FEDERAL SIGNAL

MODELS 350 and 450

INSTALLATION INSTRUCTIONS FOR AC AND DC VIBRATORY HORNS

MODELOS 350 y 450

INSTRUCCIONES DE INSTALACION PARA CORNETAS VIBRATORIAS DE CA Y CC

MODÈLES 350 et 450

INSTRUCTIONS D'INSTALLATION POUR KLAXON VIBRATOIRE EN COURANT ALTERNATIF ET COURANT CONTINU

256918K
REV. K 210
Printed in U.S.A.

INSTALLATION INSTRUCTIONS FOR AC AND DC VIBRATORY HORNS

⚠ SAFETY MESSAGE TO INSTALLERS

People's lives depend on your safe installation of our products. It is important to follow all instructions shipped with the products. This device is to be installed by a trained electrician who is thoroughly familiar with the National Electrical Code and will follow the NEC Guidelines as well as local codes.

The selection of the mounting location for the device, its controls and the routing of the wiring is to be accomplished under the direction of the Facilities Engineer and the Safety Engineer. In addition, listed below are some other important safety instructions and precautions you should follow:

- Read and understand all instructions before installing or operating this equipment.
- Do not connect this unit to the system when power is on.
- Optimum sound distribution will be severely reduced if any objects are in front of the horn. You should ensure that the front of the horn is clear of any obstructions.
- All effective warning horns produce loud sounds which may cause, in certain situations, permanent hearing loss. The device should be installed far enough away from potential listeners to limit their exposure while still maintaining its effectiveness. The OSHA Code of Federal Regulations 1910.95 Noise Standard provides guidelines which may be used regarding permissible noise exposure levels.
- After installation, ensure that all mounting screws are tightened.
- Establish a procedure to routinely check the signal system for proper activation and operation.
- Provide a copy of these instructions to the Safety Engineer, operator(s) and maintenance personnel.
- File these instructions in a safe place and refer to them when maintaining and/or reinstalling the device.

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

⚠ SAFETY MESSAGE TO MAINTENANCE PERSONNEL

- Read and understand all instructions before performing any maintenance to this unit.
- To reduce the risk of electrical shock or ignition of hazardous atmospheres, do not perform maintenance/service on this device when circuits are energized.
- Optimum sound distribution will be reduced if the front of the horn becomes clogged with a foreign substance. Periodic checks should be performed to ensure foreign substances are not packed into the front of the horn.
- Any maintenance to the unit MUST be performed by a trained electrician in accordance with NEC Guidelines and local codes.
- Never alter the unit in any manner.
- The nameplate, which may contain cautionary or other information of importance to maintenance personnel, should not be obscured if exterior of housing is painted.

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

A. Overview

The Models 350 and 450 Vibratone® Horns are very loud electro-mechanical devices that produce a horn tone by vibration of a diaphragm. These horns are capable of reproducing coded blasts or sustained tones. The Federal Signal Vibratone horns are excellent for general alarm, start and dismissal, coded paging, and process control signaling in areas of high ambient noise levels.

The Federal Signal Vibratone® Horns are suitable for fire alarm service use. All models have a duty cycle of five minutes on, five minutes off. They can be used indoors or outdoors, depending on the back box used. When used with the weatherproof back box, Model WB, they meet TYPE 4X requirements. They may also be fitted with a single or double projector.

B. Basic Installation

The basic horn installation consists of mounting the horn on an existing 4" x 4" outlet box.

⚠WARNING

Do not connect wires when power is on.

Connect the horn electrical leads to the power source with user-supplied wire nuts.

⚠CAUTION

To minimize entry of foreign materials and moisture into the housing, ALWAYS install the two 10-32 x 1/2" Phillips head Taptite screws in the holes opposite the mounting screws.

NOTE

The Model 450 contains two red and two black wires. One set of wires (one black and one red) is used for the incoming power. The other set should be used for the outgoing power. If the outgoing wiring is not required, the remaining set of wires should be properly terminated. (Diagram A).

Mount the horn on the outlet box using the 8-32 x 1-5/8" screws provided, as indicated in the figure. (Diagram B).

