# 7200 Rigid / 8200 Flex Grain Header Workshop Service Manual

## Massey Ferguson® 7200 Rigid / 8200 Flex Grain Header 4283098M1 CONTENTS

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# Massey Ferguson®

## 7200 Rigid / 8200 Flex Grain Header

# WORKSHOP SERVICE MANUAL 4283098M1

# 01 - General Information

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# **GENERAL INFORMATION**

#### SAFETY

#### Safety Alert Symbol

FIG. 1: 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.

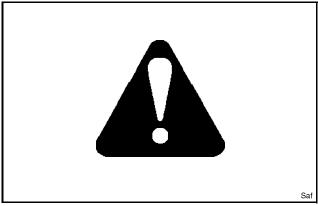


FIG. 1

### **Signal Words**

**FIG. 2:** 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.

#### **Informational Messages**

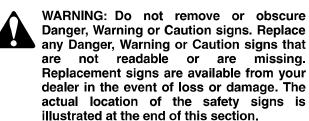
The words IMPORTANT and NOTE are not related to personal safety, but are used to give additional information and tips for operating or servicing this equipment.

- 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.



FIG. 2

#### Safety Signs



If a used machine has been purchased, make sure all safety signs are in the correct location and can be read.

See Safety Sign Location of this section for illustrations.

Replace any safety signs that cannot be read or are missing. Replacement safety signs are available from your dealer.

#### A Word to the Operator

**FIG. 3:** Read and understand this manual and the manual for all attachments before operating the machine.

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 decals affixed to the machine and attachments.

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



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

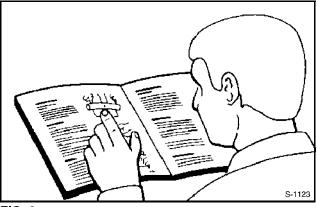


FIG. 3

#### IT IS TOO LATE TO REMEMBER WHAT SHOULD HAVE BEEN DONE AFTER THE ACCIDENT HAS HAPPENED.

- **READ** the Operator's Manuals carefully to acquaint yourself with the header and the machine. Operating unfamiliar equipment can cause accidents.
- **ALWAYS** shift the transmission to neutral, stop the engine, set the brake and remove the start key before leaving the operator's station, or before permitting anyone to inspect, clean, lubricate, adjust or repair any part of the machine or its attachments, unless otherwise specifically recommended in the Service Manual or the Operator's Manual.
- **NEVER** permit anyone to work under the header or the feeder housing or between the header and the machine **UNLESS** the lift ram stop is fully engaged on the lift ram, the engine is stopped, the brake is set, the key is removed from the start switch, and the header is latched securely to the feeder housing.
- NEVER permit the operator or another person to engage or disengage the lift ram stop UNLESS the engine is stopped, the brake is set, and the key is removed from the start switch while that person is between the header and the machine or under the feeder housing.
- NEVER permit anyone to get under the reel UNLESS BOTH THE RIGHT HAND and LEFT HAND reel lift ram stops are fully engaged over the lift ram rods and against the ends of the lift ram barrels, the engine is stopped, the brake is set, and the start key is removed.
- **BE SURE** that everyone is clear of the machine before starting the engine and mechanism or its attachments.
- **ALWAYS** be sure that all shields, guards and access doors are in place when the header is in operation.
- **DO NOT** try to clean, adjust, or service the header while the header or the machine is running.
- **KEEP** all belts and chains in alignment and at the proper tension.
- **NEVER** turn the header conveyor or drives unless **ALL** parts of the body and articles of clothing are well clear of the sickle, chains, gears, and other moving parts.
- FOR YOUR SAFETY and the safety of others, all SAFETY AND OPERATIONAL DECALS that become damaged, faded, or come off should be replaced immediately.
- **REMEMBER** that safe operation is no accident.
- ALWAYS lower the Grain Head to the ground, or block, or lock the Grain Head up securely before disconnecting or servicing any part of the hydraulic system.
- **ALWAYS** keep the drives, moving parts, and shields clean of chaff and straw buildup to reduce the possibility of fire.

