Windrower Tractors
8860, 8860HP, 8870, and 8880

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CASE IH

Rac 6-22460 700 719 803 Printed in U.S.A.
Issued December 1999

DIVISION 1

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Printed in U.S.A. Rac 6-22470 700719804 Issued December 1999

Section 1001

INTRODUCTION

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Printed in U.S.A. Rac 6-22480 700 719 805 Issued December 1999

GENERAL INFORMATION

To Our Customer

We appreciate your confidence in our farm equipment and thank you for your patronage. In preparing this manual, we hope we have furnished you with a valuable tool for operating and maintaining this fine machine. Use this manual as your guide. Practicing the instructions given here will result in many years of dependable service from your machine.

Your Dealer can give you assistance with parts and specially trained personnel to assist you in repair and maintenance. Call your Dealer if you need any assistance or information.

Introduction

This service manual has been prepared with the latest service information available at the time of publication. Read the service manual carefully before doing any service on this machine. This manual is one of the most important tools available to the service technician.

"Right-hand" and "Left-hand" as used in this manual is determined by facing in the direction the machine will travel when in use.

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

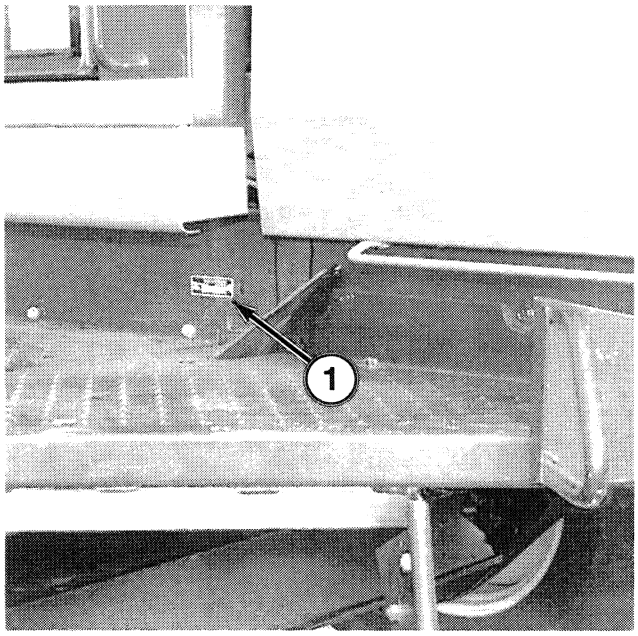
⚠ WARNING

Some pictures in this manual show the machine with shields removed to allow for a better view of the subject of the picture. Never operate the machine with any of the shields removed.

Serial Number Location

The serial number is important information about the machine. You will need the serial number when ordering some replacement parts.

The tractor serial number plate is located on the left side of the tractor mainframe below the operator's platform.



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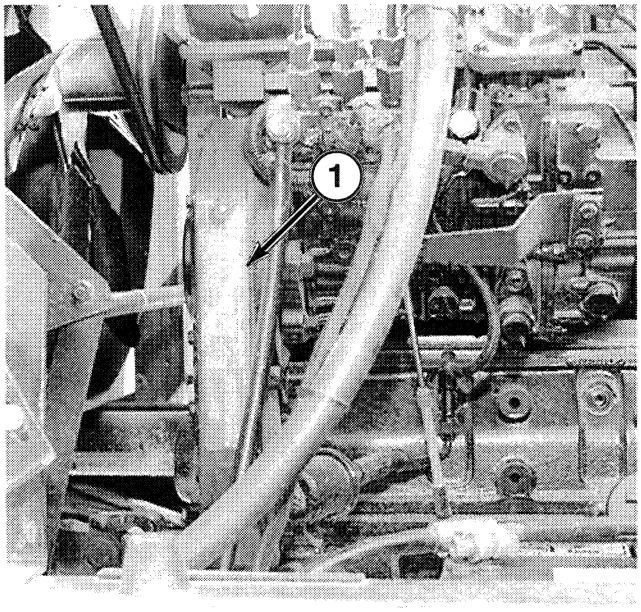
1. Serial Number Location on Tractor

The engine serial number plate is located on the left side of the engine.



