FEDERAL SIGNAL
Safety and Security Systems

Advancing security and well-being.

MODULATOR SERIES B SPEAKER ARRAYS

INSTALLATION AND MAINTENANCE INSTRUCTIONS

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SAFETY NOTICES

People's lives depend on your selection of suitable equipment and installation sites and your safe installation, service, and operation of our products. Federal Signal recommends the following publications from the Federal Emergency Management Agency for assistance with planning an outdoor warning system: 1. The "Outdoor Warning Guide" (CPG 1-17), 2. "Civil Preparedness, Principles of Warning" (CPG 1-14), 3. FEMA-REP-1, Appendix 3 (Nuclear Plant Guideline), 4. FEMA-REP-10 (Nuclear Plant Guideline), 5. Occupational Safety and Health Administration (OSHA), 6. National Institute for Occupational Safety and Health (NIOSH), and 7. National Fire Protection Association (NFPA) guidelines as applicable.. Contact Alerting and Notification System's Customer Care Center at: http://www.alertnotification.com or 1-800-524-3021 for further information about these publications.

It is important to read, understand and follow all instructions shipped with this product. In addition, listed below are some other important safety instructions and precautions you should follow.

PLANNING

- If suitable warning equipment is not selected, the installation site for the siren is not selected properly or the siren is not installed properly, it may not produce the intended optimum audible warning. Follow Federal Emergency Management Agency (FEMA) recommendations.

- If sirens are not activated in a timely manner when an emergency condition exists, they cannot provide the intended audible warning. It is imperative that knowledgeable people, who are provided with the necessary information, are available at all times to authorize the activation of the sirens.

- When sirens are used out of doors, people indoors may not be able to hear the warning signals. Separate warning devices or procedures may be needed to effectively warn people indoors.

- The sound output of sirens is capable of causing permanent hearing damage. To prevent excessive exposure, carefully plan siren placement, post warnings, and restrict access to areas near sirens.

- Activating the sirens may not result in people taking the desired actions if those to be warned are not properly trained about the meaning of siren sounds. Siren users should follow FEMA recommendations and instruct those to be warned of correct actions to be taken.

- A siren that doesn't work won't provide any warning. After installation, service, or maintenance, test the siren system to confirm that it is operating properly. Test the system regularly to confirm that it will be operational in an emergency.

- If future service and operating personnel do not have these instructions to refer to, the siren system may not provide the intended audible warning and service personnel may be exposed to death, permanent hearing loss, or other bodily injury. File these instructions in a safe place and refer to them periodically. Give a copy of these instructions to new recruits and trainees. Also give a copy to anyone who is going to service or repair the siren.

SAFETY NOTICES

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

INSTALLATION & SERVICE

- Electrocution or severe personal injury can occur when performing various installation and service functions such as making electrical connections, drilling holes, or lifting equipment. Therefore experienced electricians in accordance with national, state and any other electrical codes having jurisdiction should perform installation. All work should be performed under the direction of the installation or service crew safety foreman.

- The sound output of sirens is capable of causing permanent hearing damage. To prevent excessive exposure, carefully plan siren placement, post warnings and restrict access to areas near the sirens. Sirens may be operated from remote control points. Whenever possible, disconnect all siren power including batteries before working near the siren.

- After installation or service, test the siren system to confirm that it is operating properly. Test the system regularly to confirm that it will be operational in an emergency.

- If future service personnel do not have these warnings and all other instructions shipped with the equipment to refer to, the siren system may not provide the intended audible warning and service personnel may be exposed to death, permanent hearing loss, or other bodily injury. File these instructions in a safe place and refer to them periodically. Give a copy of these instructions to new recruits and trainees. Also, give a copy to anyone who is going to service or repair the sirens. For additional copies, call the Federal Warning Systems Customer Care Center at 800-524-3021 or write to them at 2645 Federal Signal Drive, University Park, IL 60484-3167.

OPERATION

- Failure to understand the capabilities and limitations of your siren system could result in permanent hearing loss, other serious injuries or death to persons too close to the sirens when you activate them or to those you need to warn. Carefully read and thoroughly understand all safety notices in this manual and all operations-related-items in all instruction manuals shipped with equipment. Thoroughly discuss all contingency plans with those responsible for warning people in your community, company, or jurisdiction.

Limited Warranty

*The Alerting and Notification Systems Division of **Federal Signal Corporation (Federal)** warrants each new product to be free from defects in material and workmanship, under normal use and service, for a period of two years on parts replacement and factory-performed labor (one year for Informer, and Federal software products) from the date of delivery to the first user-purchaser. Federal warrants every 2001, Eclipse and 508 Siren (Top of pole only) to be free from defects in material, per our standard warranty, under normal use and service for a period of five years on parts replacement.*

During this warranty period, the obligation of Federal is limited to repairing or replacing, as Federal may elect, any part or parts of such product which after examination by Federal, are determined to be defective in material and/or workmanship.

