bystanders to leave the field. There is the risk for bystanders to be overrun by the machine or to be caught by the intake and feeding components.
12. Keep children away from and off the machine at all times.

13. A person or pet within the operating area of a machine can be struck or crushed by the machine or its equipment. DO NOT allow anyone to enter the work area.
14. **⚠ CAUTION**  
**Tip-over hazard!**  
**To maintain safe stability and tracking characteristics during braking, refer to SPECIFICATIONS - Counterweights before installing counterbalances (rear-mounted counterweights). Always make sure the quantity of counterbalances corresponds to the attachment installed on the machine.**  
**Failure to comply could result in minor or moderate injury.**
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- When installing any attachment other than those offered by CASE IH, ensure that traffic regulations (e.g. no obstruction of the headlights and signal plates) and the stability of the machine (counterweights) are still met. In case of doubt, contact your CASE IH dealer.
15. Read all the safety decals adhered to the machine and follow the instructions. Replace any damaged or missing decals immediately and place orders for these with your local CASE IH dealer. Keep the safety decals free from dirt or grime.
16. Always keep a first aid kit at hand.
17. Never alter the position of or remove the fire extinguisher. Ensure to replace it by a similar type of fire extinguisher or have it checked or refilled after every usage and/or date of expiry.
18. Always face the machine and use the steps and grab handles provided when getting on or off the machine, maintaining a three-point contact. Do not use controls or accessories as hand holds.
19. Dirty or slippery steps, ladders and platforms can cause falls. Make sure these surfaces remain clean and clear of debris.
20. Do not jump off the machine unless explicitly told to do so.
21. Never step on the cab roof.
22. DO NOT use the machine or attachment as a lift, ladder or platform for working at heights.
23. Never step on places on the machine which are not foreseen with anti-slip strips.
24. Never enter the grain tank while the machine engine is running. Remain outside the grain tank in a stable position and use a wooden clearing club if the grain tank unloading auger becomes clogged. Take utmost care not to be pulled into the grain tank in case unplugging is required.
25. Before working on the machine, disengage all drives, stop the engine and remove the ignition key. Wait for the rotating parts to run down. Never work around the machine with loose clothing, jewelry, watches, long hair and other loose or hanging items that might catch in any of the parts.
26. Keep hands away from moving parts of the machine.
27. Do not alter the relief valve setting of the hydraulic systems (i.e. hydrostatic steering, hydraulic lift, remote control valves, etc.).
28. Never operate the machine under the influence of alcohol, drugs or while otherwise impaired.

## General safety rules

### **⚠ General safety rules ⚠**

Use caution when operating the machine on slopes. Raised equipment, full tanks and other loads will change the center of gravity of the machine. The machine can tip or roll over when near ditches and embankments or uneven surfaces.

Never permit anyone to ride in the machine that is not seated in the instructional seat with the seat belt fastened.

Never permit anyone to ride on any of the machine access platforms or ladders while the machine is in motion.

Never operate the machine under the influence of alcohol, drugs, or while otherwise impaired.

Pay attention to overhead power lines and hanging obstacles. High voltage lines may require significant clearance for safety.

Hydraulic oil or diesel fuel leaking under pressure can penetrate the skin, causing serious injury or infection.

- DO NOT use your hand to check for leaks. Use a piece of cardboard or paper.
- Stop engine, remove key and relieve the pressure before connecting or disconnecting fluid lines.
- Make sure all components are in good condition and tighten all connections before starting the engine or pressurizing the system.
- If hydraulic fluid or diesel fuel penetrates the skin, seek medical attention immediately.
- Continuous long term contact with hydraulic fluid may cause skin cancer. Avoid long term contact and wash the skin promptly with soap and water.



Keep clear of moving parts. Loose clothing, jewelry, watches, long hair, and other loose or hanging items can become entangled in moving parts.

Wear protective equipment when appropriate.

DO NOT attempt to remove material from any part of the machine while it is being operated or components are in motion.

Make sure all guards and shields are in good condition and properly installed before operating the machine. Never operate the machine with shields removed. Always close access doors or panels before operating the machine.

Dirty or slippery steps, ladders, walkways, and platforms can cause falls. Make sure these surfaces remain clean and clear of debris.

A person or pet within the operating area of a machine can be struck or crushed by the machine or its equipment. DO NOT allow anyone to enter the work area.

Raised equipment and/or loads can fall unexpectedly and crush persons underneath. Never allow anyone to enter the area underneath raised equipment during operation.

Never operate engine in enclosed spaces as harmful exhaust gases may build up.

Before starting the machine, be sure that all controls are in neutral or park lock position.