1. Surface Mounting

⚠CAUTION

Refer to the introduction, warning message to installers, and basic installation instructions above before installing horn.

To mount the horn on a wall or other flat vertical surface, mount a Model NB Knockout Box with four #10 x 1" wood screws (not supplied). Connect the horn's electrical leads to the power source with user-supplied wire nuts. Mount the horn on the NB Knockout Box with the two 8-32 x 1-5/8" screws provided. (Diagram C).

2. Semi-flush Mounting

⚠CAUTION

Refer to the introduction, warning message to installers, and basic installation instructions above before installing horn.

A vibratory horn can be semi-flush mounted to a wall with a 4" x 4" electrical junction box when a Model SF Wall Plate is used. If semi-flush mounting is used, a plaster ring (raised cover) may be required. A plaster ring is not provided because the depth requirements usually vary from installation to installation.

Connect the horn's electrical leads to the power source with user-supplied wire nuts. Use the four 6-32 x 1/4" slotted head screws to attach the SF Wall Plate to the plaster ring. Use the 8-32 x 1-5/8" screws included with the horn to mount the horn on the plate. (Diagram D).

3. Weatherproof Mounting

⚠CAUTION

Refer to the introduction, warning message to installers, and basic installation instructions above before installing horn.

Weatherproof mounting of a vibratory horn requires the use of a Model WB Weatherproof Box, when a NEMA Type 4X rating is required. The WB is gasketed and has two 3/4" and one 1/2" tapped openings to accommodate 3/4" and 1/2" conduit. When mounting the horn on the WB, use the 8-32 x 1-5/8" screws included with the horn. (Diagram E).

4. Flush Mounting.

⚠CAUTION

Refer to the introduction, warning message to installers, and basic installation instructions above before installing horn.

In order to flush mount the horn, a Model FB Wall Box must be installed in the wall. Use four #10 x 1" screws for mounting the box. Before installing the horn in the box, use the two 10-32 x 1/2" Phillips head screws to attach the Model FG Grille to the horn. Connect the electrical wiring to the horn with user-supplied wire nuts and install the horn and grille assembly in the wall box using the two 8-32 x 2" slotted head screws provided. When installing the horn in the Model FBL Wall Box, use the 8-32 x 3" oval head screws included with the FG Grille. (Diagram F).

5. PR Projector Installation

⚠CAUTION

Refer to the introduction, warning message to installers, and basic installation instructions above before installing horn.

The Model PR Projector can be added to any of the installations described on this sheet. Secure the projector to the horn with the two 10-32 x 1/2" Phillips head Taptite screws provided in the accessory kit. Use two additional 8-32 slotted head screws (provided) in the remaining mounting holes of the projector. If it is desired to use either of the projectors when the horn is flush mounted, it is necessary to install the Model SF Plate instead of the FG Grille. (Diagram G).

6. PR2 Projector Installation

⚠CAUTION

Refer to the introduction, warning message to installers, and basic installation instructions above before installing horn.

The Model PR2 Projector can be added to any of the installations described on this sheet. Secure the projector to the horn with the two 10-32 x 1/2" Phillips head Taptite screws provided in the accessory kit. Use two additional 8-32 slotted head screws (provided) in the remaining mounting holes of the projector. If it is desired to use either of the projectors when the horn is flush mounted, it is necessary to install the Model SF Plate instead of the FG Grille. (Diagram H).

7. Weatherproof Panel Mounting

⚠CAUTION

Refer to the introduction, warning message to installers, and basic installation instructions above before installing horn.

The Model TR trim ring can be installed with the horn for panel mounting applications requiring Type 4X Rating. Center the trim ring between the panel and the horn. Secure the assembly to the panel using the (4) 8-32 x 1-5/8" screws, screw collars, and keps nuts (Diagram I).

NOTE

Only the hardware supplied with the Model TR should be used to ensure the Type 4X Rating.

8. Optional Weatherproof Panel Mounting Kit

When mounting the horn in a panel application requiring a NEMA 4X Rating, purchase Kit No. 8435666. This weatherproof mounting kit includes a gasket and hardware for flush mounting (Diagram J) the horn.