Federal will provide warranty for any unit which is delivered, transported prepaid, to the Federal factory or designated authorized warranty service center for examination and such examination reveals a defect in material and/or workmanship.

This warranty does not cover travel expenses, the cost of specialized equipment for gaining access to the product, or labor changes for removal and re-installation of the product. The Federal Signal Corporation warranty shall not apply to components or accessories that have a separate warranty by the original manufacturer, such as, but not limited to batteries.

Federal will provide on-site warranty service during the first 60-days after the completion of the installation, when Federal has provided a turn-key installation including optimization and/or commissioning services.

This warranty does not extend to any unit which has been subjected to abuse, misuse, improper installation or which has been inadequately maintained, nor to units which have problems related to service or modification at any facility other than Federal factory or authorized warranty service centers. Moreover, Federal shall have no liability with respect to defects arising in Products through any cause other than ordinary use (such as, for example, accident, fire, lightning, water damage, or other remaining acts of God).

THERE ARE NO OTHER WARRANTIES, EXPRESSED OR IMPLIED, INCLUDING BUT NOT LIMITED TO, ANY IMPLIED WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. IN NO EVENT SHALL FEDERAL BE LIABLE FOR ANY LOSS OF PROFITS OR ANY INDIRECT OR CONSEQUENTIAL DAMAGES ARISING OUT OF ANY SUCH DEFECT IN MATERIAL WORKMANSHIP.

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SECTION I
CHARACTERISTICS

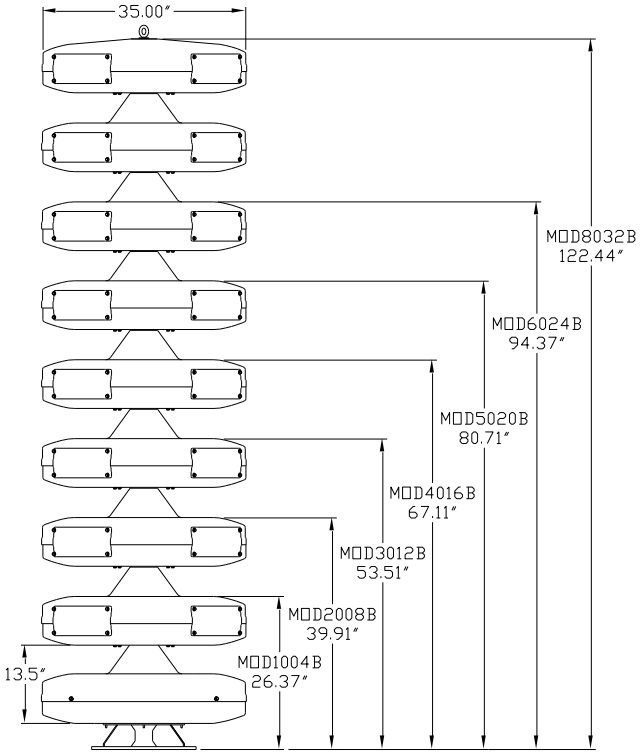

Figure 1-1. Modulator Series Outline Drawing

1-1. SCOPE OF THIS MANUAL

This service manual describes the characteristics, specifications, installation, theory of operation, and service and maintenance of the Federal Modulator Series B Outdoor Warning Siren speaker arrays.

1-2. GENERAL

Federal Signal's Modulator Series siren products are a family of electronic sirens that are capable of producing high intensity warning signals over a large area. The siren consists of a speaker array (*Figure 1-1*) and a control unit/battery box. A highly efficient design enables the siren to produce a high sound level, while making moderate demands on the power source.

1-3. SIREN DESCRIPTION

Federal Signal's innovative omni directional, electronic Modulator Series siren consists of aluminum modules that utilize four 100 Watt drivers per module. The Modulator series B is available in several models which have the following sound output rating at 100 feet.*

MOD1004 B	106 dBC
MOD2008B	112 dBC
MOD3012B	115 dBC
MOD4016B	118 dBC
MOD5020B	120 dBC
MOD6024B	121 dBC
MOD8032B	124 dBC

*Based on measurements at 500 feet.

1-4. FREQUENCY RESPONSE

The Modulator Series siren provides virtually flat frequency response from 200 - 2000 Hertz. This gives the siren the ability to produce loud and clear voice messages as well as the ability to produce a full spectrum of warning tones.

1-5. FEATURES

An UltraVoice Series control unit (UV) is needed for complete operation.

