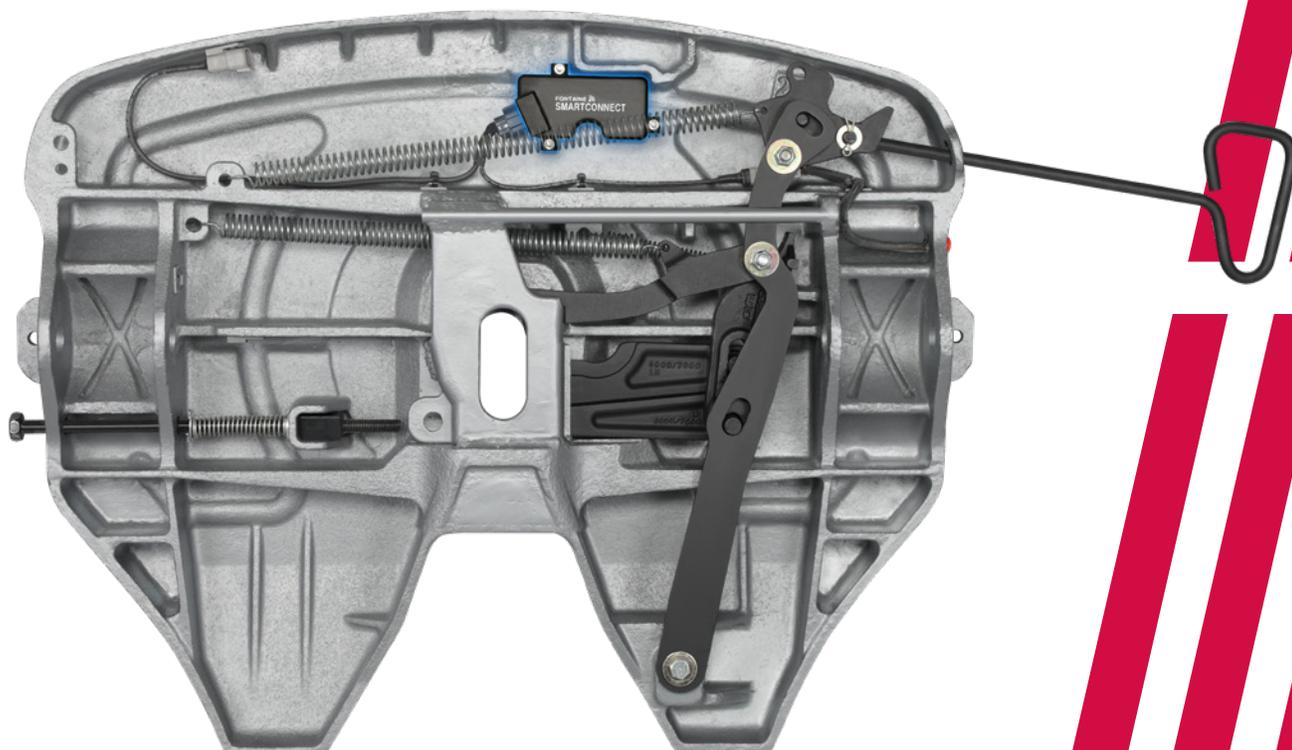


FONTAINE SMARTCONNECT® User Guide

US Patents: 11,524,536; 11,865,882 • TB-077



Less guessing.
More uptime.



FONTAINE[®]
FIFTH WHEEL

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IMPORTANT SAFETY INFORMATION

THE FONTAINE SMARTCONNECT AND ITS COMPONENTS SHOULD BE INSTALLED IN ACCORDANCE WITH THE INSTRUCTIONS IN THIS MANUAL. PROPER INSTALLATION IS CRITICAL TO ENSURE SAFE USE OF THE DEVICE. FAILURE TO DO SO MAY RESULT IN INJURY OR DEATH, DAMAGE TO EQUIPMENT, MATERIAL, OR PROPERTY. CAREFULLY READ, UNDERSTAND, AND FOLLOW ALL SAFETY RELATED INFORMATION WITHIN THIS MANUAL.



