

AutoTrac Universal Steering Kit



JOHN DEERE

INSTALLATION INSTRUCTIONS PC20577 22MAR06 (ENGLISH)

AutoTrac Universal Steering Kit

John Deere Ag Management Solutions
PC20577 (22MAR06)

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A John Deere ILLUSTRATION® Manual
PC20577-19-22MAR06

Recognize Safety Information

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

Follow recommended precautions and safe operating practices.



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OUO6050,000128E -19-08SEP05-1/1

Items to Note Prior to Installation

- The following instructions are to be used only as a supplement to the primary installation instructions included with your AutoTrac Universal (ATU) Steering kit.
- For additional vehicle specific information, including hardware and recommended vehicle settings, please visit www.StellarSupport.com to view or print additional platform specific information.
- Several items are a part of the AutoTrac accuracy equation. Please keep these external factors in mind when installing components to provide the best operating environment possible. (See AMS TALK Bulletin # 043 and 048)
- Be aware that system may not perform well if you have excessive wear in the steering linkage and joints.
- Identification of worn and/or higher tolerance steering components is vital for optimal performance

of the ATU kit. One method of checking wear, is to turn the steering wheel and observe the movement of the wheels. If the wheels don't begin to turn when the steering wheel is turned you may not achieve optimal performance. Compare results with those of a new vehicle of a similar model.

- Please refer to installation instructions included with the GreenStar wiring harness and AutoTrac Universal Steering kit for component location and installation.
- Tighten all hardware that is installed to manufacturer's specifications.

IMPORTANT: AutoTrac Universal is to be installed on approved platforms only. For a complete list of approved platforms please go to www.stellarsupport.com.

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Average Installation Time

- Approximate time needed for installing AutoTrac Universal steering kit is less than 60 minutes. Total amount of time needed may be greater if installing GreenStar wiring harness and StarFire receiver mounting brackets.
- For quicker installation, obtain AutoTrac Universal activation code before proceeding to vehicle. (See section on Activating AutoTrac Universal.)

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AutoTrac Universal Kit



- A—Steering Wheel/Motor Assembly
- B—AutoTrac Universal Harness
- C—Operator Presence Seat Switch Harness (Optional)
- D—ATU Cover Used with Anti-Rotation Bracket (M)
- E—Steering Wheel Knob (Used to telescope steering wheel)
- F—Steering Wheel Cap Cover
- G—Tapered Spline Shaft Bushing
- H—Straight Spline Shaft bushing
- I—Snap Ring
- J—Adhesive Harness Clips
- K—Anti-Rotational Brackets for Consoles
- L—Screws use with bracket (K) and rod (M)
- M—Anti-Rotation Bracket for Circular Steering Columns

Also included in kit: shim kit, locking washer, telescoping washers, manuals.

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Install GreenStar Common Components

Install StarFire Receiver, GreenStar Display, Mobile Processor, and GreenStar wiring harness (if needed). (See GREENSTAR WIRING HARNESS AND STARFIRE CAB BRACKET installation instructions.)

NOTE: If routing GreenStar harness through right-hand console, connect AutoTrac Universal harness to GreenStar harness before re-installing right-hand console wrap. (See CONNECTING ATU HARNESS TO GREENSTAR HARNESS section.)

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Install AutoTrac Universal Steering Kit

1. Remove steering wheel from vehicle that will be receiving the AutoTrac Universal Steering Kit. Retain hardware (A-D) to be reinstalled when attaching steering unit.

- A—Locking Washer
- B—Lock Nut
- C—Telescoping Washers
- D—Nut



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2. Select proper bushing according to splines on removed steering wheel. Insert the bushing with the correct spline type into center of steering wheel/motor assembly and install snap ring to hold bushing in place. (For vehicle specific information, visit www.stellarsupport.com .)

NOTE: Be sure that hole for lock washer is facing towards steering wheel before securing snap ring.

NOTE: Lubricate bushing before installation to prevent corrosion.

