VDC01212

# VALID SLIDE SYSTEM

## IEW

OPERATION MANUAL

**VDC01212**

5320-B 48th Avenue SE

Salmon Arm, BC  V1E 1X2

tel  250-832-6477  |  fax  250-832-7746

**www.validmfg.com**  |  **sales@validmfg.com**

Edited by MW

# Contents

# Safety 1

## CAUTION

- Read and understand the entire operation manual before using or servicing the Valid Slide System.
- Ensure that the area around and within the vehicle is clear of obstructions before operating the slides.
- The Valid Slide System should be serviced only by qualified personnel.

# Overview 2

This document describes the use of the Valid Slide System.

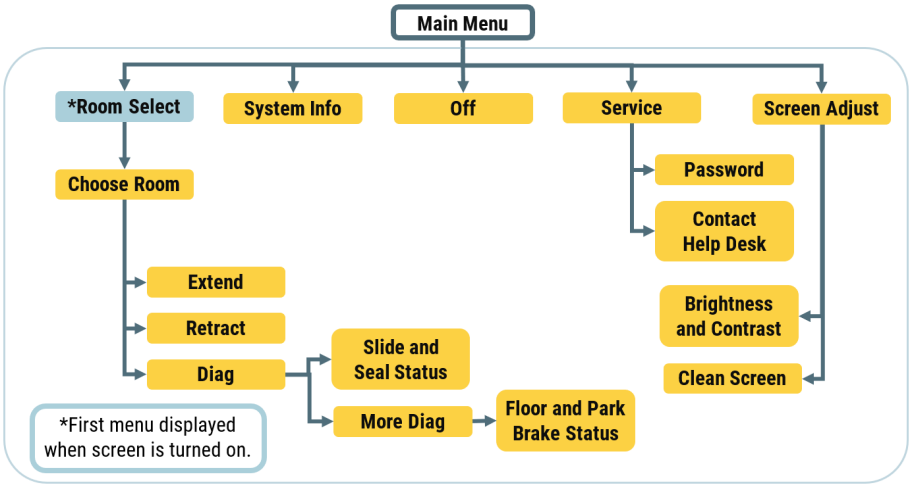
> **IMPORTANT** The slide control system's advanced diagnostic, maintenance, and override features are described in the service manual. These features should be accessed only under the guidance of qualified service personnel.

A coach may have up to 4 slides. Each slide room has two slide motors, an air manifold, and a pneumatic weather seal. It may also have an optional elevating floor with its own motor.

One or more touchscreens provide control for all slides in the coach.

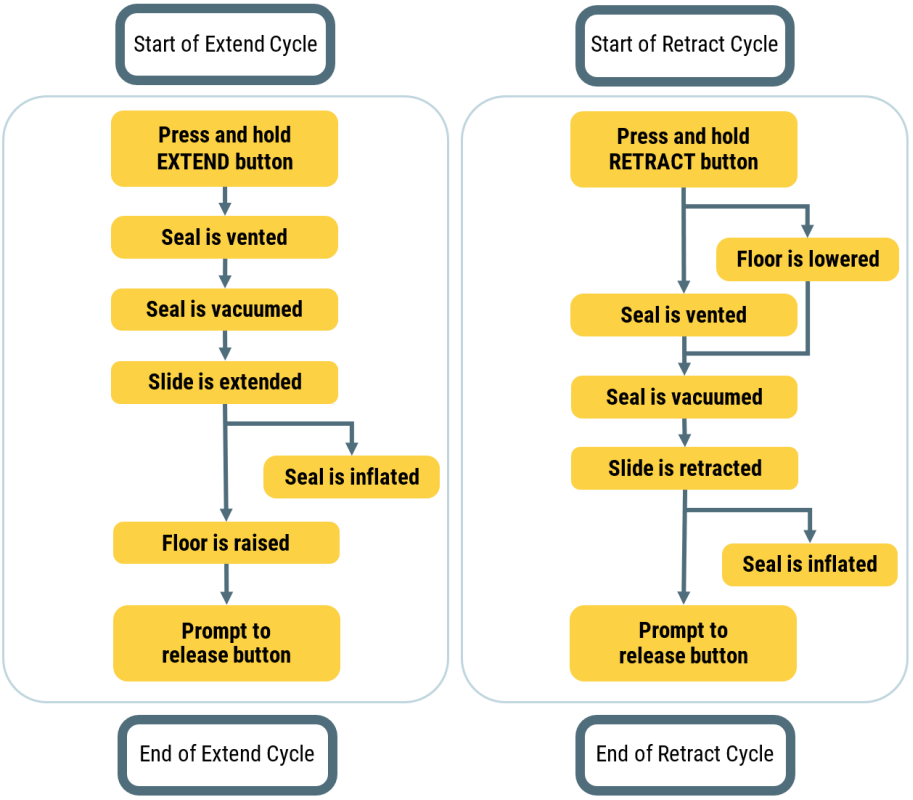
> **NOTE** Slides can be controlled from only one interface at a time.