SECTION II
SPECIFICATIONS

2-1. SIREN

Color ..... Weather Guard White III

Paint Type..... TGIC Polyester Powder coat

Modular Horn Type ..... Hyperbolic Flare

Frequency Response ..... 200 – 2000 Hz

Horizontal Coverage..... 360 Degrees

Bottom (non-active) Module* Dimensions ..... 13-1/2 x 35" Diameter
(See Fig. 1-1)

Input Voltage…….66VRMS min., 400 watts max.

MOD1004B

Number of Active Modules..... 1
Power..... 400 Watts
dB Output..... 106 dBC @100 feet
Height of Speaker Array..... 26.37"
Weight ..... 125 lbs.
EPA at 40’ 3.30 ft2
Wind Load (110 mph, 40’ above ground) ..... 252 lbs.

MOD2008B

Number of Active Modules..... 2
Power..... 800 Watts
dB output..... 112 dBC @100 feet
Height of Speaker Array..... 39.91"
Weight ..... 190 lbs.
EPA at 40’ 4.94 ft2
Wind Load (110 mph, 40’ above ground) ..... 378 lbs.

MOD3012B

Number of Active Modules..... 3
Power..... 1200 Watts
dB output..... 115 dBC @ 100 feet
Height of Speaker Array..... 53.51"
Weight ..... 255 lbs.
EPA at 40’ 6.59 ft2
Wind Load (110 mph, 40’ above ground) ..... 504 lbs.

*Wind load calculations are for speaker array only.

**The bottom module of the siren is a passive device that does not contain any drivers. Its functional use is to complete the horn formed by the bottom and the first active module.

MOD4016B

Number of Active Modules 4
Power ..... 1600 Watts
dB output ..... 118 dBC @ 100 feet
Height of Speaker Array ..... 67.11"
Weight ..... 320 lbs.
EPA at 40' 8.24 ft2
Wind Load (110 mph, 40' above ground) ..... 630 lbs.

MOD5020B

Number of Active Modules 5
Power ..... 2000 Watts
dB output ..... 120 dBC @ 100 feet
Height of Speaker Array ..... 80.71"
Weight ..... 385 lbs.
EPA at 40' 9.89 ft2
Wind Load (110 mph, 40' above ground) ..... 756 lbs.

MOD6024B

Number of Active Modules 6
Power ..... 2400 Watts
dB output ..... 121 dBC @ 100 feet
Height of Speaker Array ..... 94.37"
Weight ..... 450 lbs.
EPA at 40' 11.54 ft2
Wind Load (110 mph, 40' above ground) ..... 882 lbs.

MOD8032B

Number of Active Modules 8
Power ..... 3200 Watts
dB output ..... 124 dBC @ 100 feet
Height of Speaker Array ..... 122.44"
Weight ..... 580 lbs.
EPA at 40' 14.85 ft2
Wind Load (110 mph, 40' above ground) ..... 1134 lbs.

SECTION III
INSTALLATION

DANGER

Electrocution or severe personal injury can occur when making electrical connections, drilling holes, or lifting equipment. Therefore, installation should be performed by experienced electricians in accordance with national and local electrical codes.

3-1. SIREN LOCATION

The information in this section provides guidelines to aid the user in the selection of an installation site that makes the best possible use of the siren.

WARNING

The output level of a Modulator Series siren is capable of causing permanent hearing damage. To prevent excessive exposure, carefully plan placement of siren and post warnings.

Follow Federal Emergency Management Agency (FEMA), Occupational Safety and Health Administration (OSHA), National Institute for Occupational Safety and Health (NIOSH), National Fire Protection Association (NFPA) guidelines, and local and National building codes as applicable.

Careful consideration of the factors affecting the propagation of sound from the siren and the response of the human ear to the sound will optimize the ability of the siren to effectively warn the community outdoors.

The reduction of signal intensity, as the distance from the siren increases and the minimum desired signal level at the fringe of the outdoors area to be covered are important considerations when choosing a siren installation site. As the distance from the siren increases, sound level losses accumulate. These losses are a result of weather conditions, the terrain, obstructions in the sound path, the pitch of the sound, and the height of the siren.

FEMA guidelines suggest a warning tone should be at least 9dB above ambient and human exposure must be limited below 123dB. Additional sound exposure limits should be implemented based on the predicted duration of sound exposure to personnel in the vicinity of the siren. OSHA and NIOSH publish additional guidelines for limiting sound exposure based on exposure over time.

Other factors to consider before selecting the installation site include the availability of electrical power, the ease of installation and maintenance, the height of surrounding obstructions, local water/snow accumulation and security against vandalism.

3-2. SIREN INSTALLATION

A. *General.*

Most siren installations are one of two types: Pole Mount or Flat Surface Mount. These two configurations make it possible to install a siren in almost any situation. If the installations in this section are not suitable, modification of one of the configurations may be practical.