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1. Serial Number Location on Engine

Replacement Parts

To receive prompt, efficient service, always remember to give the dealer the following information:

1. Correct part number and description
2. Model number of the machine
3. Serial number of the machine

Units of Measure

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

Table of Contents

A Table of Contents is in the front of this manual. The Table of Contents shows the divisions and the sections that are in each division. The individual divisions and sections also have a Table of Contents.

Page Numbers

All page numbers are made of two numbers separated by a dash, such as 4002-9. The number before the dash is the section number. The number following the dash is the page number in that section. Page numbers will be at the upper right-hand or left-hand corner of each page.

Section 1002

SAFETY RULES, GENERAL MACHINE SPECIFICATIONS, AND STANDARD TORQUE SPECIFICATIONS

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SAFETY RULES

The manufacturer of this product is concerned about your safety and is committed to the prevention of accidents. A major factor in prevention of accidents is safe and proper use of the equipment. Be sure you or anyone who does any maintenance or service work on this machine reads and understands this manual before doing any maintenance or service work on this machine.

This safety alert symbol indicates important safety messages in this manual. When you see this symbol, carefully read the message that follows and be alert to the possibility of personal injury or death. Read and understand all operating instructions and precautions before attempting to operate or service the machine.

Caution others, especially children, about climbing on the machine or being too close while the machine is operating.

Emphasize the importance of safety when working around and operating the machine.

Always remain seated and have the seat belt fastened while operating the machine.

Make sure all safety shields are in place before operating the machine.

Place all control levers in neutral. Engage the parking lock control lever, center and lock the steering wheel, and shut off the engine before:

1. **Leaving the operator's seat**
2. **Refueling**
3. **Lubricating**
4. **Cleaning the reel or hay conditioner**
5. **Adjusting the machine**

Never stand behind the tractor while the header is running.

Do not ride on the machine at any time.

Never carry riders unless the machine is equipped with an optional factory instruction seat. The operator can carry one rider in the optional factory instruction seat.

Never operate the machine at high speeds in crowded places.

Never suddenly reverse the wheels to stop or backup.

Before working around or under the header, insert safety stops in cylinders.

Drop header to ground when parking.

Always apply the parking lock after parking the machine.

Always travel with the header as low as possible.

Always remove the ignition key when parking the machine.
Always keep your hands, feet and clothing away from moving parts. Never wear loose clothing while operating or servicing the machine.

⚠ WARNING

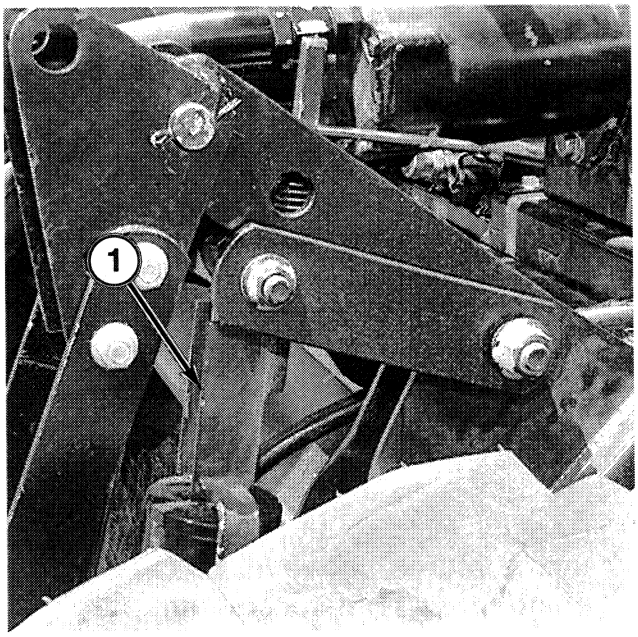
Before doing any maintenance or service work on the tractor or the header you must:

- Put all controls in NEUTRAL.
- Apply the parking lock.
- Lower the header to the floor.
- Center and lock the steering wheel.
- Stop the engine.
- Make sure all moving parts have stopped.