## 2.1 Touchscreen Menu Map



## 2.2 Sequence of Events

The flow chart below shows the sequence of events when a slide is extended or retracted.



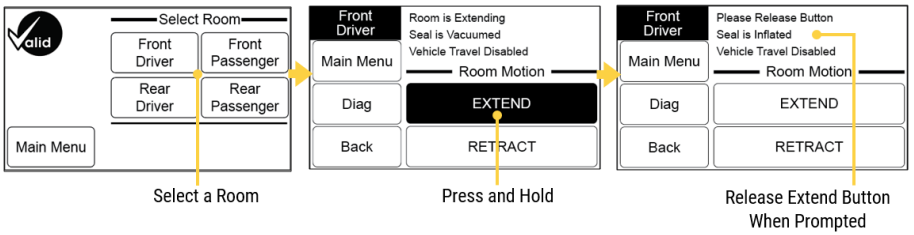
# Slide Operation 3

**IMPORTANT** Before the coach can travel, the slides must be fully retracted with the pneumatic weather seals inflated.

## 3.1 Preparation

1. Ensure that the coach's air system is at full pressure.
2. Turn on the ignition, and if possible have the engine running to ensure sufficient air supply for slide operation.
3. Clear any obstructions from around the vehicle.
4. Set the park brake.
5. Touch the screen to activate it if necessary.

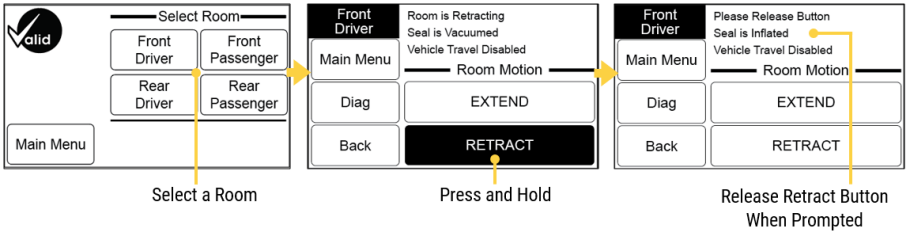
## 3.2 Extend a Room Slide




To extend a room:

1. Select the desired room on the home screen.
2. Press and hold **Extend**.
3. Release the **Extend** button when prompted by the status display message.

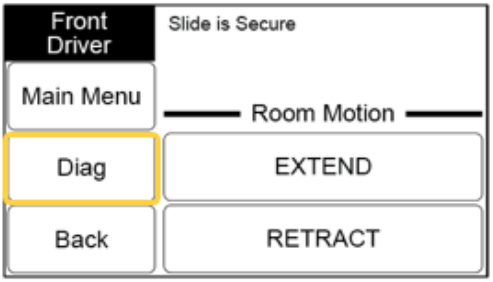
# 3.3 Retract a Room Slide




To retract a room:

1. Select the desired room on the home screen.
2. Press and hold **Retract**.
3. Release the **Retract** button when prompted by the status display message.

Diagnostics for each slide can be accessed from the **Room Motion** menu.




Slides can be extended or retracted from within the diagnostics screens.

- Select **Diag** to display diagnostic messages.
- Select **More Diag** to proceed to the next screen.
- Select **Back** to proceed to the previous screen.

## 4.1 Room Status

| Parameter | Description |
|---|---|
| Room Status | Retracted, mid-position, or extended |
| Position | A percentage indicating slide extension:<br><br>0%= fully retracted , 100% = fully extended |
| Retracted Sensors<br><br>and<br><br>Extended Sensors | Both endwall motor assemblies contain two limit switches- one for retract the other for extend.<br><br>0/2 = No limit switch is activated<br><br>1/2 = Only one limit switch is activated<br><br>2/2 = Both limit switches are activated |

| Parameter | Description |
|---|---|
| Motor Current | During slide movement, the room motor current is displayed in amps. The amount displayed is the combined current for both motors.<br><br>During floor movement, the floor motor current is displayed in amps. |