A siren is typically installed 40 to 50 feet above the ground. If the installation is located less than 50 feet above the ground, the sound intensity at close range may increase, but at the same time the effective range of the siren may be reduced. Conversely, if the siren is located more than 50 feet above ground, the effective range of the siren may increase, but the sound may skip over areas closer to the siren. These variables may make it desirable to test the sound coverage of the siren at various heights and locations whenever possible.

NOTE: To protect the speaker arrays from damage during shipping, all models have been shipped without drivers installed.

After uncrating the siren remove the four (4) inspection doors from each individual active module by removing the four (4) bolt and washer sets of each door. Note the position of the flat washer and lock washer.

The drivers should be threaded clockwise onto the horn throats. Hand tighten approximately 1/2 turn after gasket engagement. Locate the two (2) wires tie wrapped near the end of the horn throat. Note the label on the back of the drivers and connect the solid wire to terminal 1 and the striped wire to terminal 2 and white jumpers from 1 to 2 as shown in *Figure 3-7. Driver Orientation*.

WARNING

CONNECTING DRIVER WIRES OUT OF PHASE MAY CAUSE SEVERE REDUCTION IN SOUND OUTPUT.

B. *Wooden Pole Mounting.*

A typical wooden pole-mounted siren installation is shown in *Figure 3-2*. The siren is mounted on a Class 2 utility pole (ANSI type wooden pole or equivalent) with a minimum horizontal ground stress rating of 3,700 pounds (1682 kg). Insure that soil loads will conform to this size utility pole. It is attached to the pole by means of legs, as shown in *Figure 3-1*.

