

# 149-1 COMPONENT TESTING: MAIN LIGHT SWITCH

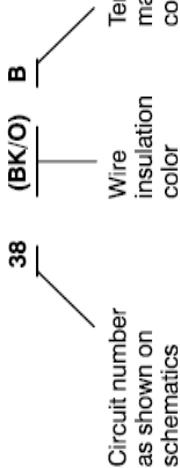
1997 F-250 HD/350/SUPER DUTY

## INTRODUCTION

Component testing procedures are provided to determine whether or not a component is operating properly.

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

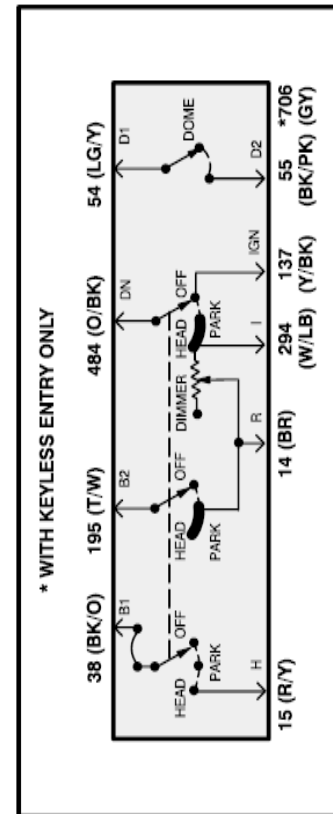
1. by the circuit number of the wires that connect to that terminal.
2. by the wire insulation color.
3. by letters or numbers that may be marked on the component.



The component connector **MUST BE REMOVED** before testing. To test a single circuit within the component, select that circuit under the column **TO TEST**. If you wish to test the complete component, perform all tests.

Connect the tester to the terminals shown in the second column and operate the component as shown in the third column.

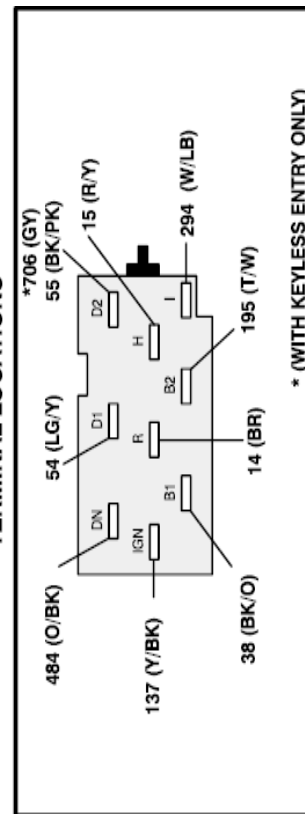
## SCHEMATIC



## COMPONENT TESTING PROCEDURE

TO TEST	Connect Self-Powered Test Lamp or Ohmmeter to Terminals	Move Switch to These Positions	A Good Switch Will Indicate
Headlamp Circuit	38 (BK/O) B1 and 15 (R/Y) H	Off Park Head	Open Circuit Open Circuit Closed Circuit
Park Lamp Circuit	195 (T/W) B2 and 14 (BR) R	Off Park Head	Open Circuit Closed Circuit Closed Circuit
Dome Light Circuit	54 (LG/Y) D1 and 55 (BK/PK) D2 706 (GY) D2	Knob rotated fully counterclockwise (in Detent) Knob rotated fully clockwise (Out of Detent)	Closed Circuit Open Circuit
Panel Light Dimmer Circuit	14 (BR) R and 294 (W/LB) I	Knob rotated right from full clockwise position	Ohmmeter Will Show Smoothly Increasing Resistance to approx. 11Ω max.
Ignition, Lamps Off Circuit	137 (Y/BK) IGN and 484 (O/BK) DN	Off Park Head	Closed Circuit Open Circuit Open Circuit
Cluster Dimmer Circuit	294 (W/LB) I and 484 (O/BK) DN	Off Park Head	Open Circuit Closed Circuit Closed Circuit