- **BEFORE** attaching, adjusting or working on the driveline, disengage the header drive, lower the header to the ground, stop engine, remove starter key and set the parking brake.
- **BEFORE** engaging the header drive, carefully engage and lower the header to check the clearance, driveline shaft slide range, and articulation.
- BE SURE that all drivelines have the correct guards and that they are in good operating condition.
- **NEVER** use the drive line as a step.

•

• **NEVER** wear loose fitting clothing and keep at least your height in distance away from a rotating drive line.

#### **Fire Prevention and First Aid**

**FIG. 4:** Be prepared for emergencies. Always carry one or more suitable fire extinguishers - ABC rating, dry chemical, 2.2 KG (5 lb). Check fire extinguishers regularly to be sure the fire extinguishers are properly charged and in operating condition.

Mounting a fire extinguisher near the operator's cab and a fire extinguisher near the engine compartment is recommended.

To reduce the risk of fire, frequently remove accumulated crop material from the machine and engine deck and check for overheated components.

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

FIG. 5: To reduce the risk of fire or damage if fire occurs:

- Make sure the engine compartment is free of chaff and crop debris
- Clean areas of the machine & header where crop can accumulate
- Mount a fire extinguisher within easy reach at the front and rear of the machine

If any flame cutting, welding, or arc welding is to be done on the machine or header, 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.

#### **Prepare for Operation**

Make sure the machine is in the proper operating condition as stated in the operator's manual. Make sure the machine has the correct equipment needed by local regulations.

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 that all controls are in neutral and the parking brake is engaged before starting the machine. Make certain that all people are well away from your area of work before starting and operating the machine.

All equipment has a limit. Make sure you understand the speed, brakes, steering, stability, and load characteristics of the machine before you start. Check 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.

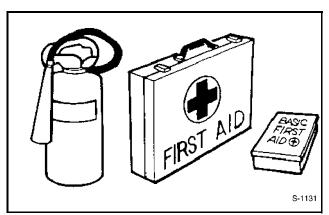


FIG. 4

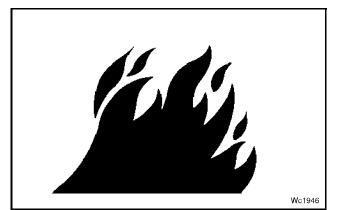


FIG. 5

#### **Road and Highway Operation**

FIG. 6: COMPLY with your state and local LAWS and REGULATIONS governing highway safety when moving machinery on a highway.

- ALWAYS travel at a reasonable speed for road or field conditions. Whenever possible, avoid traveling near ditches, embankments and holes. Reduce speed when turning, crossing slopes, and or rough, slick or muddy surfaces.
- **AVOID** transporting the machine on the road with grain in the tank. Extra caution and slower speeds need to be used if the machine must be transported with grain in the tank.
- ALWAYS reduce your speed GRADUALLY to maintain adequate weight for stability on the rear (steering) wheels whenever:
  - a. Slowing the **ENGINE** speed.
  - b. Slowing the HYDRO-TRACTION drive.
  - c. Applying the **BRAKES**.
- **BRAKES** must be locked together during road travel. **NEVER** apply individual wheel brakes for turning assist during road or highway operation.
- **TOWING** of the machine is NOT recommended. But if the machine must be towed, refer to the Operator's Manual for proper towing procedures.
- **ROTATE** the header extremity lights
- CHECK clearance CAREFULLY before driving the machine and header under electric lines, over bridges, or other obstructions along the highway.

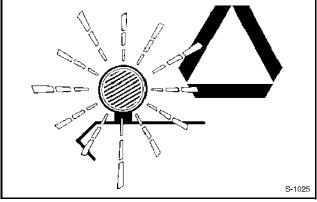


FIG. 6

## Header Transport Tie-Down

**FIG. 7:** Hooking locations are provided on the header to allow for proper tie-down for transport. The following section outlines recommended attaching points and chain direction of pull.

One lower center rear tie-down slot (1) is located just below the center of the feeder house opening. Insert a grab hook (2) into the lower frame slot as shown in the figure.