Always apply the parking lock and block the wheels before working on or under the machine.
Never check or lubricate chains while the machine is running.
After lubricating, servicing, or adjusting the machine, make sure all tools and equipment have been removed before operating the machine.
Blindness can result from battery explosion. Keep sparks or open flames away from battery. Do not jump start.
Burns can result from battery acid. In case of contact, flush immediately with water.

Always use a piece of cardboard or wood to search for suspected pressurized hydraulic leaks. NEVER use hands; escaping fluid under pressure can penetrate skin.
Never adjust, lubricate, or repair the machine with the engine running.
Never remove the cap from a hot radiator; escaping steam and hot fluids can cause personal injury.
Always use a solid support when using a jack to raise the tractor. Always block the tires when raising the tractor.
Do not drop the accumulator. A charged accumulator contains nitrogen charged to 5516 kPa (800 PSI). If the charging valve breaks away from the accumulator, the escaping nitrogen will propel the accumulator at a dangerous rate of speed.
Do not expose the accumulator to temperatures above 85 °C (185 °F). A charged accumulator contains nitrogen charged to 5516 kPa (800 PSI). Heat will cause the safety plug to blow out of the accumulator and the escaping nitrogen will propel the accumulator at a dangerous rate of speed.

Always engage the cylinder safety stop from the storage position to the safety position before working on or under the header. The cylinder safety stop is located at the left-hand end of the header.



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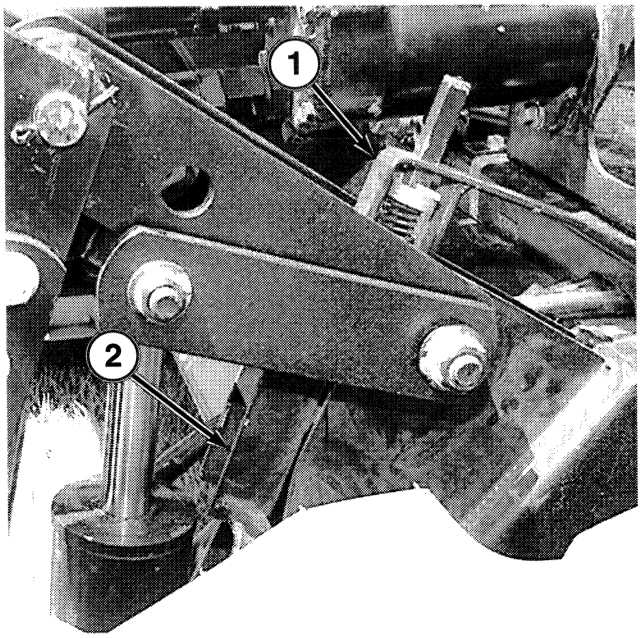
CYLINDER SAFETY STOP ENGAGED TO THE SAFETY POSITION

1. Cylinder Safety Stop



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CYLINDER SAFETY STOP DISENGAGED TO THE STORAGE POSITION

1. Spring Assembly
2. Cylinder Safety Stop

Do not tow or drive machine with the header up and the cylinder safety stop in safety position.

BE AWARE of the transport width of the machine and be careful when transporting the machine on narrow roads and across narrow bridges. See General Machine Specifications in this section for overall dimensions.

Always use adequate safety warnings and lights when transporting the machine on public roads. Be sure the SMV (Slow Moving Vehicle) emblem is visible. Check with your local law enforcement agencies for specific requirements.

Decals with "DANGER", "CAUTION", "WARNING", and other information, appear on the machine for your safety. Read the information carefully.