## TERMINAL LOCATIONS



\* (WITH KEYLESS ENTRY ONLY)

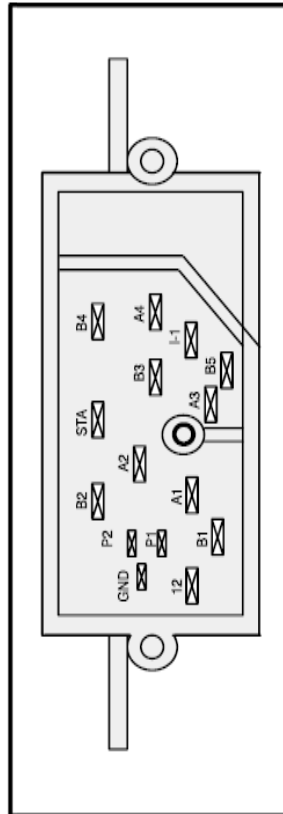
# COMPONENT TESTING: IGNITION SWITCH 149-2

1997 F-250 HD/350/SUPER DUTY

## COMPONENT TESTING PROCEDURE

TO TEST	Connect Self-Powered Test Light or Ohmmeter to Terminals	Move Key to These Positions	A Good Switch Will Indicate
<b>Starter Relay Circuit</b>	37 (Y) B4 and 32 (R/LB) STA	Acc, Lock, Off, Run, Start	Closed Circuit in Start position only
<b>Bulb Prove-Out Circuit</b>	57 (BK) GND and 512 (T/LG) P2 41 (BK/LB) P1*	Acc, Lock, Off, Run, Start	Closed Circuit in Start position only

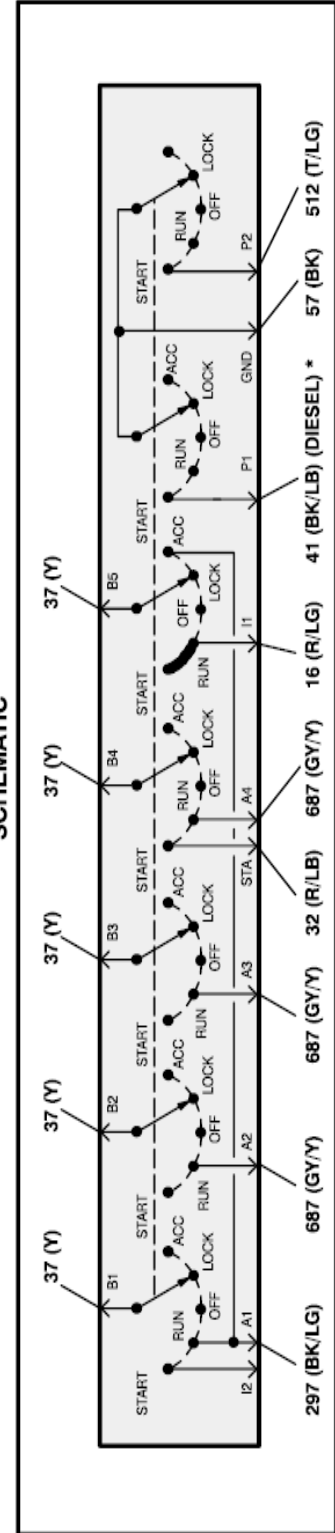
## TERMINAL LOCATIONS



## COMPONENT TESTING PROCEDURE

TO TEST	Connect Self-Powered Test Light or Ohmmeter to Terminals	Move Key to These Positions	A Good Switch Will Indicate
<b>Ignition Coil Circuit</b>	37 (Y) B5 and 16 (R/LG) I1	Acc, Lock, Off, Run, Start	Closed Circuit in Start and Run positions only
	37 (Y) B1 and 297 (BK/LG) A1	Acc, Lock, Off, Run, Start	Closed Circuit in Run position only
<b>Acc Power Circuit</b>	37 (Y) B5 and 297 (BK/LG) A1	Acc, Lock, Off, Run, Start	Closed Circuit in Acc position only
	37 (Y) B3 and 687 (GY/Y) A3	Acc, Lock, Off, Run, Start	Closed Circuit in Run position only
<b>Run Power Circuit</b>	37 (Y) B2 and 687 (GY/Y) A2	Acc, Lock, Off, Run, Start	Closed Circuit in Run position only
	37 (Y) B4 and 687 (GY/Y) A4	Acc, Lock, Off, Run, Start	Closed Circuit in Run position only

