

GreenStar Equipment for 7000 Series Forage Harvesters

BZ13788, BZ100157



JOHN DEERE

**INSTALLATION INSTRUCTIONS
GreenStar Equipment for 7000
Series Forage Harvesters (BZ13788,
BZ100157)**

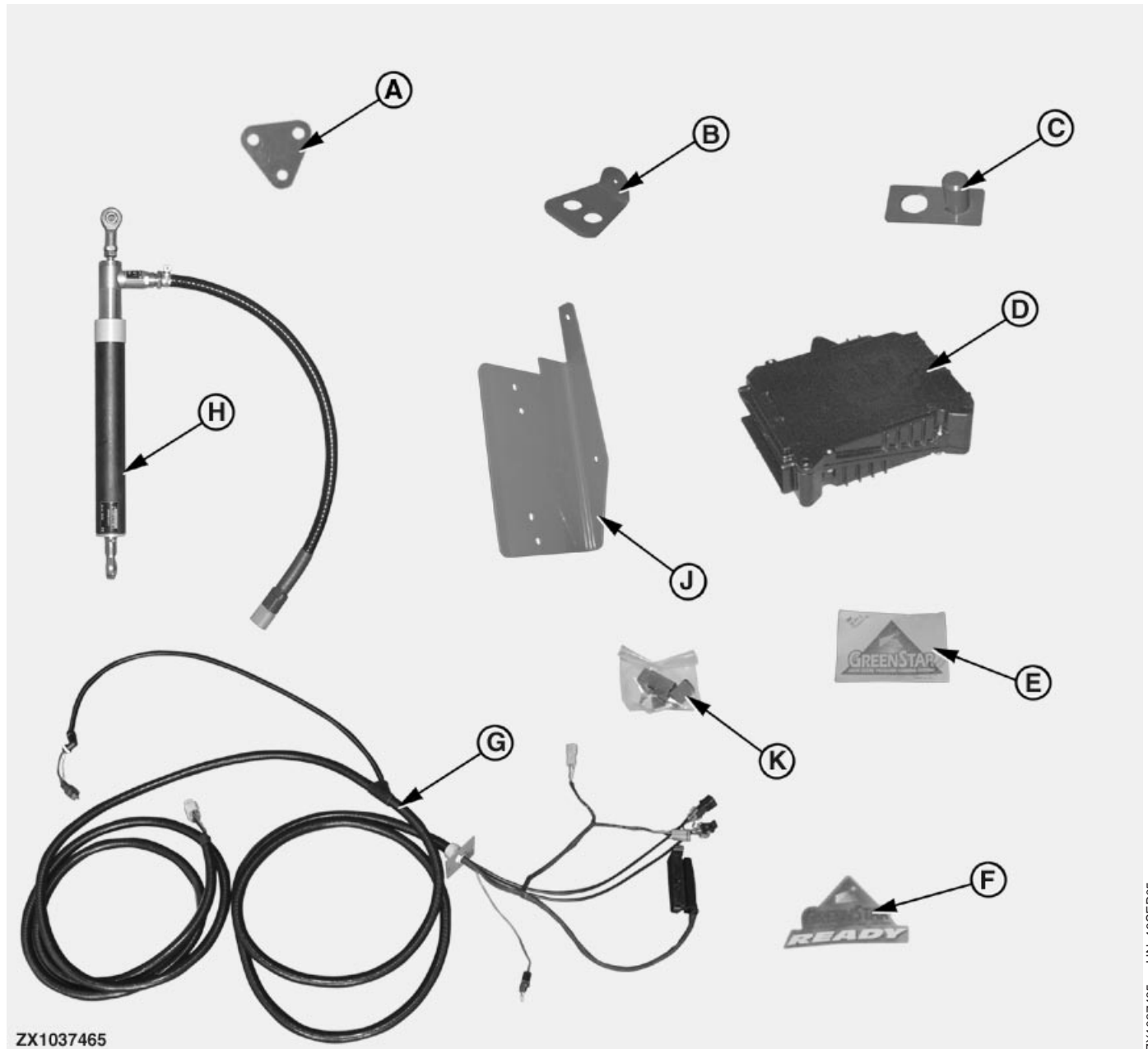
Z103757 13DEC06 (ENGLISCH)

7000 Series Forage Harvesters

**John Deere Werke Zweibrücken
Z103757 (13DEC06)**

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A John Deere ILLUSTRATION® Manual
Z103757-19-13DEC06

Contents of Bundle BZ13788



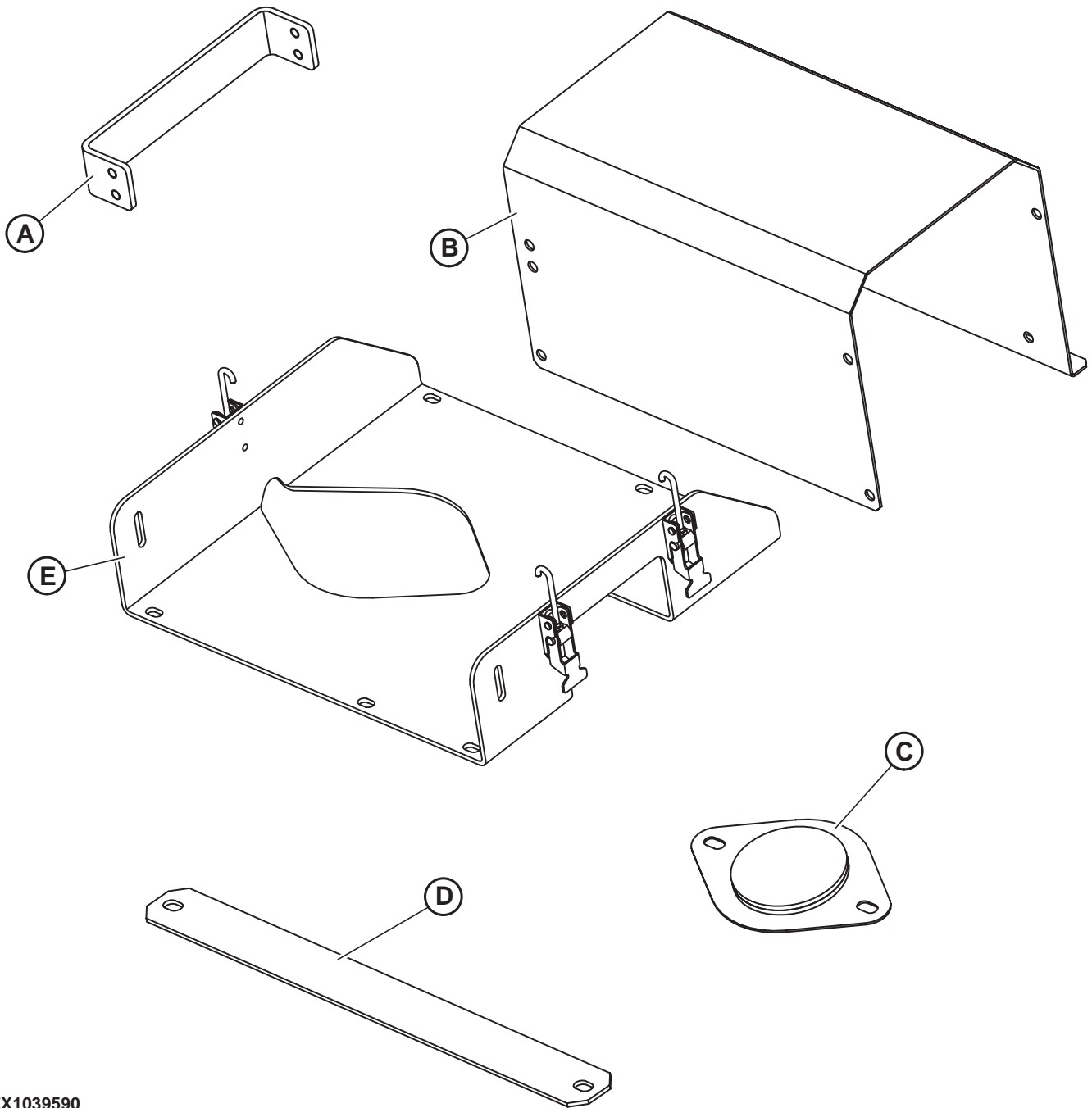
ZX1037465

- | | | | |
|-----------------------|-----------------------------|--------------------------------|--------------------------|
| A—Z73362 Plate (1x) | D—AZ59199 Job computer (1x) | G—AZ101120 Wiring harness (1x) | J—PF80209 Bracket (1x) |
| B—Z72204 Plate (1x) | E—H204964 Decal (1x) | H—AZ63280 Potentiometer (1x) | K—AZ71569 Connector (1x) |
| C—AZ57754 Holder (1x) | F—N302284 Decal (1x) | | |

NOTE: The bundle contains a hardware bag.

