

54.11.400 Specifications

Specifications

NOTE: Check ServiceLink for vehicle-specific pinout information.

For a plan view of the switch hub module pinouts, see Fig. 1 .

For switch hub module pinout information, see Table 1 , Table 2 , Table 3 , Table 4 , Table 5 , Table 6 , Table 7 , Table 8 , and Table 9 .

For switch hub module power supply fuses and associated outputs, see Table 10 .

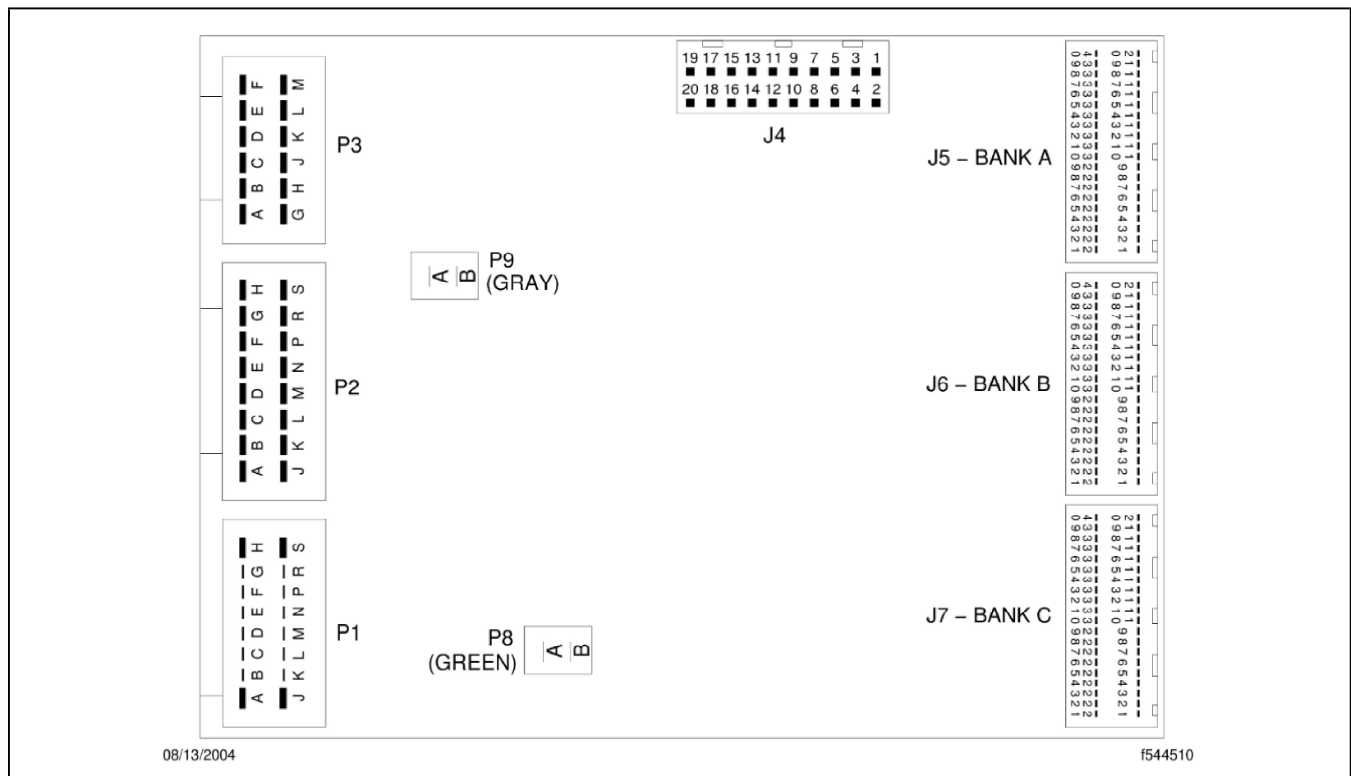


Fig. 1, Switch Hub Module Circuit Layout

Pinouts at SHM Connector P1		
Connector Pin	Signal Name	Signal Type
P1-A	Air/Electric Door Open	0.5A HSD Output #12
P1-B	Ignition	Switch to Battery with Wakeup
P1-C	Module Wake-Up Signal	Digital Input

