RICON *ACTIVAN*

ILLUSTRATED INDEX
OF
NON-OEM VEHICLE EQUIPMENT

INCLUDING

ELECTRICAL AND PNEUMATIC
CIRCUIT DIAGRAMS
PLUS
DIAGNOSTIC FLOW CHARTS

SMA0001.A

Activan® with Power Door, Power Ramp and Kneeling Suspension

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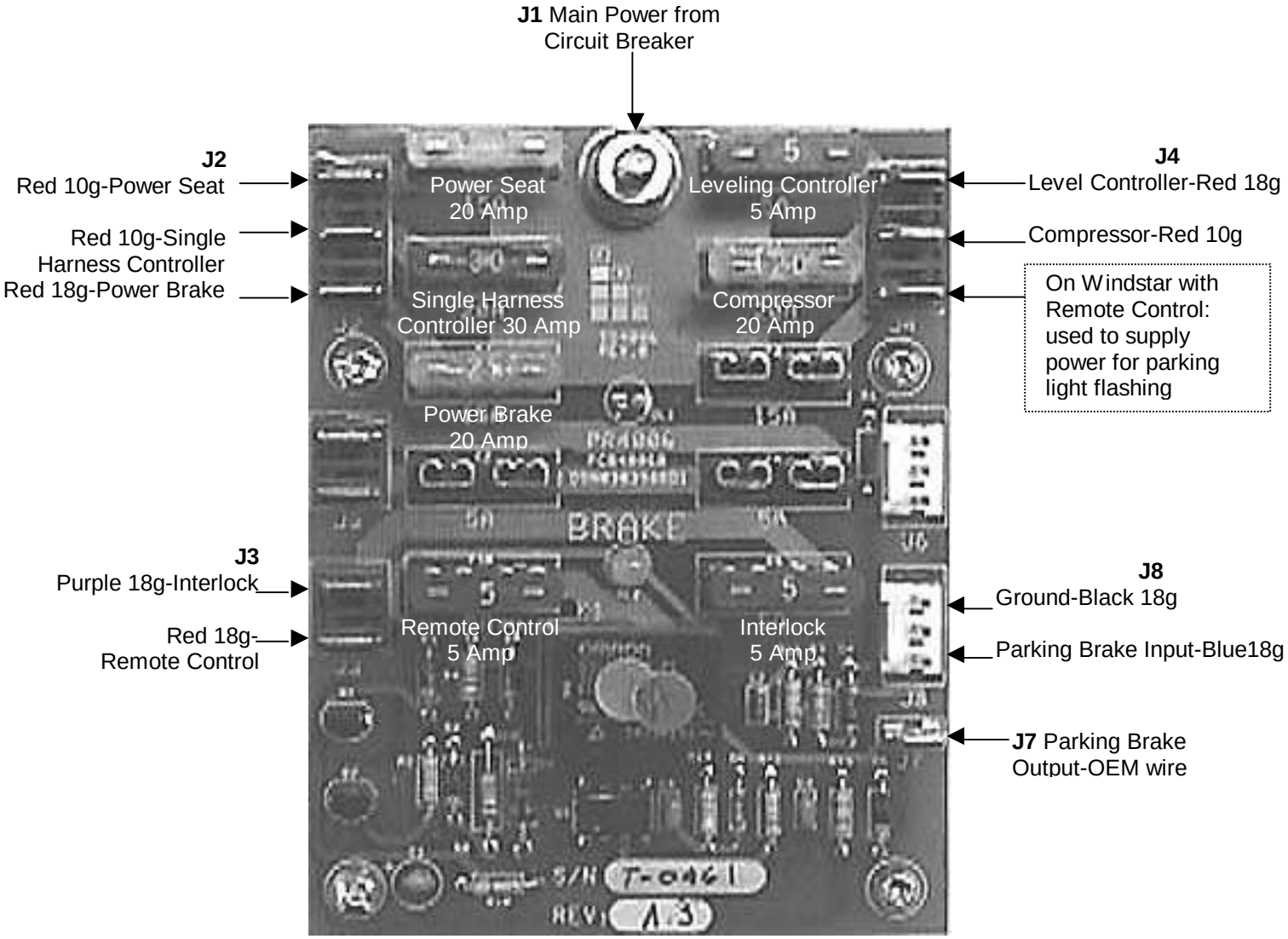
Power Distribution Block 11593- Located under the steering column next to OEM fuse panel. Accessed by removing OEM fuse cover. Provides power to most Activan® components. It is fed 12 volts from the Circuit Breaker.

NOTE
ACTUAL FUSE VALUES MAY DIFFER FROM VALUES PRINTED ON BOARD.



Power Distribution Block #11593

J1	Name on Board	Wire Color	Function Supplied	At Rest	In Action
		Red 8g	Main Power Input	12V at all times	12V at all times

J2	Position On Connector	Wire Color	Function Supplied	At Rest	In Action
	Upper terminal	Red 10g	Power Seat	Constant 12V from Fuse F6	Constant 12V from Fuse F6
	Middle terminal	Red 10g	Single Harness Controller	Constant 12V from Fuse F5	Constant 12V from Fuse F5
	Lower terminal	Red 10g	Power Parking Brake	Constant 12V from Fuse F4	Constant 12V from Fuse F4

J5	Position On Connector	Wire Color	Function Supplied	At Rest	In Action

J3	Position On Connector	Wire Color	Function Supplied	At Rest	In Action
	Upper terminal	Purple 18g	Interlock	Provides 12V when Ignition is off or when Ignition is on and Parking Brake engaged; Fused at Fuse F9	Removes 12V when Ignition is on without Parking Brake engaged; Fused at Fuse F9
	Lower terminal	Red 18g	Remote Control	Constant 12V from Fuse F10	Constant 12V from Fuse F10

J4	Position On Connector	Wire Color	Function Supplied	At Rest	In Action
	Upper terminal	Red 18g	Leveling Controller	Constant 12V	Constant 12V
	Middle terminal	Red 10g	Compressor	Constant 12V	Constant 12V
	Lower terminal				

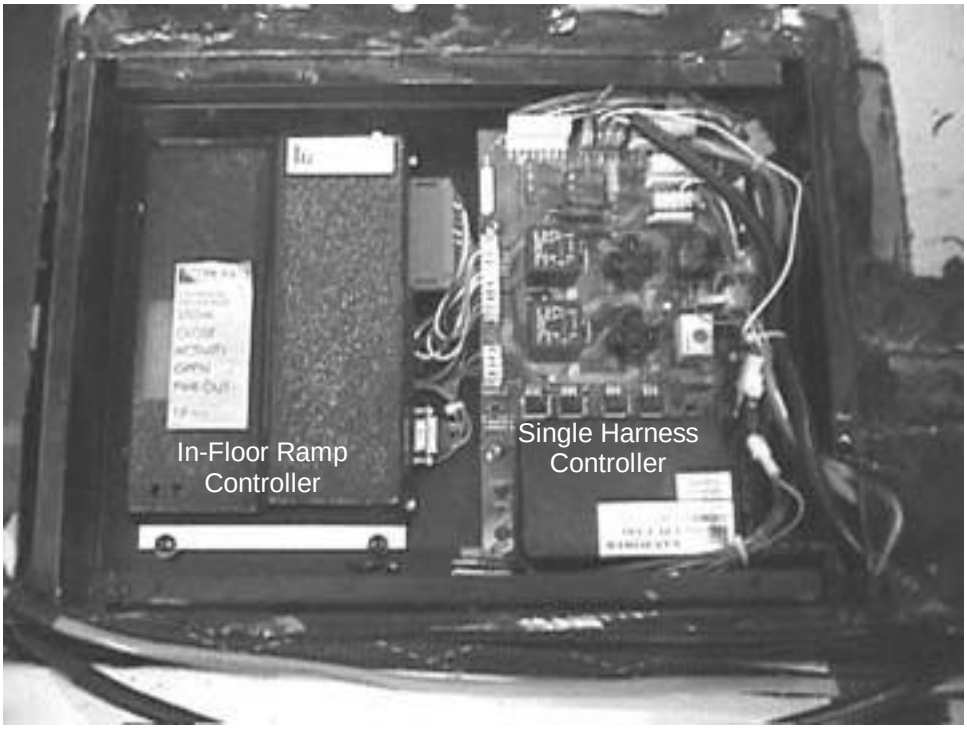
J6	Position On Connector	Wire Color	Function Supplied	At Rest	In Action
	Upper pin				
	Middle pin				
	Lower pin				

J8	Position On Connector	Wire Color	Function Supplied	At Rest	In Action
	Upper pin	Black 18g	Grounded to Chassis	Ground	Ground
	Middle pin				
	Lower pin	Blue 18g	Parking Brake Input	Zero	Ground when Parking Brake engaged

J7	Name On Board	Wire Color	Function Supplied	At Rest	In Action
		Gray/Black	Parking Brake Output to OEM dash light	Zero	Ground when Parking Brake engaged

	Function	Fuse Type	Fuse Rating
F6	Power Seat	ATC blade type automotive	20 Amp
F5	Single Harness Controller	ATC blade type automotive	30 Amp
F4	Power Parking Brake	ATC blade type automotive	25 Amp
F7	*Not Used*	ATC blade type automotive	
F10	Remote Control	ATC blade type automotive	5 Amp
F1	Leveling Controller	ATC blade type automotive	5 Amp
F2	Air Bag Compressor	ATC blade type automotive	20 Amp
F3	*Windstar with Remote Control ONLY*-Parking Light Flashing	ATC blade type automotive	20 Amp
F8	*Not Used*	ATC blade type automotive	
F9	Interlock	ATC blade type automotive	5 Amp

In-Floor Ramp Controller 11584-Installed to operate a Power In-Floor Ramp. The In-Floor Ramp Controller is located under the access panel in the rear cargo area, next to the Single Harness Controller. To access, pull aside flap of carpet, remove (4) Phillips screws, lift panel. In-Floor Ramp Controller is a solid state device used to control the In-Floor Ramp motor. The In-Floor Ramp Controller is interfaced to the Single Harness Controller. The In-Floor Ramp Controller cannot be operated without being interfaced to the Single Harness Controller.