## SCHEMATIC



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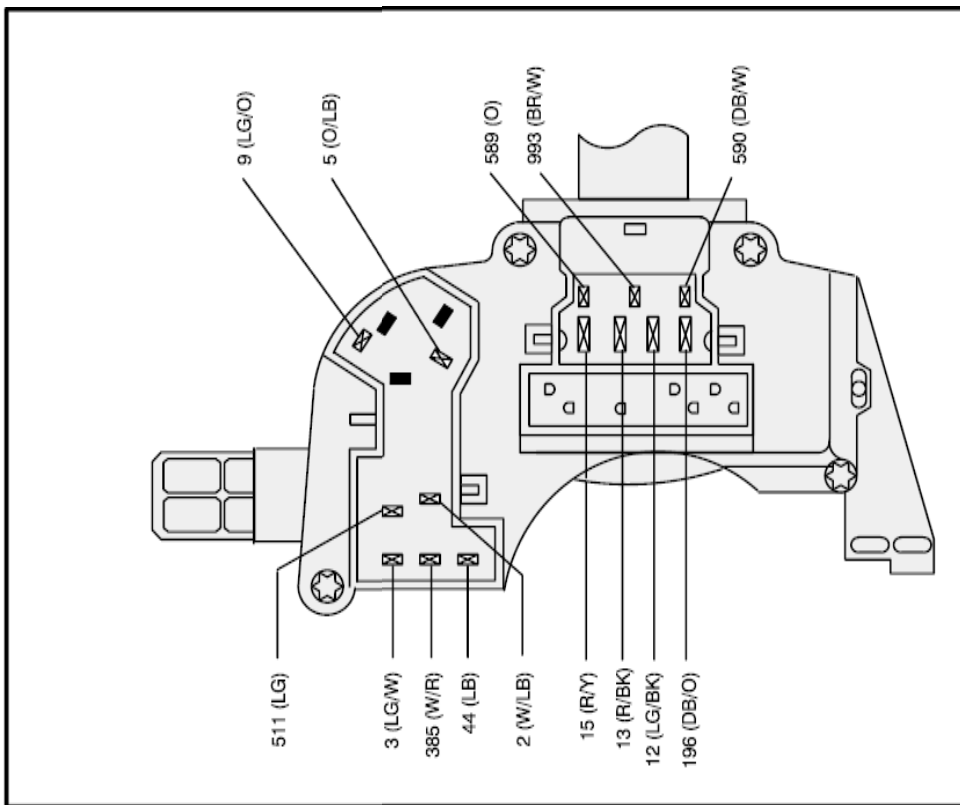
# 14933 COMPONENT TESTING: MULTI3FUNCTION SWITCH

1997 F3250 HD/350/SUPER DUTY

## COMPONENT TESTING PROCEDURE

TO TEST	Connect Self3 Powered Test Light or Ohmmeter to Terminals	Move Switch to These Positions	A Good Switch Will Indicate
Washer Switch Circuit	590 (DB/W) and 993 (BR/W)	With Wiper Switch OFF: Push Washer Switch in Release Washer Switch	Closed Circuit 103.3K ohm
Wiper Switch Circuit	589 (O) and 993 (BR/W)	Off Int Lo Hi	47.6K ohm ±5% 11.33K ohm ±5% 4.08K ohm ±5% Closed Circuit
Interval Time Adjust	590 (DB/W) and 993 (BR/W)	Int and Off  Lo and Hi	Rotate control toward OFF: Ohmmeter will show smoothly increasing resistance from 3.3K ohm min. to 103.3K ohm max. (±10%)  3.3K ohm ±10%