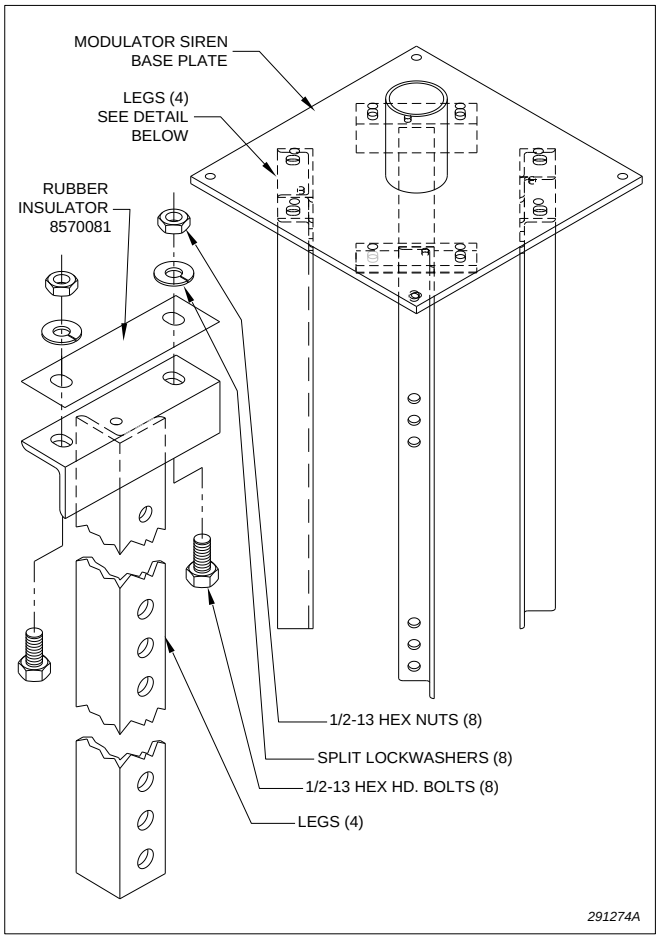

Figure 3-1. Siren Leg Assembly

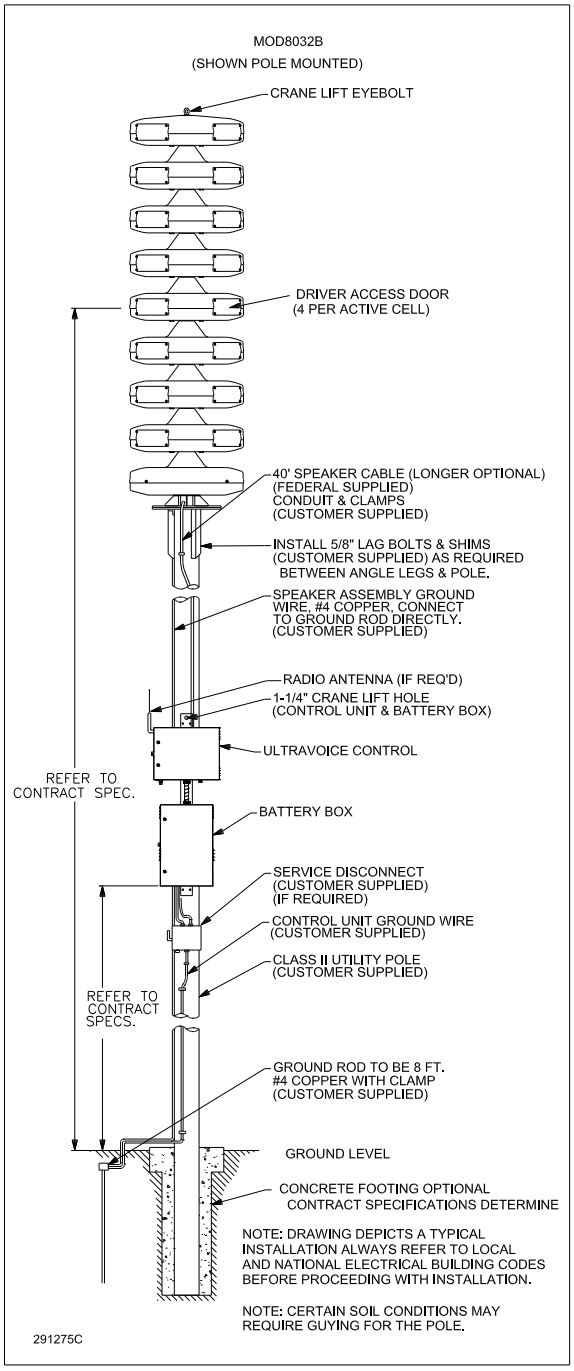

Figure 3-2. Typical Wooden Pole-mounted Installation

Using the 3 ft. long angle iron legs, the siren is mounted on the Class 2 utility pole as follows:

1. Uncrate the siren. Remove and dispose of any hardware that holds the siren on the shipping base. Install drivers if needed (see NOTE on previous page). Lift the siren approximately 3-1/2 ft. with a crane or hoist.

2. Install the four legs on the siren mounting plate, as shown in *Figure 3-1*. Use two stainless steel 1/2" bolts, nuts and lock washers (provided) for each leg. All mounting hardware needed is supplied in the hardware kit shipped with this manual. Do not tighten the bolts completely.

WARNING

The eyebolt does NOT have sufficient strength to support the combined weight of the siren and a utility pole. Therefore, do NOT attempt to erect the pole and siren together using the eyebolt as a lifting point.

3. Erect the utility pole in accordance with accepted practices and FEMA guidelines.

4. Raise the siren to the necessary height, and lower it over the pole. Maintain tension on lifting chain until all bolts are tightened.

5. Adjust the legs and insert shims, if necessary, between the siren legs and pole. Bolt the siren to the pole using two user supplied 5/8" lag bolts, at least four inches long for each leg. Tighten all bolts, including those from step 2 above.

C. *Steel Pole Mounting.*

In a typical steel pole-mounted siren installation the MOD1004B, MOD2008B and MOD3012B sirens are mounted on a Grade A Standard galvanized steel pole. The MOD4016B, MOD5020B, MOD6024B, and MOD8032B are mounted on a Grade A Heavy galvanized steel pole. (Insure that soil loads will conform to this size utility pole).

1. Erect the steel utility pole in accordance with accepted practices and FEMA guidelines.

2. Uncrate the siren. Remove and dispose of any hardware that holds the siren on the shipping base. Install drivers (see NOTE on previous page). Lift the siren with a crane or hoist to the necessary height and lower it over the pole. Maintain tension on lifting chain until all bolts are tightened.

NOTE: Siren cable can be pre-assembled through center of mounting plate for no conduit install.

WARNING

The eyebolt does NOT have sufficient strength to support the combined weight of the siren and a utility pole. Therefore, do NOT attempt to erect the pole and siren together using the eyebolt as a lifting point.