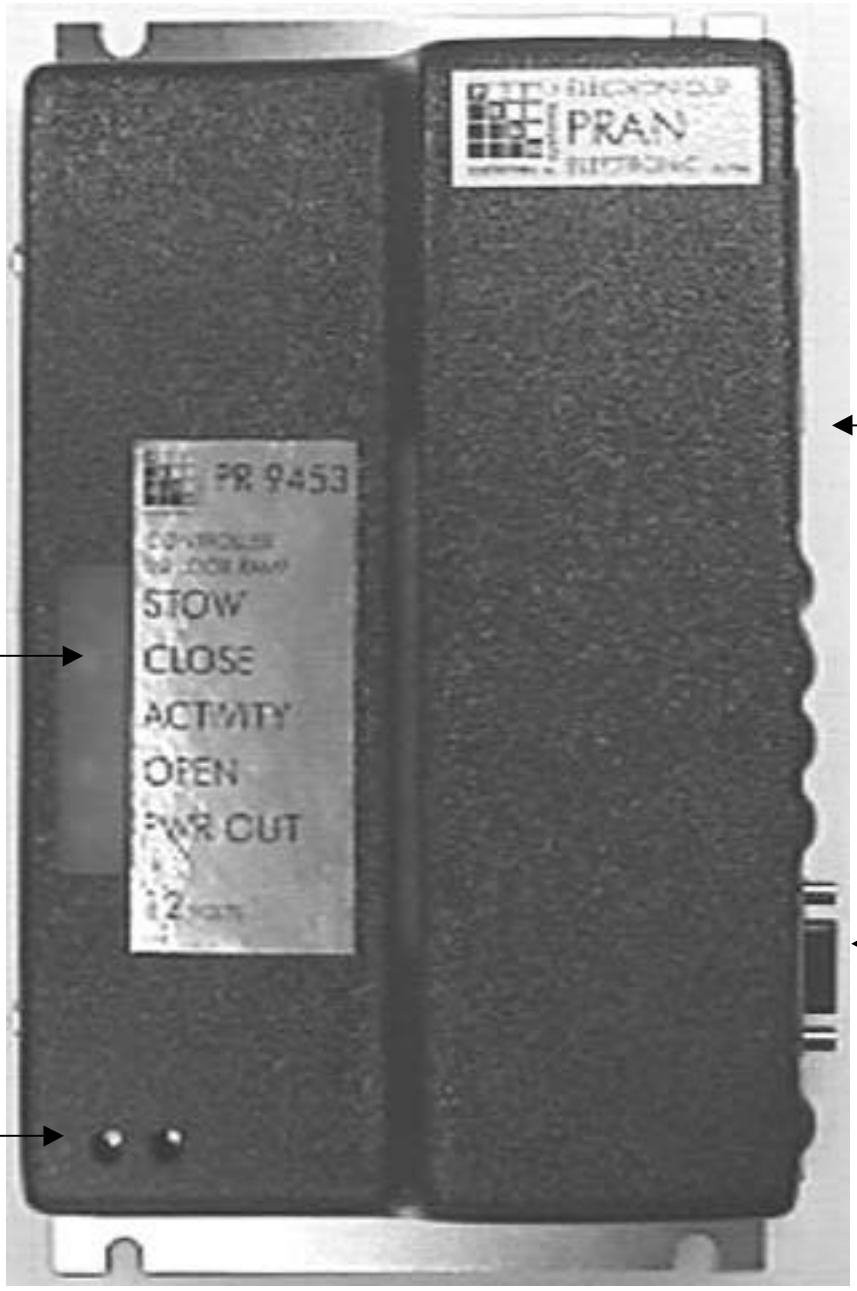


Access Panel in rear of vehicle, with carpet and cover removed.

ⓘ CAUTION
J10 AND **J11** ARE USED TO CONNECT THE IN-FLOOR CONTROLLER. THESE TERMINALS WILL ONLY BE USED IN THE PRESENCE OF AN IN-FLOOR RAMP. DO NOT CONNECT AN IN-FLOOR CONTROLLER, 11584, TO A SINGLE HARNESS CONTROLLER WITH RELAYS INSTALLED ON SOCKETS **K2** AND **K3**. DO NOT INSTALL RELAYS INTO SOCKETS **K2** AND **K3** IF THE SINGLE HARNESS CONTROLLER IS CONNECTED TO AN IN-FLOOR RAMP CONTROLLER

ⓘ CAUTION
TO AVOID DAMAGE TO THE STOW LOCK SOLENOID, DO NOT OPERATE RAMP MORE THAN FIVE CYCLES (CONTINUOUSLY) WITHOUT PROVIDING AT LEAST A 1-MINUTE COOL-DOWN PERIOD.

In-Floor Ramp Controller
11584



In-Floor Ramp Controller
11584

Connectors from Single Harness Controller to In-Floor Ramp Controller

J11-4 Pin Connector		DB9-9 Pin Connector		Wire Color	Function	At Rest	In Action
4	Single Harness Cont.	1	In-Floor Ramp Cont.	Green			
		2					
		3					
		4					
2		5		Blue			
1		6		Red			
		7					
		8					
		9					

J10-10 Pin Connector		Amp 10 Pin Connector		Wire Color	Functions	At Rest	In Action
1-**VCC**	Single Harness Controller	1	In-Floor Ramp Controller	Red	Power to In-Floor Ramp Controller	12 Volts*	12 Volts
2-**VCC**		2		Red	Power to In-Floor Ramp Controller	12 Volts*	12 Volts
3-**GND**		3		Black	Ground to In-Floor Ramp Controller	Ground	Ground
4-**GND**		4		Black	Ground to In-Floor Ramp Controller	Ground	Ground
5-**ROM**		5		White	Ramp Motor Deploys; Tied with other ROM wire	12 Volts	Pulsed ground when motor stows ramp (LED RO** will light during action)
6-**ROM**		6		White	Ramp Motor Deploys; Tied with other ROM wire	12 Volts	Pulsed ground when motor stows ramp (LED RO** will light during action)
7-**RCM**		7		Purple	Ramp Motor Stows; Tied with other RCM wire	12 Volts	Pulsed ground when motor stows ramp (LED RC** will light during action
8-**RCM**		8		Purple	Ramp Motor Stows; Tied with other RCM wire	12 Volts	Pulsed ground when motor stows ramp (LED RC** will light during action
9-**DCLE**		9		White	Signals when ramp is fully Stowed for door operation	Fully Stowed: Ground	Partially Deployed: none
10-**RSI**		10		Red	Ramp Stowed Sensor Power Supply	12 Volts to Ramp Stowed Sensor	12 Volts to Ramp Stowed Sensor

*If Supplemental Relay is disconnected, then the Single Harness Controller should have constant 12 volts power. This should supply the fuse at **F2** to supply the In-Floor Ramp Controller a constant 12 volts on terminals **VCC** at **J10**.

**These LED's are located on the Single Harness Controller.

LED's

NOTE
IF THE SUPPLEMENTAL RELAY BYPASS IS CONNECTED, THE LED's WILL ONLY ILLUMINATE WHILE A SWITCH IS DEPRESSED OR THE VEHICLE IS KNEELING. OTHERWISE POWER WILL BE REMOVED FROM THE SINGLE HARNESS CONTROLLER AND IN-FLOOR CONTROLLER.

In-Floor Ramp Controller
11584

Label	Color	Function
Stow	Green	When the system is powered up, the Stow LED will illuminate when the ramp is fully stowed
Close	Amber	The LED will illuminate while the system is providing power to stow the ramp
Activity	Red	
Open	Amber	The LED will illuminate while the system is providing power to deploy the ramp
Pwr Out	Green	Indicates that the In-Floor Controller is completely powered up; the In-Floor Controller will stay fully powered up for approximately 60 seconds; then it will go into standby mode

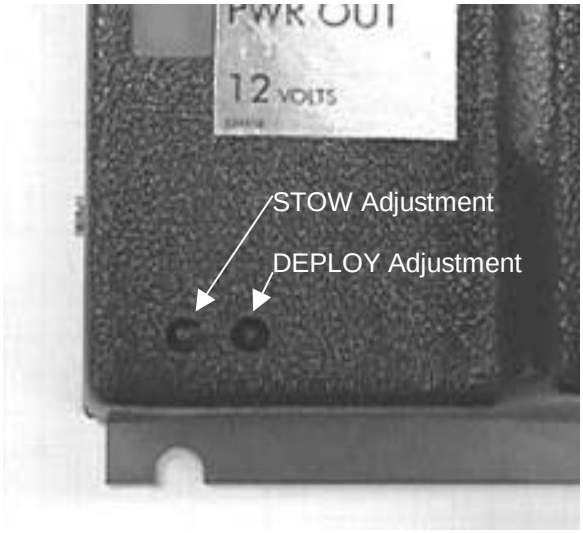
ⓘCAUTION

THE IN-FLOOR RAMP CONTROLLER IS ADJUSTED AT THE TIME OF INSTALLATION. IT SHOULD NOT EVER NEED TO BE ADJUSTED. THE ONLY TIME IT SHOULD BE ADJUSTED IS AFTER THE REPLACEMENT OF A RAMP COMPONENT (I.E. RAMP MOTOR, NEW IN-FLOOR CONTROLLER, ETC.)

In-Floor Ramp Controller Adjustment
The purpose of ramp controller adjustment is to ensure ramp mechanism reliabilty in all operating conditions while maintaining a margin of safety in event of blockage of ramp. In accordance with this requirement, the ramp should be set to highest possible current setting that will not cause personal injury in event of a blockage.

NOTE
THERE ARE TWO DIFFERENT TYPES OF IN-FLOOR RAMP CONTROLLERS IN REGARD TO ADJUSTMENT. ONE IN-FLOOR RAMP CONTROLLER HAS WHITE PLASTIC ADJUSTMENT SCREWS AND THE OTHER HAS BRASS ADJUSTMENT SCREWS.

In-Floor Ramp Controller with White Plastic Adjustment Screws



In-Floor Ramp Controller with White Plastic Adjustment Screws

1. For Deploy direction, the maximum force attained by ramp against a forge-gauge before current limit shuts down, is between 80 lbs. (33 kg.) and 100 lbs. (45 kg.). This will provide for the utmost in safety and reliablity. Any force measureing instrument can be used as long as it contains a follower needle to record maximum force attained. The set up must also contain a spring in series with force measuring instrument to absorb ramp momemtum (elongation: 2 inches/5 cm.=80 lbs./33 kg.). To perform controller deploy force adjustment, follow this procedure:

   A. Using force gauge, test ramp deploy force. If it falls within 80 to 100 lbs.(33-45 kg.), do not adjust. If adjustment is necessary, locate DEPLOY Adjustment Screw.
   B. With a small flathead or Phillips screwdriver, turn adjustment screw **1/8 turn counter-clockwise (CCW)** to INCREASE force or **1/8 turn clockwise (CW)** to DECREASE.
   C. Repeat above two steps. If reliable operation cannot be attained within 80-100 lbs. (33-45 kg.) range, discontinue this procedure and check ramp for mechanical binding.

ⓘ CAUTION
DO NOT CHANGE ADJUSTMENT SCREW MORE THAN 1/8 OF A TURN AT A TIME. MAXIMUM ROTATION OF THE WHITE PLASTIC SCREWS IS 3/4 OF A ROTATION. DO NOT ATTEMPT TO ROTATE THESE ADJUSTMENT SCREWS BEYOND THIS AMOUNT.

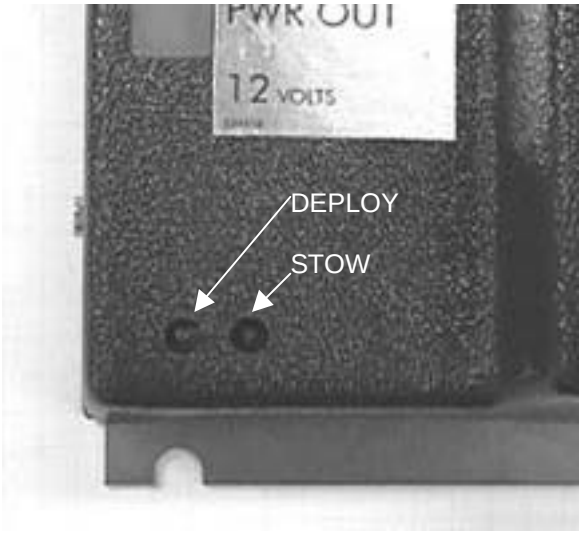
ⓘ CAUTION
TO AVOID DAMAGE TO THE STOW LOCK SOLENOID, DO NOT OPERATE RAMP MORE THAN FIVE CYCLES (CONTINUOUSLY) WITHOUT PROVIDING AT LEAST A 1-MINUTE COOL-DOWN PERIOD.

2. For Stow direction, the adjustment procedure is not adjusted with a force-guage. The current limiting system in stow direction is only that it is triggered when ramp has reached end-of-

travel. The setting should be as high as possible and still accomplish current limit at end-of-travel.

A. Locate STOW ADJUSTMENT SCREW.
B. Using a screwdriver, turn adjustment screw **CCW** until it stops (do not force). Ramp is now set for highest current limit, causing motor to stall instead of unit shutting down.
C. Stow ramp. Keep function selected after ramp has reached end-of-travel.
D. While holding STOW function, turn adjustment screw **CW** until an audible "click" is heard. This indicates current limit has been triggered.
E. Adjust screw an additional **1/16 turn CW**.
F. Deploy ramp approximately 6 inches (15-16 cm.).
G. Fully stow ramp and observe ramp pull against enclosure back-stop then visibly "relax" as current limit shuts off power to motor.