Pinouts at SHM Connector P1		
Connector Pin	Signal Name	Signal Type
P1-D	Buzzer 1—Switch Panel	0.5A HSD Output #1
P1-E	Air/Electric Door Close	0.5A HSD Output #11
P1-F	J1939— Data Bus Connection	Data Bus Connection
P1-G	J1939+ Data Bus Connection	Data Bus Connection
P1-H	Right Front Amber Warning	6.7A HSD Output #7 with Current Sense
P1-J	Unused	—
P1-K	Buzzer 2—Switch Panel (Warning System)	0.5A HSD Output #2
P1-L	Right Rear Red Warning	6.7A HSD Output #12 with Current Sense
P1-M	Right Front Red Warning	6.7A HSD Output #11 with Current Sense
P1-N*	Entrance Service Door Closed	Spare Digital Input #4
P1-P	Right Rear Amber Warning	6.7A HSD Output #8 with Current Sense
P1-R	Service Brakes	Switch to GND with Wakeup and Hardware-based Output Control
P1-S*	Entrance Service Door Open	Spare Digital Input #5

* The function listed for this pin is the highest priority. If this function is not present, the output may be used for another function.

Table 1, Pinouts at SHM Connector P1

Pinouts at SHM Connector P2		
Connector Pin	Signal Name	Signal Type

Pinouts at SHM Connector P2		
Connector Pin	Signal Name	Signal Type
P2-A*	Heater 1—Driver-Side Front, Low-Speed Relay	0.5A HSD Output #6
P2-B*	Heater 1—Driver-Side Front, High-Speed Relay	0.5A HSD Output #5
P2-C	Entrance Service Door Status	Spare Digital Input #1 Switch to GND Input
P2-D*	Strobe Light Relay	0.5A HSD Output #8
P2-E	Lower Left Taillight	3.0A HSD Output #1
P2-F	Lower Right Taillight	3.0A HSD Output #2
P2-G	Escape Hatch Open	Spare Digital Input #3
P2-H	Unused	—
P2-J*	Air-Operated Stop Arm Control	0.5A HSD Output #10
P2-K	Left Rear Red Warning	6.7A HSD Output #10 with Current Sense
P2-L	Passenger Window Sash	Spare Digital Input #2 Switch to GND Input
P2-M	Left Front Red Warning	6.7A HSD Output #9 with Current Sense
P2-N*	Video Camera Box LED	0.5A HSD Output #7
P2-P	Left Rear Amber Warning	6.7A HSD Output #6 with Current Sense
P2-R	Lower Right Brake Light	6.7A HSD Output #3 with Current Sense
P2-S*	—	0.5A HSD Output #9

* The function listed for this pin is the highest priority. If this function is not present, the output may be used for another function.

Table 2, Pinouts at SHM Connector P2

Pinouts at SHM Connector P3		
Connector Pin	Signal Name	Signal Type
P3-A	Left Front Amber Warning	6.7A HSD Output #5 with Current Sense
P3-B	J1708– Data Bus Connection	Data Bus Connection
P3-C	Lower Right Backup Light	6.7A PWM HSD Output #1 with Current Sense
P3-D*	Heater 2—Driver-Side Rear, Low-Speed Relay	0.5A HSD Output #3
P3-E	Lower Left Backup Light	6.7A HSD Output #2 with Current Sense
P3-F	Upper Left Taillight	3.0A HSD Output #4 with Hardware Control
P3-G	Front Dome Light	13A PWM LSD Output #1
P3-H	Lower Left Brake Light	6.7A HSD Output #4 with Current Sense
P3-J	J1708+ Data Bus Connection	Data Bus Connection
P3-K	Upper Right Taillight	3.0A HSD Output #3 with Hardware Control
P3-L	Heater 2—Driver-Side Rear, High-Speed Relay	0.5A HSD Output #4
P3-M	Rear Dome Light	13A PWM LSD Output #2

* The function listed for this pin is the highest priority. If this function is not present, the output may be used for another function.

