Installation and User’s Guide for the Haldex TRS Info Center 2

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*Safety First!*

You must follow your “Company Safety Procedure” when you install this equipment. Be sure you understand all procedures and instructions before you begin.

**IMPORTANT NOTICE**

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In the U.S. please call 1-800-643-2374 (press 2)

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For additional information refer to the: TRS Installation Service Manual (L30040). TRS Diag+ User’s Guide (Web Only)

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Introduction

This manual describes the correct installation and usage of the Haldex Info Center 2 diagnostic tool.

The Haldex Info Center 2 (Info Center 2) is a battery powered hand held information tool for use with the Haldex Trailer Roll Stability (TRS) brake system. The Haldex Info Center 2 displays active and stored diagnostic codes, odometer values, TRS configuration plus other information stored in the TRS Electronic Control Unit (ECU).

Features of the Haldex Info Center 2 include:

- View of Odometer readout
- View of Loaded readout
- Read & Clear Diagnostic Trouble Codes
- View Number of Sensors and Modulators
- View Orientation of Sensors and Modulators
- View Sensed Wheel Output
- View Auxiliary Configuration
- View ECU Software Version, Serial Number
- View Trailer Manufacturer, VIN
- Monitor Trip Distance
- View and Change Wheel Scale Factor
- Support for many languages

The Haldex TRS brake system is used to reduce the potential for a roll over accident to occur. For the Haldex TRS system to correctly operate it must be maintained over the operational life of the trailer. The Haldex Info Center 2 provides the information needed to quickly and correctly identify and repair issues with the TRS brake system.

The Haldex Info Center 2 may be used just as a workshop tool for diagnosing Haldex TRS issues. However, the TRS Fleet customer will obtain the most value from the Info Center 2 when it is permanently mounted & connected to a TRS equipped trailer. When the Info Center 2 is permanently connected to the TRS, upon every power up of the TRS and periodically afterwards the information in the Info Center’s memory is updated. This information may be recalled and read when the trailer is parked, uncoupled and un-powered from a tractor. Because of its internal battery the Info Center 2 is able to maintain a current date. The current date is read by the TRS ECU on power-up and is used by the TRS to date-stamp roll stability events and first occurrences of diagnostic trouble codes.

The Info Center 2 uses a Liquid Crystal Display (LCD) to display information plus three buttons to allow the operator to interact with the Info Center 2 in an easy to understand, intuitive way.

The Info Center 2 may be programmed to power up to a customer specified display screen displaying a number of TRS operating conditions. Customers have the choice to specify the Info Center 2 to display values of the reservoir air pressure or air spring pressure and thus eliminate the need for mounting and maintaining a mechanical pressure gauge. Mileage information could alternatively be displayed and eliminate the need for mechanical hub odometers.
Quick Start

Quick Start Troubleshooting Tips:

If the ABS Fault Lamp is always ON

If the trailer mounted ABS fault lamp and/or the tractor dash trailer ABS fault lamp is permanently ON the Info Center 2 may be used to read active and stored TRS Diagnostic Trouble Codes (DTCs).

If the Info Center 2 is being used as a workshop tool all that is required is that the Info Center 2 be cabled to the TRS ECU and DTCs read through the Information Menu. Refer to “Cabling the Info Center” section below for details on connecting the Info Center 2 to the TRS ECU. Refer to the Information Menu on Figure 9 for help on reading and clearing the DTCs both active and stored.

If the ABS Fault Lamp is always OFF

If the trailer mounted ABS fault lamp never comes on, first of all, check for a burned out bulb in the lamp. Examine the lamp wiring for loose connections, cut, broken, or abraded wiring. Verify the TRS powers up and the two valves “blow down”. Each valve solenoid should energize with an audible “click”; there will be two “clicks”.

If no “clicks” are heard then, verify the TRS has electric power by observing the screen of the Info Center 2 when permanent power is applied to the trailer. The Info Center 2’s screen should “light up” and the splash screen is displayed. If this doesn’t happen then examine the trailer’s main wiring harness from the trailer nose to the main power drop for the TRS. Look for open circuits, and short circuits between the conductors. Verify the power cable is fully seated in the TRS ECU.