In-Floor Ramp Controller with Brass Adjustment Screws



1. Deploy Force Adjustment for Controller with Brass Adjustment Screws: For Deploy direction, the maximum force attained by ramp against a forge-gauge before current limit shuts down, is between 80 lbs. (33 kg.) and 100 lbs. (45 kg.). This will provide for the utmost in safety and reliablity. Any force measureing instrument can be used as long as it contains a follower needle to record maximum force attained. The set up must also contain a spring in series with force measuring instrument to absorb ramp momemtum (elongation: 2 inches/5 cm.=80 lbs./33 kg.). To perform controller deploy force adjustment, follow this procedure:

   A. Using a force-gauge, test ramp deploy force. If it is within 80-100 lbs. (33-45 kg.), do not adjust. If adjustment is necessary, locate DEPLOY ADJUSTMENT SCREW.
   B. With a small flathead screwdriver, turn adjustment screw no more than **5 turns counter-clockwise (CCW)** to DECREASE force or no more than 5 turns **clockwise (CW)** to INCREASE force.
   C. Repeat above two steps. If reliable operation cannot be attained withing 80-100 lbs. (33-45 kg.) of range, discontinue this procedure and check ramp for mechanical binding.

ⓘ CAUTION
TO AVOID DAMAGE TO THE STOW LOCK SOLENOID, DO NOT OPERATE RAMP MORE THAN FIVE CYCLES (CONTINUOUSLY) WITHOUT PROVIDING AT LEAST A 1-MINUTE COOL-DOWN PERIOD.

ⓘ CAUTION
DO NOT CHANGE ADJUSTMENT SCREW MORE THAN 5 TURNS AT A TIME.

2. Stow Force Adjustment for Controller with Brass Adjustment Screws: The current limiting system in stow direction is set so that it is activated only when the ramp has reached its end-of-travel. To perform controller stow force adjustment, follow this procedure:

   A. Locate STOW ADJUSTMENT SCREW.
   B. With a small flathead screw driver, turn adjustment screw **CW 20 turns.** Ramp is now set for highest current limit, causing motor to stall instead of unit shutting down.

NOTE

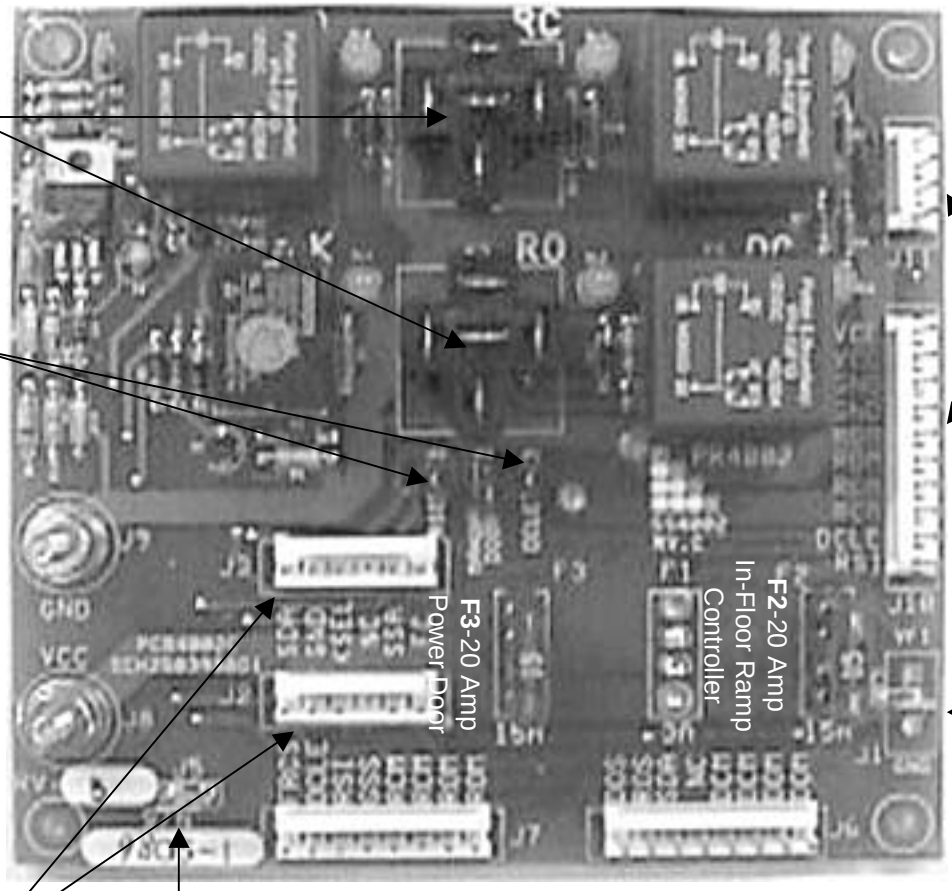
BRASS ADJUSTMENT SCREWS MAY TURN AN INDEFINATE AMOUNT OF TURNS. PAY CAREFUL ATTENTION TO THE AMOUNT OF TURNS YOU COMPLETE. TWENTY TURNS ARE THE MAXIMUM AMOUNT NECESSARY TO REACH THE MINIMUM OR MAXIMUM SETTING.

   C. Stow ramp. Keep function selected after ramp has reached end-of-travel.
   D. While holding stow function, turn adjustment screw **CCW** unitil an audible “click” is heard. This indicates current limit has been triggered.
   E. Adjust screw an additional **two turns CCW .**
   F. Run another full cycle to make sure mechanical binding will not trigger current limit. If ramp cannot be fully stowed after adjustment, find reason for binding.
   G. Fully stow ramp and observe ramp pull against enclosure back-stop, then visibly “relax” as current limit shuts off power to motor.

Windstar

Single Harness Controller 10502- Located under the access panel in rear of van cargo area. To access, pull aside flap of carpet, remove (4) Phillips screws, lift panel. Major component interface of system. Takes input from switches; directly controls power door and power ramp.

NOTE
ACTUAL FUSE VALUES MAY DIFFER FROM VALUES PRINTED ON BOARD.



Single Harness Controller
10502

J1	Name on Board	Wire Color	Function	At Rest	In Action
	Interlock	Purple	Allows system to operate	Ground	12V when ignition is off or ignition is on and parking brake on

J5	Name on Board	Wire Color	Function	At Rest	In Action
	Kneel	White	Sends signal to Leveling Controller	Ground	12V when operating door open and switch is set for kneel (LED **K** will light during action)

Switches

J2 J3	Name on Board	Wire Color	Function	At Rest	In Action
	FC	Red	Power output to switches fed from **J1**	12V	12V
	SSA	Brown	Close/Stow	Ground	12V when switch is depressed
	NC	Not in use	Not in use	Not in use	Not in use
	KSEL	White	Signal from switch to kneel	Ground	12V when switch is set to allow kneeling and vehicle lift is operated
	GND	Green	Ground for light displaying air compressor in use	Ground	Ground
	SDA	Black	Open/Deploy	Ground	12V when switch is depressed

J8	Name on Board	Wire Color	Function	At Rest	In Action
	VCC	Red 10g	12V input for system	Ground	Is supplied 12V when switch is in use or leveling controller is active*

J9	Name on Board	Wire Color	Function	At Rest	In Action
	GND	Black 10g	Ground for system	Ground	Ground

*If Supplemental Relay Bypass is installed; otherwise VCC will be supplied 12 volts constantly.

Power Door Harness

J6	Name on Board	Wire Color	Function	At Rest	In Action
	DOS	White	Signal switch n/c	Door closed fully: continuity to brown wire-SDA*	Door open partially: continuity to brown wire-SDA*
	ROS	Green	Signal switch n/o allows ramp to deploy	Door open partially: no continuity to brown wire-SDA*	Door open fully (pin switch depressed): continuity to brown wire-SDA*
	SDA	Brown	Signal switch common		
	NC	Not in use	Not in use	Not in use	Not in use
	DCM	Brown	Door motor close; Tied with other DCM wire	Ground	12V when motor closes door (LED DC will light during action)
	DCM	Brown	Door motor close; Tied with other DCM wire	Ground	12V when motor closes door (LED DC will light during action)
	DOM	White	Door Motor open; Tied with other DOM wire	Ground	12V when motor opens door (LED DO will light during action)
	DOM	White	Door Motor open; Tied with other DOM wire	Ground	12V when motor opens door (LED DO will light during action)

*To accurately measure switch, it is necessary to place ramp in desired position. Then unplug harness and check for continuity. Failure to remove plug will give inaccurate reading and may possibly allow for erroneous door or ramp operation.

ⓘCAUTION
J10 AND **J11** ARE USED TO CONNECT THE IN-FLOOR CONTROLLER. THESE TERMINALS WILL ONLY BE USED IN THE PRESENCE OF AN IN-FLOOR RAMP. DO NOT CONNECT AN IN-FLOOR CONTROLLER, 11584, TO A SINGLE HARNESS CONTROLLER WITH RELAYS INSTALLED ON SOCKETS **K2** AND **K3**. DO NOT INSTALL RELAYS INTO SOCKETS **K2** AND **K3** IF THE SINGLE HARNESS CONTROLLER IS CONNECTED TO AN IN-FLOOR RAMP CONTROLLER

Power Ramp Harness

J7	Name on Board	Wire Color	Function	At Rest	In Action
	FRCS	Brown/ Orange	Signals when ramp is Deployed	Fully Stowed: Ground	Partially Deployed: Ground
	DCLE	Brown	Signals when ramp is fully Stowed to allow for door operation	Fully stowed: Ground	Partially Deployed: none
	RSI	Green	Ramp Stowed Sensor power	12 Volts to Ramp Sensor	12 Volts to Ramp Sensor
	GSS	Red/Black	Grounded input to allow for ramp operation	Ground	Ground
	RCM	Black	Ramp motor stows; Tied with other RCM wire	12 Volts	Pulsed ground when motor stows ramp (LED **RO** will light during action)
	RCM	Black	Ramp motor stows; Tied with other RCM wire	12 Volts	Pulsed ground when motor stows ramp (LED **RO** will light during action)
	ROM	White	Ramp motor deploys; Tied with other ROM wire	12 Volts	Pulsed ground when motor stows ramp (LED **RC** will light during action)
	ROM	White	Ramp motor deploys; Tied with other ROM wire	12 Volts	Pulsed ground when motor stows ramp (LED **RC** will light during action)

*To accurately measure switch, it is necessary to place ramp in desired position. Then unplug harness and check for continuity. Failure to remove plug will give inaccurate reading and may possibly allow for erroneous door or ramp operation.

