

OPERATOR'S MANUAL

BENDIX® INTELLIPARK® ELECTRONIC PARKING BRAKE CONTROL SYSTEM

BUS/NON-TOWING VEHICLES



This booklet contains important operational and safety information that benefits you and subsequent drivers.

Important Safety Information



Bendix safety technologies complement safe driving practices. No commercial vehicle safety technology replaces a skilled, alert driver exercising safe driving techniques and proactive, comprehensive driver training. Responsibility for the safe operation of the vehicle remains with the driver at all times.



The Bendix® Intellipark® Electronic Parking Brake (EPB) system is a driver assistance, not driver replacement, technology. Safe driving practices, habits, and driver training are critical for safety on the road.



The driver should always manually set the parking brakes, and not rely on the Intellipark EPB system to do so. Data captured through the Intellipark EPB system will show any abuse or misuse of the system.



Bendix®-brand Electronic Control Units (ECUs), including the Intellipark EPB ECU, are not designed to store data for purposes of accident reconstruction, and Bendix® ACom® PRO™ Diagnostic Software is not intended to retrieve data for purposes of accident reconstruction. Bendix makes no representations as to the accuracy of data or video retrieved and interpreted from ECUs for purposes of accident reconstruction. Bendix does not offer accident reconstruction services or interpretation of stored data. Bendix ECUs are not protected from fire, loss of power, impact damage, or other conditions that may be sustained in a crash situation and may cause data to be unavailable or irretrievable.

Introduction

This Operator's Manual provides an overview of the Bendix® Intellipark® Electronic Parking Brake (EPB) system Dash Electronic Control Unit (DECU) for buses/non-towing vehicles. The manual explains the safe practices, functions, features, and alerts of the system. Vehicles equipped with the Intellipark EPB system include dash electronic control switches (DECU) instead of pneumatic push/pull parking brake knobs.

Read this manual thoroughly before operating the system. Be familiar with the controls, system alerts, and what to expect when the system is in operation. Keep this manual in the vehicle as a reference for the system, its operation, and its performance characteristics.

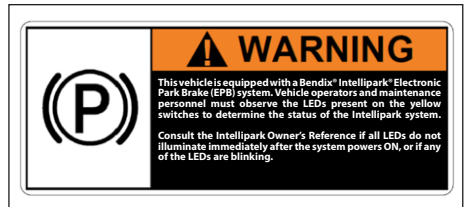


Dash Electronic Control Unit (DECU)
Included with the Bendix® Intellipark® EPB System



Pneumatic Push/Pull Knobs
Replaced by the Bendix Intellipark DECU (Switch)

NOTE: If an Intellipark EPB system warning label is present in the vehicle, the vehicle is equipped with the Intellipark EPB system.



Setting and Releasing the Brakes



PULL the DECU switch to set the parking brakes.



PUSH the DECU switch to release the parking brakes.

LEDs on the Dash Electronic Control Unit (DECU)

Illuminated LEDs on the parking brake switch indicate that the brakes are set.



Parking Brakes Set



Parking Brakes NOT Set

Vehicle Startup

During vehicle startup, the LEDs located on the DECU will illuminate for three (3) seconds, turn off for two (2) seconds, then indicate the parking brake status.



**Three-Second
Illumination at Startup**

Driver Assistance Features

Rollaway Mitigation

The Rollaway Mitigation feature is intended to help mitigate possible rollaway accidents by automatically setting the parking brakes when the Bendix® Intellipark® Electronic Parking Brake (EPB) system detects that the driver does not have control over the vehicle and it is not parked.

The Rollaway Mitigation feature of the Intellipark EPB system will engage and automatically park the vehicle after 30 seconds when it determines the driver does not have control, meaning the ignition power is on, the vehicle speed is low or zero, the accelerator pedal is not pressed, and the foot brake is not applied. The system will also automatically park the vehicle when the ignition power is off and the driver forgets to park the vehicle (vehicle is not parked and vehicle speed is low or zero).

Smart Unpark™

To release the Intellipark EPB, **all of the following conditions must be met:**

- The ignition power is on.
- The service brake pedal is depressed.
- The wheelchair door is closed (if the vehicle is equipped with one).

Once all of the above conditions are met, the yellow Dash Electronic Control Unit (DECU) switch may be pressed to release the parking brakes.

Rollaway Mitigation Acknowledgement

If the Rollaway Mitigation feature is activated, the LEDs will continuously blink until the driver acknowledges the Rollaway Mitigation event by pulling the yellow parking brake switch. This will manually set the parking brakes. The driver must then push the yellow parking brake switch to release the parking brakes to unpark the vehicle.



