



John Deere Mobile Weather



OPERATOR'S MANUAL John Deere Mobile Weather OMPFP12515 ISSUE G2 (ENGLISH)

CALIFORNIA
Proposition 65 Warning

Diesel engine exhaust and some of its constituents are known to the State of California to cause cancer, birth defects, and other reproductive harm.

If this product contains a gasoline engine:

⚠ WARNING

The engine exhaust from this product contains chemicals known to the State of California to cause cancer, birth defects or other reproductive harm.

The State of California requires the above two warnings.
Additional Proposition 65 Warnings can be found in this manual.

John Deere Ag Management Solutions
North American Edition
PRINTED IN U.S.A.



Introduction

www.StellarSupport.com

NOTE: Product functionality may not be fully represented in this document due to product changes occurring after the time of printing. Read the latest Operator's Manual and Quick Reference Guide prior to operation. To obtain a copy, see your dealer or visit www.StellarSupport.com

OUO6050,0000FB1 -19-10AUG10-1/1

www.AirmarTechnology.com

For additional information on the weather sensor, visit www.AirmarTechnology.com

BA31779,000029A -19-06OCT11-1/1

Foreword

WELCOME TO THE GreenStar™ System offered by John Deere.

READ THIS MANUAL carefully to learn how to operate and service your system correctly. Failure to do so could result in personal injury or equipment damage. This manual and safety signs on your machine may also be available in other languages. (See your John Deere dealer to order.)

THIS MANUAL SHOULD BE CONSIDERED a permanent part of your system and should remain with the system when you sell it.

MEASUREMENTS in this manual are given in both metric and customary U.S. unit equivalents. Use only correct replacement parts and fasteners. Metric and inch fasteners may require a specific metric or inch wrench.

RIGHT-HAND AND LEFT-HAND sides are determined by facing in the direction of forward travel.

WRITE PRODUCT IDENTIFICATION NUMBERS (P.I.N.) in the Specification or Identification Numbers section.

GreenStar is a trademark of Deere & Company

Accurately record all the numbers to help in tracing the components should it be stolen. Your dealer also needs these numbers when you order parts. File the identification numbers in a secure place off the machine.

WARRANTY is provided as part of John Deere's support program for customers who operate and maintain their equipment as described in this manual. The warranty is explained on the warranty certificate which you should have received from your dealer.

This warranty provides you the assurance that John Deere will back its products where defects appear within the warranty period. In some circumstances, John Deere also provides field improvements, often without charge to the customer, even if the product is out of warranty. Should the equipment be abused, or modified to change its performance beyond the original factory specifications, the warranty will become void and field improvements may be denied.

JS56696,00007CC -19-04MAR10-1/1

Contents

	Page
Safety	
Recognize Safety Information	05-1
Understand Signal Words.....	05-1
Follow Safety Instructions.....	05-1
Practice Safe Maintenance.....	05-2
Handle Electronic Components and Brackets Safely	05-2
Use Handrail Support	05-3
Introduction	
Theory of Operation.....	10-1
Activating John Deere Mobile Weather	10-1
System Requirements	10-1
System Components	
Mobile Weather Components.....	15-1
GreenStar Display	15-2
Application Controller 1120.....	15-2
Setup	
Setup Requirements.....	20-1
Baud Rate Setup	20-1
Weather Alert Limits	20-2
Setup Mobile Weather on Home Page.....	20-2
Operation	
Viewing Mobile Weather Information.....	25-1
Weather Alerts.....	25-1
Recording	25-2
Troubleshooting	
Troubleshooting	30-1

Original Instructions. All information, illustrations and specifications in this manual are based on the latest information available at the time of publication. The right is reserved to make changes at any time without notice.

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Safety

Recognize Safety Information

This is a safety-alert symbol. When you see this symbol on your machine or in this manual, be alert to the potential for personal injury.

Follow recommended precautions and safe operating practices.



DX,ALERT -19-29SEP98-1/1

TS1389 —UN—07DEC88

Understand Signal Words

A signal word—DANGER, WARNING, or CAUTION—is used with the safety-alert symbol. DANGER identifies the most serious hazards.