- A—Tapered Bushing
- B—Straight Spline Bushing
- C—Snap Ring



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Attaching ATU to Vehicle Console

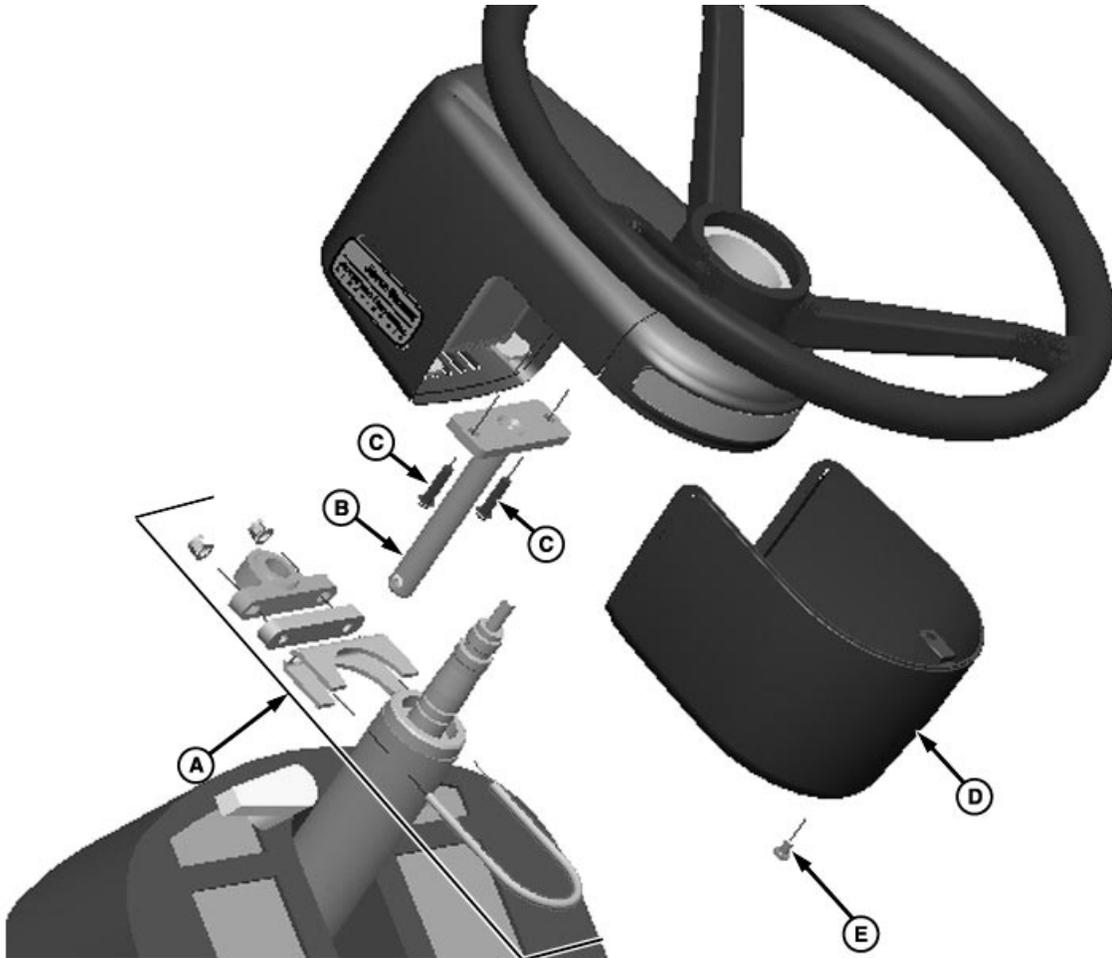
The following 3 sections will overview the 3 different types of brackets that are used to anchor the ATU unit to the vehicle console. If you are unaware of which method of anti-rotation to use, visit www.stellarsupport.com to view or print your vehicle's specific documents.