## TERMINALS



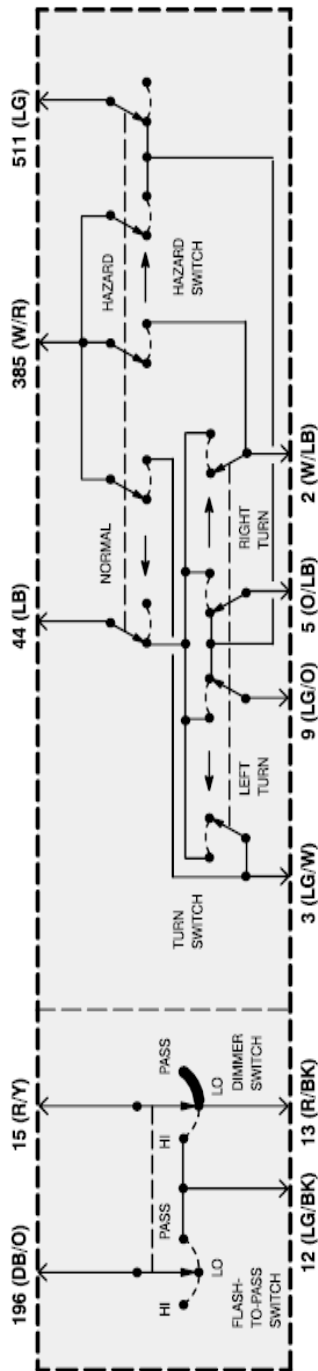
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# COMPONENT TESTING: MULTI(FUNCTION SWITCH 149(4

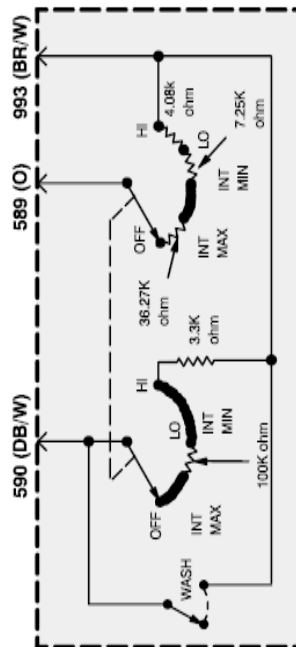
1997 F(250 HD/350/SUPER DUTY

## SCHEMATIC

### SCHEMATIC - DIMMER, FLASH TO PASS, TURN/HAZARD PORTION OF MULTI - FUNCTION SWITCH



### SCHEMATIC - WIPER/WASHER PORTION OF MULTI - FUNCTION SWITCH



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# 14995 COMPONENT TESTING: MULTI-FUNCTION SWITCH

1997 F250 HD/350/SUPER DUTY

## COMPONENT TESTING PROCEDURE

TO TEST	Connect Self-powered Test Lamp or Ohmmeter to Terminals	Move Switch to These Positions	A Good Switch Will Indicate
Flasher Pass	196(DB/O) and 12 (LG/BK) 15(R/Y) and 13(R/BK)	Lever stalk pull and hold toward steering wheel.	Closed Circuit
Dimmer HI Beam	15(R/Y) and 12(LG/BK)	Lever stalk away from steering wheel.	Closed Circuit
Dimmer LO Beam	15(R/Y) and 13(R/BK)	Lever stalk in detent closest to steering wheel.	Closed Circuit
Turn Switch Circuit	44(LB) and 9(LG/O), 44(LB) and 3(LG/W)	Turn Switch to TURN LEFT and Hazard Switch to OFF.	Closed Circuit
	44(LB) and 5(O/LB), 44(LB) and 2(W/LB)	Turn Switch to TURN RIGHT and Hazard Switch to OFF.	Closed Circuit
Hazard Switch	385(W/R) and 2(W/LB), 5(O/LB), 3(LG/W), 9(LG/O)	Hazard Switch ON (Button depressed then released to FULL OUT position).	Closed Circuit
Stop Lamp Feed Through Circuit	511(LG) and 9(LG/O) 511(LG) and 5(O/LB)	Turn Switch to center (No Turn) and Hazard Switch to OFF.	Closed Circuit