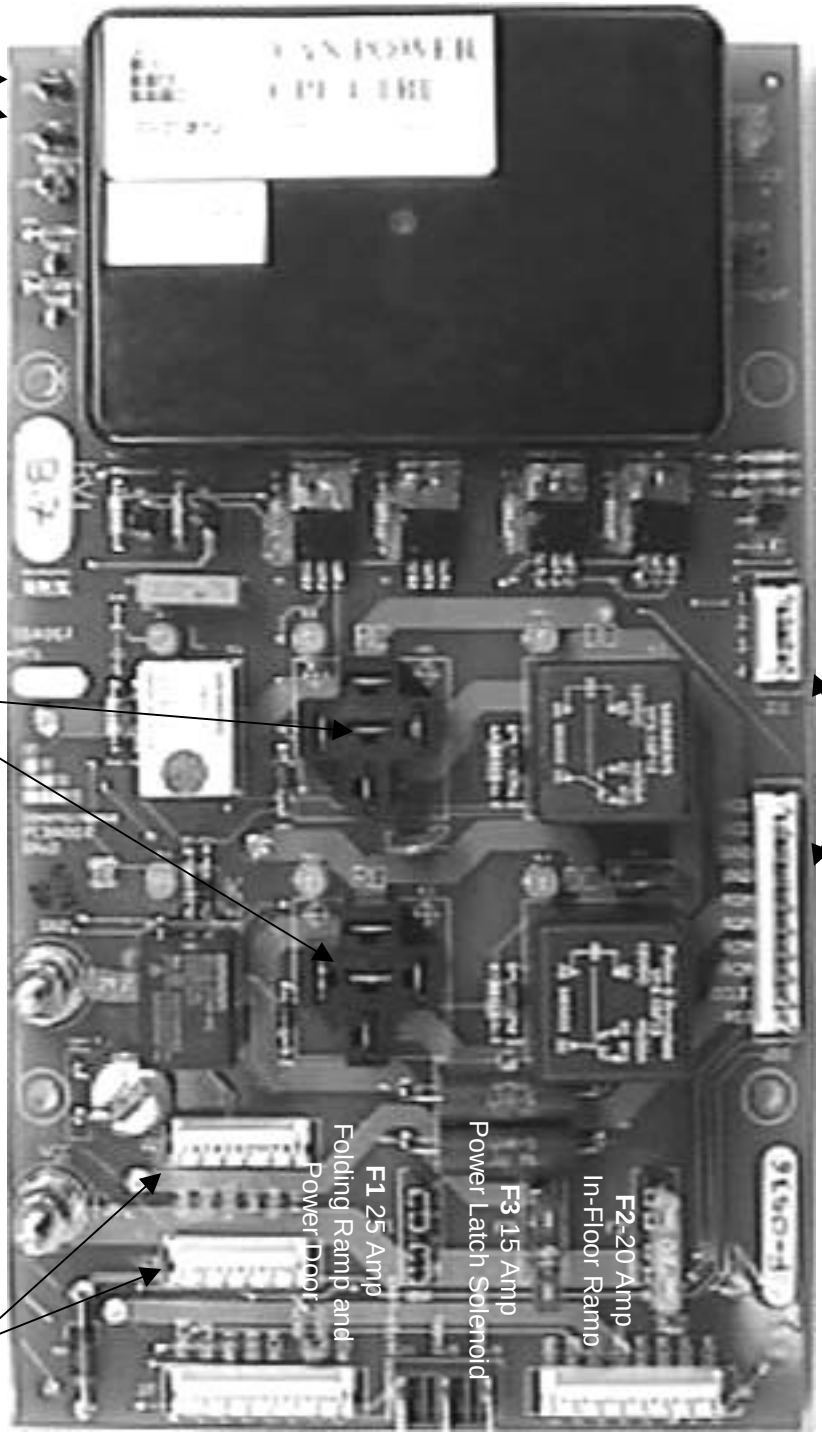
**Ramp may be manually swung away by depressing yellow lever. Doing so will allow door to rotate on the opposite axis. Ramp must be completely shut to allow for power operation.

Fuses

	Function	**Fuse Type**	**Fuse Rating**
F1	Not in use	Not in use	Not in use
F2	In-Floor Ramp Controller	ATC blade type automotive	20 Amp
F3	Door Open and Folding Ramp	ATC blade type automotive	20 Amp

Caravan

Single Harness Controller 11588- Located under the access panel in rear of van cargo area. To access, pull aside flap of carpet, remove (4) Phillips screws, lift panel. Major component interface of system. Takes input from switches; directly controls power door and power ramp.



Jumpers **JP1** and **JP2** (Closed for Folding Ramp; Open for In-Floor Ramp)

K2 and **K4**: relay sockets (only used with Folding Ramp; In-Floor Ramp uses relays inside In-Floor Controller)

J10 and **J11** Connected to In-Floor Ramp Controller (If equipped with an In-Floor Ramp)

GND Ground

VCC 12 Volts

J2 and **J3** To Switches

Single Harness Controller
11588

Fuses

	Function	Fuse Type	Fuse Rating
F1	Power Folding Ramp and Power Door Opener	ATC blade type automotive	25 Amp
F3	Power Door Latch	ATC blade type automotive	15 Amp
F2	In-Floor Ramp Controller and In-Floor Ramp	ATC blade type automotive	20 Amp

J1	Name on Board	Wire Color	Function	At Rest	In Action
	Interlock	Purple	Allows system to operate	Ground	12V when ignition is off or ignition is on and parking brake on

J5	Name on Board	Wire Color	Function	At Rest	In Action
	Kneel	White	Sends signal to Leveling Controller	Ground	12V when operating door open and switch is set for kneel (LED K will light during action)

J4	Name on Board	Wire Color	Function	At Rest	In Action
	Door Lock	Green	Unlocks OEM power door lock	12V	While attempting to open door, will go to ground for a short time unlock OEM power door locks

Switches

J2 J3	Name on Board	Wire Color	Function	At Rest	In Action
	FC	Red	Power output to switches fed from J1	12V	12V
	SSA	Brown	Close/Stow	Ground	12V when switch is depressed
	NC	Not in use	Not in use	Not in use	Not in use
	KSEL	White	Signal from switch to kneel	Ground	12V when switch is set to allow kneeling and vehicle lift is operated
	GND	Green	Ground for Dash light displaying low air pressure	Ground	Ground
	SDA	Black	Open/Deploy	Ground	12V when switch is depressed

J8	Name on Board	Wire Color	Function	At Rest	In Action
	VCC	Red 10g	12V input for system	Ground	Is supplied 12V when switch is in use or leveling controller is active

J9	Name on Board	Wire Color	Function	At Rest	In Action
	GND	Black 10g	Ground for system	Ground	Ground

Power Door Harness

J6	Name on Board	Wire Color	Function	At Rest	In Action
	DOS	White	Signal switch n/c	Door closed fully: continuity to brown wire-SDA*	Door open partially: continuity to brown wire-SDA*
	ROS	Green	Signal switch n/o allows ramp to deploy	Door open partially: no continuity to brown wire-SDA*	Door open fully (pin switch depressed): continuity to brown wire-SDA*
	SDA	Brown	Signal switch common		
	LTCH	Yellow	Latch open function	Ground	When opening door: will be supplied 12V to actuate solenoid (LED **L** will light during action)
	DCM	Brown	Door motor close; Tied with other **DCM** wire	Ground	12V when motor closes door (LED **DC** will light during action)
	DCM	Brown	Door motor close; Tied with other **DCM** wire	Ground	12V when motor closes door (LED **DC** will light during action)
	DOM	White	Door Motor open; Tied with other **DOM** wire	Ground	12V when motor opens door (LED **DO** will light during action)
	DOM	White	Door Motor open; Tied with other **DOM** wire	Ground	12V when motor opens door (LED **DO** will light during action)

*To accurately measure switch, it is necessary to place ramp in desired position. Then unplug harness and check for continuity. Failure to remove plug will give inaccurate reading and may possibly allow for erroneous door or ramp operation.

Power Ramp Harness

J7	Name on Board	Wire Color	Function	At Rest	In Action
	FRCS	Brown/ Orange	Signals when ramp is Deployed	*Folding Ramp* Fully open: continuity to green wire-RSI*	*Folding Ramp* Partially open: continuity to green wire-RSI*
				In-Floor Ramp Fully stowed: Ground	*In-Floor Ramp* Partially Open: Ground
	DCLE	Brown	Signals when ramp is fully Stowed to allow for door operation	*Folding Ramp* Fully stowed: continuity to green wire-RSI*	*Folding Ramp* Partially open: no continuity to green wire-RSI*
				In-Floor Ramp Fully stowed: Ground	*In-Floor Ramp* Partially Open: none
	RSI	Green	Signal switch common	*Folding Ramp*	*Folding Ramp*
				In-Floor Ramp 12 volts to Ramp Stowed Sensor	*In-Floor Ramp* 12 volts to Ramp Stowed Sensor
	GSS	Red/Black	Signals when ramp is closed**	*Folding Ramp* Fully closed: continuity to ground*	*Folding Ramp* Partially open: no continuity to ground*
				In-Floor Ramp Ground	*In-Floor Ramp* Ground
	RCM	Black	Ramp motor stows; Tied with other RCM wire	*Folding Ramp* Ground	*Folding Ramp* 12V when motor stows ramp (LED **RC** will light during action)
				In-Floor Ramp 12 volts	*In-Floor Ramp* Pulsed Ground (LED **RO** will light during action)
	RCM	Black	Ramp motor stows; Tied with other RCM wire	*Folding Ramp* Ground	*Folding Ramp* 12V when motor stows ramp (LED **RC** will light during action)
				In-Floor Ramp 12 volts	*In-Floor Ramp* Pulsed Ground (LED **RO** will light during action)

J7	Name on Board	Wire Color	Function	At Rest	In Action
	ROM	White	Ramp motor deploys; Tied with other ROM wire	*Folding Ramp* Ground	*Folding Ramp* 12V when motor deploys ramp (LED **RO** will light during action)
				In-Floor Ramp 12 volts	*In-Floor Ramp* Pulsed Ground (LED **RC** will light during action)
	ROM	White	Ramp motor deploys; Tied with other ROM wire	*Folding Ramp* Ground	*Folding Ramp* 12V when motor deploys ramp (LED **RO** will light during action)
				In-Floor Ramp Ground	*Folding Ramp* 12V when motor deploys ramp (LED **RO** will light during action)

*To accurately measure switch, it is necessary to place ramp in desired position. Then unplug harness and check for continuity. Failure to remove plug will give inaccurate reading and may possibly allow for erroneous door or ramp operation.

**Ramp may be manually swung away by depressing yellow lever. Doing so will allow door to rotate on the opposite axis. Ramp must be completely shut to allow for power operation.

ⓘCAUTION
J10 AND **J11** ARE USED TO CONNECT THE IN-FLOOR CONTROLLER. THESE TERMINALS WILL ONLY BE USED IN THE PRESENCE OF AN IN-FLOOR RAMP. DO NOT CONNECT AN IN-FLOOR CONTROLLER, 11584, TO A SINGLE HARNESS CONTROLLER WITH RELAYS INSTALLED ON SOCKETS **K2** AND **K4**. DO NOT INSTALL RELAYS INTO SOCKETS **K2** AND **K4** IF THE SINGLE HARNESS CONTROLLER IS CONNECTED TO AN IN-FLOOR RAMP CONTROLLER

LED's

NOTE
IF THE SUPPLEMENTAL RELAY BYPASS IS CONNECTED, THE LED's WILL ONLY ILLUMINATE WHILE A SWITCH IS DEPRESSED OR THE VEHICLE IS KNEELING. OTHERWISE POWER WILL BE REMOVED FROM THE SINGLE HARNESS CONTROLLER AND IN-FLOOR CONTROLLER.

Single Harness Controller
11588

Label	Color	Function
Door Locked	Green	Illuminates when system sends signal to unlock OEM door locks (to open side door)
L	Green	Illuminates when system sends signal to actuator to unlatch door
DO	Green	Illuminates when system sends power to open door
DC	Green	Illuminates when system sends power to close door
RO	Green	*Folding Ramp* Illuminates when system sends power to deploy ramp
		In-Floor Ramp Illuminates when system sends power to stow ramp
RC	Green	*Folding Ramp* Illuminates when system sends power to stow ramp
		In-Floor Ramp Illuminates when system sends power to deploy ramp
K	Green	Illuminates when system sends signal to kneel
Over Current	Red	Illuminates when system stalls or at the end of the ramp stow cycle

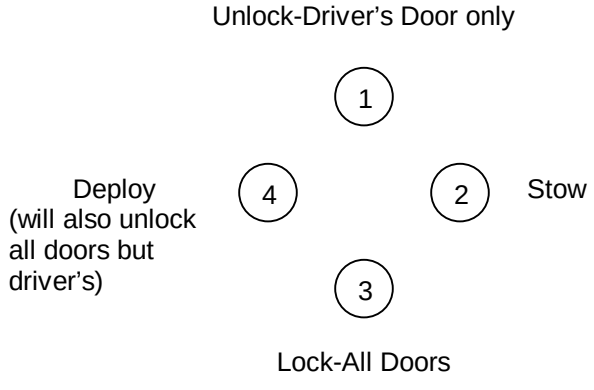
Remote Control 12782-Located behind the center console, underneath the Dash Controls. Receives RF signals from Remote Controls. Allows for control of Power Door and Power Ramp. Also allows for control of OEM power door locks, if equipped. Receives power from Power Distribution Block. Wired in parallel to Dash Mounted Controls. Activates parking lights to notify user of operation of power door locks. Operates only while Interlock is disengaged (Ignition off /ignition on and parking brake on).