Start the engine only from the operator's seat. If the safety start switch is bypassed, the engine can start with the transmission in gear. Do not connect or short across terminals on the starter solenoid. Attach jumper cables as described in the manual. Starting in gear may cause death or serious injury.

Always keep windows, mirrors, all lighting, and Slow Moving Vehicle (SMV) emblem clean to provide the best possible visibility while operating the machine.

Operate controls only when seated in the operator's seat, except for those controls expressly intended for use from other locations.

Before leaving the machine:

1. Park machine on a firm level surface.
2. Put all controls in neutral or park lock position.
3. Engage park brake, use wheel chocks if required.
4. Lower all hydraulic equipment – Implements, header, etc.
5. Turn off engine and remove key.

When, due to exceptional circumstances, you would decide to keep the engine running after leaving the operator's station, then the following precautions must be followed:

1. Bring the engine to low idle speed.
2. Disengage all drive systems.

### 3. **⚠ WARNING**

**Some components may continue to run down after disengaging drive systems. Make sure all drive systems are fully disengaged. Failure to comply could result in death or serious injury.**

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Shift the transmission into neutral.

4. Apply the parking brake.

## Maintenance Safety

### **⚠ WARNING**

**Risk of harm during maintenance of the machine!**

**Before you start servicing the machine, attach a DO NOT OPERATE warning tag to the machine in a visible area.**

**Failure to comply could result in death or serious injury.**

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### **⚠ Maintenance safety ⚠**

1. Follow the maintenance schedule with regard to the machine servicing intervals.
  - A. Remember that the machine requires minor attention from time to time.
  - B. Also remember that the time taken on maintenance will greatly extend the life of the machine.
  - C. Take the necessary precautions not to spill any oil, fuel, grease or coolant.
2. Service the machine on a firm level surface.
3. DO NOT attempt to remove material from any part of the machine, clean, lubricate or carry out any adjustments on the machine while it is in motion or while the engine is running.
4. Keep hands, feet and/or garments away from moving parts. Check that all rotating parts are correctly guarded.
5. Never work under the attachment without first ensuring that the straw elevator hydraulic cylinder safety latch is engaged or that it is securely supported.
  - A. Raised equipment and/or loads can fall unexpectedly and crush persons underneath.
  - B. Never allow anyone to enter the area underneath raised equipment during operation.
  - C. Unsupported hydraulic cylinders can lose pressure and drop the equipment causing a crushing hazard.
  - D. Do not leave equipment in a raised position while parked or during service, unless securely supported.
6. Always use suitable jack stands when carrying out maintenance on the traction or the steering axle. Only jack up or lift the machine at the points indicated in this manual.
7. Keep the machine, particularly the brakes and steering, maintained in a reliable and satisfactory condition to ensure your safety and compliance with legal requirements. Regularly check the efficiency of the brakes and replace the brake pads before they are totally worn out.
8. Stop the engine, remove the key and switch off the battery switch before disconnecting or connecting electrical connections.
9. Any leakage of hydraulic oil or fuel under pressure may cause severe harm, so always use a shield, goggles and gloves when tracing oil or fuel leaks. DO NOT use your hand to check for leaks. Use a piece of cardboard or paper.



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10. Never construct flexible hose assemblies from hoses which have been previously used as part of a hose assembly.
11. Never weld to the piping.
12. When flexible hoses or pipings are damaged, replace them immediately.
13. Always replace worn or frayed belts before they fail.
14. Disconnect the alternator wires and the battery cables before carrying out any electrical welding on the machine. In addition, attach the earth cable of the electric welder as close as possible to the area to be welded.
15. Remove all tools from the machine after carrying out any lubrication, maintenance or repair work.
  - Keep area used for servicing the machine clean and dry.
  - Clean up spilled fluids.
  - Also, make sure that all components have been securely tightened and all guards properly fitted.
- Replace or repair damaged guards immediately.
- Never operate the machine with shields removed.
16. Jack-up or lift the machine only at the jack or lift points indicated in this manual.
17. The air conditioning system contains gases that are harmful to the environment when released into the atmosphere. Service, repair or recharging must be performed only by a trained service technician.
18. Adhere to all recommendations that are mentioned in this manual such as service intervals, torques, lubricants, etc.
19. Replace damaged or worn tubes, hoses, electrical wiring, etc.
20. Engine, transmission, exhaust components and hydraulic lines may become hot during operation. Take care when servicing such components. Allow surfaces to cool before handling or disconnecting hot components. Wear protective equipment when appropriate.