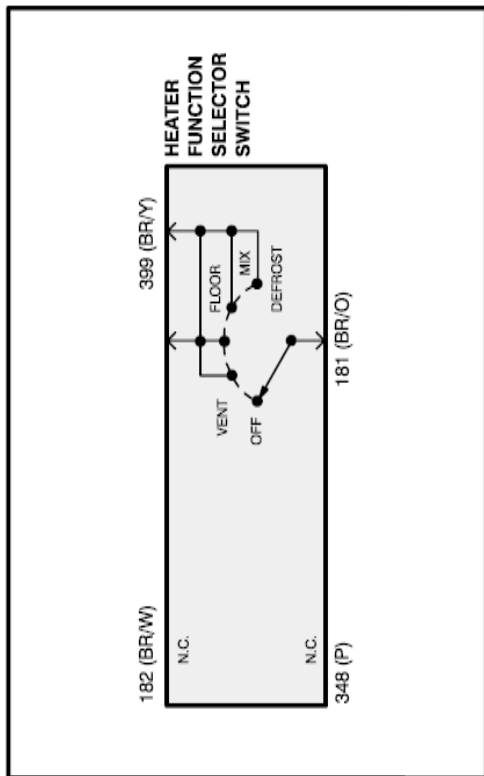
# COMPONENT TESTING: HEATER FUNCTION SELECTOR SW. 14966

1997 F6250 HD/350/SUPER DUTY

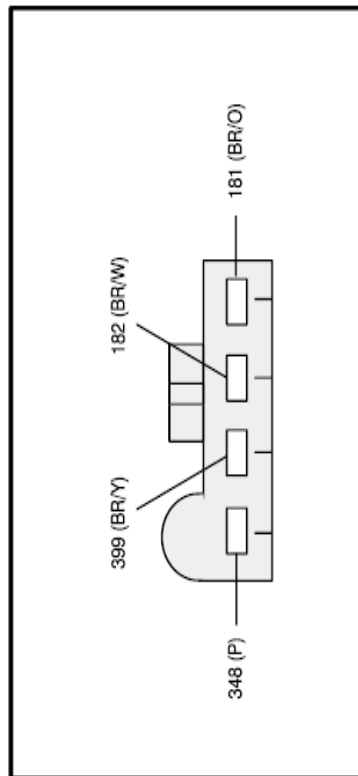
## COMPONENT TESTING PROCEDURE

TO TEST	Connect Self6 Powered Test Lamp or Ohmmeter to These Terminals	Move Switch to These Positions	A Good Switch Will Indicate
Heater Function Selector Switch	399 (BR/Y) and 181 (BR/O)	Off Vent Floor Mix Defrost	Open Circuit Closed Circuit Closed Circuit Closed Circuit Closed Circuit
	182 (BR/W) and 348 (P)	Any Position	Open Circuit