## 4.2 Seal Status

| Parameter | Description |
|---|---|
| Seal Status | Inflated, vented, or vacuumed |
| Seal Pressure | Absolute pressure (PSIA) of seal. If the PSIA is 0, the pressure transducer is likely disconnected. |
| Ambient Pressure | Calculated automatically during the vent cycle. The default at power-on is 13.5 PSIA. |
| Vacuum Threshold | The initial vacuum threshold that must be reached before a slide can move. It is always a fixed level below the ambient pressure. |
| Inflated Threshold | The required pressure for a seal to be considered inflated. If this pressure is not met, the slide is not secure, and vehicle travel is disabled. |
| SCV (Seal Control Valve) and VEV (Vacuum Ejector Valve) | ON or OFF<br><br>Inflated or inflating: SCV and VEV are both OFF<br><br>Venting: SCV is ON and VEV is OFF<br><br>Vacuuming: SCV and VEV are both ON |

## 4.3 Floor Status

| Parameter | Description |
|---|---|
| Floor Status | Lowered, mid-position, or raised |
| Sensor Voltage | The position feedback from the actuator, ranging from 0 to 5V DC. Depending on the floor design, an actuator could be retracted or extended for a floor to be lowered.<br><br>0V indicates a retracted actuator.<br><br>A constant reading of approximately 2.5V indicates that the actuator feedback is not connected. |
| Lowered Threshold | The required voltage for a floor to be considered lowered. |
| Raised Threshold | The required voltage for a floor to be considered raised. |
| Motor Current | During floor movement the floor motor current is displayed in amps.<br><br>During slide movement the room motor current is displayed in amps. This is the combined current for both motors. |

## 4.4 Other Diagnostics

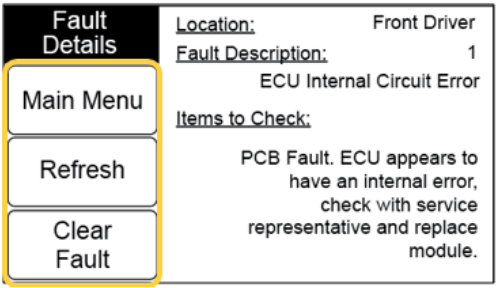
| Item | Options | Description |
|---|---|---|
| Slide Clear | **Clear**, **Blocked**, or **Overridden** | If blocked, room operation is disabled unless overridden with the help of customer support.<br><br>This status applies to the current room only. |
| Vehicle Travel | **Enabled**, **Disabled**, or **Overridden** | If disabled, coach travel is not allowed (cannot be put in gear) unless overridden with the help of customer support.<br><br>This status applies to the current room only. |
| Park Brake | **Set** or **Not Set** | Slide operation is not allowed unless the park brake is set. |
| Supply Voltage | For slide operation, the voltage must be in the range of 10V to 16.5V. | The DC supply voltage of the current room as measured by the controller. |

# Faults 5

The slide controller's fault detection system is designed to indicate any unusual conditions as well as to protect the entire slide system from possible damage.

Fault messages are displayed on the Room Motion and Diagnostics screens.

A fault on one slide does not prevent operation of any other slide.




On the slide ECU, which is usually located in one of the bays, a red LED indicates a fault condition. Most faults will clear automatically after 10 seconds. However, the fault messages will remain on the touchscreen until either **Main Menu** or **Clear Fault** is pressed.

- Press **Refresh** to display the last fault, even if the fault condition no longer exists.
- Press **Clear Fault** to clear the fault both in the controller and from the touchscreen. However, if the fault condition still exists, the fault will either re-occur immediately, or the next time Extend or Retract is pressed.

# 5.1 Fault List

| Fault | Description |
|---|---|
| ECU Internal Circuit Error | The electronic controller has detected an error on its circuit board as indicated by the number displayed (1 through 16). Contact customer support for assistance. |
| Encoder Maximum Difference Exceeded | The room motors are not able to remain synchronized while extending or retracting the slide. Contact customer support for assistance. |
| Endwall Encoder Overrun | The encoder count in the indicated endwall (A or B) has exceeded its normal operating limit. Contact customer support for assistance. |
| Endwall Encoder Timeout | No encoder signal was detected in the indicated slide end wall (A or B). Contact customer support for assistance. |
| Endwall Encoder Underrun | The encoder count in the indicated slide endwall (A or B) has exceeded its normal operating limit. Contact customer support for assistance. |
| Endwall Motor Fault | This indicates a short circuit on or at the electronic control board. Contact customer support for assistance. |
| Extended Limit Switch Not Triggered | The extend limit switch on the indicated slide endwall (A or B) did not activate when the slide was fully extended. Contact customer support for assistance. |

