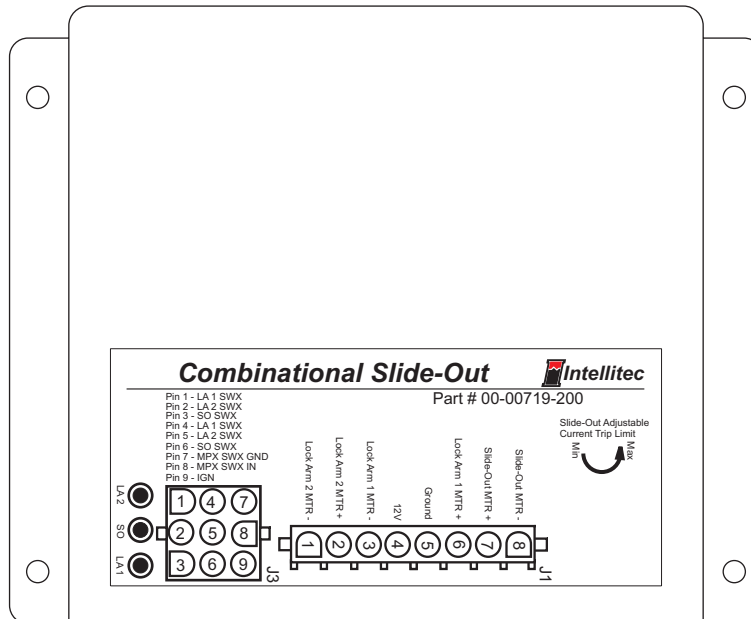


COMBINATION SLIDE OUT CONTROLLER

SERVICE MANUAL



P/N 00-00719-200

CAUTION:

The COMBINATION SLIDE OUT CONTROLLER is a power switching controller used to operate a slide out room in an RV. Power from the battery of the vehicle is fed to this control. Inadvertent shorts at this box could result in damage and/or injury.

All servicing of this box should be done only by a qualified Service Technician.

Tools required: Low current test light, DC voltmeter

PRODUCT DESCRIPTION

The Combination Slide-out Controller functions as three controllers. It independently controls two lock arm motors and a slide-out motor. The controller depends on several inputs: Lock Arm 1 Switch, Lock Arm 2 Switch, Slide-out Switch, MPX Switch, and an Ignition Input Signal, which is used to lock out control module.

THE MPX SWITCH

The MPX Switch is a momentary rocker switch used to allow the user to select a run/stop mode of the Controller. The MPX switch is connected to the Controller through connector J3 pins 8 (MPX IN) and 7 (MPX GROUND)

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SERVICE MANUAL

LED INDICATORS

Three LED's are supplied for indication of three input switches. When a run condition exists, the LED's will indicate the position of the selected switch. The LA 1 LED will be *ON* if lock arm 1 is in the unlock position (closed switch). The LA 2 LED will be *ON* if lock arm 2 is in the unlock position (closed switch). The slide-out LED will be *ON* if Slide-out is flush with the RV (closed switch). The indicating LED's will turn *OFF* when the following conditions have been satisfied: the Controller is in a stop mode and no motor is energized.

LOCK ARM MOTORS

Upon every run requested by the user (pressing the MPX switch), the Controller will start energizing the lock arm motors. The lock arm motors will stay energized until one of the following conditions are met: Both lock arm motors reach current trip level of 2A-8A (adjustable with R13), or 30 second time limit (if reached the following LED's will flash ON/OFF: MPX switch, LA1 & LA2).

SLIDE-OUT MOTOR CONTROL

The Slide-out Controller has two modes, extend out and return in. To initiate a change from one mode to another certain criteria have to be satisfied.