**FIG. 8:** One lower center rear tie-down slot (1) is located on either side of center just outside of the feed house opening. Insert a grab hook (2) into the lower frame slot as shown in the figure.

**FIG. 9:** One lower outer end rear tie-down (1) is located at the right-hand and left-hand outer ends of the lower frame. Insert the hook (2) into the lower frame slot as shown in the figure.

**FIG. 10:** Wrap a nylon strap (1) around the truss assembly above the feeder house opening, attach a chain (2) and (3) to each end of the strap, and then tie-down forward and to the sides as shown in the figure.

NOTE: The chains must clear the auger.

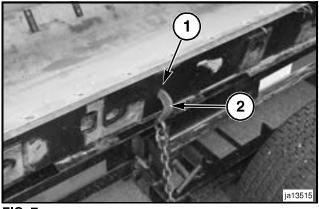


FIG. 7

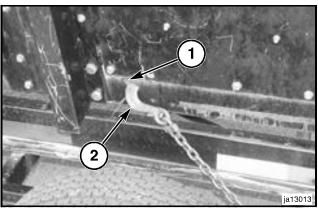
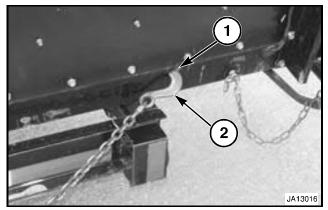


FIG. 8





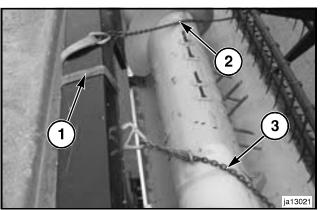


FIG. 10

#### Operation

WARNING: In order to provide a better view, certain photographs and illustrations in this manual may show an assembly with the shield removed. Do not operate the machine and attachments unless all shields are in place. Replace shields immediately upon completion of inspection, repairs, cleaning or adjustments and before operation begins/resumes.

**FIG. 11:** Wear close fitting clothing and personal protection equipment appropriate for operating and/or performing lubrication and maintenance. Tie up long hair to prevent hair from becoming entangled in moving parts.

FIG. 12: Face the ladder and use the handrails when

getting on or off the machine.

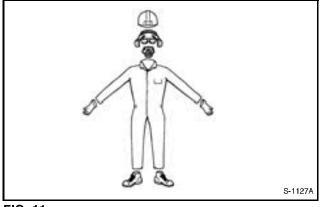
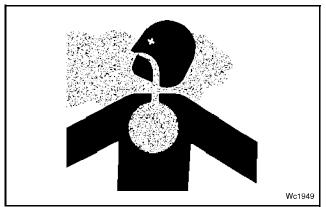






FIG. 12





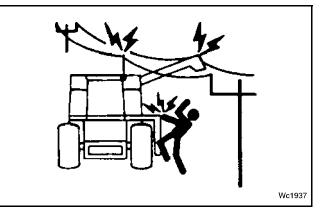
**FIG. 13:** Never operate the engine in a closed building unless exhaust is vented outside.

**FIG. 14:** Always wear the seat belt when the machine is moving. If another person is riding in the instructor's seat, make sure the person wears a seat belt. Seat belts must be worn fitted snugly around the hips and not twisted.

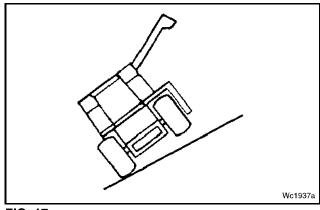
FIG. 14



FIG. 15









**FIG. 15:** Never allow anyone on any part of the machine or attachments except in the operator's seat and the instructor's seat when the engine is running.

Do not attempt to get on or off the machine while the machine is moving.

**FIG. 16:** Avoid contact with electrical power lines. Always put the grain tank unloader tube in the transport position and lower the radio aerial before moving the machine near electrical wires. Contact with electrical power lines can cause electrical shock, resulting in very serious injury or death.

operating on hillsides or near ditches or embankments especially with a full grain tank to avoid rollover. Travel speed must be such that complete control and machine stability is maintained at all times. Shift to a lower gear before descending a steep hill.