Refer to the following sections for installing each type of anti-rotation brackets.

- Clamp and Rod
- Straight Bracket
- Angled Bracket

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Installing Clamp and Rod Anti-Rotation Bracket



Ex. - JD4XX0, JD8X60, JD8X70 Series Tractors

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A—U-bolt, Saddle, Spacer,
Pillow-Block and Nuts

B—Anti-Rotation Rod
Assembly

C—Screws
D—Cover

E—Screw

IMPORTANT: To allow steering wheel to telescope normally, install assembly (A) near top end of steering column as shown in diagram.

1. Attach U-bolt, saddle, spacer, pillow-block and nuts (A) near top of steering shaft base.
2. Attach anti-rotation rod assembly (B) to bottom of steering unit base plate with screws (C).

3. Attach cover (D) to steering unit assembly with screw (E).
4. Attach steering unit to vehicle steering shaft by inserting rod (B) into pillow-block assembly and pressing ball plunger on rod to allow it to pass through.

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Ex. - JD4XX0, JD8X60, JD8X70 Series Tractors

A—Lock Washer
B—Nut

C—Washer
D—Telescoping Knob

E—Washer
F—Telescoping Rod Nut

G—Cap

IMPORTANT: Tighten all hardware to proper torque according to vehicle manufacturer's specifications.

5. Position steering unit on steering column.

NOTE: Hardware (A), (B), (C), (E), and (F) was retained when original steering wheel was removed.

6. Attach lock washer (A), and nut (B) to steering wheel rod.

7. Attach washer (C), knob (D), washer (E), and nut (F) on telescoping rod.

8. Insert cap (G) into knob.

Installing Straight Anti-Rotation Bracket



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Ex. - JD6XX0, Small Frame JD7XX0 Tractors

A—Anti-Rotation Bracket
B—Steering Unit
C—Screw (2 Used)

D—Lock Washer
E—Nut
F—Washer

G—Telescoping Knob
H—Washer

I—Telescoping Rod Nut
J—Cap

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1. Attach anti-rotation bracket (A) to steering unit (B) with screws (C). Use slots to move bracket snug against column.
2. Position steering unit on steering column.

NOTE: Hardware (D), (E), (F), (H), and (I) was retained when original steering wheel was removed.

3. Attach lock washer (D) and nut (E) to steering wheel rod.

IMPORTANT: Tighten all hardware to proper torque according to vehicle manufacturer's specifications.