| Fault | Description |
|---|---|
| Floor Motor Over Current | The controller has detected excess current on the floor motor. Visually inspect the floor to ensure that it is clear from obstruction. Contact customer service if this fault persists. |
| Floor Motor Under Current | The controller has detected no current draw by the floor motor. |
| Floor Not Lowered Cannot Extend Room | A floor must be fully lowered before a room can extend, and the floor position signal does not indicate that it is fully lowered. |
| Floor Position Setpoint Not Reached | The floor actuator position signal has not yet reached its required raised or lowered threshold. |
| Insufficient Vacuum | The vacuum level of the weather seal did not reach the required initial vacuum threshold and the slide cannot be moved.<br><br>Contact customer support if the coach engine is already running. |
| Lost Vacuum While Moving Slide | Slide operation requires a vacuumed seal prior to being moved, and the weather seal has suddenly lost its vacuum during slide movement. |
| Park Brake Off Cannot Move Slide | Slide operation is not allowed until the park brake has been set. |

| Fault | Description |
|---|---|
| Power Loss During Slide Movement | Power had previously been lost while moving this slide. Fully retract this slide to re-establish home position. |
| Pressure Transducer Volts out of Range | The device that measures seal pressure is not functioning normally and vehicle travel is disabled. Contact customer service for assistance. |
| Retracted Limit Switch Not Triggered | The retract limit switch on the indicated slide endwall (A or B) did not activate when the slide was fully retracted. Contact customer support for assistance. |
| Room Motion Timed Out | The slide has taken longer than expected to extend or retract.<br><br>Ensure the engine is running and visually check for obstructions. Contact customer service if this fault persists. |
| Room Motor Over Current | The controller has detected excess current on a room motor. Visually inspect the slide to ensure that it is clear from obstruction.<br><br>Contact customer service if this fault persists. |
| Seal Control Output Open Circuit | The Seal Control valve is mounted on the air manifold. When activated, this valve allows the weather seal to be deflated.<br><br>The controller has detected no current draw on its output. |

| Fault | Description |
|---|---|
| Seal Control Output Short Circuit | The seal control valve is mounted on the air manifold. When activated, this valve allows the weather seal to be deflated.<br><br>The controller has detected a short circuit on its output. |
| Seal Inflation Timeout | The inflation of the weather seal did not reach its required pressure and the slide cannot be secured. Vehicle travel is disabled. Contact customer support if the coach engine is already running. |
| Slide Not Clear Cannot Move Slide | Slide operation cannot proceed because something is blocking its path and must be moved. |
| Slide Not Installed Cannot Operate | The system is configured to allow operation of a slide that does not exist. Contact customer support for assistance. |
| System Over Voltage | A slide controller has a supply voltage of greater than 16.5V DC. Operation of that slide is disabled. |
| System Under Voltage | A slide controller has a supply voltage of less than 10V DC. Operation of that slide is disabled. |

| Fault | Description |
|---|---|
| Vacuum Ejector Output Open Circuit | The vacuum ejector valve is mounted on the air manifold. When activated, this valve vacuums the weather seal.<br><br>The controller has detected no current draw on its output. |
| Vacuum Ejector Output Short Circuit | The vacuum ejector valve is mounted on the air manifold. When activated, this valve vacuums the weather seal.<br><br>The controller has detected a short circuit on its output. |
| Vehicle Travel Output Fault | A message is displayed in the “Main” or “Select Room” menu if the Vehicle Travel output is unable to provide a coach travel disable signal. This message is caused by a short circuit.<br><br>Slide operation is still permitted.<br><br>**IMPORTANT** A Vehicle Travel Output Fault indicates that the slides may not be able to disable coach travel when extended. Before driving the coach, ensure that slides for each room are secure, both visually and with the “Slide is Secure” message on the touchscreen. |

# Parts Gallery 6

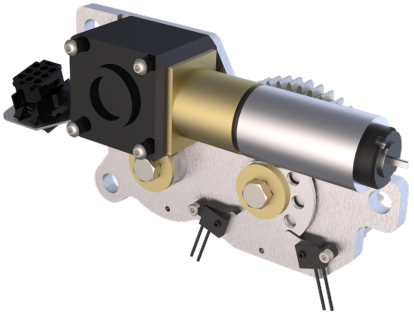
**Touchscreen**


**Controller (ECU)**

**Floor Actuator**

**Air Manifold**

**End Wall Motor**



## 7.1 Warranty Terms

1. **COVERAGE** - This warranty applies to the first retail purchaser and subsequent owners, subject to the approval of Valid Manufacturing Ltd. (hereafter referred to as VML) during the warranty period of new coaches to be used in the continental USA and Canada including Hawaii and Alaska.
2. **WARRANTY PERIOD** - The warranty period begins on the date the coach is delivered to the first retail purchaser and is valid for a period of 12 months regardless of mileage.
3. **DEFECTS** - This warranty covers coach repairs to correct any malfunctions occurring during the warranty period resulting from defects in material or workmanship for parts and installation of the Trueline Leveling System and Valid Slideout System
4. **REPAIRS** - To obtain warranty repairs, you must request the required repairs within the warranty period from VML. VML will endeavor to perform the requested repairs in a reasonable amount of time following the coach's arrival at the service centre.

