

Windrower Tractors 8860, 8860HP, 8870, and 8880

Table of Contents

DIVISION / SECTION	SECTION NO.	FORM NO.
1 GENERAL		
Index		Rac 6-22470
Introduction	1001	Rac 6-22480
Safety Rules, General Machine Specifications, and Standard Torque Specifications	1002	Rac 6-22490
Maintenance and Lubrication	1003	Rac 6-22500
Decals	1004	Rac 6-22510
2 ENGINE		
Index		Rac 6-22520
Engine Removal and Installation and Radiator Removal and Installation	2001	Rac 6-22530
Engine Accessories	2010	Rac 6-22540
Engine Service Information	2020	Rac 6-22550
3 FUEL SYSTEM		
Index		Rac 6-22560
Fuel System and Engine Controls	3001	Rac 6-22570
Fuel Injection Pump and Fuel Injectors	3002	Rac 6-22580
4 ELECTRICAL SYSTEM		
Index		Rac 6-22590
Removal and Installation of Electrical Components	4001	Rac 6-22600
Specifications, Schematics, Troubleshooting, and Using Booster Batteries to Start the Engine	4010	Rac 6-22610
Instruments	4020	Rac 6-22620
Electrical Schematics		Rac 6-5972 (Rev. B)
5 STEERING		
Index		Rac 6-22630
Removal and Installation of Steering Components	5001	Rac 6-22640
Steering Control Linkage Troubleshooting and Adjustment	5010	Rac 6-22650

6	POWER TRAIN	
	Index	Rac 6-22660
	Ground Drive Hydraulic System Specifications, Operation, Schematics, Troubleshooting, and Tests	6001 Rac 6-22670
	Charge Pump	6010 Rac 6-22680
	Tandem Pump	6012 Rac 6-22690
	Ground Drive Motors	6020 Rac 6-22700
	Two Speed Control Valve and Two Speed Cylinder	6030 Rac 6-22710
	Drive Controls	6032 Rac 6-22720
	Drive Shafts	6050 Rac 6-22730
	Chain Cases-with Single Drive Chains	6052 Rac 6-22740
	Chain Cases-with Dual Drive Chains	6054 Rac 6-22750
	Wheels and Tires	6060 Rac 6-22760
7	BRAKES	
	Index	Rac 6-22770
	Parking Lock	7001 Rac 6-22780
8	HYDRAULIC SYSTEM	
	Index	Rac 6-22790
	Hydraulic System Specifications, Operation, Schematics, Troubleshooting, and Tests	8001 Rac 6-22800
	Cleaning the Hydraulic System	8006 Rac 6-22810
	Header Drive Pump	8010 Rac 6-22820
	Header Drive System, Specifications, Operation, Schematics, Tests, and Adjustments-Tractors with Two Header Drive Motors	8015 Rac 6-22830
	Header Drive Motor-Tractors with One Header Drive Motor	8020 Rac 6-22840
	Header Drive Motor-Tractors with Two Header Drive Motors	8025 Rac 6-22850
	Header Lift and Flotation Valve, Header Angle Control Valve, and Bypass Valve	8030 Rac 6-22860
	Accumulator	8040 Rac 6-22870
	Cylinders	8090 Rac 6-22880
9	CHASSIS	
	Index	Rac 6-22890
	Air Conditioner Components, Removal and Installation	9001 Rac 6-22900
	Air Conditioning Troubleshooting and System Checks ..	9010 Rac 6-22910
	Cab, Seat, and Windshield	9020 Rac 6-22920
	Walking Beam	9040 Rac 6-22930

DIVISION 1



INDEX

SECTION TITLE	SECTION NUMBER
Introduction	1001
Safety Rules, General Machine Specifications, and Standard Torque Specifications	1002
Maintenance and Lubrication	1003
Decals	1004

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Section 1001

INTRODUCTION

TABLE OF CONTENTS

General Information	1001-2
To Our Customer	1001-2
Introduction	1001-2
Serial Number Location	1001-2
Replacement Parts	1001-3
Units of Measure	1001-3
Table of Contents	1001-3
Page Numbers	1001-3

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.



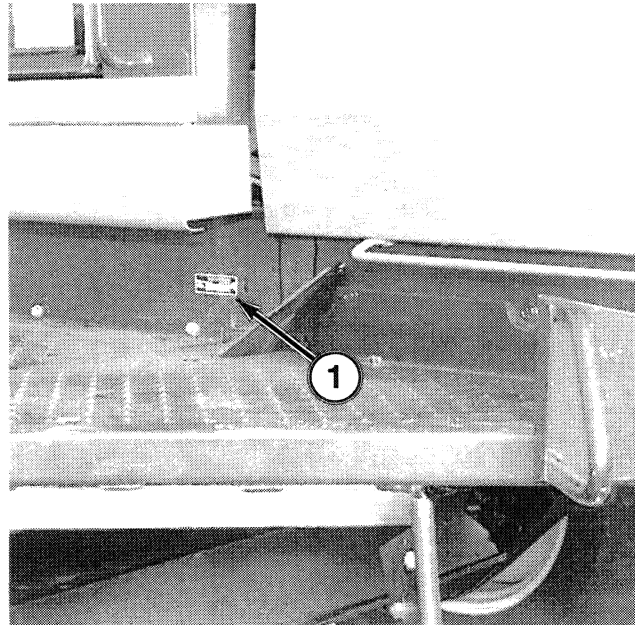
WARNING

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.