4. Attach washer (F), knob (G), washer (H), and nut (I) on telescoping rod.
5. Insert cap (J) into knob.

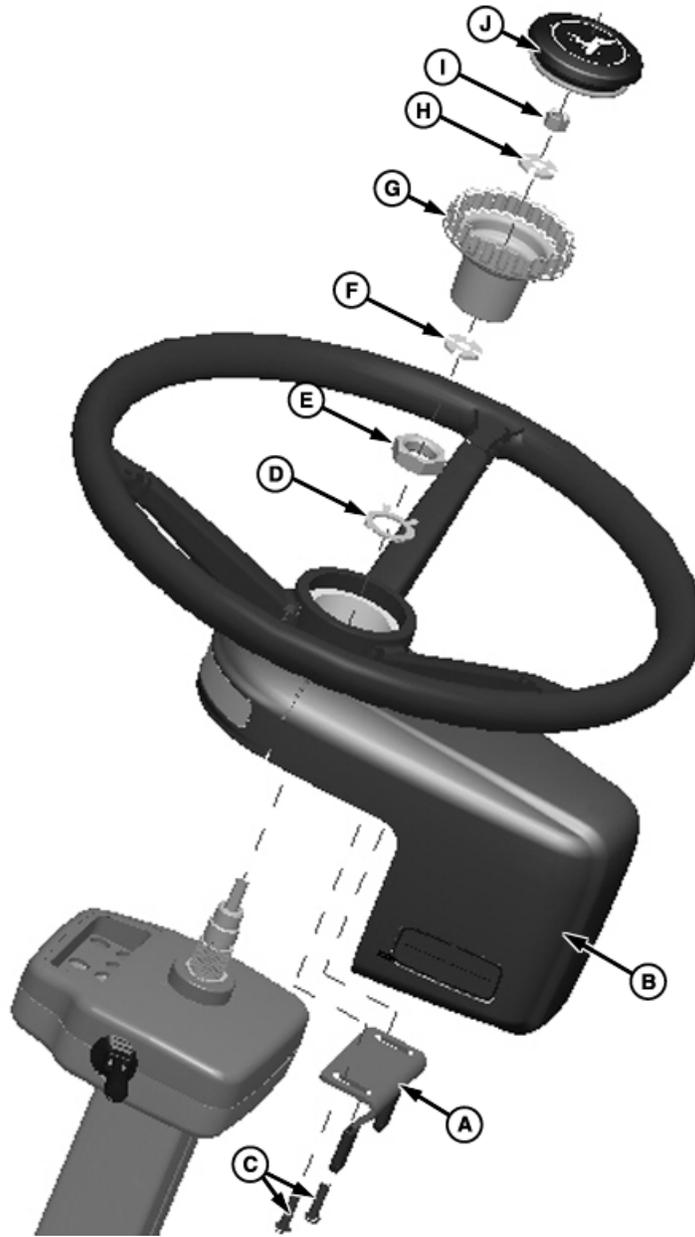


Anti-Rotation Bracket for JD6XX0, Small Frame JD7XX0 Tractors

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Installing Angled Anti-Rotational Bracket



Ex. - Large Frame JD7XX0, JD8XX0, JD9XX0

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A—Anti-Rotation Bracket
 B—Steering Unit
 C—Screw (2 Used)

D—Lock Washer
 E—Nut
 F—Washer

G—Telescoping Knob
 H—Washer

I—Telescoping Rod Nut
 J—Cap

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OOU6050,00012B8 -19-14OCT05-1/2

1. Attach anti-rotation bracket (A) to steering unit (B) with screws (C). Use slots to move bracket snug against column.
2. Position steering unit on steering column.

NOTE: Hardware (D), (E), (F), (H), and (I) was retained when original steering wheel was removed.

3. Attach lock washer (D) and nut (E) to steering wheel rod.

IMPORTANT: Tighten all hardware to proper torque according to vehicle manufacturer's specifications.

4. Attach washer (F), knob (G), washer (H), and nut (I) on telescoping rod.
5. Insert cap (J) into knob.



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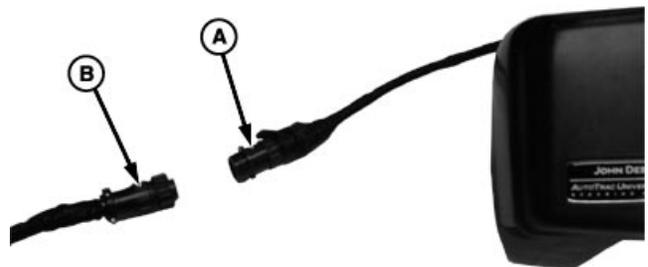
Anti-Rotation Bracket for Large Frame JD7XX0, JD8XX0, JD9XX0

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Connect Steering Motor Harness

Connect 9-pin harness from steering wheel/motor assembly (A) to AutoTrac Universal harness (B).