## Wheels and tires

### **Wheels and tires**

- Make sure tires are correctly inflated. Do not exceed recommended load or pressure. Follow the proper tire inflation chart listed in this manual.
- Wheels and tires are very heavy. Handle with care and ensure, when stored, that they cannot topple over. Handling without the correct equipment may cause injury or death.
- Never work on the tires unless you have the special tools and the necessary experience. Incorrect fitting could be a serious safety hazard. If in doubt, call in qualified personnel.
- The life and performance of the tires depend largely upon maintaining the correct pressure. Keep the tires inflated to the correct pressures.
- Hot tires can explode. Explosions can be caused by heat generated from welding, heating the rim or from external fire.
- Never weld on a wheel. Welding can cause stresses that will cause a rim to crack or break unexpectedly. Tires can separate explosively during welding.
- Always have a qualified tire mechanic service tires and rims. If a tire has lost all pressure take the tire and rim to a tire shop or a CASE IH dealer for service. Explosive separation of the tire can cause serious injury.
- Replace damaged tires and rims.

## Transport on public roads

### **Driving on public roads and general transportation safety**

Comply with local laws and regulations.

Use appropriate lighting to meet local regulations.

Make sure Slow Moving Vehicle (SMV) emblem, if required, is visible.

Make sure brake pedal latch is engaged. Brake pedals must be locked together for road travel.

Use safety chains for trailed equipment when provided with machine or equipment.

Lift implements and attachments high enough above ground to prevent accidental contact with road.

When transporting equipment or machine on a transport trailer, make sure it is properly secured. Be sure the SMV on the equipment or machine is covered while being transported on a trailer.

Be aware of overhead structures or power lines and make sure the machine and/or attachments can pass safely under.

## 2 - SAFETY INFORMATION

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Travel speed should be such that complete control and machine stability is maintained at all times.

Slow down and signal before turning.

Pull over to allow faster traffic to pass.

Follow correct towing procedure for equipment with or without brakes.

## Fire prevention

### **Fire and explosion prevention**

Fuel or oil leaked or spills on hot surfaces or electrical components can cause a fire.

Crop materials, trash, debris, bird nests, or flammable material can ignite on hot surfaces.

Always have a fire extinguisher on or near the machine.

Make sure the fire extinguisher(s) is maintained and serviced according to the manufacturer's instructions.

At least once each day and at the end of the day remove all trash and debris from the machine especially around hot components such as engine, transmission, exhaust, battery, etc. More frequent cleaning of your machine may be necessary depending on the operating environment and conditions.

At least once each day, remove debris accumulation around moving components such as bearings, pulleys,

belts, gears, cleaning fan, etc. More frequent cleaning of your machine may be necessary depending on the operating environment and conditions.

Inspect the electrical system for loose connections or frayed insulation. Repair or replace loose or damaged parts.

Do not store oily rags or other flammable material on the machine.

Do not weld or flame cut any items that contain flammable material. Clean items thoroughly with nonflammable solvents before welding or flame-cutting.

Do not expose the machine to flames, burning brush, or explosives.

Promptly investigate any unusual smells or odors that may occur during operation of the machine.

## Fire extinguisher

### **⚠ DANGER**

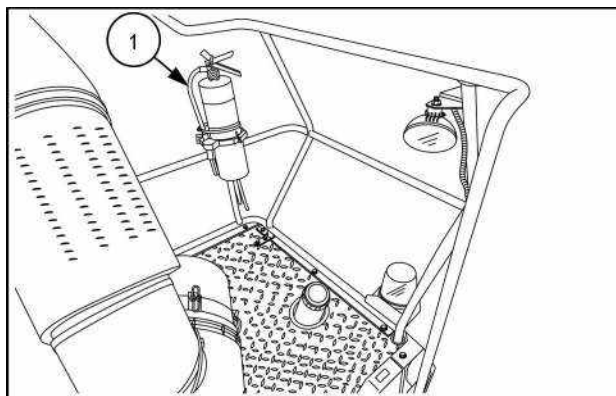
#### **Fire hazard!**

**Always have a fire extinguisher on or near the machine. Keep the fire extinguisher in good condition through routine maintenance and service according to the manufacturer's instructions. Failure to comply will result in death or serious injury.**

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### **⚠ Fire extinguisher ⚠**

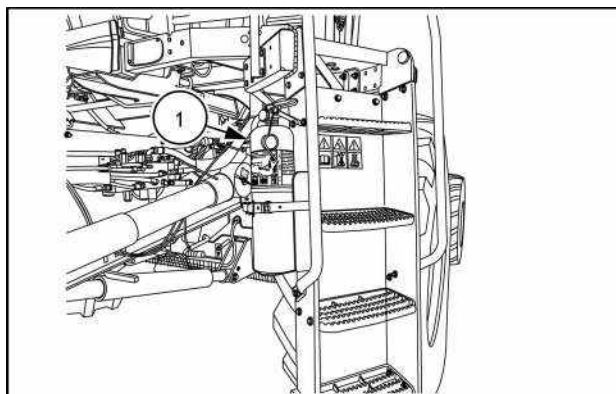
The combine can be equipped with two fire extinguishers. One is located on the engine platform (1).



