

# 149-1 COMPONENT TESTING: INTRODUCTION/MAIN LIGHT SWITCH

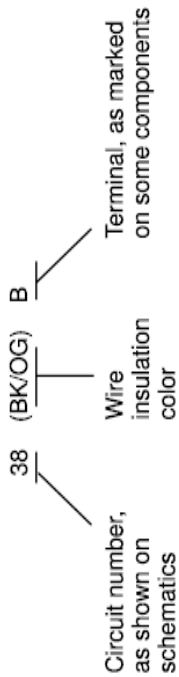
2001 EXCURSION, SUPER DUTY SERIES F-250, F-350, F-450, F-550

## INTRODUCTION

Component testing procedures are provided to determine whether a component is good or bad.

Testing information for each component includes a schematic with component terminal locations and step-by-step test procedures. Component terminals are identified:

1. by the circuit number of the wires that connect to that terminal;
2. by the wire insulation color; and
3. by letters or numbers that may be marked on the component.



## COMPONENT TESTING PROCEDURE

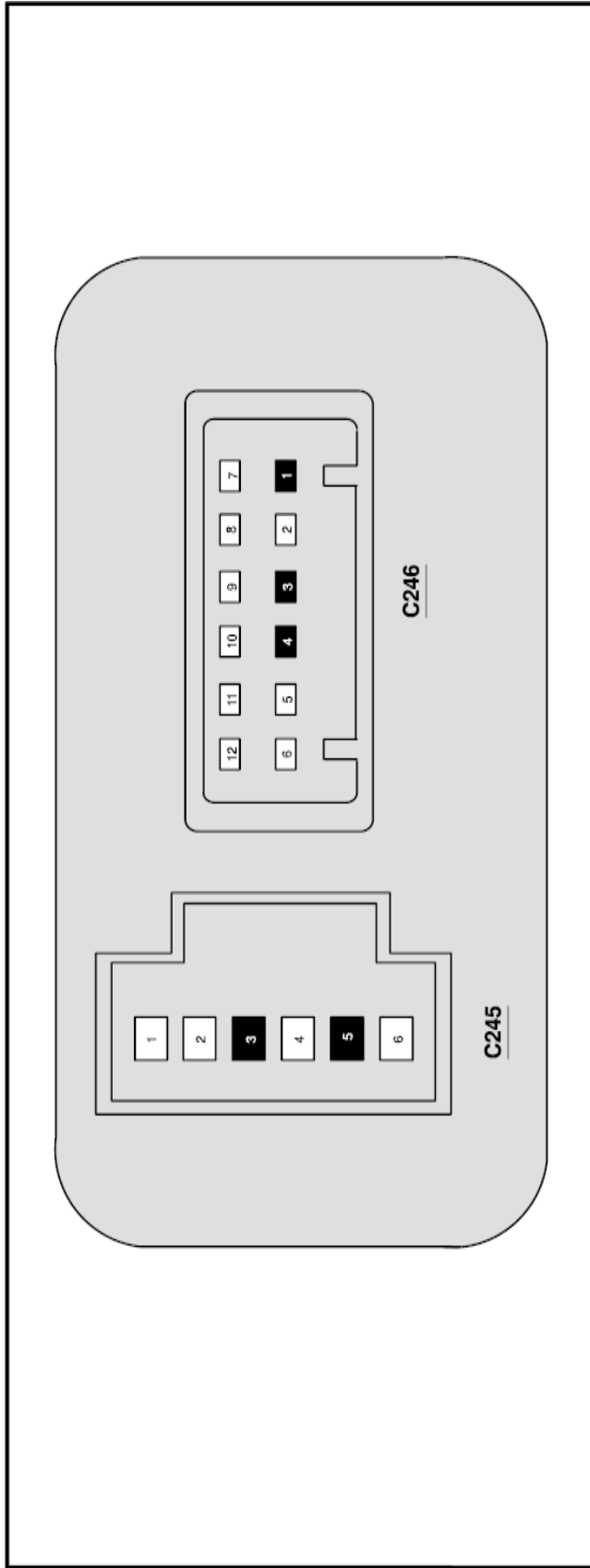
TO TEST	Connect Self-Powered Test Lamps or Ohmmeter to Terminals	Move Switch to These Positions	A Good Switch Will Indicate
Headlamp Circuit	*8 and *9 **7 and **6	Off Park Head	Open Circuit Open Circuit Closed Circuit
Park Lamp Circuit	*11 and *12 **13 and **14	Off Park Head	Open Circuit Closed Circuit Closed Circuit
Interior Lamp Circuit	*2 and *4 **12 and **4	Knob rotated fully counterclockwise (In Detent) Knob rotated fully clockwise (Out of Detent)	Closed Circuit  Open Circuit

\* EXCURSION  
\*\* PICKUP

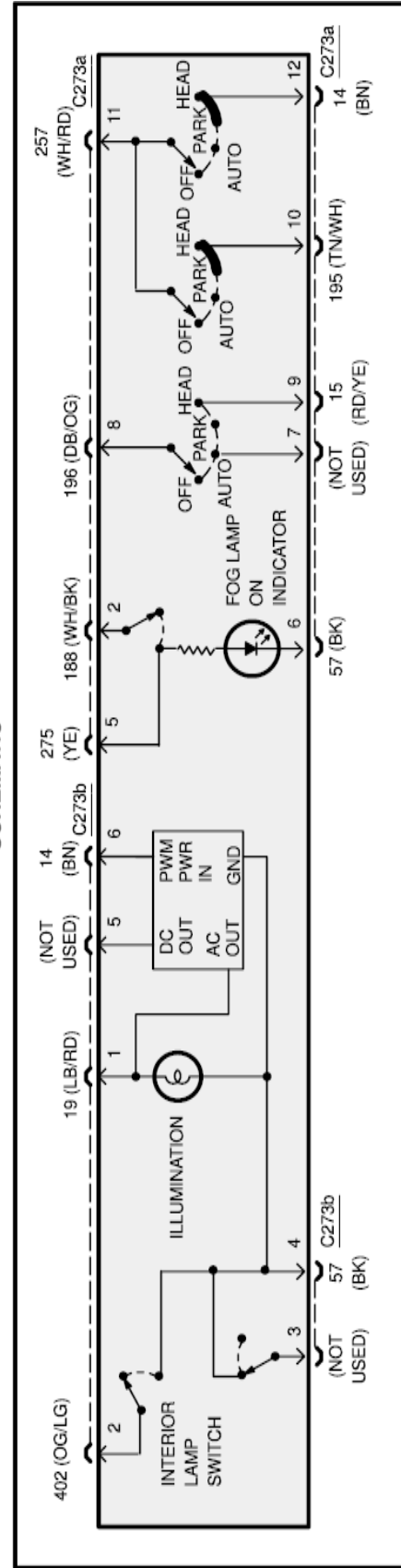
# COMPONENT TESTING: MAIN LIGHT SWITCH 149-2