Remote Control
12782

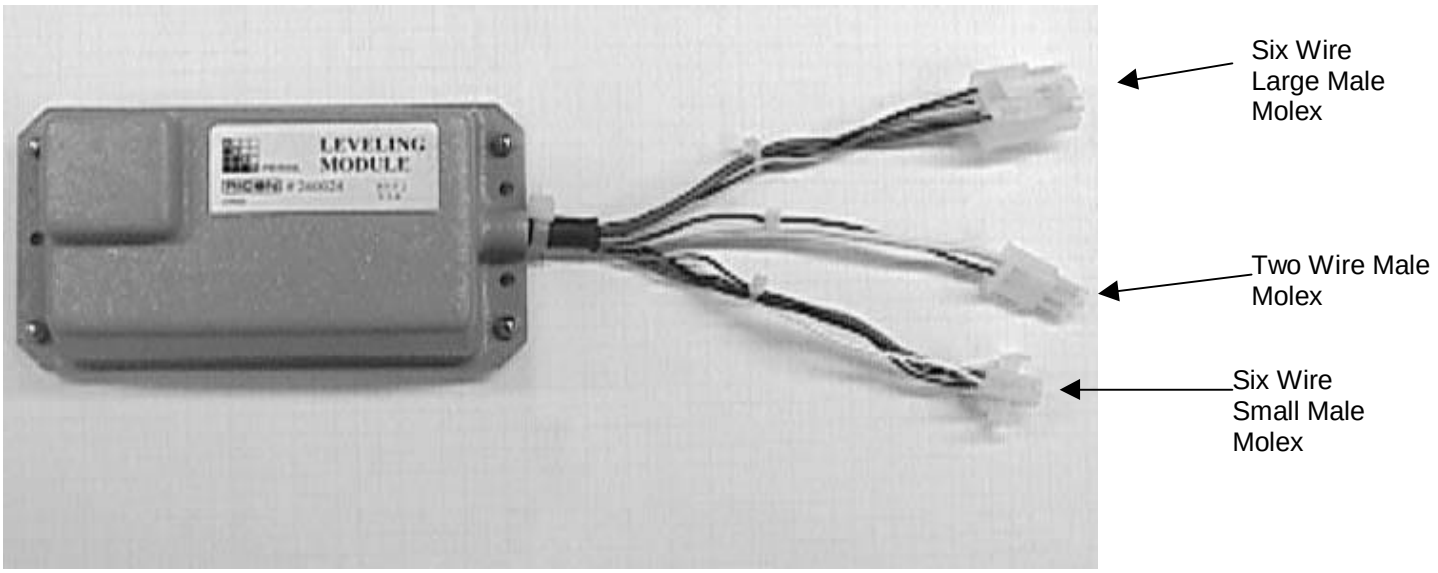
Small 6 Pin Connector	Wire Color	Function	At Rest	In Action
Left Side				
No Pin				
	Black	Ground	Ground	Ground
Right Side	Red	12 volt supply from Power Distribution Block	12 volts positive; no power when Interlock is engaged	12 volts positive

7 Pin Connector	Wire Color	Function	At Rest	In Action
Left Side				
	Orange	Close/Stow	Ground	12 volts
No Pin				
	Black	Open/Deploy	Ground	12 volts
Right Side	Red	Power common for switches; 12 volts positive from Interlock	12 volts from Interlock; Ignition is OFF or Parking brake is ON	12 volts from Interlock; Ignition is OFF or Parking brake is ON

5 Pin Connector	Wire Color	Function	At Rest	In Action
Left side	Black	Ground	Ground	Ground
	Green/Red	Parking Light output while locking and unlocking	None	Ground pulse while locking/ unlocking (2 pulses/unlock; 1 pulse/lock)
	Yellow	Lock output to OEM power locks	12 volts	Ground
	Green	Unlock output to OEM power locks	12 volts	Ground
Right side	Black	Ground	Ground	Ground



Leveling Controller 260024-Located behind the driver's knee bolster, underneath the steering wheel. Controls the functions of the air bag rear suspension. Interprets signals from Leveling Sensor, a pressure switch, and ignition to maintain a level ride height of the vehicle. Controls the inflation and deflation of the rear air bags. Can be linked to the Single Harness Controller and Dash Switches to facilitate "Kneeling" feature. Under normal driving conditions, keeps vehicle at near constant ride height.



Leveling Controller
260024

Six wire Large Molex	Wire Color	Function	At Rest	In Action
	Red 10g	Compressor Input	12 volts positive	12 volts positive
	Red 18g	Controller Input	12 volts positive	12 volts positive
	Purple 18g	Ignition sense	Ground	12 volts when ignition is ON
	Yellow 18g	Low Pressure Warning Light at dash	Ground	12 volts when ignition is on and there is low pressure in the Air Bags
	Black 18g	Ground	Ground	Ground

Two wire Molex	Wire Color	Function	At Rest	In Action
	Yellow 10g	Compressor/*Left and Right Air Valve*	Ground	12 volts to operate compressor
	Brown 18g	Vent valve/*Left and Right Air Valve*	Ground	12 volts to Vent Valve; allows compressor to take in air

Six wire Small Molex	Wire Color	Function	At Rest	In Action
	White	Kneeling request	Ground	12 volts from Single Harness Controller; initiates kneeling function
	Orange	25 PSI Pressure Switch	Ground when pressure is between 0 and 25 PSI	Opens when pressure inside Air Bags is above 25 PSI
	Brown	40 PSI Pressure Switch	Open when pressure is between 0 and 40 PSI	Grounds when pressure inside Air Bags is above 40 PSI
	Blue	Above Ride Height signal from Ride Height Sensor	Open when not engaged	Ground
	Green	Below Ride Height signal from Ride Height Sensor	Open when not engaged	Ground
	Red	Height Sensor power supply		12 volts positive

Height Sensor NS5304-Located on top of the rear axle. Connects to the axle and the frame of the vehicle. Maintains a constant ride height, adjusting for variations in cargo weight. Allows for automated raising of the vehicle after the vehicle is kneeled.

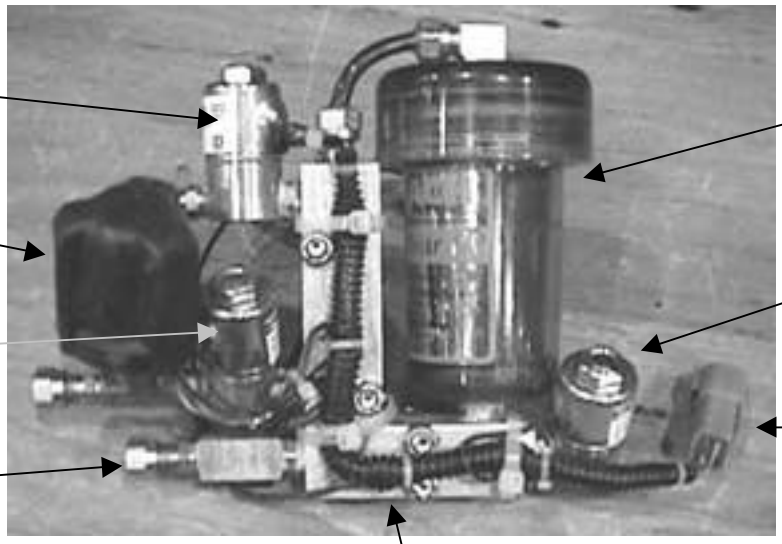
Water resistant harness connector to Leveling Controller

Height Sensor
NS5304

Wire Color	Vehicle is proper height	Vehicle is too high	Vehicle is too low
Red	Always 12 volts		
Black	Always ground		
Blue	Ground*	Open*	Ground*
Green	Ground*	Ground*	Open*

*These are transistorized outputs. To accurately measure the outputs: connect the red wire of a Multi-Meter to constant 12 volts. Connect the black wire of the Multi-Meter to the wire you wish to test (i.e. blue or green) if the sensor is proper height: then both wires will read 12 volts on the Multi-Meter. If the vehicle is too high: the green wire will read 12 volts and the blue wire will read around 7.5 volts (depending on the meter used). If the vehicle is too low: the blue wire will read 12 volts and the green wire will read around 7.5 volts (depending on the meter).

Pneumatic Valve Assembly 11825 Caravan; 11974 Windstar-Located underneath the hood, mounted on the radiator core support by the battery. Receives signals from Leveling Sensor, contains the main valve body, Air Dryer, Vent Valve, Manual Air Valve, Pressure Switch, and Left and Right Airbag Valve. Controls the air pressure going to each Air Bag in rear suspension.



Manual Air Valve-Used to manually inflate air bag suspension. Cannot be used to check air pressure in system (due to Airbag valves isolating each air bag from the main manifold). Cannot be used to drain air from system.

ⓘCAUTION
DO NOT OVERPRESSURIZE THE SYSTEM USING THE MANUAL AIR VALVE. THE SYSTEM IS NOT DESIGNED FOR HIGH PRESSURES. IN ADDITION, THE VALVES WILL FAIL TO OPEN IF THE LINE PRESSURE IS 100 PSI OR ABOVE.

Manifold Body-Main unit that all valves integrate with.

Left Air Bag Valve-Allows for both the filling and emptying of the Left Air Bag. Maintains separate pressure from Right Air Bag during vehicle movement, thus reducing swaying motion.

Air Pressure Switch-Sends a signal to the leveling controller to maintain a minimum pressure of approximately 25 PSI (this allows for complete kneeling while minimizing the time necessary to re-pressurize the air bags); illuminating the dash light to indicate that air pressure is not sufficient for an acceptable ride.

Right Air Bag Valve-Allows for both filling and emptying of the Right Air Bag. Maintains separate pressure from Left Air Bag during vehicle movement, thus preventing swaying motion.

Air Inlet from Compressor-Intake from the compressor.

Air Dryer-Small container filled with silica gel granules. It main purpose is to remove moisture from the air pumped by the Compressor.

Vent Valve-Allows for letting out air from the manifold to lower system pressure. This valve must be activated with the Left Air Bag Valve and the Right Air Bag Valve to release air from the Air Bags themselves.