DANGER or WARNING safety signs are located near specific hazards. General precautions are listed on CAUTION safety signs. CAUTION also calls attention to safety messages in this manual.



▲ WARNING

▲ CAUTION

DX,SIGNAL -19-03MAR93-1/1

TS187 —19—30SEP88

Follow Safety Instructions

Carefully read all safety messages in this manual and on your machine safety signs. Keep safety signs in good condition. Replace missing or damaged safety signs. Be sure new equipment components and repair parts include the current safety signs. Replacement safety signs are available from your John Deere dealer.

There can be additional safety information contained on parts and components sourced from suppliers that is not reproduced in this operator's manual.

Learn how to operate the machine and how to use controls properly. Do not let anyone operate without instruction.

Keep your machine in proper working condition. Unauthorized modifications to the machine may impair the function and/or safety and affect machine life.



If you do not understand any part of this manual and need assistance, contact your John Deere dealer.

DX,READ -19-16JUN09-1/1

TS201 —UN—23AUG88

Practice Safe Maintenance

Understand service procedure before doing work. Keep area clean and dry.

Never lubricate, service, or adjust machine while it is moving. Keep hands, feet, and clothing from power-driven parts. Disengage all power and operate controls to relieve pressure. Lower equipment to the ground. Stop the engine. Remove the key. Allow machine to cool.

Securely support any machine elements that must be raised for service work.

Keep all parts in good condition and properly installed. Fix damage immediately. Replace worn or broken parts. Remove any buildup of grease, oil, or debris.

On self-propelled equipment, disconnect battery ground cable (-) before making adjustments on electrical systems or welding on machine.

On towed implements, disconnect wiring harnesses from tractor before servicing electrical system components or welding on machine.



TS218 —UN—23AUG88

DX,SERV -19-17FEB99-1/1

Handle Electronic Components and Brackets Safely

Falling while installing or removing electronic components mounted on equipment can cause serious injury. Use a ladder or platform to easily reach each mounting location. Use sturdy and secure footholds and handholds. Do not install or remove components in wet or icy conditions.

If installing or servicing a RTK base station on a tower or other tall structure, use a certified climber.

If installing or servicing a global positioning receiver mast used on an implement, use proper lifting techniques and wear proper protective equipment. The mast is heavy and can be awkward to handle. Two people are required when mounting locations are not accessible from the ground or from a service platform.



TS249 —UN—23AUG88

DX,WW,RECEIVER -19-24AUG10-1/1

Use Handrail Support

To avoid personal injury, do not use Mobile Weather sensor mounting bracket as a handhold for mounting and dismounting machine.

Only use the machine's handrail for mounting and dismounting machine.



PC14130—UN—20OCT11

BA31779,00002A8 -19-20OCT11-1/1

Introduction

Theory of Operation

John Deere Mobile Weather is a machine mounted weather monitoring system that works in conjunction with the GreenStar™ 2 and GreenStar™ 3 systems. Mobile Weather monitors and documents weather conditions without the need for stopping to check prevailing weather conditions via a hand held device. John Deere Mobile Weather monitors and documents temperature, Delta T, humidity, wind speed, and wind direction.

GreenStar is a trademark of Deere & Company

The Mobile Weather Sensor uses ultrasonic sensors to measure wind speed and direction. The sensors are capable of measuring a range of wind speeds with a high level of accuracy. Wind is turbulent and not static. Changes in wind speed are detected more quickly with ultrasonic sensing than propeller-type anemometers. As a result, wind speed values displayed can change frequently.

BA31779,00004ED -19-19JUL12-1/1

Activating John Deere Mobile Weather

To run Mobile Weather on the Application Controller 1120, a 26 digit activation code is required.

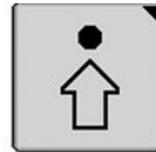
1. Visit www.StellarSupport.com or call 1-888-953-3373.
2. Using the controller serial number and the COMAR order number, a 26 digit activation code will be generated.
3. On the display, select APPLICATION CONTROLLER 1120 from the main menu.
4. Select SETUP softkey.
5. Select ACTIVATION ENTRY button.
6. Enter 26 digit code.