2001 EXCURSION, SUPER DUTY SERIES F-250, F-350, F-450, F-550

## TERMINALS



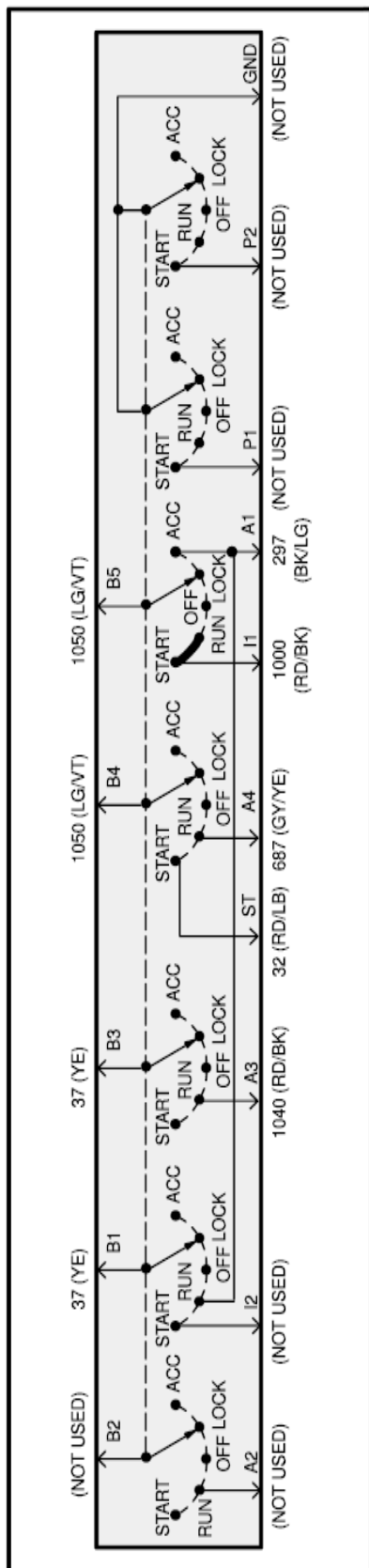
## SCHEMATIC



# 149-3 COMPONENT TESTING: IGNITION SWITCH

2001 EXCURSION, SUPER DUTY SERIES F-250, F-350, F-450, F-550

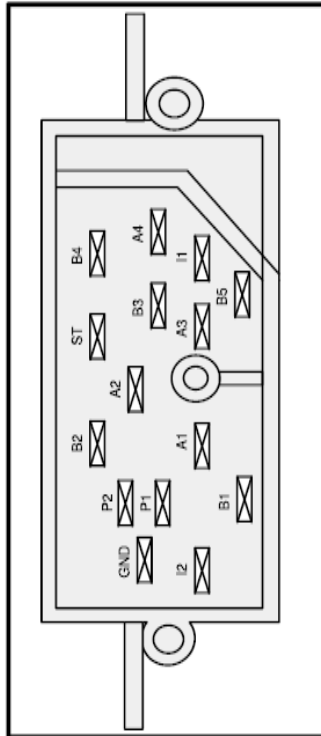
SCHEMATIC



# COMPONENT TESTING: IGNITION SWITCH 149-4

2001 EXCURSION, SUPER DUTY SERIES F-250, F-350, F-450, F-550

## TERMINALS



## COMPONENT TESTING PROCEDURE

TO TEST	Connect Self-Powered Test Light or Ohmmeter to Terminals	Move Key to These Positions	A Good Switch Will Indicate
Starter Relay Circuit	B4 and ST	Acc, Lock, Off, Run, Start	Closed Circuit in Start Position only
Ignition Coil Circuit	B5 and I1	Acc, Lock, Off, Run, Start	Closed Circuit in Start and Run Positions only
Acc Power Circuit	B5 and A1	Acc, Lock, Off, Run, Start	Closed Circuit in Acc Position only
Run Power Circuit	B1 and A1	Acc, Lock, Off, Run, Start	Closed Circuit in Run Position only
	B3 and A3	Acc, Lock, Off, Run, Start	Closed Circuit in Run Position only
	B4 and A4	Acc, Lock, Off, Run, Start	Closed Circuit in Run Position only

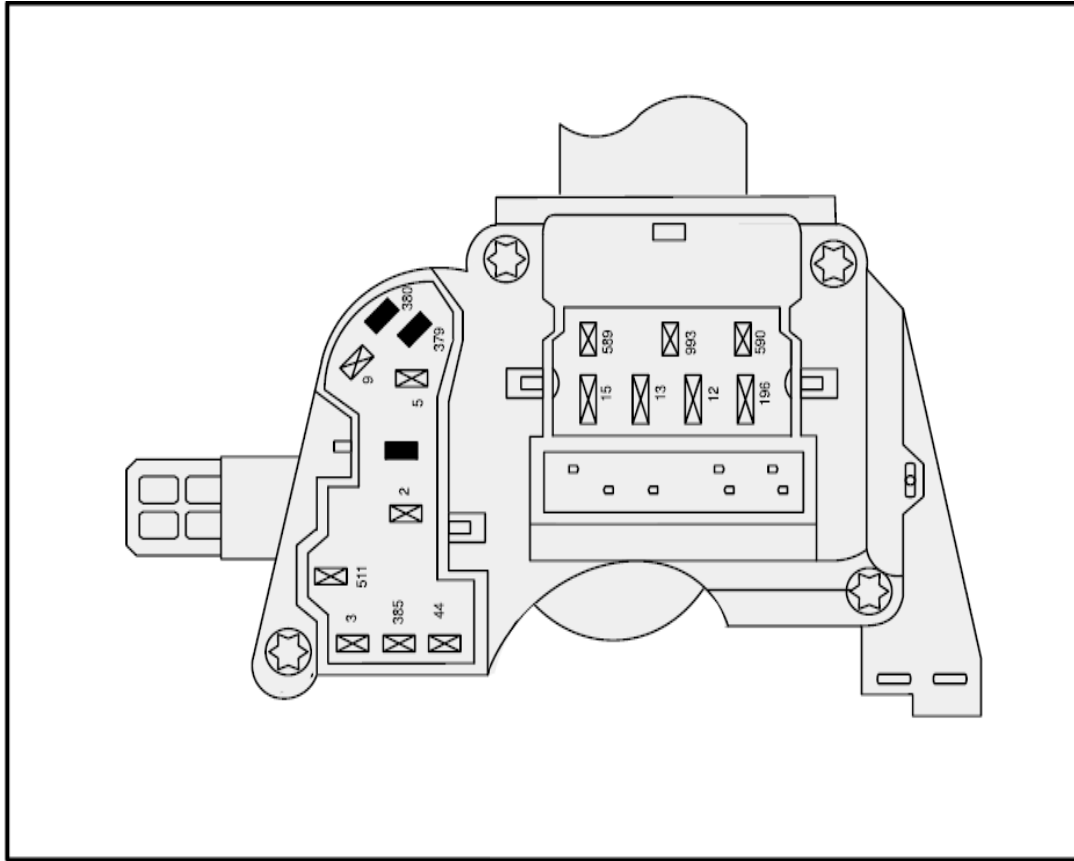
# 149-5 COMPONENT TESTING: MULTIFUNCTION SWITCH

2001 EXCURSION, SUPER DUTY SERIES F-250, F-350, F-450, F-550

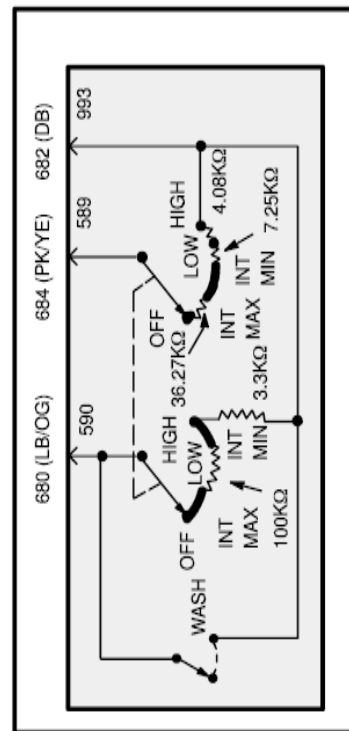
## COMPONENT TESTING PROCEDURE

TO TEST	Connect Self-Powered Test Lamp or Ohmmeter to Terminals	Move Switch to These Positions	A Good Switch Will Indicate
Washer Switch Circuit	590 and 993	With Wiper Switch OFF: Push Washer Switch In Release Washer Switch	Closed Circuit 103.3K ohm
Wiper Switch Circuit	589 and 993	OFF INT LOW HIGH	47.6K ohm $\pm$ 5% 11.33K ohm $\pm$ 5% 4.08K ohm $\pm$ 5% Closed Circuit
Interval Time Adjust	590 and 993	INT and OFF LOW and HIGH	Rotate Control toward OFF: Ohmmeter will show smoothly increasing resistance from 3.3K ohm min. to 103.3K ohm max. $\pm$ 10% 3.3K ohm $\pm$ 10%