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The other is on the side of the cab access ladder (1).

Check the extinguisher pressure at least once a year before the start of the season.



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### **To check if the extinguisher is still under pressure, proceed as follows:**

1. Unscrew the pressure gauge from the valve.
2. The needle will go from the green area to '0' in the red area.
3. Screw the pressure gauge on to the valve. The needle will go from '0' in the red field to the green field.
4. If the needle remains in the '0' of the red field, the extinguisher has a leakage. The extinguisher has to be repaired by a recognized extinguisher dealer.

**NOTE:** Once the extinguisher is discharged, no matter for how long, it must be recharged.

The decal on the fire extinguisher is explained below:

- The extinguisher can be used and has been tested at temperatures of **-20 °C (-68 °F)** and **60 °C (140 °F)**.
- The type of the extinguisher 'PKD 6', this means: Dry chemical powder and the capacity is **6 kg (13.22 lb)**.

To use the extinguisher proceed as follows:

1. Remove the safety pin.
2. Aim nozzle at base of fire.
3. Press on the handle.

The extinguisher can be used on:

- 'A' class fires = dry fires
- 'B' class fires = liquid fires
- 'C' class fires = gas fires

After use of the extinguisher on a fire,

- the pressure gauge needle will go to zero pressure.
- Do not try to repair or refill the extinguisher yourself.
- Bring the used or leaking extinguisher to a recognized extinguisher dealer.

- Do not use the extinguisher on objects under electrical tension of more than 1000 Volt and at less than **1 m (3.28 ft)** distance.

### Fire Sources

- The possibility of accidental fires is ever present during harvest. The three ingredients needed for a fire; combustible materials, oxygen, and an ignition source. These are always present during the harvesting process.
- By nature, mature crops are dry and dirty, and are sources of considerable debris that can accumulate on harvesting equipment.
- Your best defense against potential fires on your machine is to know how to minimize the potential through proper adjustment, operation, maintenance and cleaning of the machine. This section will provide information on operating practices to minimize the potential to start a fire.

### What to do in the event of a fire.

Above all else, do not panic. Alert monitoring, along with good management practices, will prevent most fires. If a fire should occur take the following steps.

1. Stop the machine in a safe location, turn off the engine and remove the key.
2. Use a fire extinguisher to put the fire out.
3. Immediately stand by with fire extinguishers while completely inspecting the chassis and header to determine and correct the source of the fire.
4. Completely inspect the machine to make sure there are no remaining smoldering debris or trash anywhere on the machine.

## Battery safety

### ⚠ WARNING

#### Explosive gas!

Batteries emit explosive hydrogen gas and other fumes while charging. Ventilate the charging area. Keep the battery away from sparks, open flames, and other ignition sources. Never charge a frozen battery.

Failure to comply could result in death or serious injury.

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### ⚠ WARNING

#### Hazardous chemicals!

Battery electrolyte contains sulfuric acid. Contact with skin and eyes could result in severe irritation and burns. Always wear splash-proof goggles and protective clothing (gloves and aprons). Wash hands after handling.

Failure to comply could result in death or serious injury.

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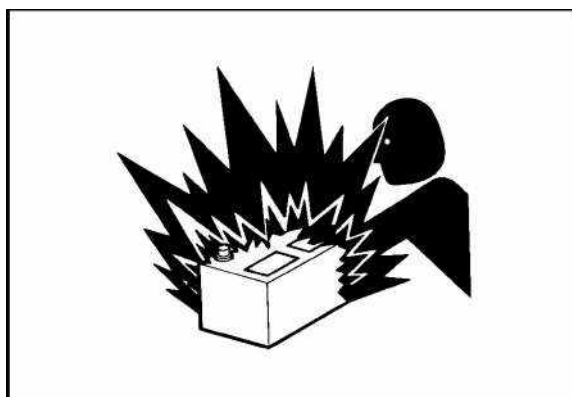
### ⚠ General battery safety ⚠

Failure to comply to the following messages could result in death or serious injury.

- Always wear eye protection when working with batteries.
- Ventilate when charging or using in an enclosed area.
- When using auxiliary batteries or connecting jumper cables to start the engine, use the procedure shown in the operator's manual. Do not short across terminals.
- Follow manufacturer's instructions when storing and handling batteries.
- Keep out of reach of children and other unauthorized persons.
- DO NOT make sparks or use an open flame near the battery.
- When disconnecting battery terminals, remove the Negative (-) cable first; then remove the Positive (+). When connecting cables, connect the Positive (+) first, then connect the Negative (-).
- Disconnect the battery (both terminals) before welding on any part of the machine. Failure to do so may cause damage to sensitive electrical components.
- BATTERY ACID CAUSES SEVERE BURNS. Batteries contain sulfuric acid. Avoid contact with skin, eyes or clothing. Always wear eye protection when working near batteries. Wash hands after handling. KEEP OUT OF REACH OF CHILDREN.