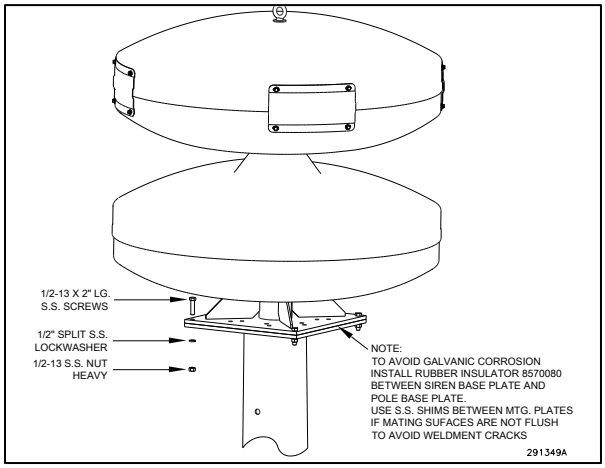

Figure 3-3. Steel Pole Mounting

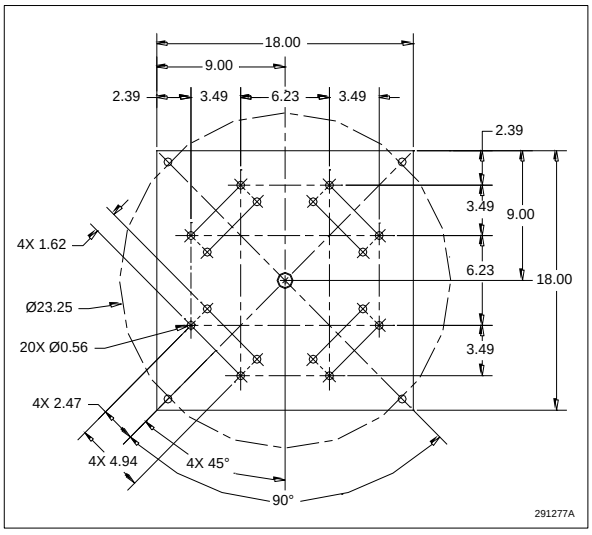

Figure 3-4. Siren Base Plate

Figure 3-3. Steel Pole Mounting

3. Attach the modulator base to the pole's top plate with rubber insulator 8570080 between them.

2. Use four of the stainless steel 1/2" bolts, nuts, and lock washers provided (see *Figure 3-3).* All mounting hardware needed is supplied in the hardware kit shipped with this manual. Not all the hardware in the kit will be used in this type of installation. Before tightening bolts, check mounting surfaces for warping. If modulator base and top plate of pole have a gap greater than approximately 1/16" between them, install galvanized or stainless steel shims to even out. Tighten bolts to 45 - 46 ft/lb torque.

D. *Flat Surface Mount.*

This installation configuration is practical when the installation site is on a flat roofed building.
A weight distribution mat is often required to safely distribute the siren's weight on the roof.
A Structural Engineer is required.

3-3. SPEAKER CONNECTIONS (excluding MOD6032)

Depending on the model of siren used the number of speaker connections and colors will vary. This is due to the different number of drivers required for each model. In any case OBSERVE PROPER POLARITY when making these connections. The striped wire is common and goes to position 2. The solid colored wire is signal high and goes to position 1. Each speaker connection is color-coded. Refer to *Figure 3-7* for wiring and position.

NOTE: Drivers on all Modulators except MOD1004 and MOD2008 are not assembled due to shipping orientation.

ACTIVE MODULE	DRIVER-TERMINAL	WIRE COLOR
1	A-1 / A-2	BROWN / WHT(JUMP)
	B-1 / B-2	WHT(JUMP) / WHT/BRN
	C-1 / C-2	WHT(JUMP) / WHT/BRN
	D-1 / D-2	BROWN / WHT(JUMP)
2	E-1 / E-2	RED / WHT(JUMP)
	F-1 / F-2	WHT(JUMP) / WHT/RED
	G-1 / G-2	WHT(JUMP) / WHT/RED
	H-1 / H-2	RED / WHT(JUMP)
3	I-1 / I-2	ORANGE / WHT(JUMP)
	J-1 / J-2	WHT(JUMP) / WHT/ORG
	K-1 / K-2	WHT(JUMP) / WHT/ORG
	L-1 / L-2	ORANGE / WHT(JUMP)
4	M-1 / M-2	YELLOW / WHT(JUMP)
	N-1 / N-2	WHT(JUMP) / WHT/YEL
	O-1 / O-2	WHT(JUMP) / WHT/YEL
	P-1 / P-2	YELLOW / WHT(JUMP)
5	Q-1 / Q-2	GREEN / WHT(JUMP)
	R-1 / R-2	WHT(JUMP) / WHT/GRN
	S-1 / S-2	WHT(JUMP) / WHT/GRN
	T-1 / T-2	GREEN / WHT(JUMP)
6	U-1 / U-2	BLUE / WHT(JUMP)
	V-1 / V-2	WHT(JUMP) / WHT/BLU
	W-1 / W-2	WHT(JUMP) / WHT/BLU
	X-1 / X-2	BLUE / WHT(JUMP)