TO EXTEND SLIDE ROOM OUT

Extending the Slide-out will occur when the following criteria have been satisfied:

- (A) Ignition signal OFF
- (B) lock arm 1 switch in the CLOSED state (indicates lock arm unlocked)
- (C) lock arm 2 switch in the CLOSED state (indicates lock arm unlocked)
- (D) Slide-out switch in the CLOSED state (indicates slide-out is flush with RV)
- (E) No lock arm motors energized

After all the criteria have been met, then the Slide-out motor is energized with relay K1. The Slide-out motor is connected to J1 pins 7 and 8. The polarity in this state is the following: pin 7 is + and pin 8 is -.

The Slide-out motor stays energized until *one of the following conditions* are met:

- (A) Slide-out motor reaches the adjustable current trip level of 4-21A can be adjusted with R9
- (B) The user pushes the MPX switch to manually stop mode
- (C) Ignition signal is turned ON

RETURN SLIDE ROOM IN

Returning the Slide-out will occur when the following criteria have been satisfied:

- (A) Ignition signal OFF
- (B) Lock arm 1 switch in the CLOSED state (indicates lock arm unlocked)
- (C) Lock arm 2 switch in the CLOSED state (indicates lock arm unlocked)
- (D) Slide-out switch in the OPEN state (indicates Slide-out is not flush with RV)
- (E) No lock arm motors energized

After all criteria have been met, then the Slide-out motor is energized with relay K1. The Slide-out motor is connected to J1 pins 7 and 8. The polarity in this state is the following: pin 7 is - and pin 8 is +.

The Slide-out motor stays energized until one of the following conditions are met:

- (A) Slide-out motor reaches the adjustable current trip level of 4-21A (current limit adjusted using R9)
- (B) Ignition signal is turned ON

The Slide-out Controller measures motor current to sense when the mechanism reaches the end of its travel. When the current exceeds a pre-set level the Controller will shut *OFF*. This current level is adjustable by a potentiometer, which is mounted on the unit. If the current is set too low, the mechanism will stop before it reaches the end of travel or during start-up.

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If it is set too high, it may damage the mechanism or loosen the trim of the room.

NOTE

The current adjustment pot only turns 270 degrees. ATTEMPTS TO FORCE IT FURTHER WILL DAMAGE IT.

1. USING A SMALL SCREWDRIVER, CENTER THE POT.
2. OPERATE THE ROOM IN BOTH DIRECTIONS TO CHECK OPERATION.
 - A) If the Controller stops before the room reaches its normal stop, adjust the pot counter-clockwise about 20 degrees and try again. Repeat if necessary within the limits of the pot.
 - B) If the room hits its stop too hard, adjust the pot clockwise about 20 degrees and try again. Repeat if necessary within the limits of the pot.
 - C) Repeat steps A and B with finer adjustments if desired.

THE CONTROLLER IS NOW ADJUSTED FOR NORMAL OPERATION.

SLIDE-OUT CONTROL MODULE PLUGS, PINS AND FUNCTIONS

J1 = 8 Pin Mate-N-Lok connector (Power and Motor Control)

Pin	Function
1	Lock ARM 2 Motor (polarity to unlock lock arm)
2	Lock Arm 2 Motor + (polarity to unlock lock arm)
3	Lock Arm 1 Motor (polarity to unlock lock arm)
4	+ 12V Battery Fused
5	Chassis Ground
6	Lock Arm 1 Motor + (polarity to unlock lock arm)
7	Slide-Out Motor + (polarity to extend slide room out)
8	Slide-Out Motor (polarity to extend slide room out)

J3 = 9 Pin Mate-N-Lok connector (Switch Signal Inputs)