WARNING

THE FONTAINE SMARTCONNECT SYSTEM IS NOT A REPLACEMENT FOR THE DRIVER'S REQUIRED PRE-TRIP VISUAL INSPECTION AND "TUG TEST" AND DOES NOT NEGATE THE NEED FOR THE DRIVER TO FOLLOW ALL FEDERAL, STATE AND LOCAL LAWS AND ORDINANCES. THE SMARTCONNECT SYSTEM IS ALSO NOT A REPLACEMENT FOR THE MAINTENANCE REQUIREMENTS AND INSTRUCTIONS FOUND IN THE FONTAINE USER MANUAL. READ AND FOLLOW ALL PRODUCT INSTRUCTIONS BEFORE INSTALLATION, USE, AND PERFORMING MAINTENANCE.

Section 1

SmartConnect overview

This technical bulletin is intended to provide information on the operation and troubleshooting of Fontaine Fifth Wheel's SmartConnect system that is available for use with 6000, 7000 and 7000CC series fifth wheels. Fontaine's SmartConnect system indicates the state of the fifth wheel lock by monitoring the position of the fifth wheel's secondary lock using an electronic sensor (Figure #2 & #3). The system does not detect the king pin position or the lock jaw status. Lock status is then provided to the driver via an LED indicator that is located on the side of the fifth wheel. The LED display on the side of the fifth wheel illuminates green upon successful coupling (locked) and red to warn the driver that the fifth wheel is not successfully coupled (unlocked).

The SmartConnect system will be able to sense two additional conditions. It will sense when the fifth wheel needs to be adjusted and will also sense when the lock is operating past the normal operating range and needs to be rebuilt. A light sequence on the LED indicator immediately after coupling will indicate the recommended maintenance. The SmartConnect system displays a variety of lights with a range of durations to communicate this information to the driver and maintenance personnel (see Figure 1).

Fontaine SmartConnect Fifth Wheels Installed by Truck Manufacturers

Fontaine Fifth Wheel works with truck manufacturers to install genuine Fontaine products with the latest technological features (such as the SmartConnect system). Some truck manufacturers customize the features offered by Fontaine to fit their application seamlessly. The Fontaine Smart Connect supports CAN communication and is able to communicate directly with the truck network. Information coming from the SmartConnect system to the tractor cab will be via a direct connect cable connecting the fifth wheel and tractor. For example, some truck manufacturers may choose to use the 6000, 7000 or 7000CC Series fifth wheel equipped with SmartConnect to display conditions on their own in cab displays. Refer to the truck operating manual or truck manufacturer for more information on the tractor integration and troubleshooting. Regardless of OEM integration, the LED light will still be on the side of the fifth wheel and the light codes noted in the table (Figure #1) are still applicable to acquire information from the fifth wheel and assist in fifth wheel troubleshooting.

Section 2

SmartConnect system components

The SmartConnect system is only available with new fifth wheels and is not available

Figure #1: Light Sequences

Coupled	Uncoupled	Light Status	Duration	Description
		Off	Continuous	No power to system
		Steady On	Continuous	Properly Coupled
		Steady On	Continuous	Not Coupled
		Flashing Green	For 30s after coupling.	Fifth Wheel adjustment is recommended. *
		Alternating Flashing of Green and Red	For 30s after coupling.	Fifth Wheel rebuild is recommended. *

*See page 4 for LED function and indication reset procedures. The SmartConnect system resumes normal operation after the 30s warning light patterns.

Fontaine SmartConnect® User Guide

The world's first Smart Fifth Wheel



in an aftermarket kit. The SmartConnect system cannot be retrofitted to existing fifth wheels. Replacement top plates fitted with the SmartConnect system are available as an option to replace fifth wheels in the aftermarket. To connect a SmartConnect fifth wheel to the tractor's power, a truck connection kit is provided with instructions for aftermarket installations. A coiled extension power cable is also provided and required for fifth wheels that are mounted on a sliding base assembly. The SmartConnect system installed by a truck OEM may be integrated into the dash cluster and require cabling and connectors from the OEM. Refer to the operator's manual or truck manufacturer for the location of these displays and relevant information.