Replace any safety decals that are worn or can no longer be read. See Section 1004 for the location of the safety decals.

GENERAL MACHINE SPECIFICATIONS

MODEL ..... 8860 and 8860HP Windrower Tractor

DIMENSIONS AND WEIGHTS

Length
- overall with draper header ..... 7267 mm (286.1 IN)
- overall with auger header ..... 6543 mm (257.6 IN)
- wheel base ..... 3556 mm (140 IN)

Height
- top of cab ..... 3308 mm (130.2 IN)
- clearance under walking beam ..... 953 mm (37.5 IN)
- clearance under frame ..... 950 mm (37.4 IN)

Width
- outside of hubs ..... 3034 mm (119.5 IN)
- with standard tires ..... 3706 mm (145.9 IN)

Tread width, drive tires ..... 3202 mm (126 IN)

Tread width, tailwheels
- minimum ..... 2144 mm (84.4 IN)
- maximum ..... 3048 mm (120 IN)

Weight (approximate)
- without header ..... 3629 kg (8000 LB)

TIRES

Drive wheels ..... 19.5L x 24, bar tread
19.5L x 24, turf tread
- wheel bolts ..... 5/8 IN
- wheel bolt torque ..... 271 N·m (200 LB·FT)

Tailwheels ..... 14L x 16.1 6-ply implement rib
- wheel bolts 9/16-18
- wheel bolt torque ..... 165 N·m (120 LB·FT)

Tire pressure ..... drive wheels 137 kPa (20 psi)
tailwheels 68.9 kPa (10 psi)

ENGINE

Model
- 8860 ..... Case, 4-390
- 8860HP ..... Case, 4T-390

Horsepower
- 8860 ..... 80 @ 2500 r/min (rpm)
- 8860HP ..... 110 @ 2500 r/min (rpm)

High idle ..... 2750 r/min (rpm)

Displacement ..... 3.9 L (239 CU IN)

Cooling system capacity ..... 20.8 L (22 U.S. quarts)

Cooling fan diameter ..... 586 mm (23 IN)

Fuel ..... ASTM No. 2 Diesel

Fuel tank capacity ..... 227 L (60 U.S. gallons)

ELECTRICAL SYSTEM

System voltage ..... 12 volts

Grounding ..... negative

Batteries
- quantity 2
- capacity, each ..... 12V, 450 amp minimum cranking capacity @ 0°F
- type ..... SAE J537, Size 24 or 27, top/side post

Alternator
- manufacturer ..... Robert Bosch
- output ..... 95 amperes

CAB

Cab glass ..... tinted, 6.8 m^2 (73 sq ft)

Steering column ..... adjustable pivot and tilt

Gauges ..... analog gauges: fuel, volts, water temperature, oil pressure, flotation pressure, speedometer (optional)

GROUND DRIVE SYSTEM

Final drive ..... double chain reduction
- primary reduction chain ..... No. 50
- secondary reduction chain ..... No. 80

Tandem pump ..... Vickers Model 19, piston

Motors ..... Vickers Model MFE19, fixed displacement

Speed, approximate
- FIELD range ..... 0 to 16 km/h (0 to 10 mph)
- ROAD range ..... 0 to 24 km/h (0 to 15 mph)

HEADER DRIVE SYSTEM

Pump ..... Vickers Model 19, piston

Motor ..... Eaton, fixed displacement piston

HYDRAULIC SYSTEM

Ground drive system
- relief pressure ..... 37 925 kPa (5500 psi)

Header drive system
- relief pressure ..... 34 475 kPa (5000 psi)

Header lift system
- relief pressure ..... 17 237 kPa (2500 psi)

HEADER FLOTATION SYSTEM

Type ..... hydraulic with accumulator, adjustable from cab

Accumulator charge pressure ..... 5516 kPa (800 psi)

AIR CONDITIONING

System size ..... 22 000 BTU/hr

Refrigerant ..... HFC 134a

Capacity ..... 1.8 kg (4.0 LBS)