## TERMINALS



## SCHEMATIC - WIPER/WASHER PORTION



# COMPONENT TESTING: MULTIFUNCTION SWITCH 149-6

2001 EXCURSION, SUPER DUTY SERIES F-250, F-350, F-450, F-550

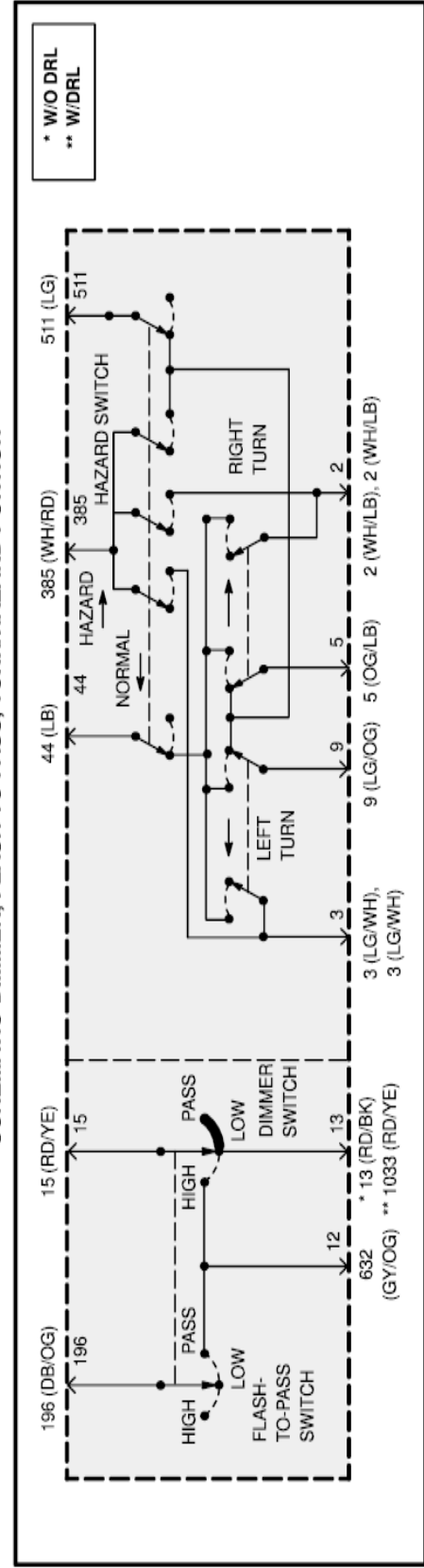
## COMPONENT TESTING PROCEDURE

TO TEST	Connect Self-Powered Test Light or Ohmmeter to Terminals	Move Switch to These Positions	A Good Switch Will Indicate
Flash-to-Pass Circuit	196 and 12	Pull and hold Lever Stalk toward Steering Wheel	Closed Circuit
Dimmer HIGH Beam Circuit	12 and 15	Lever Stalk in detent away from steering wheel.	Closed Circuit
Dimmer LOW Beam Circuit	15 and 13	Lever Stalk in detent toward Steering Wheel	Closed Circuit
Stoplamp Feed-Through Circuit	511 and 5, 9	Hazard Switch to Normal (OFF) and Turn Switch to Neutral	Closed Circuit

## COMPONENT TESTING PROCEDURE

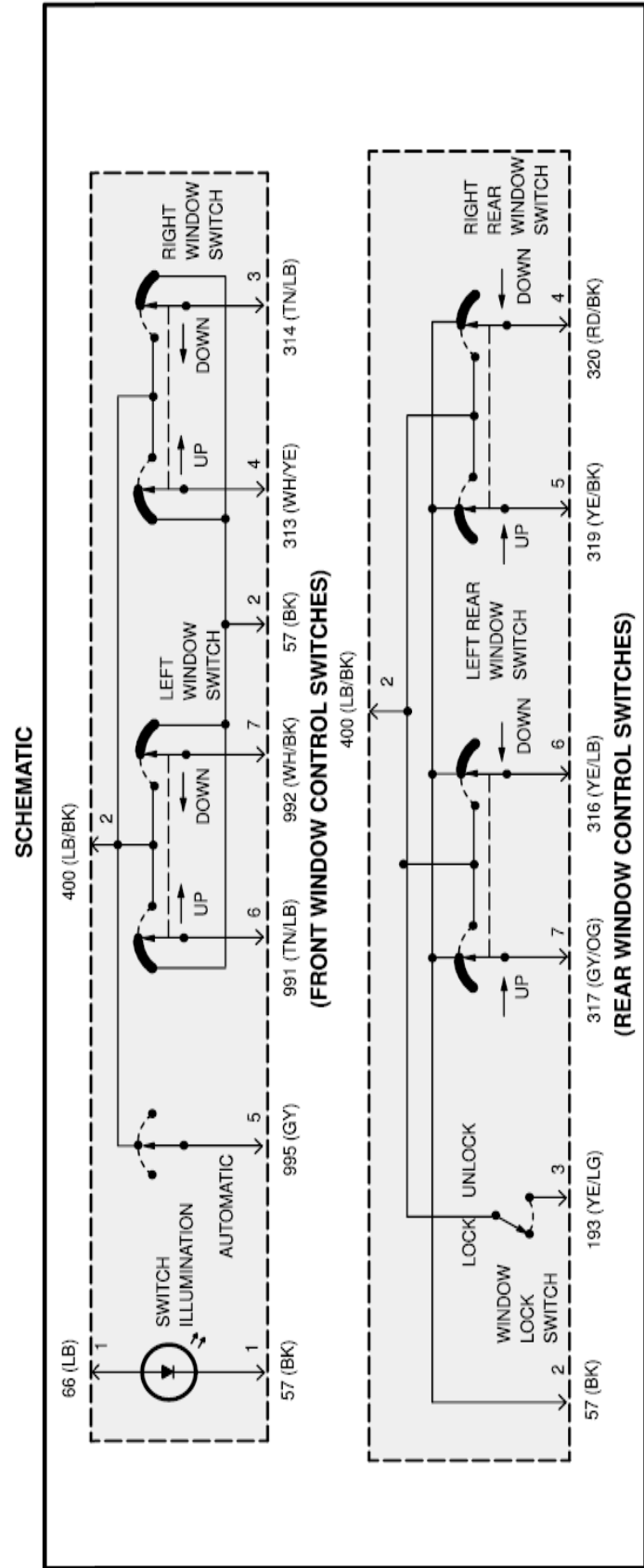
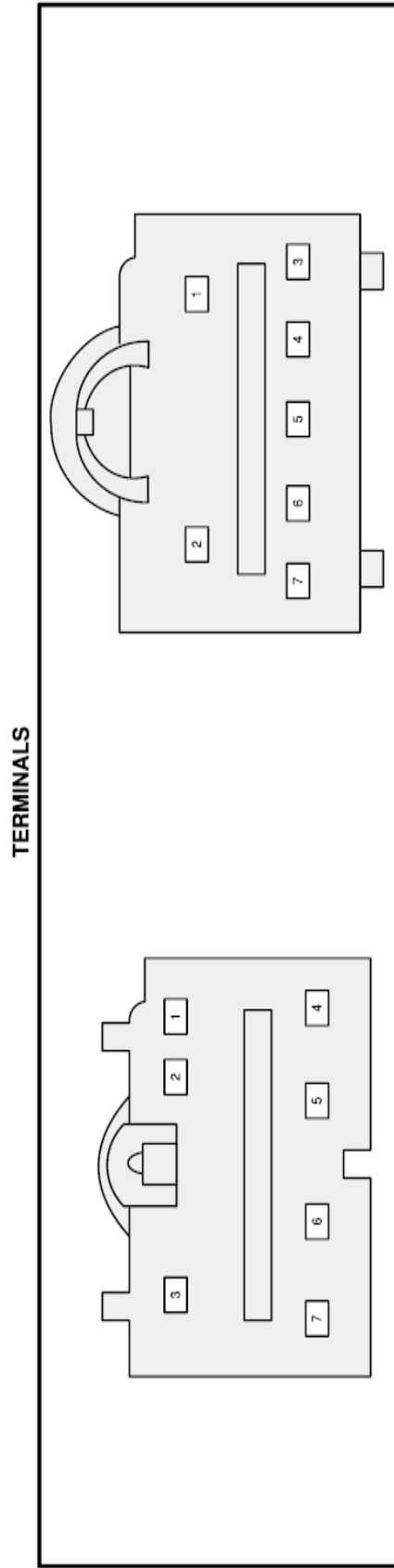
TO TEST	Connect Self-Powered Test Light or Ohmmeter to Terminals	Move Switch to These Positions	A Good Switch Will Indicate
Turn Switch Circuit	44 and 9, 3	Hazard Switch to Normal (OFF) and Turn Switch to Turn Left	Closed Circuit
		Hazard Switch to Normal (OFF) and Turn Switch to Turn Right	Closed Circuit
Hazard Switch	385 and 2, 3, 5, 9	Hazard Switch to Hazard (ON) (Button pushed in and then released to fully extended position)	Closed Circuit