Verify that an adequate power source is being used to power the TRS, i.e. 12 volt DC supply capable of delivery of three to five amps of constant current. Do not use a battery charger or a discharged battery. If a line operated power supply is used verify the supply delivers 12 volts DC voltage and not AC.
Mounting Location of Info Center 2 on Trailer.

Mount the Info Center 2 in a convenient, accessible spot on the trailer which is reachable and viewable by the user but also protected from road spray and impacts from road debris. The location must also be close enough for the data/power cable to reach between the Info Center 2 and the TRS ECU.

The Info Center 2 must be mounted in such a location that the cover may be fully raised. Refer to Figure 1 for size and clearance information for the Info Center 2.

Figure 1: Dimensions and Clearance Requirements for the Info Center 2
Figure 1: Dimensions and Clearance Requirements for the Info Center 2 - Continued

Do not mount the Info Center 2 in a location in which the unit is subjected to direct and indirect spray by a pressure washing jet. Do not paint the Info Center 2 or its cover. Do not mount the Info Center 2 in a location where harsh chemicals or solvents may spill upon the Info Center 2 or its cover.
Drill pattern for mounting the Info Center 2

Figure 2 is a guide for the location and sizes of the mounting holes for the Info Center 2. Besides the two holes for mounting the Info Center 2 unit, a third hole is required to accommodate the data/power cable that connects between the TRS ECU and Info Center 2.

Figure 2: Hole Size, Spacing, and Clearance Footprint for Mounting the Info Center 2.
Diagnostic Socket Location

Cabling the Info Center 2

The data/power interconnection cable enables power and data to flow between the TRS ECU and the Info Center 2. Each end of the cable is unique and thus may only fit in the correct connector on each end. Before installing the cable it is recommended that a small amount of dielectric grease be applied to the electrical contacts to protect them from corrosion. Too much dielectric grease may cause the connector to “hydro-lock” and thus prevent it from completely closing.

To insert the cable in the TRS ECU, open the slide lock by pulling the slide lock lever handle out approximately 3/8” or to the first stop. Make sure the “DIAGN” lettering molded into the cable end points UP and fully insert the cable into the ECU DIAGN socket. Note that the cable end is keyed and only goes in one orientation. Close the slide lock by pressing the lever into the lock.

If the slide lock lever does not easily “go” or if much resistance is felt when closing. Do not force the lever closed. Instead verify the cable is fully seated, with no debris in the socket preventing the cable from fully seating. Also verify the power cable has not slid out of its socket. If needed, twist the cable slightly in the socket to better align the slot in the cable end engaged by the slide lock lever tang. Figure 3 shows the location of the DIAGN socket on the TRS ECU and slide lock handle.

Figure 3. Location of the “DIAGN” socket on the TRS ECU.
Insert the other end of the cable into the socket on the back of the Info Center 2. Note that this socket is also keyed. Make sure the locking lever engages the indentation hole in the wall of the socket connector. Refer to Figure 4.

Figure 4: Details of the Info Center 2 Cable Insertion and Removal.

Once the cable is attached to the Info Center 2 and TRS ECU, route and secure the cable to the trailer in an appropriate manner. Protect the cable jacketing with plastic loom at chafe points. Do not coil the cable with other cables. Do not coil the cable into a coil smaller than 4 inches in diameter. Do not attach the cable to an air hose with wire ties. Do not allow excess cable to hang freely or catch on mechanical components of the trailer or objects on the roadway.
Front Panel Operation

Figure 5 depicts the front panel of the Info Center 2. Pressing any one of the three buttons will turn the Info Center 2 “ON”. The up and down arrow buttons allow the operator to scroll through the on screen menus. The “OK” button selects or confirms the action the user wishes to take.