- Antidote: EXTERNAL - flush with water.

- Antidote: INTERNAL - Drink large quantities of water or milk. DO NOT induce vomiting. Seek medical attention immediately.
- Antidote: EYES - Flush with water for 15 minutes and seek medical attention immediately.
- BATTERIES PRODUCE EXPLOSIVE GASES. Keep sparks, flame, cigars and cigarettes away. Ventilate when charging or using in enclosed area.
- When working around storage batteries, remember that all of the exposed metal parts are "live". Never lay a metal object across the terminals because a spark, short circuit, explosion or personal injury may result.
- Battery posts, terminals and related accessories contain lead and lead compounds. Wash hands after handling.



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## Instructional seat safety

### ⚠ Instructional seat safety ⚠

Passengers are not permitted to ride on the machine.

The instructional seat is to be used only when training a new operator or when a service technician is diagnosing a problem.



When required for the purposes of training or diagnostics, only one person may accompany the operator and that person must be seated in the instructional seat.

When the instructional seat is occupied, the following precautions must be followed:

- Machine should be driven only at slow speeds and over level ground.
- Avoid driving on highways or public roads.
- Avoid quick starts or stops.
- Avoid sharp turns.
- Always wear correctly adjusted seat belts.
- Keep door closed at all times.

## Operator presence system

### **Operator presence system**

**The operator presence system should never be disconnected, bypassed, or otherwise made inoperable.**

Your machine is equipped with an operator presence system to prevent the use of some functions when the operator is not in the operator's seat. Some of those functions are:

- Ground drive
  - The parking brake will be applied when ground speed is zero
- AFS Accuguide™ system
- Unloading
- Feeder

If the system is inoperable, the system must be repaired.

## Power Take Off (PTO)

### **Power Take-Off (PTO)**

PTO-driven machinery can cause death or serious injury. Before working on or near the PTO shaft or servicing or clearing the driven machine, put the feeder drive switch in the off position, stop the engine, and remove the key.

When doing stationary PTO work, keep clear of all moving parts and make sure appropriate guards are in place.

Whenever a PTO is in operation, a guard must be in place to prevent death or injury to the operator or bystanders.

## Warning lights

### **Reflectors and warning lights**

Flashing amber warning lights must be used when operating on public roads.

## Seat belt precautions

### **Seat belts**

**⚠ WARNING****Avoid injury!**

**Before starting the engine, securely fasten the seat belt. The seat belt can help ensure your safety if it is properly used and maintained. Never wear a seat belt loosely or with slack in the belt system. Never wear the belt if it is twisted or pinched between the seat structures.**

**Failure to comply could result in death or serious injury.**

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Seat belts must be worn at all times.

Seat belt inspection and maintenance:

- Keep seat belts in good condition.
  - Keep sharp edges and items that can cause damage away from the belts.
  - Periodically check belts, buckles, retractors, tethers, slack take-up system, and mounting bolts for damage and wear.
  - Replace all parts that have damage or wear.
  - Replace belts that have cuts that can make the belt weak.
  - Check that bolts are tight on the seat bracket or mounting.
  - If belt is attached to seat, make sure seat or seat brackets are mounted securely.
- Keep seat belts clean and dry.
  - Clean belts only with soap solution and warm water.
  - Do not use bleach or dye on the belts because this can make the belts weak.
1. Seat belts are part of your protective system and must be worn at all times. The operator must be held to the seat inside the frame in order for the protective system to work.
  2. Keep the seat belts in good condition.
  3. Keep sharp edges and items that can cause damage away from the belts.
  4. Periodically check the belts, buckles, retractors, tethers, slack take-up system and mounting bolts for damage.
  5. Replace all parts that have damage or wear.
  6. Replace belts that have cuts that can make the belt weak.
  7. Check that bolts are tight on the seat bracket or mounting.
  8. Keep seat belts clean and dry.
  9. Clean belts only with soap solution and warm water.
  10. Do not use bleach or dye on the belts, because this can make the belts weak.

## Air conditioning

### **⚠ Air-conditioning system ⚠**

The air-conditioning system is under high pressure. Do not disconnect any lines. The release of high pressure can cause serious injury.