ZX1037465 -UN-13SEP05

Contents of Bundle BZ100157



ZX1039590

A—Z102720 Support (1x)
B—Z101939 Shield (1x)

C—AZ102637 Cover Plate

D—Z102760 Fixing Plate (1x)

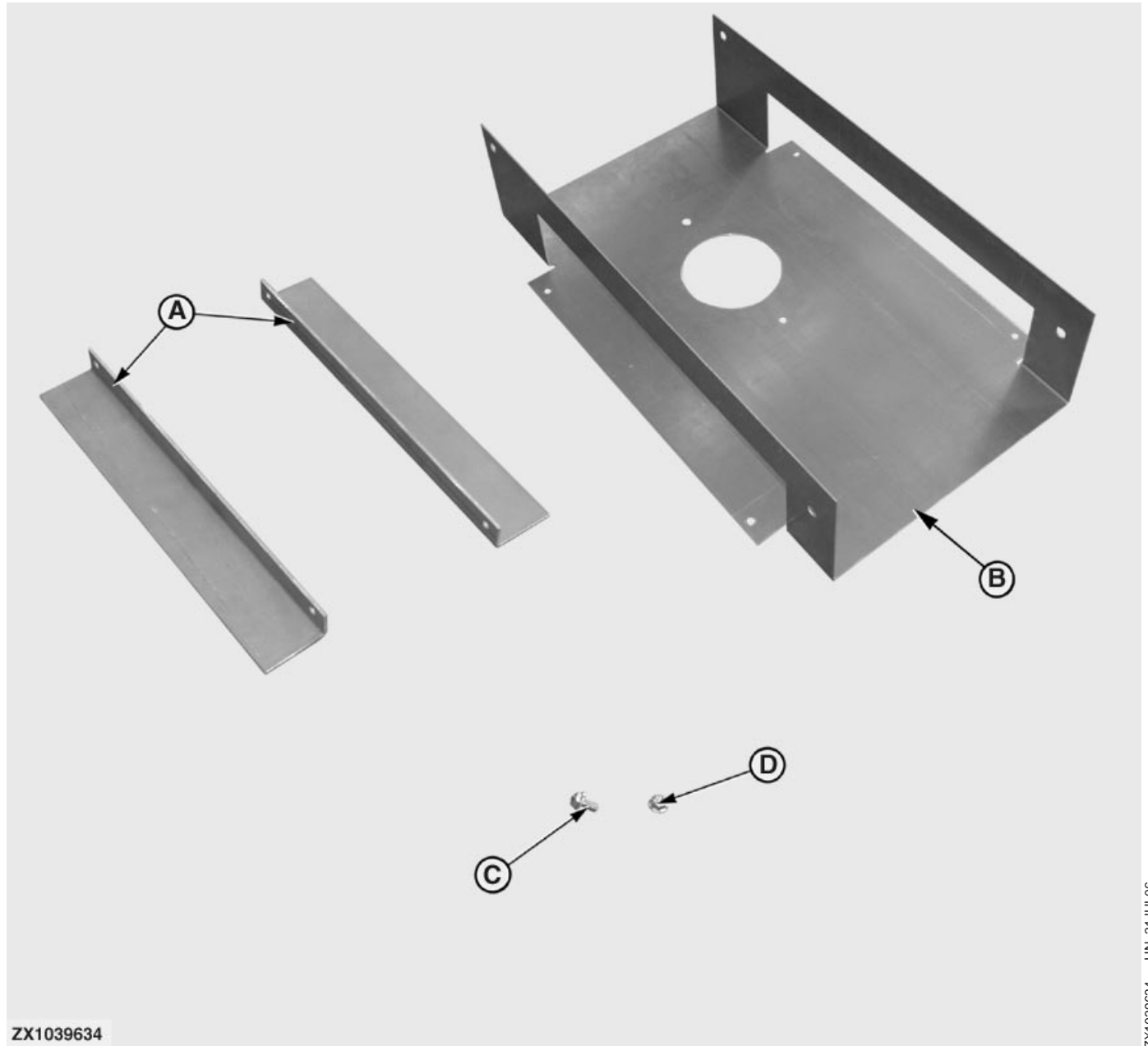
E—AZ102820 Sensor Support (1x)

NOTE: The bundle contains a hardware bag including (7x) 14M7298 M8 flange nuts, (2x) 14M7396 M8 self locking nuts, (10x) 19M7865 M8X16

screws, (6x) 19M7867 M8X25 screws, (3x) 19M7897 M8X35 screws and (2x) 24M7207 8.4X24X2 washers.

OUC002,00021C8 -19-26SEP06-1/1

Contents of Bundle BZ100157—Continued



ZX1039634

ZX1039634 -UN-31JUL06

A—Z103667 Bracket (2x)

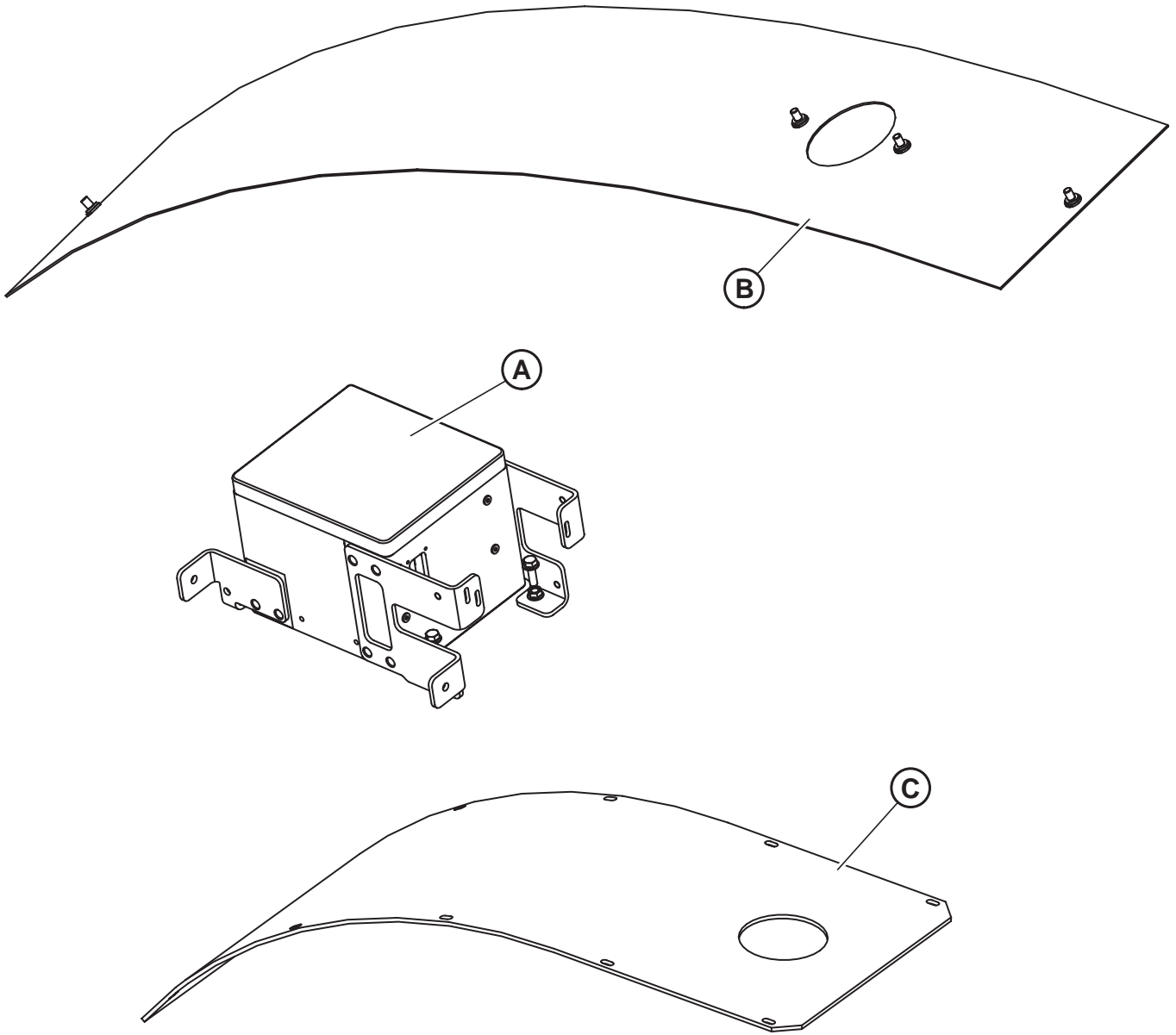
B—Z103666 Template (1x)

C—19M7865 Cap Screw M8X16
(4x)

D—14M7298 Flange Nut M8
(4x)

OUC002.000233A -19-31JUL06-1/1

Parts to Order



ZX1039591

A—BZ100165 NIR Sensor (1x)

B—AZ101740 Wear Plate for High arc Spout (1x)

C—Z101953 Wear Plate for Flat Spout (1x)

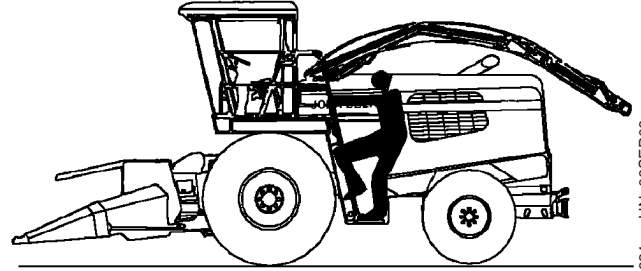
To complete the bundle BZ100157 installation the parts or bundles above illustrated must be ordered separately.

ZX1039591 -UN-12JUL06

OUCC002,00021C9 -19-04AUG06-1/1

Mount and Dismount Safely With the Moisture Sensor

Hold handrail with one hand and carry the moisture sensor with the other.



ZX1039921

OUC002,0002373 -19-06SEP06-1/1

ZX1039921 -UN-06SEP06

Maintain Stability

Keep work surfaces dry and clean. Maintain balance while transporting and installing the moisture sensor onto the forage harvester's spout.

Care should also be observed while servicing the sensor.