SCHEMATIC-DIMMER, FLASH TO PASS, TURN/HAZARD PORTION



# 149-7 COMPONENT TESTING: LEFT WINDOW CONTROL SWITCHES

2001 EXCURSION, SUPER DUTY SERIES F-250, F-350, F-450, F-550



# COMPONENT TESTING: LEFT WINDOW CONTROL SWITCHES 149-8

2001 EXCURSION, SUPER DUTY SERIES F-250, F-350, F-450, F-550

## COMPONENT TESTING PROCEDURE

TO TEST	Connect Self-Powered Test Light or Ohmmeter to Terminals	Move Switch to These Positions	A Good Switch Will Indicate
Power and Ground Checks Before Any Other Tests	2 and 2	All Four Window Switches (all positions)	Open Circuit
	2 and 6, 7, 4, 3, 7, 3, 5, 4	All Four Window Switches (at rest)	Closed Circuit

## COMPONENT TESTING PROCEDURE

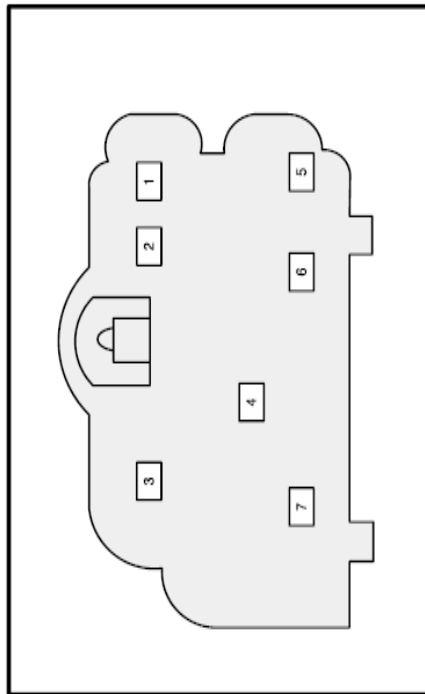
TO TEST	Connect Self-Powered Test Light or Ohmmeter to Terminals	Move Switch to These Positions	A Good Switch Will Indicate
Left Front Window Circuit	2 and 6	Up	Closed Circuit
	2 and 7	Down	Closed Circuit
Right Front Window Circuit	2 and 4	Up	Closed Circuit
	2 and 3	Down	Closed Circuit
Left Rear Window Circuit	2 and 7	Up	Closed Circuit
	2 and 6	Down	Closed Circuit
Right Rear Window Circuit	2 and 5	Up	Closed Circuit
	2 and 4	Down	Closed Circuit
Window Lock Switch	2 and 3	Window Lock Switch Toward Door	Closed Circuit
		Window Lock Switch Away From Door	Open Circuit
Automatic Switch	2 and 5	Automatic Switch (Engaged)	Closed Circuit
		Automatic Switch (At Rest)	Open Circuit



# 149-9 COMPONENT TESTING: RIGHT FRONT WINDOW CONTROL SWITCH

2001 EXCURSION, SUPER DUTY SERIES F-250, F-350, F-450, F-550

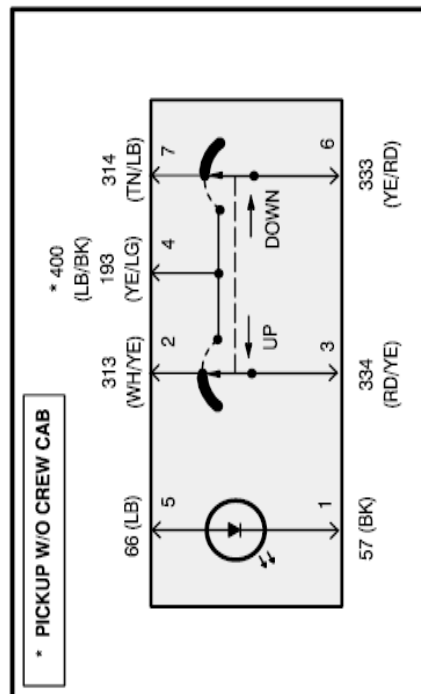
## TERMINALS



## COMPONENT TESTING PROCEDURE

TO TEST	Connect Self-Powered Test Light or Ohmmeter to Terminals	Move Switch to These Positions	A Good Switch Will Indicate
Up Switch Circuit	4 and 3	Down	Closed Circuit
	2 and 3	At Rest	Closed Circuit
Down Switch Circuit	4 and 6	Up	Closed Circuit
	7 and 6	At Rest	Closed Circuit