Exhaust-at-Speed

In an emergency situation, the Bendix® Intellipark® Electronic Parking Brake (EPB) system can help the driver achieve a stop when service brakes are not available. Pull the yellow Dash Electronic Control Unit (DECU) switch until the spring brakes have been applied. Once an Exhaust-at-Speed event has been initiated, if the driver releases the yellow parking brake switch while the vehicle is in motion, the spring brakes will release. If the driver releases the yellow parking brake switch when the vehicle is at low or zero speed, the vehicle will remain parked.



System Faults

WARNING: Blinking LEDs could indicate there is a problem or fault with the system. Service the vehicle as soon as possible. In some instances, parking brakes may be unavailable and the vehicle should NOT be driven.



WARNING: Non-blinking, illuminated LEDs could be indicative of a fault. If one LED, either the left or right, is fully lit and not blinking, the system is faulted. The vehicle should NOT be driven.



Setting the Parking Brakes While the Bendix® Intellipark® Electronic Parking Brake (EPB) System is Faulted

Stop on a level surface. Shut off the engine and open the driver-side window to hear air exhaust from the parking brakes. Perform the following steps:

1. Attempt to park the vehicle by pulling the parking brake switch. Listen for the exhaust of air.
2. If the vehicle did not park, key off the vehicle and “fan down” the air reservoirs by repeatedly depressing the service brake pedal to automatically apply the spring brakes.
3. Chock the wheels.
4. Turn off the battery power to the vehicle.

Starting the Vehicle After a Faulted Intellipark EPB System has been Remedied

1. Ensure the reservoirs are depleted of air.
2. Once the reservoirs are depleted of air, remove the wheel chocks prior to starting the engine.
3. Start the engine and stay in the driver’s seat as the air brake system builds air, filling the reservoirs.
4. Keep the brake pedal depressed to hold the vehicle stationary in case the spring brakes unintentionally release air.
5. Once the system air is at a normal operating range, the vehicle can be unparked and driven.

Bendix® Intellipark® Display Unit (IDU)

If your vehicle is equipped with the Bendix® Intellipark® Display Unit (IDU), this user-friendly display can indicate system status, messages, alerts, and interlock status. Below is a color and symbol key to help explain at-a-glance the type of messages delivered by the IDU.



IDU Display Color Key



- Operating as normal, continue use.



- Driver entered Limp Home Mode.



- Operating with limitations, service needed.



- Not operational, service immediately.

Parking Status



- Park state error. Parking status unknown.



- Parking brake set.



- Intermediate Mode, in-between parked/not parked (blinking).

If no parking status indication is present, then the vehicle is not parked.

STARTUP – Drivers are encouraged to read the system manual prior to operation. Upon entering the vehicle, when the dash wakes up (after key on), the Intellipark® logo will briefly appear followed by a warning screen, reminding the driver to read the system manual prior to operation.

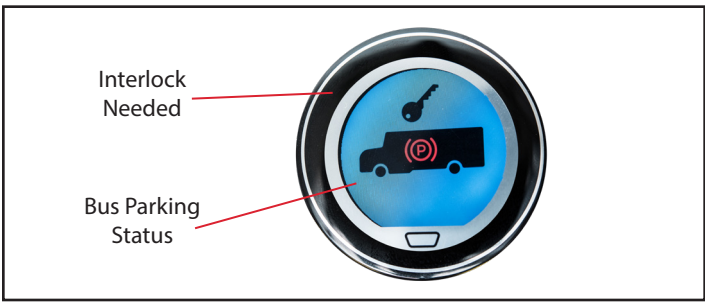


PARK STATUS –The (P) parking symbol will appear if the system has recognized that the parking brake is set.

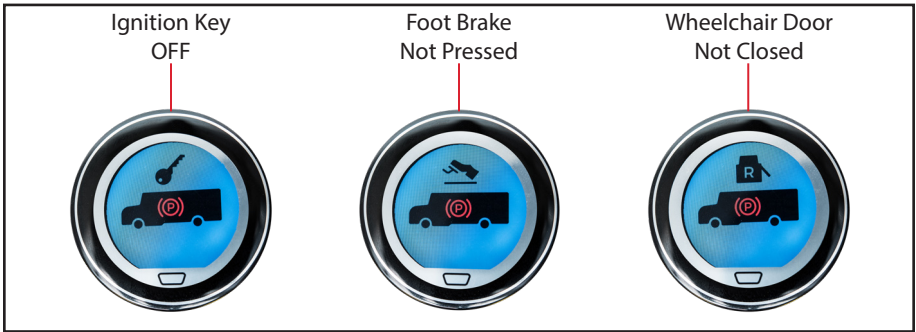
When the parking indicator symbol (P) is blinking, the system is either in the process of setting or releasing the parking brakes.