Section 3 Connecting the SmartConnect system to your tractor

The basic aftermarket installation will require the Fontaine Fifth Wheel supplied power cable kit (KIT-SC-PWR) to connect the SmartConnect fifth wheel to the tractor's power. This option is for powering the fifth wheel LED only. This cable will be used to supply power from the tractor's main fuse panel. There is **no** CAN bus functionality to the tractor with these cabling options. If a truck manufacturer has integrated the system into their in-cab displays, a different cable and connectors may be needed. Refer to the operator's manual or truck manufacturer for the relevant information.

If CAN communication is desired between the tractor and fifth wheel, the OEM must install the system and complete all requirements within the truck CANbus to gather and transmit data. If this data needs to be communicated through a telematics system, the telematics provider or OEM must have completed all requirements to pass the data to the telematics system so

that the data is available for communication with the target customer interface.

Section 4 SmartConnect system troubleshooting

Prior to troubleshooting, make sure that the fifth wheel is in good operating condition and is properly adjusted. Check for any damage to the lock components and fifth wheel that may prevent the locking components from properly retaining the king pin. Note that the SmartConnect system is reading the position of the secondary lock and does **not** indicate king pin location or lock jaw status (see figures #2 & #3).

Figure #2

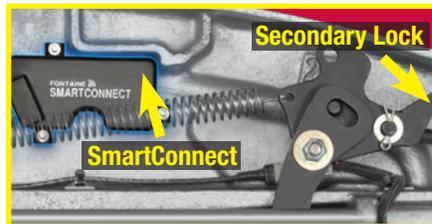
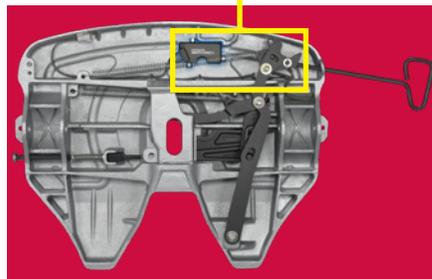


Figure #3



Check for visible damage to the lock sensor connections and wiring. Many user issues can be quickly corrected with a clear understanding of the electrical system. Begin troubleshooting by determining if the issue is at the fifth wheel or in getting power and a good ground connection to the fifth wheel. The LED display on the side of the fifth wheel will help with this check. Make sure that the electrical connections are secured and connected properly. If you take a connection apart, make sure that you are using dielectric grease in the connector prior to reconnecting the connector ends.

This provides additional corrosion resistance at the electrical connectors. Examine the electrical cables and make sure that they have not been pinched or severed. Additionally, inspect the SmartConnect housing. Make sure that it is securely attached to the fifth wheel and does not have any physical damage.

To verify that the power harness is supplying the correct voltage, unplug the truck connector found at the front of the fifth wheel. With the tractor power on, the voltage across pins #1 & #6 that connects to the fifth wheel connector (figure #5 next page) should be approximately 12V. **Note** that this check will need to be done at the Female 6-pin connector that is coming from the tractor to the fifth wheel. Any other reading could indicate the fifth wheel is not being supplied with the correct amount of power or there is a grounding issue. This means the issue is related to the vehicles electrical power output or power cable running to the fifth wheel. Inspect and replace the power cable as necessary.

To verify that the LED on the side of the fifth wheel is functioning properly. Unplug the LED harness from the connector located under the fifth wheel near the pull handle. Use the pin out shown in (figure #4) to apply 12V DC power to the Deutsch 3-Pin connector pins to verify that the Green and Red lights are functioning properly.

Figure #4: Deutsch DTM 3-Pin Female Connector on LED harness.