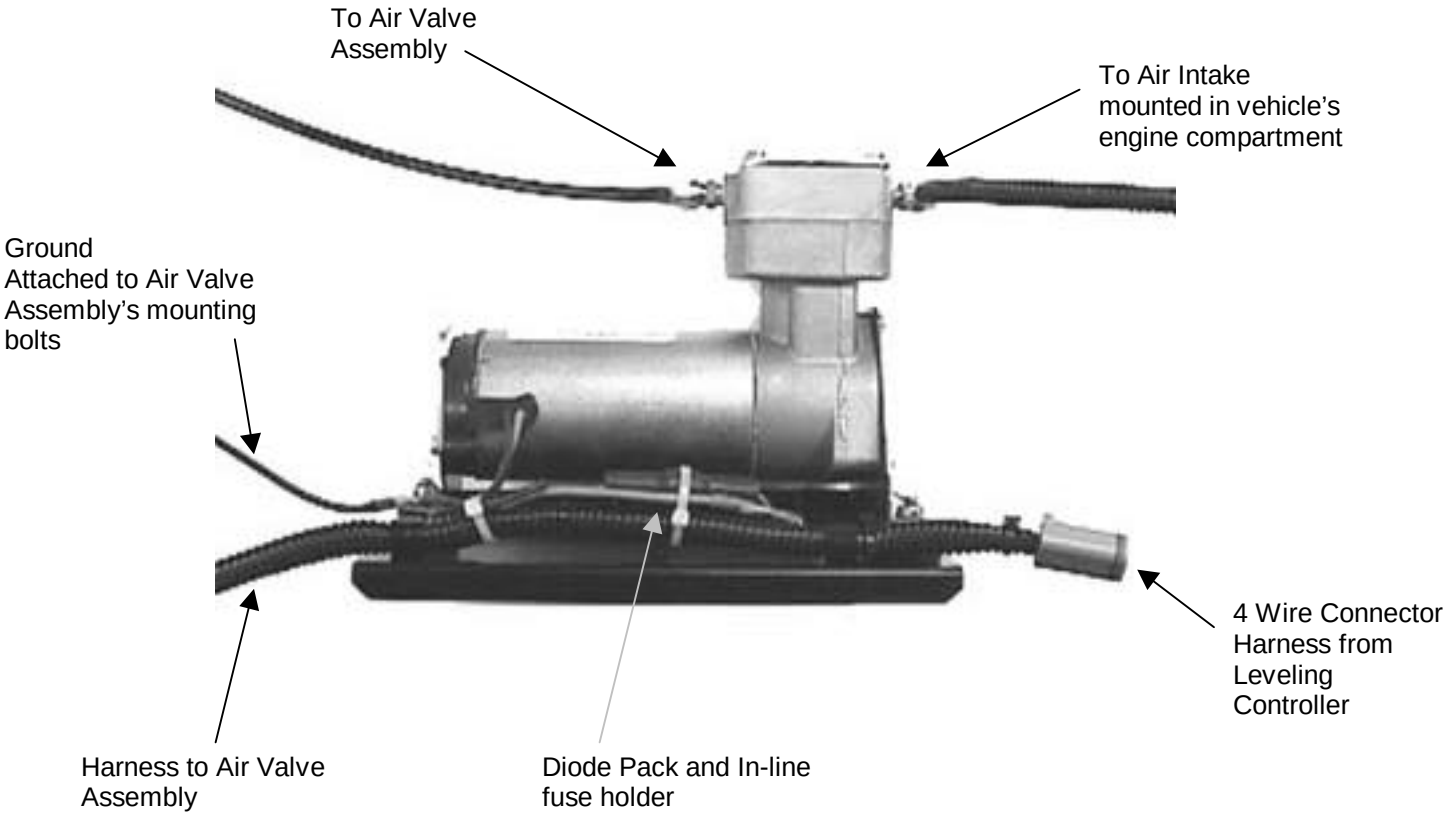
4 Wire Connector	Wire Color	Function	At Rest	In Action
1	Yellow/Black	Opens the Right and Left Air Bag Valve	Continuity to ground	12 Volts positive to fill system and to drain system
2	Brown	Opens the Vent Valve	Continuity to ground	12 Volts positive to drain system
3	Orange	Detects air pressure from 0-25 PSI	0-25 PSI continuity to ground	Above 25 PSI no continuity to ground
4	Brown/Yellow	Detects air pressure from 0-40 PSI	0-40 PSI no continuity	40 PSI and higher-continuity to ground

NOTE
VALVE ASSEMBLY IS GROUNDED AT MOUNTING BRACKET ALONG WITH COMPRESSOR

Compressor Assembly 11830 Caravan; 11975 Windstar-Located inside the wheel well on the driver's side. It is mounted on a steel bracket behind the plastic wheel well guard. Part of the assembly is the harness that goes from the Leveling Controller to the Air Valve Assembly. The harness contains the diode pack which controls the activation of the Left and Right Air Valves. There is also a 4-amp fuse that goes between the Compressor power and the Diode Pack.

NOTE

THE COMPRESSOR IS THERMALLY PROTECTED. IF USED FOR EXTENDED PERIODS OF TIME (FOR EXAMPLE: IN THE EVENT OF A LEAK IN THE SYSTEM, CAUSING PROLONGED ATTEMPTS TO PRESSURIZE THE SYSTEM) IT WILL SHUT OFF UNTIL THE UNIT COOLS TO A SAFE OPERATING TEMPERATURE.



From Leveling Controller (Closest to Compressor)

	Wire Color	Function	At Rest	In Action
1	Yellow 14g	Send power to Compressor to operate and to Diode pack which opens Right and Left Air Bag Valves	Continuity to ground	12 Volts positive
2	Brown	Opens The Vent Valve and sends power to Diode pack which opens Right and Left Air Bag Valves	Continuity to ground	12 Volts positive
3	Orange	Detects air pressure in the bags from 0-25 PSI	0-25 PSI continuity to ground	Above 25 PSI no continuity to ground
4	Brown/Yellow	Detects air pressure in the bags from 0-40 PSI	0-40 PSI no continuity to ground	40 PSI and higher, continuity to ground

To Air Valve Assembly

	Wire Color	Function	At Rest	In Action
1	Yellow/Black	Opens the Right and Left Air Bag Valve to fill the bags and to empty the bags	Continuity to ground	12 Volts positive to fill air bags and to drain bags
2	Brown	Opens the Vent Valve to drain the bags	Continuity to ground	12 Volts positive to drain air bags
3	Orange	Detects air pressure in the bags from 0-25 PSI	0-25 PSI continuity to ground	Above 25 PSI no continuity to ground
4	Brown/Yellow	Detects air pressure in the bags from 0-40 PSI	0-40 PSI no continuity to ground	40 PSI and higher, continuity to ground

Circuit Diagrams 2

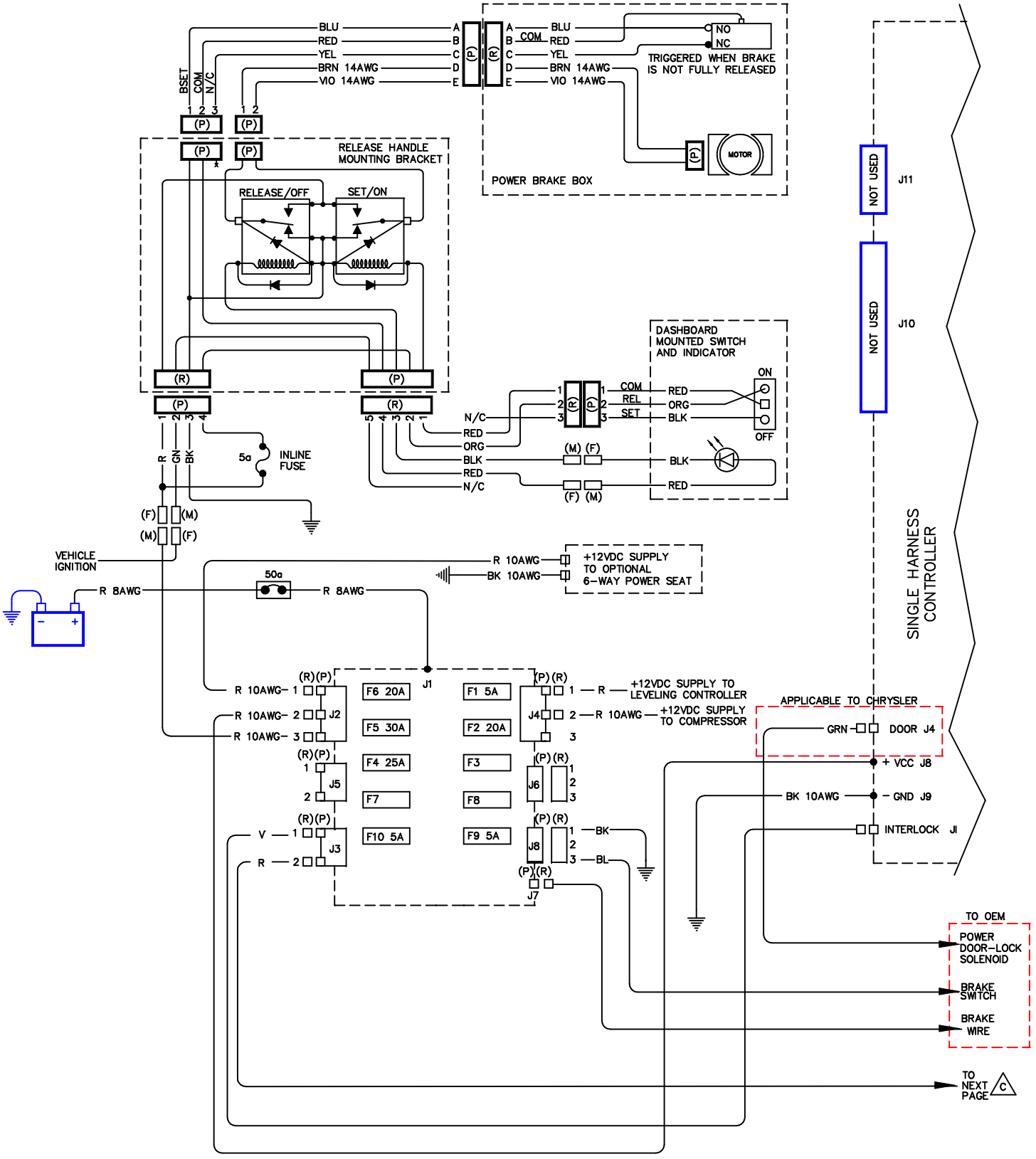
Electrical Diagram for Single Harness Controller with Folding Ramp 2-2

Electrical Diagram for Single Harness Controller with In-Floor Ramp 2-4

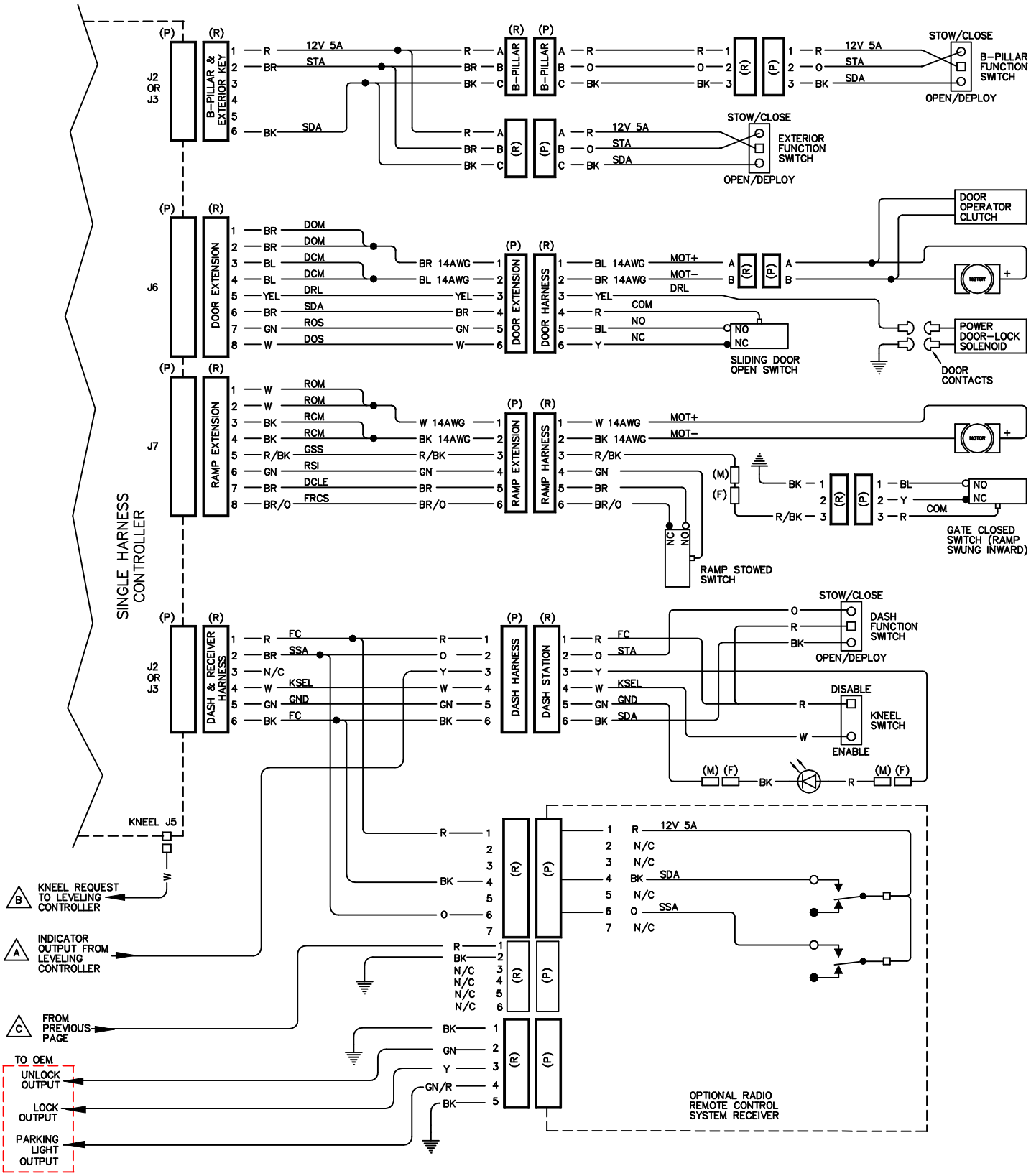
Electrical Diagram for Leveling System 2-6