   If it is not feasible to bring the coach to a VML service centre, the warranty repairs may be performed by the owner's maintenance, organization or by a coach service shop. Reasonable parts and labor cost (as determined by. VML) will be reimbursed. Labour rates and estimate of required time will be confirmed and approved prior to the commencement of the repair work.
5. **SERVICE SUPPLIES** - Any supplies used to service the coach that become unusable because of required warranty repairs are covered by this warranty.

6. **SHIPPING CHARGES** - Any charges incurred for the shipping of parts from VML to a repair facility where a coach needs emergency warranty repairs to be drivable are covered under this warranty, but must first be approved by VML.

## 7.2 This Warranty Does Not Cover

1. **ADDITIONAL LABOR** - Labor required to render VML components accessible for required warranty service.
2. **MAINTENANCE** - Repairs and service adjustments caused by accident, misuse, negligence, abuse, non- authorized modifications, damage, excessive. speed, fire, parts not supplied by VML, failure to perform required maintenance, and failure to perform modifications as requested by VML.
3. **OTHER EXPENSES** - Any economic loss, including communication expenses, meals, lodging, loss of use of the coach, loss of domicile, loss of revenue, towing, loss of time, inconvenience, cargo damage, or any other cost or expense resulting from a defect covered by this warranty.

## 7.3 Other Limitations

EXCEPT FOR THE WRITTEN WARRANTY STATED ABOVE, THERE ARE NO OTHER WARRANTIES, EXPRESSED OR IMPLIED INCLUDING, WITHOUT LIMITATION, ANY IMPLIED WARRANTY OF PERFORMANCE OR FITNESS FOR A PARTICULAR PURPOSE WHICH SHALL APPLY TO PRODUCTS SUPPLIED BY VML. VML HEREBY DISCLAIMS ANY AND ALL SUCH WARRANTIES THE PERFORMANCE OF REPAIRS IS THE EXCLUSIVE REMEDY UNDER THIS WARRANTY NO PERSON IS AUTHORIZED TO MODIFY THIS WARRANTY OR TO ASSUME ANY OTHER LIABILITY ON BEHALF OF VML UNLESS THE MODIFICATION IS MADE IN WRITING AND SIGNED BY AN AUTHORIZED VML. REPRESENTATIVE

THE OBLIGATIONS OF VML SHALL NOT EXTEND BEYOND THE OBLIGATION EXPRESSLY UNDERTAKEN HERETO AND VML SHALL HAVE NO LIABILITY OR RESPONSIBILITY OR OTHERWISE TO THE PURCHASER OF THE COACH OR ANY THIRD PARTY FOR ANY LOSS OR DAMAGE WHETHER DIRECT OR INDIRECT, OR FOR INCIDENTAL OR CONSEQUENTIAL DAMAGE

## 7.4 Warranty Claims

1. **CLAIM NOTIFICATION** - To make a claim, the claimant must contact VML and request an RMA (Return Material Authorization), stating the part number and, if possible, the coach number. An authorization number will be supplied to the claimant.
2. **TIME LIMIT** - The claimant must notify VML of any defect occurring during the warranty period within 30 days from the date the defect becomes apparent. Out-of-date claims are subject to rejection
3. **REIMBURSEMENT** - VML will reimburse the claimant for the cost incurred in the repair or replacement (including shipping) of defective parts The reimbursement will be based on the number of required man-hours at a pre-approved base rate
4. **PARTS TO BE RETURNED** - All parts must be returned to VML for warranty approval and processing. The assigned RMA number must be attached to the part.

### RETURN TO:

Valid Manufacturing Ltd.

5320-B 48 Ave SE

Salmon Arm, BC V1E 1X2

CANADA

[This page intentionally blank]]


5320-B 48th Avenue SE

Salmon Arm, BC, V1E 1X2

tel 250-832-6477 | fax 250-832-7746

**www.validmfg.com** | **sales@validmfg.com**