PC14177 —UN—04NOV11



APPLICATION CONTROLLER 1120

PC12961 —UN—29AUG11



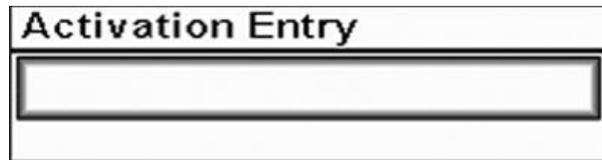
SETUP Softkey

PC13507 —UN—29AUG11



ACTIVATION ENTRY Button

PC13508 —UN—29AUG11



ACTIVATION ENTRY Screen

RN38933,0000164 -19-07NOV11-1/1

System Requirements

Mobile Weather Functional Requirements:

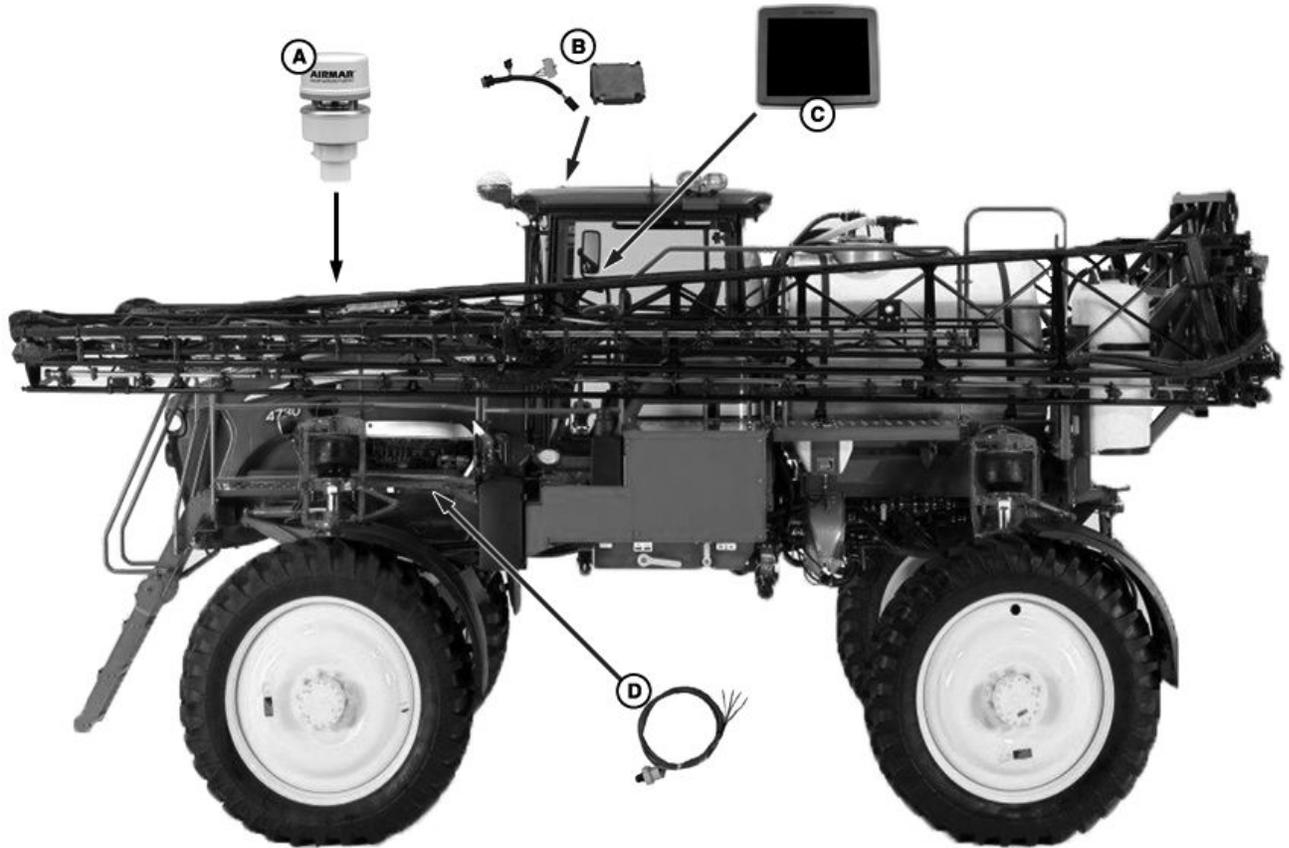
- GreenStar 2 or GreenStar 3 display.