Table 3, Pinouts at SHM Connector P3

Pinouts at SHM Connector J4		
Connector Pin	Signal Name	Signal Type

Pinouts at SHM Connector J4		
Connector Pin	Signal Name	Signal Type
J4-1	Right Backup	BOD Low-side LED #1 Drive
J4-2	Left Backup	BOD Low-side LED #2 Drive
J4-3	Right Tail	BOD Low-side LED #3 Drive
J4-4	Left Tail	BOD Low-side LED #4 Drive
J4-5	Right Turn	BOD Low-side LED #5 Drive
J4-6	Left Turn	BOD Low-side LED #6 Drive
J4-7	Right Stop	BOD Low-side LED #7 Drive
J4-8	Left Stop	BOD Low-side LED #8 Drive
J4-9	Battery Power	SS and BOD Power
J4-10	Battery Power	SS and BOD Power
J4-11	No Connect (Battery on Display)	—
J4-12	No Connect (Battery on Display)	—
J4-13	Right Rear Red	BOD Low-side LED #9 Drive
J4-14	Left Rear Red	BOD Low-side LED #10 Drive
J4-15	Right Rear Amber	BOD Low-side LED #11 Drive
J4-16	Left Rear Amber	BOD Low-side LED #12 Drive
J4-17	Right Front Red	BOD Low-side LED #13 Drive
J4-18	Left Front Red	BOD Low-side LED #14 Drive
J4-19	Right Front Amber	BOD Low-side LED #15 Drive
J4-20	Left Front Amber	BOD Low-side LED #16 Drive

Table 4, Pinouts at SHM Connector J4

Pinouts at SHM Connector J5—Bank A		
Connector Pin	Signal Name	Signal Type
J5-1	Smart Switch Ground	Signal Ground
J5-2	SSA6 Indicator	Smart Switch LED Drive
J5-3	SSA4 Indicator	Smart Switch LED Drive
J5-4	SSA3 Indicator	Smart Switch LED Drive
J5-5	SSA1 Indicator	Smart Switch LED Drive
J5-6	Smart Switch Backlight	Smart Switch Backlight
J5-7	SSA2 Switch Position	Smart Switch Analog Input
J5-8	Smart Switch Ground	Signal Ground
J5-9	SSA4 Switch Position	Smart Switch Analog Input
J5-10	SSA3 ID1	Smart Switch Analog Input
J5-11	SSA2 ID1	Smart Switch Analog Input
J5-12	SSA1 ID2	Smart Switch Analog Input
J5-13	SSA4 ID1	Smart Switch Analog Input
J5-14	SSA5 ID2	Smart Switch Analog Input
J5-15	Smart Switch Ground	Signal Ground
J5-16	SSA6 Switch Position	Smart Switch Analog Input
J5-17	SSA6 ID1	Smart Switch Analog Input
J5-18	SSA7 ID1	Smart Switch Analog Input
J5-19	SSA8 ID2	Smart Switch Analog Input
J5-20	Smart Switch Ground	Signal Ground
J5-21	SSA8 Indicator	Smart Switch LED Drive
J5-22	SSA7 Indicator	Smart Switch LED Drive

Pinouts at SHM Connector J5—Bank A		
Connector Pin	Signal Name	Signal Type
J5-23	SSA5 Indicator	Smart Switch LED Drive
J5-24	Smart Switch Ground	Signal Ground
J5-25	SSA2 Indicator	Smart Switch LED Drive
J5-26	Smart Switch Power	SS and BOD Power
J5-27	SSA1 Switch Position	Smart Switch Analog Input
J5-28	SSA3 Switch Position	Smart Switch Analog Input
J5-29	SSA4 ID2	Smart Switch Analog Input
J5-30	SSA3 ID2	Smart Switch Analog Input
J5-31	SSA2 ID2	Smart Switch Analog Input
J5-32	Smart Switch Ground	Signal Ground
J5-33	SSA1 ID1	Smart Switch Analog Input
J5-34	SSA5 Switch Position	Smart Switch Analog Input
J5-35	SSA5 ID1	Smart Switch Analog Input
J5-36	SSA6 ID2	Smart Switch Analog Input
J5-37	SSA7 Switch Position	Smart Switch Analog Input
J5-38	SSA7 ID2	Smart Switch Analog Input
J5-39	SSA8 Switch Position	Smart Switch Analog Input
J5-40	SSA8 ID1	Smart Switch Analog Input

Table 5, Pinouts at SHM Connector J5—Bank A

Pinouts at SHM Connector J6—Bank B		
Connector Pin	Signal Name	Signal Type
J6-1	Smart Switch Ground	Signal Ground