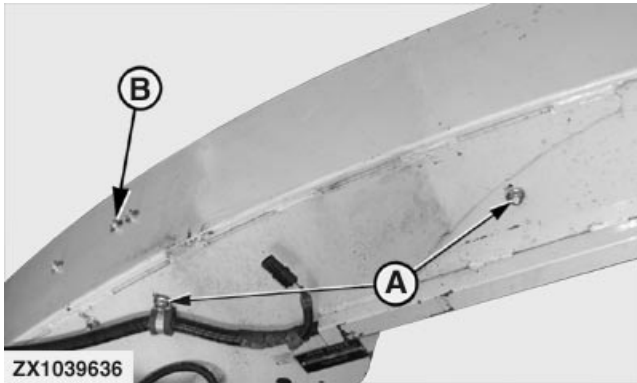


ZX1039668

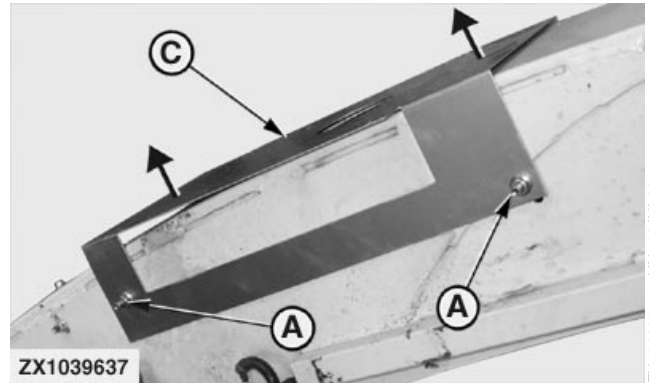
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ZX1039668 -UN-29AUG06

Modify High Arc Spout



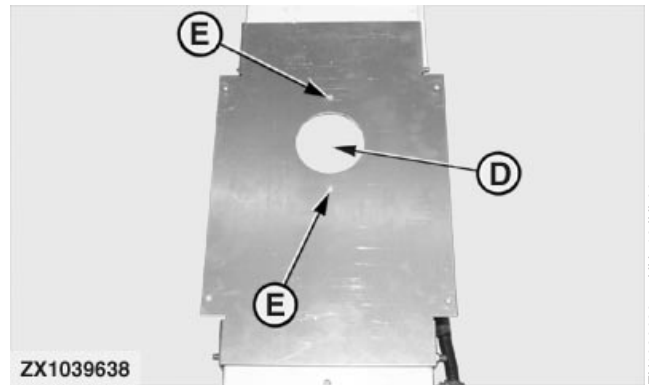
ZX1039636 -UN-12JUL06



ZX1039637 -UN-12JUL06

On machines with old high arc type spout, proceed as follows to install NIR sensor brackets:

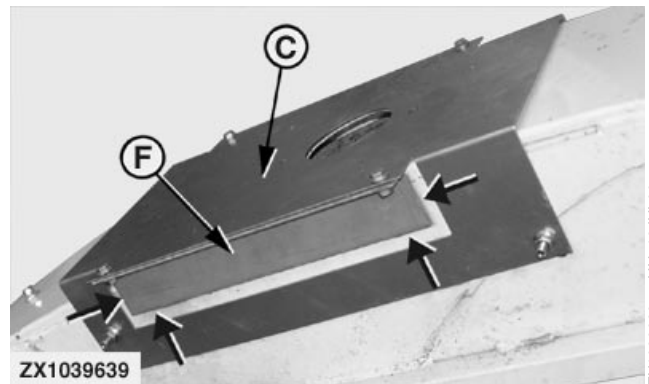
1. On both sides of the spout, release the side wear plate fixing screws (A) and rear wear plate fixing screws (B). Remove and discard rear wear plate. Remove both side wear plates.
2. Install template Z103666 (C) over spout as shown using original hardware (A). Pull up template Z103666 (C) to set it correctly in position then tighten fixing screws (A).
3. Mark area (D) to cut a hole 102 mm (4.01 in.) diameter then drill two holes 11x20 mm (0.43x0.78 in.) at locations (E).
4. Install brackets Z103667 (F) on template Z103666 (C) with four screws 19M7865 M8X16 and flange nuts 14M7298. Make sure brackets (F) are in contact with spout sides then weld at front and rear of the brackets (F) (see arrows) on spout.



ZX1039638 -UN-12JUL06

IMPORTANT: Grind spout sides at locations where weld will be carried out.

5. Remove template Z103666 (C) then finalize welding process on top of brackets Z103667 (F) (see arrow).



ZX1039639 -UN-12JUL06

- A—Fixing Screws
- B—Fixing Screws
- C—Template Z103666
- D—Area to Cut
- E—Drilling Holes
- F—Brackets Z103667



ZX1039640 -UN-12JUL06

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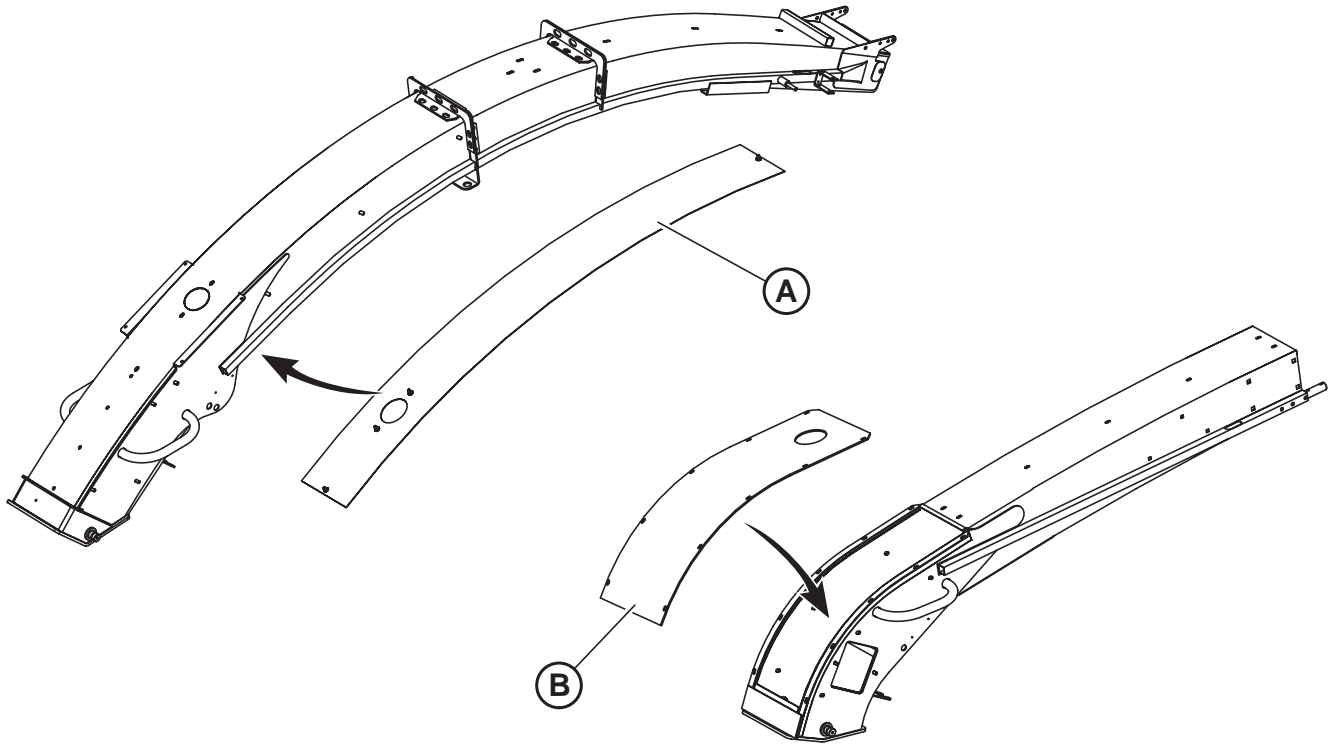
OUC002.000233C -19-12OCT06-1/2

IMPORTANT: Grind weld at top of brackets Z103667 (F) so that weld surface is flush with the bracket surface.

6. Cut out previously marked area (D).

OUCC002,000233C -19-12OCT06-2/2

Replace Spout Wear Plate



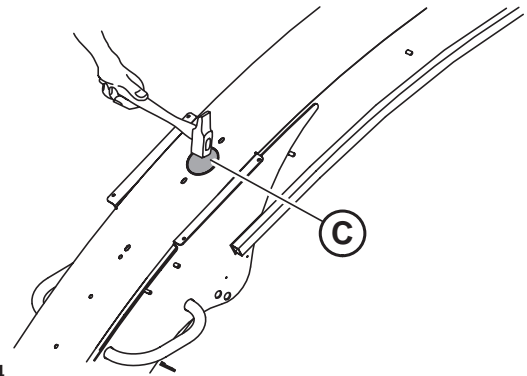
ZX1039595

Using original hardware, install wear plate AZ101740 (A) on high arc type spout or wear plate Z101953 (B) on flat spout.

On new high arc type spout, use a hammer to remove pre-cut part (C) of spout as shown.

- A—Wear plate—AZ101740—High arc spout
- B—Wear plate—Z101953—Flat spout
- C—Part to remove

ZX1039594



ZX1039595 -UN-10APR06

ZX1039594 -UN-10APR06

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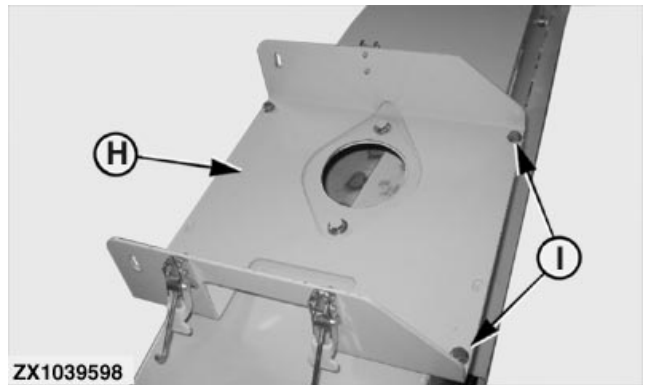
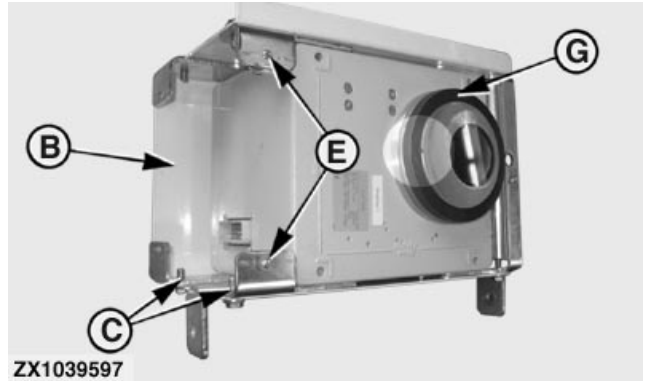
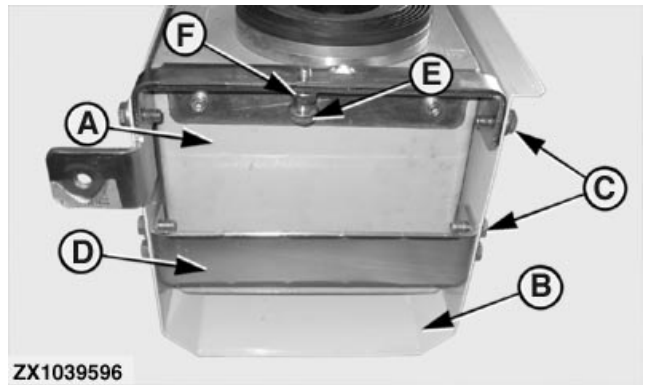
Install NIR Sensor BZ100165

1. Pre-assemble NIR sensor BZ100165 (A) with the shield Z101939 (B) using 6 flange screws M8X16 (C).
2. Install support Z101720 (D) using 4 flange screws M8X16 (C).
3. Place three screws M8X35 (E) and three flange nuts (F) on sensor support as shown.
4. Insert sealing ring Z101944 (G) on glass adapter of sensor BZ100165 (A).