FIG. 17: Use extra care and reduce speed when

**FIG. 18:** Always shut off the engine, shift the transmission to neutral, set the parking brake and remove the start key before leaving the operator's station or before permitting anyone to inspect, clean, lubricate, adjust or repair any part of the combine or attachments unless specifically instructed otherwise in this manual. Never leave the machine unattended while the engine is operating.

**FIG. 19:** Never permit anyone to work under the header or the feeder house, unless the stop is properly engaged on the header lift cylinder, the engine is stopped, the parking brake is set, and the start key is removed from the start switch.

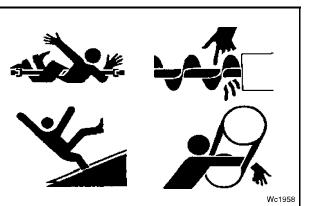


FIG. 18

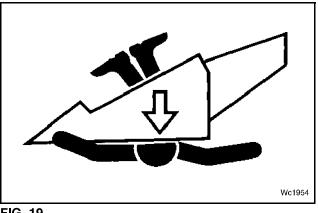


FIG. 19



FIG. 20

**FIG. 20:** Always stop the engine before refueling. Do not smoke while refueling.

#### Maintenance

**FIG. 21:** Escaping fluid under high pressure can be almost invisible but penetrate the skin causing serious injury.

Consult a doctor immediately if you sustain an injury by escaping fluids. Fluid injected into the skin must be surgically removed within a few hours or gangrene may result.

**FIG. 22:** Use a piece of cardboard or wood to search for possible leaks, never use your hands.

Relieve pressure from the hydraulic and fuel injection systems by lowering raised equipment, shutting off accumulator valve and shutting off the engine before loosening any part of the systems. Tighten all connections securely before applying pressure.

**FIG. 23:** Be aware that the surfaces in and around the engine compartment will be hot if the engine has been running, even for a short time.

Always permit parts that contain hot fluid to cool before handling or disconnecting.



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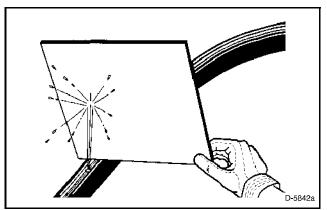


FIG. 22

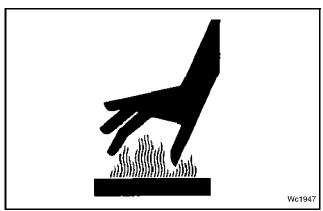


FIG. 23

**FIG. 24:** Do not remove the radiator cap if the engine is hot. Only remove the cap when the cap is cool enough to touch with bare hands. Loosen the cap slowly to the first notch to relieve pressure, then remove the cap.

FIG. 25: Remove spilled oil, antifreeze or fuel immediately from operator's ladder and platform and

Keep all access areas clean and free of obstructions.

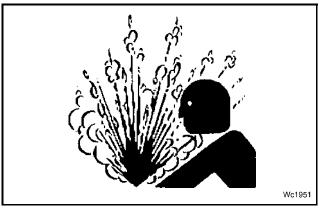


FIG. 24



FIG. 25

## Engine Safety

other access areas.

**FIG. 26:** Make sure that all shields, guards and access doors are in place and properly closed before starting the engine.

Start the engine from the operator's seat only. Be sure that the transmission is in neutral and the header, separator and unloader clutches are disengaged.

Be sure that all bystanders are clear of the combine before starting the engine.





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**FIG. 27:** Engine is equipped with an electric starting aid. Do not use aerosol starting fluid! Use of this fluid can cause an explosion that can result in severe injury or death.

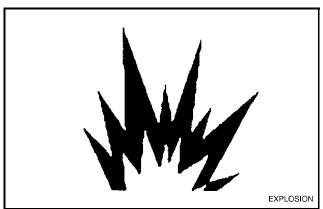


FIG. 27

#### **Tire Safety**

**FIG. 28:** Tire explosion and/or serious injury can result from over inflation. Do no exceed the tire inflation pressures. See the Specifications Section for the correct tire pressure.