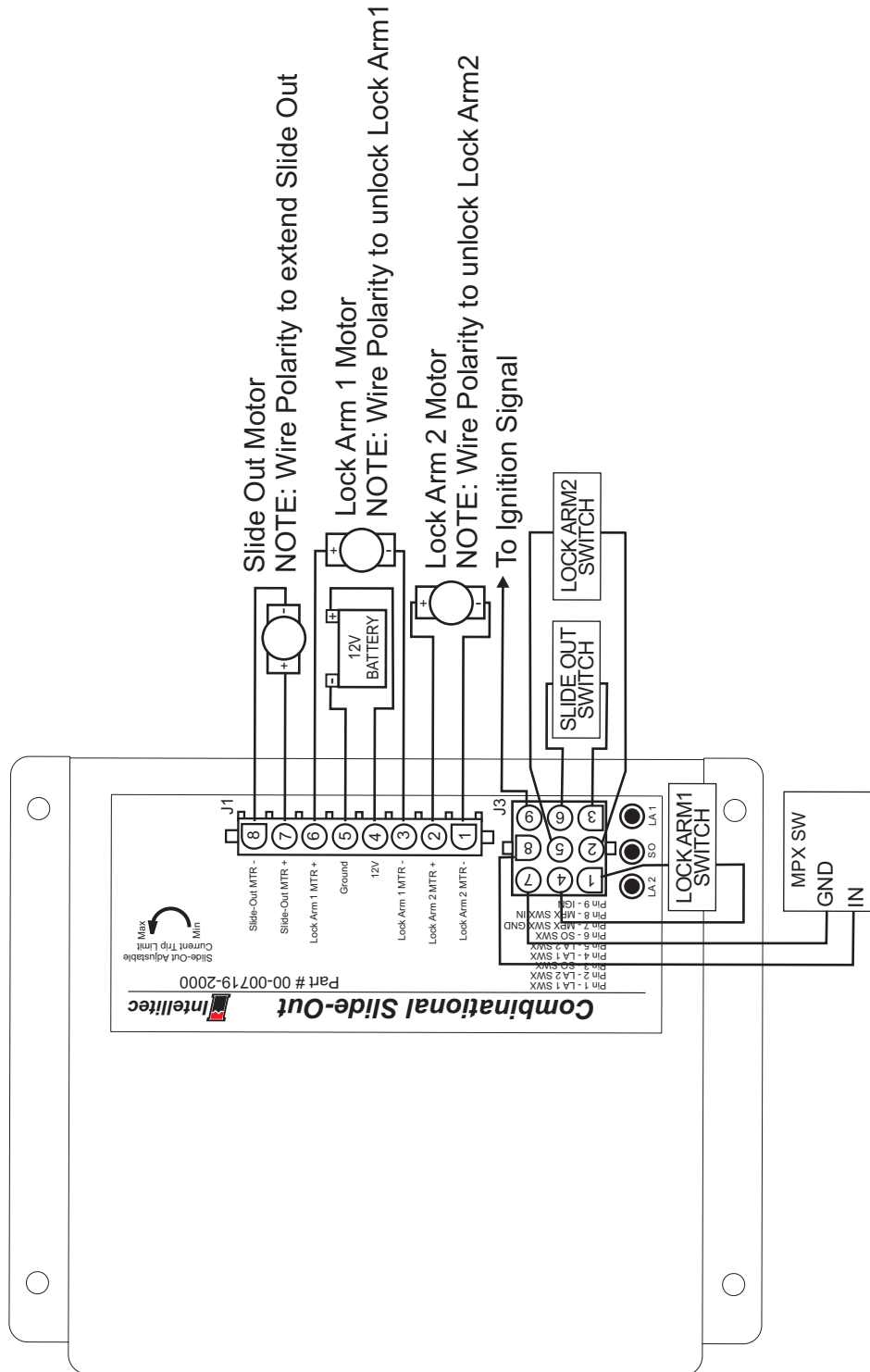
Pin	Functions
1	Lock Arm1 Switch Input (LA1 SWX)
2	Lock Arm 2 Switch Input (LA2 SWX)
3	Slide Out Switch Input (SO SWX)
4	Lock Arm 1 Switch Input (LA1 SWX)
5	Lock Arm 2 Switch Input (LA2 SWX)
6	Slide Out Switch Input (SO SWX)
7	MPX Switch GND
8	MPX Switch Input
9	Ignition Signal Input

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TYPICAL INSTALLATION

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