IMPORTANT: To install the sealing ring (G) correctly, align its centering protrusion with the groove of glass adapter.

5. Install support AZ102820 (H) on spout using four flange screws M8X25 (I) and flange nuts.

- A—NIR sensor—BZ100165
- B—Shield—Z101939
- C—Flange screws M8X16
- D—Support Z101720
- E—Flange screws M8X35
- F—Flange nut
- G—Sealing ring—Z101944
- H—Support—AZ102820
- I—Flange screws M8X25



Continued on next page

OUC002,00021CD -19-18NOV06-1/4

6. Attach sensor assembly (A) to support AZ102820 (B) using two flange screws M8X25 (C), two washers 8.4X24X2 (D) and two self-locking nuts (E) as shown.

IMPORTANT: To ease sensor assembly fold/unfold, place washers (D) between support (B) and sensor assembly brackets. Do not overtighten self-locking nuts (E). Sensor assembly (A) must remain easily foldable.

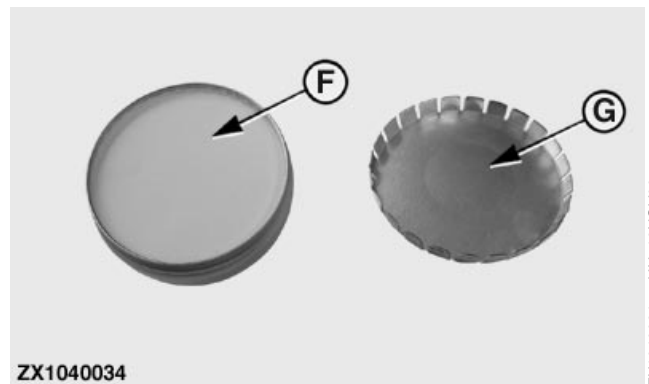
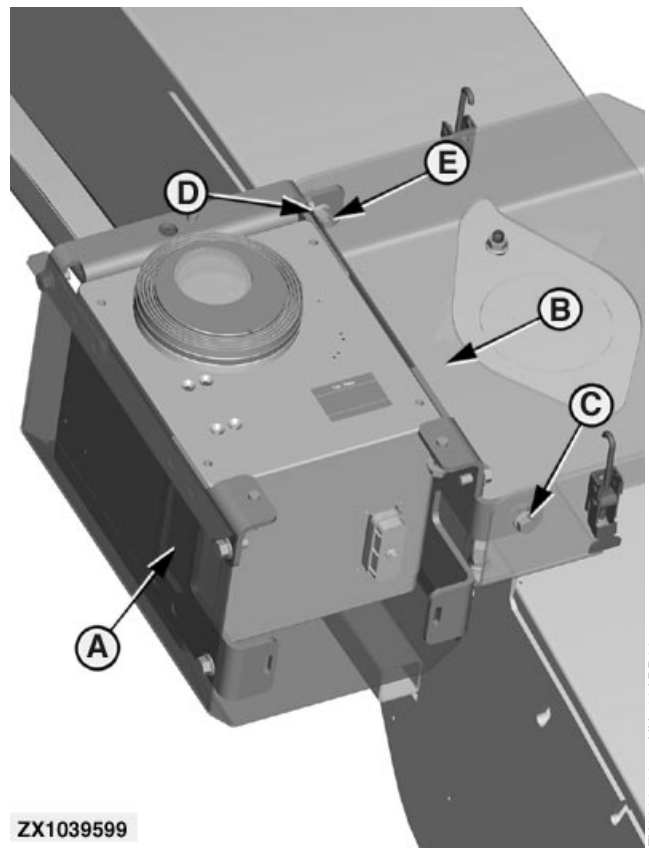
The NIR sensor (A) is delivered with a dedicated wave length standard (F). To avoid NIR sensor and non dedicated wave length standard mix up, it is strongly recommended to report the NIR sensor serial number on its relevant wave length standard cover (G).

IMPORTANT: Prior to operating the NIR sensor (A), carry out an initial wave length standard measurement as described in Harvest Monitor System Operator's Manual.

If the wave length standard measurement is not successful then a black and white calibration of the NIR sensor is required. Proceed as described in the forage harvester Technical Manual.

The wave length standard (F) must be kept in good condition for future measurement. In this way, special attention must be paid so that the wave length standard (F) doesn't come in contact with chemical products such as:

- Diesel
- Gasoline (Leaded or unleaded)
- Thinners
- Engine cleaner
- Cavity sealing
- After cleaning
- Finishing paint
- Blackboard lacquer
- Freeze protection



- A—Sensor assembly
- B—Support—AZ102820
- C—Flange screws M8X25
- D—Washers 8.4X24X2
- E—Self-locking nuts
- F—Wave length standard
- G—Cover

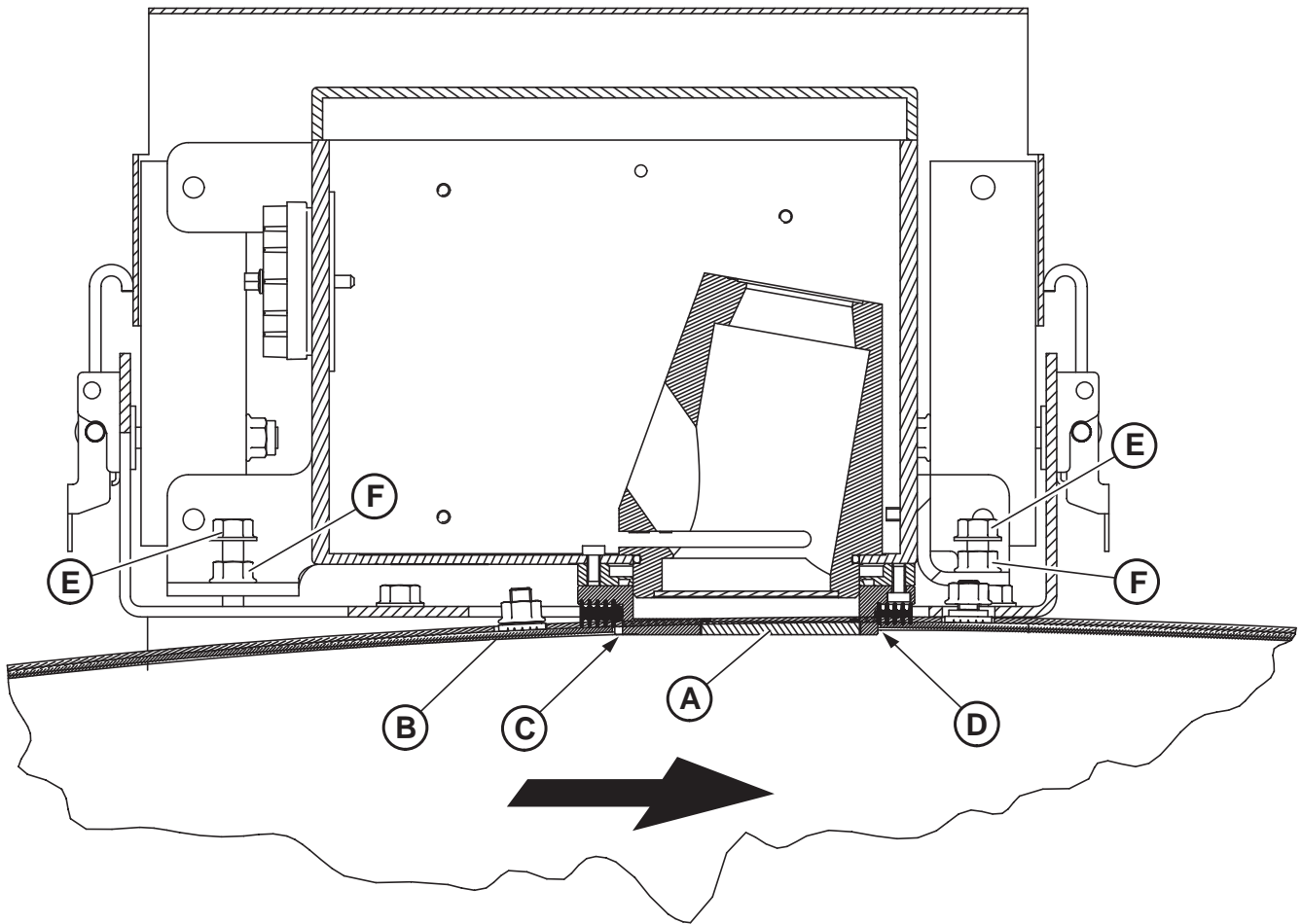
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OUC002,00021CD -19-18NOV06-2/4

NOTE: Do not disconnect sensor (A) from machine wiring harness until sensor shuts down completely. Before disconnecting sensor turn forage harvester ignition off. Wait at least 30 seconds before disconnecting the sensor.

Continued on next page

OUCC002,00021CD -19-18NOV06-3/4



ZX1039600

A—Adapter glass
B—Wear plate

C—Front point setting
D—Rear point setting

E—Flange screw

F—Flange nut

- Place sensor into working position but do not latch it. Adjust sensor assembly position so that tip of adapter glass (A) is flush with wear plate (B) at front point (C) and about 1 mm (0.08 in.) below surface of wear plate (B) at rear point (D) as shown. Use the three flange screws (E) to adjust then secure with flange nuts (F).

