

INSTRUCTION SHEET FOR MODEL SW400SS & SW400SSJ SWITCH MODULES

SAFETY MESSAGE TO INSTALLERS



People's lives depend on your safe installation of our products. It is important to read, understand and follow all instructions shipped with the products. In addition, listed below are some other important safety instructions and precautions you should follow:

- To properly install the equipment described in this instruction sheet: you must have a good understanding of automotive electrical procedures and systems, along with proficiency in the installation and use of safety warning equipment.
- DO NOT install equipment or route wiring in the deployment path of an air bag.
- Locate the switch module so the VEHICLE and CONTROLS can be operated safely under all driving conditions.
- When drilling into a vehicle structure, be sure that both sides of the surface are clear of anything that could be damaged.
- File these instructions in a safe place and refer to them when maintaining and/or re-installing the product.

Failure to follow all safety precautions and instructions may result in property damage, serious injury, or death to you or others.

A. GENERAL.

The Models SW400SS and SW400SSJ Switch Modules are designed to accommodate a 4-position slide switch and four rocker type switches, which are used to control various vehicle mounted devices. The slide switch provides a "progressive" switching sequence. Position 1 operates one relay (K1); position 2 operates two relays (K1 and K2), and position 3 operates all three relays (K1, K2 and K3). Five legend inserts are installed above the switches as shown

in figure 1 and 2. Six additional legend inserts are included as part of the accessory kit packed with the Switch Module.

A single thermal lockout type circuit breaker provides protection for Modes 2 and 3 (40 amperes maximum). The circuit load current flows through the contacts of the 40-ampere relays (K2 and K3). The SPST rocker switches are protected by automotive blade type fuses rated at 20 amperes. The two-position, momentary, center-off rocker switch (Model SW400SSJ only) is protected by an automotive blade type fuse rated at 10 amperes.

The Switch Module is designed to be installed on a vehicle mounting surface via a trunion mounting bracket. It can be installed on top of Federal Model PA300 electronic siren with the hardware included in the accessory kit, and secured to the mounting surface via the bracket included with the electronic siren. Federal has available an optional trunion mounting bracket kit (Model SW-BK) which allows the Switch Module to be installed by itself.

A 4-position slide switch and four SPST rocker switches are included with the SW400SS Switch Module. A 4-position slide switch and three SPST rocker switches and one two position momentary, center off rocker switch are included with the SW400SSJ. An optional SPST momentary pushbutton switch is available by ordering SW14. The switch must be mounted independently of the Switch Module.

The switches are rated as shown in Table 1 or 2. Dimensions (HWD) are 2-3/16" x 6-1/16" x 5-7/8" (including fuses). Weight is 2 pounds.

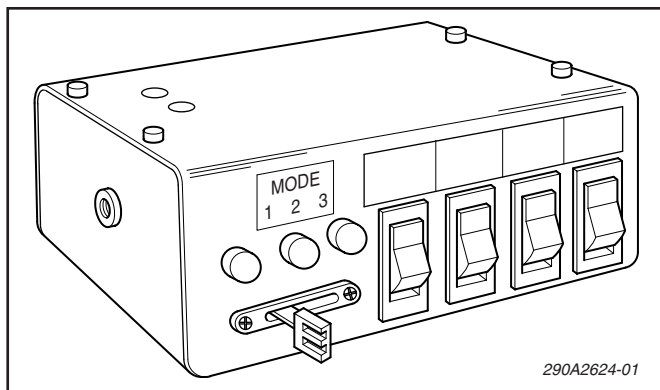


Figure 1. Switch Module.

B. INSTALLATION.

Before attempting installation, insure that the following parts have been included in the accessory kit.

Qty.	Description
2	Wire Ties
5	"Tinnerman" Clips
5	Shoulder Snap Rivets
2	Insulated 1/4" Male Terminals (YEL)
4	Insulated 1/4" Male Terminals (PINK)
5	Insulated 1/4" Male Terminals (BLUE)
6	Printed Legend Inserts (Rotating Lights, Strobe, Front Lt. Cutoff, Compartment, Rear Light and Work Light)



When installing equipment inside air bag equipped vehicles, the installer MUST ensure that the equipment is installed ONLY in areas recommended by the vehicle manufacturer.

Failure to observe this warning will reduce the effectiveness of the air bag, damage the air bag, or potentially damage or dislodge the equipment, causing serious injury or death to you or others.

If the Switch Module will be installed by itself (not on top of a Federal electronic siren), follow the installation instructions packed with the trunion mounting bracket and disregard this paragraph. To install the Switch Module on a Model PA300; proceed as follows (see figure 2):

1. Remove the four screws which secure the top of the Switch Module to its base. Carefully pull the top away from the base.
2. Loosen the two screws at the bottom of the electronic siren and slide the chassis a few inches out of its case.
3. Line up the front edge of the Switch Module base with the front of the electronic siren case. Fasten these units together with the three Tinnerman clips (supplied). Distribute the clips evenly across the front.
4. The three slots at the rear of the Siren Module base should now line-up with three ventilating holes in the electronic siren case. Insert a shoulder snap rivet (supplied) into each of the three Switch Module slots and electronic siren ventilating holes.
5. Slide the electronic siren case back into position over the chassis and tighten the two screws loosened in step 2.

