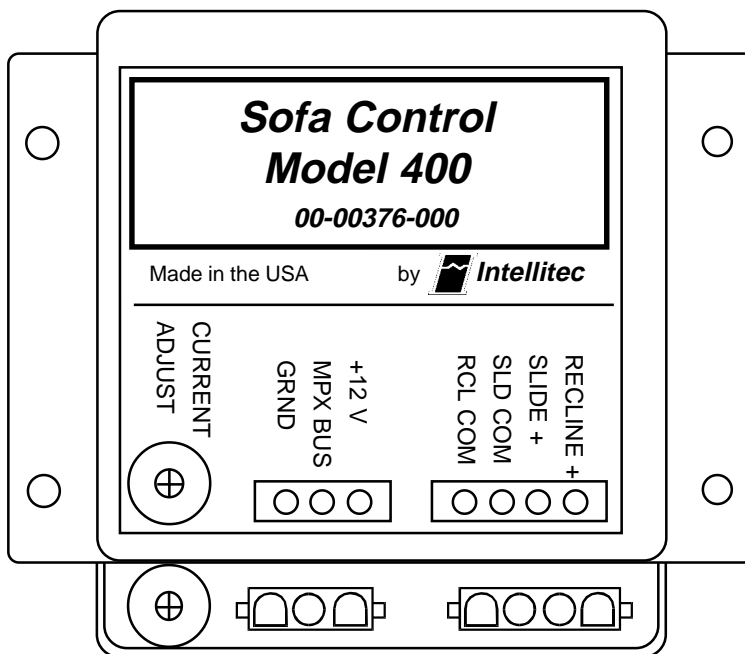


MONOPLEX SOFA CONTROLLER

SERVICE MANUAL

Models 200 & 400



Intellitec Part Numbers 00-00375-000 and 00-00376-000

Note: The MONOPLEX SOFA CONTROL is a centralized power switching controller used to operate a four-way, slide-recline power sofa. 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 **MONOPLEX SOFA CONTROLS**, (Intellitec Part Numbers 00-00375-000 Model 200 and 00-00376-000 Model 400) are intended for use in conversion vehicles to control the operation of a two-way or four-way, slide-recline power sofa. They allow easy wiring of multiple switches and provide electronic shutdown at the end of travel to prevent annoying circuit breaker or fuse openings.

The **MONOPLEX** System requires only one light-gauge wire and ground to connect the multiple switches. The control is normally located near or on the sofa so the motor wires can be easily connected. A single 12 gauge wire feeds power to the control from the fuse block.

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MONOPLEX SOFA CONTROLLER

To operate the sofa, a switch is pressed and held in the direction of the function desired (slide forward or back, or recline up or down). After the sofa has reached its desired position, the switch is released. If the switch is held until the sofa reaches its mechanical stops, the control will automatically shut off the power. This feature also prevents damage to the sofa if it is operated with someone sitting on it.

HOW IT WORKS

The **MONOPLEX SOFA CONTROL** utilizes relay switching to control power to the two sofa motors (See Figure 1). To limit the amount of current drawn, only one motor is allowed to operate at any given time. When the unit is at rest, all the motor leads are connected to ground. To operate a sofa motor, the controller applies 12 volts to the selected sofa motor.

To prevent damaging the motors or opening of the fuse or circuit breaker, the controller senses the current drawn by the motors. If the current exceeds a preset level, the controller shuts off. To restart the motor, press the switch in another direction.

The controller operates by sensing the voltage on the **MONOPLEX** bus wire. When the **MONOPLEX** bus is at 12 volts, the motors are at rest. Each switch function sends a different load to the controller which it interprets as a certain direction. These voltages are as follows:

<u>Model 400</u>		<u>Model 200</u>	
Slide Forward	0 volts	Recline Up	0 volts
Slide Back	2.1 volts	Recline Down	2.1 volts
Recline Down	3.5 volts		
Recline Up	5.7 volts		

(Note: This voltage must be read with a voltmeter. A test light will cause erratic operation). If more than one switch at a time is pressed, the sofa will operate in an indeterminate direction.

SETTING THE STOP ADJUSTMENT

The **STOP ADJUST** is used to set the level of current, above which the motor will shut off. The control's correct adjustment is at a level that is sufficient for proper operation of the sofa, but not so high as to overload the fuse or circuit breaker.

Start the setting procedure with the control set in the approximate center of rotation. Operate the sofa, both slide and recline through the full range. (Lifting the back from its open position usually requires the maximum current). If the sofa stops prematurely, slightly increase (turn the control clockwise) the setting and test again. If it is hitting the stops too hard, decrease (turn the control counter clockwise) the setting.