- GS3 2630 display is required for documenting weather data.
- Application Controller 1120 installed on vehicle.
- Mobile Weather Activation.

BA31779,00002BC -19-07NOV11-1/1

System Components

Mobile Weather Components



Mobile Weather Components

- A—Weather Sensor
- B—Mobile Weather Harness and Application Controller 1120
- C—Display
- D—Weather Sensor Harness

NOTE: Picture of component location is for general reference only. Component location may vary depending upon model.

BA31779.00002BD -19-07NOV11-1/1

PC14020—UN—04OCT11

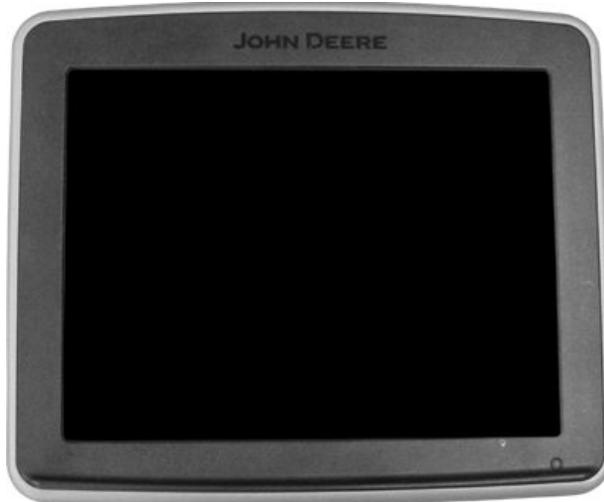
GreenStar Display

Mobile Weather is compatible with the following displays:

- GS2 1800
- GS2 2100
- GS2 2600
- GS3 2630
- GS3 Command Center

NOTE: Only GreenStar 3 2630 will be capable of documenting weather data.

Software Update 2012-1 will be required for recording to work on the GS3 2630.



GreenStar 3 2630 Display

PC13407 —UN—20APR11

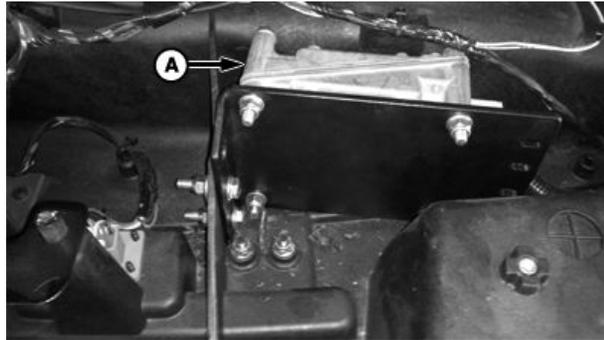
BA31779,0000270 -19-05OCT11-1/1

Application Controller 1120

Application Controller 1120 is located in the cab roof liner of 4940, 4930, 4830 and 4730 sprayers.

NOTE: Controller location and alignment may differ for each vehicle model. Picture is for general reference only.

A—Application Controller 1120



Application Controller 1120

PC14017 —UN—01SEP11

BA31779,00004EE -19-19JUL12-1/1

Setup

Setup Requirements

- Weather sensor mounted in the proper location and harnessing is connected to the Application Controller.
- Application Controller hardware installation complete.

- Mobile Weather activated on Application Controller.
- Updated display software.
- Mobile Weather setup is complete

BA31779,00004EF -19-19JUL12-1/1

Baud Rate Setup

1. Select APPLICATION CONTROLLER 1120 softkey.
2. Select SETUP softkey.
3. Select 4800 for the Baud Rate from drop-down menu (A).