## SCHEMATIC



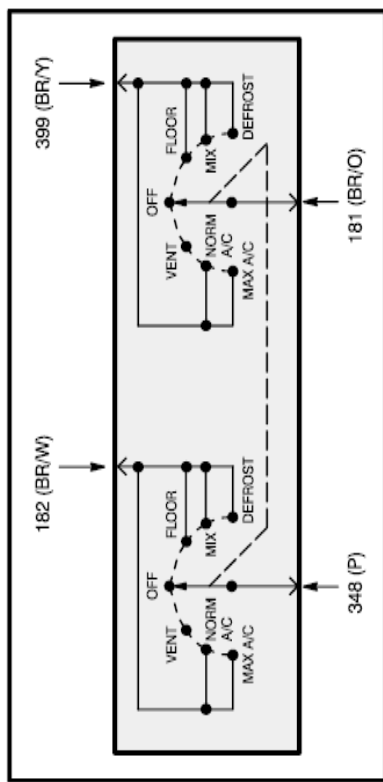
## TERMINAL LOCATIONS



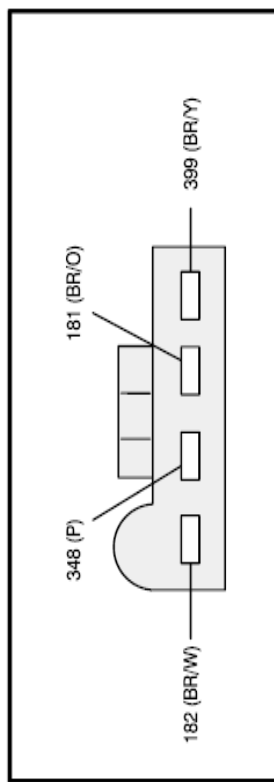
# 14947 COMPONENT TESTING: A/C FUNCTION SELECTOR SWITCH

1997 F4250 HD/350/SUPER DUTY

**SCHEMATIC**



**TERMINAL LOCATIONS**



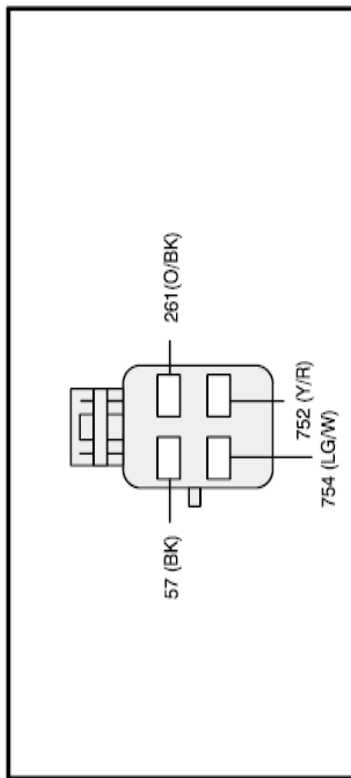
**COMPONENT TESTING PROCEDURE**

TO TEST	Connect Self4 Powered Test Lamp or Ohmmeter to Terminals	Move Switch to These Positions	A Good Switch Will Indicate
A/C Clutch Circuit	182 (BR/W) and 348 (P)	Off Max A/C Norm A/C Vent Floor Mix Defrost	Open Circuit Closed Circuit Closed Circuit Open Circuit Open Circuit Closed Circuit Closed Circuit
Blower Motor Circuit	399 (BR/Y) and 181 (BR/O)	Off All other positions	Open Circuit Closed Circuit

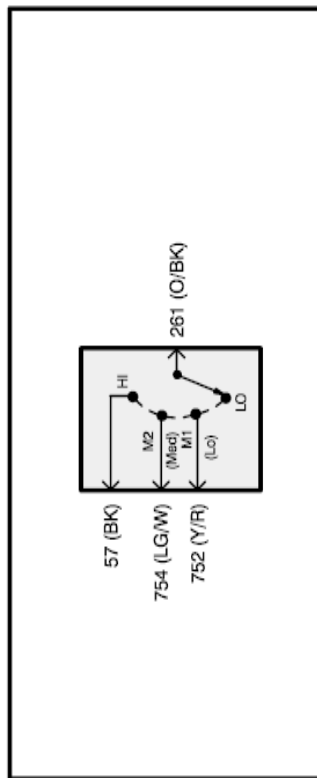
# COMPONENT TESTING: BLOWER MOTOR SWITCH 14948