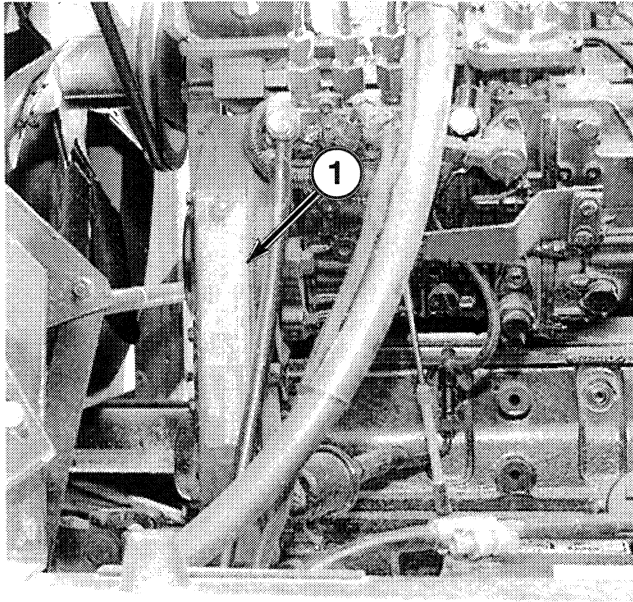
The tractor serial number plate is located on the left side of the tractor mainframe below the operator's platform.



845WT-96082-101

1. Serial Number Location on Tractor

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



825W-98F50

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

TABLE OF CONTENTS

Safety Rules	1002-2
General Machine Specifications	1002-6
Standard Torque Specifications	1002-9

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.

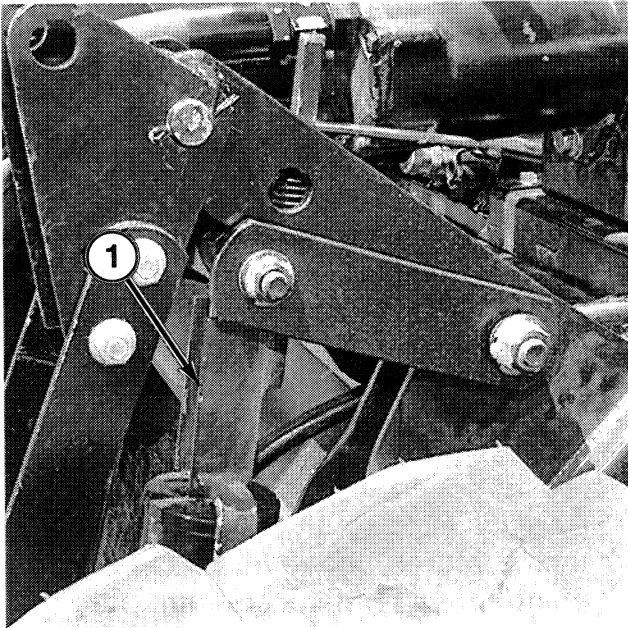
Never remove the cap from a hot radiator; escaping steam and hot fluids can cause personal injury.

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.

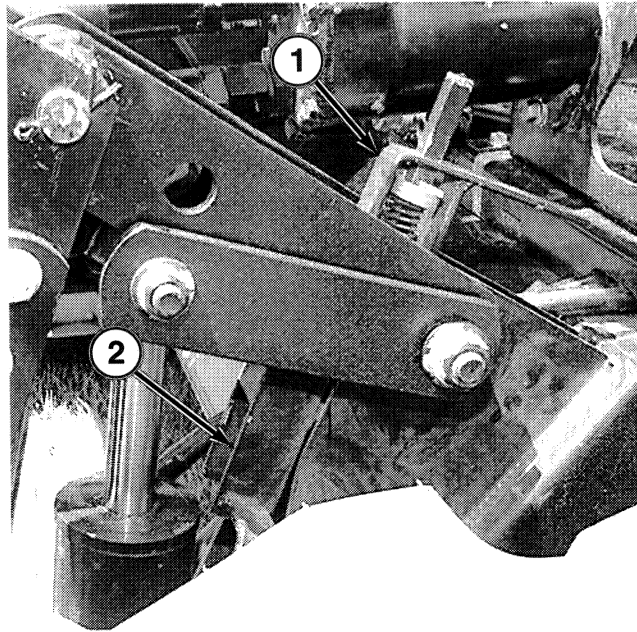
Always engage the cylinder safety stop from the storage position to the safety position before working on or under the header. The cylinder safety stop is located at the left-hand end of the header.



825W-98E26

CYLINDER SAFETY STOP ENGAGED TO THE SAFETY POSITION

1. Cylinder Safety Stop



825W-98E25

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.

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 m² (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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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 m² (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

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