Use the OK button to:
- Turn On the Info Center 2
- Enter into Sub Menus
- Enter/Confirm Info Center 2 Actions
- Enter/Confirm Info Center 2 Values Changes
- Enter/Confirm Info Center 2 Configuration Changes

Use the UP arrow to:
- Turn On the Info Center 2
- Scroll up the Main & Sub Menus
- Select Info Center 2 Configuration Units
- Select Numerical Values

Use the DOWN arrow to:
- Turn On the Info Center 2
- Scroll down the Main & Sub Menus
- Select Info Center 2 Configuration Units
- Select Numerical Values

Figure 5: Info Center 2 Front Panel
The usefulness of the three buttons may be extended by the use of the function bar on the Info Center 2 screen. The function bar on the LCD screen guides the user to the specific action taken by the buttons. Figure 6 is an example of the use of the function bar. The UP arrow, and OK button functions have been substituted to making specific selections in the example menu function shown in Figure 6.

Figure 6: The Function Bar Extends the Push Buttons Functions.
Menu Overview

Upon power-up of the Info Center 2 a series of screens are displayed to indicate the present status of the TRS system on the trailer.

The back light function of the Info Center 2 is enabled by application of permanent or blue wire vehicle power to the TRS. When the Info Center 2 powers up by it’s internal battery the back light is not enabled.

Upon power-up the initial splash screen is displayed for 2 seconds. Next, if the internal battery voltage has dropped below the replacement threshold a low battery warning is presented to the user. This screen is not shown when sufficient battery voltage is present. If DTCs or fault codes are active with the TRS notice of these are displayed for the operator. Next, if the TRS is at a service due point this fact is next displayed. Finally, if the customer has configured an optional start screen this will be displayed instead of the main menu selection screen. Refer to Figure 7.
Figure 7. Initial sequence of screens to the display the Main Menu.
The Info Center 2 main menu consists of three menu selections and their associated functions. The fourth choice EXIT displays the Distance function. Figure 8 diagrams the main menu selections with each menu items sub menus and functions. Each menu selection will be discussed in detail later on in this document. To maneuver through the menu tree use the Up/Down arrow buttons to move the highlighted item and the OK button to select the highlighted menu item.

Figure 8: Menu Selections and Functions.

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Password Protection

All of the screens which allow the user to change a data field are password protected. The user may enter the password using the unlock function in the settings menu, see Figure 12 in this manual for the Unlock Info Center 2 function.

The Info Center 2 will stay unlocked while in use but will relock itself if no action is taken by the user in a menu for 1 minute or after being idle in a menu function for 2 minutes. If the user enters a function while the Info Center 2 is locked they will be prompted to enter the password as per the unlock function in the settings menu.

Info Center 2 password

A password is supplied to protect a number of Info Center 2 menu functions, as shipped from the factory, the default Info Center 2 password is the four digit number: 0123. If desired, this number may be reset to any 4 digit number, see: “Resetting the Password” below.

Procedure for entering the password

The password may be entered when prompted or in the settings menu unlock Info Center 2 function. To enter the password: use the up/down arrow buttons to adjust the first or left most digit, press the OK button when this digit is correct. After pressing OK the cursor will automatically move to the right to the next password digit to be entered. Adjust this second digit in the same way as the first with the up/down arrow buttons. Continue until all four digits are set to the correct password. Use the OK button to confirm the password entry.

Resetting the Password

The default 4 digit number password shipped with each Info Center 2 is: 0123. If needed, this password may be changed to any 4 digit number.

Procedure for Changing the Password

In the Settings menu, select the ****PIN function. Enter the current Password to unlock the Info Center 2. Once the Info Center 2 is unlocked enter the new 4-digit password. Select OK to save the new password. Refer to: “Procedure for entering the password” above.

Note that setting the password to all zeros disables the password protection function on the Info Center 2.
Forgot the password?

There is an alternative password that may be used in the event of a password being forgotten or lost. The alternative password uses numbers taken from the trailers VIN programmed into the TRS ECU. Note that this method will work only if a VIN has been programmed into the TRS ECU and if the 14th to 17th digits of the VIN are numbers and not letters. Verify the Vehicle Identification Number (VIN) field of the Information field has been programmed into the TRS ECU. This may be done through the Information menu function VIN; refer to Figure 9. This value may be read without a password.