IMPORTANT: To allow a proper adapter glass self-cleaning process, make sure that sensor position is correctly set.

NOTE: Arrow is showing the crop flow direction.

ZX1039600 -UN-10APR06

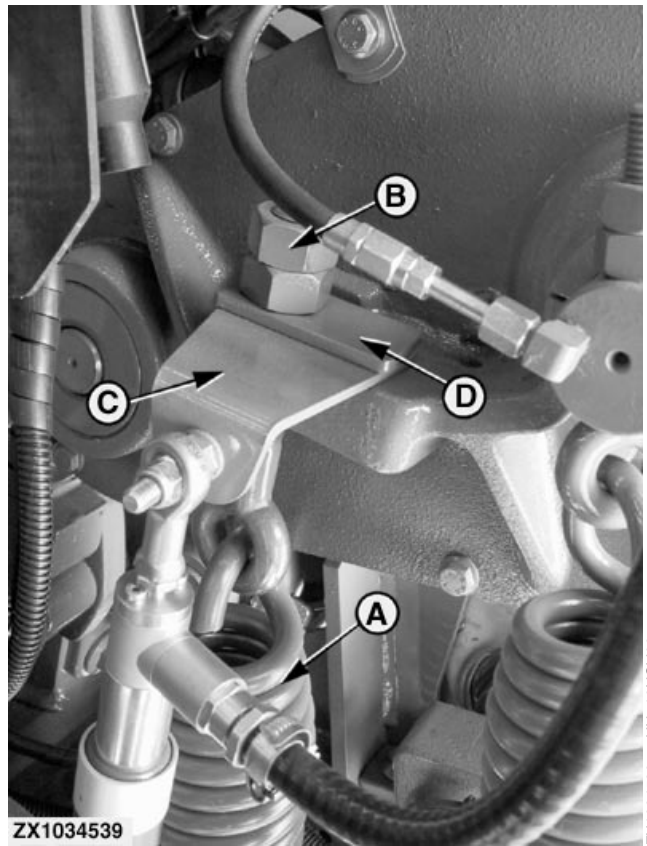
OUC002,00021CD -19-18NOV06-4/4

Install Feed Roll Potentiometer AZ63280

Install Upper Plate Z72204 and Holder AZ57754

1. Remove right-hand feed roll spring (A) by loosening eye-bolt (B).
2. Install plate Z72204 (C) and holder AZ57754 (D) in the free holes.
3. Put the eye-bolt (B) back in place and tighten the spring to its original setting.

A—Feed roll spring
B—Eye-bolt
C—Plate Z72204
D—Holder AZ57754



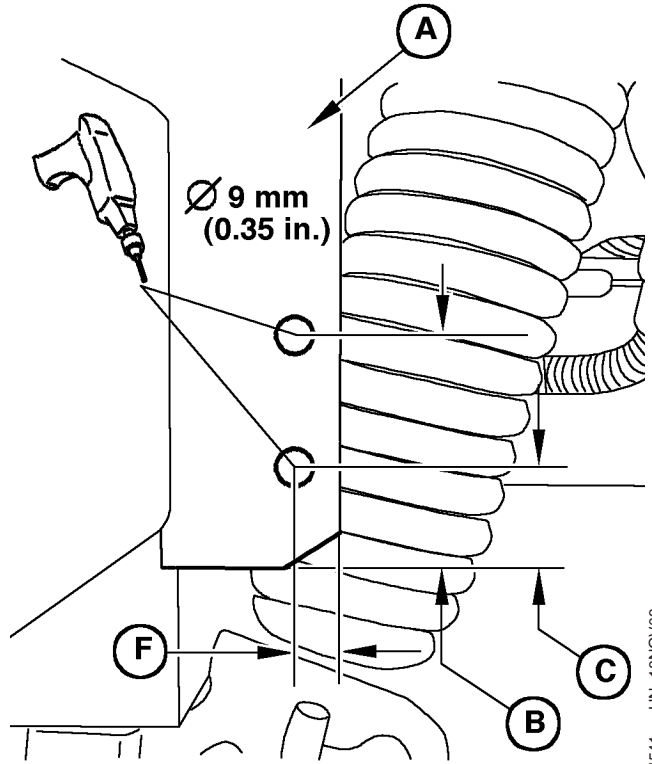
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Install Lower Plate Z73362

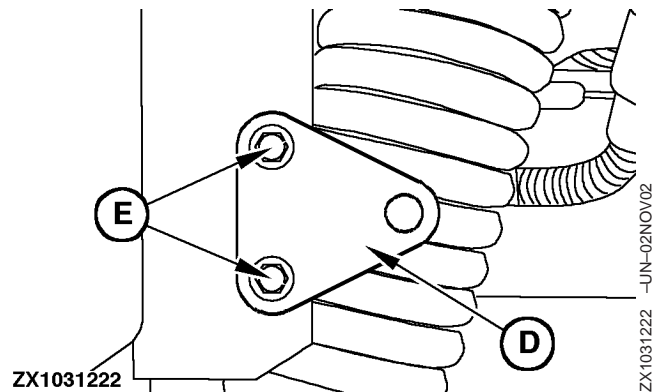
1. Drill two 9 mm (0.35 in.) diameter holes on cutterhead frame (A) as shown.
2. Install plate Z73362 (D) on frame (A) with two cap screws M8x40 (E) and nuts, as shown.

- A—Cutterhead frame
- B—75 mm (2.95 in.)
- C—34 mm (1.34 in.)
- D—Plate Z73362
- E—Cap screws M8x40
- F—15 mm (0.59 in.)



ZX1034541

ZX1034541 -JUN-18NOV03



ZX1031222

ZX1031222 -JUN-02NOV02

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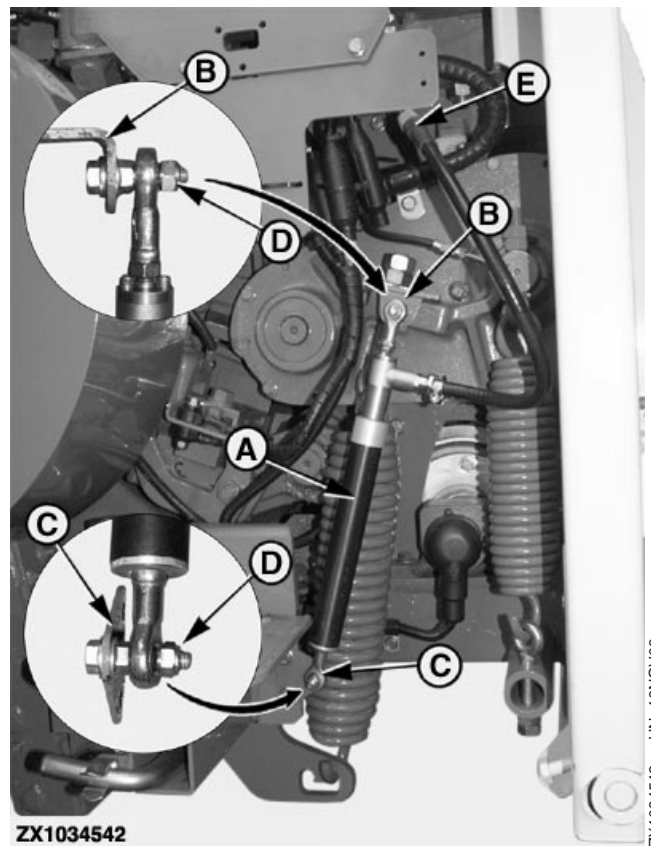
OUZXMAG,0001BEF -19-13NOV03-2/3

Install Feed Roll Potentiometer AZ63280

1. Install potentiometer AZ63280 (A) between plate Z72204 (B) and plate Z73362 (C) with screws (D) M12x35, flange nuts and lock nuts as shown.
2. Connect potentiometer AZ63280 (A) to free connector (E) of machine wiring harness.

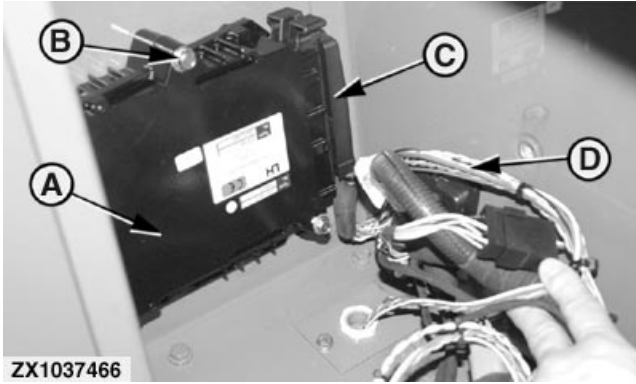
IMPORTANT: The potentiometer (A) should be mounted so that the wiring harness connector is in top position.