Replace worn or damaged tires. When tire service is needed, have a qualified tire mechanic service the tire. See the Specifications Section for the correct size.

Do not weld on the rim when a tire is installed. Welding will cause an explosive air/gas mixture that will ignite with high temperatures. This can happen to tires that are inflated or deflated. Removing the air or breaking the bead is not enough.

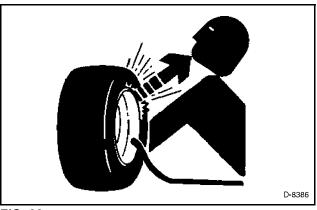


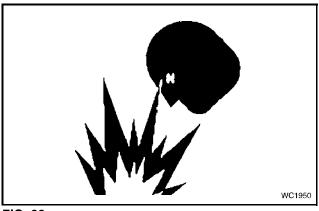
FIG. 28

## **Battery Safety**

**FIG. 29:** Electrical storage batteries give off highly flammable hydrogen gas. Keep lighted smoking material and open flame or electrical sparks away from the battery. Do not lay tools or other conductive materials on the battery.

Be careful when connecting booster cables to batteries. Electrical component damage or battery explosion can result if booster cables are not installed correctly.

Do not charge a frozen battery as the battery can explode. Warm battery to 16 degrees C (60 degrees F).





**FIG. 30:** Fluid in electrical storage batteries contains sulfuric acid. Avoid all contact of fluid with eyes, skin or clothing. If contact does occur, flush off immediately with large amounts of water.

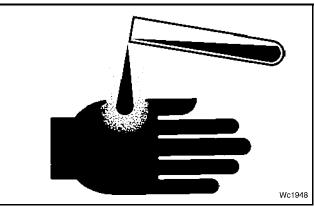


FIG. 30

### **Cylinder Stops**

#### **Reel Lift Cylinder Stops**

A reel lift cylinder stop is supplied for the reel lift cylinder on both sides of the machine. Install both reel lift cylinder stops to prevent lowering of the reel.

#### Engaging Lift Cylinder Stop

**FIG. 31:** Put the header on the ground and raise the reel to maximum height. Stop the engine, set the parking brake and remove the start key.

Release the stop (1) from the carrying strap (2). Swing the stop forward until the retaining spring snaps around the ram rod.

Repeat this procedure for both sides of the header.

Start the engine and lower the reel lift rams until the stops are supported on the upper ends of the reel lift ram barrels.

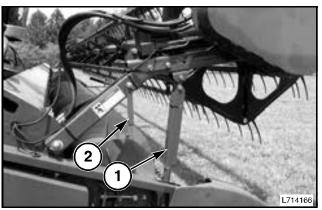


FIG. 31

## Disengaging Lift Cylinder Stop

**FIG. 32:** Put the header on the ground and raise the reel to maximum height. Stop the engine, set the parking brake and remove the start key.

Return the stops (1) to the carrying straps (2).

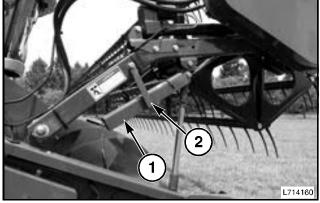


FIG. 32



**FIG. 33: Disengage Lift Cylinder Stop:** A lift cylinder stop (1) is located on the left-hand header lift cylinder of the machine. Photo of the lift cylinder stop (1) in the disengaged position.



DANGER: NEVER permit anyone to work under the header or feeder housing or between the header and combine UNLESS the header lift cylinder stop is fully engaged on the lift ram, the engine is stopped, the brake is set, the key is removed from the start switch, and the header is latched securely to the feeder housing.



FIG. 33

FIG. 34: Engage Lift Cylinder Stop: Header lift cylinder stop (1) in the engaged position.

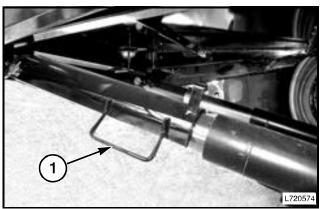


FIG. 34