LED Connector Pinout	
Pin #	Function
1	LED Red
2	LED Ground
3	LED Green



No-Slack® Top Plates

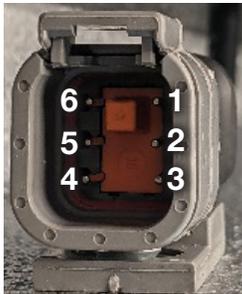
The world's only self-adjusting fifth wheel lock

[Example: Connect your power supply's ground connection to pin 2. Next connect the 12V power connection to pin 1. This should produce a Red light at the LED. Applying power to pin 3 should produce a Green light.

To verify that the Smart Connect system is functioning properly use the input connection located at the front of the fifth wheel (see Figure #5). Use a power probe to apply 12 volts of direct current to pin #1 while connecting the tools ground to pin #6. Check to see if the LED display on the side of the fifth wheel is functioning. Reference Figure #1 on page 2 to verify the function of the system. If the system is functioning properly in this condition, the problems are most likely related to the supplied power and/or ground connection that the Smart Connect system is receiving from the tractor power cable.

Figure #5 Deutsch DTM 6-Pin Female Connector on LED harness.

Power Supply Cable Pinout	
Pin #	Function
1	12 VDC Switched Power
2	CAN LO
3	CAN HI
4	Unlock Signal Out (12V)
5	Lock Signal Out (12V)
6	Truck Ground



Section 5

SmartConnect adjustment and rebuild indications and reset procedures

SmartConnect LED Indicators

Check adjustment indication: When the system criteria is met to indicate to check fifth wheel for adjustment the LED on the fifth wheel will flash green for 30 seconds before returning to the normal operating state. This will continue to indicate after all subsequent couplings until the adjustment status is reset (see reset procedures below)

Check for rebuild indication: When the system criteria is met to indicate to check fifth wheel for rebuild the LED on the fifth wheel will flash green and red for 30 seconds before returning to the normal operating state. This will continue to indicate after all subsequent couplings until the rebuild status is reset (see reset procedures below)

Resetting the Fontaine SmartConnect system indicators

Instructions for resetting the Fontaine SmartConnect system after an [adjustment](#) or [rebuild](#) has been performed on the fifth wheel.

Read all instructions before beginning the SmartConnect reset procedure.

- Make sure that the lock is open with the vehicle powered off.
- Turn on the vehicle's electrical power.
- Lock the fifth wheel using a handheld kingpin tool within 20 seconds after powerup.
- Partially open and close the lock two times within a 25 second period. To do this, pull the pull handle 3-4 inches away from the skirt of the fifth wheel and hold the handle until the light turns red. Release the handle to return to the closed position where the light will return to green. Repeat this two times.
- After completing the previous step, allow the lock to remain closed with the kingpin tool in place.
- The system will indicate that it has entered reset mode by a flashing red LED light.



Complete **one** of the following two sets of instructions below ([adjustment](#) or [rebuild](#)) based on the type of service that was performed:

To reset the system after an [adjustment](#) has been performed, follow these steps:

- With lock remaining closed and the kingpin tool in place, wait 10 seconds.
 - The indicator light on the side of the fifth wheel will change from flashing red to flashing green for 5 seconds to indicate that the reset was successful.
-  x 5s
- The flashing green will be followed by 2 seconds light off, then the SmartConnect system will enter standard operation mode and the light will return to solid green.
- Open the fifth wheel and remove the kingpin tool.
- You are now ready to resume normal operation.

To reset the system after a [rebuild](#) has been performed, follow these steps:

- Open the fifth wheel lock and remove the kingpin tool within 10 seconds after the LED begins flashing red.
 - The indicator light on the side of the fifth wheel will change from flashing red to alternating green and red flashing lights for 5 seconds to indicate that the reset was successful.
-  x 5s
- The alternating green and red flashing lights will be followed by 2 seconds light off, then the SmartConnect system will enter standard operation mode and the light will return to solid red.
- You are now ready to resume normal operation.

For more information or technical support for the Fontaine SmartConnect™ Systems please email parts@fifthwheel.com or call 800-874-9780.