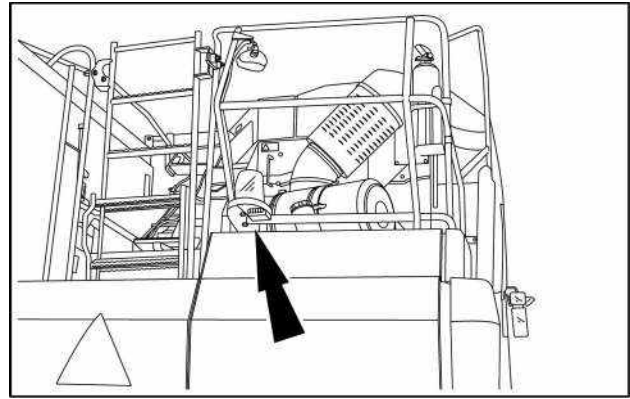
Service, repair, or recharging must be performed only by a trained service technician.

The air-conditioning system contains gases that are harmful to the environment when released into the atmosphere. Do not attempt to service or repair the system.

## Reverse Alarm and Light

### **⚠ Reverse alarm ⚠**

When driving the combine in reverse, an audible alarm will automatically sound to warn bystanders.



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## Personal protective equipment (PPE)

### **Personal Protective Equipment (PPE)**

Wear Personal Protective Equipment (PPE) such as hard hat, eye protection, heavy gloves, hearing protection, protective clothing, etc.

## Do Not Operate hang tag

### **WARNING**

**Risk of harm during maintenance of the machine!**

**Before you start servicing the machine, attach a DO NOT OPERATE warning tag to the machine in a visible area.**

**Failure to comply could result in death or serious injury.**

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Attach a DO NOT OPERATE (TAG) to the machine in an area that is clearly visible whenever the machine is not operating properly and/or requires service.

Complete the tag information for the "REASON" the tag is attached by describing the malfunction or service required. Validate the reason for attaching the tag by signing your name in the designated area on the tag.

The tag should only be removed by the person who signed and attached the tag, after validating the repairs or services have been completed.

## Hazardous chemicals

### **Hazardous chemicals**

If you are exposed to or come in contact with hazardous chemicals you can be seriously injured. The fluids, lubricants, paints, adhesives, coolant, etc. required for the function of your machine can be hazardous. They may be attractive and harmful to domestic animals as well as humans.

Material Safety Data Sheets (MSDS) provide information about the chemical substances within a product, safe handling and storage procedures, first aid measures and procedures to be taken in the event of a spill or accidental release. MSDS are available from your dealer.

Before you service your machine check the MSDS for each lubricant, fluid, etc. used in this machine. This in-

formation indicates the associated risks and will help you service the machine safely. Follow the information in the MSDS, on manufacturer containers, as well as the information in this manual when servicing the machine.

Dispose of all fluids, filters, and containers in an environmentally safe manner according to local laws and regulations. Check with local environmental and recycling centers or your dealer for correct disposal information.

Store fluids and filters in accordance with local laws and regulations. Use only appropriate containers for the storage of chemicals or petrochemical substances.

Keep out of reach of children or other unauthorized persons.

Additional precautions are required for applied chemicals. Obtain complete information from the manufacturer or distributor of the chemicals before using them.

## Electrical storm safety

### **Electrical storm safety**

Do not operate machine during an electrical storm.

If you are on the ground during an electrical storm, stay away from machinery and equipment. Seek shelter in a permanent, protected structure.

If an electrical storm should strike during operation, remain in the cab. Do not leave the cab or operator's platform. Do not make contact with the ground or objects outside the machine.

## Utility safety

### **Utility safety**

Make sure the machine has sufficient clearance to pass in all directions. Pay special attention to overhead power lines and hanging obstacles. High voltage lines may require significant clearance for safety. Contact local authorities or utilities to obtain safe clearance distances from high voltage power lines.

Retract raised or extended components, if necessary. Remove or lower radio antennas or other accessories. Should a contact between the machine and an electric power source occur, the following precautions must be taken:

- Stop the machine movement immediately.
- Apply the park brake, stop the engine, and remove the key.
- Check if you can safely leave the cab or your actual position without contact with electrical wires. If not, stay in your position and call for help. If you can leave your position without touching lines, jump clear of the machine to make sure you do not make contact with the ground and the machine at the same time.
- Do not permit anyone to touch the machine until power has been shut off to the power lines.

## Mounting and dismounting precautions

### **Mounting and dismounting**

Mount and dismount the machine only at designated locations that have hand-holds, steps, or ladders.

Do not jump off the machine.

Make sure steps, ladders, and platforms remain clean and clear of debris and foreign substances. Injury may result from slippery surfaces.

Face the machine when mounting and dismounting.

Maintain a three-point contact with steps, ladders, and hand-holds.

Never mount or dismount from a moving machine.

Do not use the steering wheel or other controls or accessories as hand-holds when entering or exiting the cab or operator's platform.