Compressor ..... Sanden 507H
- displacement ..... 154.9 cc (9.5 CU IN)

ACCESSORIES

Lighting ..... 5 lamps front, rectangular halogen
1 lamp rear, rectangular halogen
flashers on header and tractor
2 lamps side, tail light, turn signals

Rear view mirrors, right and left ..... STD

Controls ..... Shape-coded handles

LUBRICATION

Grease fittings
- lubricant ..... CASE IH 251 HEP Lithium Grease

Wheel bearings
- lubricant ..... CASE IH 251 HEP Lithium Grease

Engine oil
- quantity with filter change ..... 10.5 L (11 U.S. quarts)
- type of fluid ..... Case IH No. 1 Engine Oil, SAE 15W 40, API CE

Hydraulic system
- quantity
  - total system ..... 87 L (23 U.S. gallons)
  - reservoir ..... 76 L (20 U.S. gallons)
- type of fluid ..... Engine Oil, SAE 15W 40
- type of fluid, alternate ..... Case IH Hy-Tran Plus

NOTE: Hy-Tran Plus can be added to factory-installed fluid, but to get the full benefit of the qualities of Hy-Tran Plus a complete oil replacement is required.

Chaincases, final drive
- quantity, each ..... 3.8 L (8 pints)
- lubricant ..... Case IH 135H EP Gear Lube 85W 140

MODEL ..... 8870 Windrower Tractor

DIMENSIONS AND WEIGHTS

Length, overall with header ..... 6543 mm (257.6 IN)
wheel base ..... 3556 mm (140 IN)
Height
top of cab ..... 3308 mm (130.2 IN)
clearance under walking beam ..... 953 mm (37.5 IN)
clearance under frame ..... 950 mm (37.4 IN)
Width
outside of hubs ..... 3034 mm (119.5 IN)
with standard tires ..... 3706 mm (145.9 IN)
Tread width, drive tires ..... 3202 mm (126 IN)
Tread width, tailwheels
minimum ..... 2144 mm (84.4 IN)
maximum ..... 3048 mm (120 IN)
Weight (approximate)
without header ..... 3629 kg (8000 LB)
with 14 FT auger header ..... 5420 kg (11 950 LB)
with 16 FT auger header ..... 5534 kg (12 200 LB)
with 18 FT auger header ..... 5670 kg (12 500 LB)

TIRES

Drive wheels ..... 19.5L x 24, bar tread
wheel bolts ..... 5/8 IN
wheel bolt torque ..... 271 N·m (200 LB·FT)
Tailwheels ..... 14L x 16.1 6-ply implement rib
wheel bolts 9/16-18
wheel bolt torque ..... 165 N·m (120 LB·FT)
Tire pressure ..... drive wheels 137 kPa (20 psi)
tailwheels 68.9 kPa (10 psi)

ENGINE

Model ..... Case, 4T-390
Horsepower ..... 110 @ 2500 r/min (rpm)
High idle ..... 2750 r/min (rpm)
Displacement ..... 3.9 L (239 CU IN)
Cooling system capacity ..... 20.8 L (22 U.S. quarts)
Cooling fan diameter ..... 586 mm (23 IN)
Fuel ..... ASTM No. 2 Diesel
Fuel tank capacity ..... 227 L (60 U.S. gallons)

ELECTRICAL SYSTEM

System voltage ..... 12 volts
Grounding ..... negative
Batteries
quantity 2
capacity, each ..... 12V, 450 amp
minimum cranking capacity @ 0°F
type ..... SAE J537, Size 24 or 27, top post
Alternator
manufacturer ..... Robert Bosch
output ..... 95 amperes

GROUND DRIVE SYSTEM

Final drive ..... roller chain/planetary
primary reduction chain ..... No. 50
Tandem pump ..... Vickers Model 19, piston
Motors ..... Vickers Model MVE19, variable displacement
Speed, approximate
FIELD range ..... 0 to 16 km/h (0 to 10 mph)
ROAD range ..... 0 to 24 km/h (0 to 15 mph)