Pinouts at SHM Connector J6—Bank B		
Connector Pin	Signal Name	Signal Type
J6-2	SSB6 Indicator	Smart Switch LED Drive
J6-3	SSB4 Indicator	Smart Switch LED Drive
J6-4	SSB3 Indicator	Smart Switch LED Drive
J6-5	SSB1 Indicator	Smart Switch LED Drive
J6-6	Smart Switch Backlight	Smart Switch Backlight
J6-7	SSB2 Switch Position	Smart Switch Analog Input
J6-8	Smart Switch Ground	Signal Ground
J6-9	SSB4 Switch Position	Smart Switch Analog Input
J6-10	SSB3 ID1	Smart Switch Analog Input
J6-11	SSB2 ID1	Smart Switch Analog Input
J6-12	SSB1 ID2	Smart Switch Analog Input
J6-13	SSB4 ID1	Smart Switch Analog Input
J6-14	SSB5 ID2	Smart Switch Analog Input
J6-15	Smart Switch Ground	Signal Ground
J6-16	SSB6 Switch Position	Smart Switch Analog Input
J6-17	SSB6 ID1	Smart Switch Analog Input
J6-18	SSB7 ID1	Smart Switch Analog Input
J6-19	SSB8 ID2	Smart Switch Analog Input
J6-20	Smart Switch Ground	Signal Ground
J6-21	SSB8 Indicator	Smart Switch LED Drive
J6-22	SSB7 Indicator	Smart Switch LED Drive
J6-23	SSB5 Indicator	Smart Switch LED Drive

Pinouts at SHM Connector J6—Bank B		
Connector Pin	Signal Name	Signal Type
J6-24	Smart Switch Ground	Signal Ground
J6-25	SSB2 Indicator	Smart Switch LED Drive
J6-26	Smart Switch Power	SS and BOD Power
J6-27	SSB1 Switch Position	Smart Switch Analog Input
J6-28	SSB3 Switch Position	Smart Switch Analog Input
J6-29	SSB4 ID2	Smart Switch Analog Input
J6-30	SSB3 ID2	Smart Switch Analog Input
J6-31	SSB2 ID2	Smart Switch Analog Input
J6-32	Smart Switch Ground	Signal Ground
J6-33	SSB1 ID1	Smart Switch Analog Input
J6-34	SSB5 Switch Position	Smart Switch Analog Input
J6-35	SSB5 ID1	Smart Switch Analog Input
J6-36	SSB6 ID2	Smart Switch Analog Input
J6-37	SSB7 Switch Position	Smart Switch Analog Input
J6-38	SSB7 ID2	Smart Switch Analog Input
J6-39	SSB8 Switch Position	Smart Switch Analog Input
J6-40	SSB8 ID1	Smart Switch Analog Input

Table 6, Pinouts at SHM Connector J6—Bank B

Pinouts at SHM Connector J7—Bank C		
Connector Pin	Signal Name	Signal Type
J7-1	Smart Switch Ground	Signal Ground
J7-2	SSC6 Indicator	Smart Switch LED Drive

Pinouts at SHM Connector J7—Bank C		
Connector Pin	Signal Name	Signal Type
J7-3	SSC4 Indicator	Smart Switch LED Drive
J7-4	SSC3 Indicator	Smart Switch LED Drive
J7-5	SSC1 Indicator	Smart Switch LED Drive
J7-6	Smart Switch Backlight	Smart Switch Backlight
J7-7	SSC2 Switch Position	Smart Switch Analog Input
J7-8	Smart Switch Ground	Signal Ground
J7-9	SSC4 Switch Position	Smart Switch Analog Input
J7-10	SSC3 ID1	Smart Switch Analog Input
J7-11	SSC2 ID1	Smart Switch Analog Input
J7-12	SSC1 ID2	Smart Switch Analog Input
J7-13	SSC4 ID1	Smart Switch Analog Input
J7-14	SSC5 ID2	Smart Switch Analog Input
J7-15	Smart Switch Ground	Signal Ground
J7-16	SSC6 Switch Position	Smart Switch Analog Input
J7-17	SSC6 ID1	Smart Switch Analog Input
J7-18	SSC7 ID1	Smart Switch Analog Input
J7-19	SSC8 ID2	Smart Switch Analog Input
J7-20	Smart Switch Ground	Signal Ground
J7-21	SSC8 Indicator	Smart Switch LED Drive
J7-22	SSC7 Indicator	Smart Switch LED Drive
J7-23	SSC5 Indicator	Smart Switch LED Drive
J7-24	Smart Switch Ground	Signal Ground