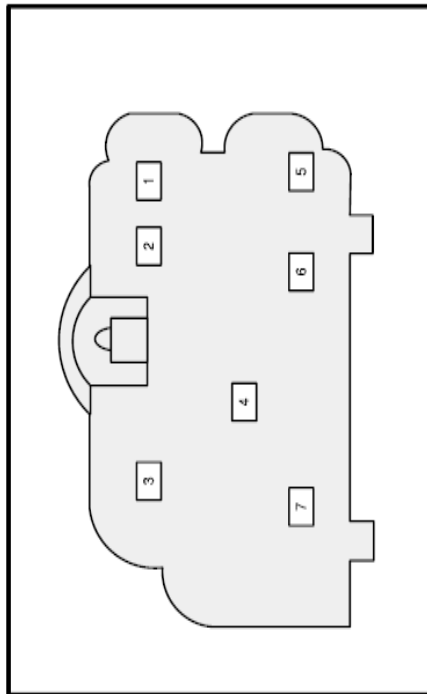
## SCHEMATIC



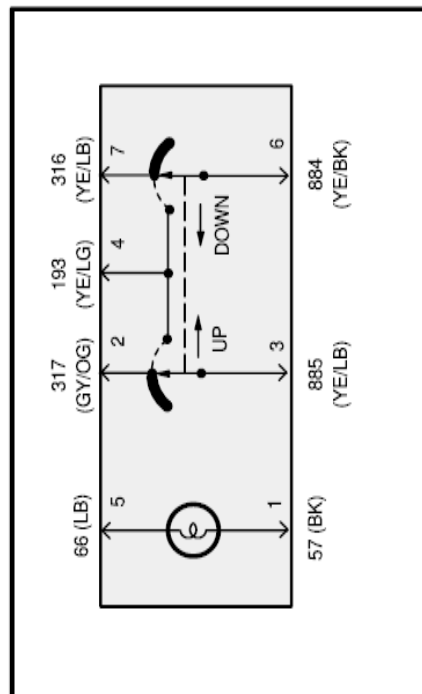
# COMPONENT TESTING: LEFT REAR WINDOW CONTROL SWITCH 149-10

2001 EXCURSION, SUPER DUTY SERIES F-250, F-350, F-450, F-550

TERMINALS



SCHEMATIC



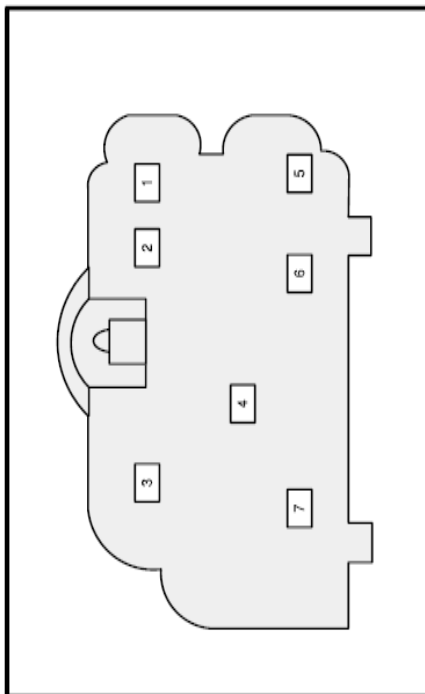
COMPONENT TESTING PROCEDURE

TO TEST	Connect Self-Powered Test Light or Ohmmeter to Terminals	Move Switch to These Positions	A Good Switch Will Indicate
Up Switch Circuit	4 and 3	Up	Closed Circuit
	2 and 3	At Rest	Closed Circuit
Down Switch Circuit	4 and 6	Down	Closed Circuit
	7 and 6	At Rest	Closed Circuit

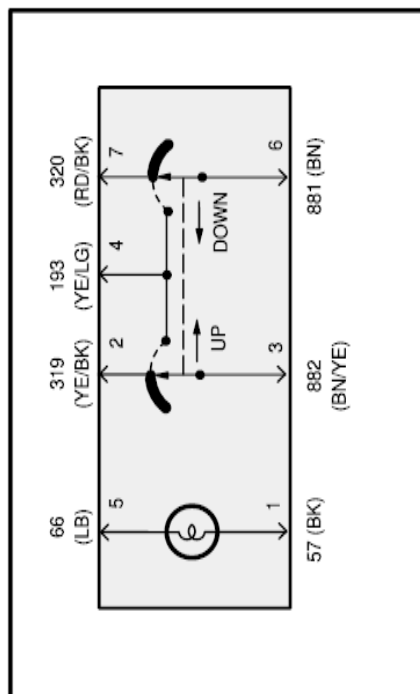
# 149-11 COMPONENT TESTING: RIGHT REAR WINDOW CONTROL SWITCH

2001 EXCURSION, SUPER DUTY SERIES F-250, F-350, F-450, F-550

TERMINALS



SCHEMATIC



COMPONENT TESTING PROCEDURE

TO TEST	Connect Self-Powered Test Light or Ohmmeter to These Terminals	Move Switch to These Positions	A Good Switch Will Indicate
Up Switch Circuit	4 and 3	Up	Closed Circuit
	2 and 3	At Rest	Closed Circuit
Down Switch Circuit	4 and 6	Down	Closed Circuit
	7 and 6	At Rest	Closed Circuit

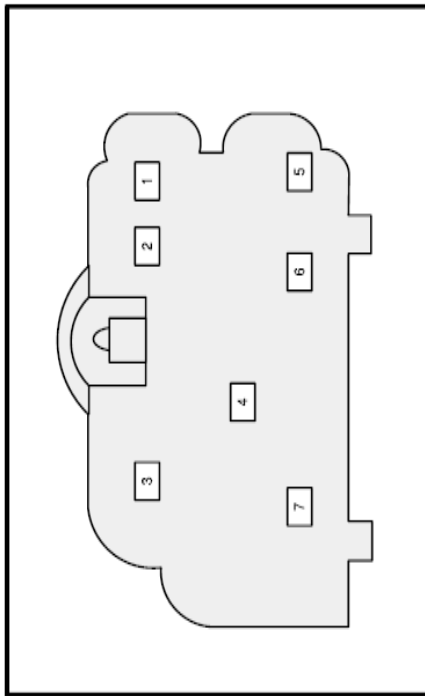
# COMPONENT TESTING: RIGHT VENT WINDOW CONTROL SWITCH 149-12

2001 EXCURSION, SUPER DUTY SERIES F-250, F-350, F-450, F-550

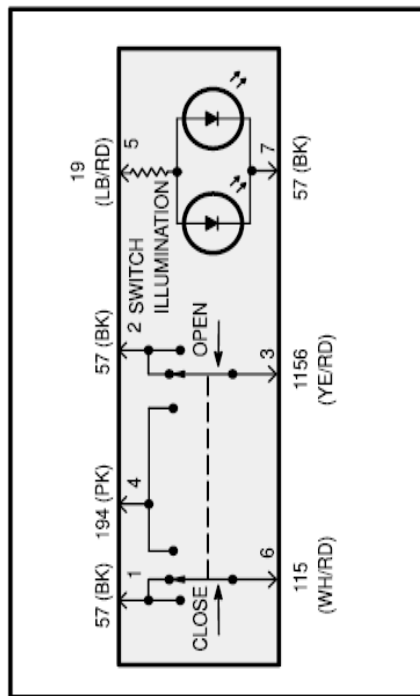
## COMPONENT TESTING PROCEDURE

TO TEST	Connect Self-Powered Test Light or Ohmmeter to These Terminals	Move Switch to These Positions	A Good Switch Will Indicate
Open Switch Circuit	4 and 3	Open	Closed Circuit
	2 and 3	At Rest	Closed Circuit
Close Switch Circuit	4 and 6	Close	Closed Circuit
	1 and 6	At Rest	Closed Circuit