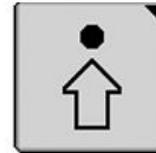
A—Baud Rate

PC14177 —UN—04NOV11



APPLICATION CONTROLLER 1120

PC12961 —UN—29AUG11



SETUP Softkey



PC14176 —UN—04NOV11

BA31779,00002C0 -19-07NOV11-1/1

Weather Alert Limits

Weather Alert Limits can be set up for:

- High Temp
- High Delta T
- High Wind
- Direction Limit

1. Select APPLICATION CONTROLLER 1120 softkey.
2. Select SETUP MENU softkey.
3. Select MOBILE WEATHER SETUP button.
4. Enter High Temp, High Delta T, and High Wind.
5. Select DIRECTION LIMIT button.
6. Select Direction Limit from drop-down menu.
7. Enter Wind Speed Averaging. Enter value 1—30 seconds.

Wind Speed Averaging figures a running average based on the number of seconds entered. Example: If 15 is entered the average wind speed for 15 seconds is displayed.

NOTE: Refer to product label and follow instructions for proper conditions to apply product.

A—High Temp
B—High Delta T
C—High Wind

D—Direction Limit
E—Wind Speed Averaging

BA31779,00004F2 -19-27JUL12-1/1

PC14014—UN—23JUL12

Setup Mobile Weather on Home Page

Mobile Weather Data can be displayed at various locations on the Home Page, but only configurable on the Quarter screen (A) and Softkey regions (B) of the Home Page. To learn more about setting up different areas of the screen, see the Layout Manager section in the display's operator's manual.

1. Select MAIN MENU > LAYOUT MANAGER.
2. Select desired Home Page region (A or B) .
3. Select the APPLICATION CONTROLLER 1120 softkey.
4. Select Mobile Weather section.
5. Select the ENTER button (D) to complete setup.

A—Quarter Section
B—Softkey Section
C—Cancel Button
D—Enter Button

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PC14015—UN—01SEP11

Operation

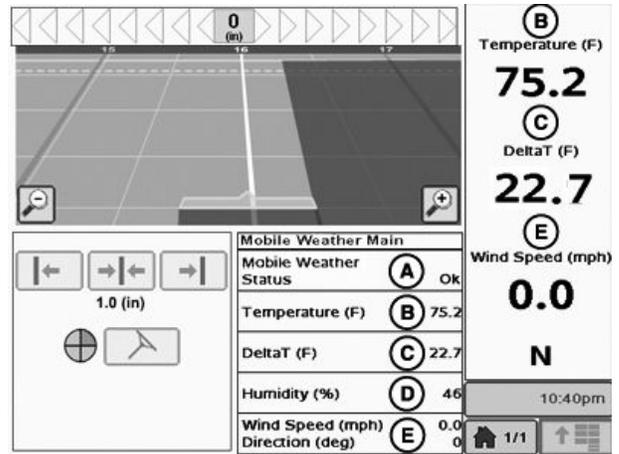
Viewing Mobile Weather Information

Mobile Weather will display “OK” in the status window when it is setup and working properly.

Weather information can be viewed on the Application Controller page or setup and viewed on a home page section.

Mobile Weather will monitor and document temperature, Delta T, humidity, wind speed, and wind direction.

Delta T (C) is an indicator for acceptable conditions to apply product. It indicates evaporation rate and droplet lifetime. Delta T is calculated by subtracting the wet bulb temperature from the dry bulb temperature. When applying, Delta T should be between 2C (4F) and 8C (14F), and not greater than 10C (18F). A higher Delta T value will result in a faster evaporation rate and shorter droplet lifetime.



A—Mobile Weather Status
B—Temperature
C—Delta T

D—Humidity
E—Wind Speed/Direction

BA31779,00002C3 -19-07NOV11-1/1

PC14018—UN—10NOV11

Weather Alerts

The area around the weather readings will highlight red when the user defined Weather Limits are exceeded. In the example, temperature (A) and Delta T (B) are exceeded but wind speed and direction (C) are not.