## Operating the machine

### **Mounting and dismounting**

1. Before operating the machine ensure that all safety guards are properly fitted and secured.
2. When operating the machine, always remain seated in the operator's seat. Operate controls only when seated in the operator's seat, except for those controls expressly intended for use from other locations.
3. For safety's sake never leave the operator's platform without first disengaging the machine drive mechanism, lowering the header, stopping the engine and removing the ignition key.
4. Never climb on or off the machine when it is in motion as there is a risk of being run over.

5. Use extreme caution when operating close to the edge of a ditch, a canal or a steep bank.
6. Never attempt to carry out any adjustments on the machine while it is in motion or while the engine is running.
7. Danger of death by electrocution!

Pay special attention to the overhead power lines. Make sure the machine has sufficient clearance to pass in all directions (also with raised or opened machine components). Also think of the radio aerial(s) or any other accessory or parts which may have been added afterwards.

High voltage lines may require significant clearance for safety. Contact local authorities or utilities to obtain safe clearance distances from high voltage power lines.

Should a contact between the machine and an electric power line occur, then the following precautions must be taken: Stop the machine movement immediately, stop the engine and apply the parking brake.

Check if you can safely leave the cab or your actual position without direct contact with electric wires. If not, stay in your position and call for help. If you can leave your position without touching the lines, jump off the last step or support position to ensure that there is NO contact between any part of your body, the machine and the ground at the same time. Never touch the machine afterwards until power to the lines has been shut off.

When people approach the machine, warn them not to touch the machine but to ask the electric power supply company to shut off the power to the lines.

8. Never apply the differential lock when turning. When engaged, the differential lock will prevent the machine from turning.
9. Ensure the engine is shut off and wait until the machine has completely stopped before opening any of the guards.  
THERE ARE ROTATING PARTS UNDER THE GUARDS WHICH MAY CONTINUE ROTATING AFTER THE MACHINE HAS BEEN STOPPED.  
Look and listen for evidence of rotating parts before opening any of the guards.
10. Do not operate machine during a thunderstorm.  
If you are on the ground during a thunderstorm, stay away from machinery and equipment. Seek shelter in a permanent, protected structure.  
If a lightning from a thunderstorm should strike during operation, remain in the cab. Do not leave the cab or operator's platform. Do not make contact with the ground or objects outside the machine.
11. Dust can cause "farmer's lung" disease. It may also contain harmful spraying residues. Keep the cab door and window closed during operation. Wear a dust mask when cleaning the air filters or accumulated dust in the machine.

12. Avoid changing direction abruptly, especially when reversing, to avoid dangerous pitching of the machine. Lower the attachment if the machine tends to lift at the rear.
13. Always operate the machine at a safe speed in accordance with the ground conditions.  
On uneven ground, proceed with the utmost caution to ensure proper stability.
14. When operating on gradients, never drive too fast, especially when turning.
15. Keep people away from the machine during harvest. Ask bystanders to leave the field. There is not only the risk to be overrun by the machine, but objects ejected by the residue chopper and spreader at the rear of the machine may cause harm. Stones may be thrown further than the chopped straw.
16. Pay the necessary attention while operating next to public roads or footpaths. Residue can get projected outside the field and hit unprotected people like bikers or pedestrians. Wait to cut the edge of the field till it is clear of bystanders.

## Connecting a header

### Connecting a header

1. When coupling an attachment to the base unit, never allow anyone to stand between the machine and the attachment.
2. Make sure that no one is standing in front of the machine when detaching an attachment.
3. Before operating the attachment, make sure that there is no one on or near the machine.  
Prior to engaging the PTO, always make sure there are no persons or obstacles nearby. Warn bystanders by sounding the horn three times. Entanglement in PTO. driven machinery can cause serious injury or death.
4. Never attempt to remove crop or residues from a plugged attachment while the machine is running.
  - Such carelessness could cost life or limb
  - In the event of a blockage, and if reversing the system is not successful, always disengage the threshing mechanism, switch off the engine and apply the parking brake before clearing the blockage.