TERMINALS



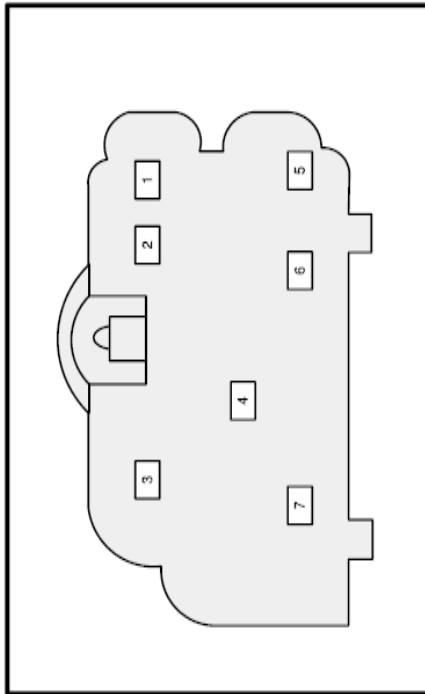
SCHEMATIC



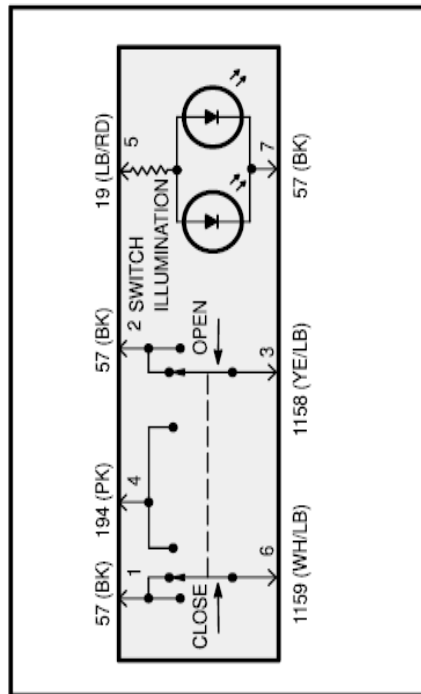
# 149-13 COMPONENT TESTING: LEFT VENT WINDOW CONTROL SWITCH

2001 EXCURSION, SUPER DUTY SERIES F-250, F-350, F-450, F-550

TERMINALS



SCHEMATIC



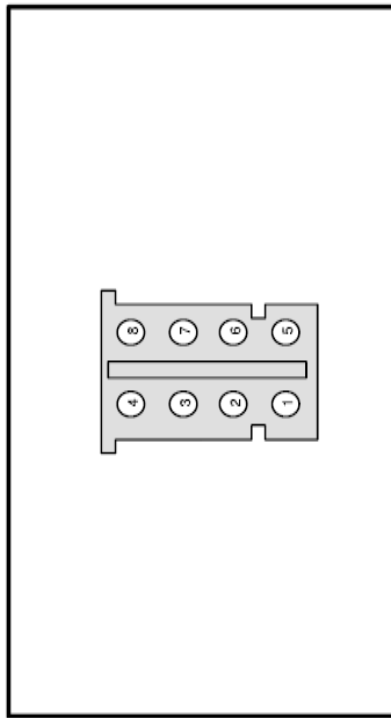
COMPONENT TESTING PROCEDURE

TO TEST	Connect Self-Powered Test Light or Ohmmeter to Terminals	Move Switch to These Positions	A Good Switch Will Indicate
Open Switch Circuit	4 and 3	Open	Closed Circuit
	2 and 3	At Rest	Closed Circuit
Close Switch Circuit	4 and 6	Close	Closed Circuit
	1 and 6	At Rest	Closed Circuit

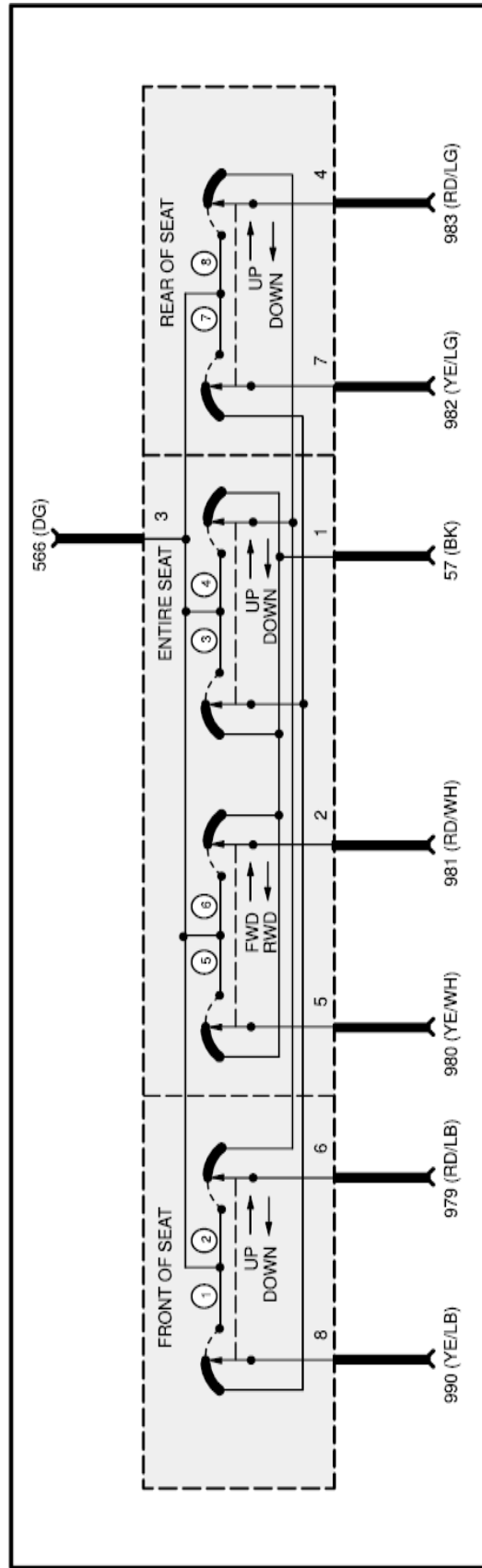
# COMPONENT TESTING: DRIVER SEAT REGULATOR CONTROL SWITCH 149-14

2001 EXCURSION, SUPER DUTY SERIES F-250, F-350, F-450, F-550

TERMINALS



SCHEMATIC



# 149-15 COMPONENT TESTING: DRIVER SEAT REGULATOR CONTROL SWITCH

2001 EXCURSION, SUPER DUTY SERIES F-250, F-350, F-450, F-550

## COMPONENT TESTING PROCEDURE

TO TEST	Connect Self-Powered Test Light or Ohmmeter to Terminals	Move Switch to These Positions	A Good Switch Will Indicate
Power and Ground Checks Before Any Other Tests	3 and 1	Seat Switches (All Positions)	Open Circuit
	1 and 8, 6, 5, 2, 7, 4	Seat Switches (At Rest)	Closed Circuit

## COMPONENT TESTING PROCEDURE

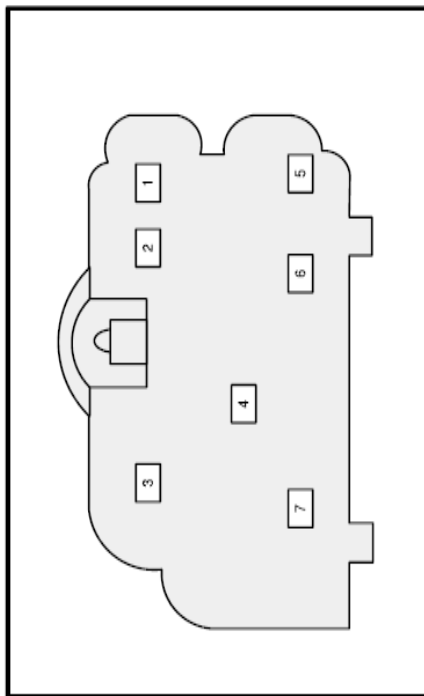
TO TEST	Connect Self-Powered Test Light or Ohmmeter to Terminals	Move Switch to These Positions	A Good Switch Will Indicate
Entire Seat	3 and 5	Forward	Closed Circuit
	3 and 2	Rearward	Closed Circuit
	3 and 6, 4	Down	Closed Circuit
	3 and 8, 7	Up	Closed Circuit
Front of Seat	3 and 6	Down	Closed Circuit
	3 and 8	Up	Closed Circuit
Rear of Seat	3 and 4	Down	Closed Circuit
	3 and 7	Up	Closed Circuit