Pinouts at SHM Connector J7—Bank C		
Connector Pin	Signal Name	Signal Type
J7-25	SSC2 Indicator	Smart Switch LED Drive
J7-26	Smart Switch Power	SS and BOD Power
J7-27	SSC1 Switch Position	Smart Switch Analog Input
J7-28	SSC3 Switch Position	Smart Switch Analog Input
J7-29	SSC4 ID2	Smart Switch Analog Input
J7-30	SSC3 ID2	Smart Switch Analog Input
J7-31	SSC2 ID2	Smart Switch Analog Input
J7-32	Smart Switch Ground	Signal Ground
J7-33	SSC1 ID1	Smart Switch Analog Input
J7-34	SSC5 Switch Position	Smart Switch Analog Input
J7-35	SSC5 ID1	Smart Switch Analog Input
J7-36	SSC6 ID2	Smart Switch Analog Input
J7-37	SSC7 Switch Position	Smart Switch Analog Input
J7-38	SSC7 ID2	Smart Switch Analog Input
J7-39	SSC8 Switch Position	Smart Switch Analog Input
J7-40	SSC8 ID1	Smart Switch Analog Input

Table 7, Pinouts at SHM Connector J7—Bank C

Pinouts at SHM Connector P8		
Connector Pin	Signal Name	Signal Type
P8-1	Main Battery Power Feed 1	Module Power
P8-2	Main Battery Power Feed 2	Module Power

Table 8, Pinouts at SHM Connector P8

Pinouts at SHM Connector P9		
Connector Pin	Signal Name	Signal Type
P9-1	Main Battery Power Feed 3	Module Power
P9-2	Main Ground Feed	Module Ground

Table 9, Pinouts at SHM Connector P9

Switch Hub Module Power Supply Fuses and Associated Outputs				
SHM Power Input	SHM Power Input Pin	Fuse Supplying SHM Power Input	SHM Outputs Supplied	SHM Output Pin
Power In			Power Out	
VBAT1	P8.A	Fuse: SHM_BATT_1 (30A)	0.5A HSD Output #12 (air/electric door open)	P1.A
			0.5A HSD Output #1 (Panel Buzzer)	P1.D
			0.5A HSD Output #11 (Air/Electric Door Close)	P1.E
			0.5A HSD Output #2 (Warning System Buzzer)	P1.K
			6.7A HSD Output #10 (LH Rear Red Warning)	P2.K
			6.7A HSD Output #9 (LH Front Red Warning)	P2.M
			6.7A HSD Output #6 (LH Rear Amber Warning)	P2.P
			6.7A HSD Output #5 (LH Front Amber Warning)	P3.A
VBAT2	P8.B	Fuse: SHM_BATT_2 (30A)	6.7A HSD Output #1 (RH Lower Reverse Light)	P3.C
			6.7A HSD Output #7 (RH Front Amber Warning)	P1.H

Switch Hub Module Power Supply Fuses and Associated Outputs				
SHM Power Input	SHM Power Input Pin	Fuse Supplying SHM Power Input	SHM Outputs Supplied	SHM Output Pin
Power In			Power Out	
			6.7A HSD Output #12 (RH Rear Red Warning)	P1.L
			6.7A HSD Output #11 (RH Front Red Warning)	P1.M
			6.7A HSD Output #8 (RH Rear Amber Warning)	P1.P
			0.5A HSD Output #10 (Differential Lock)	P2.J
			0.5A HSD Output #9 (Park Brake Set)	P2.S
			0.5A HSD Output #3 (Htr #2 LH AFT Low-Speed Relay)	P3.D
			6.7A HSD Output #2 (LH Lower Reverse Light)	P3.E
			0.5A HSD Output #4 (Htr #2 LH AFT High-Speed Relay)	P3.L
VBAT3	P9.8	Fuse: SHM_BATT_3 (30A)	0.5A HSD Output #6 (Htr #1 LH FWD Low-Speed Relay)	P2.A
			0.5A HSD Output #5 (Htr #2 LH FWD High-Speed Relay)	P2.B
			0.5A HSD Output #8 (Strobe Light Relay)	P2.D
			3.0A HSD Output #1 (LH Lower Taillight)	P2.E
			3.0A HSD Output (RH Lower Taillight)	P2.F
			0.5A HSD Output #7 (Video Camera Box LED)	P2.N
			6.7A HSD Output #3 (RH Lower Brake Light)	P2.R

Switch Hub Module Power Supply Fuses and Associated Outputs				
SHM Power Input	SHM Power Input Pin	Fuse Supplying SHM Power Input	SHM Outputs Supplied	SHM Output Pin
Power In			Power Out	
			3.0A HSD Output #4 (LH Upper Taillight)	P3.F
			6.7A HSD Output #4 (LH Lower Brake Light)	P3.H
			3.0A HSD Output #3 (RH Upper Taillight)	P3.K

Table 10, Switch Hub Module Power Supply Fuses and Associated Outputs

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