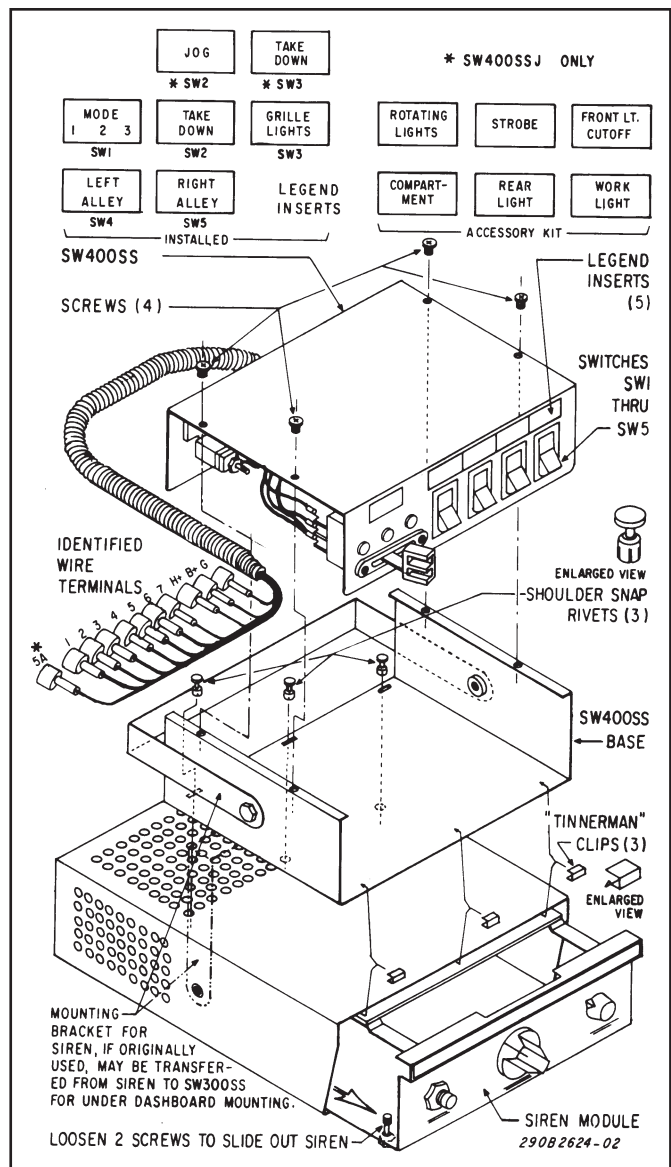


Figure 2. Installation Diagram.

6. Replace the top of the Switch Module on its base and secure with the four screws removed in step 1.

7. Select a mounting location which allows the vehicle and all controls to be operated safely under all driving conditions.



The unit must be installed in an adequately ventilated area. Never install near heat ducts.

8. Use the mounting bracket as a template and scribe two drill position marks at the selected mounting location.

CAUTION

When drilling holes in ANY part of the vehicle, ensure that both sides of the surface are clear of parts that could be damaged; such as brake lines, fuel lines, electrical wiring or other vital parts.

9. Drill two 1/4-inch diameter holes at the position marks.
10. Secure the mounting bracket to the dash with (2 each) 1/4-20 x 3/4 hex. head screws, 1/4 split lock-washers and 1/4-20 hex nuts.
11. Secure the Switch Module to the mounting bracket with 1/4-20 x 3/8 hex. head screws and 1/4 split lockwashers.
12. Tilt the unit to the desired position and tighten the 1/4-20 x 3/8 hex. head screws.

C. WIRING.

Figure 3 and table 1 for SW400SS, and figure 4 and table 2 for SW400SSJ illustrate the correlation of the wires to the corresponding switches and maximum current capacities. The first slide switch position (leftmost) is the OFF position.

Insulated male terminals, which mate with the female terminals on the Switch Module wiring harness, have been included in the accessory kit to facilitate installation. These terminals should be installed on the end of the lead wire which will mate with the wiring harness lead wire. Use yellow terminals for 8-12GA wire, blue for 14GA, and pink for 18GA.

NOTE

When using the insulated terminals, insure that all crimps are secure and that the male/female terminals slip into each other and not over.

To properly wire the Switch Module, perform the following procedure:

1. See figure 3 or 4 and table 1 or 2. Use the recommended wire gauge with appropriate connectors (yellow for 12GA, blue for 14GA, and pink for 18GA) to connect leads "1" through "7" to the applicable accessory load.
2. Use 18GA wire and connect the ground lead "G" to a RELIABLE vehicle ground. Each switched device MUST be grounded with a separate ground wire.