# COMPONENT TESTING: LH POWER DOOR LOCK SWITCH 149-16

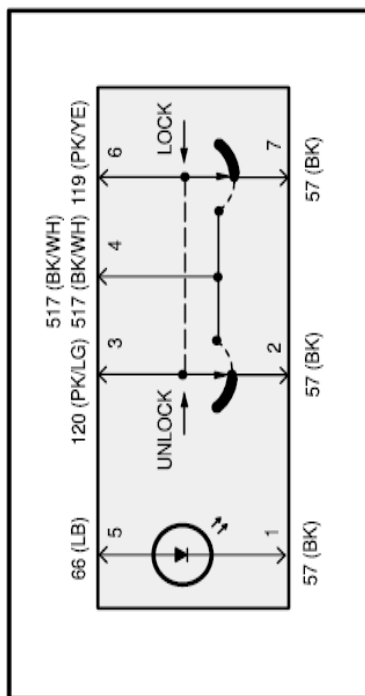
2001 EXCURSION, SUPER DUTY SERIES F-250, F-350, F-450, F-550

WITHOUT RKE

TERMINALS



SCHEMATIC



## COMPONENT TESTING PROCEDURE

TO TEST	Connect Self-Powered Test Light or Ohmmeter to Terminals	Move Switch to These Positions	A Good Switch Will Indicate
Lock Switch Circuit	4 and 3	Unlock	Closed Circuit
	3 and 2	At Rest	Closed Circuit
Unlock Switch Circuit	4 and 6	Lock	Closed Circuit
	6 and 7	At Rest	Closed Circuit

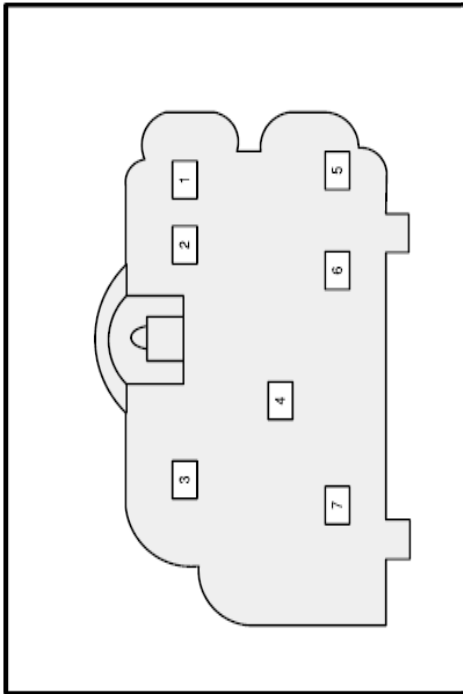


# 149-17 COMPONENT TESTING: RH POWER DOOR LOCK SWITCH

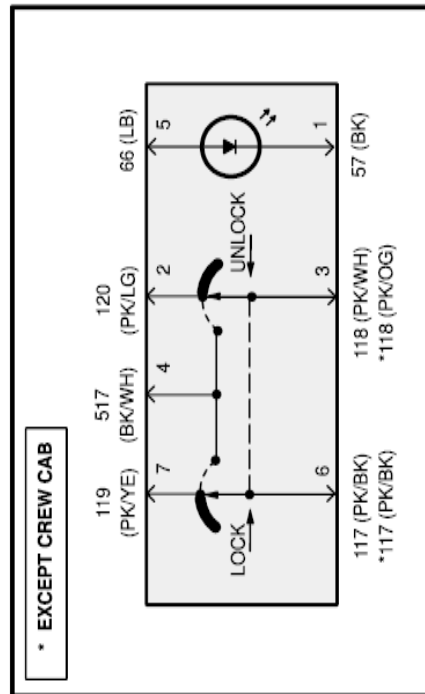
2001 EXCURSION, SUPER DUTY SERIES F-250, F-350, F-450, F-550

WITHOUT RKE

TERMINALS



SCHEMATIC



COMPONENT TESTING PROCEDURE

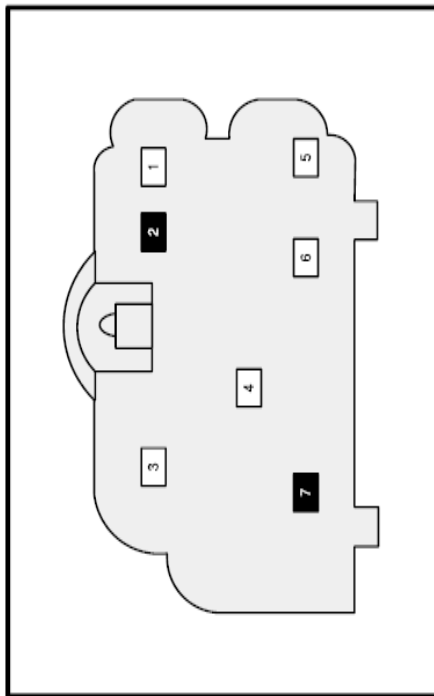
TO TEST	Connect Self-Powered Test Light or Ohmmeter to These Terminals	Move Switch to These Positions	A Good Switch Will Indicate
Lock Switch Circuit	4 and 3	Unlock	Closed Circuit
	2 and 3	At Rest	Closed Circuit
Unlock Switch Circuit	4 and 6	Lock	Closed Circuit
	7 and 6	At Rest	Closed Circuit

# COMPONENT TESTING: POWER DOOR LOCK SWITCH 149-18

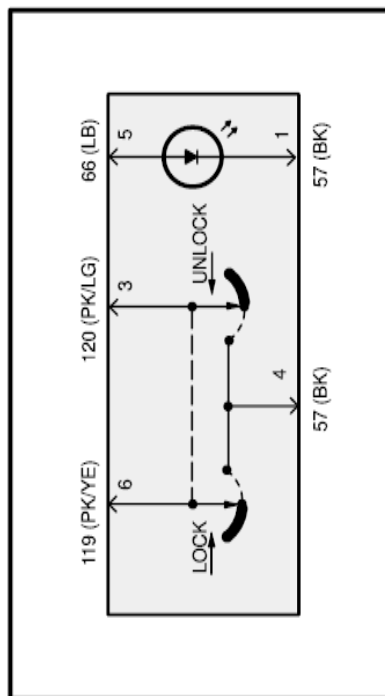
2001 EXCURSION, SUPER DUTY SERIES F-250, F-350, F-450, F-550