The alternative password is made of the following:

1st digit = 3 + digit 14 of the VIN
2nd digit = 1 + digit 15 of the VIN
3rd digit = 4 + digit 16 of the VIN
4th digit = 1 + digit 17 of the VIN

Note that if the result of the password digit calculation is greater than 9, use only the last digit of the two digit number. For example: 4 + 8 = 12, use the 2 for the password.

Here is an example calculation:

The vehicle has a VIN of HALDEX80123456789

The 1st digit is 3 + 6 (digit 14 of the VIN) = 9
The 2nd digit is 1 + 7 (digit 15 of the VIN) = 8
The 3rd digit is 4 + 8 (digit 16 of the VIN) = 12
The 4th digit is 1 + 9 (digit 17 of the VIN) = 10

In this example: the alternative password is: 9820

The VIN may be programmed into the TRS with the Haldex PC based software program DIAG+.
Information Menu

The information menu is the means by which active and stored diagnostic trouble codes (DTCs) may be read and cleared. Figure 9 displays the functions included in the Information menu.

![INFO CENTER 2](image)

- **DTC**
  - Display up to 8 active DTCs (Diagnostic Troubles Codes)
  - Displays up to 8 stored DTCs
  - Clears all DTCs from the TRS

- **Lining Wear**
  - This menu function is Not Used

- **Distance**
  - See Figure 10

- **Trailer**
  - **Load Plate**
    - Displays the TRS load plate information
  - **Configuration**
    - Display a graphic of the TRS valve speed sensor config.
  - **VIN Number**
    - Displays the VIN and OEM
  - **ECU Version**
    - Displays TRS software version, TRS serial number and Info Center 2 software version

Figure 9: Information Menu and Functions.
DTC Information

Note that for the Information menu selection DTC there are two types of DTC's functions: “DTC Memory” which are stored faults and “DTC” which are active faults. Active faults may be thought of as what is wrong now, while stored faults are what has gone wrong in the past.

For an explanation of the meaning of the DTC codes and suggested actions to take refer to the following sections.

Note that in general. Most ABS or TRS problems are related to:

A) Cut, corroded, or abraded wires.
B) Corroded electrical connectors and terminals.
C) Connector terminals not latched or seated correctly to mating assemblies.
D) Excessive sensor air gap, sensor clip retention problems.
E) Excessive wheel bearing end play.

When electrically powering the trailer verify an adequate power source is being used to power the TRS, i.e. 12 volt DC supply capable of delivery of three to five amps of constant current. Do not use a battery charger or a discharged battery. If a line operated power supply is used verify the supply delivers 12 volts DC voltage and not AC.

Before work on the trailers air brakes and air system, be sure the trailer will not accidently roll away, or that raised lift axles will not cause injury or damage when they drop. Chock the wheels, remove electrical power from the trailer, drain the air system and verify the spring brakes are applied. Follow your companies’ safety rules and work safely.
Diagnostic Trouble Code List:


Group 1. Power Supply Fault Code List

The Info Center 2 displays: ECU TIME OUT or NO LINK
**What the code means:** No data communications between the TRS and the Info Center 2.

**Things to check:**
Possible causes are no power to the TRS or no data communication between the TRS ECU and the Info Center 2 but electric power is present.
Check the diagnostic cable for corrosion, open and short circuits between conductors.
Check for a loose or unplugged connection cable between the TRS and the Info Center 2.

The Info Center 2 displays: PWR ISO7638 FAIL
**What this code means:** No supply on ignition switched line or an intermittent power loss.

**Things to check:**
Check truck fuses, 7-way connection, 5-way ABS connection, power cable connections. Check diagnostic cable for corrosion, loose connection. Check power cables for intermittent connections.

The Info Center 2 displays: PWR LO VOLT
**What this code means:** The TRS supply voltage is less than 8 volts.

**Things to check:**
Check the voltage regulator on the tractor, look for loose connections, check for corrosion on electrical connectors both on the TRS cables and the auxiliary circuit on the trailer.