Pneumatic Diagram for Leveling System 2-7

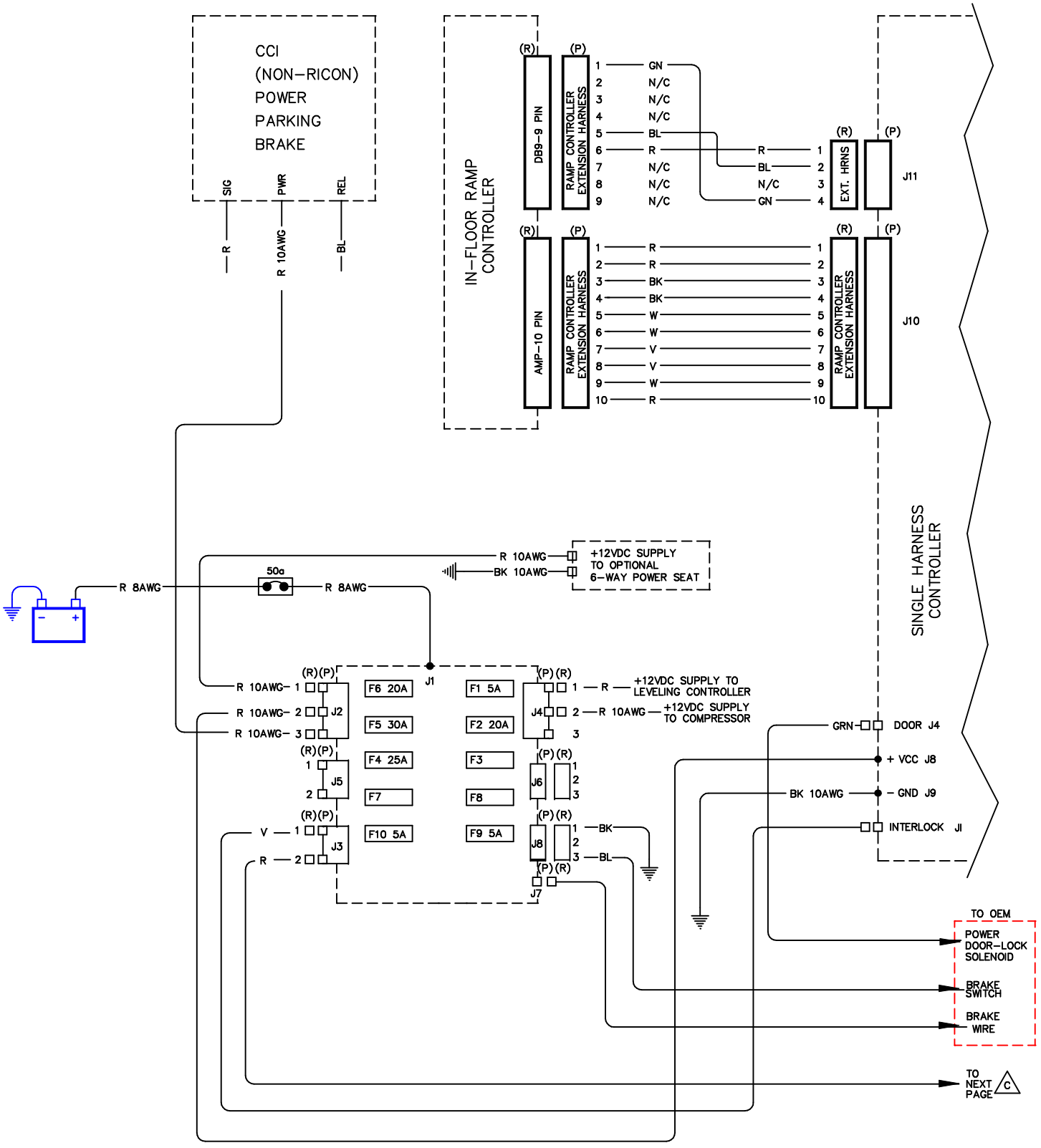
Electrical Diagram for Single Harness Controller with Folding Ramp (part 1)



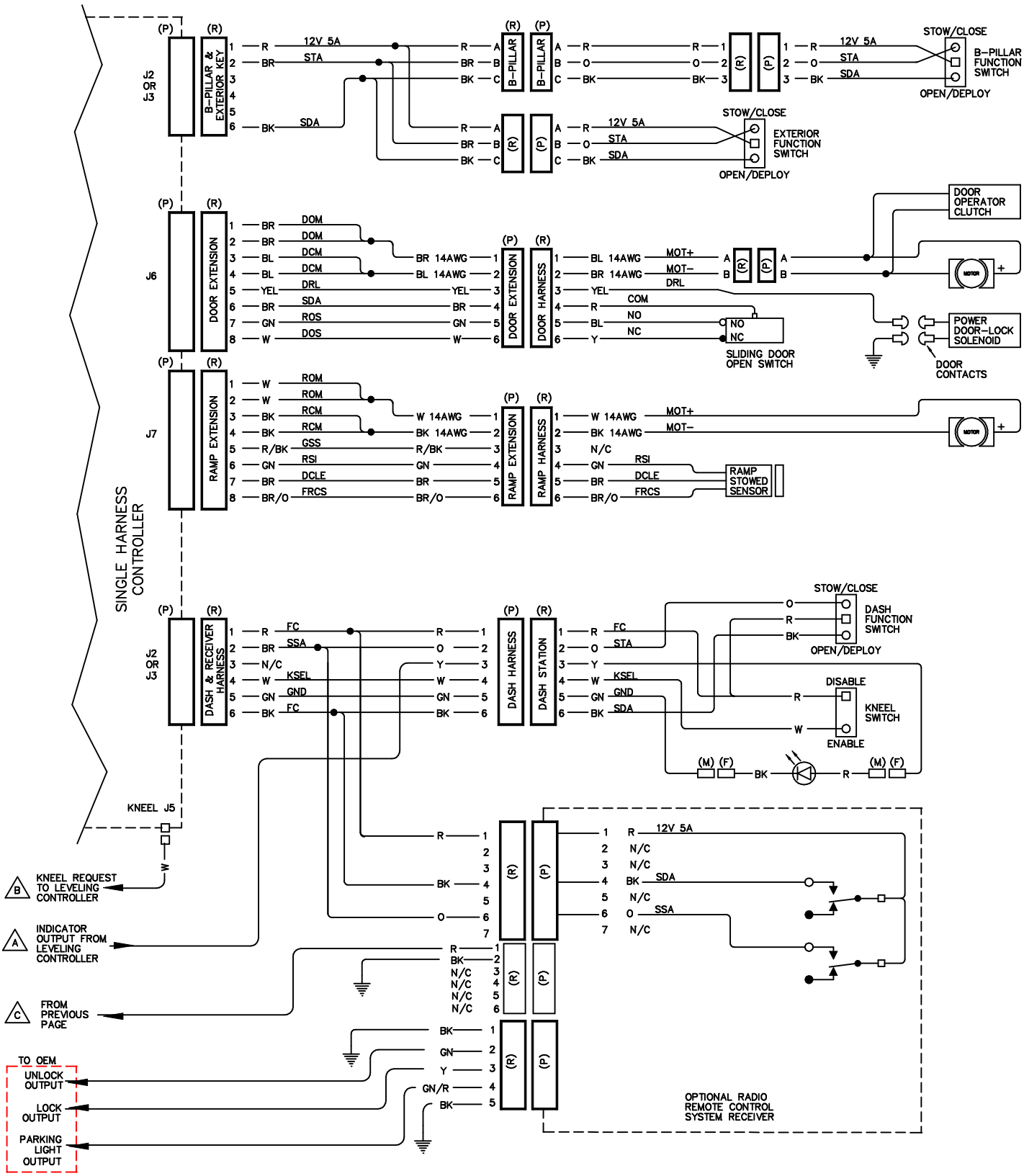
Electrical Diagram for Single Harness Controller with Folding Ramp (part 2)



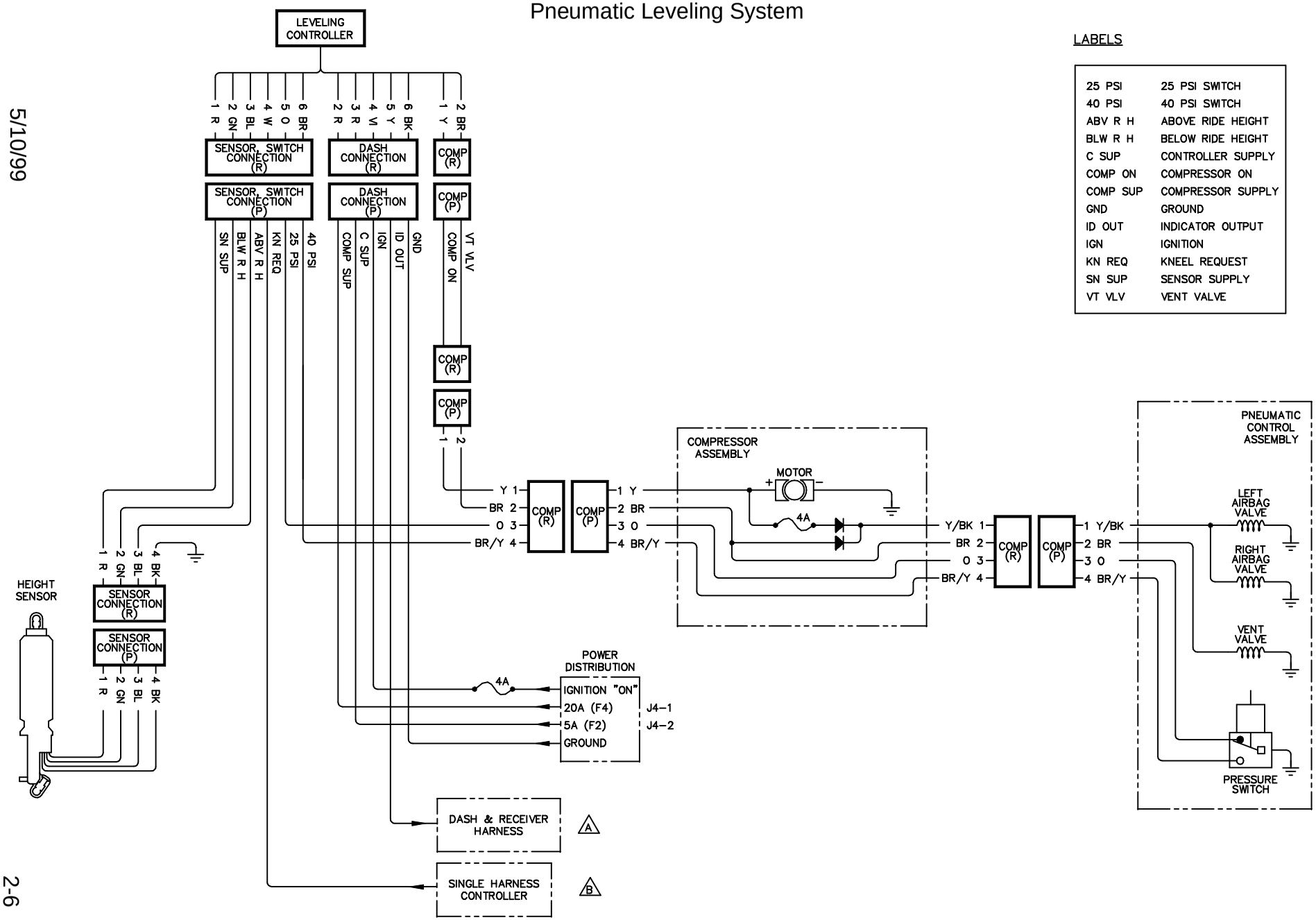
Electrical Diagram for
Single Harness Controller
with In-Floor Ramp (Part 1)