HEADER DRIVE SYSTEM

Pump ..... Vickers Model 19, piston
Motor ..... Eaton, fixed displacement piston

HYDRAULIC SYSTEM

Ground drive system
relief pressure ..... 37 925 kPa (5500 psi)
Header drive system
relief pressure ..... 34 475 kPa (5000 psi)
Header lift system
relief pressure ..... 17 237 kPa (2500 psi)

HEADER FLOTATION SYSTEM

Type ..... hydraulic with accumulator, adjustable from cab
Accumulator charge pressure ..... 5516 kPa (800 psi)

CAB

Cab glass ..... tinted, 6.8 m^2 (73 sq ft)
Steering column ..... adjustable pivot and tilt
Gauges .....
fourteen function monitor
analog flotation pressure gage
digital speedometer

AIR CONDITIONING

System size ..... 22 000 BTU/hr
Refrigerant ..... HFC 134a
Capacity ..... 1.8 kg (4.0 LBS)
Compressor ..... Sanden 507H
displacement ..... 154.9 cc (9.5 CU IN)

ACCESSORIES

Lighting ..... 5 lamps front, rectangular halogen
1 lamp rear, rectangular halogen
flashers on header and tractor
2 lamps side, tail light, turn signals
Rear view mirrors, right and left ..... deluxe
Controls ..... Shape-coded handles

LUBRICATION

Grease Fittings
lubricant ..... CASE IH 251 HEP Lithium Grease
Wheel Bearings
lubricant ..... CASE IH 251 HEP Lithium Grease
Engine Oil
quantity with filter change ..... 10.5 L (11 U.S. quarts)
type of fluid ..... Case IH No. 1 Engine Oil, SAE 15W 40, API CE, CDII/CF-4
Hydraulic System
quantity
total system ..... 87 L (23 U.S. gallons)
reservoir ..... 76 L (20 U.S. gallons)
type of fluid ..... Engine Oil, SAE 15W 40
type of fluid, alternate ..... Case IH Hy-Tran Plus
NOTE: Hy-Tran Plus can be added to factory-installed fluid, but to get the full benefit of the qualities of Hy-Tran Plus a complete oil replacement is required.
Chaincases, Final Drive
quantity, each ..... 3.8 L (8 pints)
lubricant ..... Case IH 135H EP Gear Lube 85W 140
Planetary Gearbox
quantity, each ..... 1.2 L (2.5 pints)
lubricant ..... Case IH 135H EP Gear Lube 85W 90

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first, and then click the above link

to download the complete manual.

Thank you so much for reading

MODEL ..... 8880 Windrower Tractor

DIMENSIONS AND WEIGHTS

Length, overall with header ..... 6500 mm (255.9 IN)
wheel base ..... 3556 mm (140 IN)
Height
top of cab ..... 3388 mm (133.4 IN)
clearance under walking beam ..... 1034 mm (40.7 IN)
clearance under frame ..... 1042 mm (41.0 IN)
Width
outside of hubs ..... 3034 mm (119.5 IN)
outside of tires ..... 3868 mm (152.3 IN)
Tread width, drive tires ..... 3274 mm (128.9 IN)
Tread width, tailwheels
minimum ..... 2144 mm (84.4 IN)
maximum ..... 3048 mm (120 IN)
Weight (approximate)
without header ..... 4110 kg (9060 LB)
with rotary header ..... 6051 kg (13340 L)

TIRES

Drive wheels ..... 24L x 26 rar tread
wheel nuts 5/8-18
torque ..... 271 N·m (200 LB·FT)
Tailwheels ..... 14L-16.1, 6-ply implement rib
wheel bolts and nuts 9/16-18
torque ..... 165 N·m (120 LB·FT)
Tire pressure ..... drive wheels 137 kPa (20 psi)
tailwheels 68.9 kPa (10 psi)