A—Temperature
B—Delta T

C—Wind Speed/Direction



BA31779,0000277 -19-06OCT11-1/1

PC14019—UN—07NOV11

Recording

Mobile Weather will start recording automatically once coverage documentation begins on the display. Mobile Weather will record wind speed, wind direction, temperature, humidity, and Delta T. This data will be saved to the display and can be unloaded into Apex™. Minimum, maximum and average readings for each weather value recorded in the field will be displayed in Apex.

Weather values shown on MENU softkey >> GREENSTAR softkey >> RESOURCES/CONDITIONS softkey >> CONDITIONS tab will show values of 0.0 and will be greyed out.

NOTE: Only GreenStar 3 2630 will be capable of documenting weather data.

Software Update 2012-1 will be required for recording to work on the GS3 2630.

A—Conditions Tab
B—Temperature
C—Wind Speed

D—Wind Direction
E—Humidity

GreenStar - R/C

Resources	Conditions	Notes
<i>Weather</i>		
B	Temperature (°F)	0.0
C	Wind Speed (mi/h)	0.0
D	Wind Direction	----
	Sky Condition	----
E	Humidity (%)	0.0
<i>Field</i>		
	Crop Growth Stage	
	Soil Moisture	----
	Soil Temperature (°F)	0.0

PC14083—UN—06OCT11

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BA31779,0000294 -19-06OCT11-1/1

Troubleshooting

Troubleshooting

The Mobile Weather Status (A) will display either of the following:

- OK
- Not Activated
- No Weather Data

If "No Weather Data" is displayed, check the following:

1. Pin Assignment in Ampseal 16 connector.
2. Baud Rate set to 4800.
3. GreenStar harness connected to weather sensor.

If weather values (B) are not being displayed on the screen, check to make sure the sensor itself is not cracked or damaged. If the sensor itself has visible damage, the sensor may need to be replaced. Check with your local John Deere Dealer. If there is no visible damage to the sensor but the weather values are not displayed on the screen, follow these steps or contact your local John Deere Dealer for support.

1. Verify there is power to weather sensor.
2. Verify all connections are tight.
3. Verify connections are correct.
4. Verify there are no kinks in the harness.
5. Verify there are no obstructions in the wind channel of the Weather Sensor. Keep it free of spider webs, insects, dirt, and other debris. Be careful not to puncture the blue waterproof film or scratch the silver plate.
6. Keep Weather Sensor out of conditions where ice may become a factor.

If humidity values are not changing or reading zero, the humidity sensor contained within the weather sensor may

Mobile Weather Main

Mobile Weather Status	(A)	Ok
Temperature (F)	(B)	77.1
DeltaT (F)	(B)	17.4
Humidity (%)	(B)	34
Wind Speed (mph)	(B)	0.0
Direction (deg)		0

A—Mobile Weather Status

B—Weather Values

need to be replaced. Check with your local John Deere Dealer.

John Deere recommends the humidity sensor be replaced every two years.

If the wind direction and wind speed values are not correct, make sure the sensor has an unobstructed view for GPS signal.

Continued on next page

BA31779,00004F0 -19-19JUL12-1/2

PC14175—UN—04NOV11

Communication Error

Communication with an application's electronic control unit has been unexpectedly lost. If reprogramming is not in process, check the harness connections - disconnect and reconnect the controller. If the problem persists, consult the dealer for this controller. The controller can be identified by the following manufacturer information:

NOTE: No weather values will be displayed or documented until connection to the Application Controller is restored.

Sensor Orientation Incorrect

The plastic nut assembly on the sensor is hand tightened and may loosen over time. Periodically check that the captive nut is still tight and alignment of the sensor is correct.

If the plastic nut assembly is tightened with a tool, instead of hand tightened, it may break or crack. Hand tighten only. A damaged nut assembly may affect the orientation of the sensor from facing the front of the machine. If any part of the plastic nut assembly is cracked or broken, replace plastic nut assembly.

The steel extension tube that the sensor is mounted on may loosen over time. A loose extension tube may affect the orientation of the sensor. Periodically check that connection between the extension tube and ratchet assembly are still tight.