Communication and shipments should be addressed to:

FEDERAL SIGNAL CORPORATION
Industrial Systems
Service Department
2645 Federal Signal Drive
University Park, IL 60484-3167
708-534-4858 (Service)
708-534-3424, extension 5823 (Technical Assistance)

AUDIBILITY INFORMATION

AC HORNS

VOLTAGE	CURRENT (AMPS)	dB*	dB**
12	0.9	94	91
24	0.9	99	94
120	0.18	99	94
240	0.09	99	94

DC HORNS

VOLTAGE	CURRENT (AMPS)	dB*	dB**
12	0.50	99	94
24	0.25	99	94
125	0.05	99	94
250	0.025	99	94

* MEASURED ON-AXIS AT TEN FEET/3 METERS IN AN ANECHOIC CHAMBER.

** UNDERWRITERS LABORATORIES OMNIDIRECTIONAL SOUND PRESSURE LEVEL RATING AT TEN FEET.

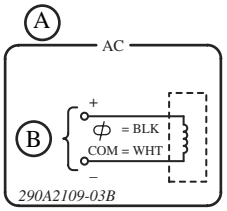
* MEDICION EN AXIS A 10 PIES/9 METROS EN UNA CAMARA ANECOICA.

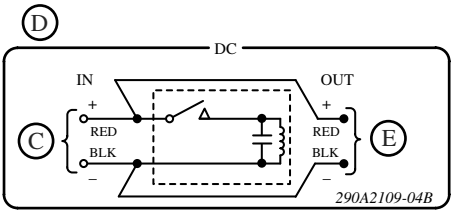
** VALOR DEL NIVEL DE PRESION DE SONIDO OMNIDIRECCIONAL A 10 PIES EN LOS LABORATORIOS DEL ASEGURADOR.

* MESURE DANS L'AXE A 3 MÈTRES DANS UN CHAMBRE SOURDE.

** LABORATOIRE DE CONTRÔLE PRESSION SONORE OMNIDIRECTIONNELLE NOMINALE A 3 MÈTRES.

A





English

A. Standard AC horn wiring
B. AC input power
C. DC input power
D. Standard DC horn wiring
E. To exit device, or insulate and terminate

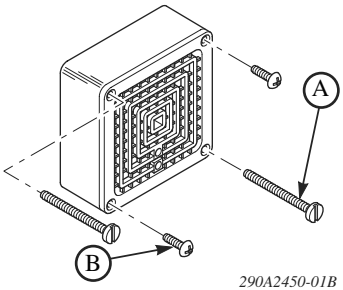
Español

A. Cableado estándar CA de la bocina
B. Potencia de entrada CA
C. Potencia de entrada DC
D. Cableado estándar DC de la bocina
E. Al siguiente dispositivo, o aislar

Français

A. Câblage standard du klaxon en courant alternatif
B. Alimentation en courant alternatif
C. Alimentation en courant alternatif
D. Câblage standard du klaxon en courant alternatif
E. Au prochain dispositif, ou isoler et terminer

B



English

A. 8-32 x 1 5/8" screw (2)
B. 10-32 x 1/2" phillips head Taptite screw (2)

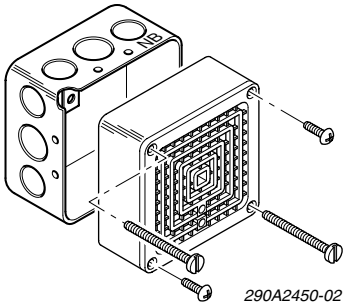
Español

A. 8-32 x 1 5/8" tornillo (2)
B. 10-32 x 1/2" tornillo Taptite de cabeza de doble ranura ortogonal (2)

Français

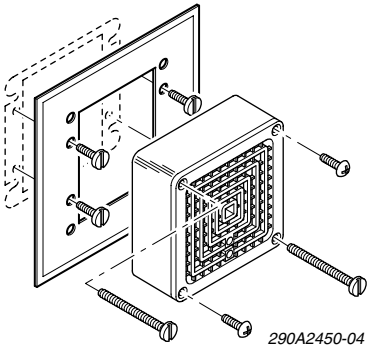
A. 8-32 x 1 5/8" vis (2)
B. 10-32 x 1/2" vis auto-taraudeuse à téte cruciforme (2)