**WITH RKE**

TERMINALS



SCHEMATIC



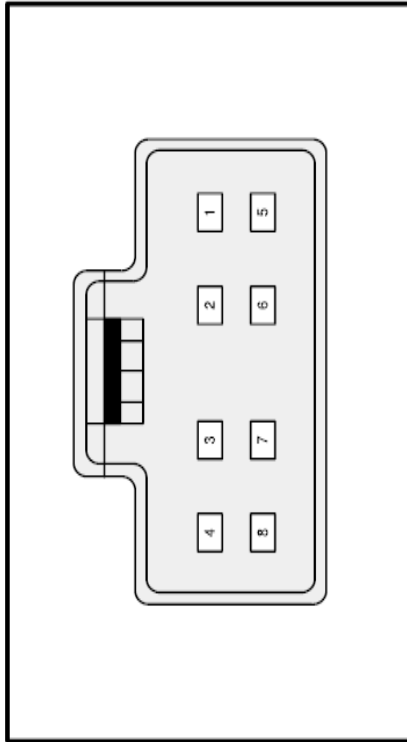
## COMPONENT TESTING PROCEDURE

TO TEST	Connect Self-Powered Test Light or Ohmmeter to Terminals	Move Switch to These Positions	A Good Switch Will Indicate
Lock Switch Circuit	6 and 4	Lock	Closed Circuit
		At Rest	Open Circuit
Unlock Switch Circuit	3 and 4	Unlock	Closed Circuit
		At Rest	Open Circuit

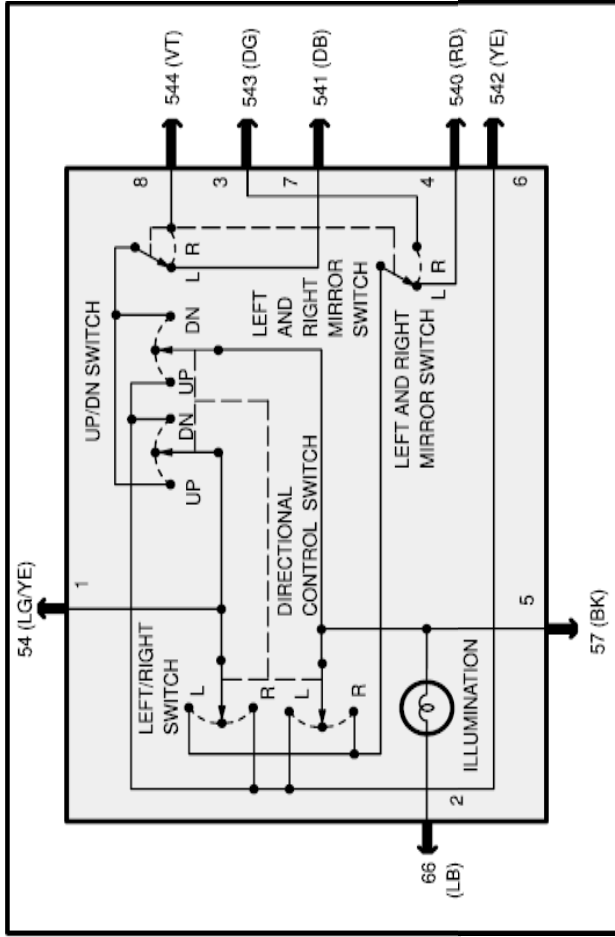
# 149-19 COMPONENT TESTING: EXTERIOR REAR VIEW MIRROR SWITCH

2001 EXCURSION, SUPER DUTY SERIES F-250, F-350, F-450, F-550

TERMINALS



SCHEMATIC



# COMPONENT TESTING: EXTERIOR REAR VIEW MIRROR SWITCH 149-20

2001 EXCURSION, SUPER DUTY SERIES F-250, F-350, F-450, F-550

## COMPONENT TESTING PROCEDURE

TO TEST	Connect Self-Powered Test Light or Ohmmeter to Terminals	Move Switch to These Positions	A Good Switch Will Indicate
Right Mirror (Directional Control Switch Right)	1 and 3	Left	Closed Circuit
	5 and 6	Left	Closed Circuit
	1 and 6	Right	Closed Circuit
	5 and 3	Right	Closed Circuit
	1 and 8	Up	Closed Circuit
	5 and 6	Up	Closed Circuit
	1 and 6	Down	Closed Circuit
	5 and 8	Down	Closed Circuit

## COMPONENT TESTING PROCEDURE

TO TEST	Connect Self-Powered Test Light or Ohmmeter to Terminals	Move Switch to These Positions	A Good Switch Will Indicate
Left Mirror (Directional Control Switch Left)	1 and 4	Left	Closed Circuit
	5 and 6	Left	Closed Circuit
	1 and 6	Right	Closed Circuit
	5 and 4	Right	Closed Circuit
	1 and 7	Up	Closed Circuit
	5 and 6	Up	Closed Circuit
	1 and 6	Down	Closed Circuit
	5 and 7	Down	Closed Circuit

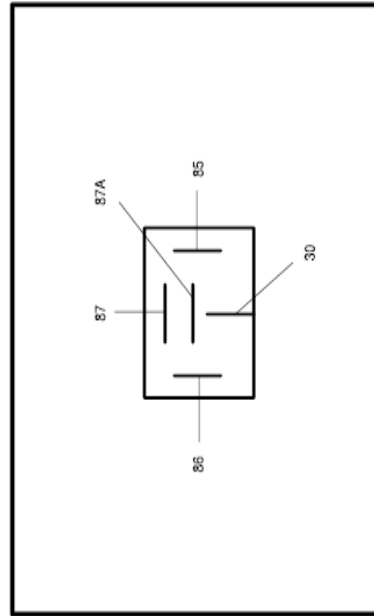
# 149-21 COMPONENT TESTING: MINI ISO RELAY

2001 EXCURSION, SUPER DUTY SERIES F-250, F-350, F-450, F-550

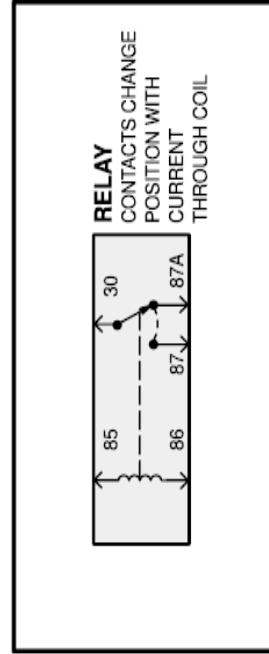
## COMPONENT TESTING PROCEDURE

Connect Battery Positive and Negative to Terminals:	Check Continuity from Terminals:	Continuity Will Be:
85 and 86	30 to 87 and 30 to 87A	From 30 to 87 only
. . .	85 to all others	To 86 only
. . .	30 to all others	To 87A only

### TERMINALS



### SCHEMATIC



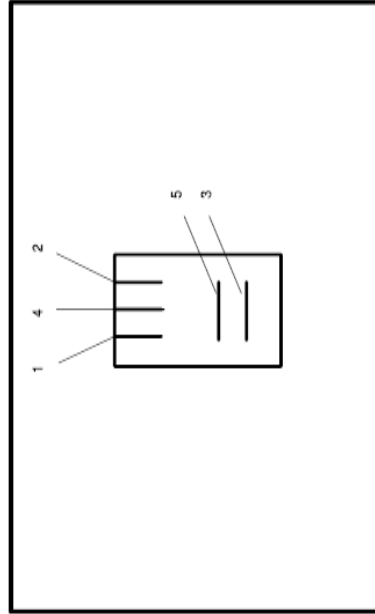
# COMPONENT TESTING: MICRO ISO RELAY 149-22

2001 EXCURSION, SUPER DUTY SERIES F-250, F-350, F-450, F-550

## COMPONENT TESTING PROCEDURE

Connect Battery Positive and Negative to Terminals:	Check Continuity from Terminals:	Continuity Will Be:
1 and 2	3 to 4 and 3 to 5	From 3 to 5 only
-	1 to all others	To 2 only
-	3 to all others	To 4 only

TERMINALS



SCHEMATIC