- A—Potentiometer AZ63280
- B—Plate Z72204
- C—Plate Z73362
- D—Screws M12x35
- E—Connector

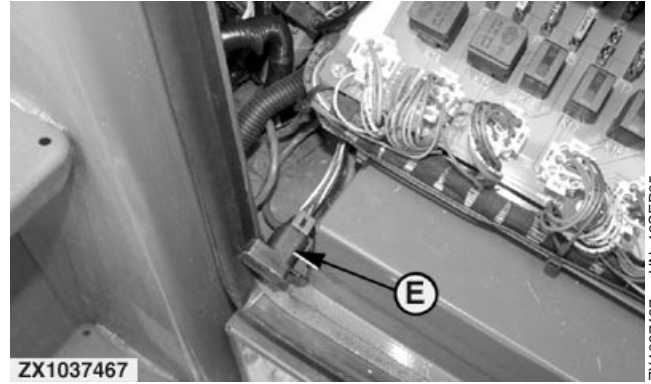


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Install Job Computer AZ59199 and Wiring Harness AZ101120

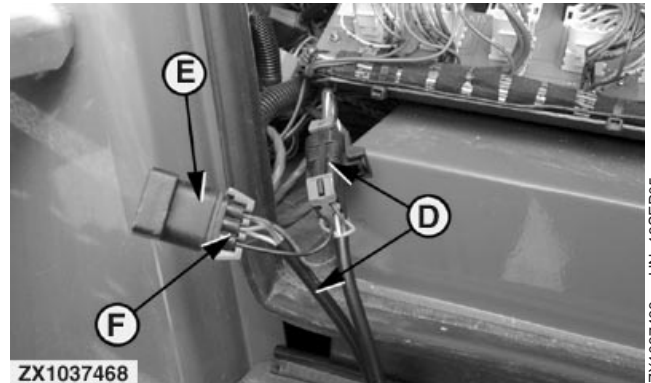


ZX1037466 -UN-13SEP05

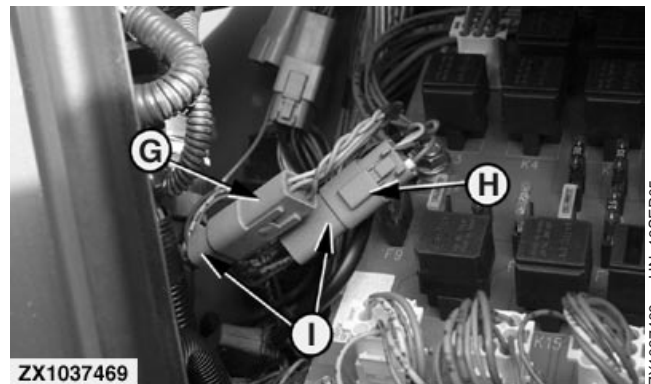


ZX1037467 -UN-13SEP05

1. Install job computer AZ59199 (A) as shown on the bottom left side of load center with three screws M8x60 (B) using existing nuts in the wall.
2. Connect main connector (C) of wiring harness AZ101120 (D) to job computer (A).
3. Disconnect A7-CAN bus terminator (E) located near the board A3. Connect CAN bus terminator (E) to relevant connector (F) of wiring harness AZ101120 (D), then connect wiring harness AZ101120 to terminator (E) original connector as shown.
4. Locate free connectors X27 (G) and X30 (H), then connect them to the relevant machine wiring harness free connections using parts of connector AZ71569 (I) and following tables:



ZX1037468 -UN-13SEP05



ZX1037469 -UN-13SEP05

X27 Connector AZ71569 Pin Connections	
Pin Number	Wire
Pin #1	552C
Pin #2	974
Pin #3	975
Pin #4	050B
Pin #5	not used
Pin #6	not used

- A—Job computer AZ59199
- B—Screws M8x60
- C—Main connector
- D—Wiring harness AZ101120
- E—A7 CAN bus terminator
- F—Connector
- G—X27 Connector
- H—X30 Connector
- I—AZ71569 Connector

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OUCC002,00021CA -19-18NOV06-1/8

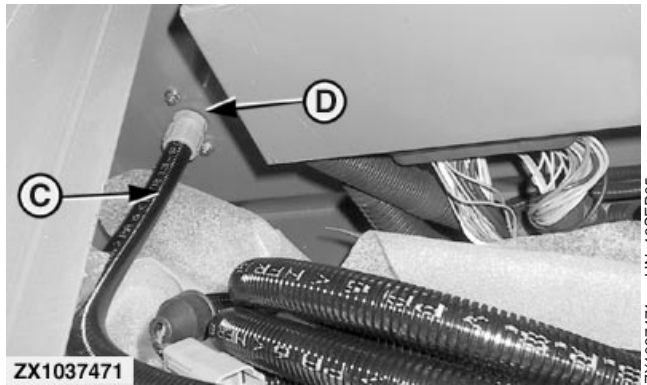
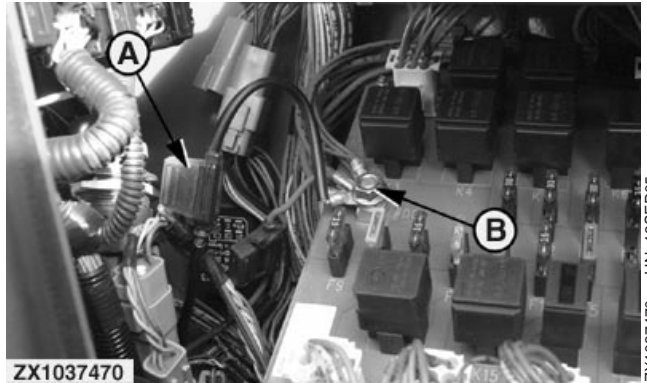
X30 Connector AZ71569 Pin Connections

Pin Number	Wire
Pin #1	584
Pin #2	586
Pin #3	585
Pin #4	571
Pin #5	not used
Pin #6	not used

OUCC002,00021CA -19-18NOV06-2/8

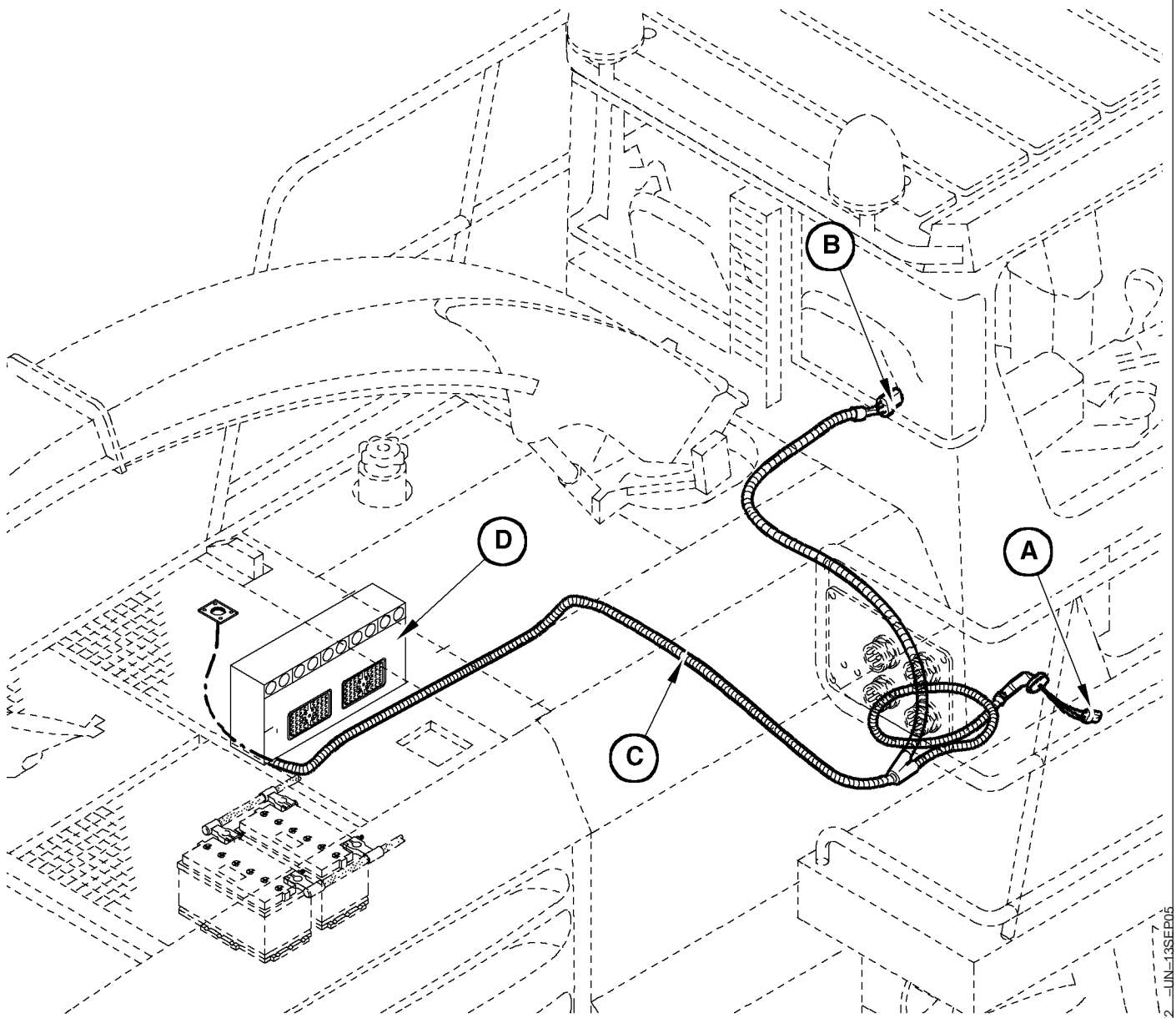
- Connect part of wiring harness AZ101120 with 15A-fuse (A) to connecting point 002 (B) located on board A3 as shown.
- Remove closing plate from bottom of load center (not illustrated) and pass wiring harness AZ101120 (C) through the opening until guide plate (D) can be installed using original hardware previously removed.

- A—Fuse
- B—Connecting point
- C—Wiring harness AZ101120
- D—Guide plate



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OUCC002,00021CA -19-18NOV06-3/8



ZX1037472

A—Inoculant dosing device connector

B—NIR sensor connector

C—Wiring harness AZ101120

D—Connection box

7. Using above illustration, route connectors (A) and (B) of wiring harness AZ101120 (C) underneath the

connection box (D), alongside the left-hand side of machine frame then behind the cab.

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OUCC002.00021CA -19-18NOV06-4/8

ZX1037472 -JUN-13SEP05

IMPORTANT: Route wiring harness AZ101120 (C) alongside machine wiring harness and secure with tie bands.

NOTE: Connector (A) shall be used for inoculant dosing device connection.

Connector (B) shall be stored in a safe place if NIR sensor is not installed on spout.

NOTE: Use the existing machine wiring harnesses and/or hydraulic hoses to fix the wiring harness AZ101120 (C) with plastic clamps so that it will not be left loose in a way it can be caught by any moving part.