- A—9-pin harness from Steering Wheel/Motor Assembly
- B—AutoTrac Universal Harness



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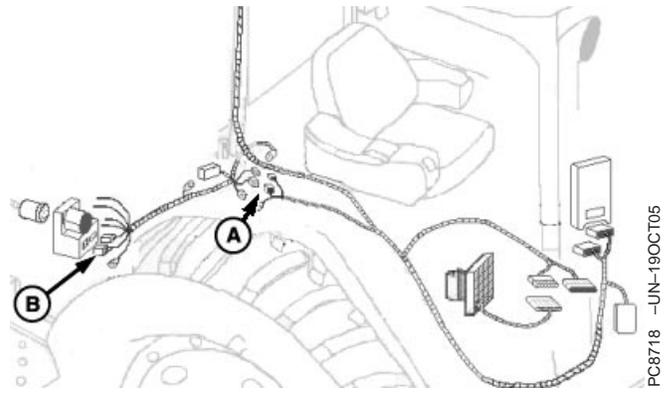
Connect ATU Harness to GreenStar Harness

Depending on your vehicle's harness configuration, the ATU harness will be connected to the GreenStar harness at one of the following locations:

GreenStar Ready Vehicles

Vehicles that are GreenStar Ready (or vehicles that have GreenStar harnesses already installed) can be connected at one of the following locations:

- 2- and 4- pin terminator connectors found at the CAN bus extension (A) in the side console of a GreenStar Ready tractor.
OR
- If equipped with an Implement Connector the ATU harness can be connected at the 2- and 4- pin connectors on the implement connector (B).



Routing and Installation View

A—AutoTrac Universal Connection Location for the CAN Bus Extension

B—AutoTrac Universal Connection Location for the Implement Connector

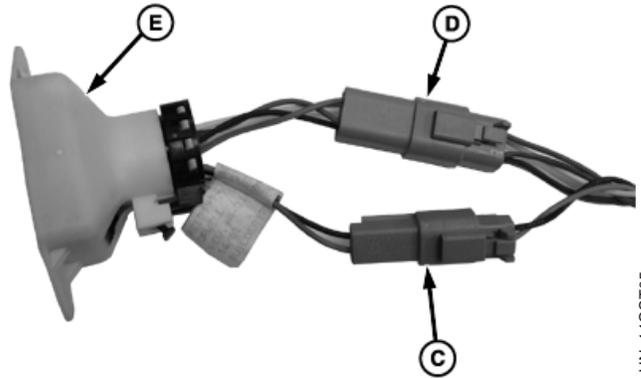
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Non-GreenStar Ready Vehicles

Vehicles which are adding the GreenStar harness for the first time can connect directly into the GreenStar harness at the 2- and 4- pin terminator connectors.

NOTE: Depending upon the type of harness encountered, the size and color of the terminators may vary.

- C—2-pin Power Connector
- D—4-pin CAN Connector
- E—Terminator



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ATU Harness Connection Locations

Depending on your vehicle's configuration, refer to one of the following sections for additional harness connection information.

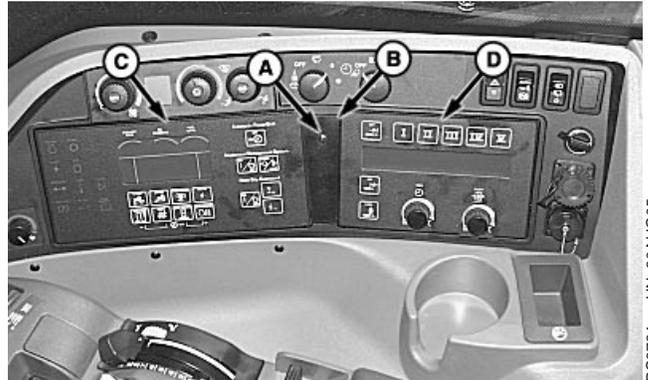
- Harness connection location in GreenStar Ready tractor side consoles
- Harness connection location for implement connectors
- Harness connection location to a terminator connector on a GreenStar Harness

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Harness Connection location in GreenStar Ready Tractor Side Consoles

1. Remove and retain screw (A) and spacer (B).
2. Remove and disconnect panels (C and D).

- A—Screw
- B—Spacer
- C—Panel
- D—Panel



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NOTE: Some vehicles may allow enough space for connectors to slide down between window and side console.