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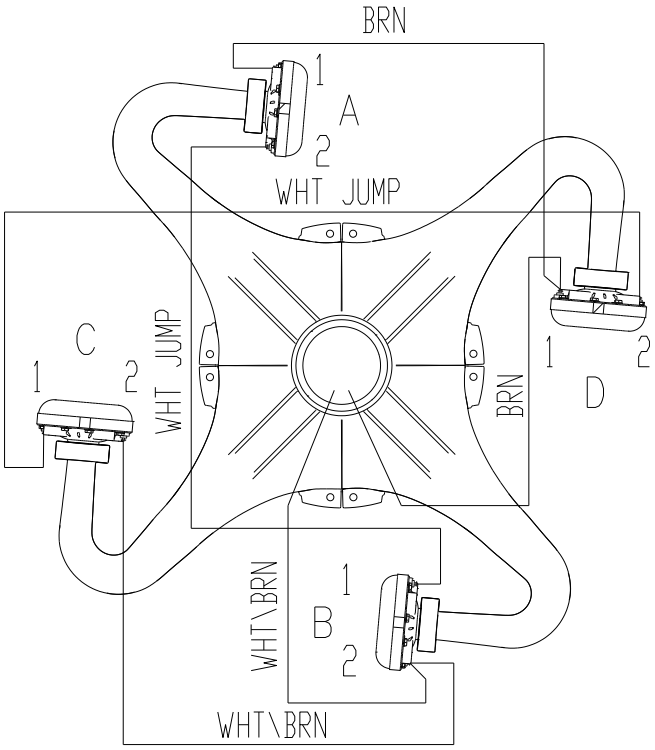

Figure 3-7. Driver Orientation (excluding MOD8032B)

The bottom module in the speaker array is an inactive module. This means there are no drivers contained in the module. The next module up is called module number one. The next one above module one is called module number two etc. These are referred to as active modules. Each active module contains four (4) drivers. Refer to *Figure 3-7* for driver orientation and wire location for active module one only.

Each speaker array is supplied with a 50 foot cable. The number of conductors and colors vary from module to module. Refer to the following list for the number of wires per module and how many wires are used.

MOD1004B - 4 wires, only 2 are used.

MOD2008B - 4 wires, all are used.

MOD3012B - 12 wires, only 6 are used.

MOD4016B - 12 wires, only 8 are used.

MOD5020B - 12 wires, only 10 are used.

MOD6024B - 12 wires, all are used.

MOD8032B - 16 wires, all are used.

3-4. MOD8032B SPEAKER CONNECTIONS

ACTIVE MODULE	DRIVER-TERMINAL	WIRE COLOR
1	A1 - 1 / A1 - 2	BROWN / WHT(JUMP)
	A2 - 1 / A2 - 2	WHT(JUMP) / WHT/BRN
	A3- 1 / A3 - 2	WHT(JUMP) / WHT/BRN
	A4 - 1 / A4 - 2	BROWN / WHT(JUMP)
2	B1 - 1 / B1 - 2	RED / WHT(JUMP)
	B2 - 1 / B2 - 2	WHT(JUMP) / WHT/RED
	B3 - 1 / B3 - 2	WHT(JUMP) / WHT/RED
	B4 - 1 / B4 - 2	RED / WHT(JUMP)
3	C1 - 1 / C1 - 2	ORANGE / WHT(JUMP)
	C2 - 1 / C2 - 2	WHT(JUMP) / WHT/ORG
	C3 - 1 / C3 - 2	WHT(JUMP) / WHT/ORG
	C4 - 1 / C4 - 2	ORANGE / WHT(JUMP)
4	D1 - 1 / D1 - 2	YELLOW / WHT(JUMP)
	D2- 1 / D2 - 2	WHT(JUMP) / WHT/YEL
	D3 - 1 / D3 - 2	WHT(JUMP) / WHT/YEL
	D4 - 1 / D4 - 2	YELLOW / WHT(JUMP)
5	E1 - 1 / E1 - 2	GREEN / WHT(JUMP)
	E2 - 1 / E2 - 2	WHT(JUMP) / WHT/GRN
	E3 - 1 / E3 - 2	WHT(JUMP) / WHT/GRN
	E4 - 1 / E4 - 2	GREEN / WHT(JUMP)
6	F1 - 1 / F1 - 2	BLUE / WHT(JUMP)
	F2 - 1 / F2 - 2	WHT(JUMP) / WHT/BLU
	F3 - 1 / F3 - 2	WHT(JUMP) / WHT/BLU
	F4 - 1 / F4 - 2	BLUE / WHT(JUMP)
7	G1 - 1 / G1 - 2	VIO / WHT(JUMP)
	G2 - 1 / G2 - 2	WHT(JUMP) / WHT/VIO
	G3 - 1 / G3 - 2	WHT(JUMP) / WHT/VIO
	G4 - 1 / G4 - 2	VIO / WHT(JUMP)
8	H1- 1 / H1 - 2	GRAY / WHT(JUMP)
	H2 - 1 / H2 - 2	WHT(JUMP) / WHT/GRAY
	H3 - 1 / H3 - 2	WHT(JUMP) / WHT/GRAY
	H4 - 1 / H4 - 2	GRAY / WHT(JUMP)