PC14095—UN—06OCT11

Degraded Weather Measurements

Do not expose the sensor to temperatures greater than 65° C (149° F). If sensor has been exposed to temperature greater than 65° C (149° F) calibration of the sensor may no longer be accurate.

BA31779,00004F0 -19-19JUL12-2/2

Index

	Page
B	
Baud Rate.....	20-1
D	
Delta T	25-1
F	
Functional Requirements.....	10-1
L	
Layout Manager.....	20-2
O	
Operating Requirements	10-1
Operation	
Mobile Weather Information.....	25-1
Weather Alerts	25-1
R	
Recording	25-2
Requirements	10-1
S	
Setup	
Baud Rate	20-1
Baud Rate Setup.....	20-1
Home Page	20-2
Weather Alert Limits.....	20-2
Setup Requirements.....	20-1
System Components	
Application Controller 1120.....	15-2
GreenStar Display.....	15-2
System Requirements	10-1
T	
Theory of Operation.....	10-1
Troubleshooting	
Mobile Weather Station.....	30-1
V	
Viewing Operation	
Viewing Mobile Weather Information	25-1

John Deere Service Literature Available

Technical Information

Technical information can be purchased from John Deere. Some of this information is available in electronic media, such as CD-ROM disks, and in printed form. There are many ways to order. Contact your John Deere dealer. Call **1-800-522-7448** to order using a credit card. Search online from <http://www.JohnDeere.com>. Please have available the model number, serial number, and name of the product.

Available information includes:

- **PARTS CATALOGS** list service parts available for your machine with exploded view illustrations to help you identify the correct parts. It is also useful in assembling and disassembling.
- **OPERATOR'S MANUALS** providing safety, operating, maintenance, and service information. These manuals and safety signs on your machine may also be available in other languages.
- **OPERATOR'S VIDEO TAPES** showing highlights of safety, operating, maintenance, and service information. These tapes may be available in multiple languages and formats.
- **TECHNICAL MANUALS** outlining service information for your machine. Included are specifications, illustrated assembly and disassembly procedures, hydraulic oil flow diagrams, and wiring diagrams. Some products have separate manuals for repair and diagnostic information. Some components, such as engines, are available in separate component technical manuals
- **FUNDAMENTAL MANUALS** detailing basic information regardless of manufacturer:
 - Agricultural Primer series covers technology in farming and ranching, featuring subjects like computers, the Internet, and precision farming.
 - Farm Business Management series examines "real-world" problems and offers practical solutions in the areas of marketing, financing, equipment selection, and compliance.
 - Fundamentals of Services manuals show you how to repair and maintain off-road equipment.
 - Fundamentals of Machine Operation manuals explain machine capacities and adjustments, how to improve machine performance, and how to eliminate unnecessary field operations.



TS189 —UN—17JAN89



TS191 —UN—02DEC88



TS224 —UN—17JAN89



TS1663 —UN—10OCT87

DX.SERVLIT -19-31JUL03-1/1

John Deere Service Keeps You on The Job

John Deere Is At Your Service

CUSTOMER SATISFACTION is important to John Deere.

Our dealers strive to provide you with prompt, efficient parts and service:

- Maintenance and service parts to support your equipment.
- Trained service technicians and the necessary diagnostic and repair tools to service your equipment.



CUSTOMER SATISFACTION PROBLEM RESOLUTION PROCESS

Your John Deere dealer is dedicated to supporting your equipment and resolving any problem you may experience.

1. When contacting your dealer, be prepared with the following information:

- Machine model and product identification number
- Date of purchase
- Nature of problem

2. Discuss problem with dealer service manager.

3. If unable to resolve, explain problem to dealership manager and request assistance.

4. If you have a persistent problem your dealership is unable to resolve, ask your dealer to contact John Deere for assistance. Or contact the Ag Customer Assistance Center at 1-866-99DEERE (866-993-3373) or e-mail us at www.deere.com/en_US/ag/contactus/.

DX,IBC,2 -19-02APR02-1/1

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