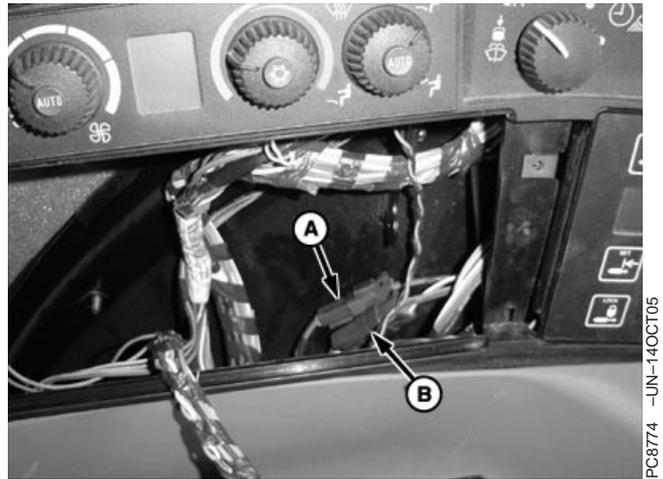
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3. Locate and disconnect GreenStar wiring harness 2- and 4-pin connectors.

NOTE: Connectors may be difficult to locate as they are often deep down in the console.

A—2-pin Connector
B—4-pin Connector



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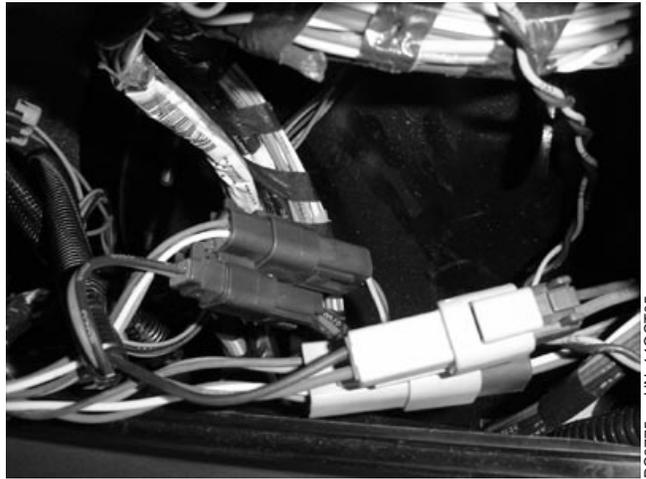
2- and 4- pin Connectors

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4. Connect AutoTrac Universal harness to 2- and 4-pin connectors as shown.

IMPORTANT: Be sure to make all 4 connections as shown in photo at right.



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NOTE: See machine's Technical Manual for removing and installing bottom console wrap.

For ease of routing remove fuse panel cover.

5. Route ATU harness between console and window towards floor behind fuse panel.
6. Pull back floor mat and continue to route ATU harness to steering motor connector.

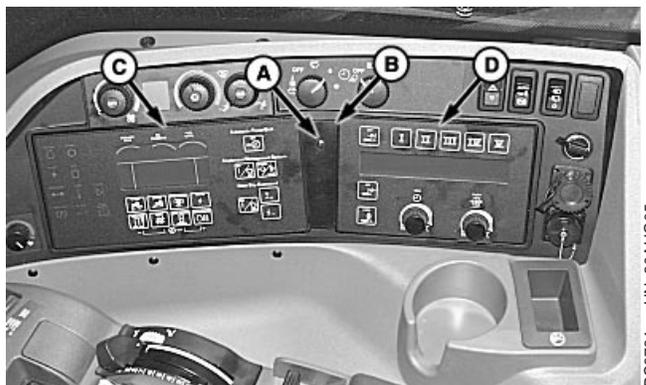


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7. Reinstall panels (C and D), retain with spacer (B) and screw (A).
8. Reinstall fuse panel cover and console wrap.