ENGINE

Model ..... Cummins Turbocharged Diesel 6B T5.9
Horsepower ..... 152 @ 2500 r/min (rpm)
High idle ..... 2750 r/min (rpm)
Displacement ..... 5.9 L (359 CU IN)
Cooling system capacity
11 fin/in radiator ..... 30.3 L (32 U.S. quarts)
7 fin/in radiator ..... 34.1 L (36 U.S. quarts)
Cooling fan diameter ..... 584 mm (23 IN)
Fuel ..... ASTM No. 2 Diesel
Fuel tank capacity ..... 303 L (80 U.S. gallons)

ELECTRICAL SYSTEM

System voltage ..... 12 volts
Grounding ..... negative
Batteries
quantity 2
capacity, each ..... 12 volt, 450 amp minimum cranking capacity @ 0°F
type ..... SAE J537, Group Size 24 or 27, top/side post
Alternator
manufacturer ..... Robert Bosch
output ..... 95 amperes

GROUND DRIVE SYSTEM

Final drive
Type ..... roller chain/planetary
Chain ..... No. 50
Tandem pump ..... Vickers Model 19, piston
Motors ..... Vickers Model MVE19, variable displacement
Speed, approximate
FIELD range ..... 0 to 16 km/h (0 to 10 mph)
ROAD range ..... 0 to 24 km/h (0 to 15 mph)

HEADER DRIVE SYSTEM

Pump ..... Vickers Model PVH98, piston
Motors ..... Vickers Model MFE19, fixed displacement

HYDRAULIC SYSTEM

Ground drive system
relief pressure ..... 37 925 kPa (5500 psi)
Header drive system
maximum pressure ..... 27 580 kPa (4000 psi)
Header lift system
relief pressure ..... 17 237 kPa (2500 psi)

HEADER FLOTATION SYSTEM

Type ..... hydraulic with accumulator, adjustable from cab
Accumulator charge pressure ..... 6206 kPa (900 psi)

CAB

Cab glass ..... tinted, 6.8 m^2 (73 sq ft)
Steering column ..... adjustable pivot and tilt
Gauges ..... fourteen function monitor
analog flotation pressure gage
digital speedometer

AIR CONDITIONING

System size ..... 22 000 BTU/hr
Refrigerant ..... HFC 134a
Capacity ..... 1.8 kg (4.0 LBS)
Compressor ..... Sanden 507H
displacement ..... 154.9 cc (9.5 CU IN)

ACCESSORIES

Lighting ..... 5 lamps front, rectangular halogen
1 lamp rear, rectangular halogen
flashers on header and tractor
2 lamps side, tail light, turn signals
Rear view mirrors, right and left ..... deluxe
Controls ..... Shape-coded handles

LUBRICATION

Grease Fittings
lubricant ..... CASE IH 251 HEP Lithium Grease
Wheel Bearings
lubricant ..... CASE IH 251 HEP Lithium Grease
Engine Oil
quantity with filter change ..... 15 L (16 U.S. quarts)
type of fluid ..... Case IH No. 1 Engine Oil, SAE 15W 40, API CE, CDII/CF-4
Hydraulic System
quantity
total system ..... 98.4 L (26 U.S. gallons)
reservoir ..... 76 L (20 U.S. gallons)
type of fluid ..... Engine Oil, SAE 15W 40
type of fluid, alternate ..... Case IH Hy-Tran Plus
NOTE: Hy-Tran Plus can be added to factory-installed fluid, but to get the full benefit of the qualities of Hy-Tran Plus a complete oil replacement is required.
Chaincases, Final Drive
quantity, each ..... 3.8 L (8 pints)
lubricant ..... Case IH 135H EP Gear Lube 85W 140
Planetary Gearbox
quantity, each ..... 1.1 L (2.4 pints)
lubricant ..... Case IH 135H EP Gear Lube 85W 140