OUCC002,00021CA -19-18NOV06-5/8

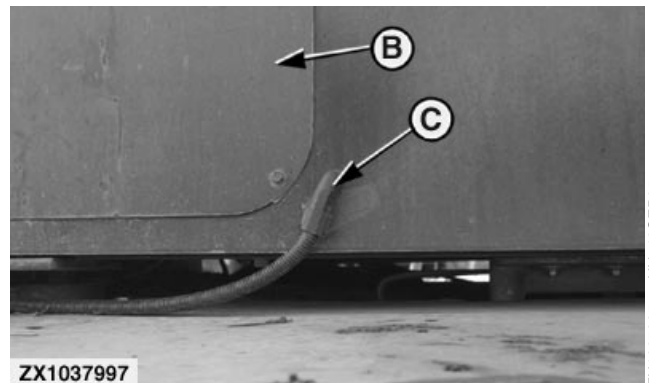
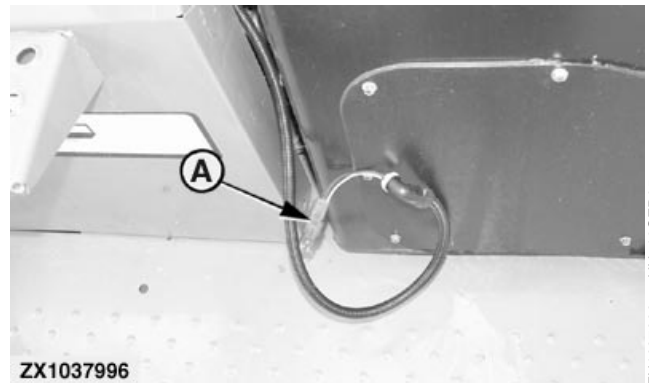
8. Route inoculant dosing device connector (A) outside the rear right-hand side of the cab as shown.
9. Drill a suitable hole near the cab closing plate (B) so that connector sleeve (C) can be inserted and fixed to the cab wall as shown.

IMPORTANT: Open plate (B) and check that no wiring harness is being damaged while drilling the hole!

-If an inoculant dosing device is used, route dosing device connecting wires through opening of closing plate and refer to "Connecting Inoculant Dosing Device" for proper device connection.

-If no inoculant dosing device is used, keep connector (A) protected behind closing plate (B).

- A—Connector for inoculant dosing device
- B—Closing plate
- C—Connector sleeve

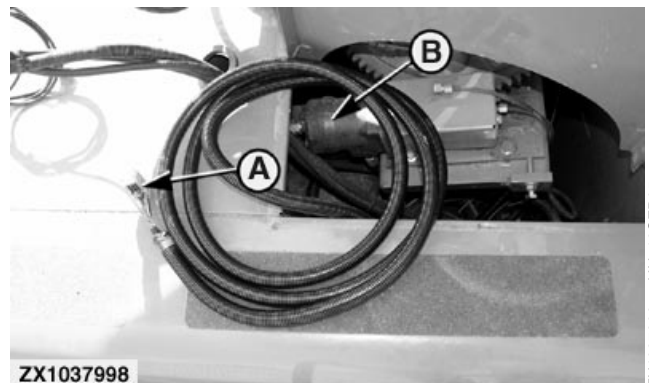


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10. **In Case Bundles BZ100157 and BZ100165 are Not Installed on Spout:**

Route and store NIR sensor connector (A) near the spout motor (B). Make sure to store the cable so that it will not be caught by any moving part.

- A—NIR sensor connector
- B—Spout motor



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OUCC002,00021CA -19-18NOV06-7/8

11. In Case Bundles BZ100157 and BZ100165 are Installed on Spout:

Route NIR sensor connector (A) to the right-hand side of the spout motor (B) then alongside the spout wiring harness (C) up to the NIR sensor BZ100165 (D) as shown. Secure cable with tie bands.

Make sure to route the cable so that it will not be caught by any moving part.

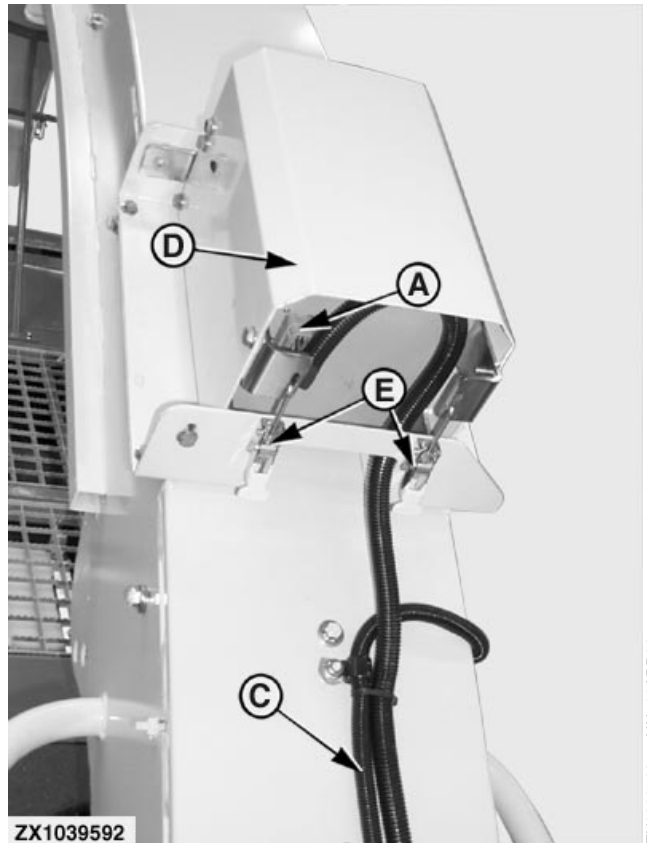
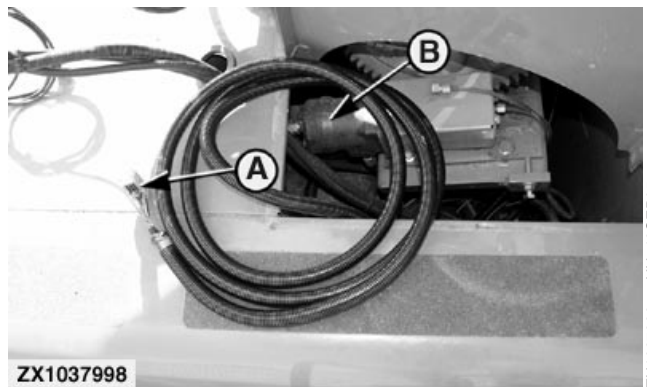
12. Connect NIR sensor connector (A) to NIR sensor BZ100165 (D) then engage the three latches (E) to maintain NIR sensor BZ100165 (D) in working position as shown.

IMPORTANT: Route cable as shown on illustration and make sure to keep sufficient play to cable so that NIR sensor assembly can be folded/unfolded without disconnecting connector (A).

NOTE: If connection box BZ100168 has been installed on NIR sensor BZ100165 then connect NIR connector (A) to the connection box (not illustrated).

NOTE: Do not disconnect sensor (D) from spout wiring harness until sensor shuts down completely. Before disconnecting sensor turn forage harvester ignition off. Wait at least 30 seconds prior to disconnecting the sensor.

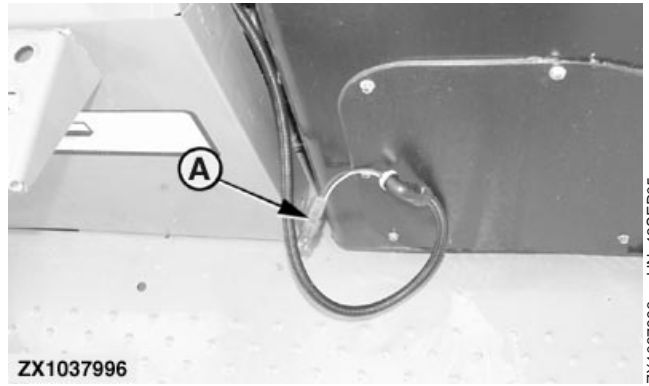
- A—NIR sensor connector
- B—Spout motor
- C—Spout wiring harness
- D—NIR sensor—BZ100165
- E—Latch (3 used)



Connecting Inoculant Dosing Device

To enable the dosing device system, the connector (A) **MUST** be connected to the relevant connector of inoculant dosing device control unit in the following manner (refer to table for connector (A) pin connections).

- **Tx wire**¹ of dosing device connector to **Rx wire**² of wiring harness AZ101120 connector (A).
- **GND wire**³ of dosing device connector to **GND wire** of wiring harness AZ101120 connector (A).
- **Rx wire** of dosing device connector to **Tx wire** of wiring harness AZ101120 connector (A).



A—Connector for inoculant dosing device

Connector (A) Pin Connections	
Pin Number	Wire
Pin #A	589—Tx
Pin #B	590—GND
Pin #C	591—Rx

¹Tx wire: Means wire that transmits the signal

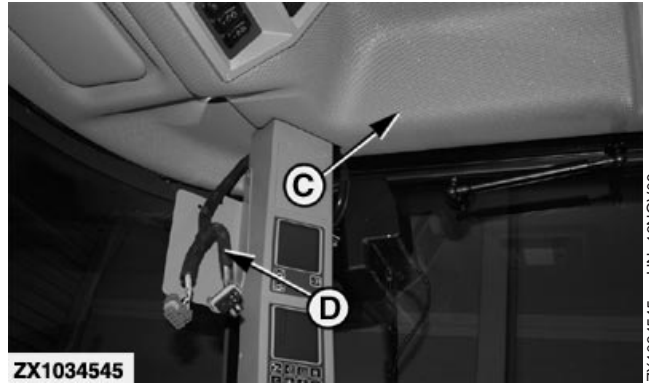
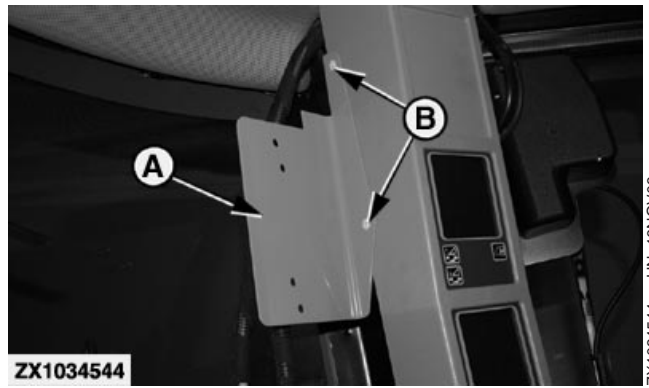
²Rx wire: Means wire that receives the signal

³GND wire: Means ground wire

Install Bracket PF80209 in Cab

1. Install monitor bracket PF80209 (A) on right-hand corner post as shown using corner post fixing screws (B).
2. Pull down cab roof trim (C) and look for monitor wiring harness (D). Extract it from cab roof and route it up to the bracket PF80209 as shown. Keep the wiring harness (D) connectors free for further monitor installation.