- A—Screw
- B—Spacer
- C—Panel
- D—Panel

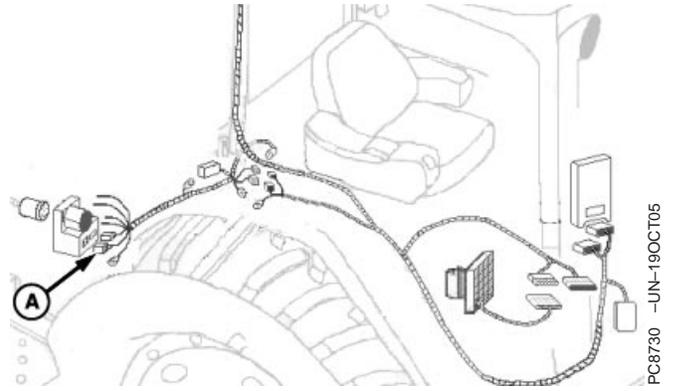


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Harness Connection Location for Implement Connectors

A—AutoTrac Universal Connection Location for the Implement Harness



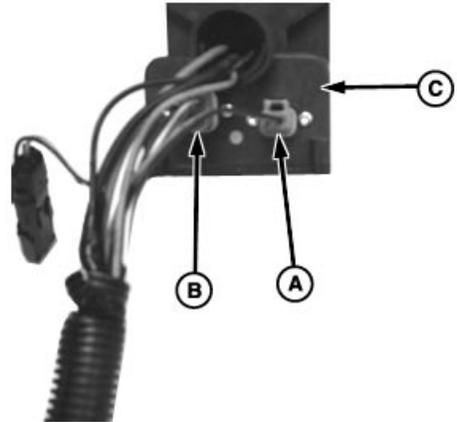
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NOTE: FOR TRACTORS EQUIPPED WITH A TECU:
 Implement connector can not be used as the source of the 2-pin power on machines equipped with a TECU. Kits PF80873 or PF80874 provide a connection point for 2-pin power.

1. Locate and disconnect 2- and 4-pin connectors (A and B) on implement connector (C).

A—2-pin connector
 B—4-pin connector
 C—Implement Connector



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2. Connect AutoTrac Universal harness to implement connectors. Insert the connectors that were unplugged to the remaining connectors on the ATU harness as shown in photo.



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3. Route AutoTrac Universal harness through back of cab window and connect to AutoTrac Universal Steering motor.



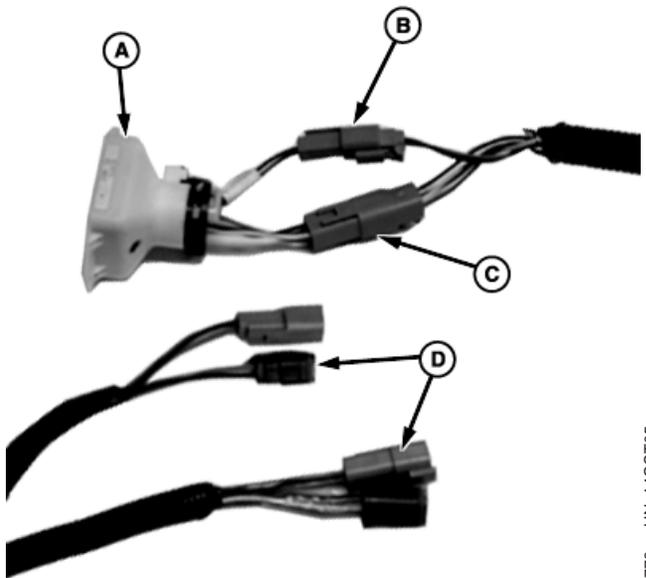
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Connecting to a GreenStar Harness Terminator

1. Locate terminator with 2- and 4- pin connector.
2. Disconnect terminator connections.

- A—Terminator
- B—2-pin Connector
- C—4-pin Connector
- D—ATU Harness Connectors



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3. Connect ATU harness into terminator connectors and remaining GreenStar harness connectors into the remaining ATU harness connectors as shown.