## Hydraulic system safety

### Hydraulic system safety

#### WARNING

**Pressurized hydraulic fluid can penetrate the skin and cause severe injuries. Hydraulic fluid can also infect a minor cut or opening in the skin. Serious infection or reaction can result without immediate medical treatment. If injured by leaking fluid, see your doctor immediately. Failure to comply could result in death or serious injury.**

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- Hydraulic oil leaking under pressure can penetrate the skin and cause infection or other injury. To prevent personal injury:
  - Relieve all pressure before disconnecting fluid lines.
  - Before applying pressure, make sure all connections are tight and components are in good condition.
  - Never use your hand to check for suspected leaks under pressure. Use a piece of cardboard or wood for this purpose.
  - If injured by leaking fluid, seek medical attention immediately.
- The hydraulic hoses and fittings on your machine meet engineering specifications for the particular function. When replacing damaged, blown or worn hoses or fittings, use only manufacture authorized service parts.
- Care in hydraulic hose installation is a must:
  - Make sure pressure is relieved before starting installation procedure.
  - DO NOT kink or twist a hose, failure may occur.
  - Properly route the hose.
  - Have a certified hydraulic technician install the hose.
  - Remove air from the hydraulic system after installing any hydraulic component.
- Periodically check hydraulic system for leaks or damage. check for:
  - Leaks at hose fitting or in hose.
  - Damaged hoses and/or fittings.
  - Kinked, crushed, flattened, hard blistered, heat cracked, charred, twisted, soft or loose covered hoses.
  - Corroded or damaged fittings.
  - Leaking ports.

- Excessive dirt and debris around hoses and/or fittings.
- Damaged or missing hose retaining clamps, guards, shields, etc.
- DO NOT stand on or use a hose as a step. DO NOT pull or apply external forces to the hose. The hose may fail and cause injury.
- Keep all persons away from the working area. Mechanisms controlled by fluid power can become hazardous if a hose fails. Lifted mechanisms can fall to the ground, machine steering may fail, etc.
- Stay clear of a pressurized hose assembly that has blown apart. Hose fittings can be thrown off at high speed and a loose hose can whip around with great force.
- Hydraulic fluid can reach high temperatures. Allow fluid to cool before servicing the system.
- Escaping fluid under pressure may form a mist or fine spray which can flash or explode upon contact with an ignition source.
- Vibration can reduce hose service life. Make sure all retaining clamps and/or devices are secured.
- Environmental conditions can cause hose and fittings to deteriorate. Inspect hydraulic hoses periodically. Replace worn or damaged hoses and fittings.

### **Safety requirements for fluid power systems and components**

Flexible hose assemblies must not be constructed from hoses which have been previously used as part of a hose assembly.

Do not weld hydraulic piping.

When flexible hoses or piping are damaged, replace them immediately.

It is forbidden to modify a hydraulic accumulator by machining, welding or any other means.

Before removing hydraulic accumulators for servicing, the liquid pressure in the accumulator must be reduced to zero.

Pressure check on hydraulic accumulators shall be carried out by method recommended by the accumulator manufacturer.

Care must be taken not to exceed the maximum allowable pressure of the accumulator. After any check of adjustment there must be no leakage of gas.

## Working at heights

### **Working at heights**

When the normal use and maintenance of the machine requires working at heights:

- Correctly use installed steps, ladders, and railings.
- Never use ladders, steps, or railings while the machine is moving.

- Do not stand on surfaces which are not designated as steps or platforms.

Do not use the machine as a lift, ladder, or platform for working at heights.

### Ecology and the environment

Soil, air, and water are vital factors of agriculture and life in general. When legislation does not yet rule the treatment of some of the substances required by advanced technology, sound judgment should govern the use and disposal of products of a chemical and petrochemical nature.

**NOTE:** *The following are recommendations that may be of assistance:*

- Become acquainted with and ensure that you understand the relative legislation applicable to your country.
- Where no legislation exists, obtain information from suppliers of oils, filters, batteries, fuels, antifreeze, cleaning agents, etc., with regard to their effect on man and nature and how to safely store, use, and dispose of these substances.
- Agricultural consultants will, in many cases, be able to help you as well.

### Helpful hints

- Avoid filling tanks using cans or inappropriate pressurized fuel delivery systems that may cause considerable spillage.
- In general, avoid skin contact with all fuels, oils, acids, solvents, etc. Most of them contain substances that may be harmful to your health.
- Modern oils contain additives. Do not burn contaminated fuels and or waste oils in ordinary heating systems.
- Avoid spillage when draining off used engine coolant mixtures, engine, gearbox and hydraulic oils, brake fluids, etc. Do not mix drained brake fluids or fuels with lubricants. Store them safely until they can be disposed of in a proper way to comply with local legislation and available resources.
- Modern coolant mixtures, i.e. antifreeze and other additives, should be replaced every two years. They should not be allowed to get into the soil, but should be collected and disposed of properly.
- Do not open the air-conditioning system yourself. It contains gases that should not be released into the atmosphere. Your CASE IH dealer or air conditioning specialist has a special extractor for this purpose and will have to recharge the system properly.
- Repair any leaks or defects in the engine cooling or hydraulic system immediately.
- Do not increase the pressure in a pressurized circuit as this may lead to a component failure.
- Protect hoses during welding as penetrating weld splatter may burn a hole or weaken them, allowing the loss of oils, coolant, etc.



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