- A—Bracket PF80209
- B—Screws
- C—Cab roof trim
- D—Monitor wiring harness

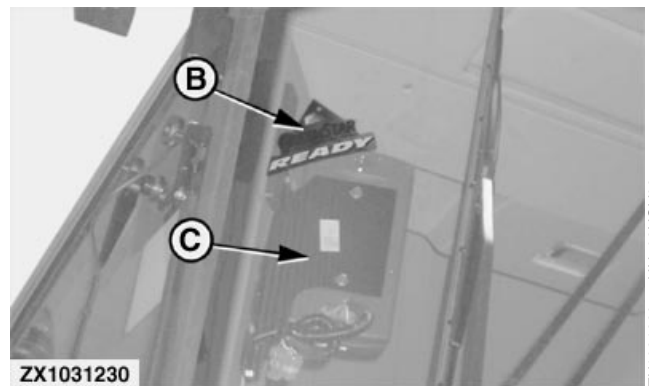
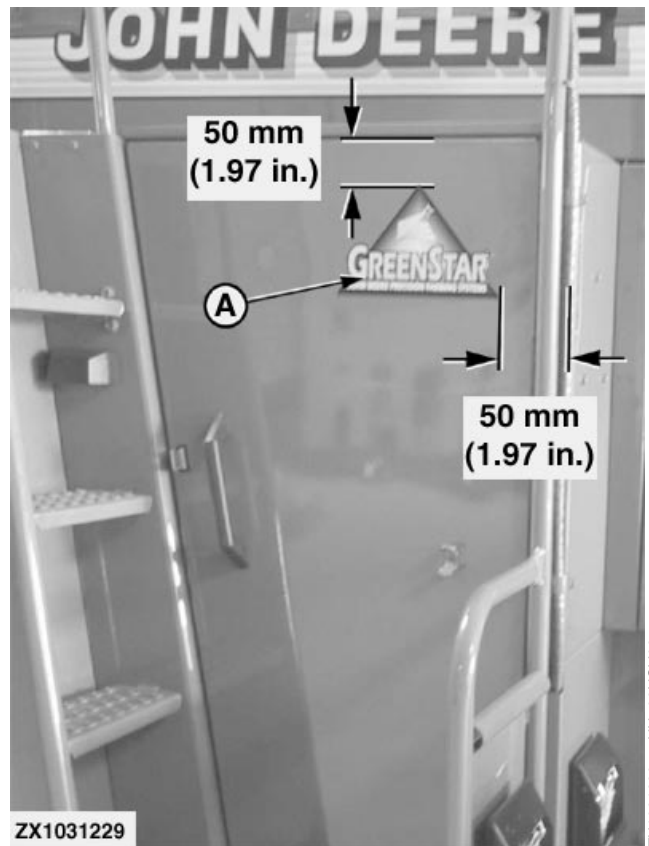


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Attach GreenStar Decals

- Attach decal H204964 (A) to left hand side of the harvester as indicated.
- Attach decal N302284 (B) as indicated in front of the display (C), on inside of cab.

A—Decal H204964
B—Decal N302284
C—Display



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Load Software

Load Display Software

To load new software:

1. Install PC Card containing NEW software in card slot A of mapping processor.
2. Turn ignition key to RUN position.
3. Press "**INFO**" key to enter INFO mode.
4. Press key **B** in "INFO" to select "**Keycard**".
5. Press key **A** to select "**Devices on CAN Bus**". Actual **Version Display Software** and **Version Harvest Mon** are then displayed.
6. Press key **G** once to go back.
7. Press key **C** to select "**Program Target**".
8. Press key **A** to select "**GreenStar Display**".
9. Press relevant key to choose "**PF303182B**" software version, or higher.
10. While programming (about 30 seconds):
 - **DO NOT REMOVE PC CARD**
 - **DO NOT REMOVE POWER**
11. When programming is complete, the **PROGRAMMING COMPLETE** screen will appear. **CYCLE POWER** will be displayed in lower left corner.

Turn ignition switch OFF.

Load Job Computer Software

To load new software:

1. Install PC Card containing NEW software in card slot A of mapping processor.
2. Turn ignition key to RUN position.

Continued on next page

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3. Press "**INFO**" key to enter INFO mode.
4. Press key **B** in "INFO" to select "**Keycard**".
5. Press key **A** to select "**Devices on CAN Bus**". Actual **Version Display Software** and **Version Harvest Mon** are then displayed.
6. Press key **G** once to go back.
7. Press key **C** to select "**Program Target**".
8. Press key **A** to select "**Harvest Mon**".
9. Press relevant key to choose "**PF311135C**" software version, or higher.
10. While programming (about 30 seconds):
 - **DO NOT REMOVE PC CARD**
 - **DO NOT REMOVE POWER**
11. When programming is complete, the **PROGRAMMING COMPLETE** screen will appear. **CYCLE POWER** will be displayed in lower left corner.

Turn ignition switch OFF.

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Check Yield Monitoring Functionality

Calibrate Mass-Flow Sensor

1. Turn ignition key to RUN position.
2. Press “**SETUP**” key to enter SETUP mode.
3. Press key **C** in “SETUP” to select “**GreenStar Display**”.
4. Select your native language and units then press key **G** once to go back.
5. Press key **A** to select “**Harvest Mon**”.
6. Make sure that “**Recording ON/OFF By:**” is set on “**HEADER**” then press key **G** once to go back.
7. Press key **D** to select “**Yield Calibration**”.
8. Press key **A** to start calibration. Wait until feedroll height is 10 mm (0.4 in.).
9. Press **RUN** key.

Check Monitoring Functions

1. Turn ignition key to start harvester engine.
2. Press “**INFO**” key to enter INFO mode.
3. Press key **A** in “INFO” to select “**Harvest Mon**”.
4. Press key **F** to select “**Diagnostics**”.
5. Press key **B** to select “**Mass-Flow System**”. Engage main clutch and harvesting unit then check the following points:
 - **Height right**—should be between 0.2 and 0.6 V.
 - **Vref**—Should be between 4.8 and 5.1 V.

If any of these points are not OK, contact your John Deere dealer.

Press key **G** once to go back.

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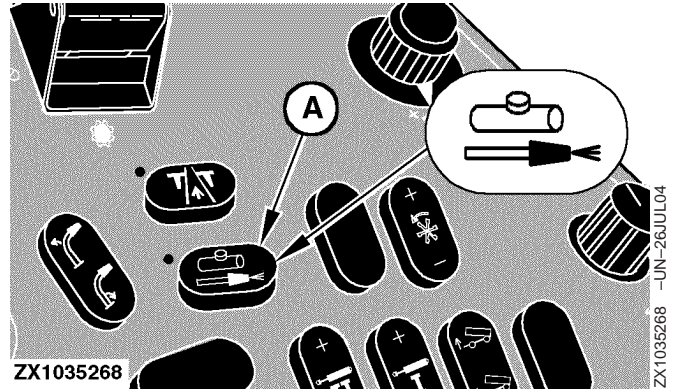
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6. Press key **C** to select “**SPFH Network**” and check communication between SPFH and Harvest Monitor.
7. Press **RUN** key.

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Check Inoculant Dosing Functionality

1. Turn ignition key to start harvester engine.
2. Press “**SETUP**” key to enter SETUP mode.
3. Press key **A** in “SETUP” to select “**Harvest Mon**”.
4. Press “**PAGE**” key to go to “SETUP - Harv Mon - PAGE 2” screen then press key “**F**” to toggle inoculant dosing support state from OFF to ON or vice versa.
5. Press **RUN** key.
6. The inoculant dosing device can be engaged if:
 - The road safety switch is in field operating mode
 - The forage harvester is travelling forward
 - The ground speed is greater than 2 km/h (1.24 mph)
 - The feedrolls are turning in forward direction
 - The header is in harvesting position
7. Press once the liquid injection pump switch (A). Carry out a test to make sure that inoculant device is properly connected to the wiring harness AZ101120.



If this is not the case check wiring harness connection or contact your John Deere dealer.

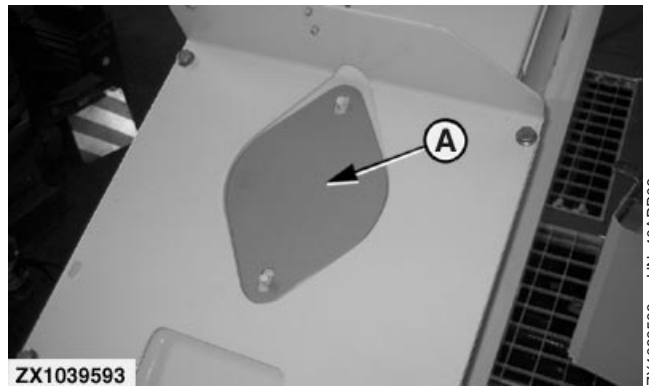
NOTE: For a proper use of the liquid injection pump switch (A), refer to the forage harvester Operator's Manual.

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Use of Cover Plate AZ102637

In case the spout is operated without the NIR sensor it is necessary to install cover plate AZ102637 (A) to close opening in wear plate AZ101740 or Z101953.

NOTE: The illustration shows the cover plate AZ102637 (A) installed on a high arc type spout. In case of flat spout, it is necessary to use the supplied fixing plate Z102760 to maintain cover plate AZ102637 in place using original spout wear plate fixing hardware—Not illustrated.



A—Cover Plate—AZ102637

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