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Connect Seat Switch Harness

NOTE: For John Deere vehicles equipped with an electronic seat switch, operator should connect into this switch as a mode of operator presence detection. Operators with vehicles not equipped with this electronic seat switch will be required to select "Activity Monitor" under Setup - AutoTrac and will have to interact regularly with the system in order to keep AutoTrac engaged.

1. To connect seat switch, begin by connecting seat switch harness 4-pin round connector (A) to ATU harness 4-pin round connector (B).

A—Seat Switch Harness Connector to ATU Harness
B—ATU Harness to Seat Switch Connector
C—Connectors from Harness to Seat Switch



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2. Connect seat switch harness connector to seat switch. This harness includes two sets of connectors, use only the set of connectors that corresponds with the vehicle's seat switch. Disregard the unused set.

NOTE: Seat Switch is found on lower backside of the seat.

3. Plug unused connectors in to each other for dust protection



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Secure and Route all Harness

In order to prevent interference with operator and cab controls secure and route harnesses with the provided adhesive clips.

1. Thoroughly clean surface with JD All-Purpose Cleaner (TY25683) and dry completely before attaching adhesive clips.
2. After removing protective film on the clips, press and hold the clips to the surface for at least 30 seconds to ensure proper adhesion.
3. Securely lock all harnesses into clips leaving enough slack for the steering wheel to telescope.



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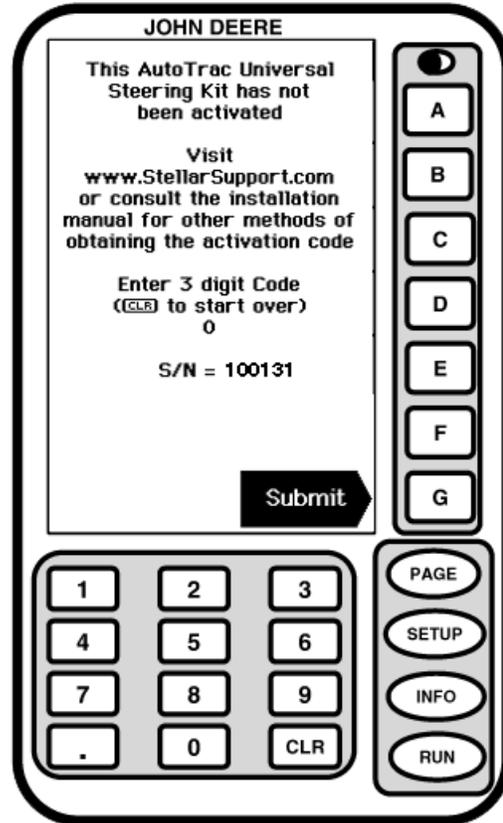
Activating AutoTrac Universal

AutoTrac Universal has to be activated by a 3-digit activation code the first time that it is powered up. The code can be attained by:

- Calling the AMS Customer Care Center at 1-888-GRN-STAR (888-476-7827).
- Logging onto www.stellarsupport.com and clicking on the Activations and Subscriptions link on the left hand menu. Once on this page click on Activate AutoTrac Universal.

IMPORTANT: AutoTrac Universal system serial number will be required to obtain activation code.

After obtaining activation code: power up ATU unit, enter the 3 digit activation code, and press SUBMIT.



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Optional Use of Shims

- Included with your AutoTrac Universal Steering Kit are shims that may be used to eliminate additional movement in the vehicle's steering console.
- The shims should only be used if optimal performance can not be attained through changes in the vehicle sensitivity settings.
- Install shims as needed as shown in photo.

IMPORTANT: Use of shims will eliminate the ability of the steering column to telescope.



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System Setup

(See GREENSTAR GUIDANCE PARALLEL TRACKING
AND AUTOTRAC ASSISTED STEERING SYSTEMS
Operator's Manual for system setup.)

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