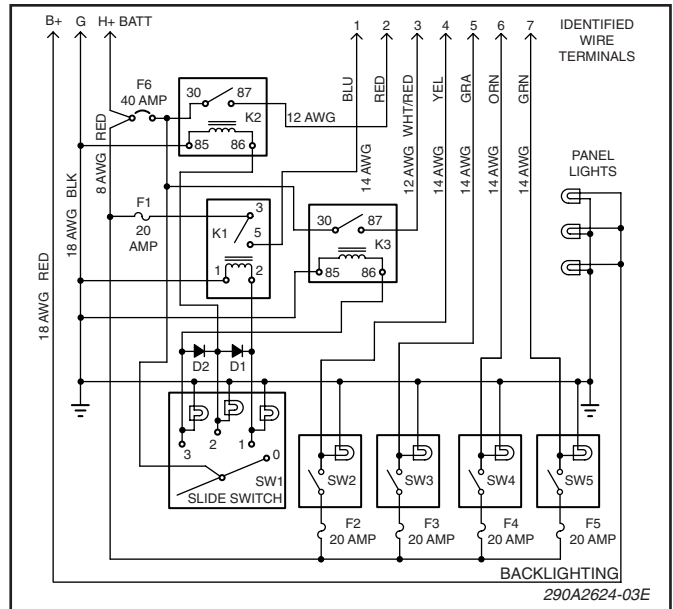


Figure 3. SW400SS Wiring Diagram.

3. Use 18GA wire and connect the backlighting circuit lead "B" to the accessory terminal of the ignition switch or the vehicle instrument light circuit.
4. Power for the Switch Module can be obtained from a 100-ampere remote/reset circuit breaker located near the battery. Use 8 GA wire and connect the power lead "H" to the circuit breaker or distribution center. If power is obtained in the engine compartment, a hole will probably have to be drilled into the vehicle firewall. Place a grommet or similar device in the hole to protect the wire against damage from rough edges.

CAUTION

When drilling holes in ANY part of the vehicle, ensure that both sides of the surface are clear of parts that could be damaged; such as brake lines, electrical wiring or other vital parts.

Switch No.	Wire No.	Current (Max)
1-Pos OFF	N.A.	N.A.
1-Pos 1*	1	20
1-Pos 2*	2	**
1-Pos 3*	3	**
2	4	20
3	5	20
4	6	20
5	7	20
* Positions 1, 2 & 3 are "progressive".		
** Maximum current for 2 and 3 combined: 40A.		

Table 1. SW400SS (See figure 3).

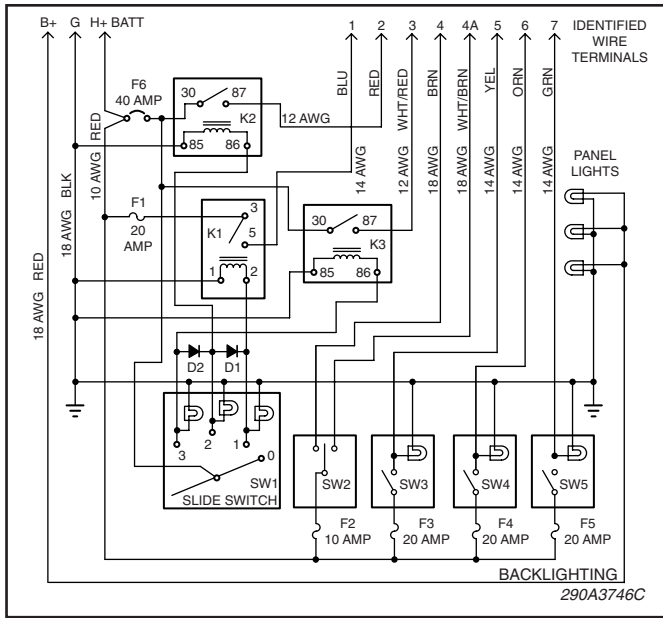


Figure 4. SW400SSJ Wiring Diagram.

Switch No.	Wire No.	Current (Max)
1-Pos OFF	N.A.	N.A.
1-Pos 1*	1	20
1-Pos 2*	2	**
1-Pos 3*	3	**
2 Up	4	10
2 Down	4A	10
3	5	20
4	6	20
5	7	20

* Positions 1, 2 & 3 are "progressive".
 ** Maximum current for 2 and 3 combined: 40A.

Table 2. SW400SSJ (See figure 4).

D. SERVICE PARTS.

CAUTION

Do not exceed fuse ratings when replacing fuses. Failure to comply may damage the unit.

Part No.	Description
*122A242	Switch, Rocker, SPST
*131190	Relay, 20A (K1)
*131A175	Relay, 40A (K2, K3)
*152123	Breaker, Circuit, 40A
*148A142	Fuse, 20A, Automotive Blade
*148A142-05	Fuse, 10A, Automotive Blade
*288529	Kit, Accessory, six legends
*122A283	Switch, Rocker, Momentary, Center off (SW400SSJ only)
*149A121	Lamp
*288819	Lamp Replacement Kit, 12V

Copyright 2007 Federal Signal Corporation