UNPARKING – Intellipark® is equipped with the Smart Unpark™ interlock system which requires specific interlocks to be satisfied before the driver will be able to release the park brakes.



In the example shown below, there are two (2) interlocks that must be met before the driver can unpark the vehicle. Each interlock will disappear as it is satisfied. After both interlocks are satisfied, the driver will be permitted to unpark the vehicle. **NOTE:** If the vehicle is equipped with a wheelchair door, this interlock must also be satisfied.



NOTE: Only one interlock symbol will be displayed at a time.

Driver Assistance Features

If specific criteria are met, the Bendix® Intellipark® Electronic Parking Brake (EPB) system will automatically help mitigate the following situations. The feature will be identified on the Intellipark Display Unit (IDU) as they occur.



Rollaway Mitigation (ROL) –

If a potential rollaway situation is detected, the parking brakes will automatically apply, as described earlier in this document.



Exhaust At Speed (EAS) –

Consistent with existing parking brake functionality, in emergency situations, the Intellipark EPB system can be engaged by the driver while in motion, bringing the vehicle to a stop, as described earlier in this document. **Emergency situations only.**

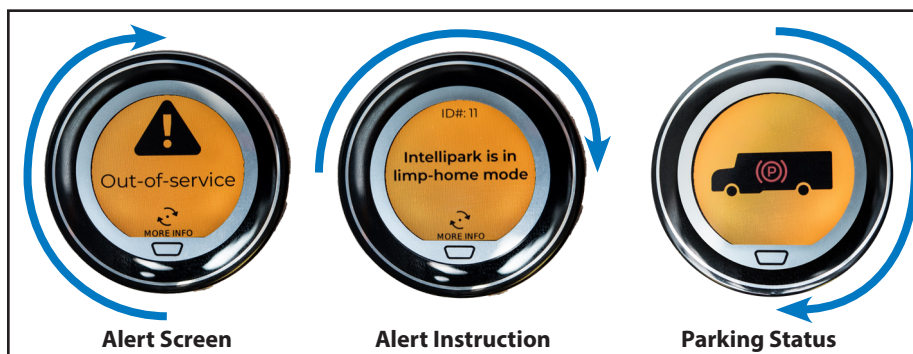



Functions Not Available –

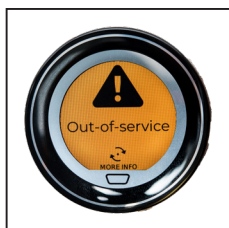
If the driver assistance features, such as ROL and EAS, become unavailable, this yellow screen will appear on the IDU.

Backup Modes

Backup modes are indicated by an orange, yellow, or red screen. Each backup mode will contain an **alert type, the impact of the alert, and instructions for using the system.**

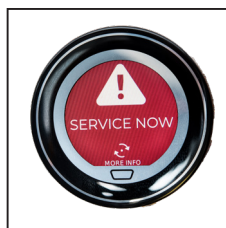


When the  image appears at the bottom of the screen, scroll through all alerts to see the actions needed to continue. Screens can be scrolled through multiple times.



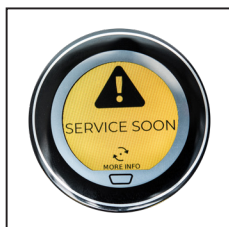
Orange Backup Modes

- Maintenance Mode
- Limp Home Mode



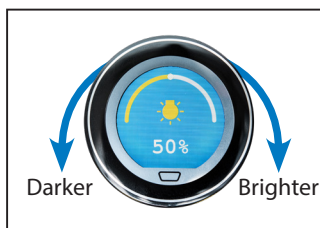
Red Backup Modes

- The Bendix® Intellipark® Electronic Parking Brake (EPB) system is offline **OR**
- Service immediately
- Parking/unparking unavailable



Yellow Backup Modes

- The park brake system is still functional with reduced capacity
- May be operated to park and unpark the vehicle
- Service when feasible



DIMMING – Dimming of screen brightness can be adjusted by turning the dial clockwise or counterclockwise

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