Electrical Diagram for
Single Harness Controller
with In-Floor Ramp (part 2)



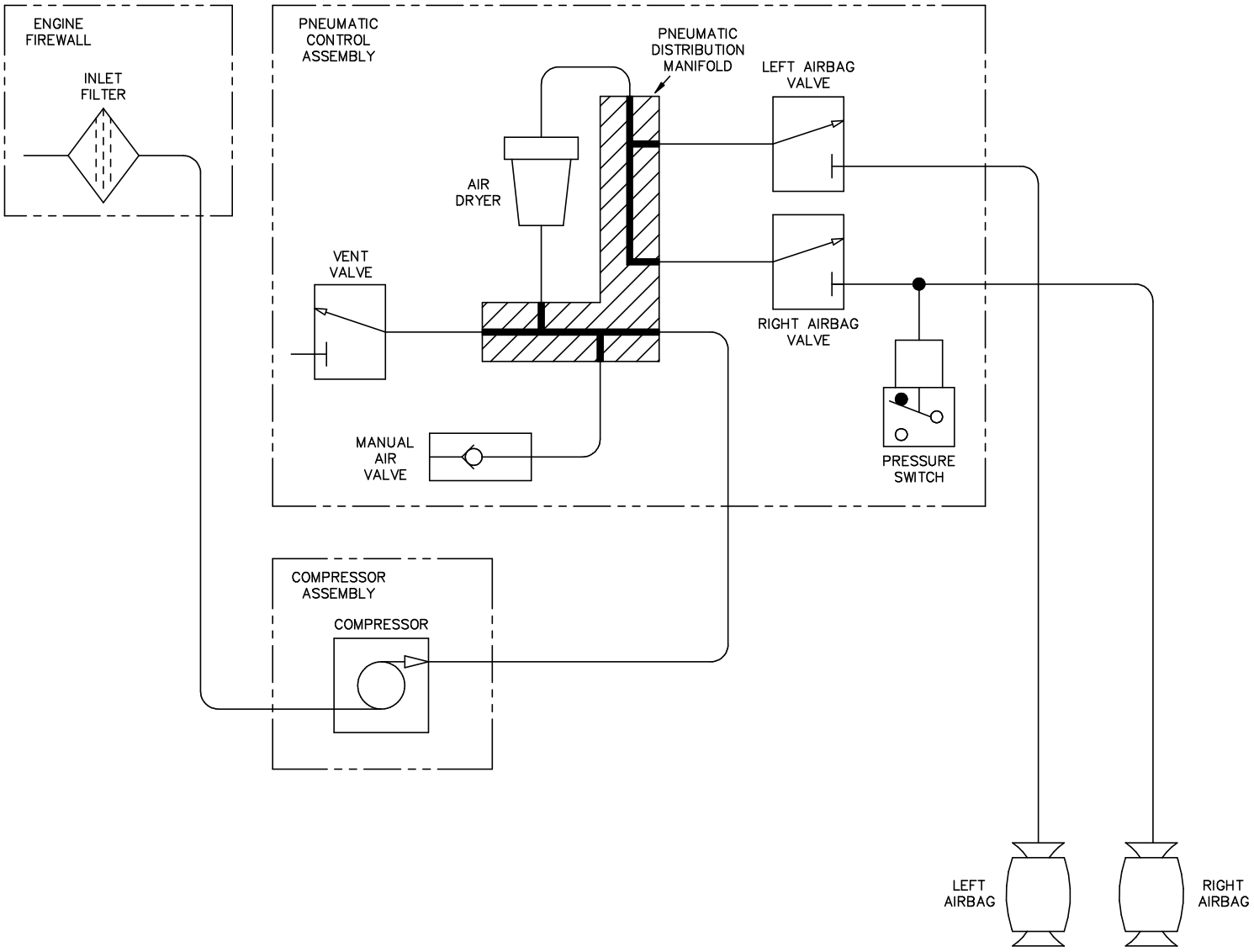
Electrical Diagram for the Pneumatic Leveling System



LABELS

25 PSI	25 PSI SWITCH
40 PSI	40 PSI SWITCH
ABV R H	ABOVE RIDE HEIGHT
BLW R H	BELOW RIDE HEIGHT
C SUP	CONTROLLER SUPPLY
COMP ON	COMPRESSOR ON
COMP SUP	COMPRESSOR SUPPLY
GND	GROUND
ID OUT	INDICATOR OUTPUT
IGN	IGNITION
KN REQ	KNEEL REQUEST
SN SUP	SENSOR SUPPLY
VT VLV	VENT VALVE

Pneumatic Schematic
for the Leveling System



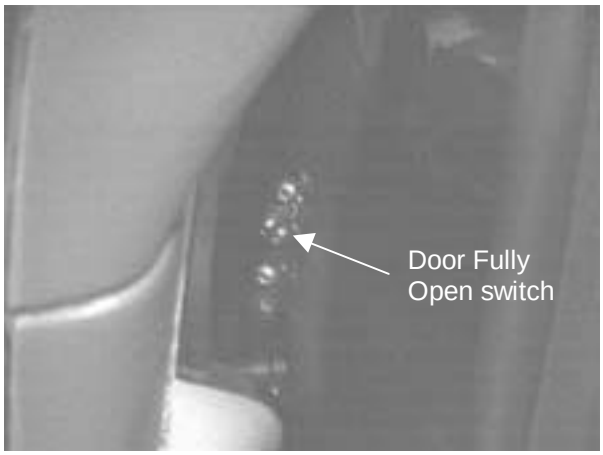
Position Reference Functions Displayed with Key Points 3
Door Positions

This is the vehicle with the door fully closed.

This is the vehicle with the side door partially open.

Door Positions (cont'd)

This is the vehicle with the door fully open. It has now engaged the "Door Fully Open " switch. When this switch is depressed, the Single Harness Controller will begin to deploy the ramp.



When the sliding door is fully open, it will depress this switch. This switch must be depressed for the ramp to deploy. The switch is located in the rear door frame of the vehicle.

Ramp Positions

Folding Ramp

This is the Folding Ramp in the fully Stowed position.

In this position it has engaged the “Ramp Fully Stowed” switch. This will allow the door to close under the system’s operation.

This is the Folding Ramp in the fully Deployed position.

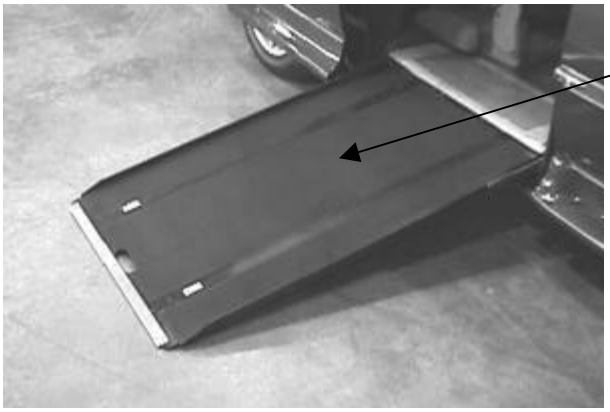
Ramp Positions

In-Floor Ramp

This is the In-Floor Ramp in the fully Stowed position.

In this position it has engaged the “Ramp Fully Stowed” switch. This will allow the door to close under the system’s operation.

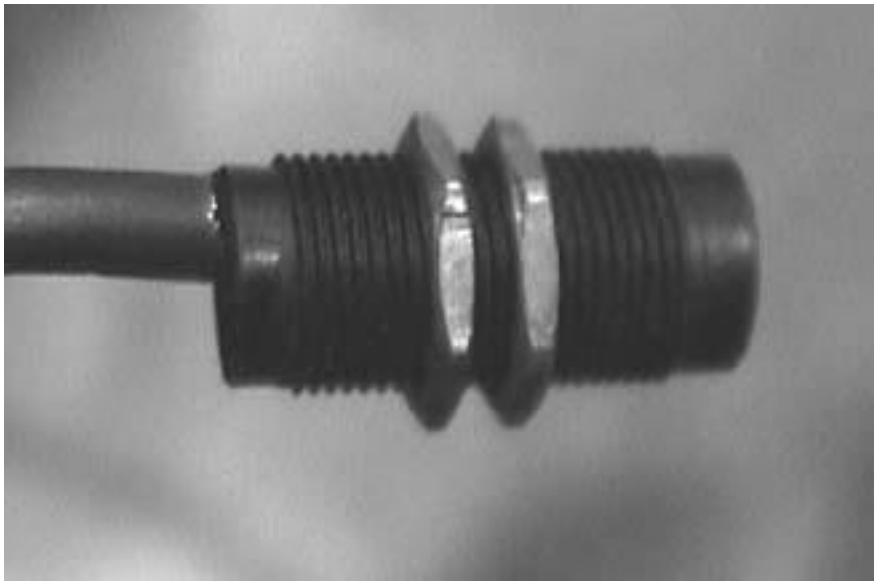
This is the In-Floor Ramp while partially Deployed



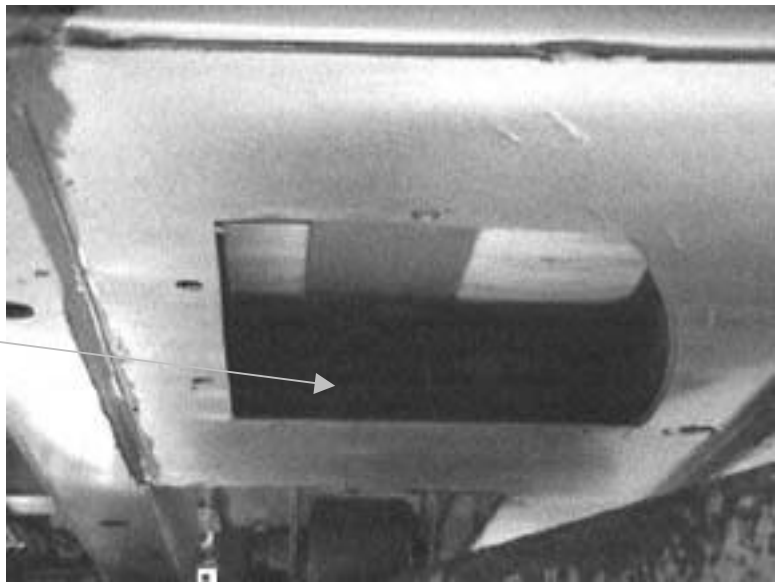
This is the In-Floor Ramp fully Deployed

Ramp Positions

In-floor Ramp-Ramp Stowed Sensor



This is a close up of the Stowed Sensor for the In-Floor Ramp. The sensor detects the rear portion of the ramp (driver's side of vehicle). It sends a ground signal when it detects that the ramp is fully stowed.



This is the Access Panel underneath the vehicle. To access, remove the screws and pull off the metal plate. The motor for the In-Floor Ramp and Stowed Sensor are inside this compartment.