1997 F4250 HD/350/SUPER DUTY

## TERMINAL LOCATIONS



## SCHEMATIC



## COMPONENT TESTING PROCEDURE

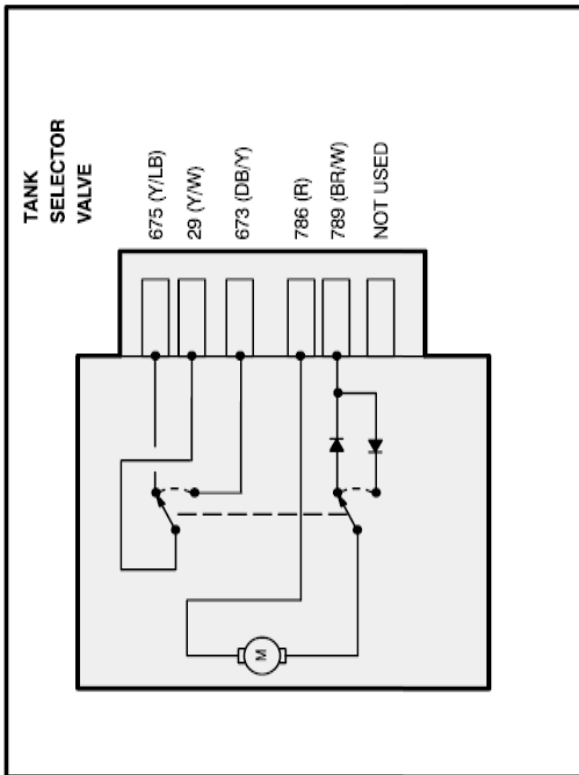
TO TEST	Connect Self4 Powered Test Lamp or Ohmmeter to Terminals	Move Switch to These Positions	A Good Switch Will Indicate
Medium4 Low Speed	261 (O/BK) and 752 (Y/R)	Lo M1 M2 Hi	Open Circuit Closed Circuit Open Circuit Open Circuit
Medium Speed	261 (O/BK) and 754 (LG/W)	Lo M1 M2 Hi	Open Circuit Open Circuit Closed Circuit Open Circuit
High Speed	261 (O/BK) and 57 (BK)	Lo M1 M2 Hi	Open Circuit Open Circuit Open Circuit Closed Circuit



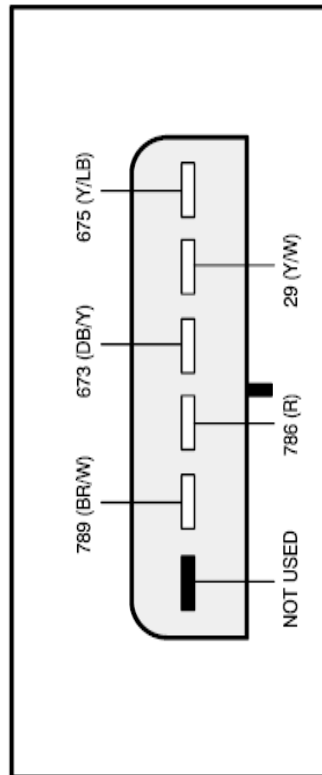
# 149-9 COMPONENT TESTING: TANK SELECTOR VALVE (DIESEL ONLY)

1997 F-250 HD/350/SUPER DUTY

**SCHEMATIC**



**TERMINAL LOCATIONS**



**COMPONENT TESTING PROCEDURE**

TO TEST	Briefly Apply 12 V Power to Terminals	Connect Self-Powered Test Lamp or Ohmmeter to Terminals	A Good Switch Will Indicate
Rear Tank Circuit	789 (BR/W) (+)	29 (Y/W) and 675 (Y/LB)	Closed Circuit
	786 (R) (-)		
Front Tank Circuit	786 (R) (+)	29 (Y/W) and 675 (Y/LB)	Open Circuit
	789 (BR/W) (-)		
		29 (Y/W) and 673 (DB/Y)	Closed Circuit

Check that source and return valve transfer between front and rear positions.

**NOTE:** A brief "zip" sound can be heard as the valve transfers.