TROUBLE SHOOTING

The controller contains three relays to drive the two motors in both directions, (See Figure 1). A simple test to see if the controller is operating can be done by disconnecting the sofa motors, pressing a switch, and listening to the relays. At each press of a switch, at least one relay should click.

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Trouble Shooting

I. Sofa doesn't move in one or in either direction.

- A. The sofa may be jammed. Check for mechanical obstructions and clear path.
- B. Power may not be coming from the fuse block. Check for 12 volts on the 12 volt input. If there is not 12 volts, replace fuse F1.
- C. The ground connection may be missing. Check and repair the ground connection.
- D. Switch wiring may be faulty. Momentarily ground MPX line. The relay(s) should close and the sofa should slide forward on the Model 400 and go up on the Model 200. If not, check for power at the terminals of J1. One terminal should have 12 volts. If there is not 12 volts, replace the control.
- E. Disconnect J1. Press switch. If the relays "click", check wiring and motors.
- F. The motor wires may be disconnected or broken. Check and repair the wiring.

II. Sofa doesn't move to mechanical stops.

- A. The stop current may be mis-adjusted. Re-adjust the **Stop** control to a higher level.
(Warning: Raising this setting too high may cause opening of the circuit protection.)

III. Sofa moves in wrong direction from indication of the switch.

- A. The motor wires may be connected improperly. Remove and re-connect the sofa motor wires.

IV. The relays chatter.

- A. The controller may not be grounded properly. Repair or replace the ground wire.

Pins & Functions

Model 400

<u>Pin</u>	<u>Function</u>
J1-1	Recline Motor Common
J1-2	Slide Motor Common
J1-3	Slide Motor +
J1-4	Recline Motor +
J2-1	Ground
J2-2	MPX bus
J2-3	+12 volt power input

Model 200

<u>Pin</u>	<u>Function</u>
J2-1	Recline Motor Common
J2-2	Recline Motor +
J1-1	Ground
J1-2	MPX bus
J1-3	+12 volt power input

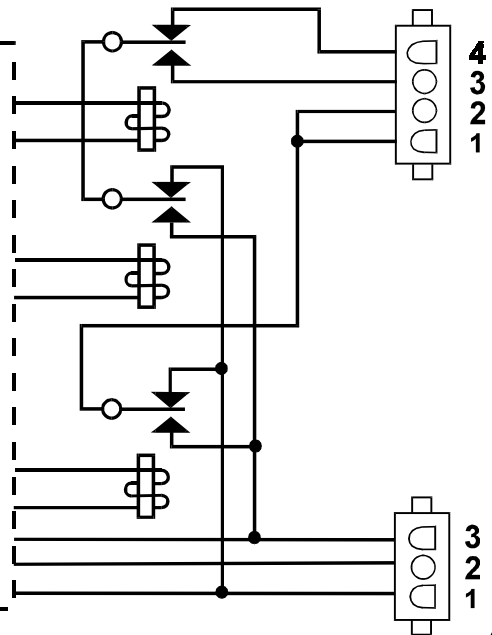
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MONOPLEX SOFA CONTROLLER

4 WAY SOFA CONTROLLER

CONTROL
ELECTRONICS

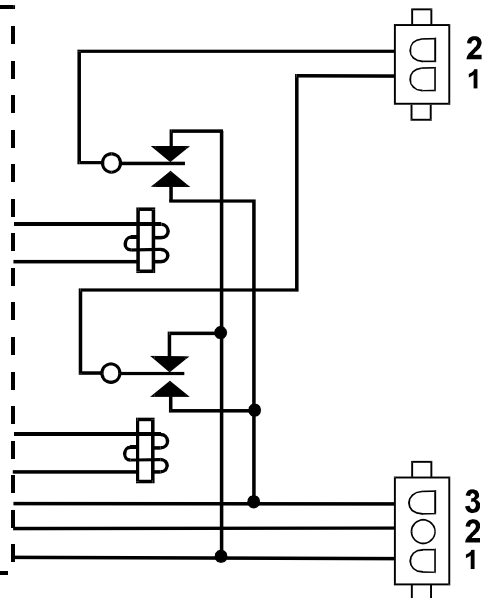


4 RECLINE MOTOR +
3 SLIDE MOTOR +
2 SLIDE MOTOR -
1 RECLINE MOTOR -

3 +12 VOLTS FROM F1
2 MPX BUS TO SWITCHES
1 GROUND

2 WAY SOFA CONTROLLER

CONTROL
ELECTRONICS



2 RECLINE MOTOR +
1 RECLINE MOTOR -

3 +12 VOLTS FROM F1
2 MPX BUS TO SWITCHES
1 GROUND

Figure 1

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