C



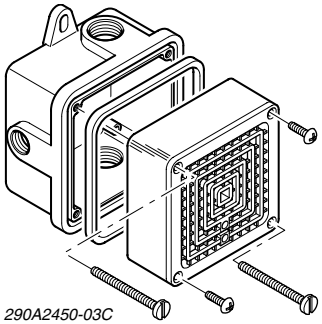
290A2450-02

D



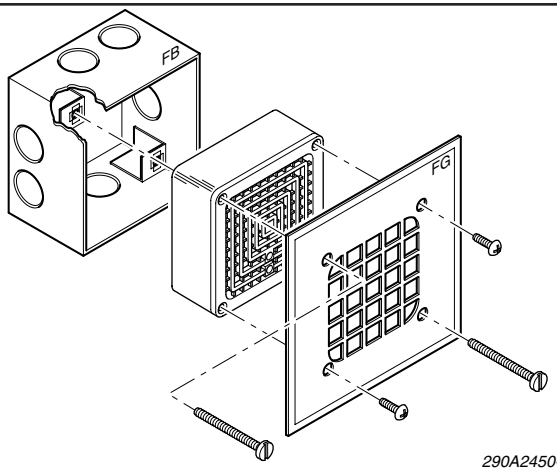
290A2450-04

E



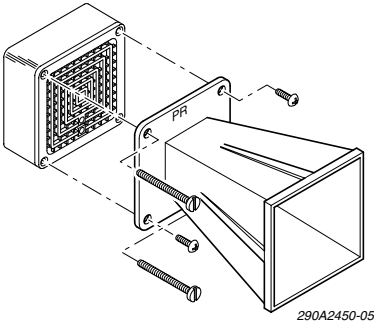
290A2450-03C

F



290A2450-08

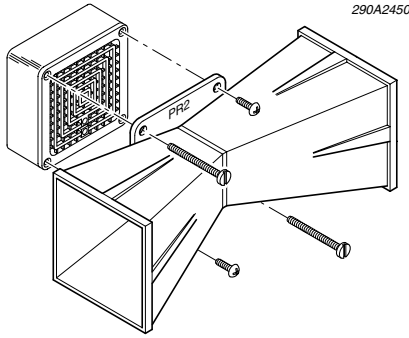
G



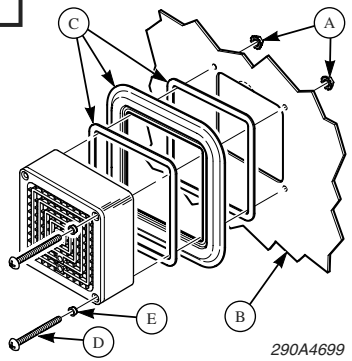
290A2450-05

H

290A2450-06



I



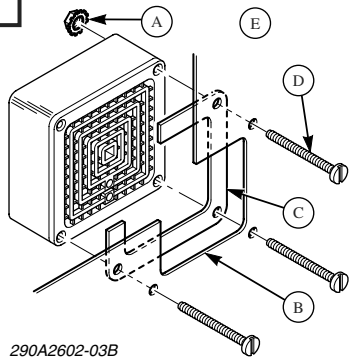
290A4699

English
A. 8-32 keps nut (4)
B. Panel
C. Trim Ring
D. Screws (4)
E. Collars (4)

Español
A. Tuercas Keps 8-32 (4)
B. Panel
C. Anillo de acabado
D. Tornillos (4)
E. Abrazaderas (4)

Français
A. Écrou d'arrêt 8-32 (4)
B. Panneau
C. Anneau enjoliveur
D. Vis (4)
E. Colliers (4)

J



290A2602-03B

English
A. 8-32 keps nut (4)
B. Panel
C. Gasket
D. #8-32 x 1 5/8" screw (4)
E. Flush mount

Español
A. 8-32 tuercas keps (4)
B. Panel
C. Junta
D. #8-32 x 1 5/8" tornillos (4)
E. Montaje a ras

Français
A. 8-32 écrous keps (4)
B. Panneau
C. Joint
D. #8-32 x 1 5/8" vis (4)
E. Montage à ras