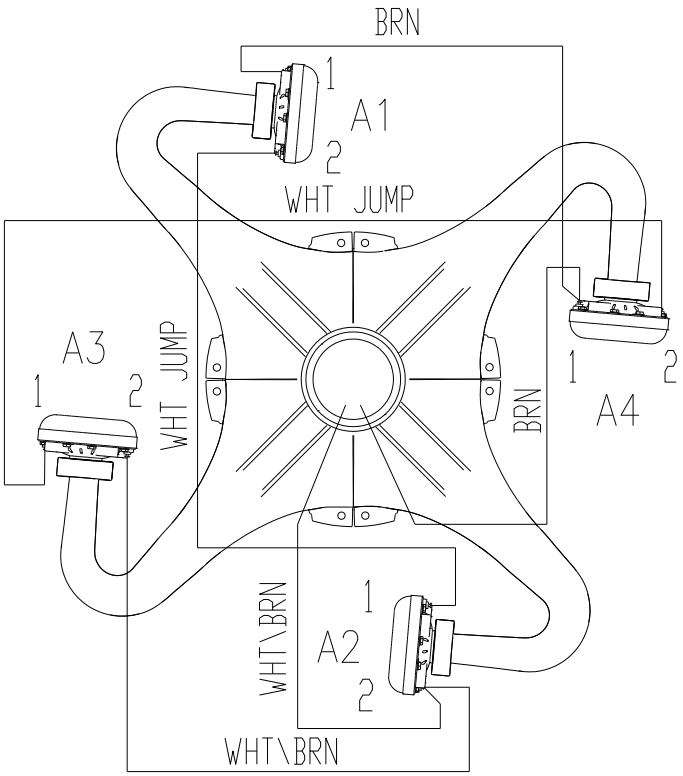

Figure 3-8. MOD8032B Driver Orientation

OBSERVE PROPER POLARITY when making connections. The striped wire is common and goes to position 2. The solid colored wire is signal high and goes to position 1. Each speaker connection is color coded. Refer to *Figure 3-8* for wiring and position.

The bottom module in the speaker array is an inactive module. This means there are no drivers contained in the module. The next module up is called module number one. The next one above module one is called module number two, etc. These are referred to as active modules. Refer to *Figure 3-8* for driver orientation and wire location.

Note: Each speaker array is supplied with a 50 ft cable. The number of conductors and colors vary from module to module. Example, in a MOD5020B, there are 12 wires with only 10 of those being used.

3-5. PRE-OPERATION CHECKOUT

After the siren has been completely installed, perform the following checks before putting the siren into service.

WARNING

The output sound level of a siren is capable of causing severe hearing discomfort or permanent hearing damage. Therefore, ALWAYS wear appropriate hearing protection when performing tests or maintenance on the siren, and post warnings to warn people before they are exposed to excessive sound pressure levels.

1. Make sure all connections in the Control Unit/Battery Box are correct and properly tightened.

2. Activate wail on the control panel. Check for proper sound output and siren tone.

3. After the installation is complete and it has been established that the siren is operating properly, Federal Signal recommends that all control devices be padlocked to discourage tampering and vandalism

SECTION IV
SERVICE AND MAINTENANCE

4-1. GENERAL

WARNING

Service or maintenance should be performed by qualified personnel familiar with the siren, associated controls, and power sources being used.

The sound output of the siren is capable of causing permanent hearing damage. Use adequate hearing protection and avoid excessive exposure.

Before servicing or maintaining, ensure that remote activation cannot occur and disconnect power to the siren and its controls.

The Modulator Series Siren is designed to require a minimum of maintenance. In addition, experience has shown that all Federal sirens are highly reliable devices. However, if a siren failure does occur, Federal will provide technical assistance with problems that cannot be handled satisfactorily and promptly locally. If assistance is desired, contact:

Federal Warning Systems Customer Care Center
2645 Federal Signal Drive
University Park, Illinois 60484
800-524-3021

WARNING

The output level of a Modulator Series Siren is capable of causing permanent hearing damage. Therefore, ALWAYS wear hearing protection when performing tests or maintenance on the siren.

To prevent the siren from sounding always turn off the power to the siren at the disconnect switch and remove any DC power being supplied by the battery box before inspecting or maintaining the siren.

4-2. PREVENTIVE MAINTENANCE

Test the siren for proper operation at least once a month. A daily test at noon, curfew, or other selected time is preferred. This not only enhances the usefulness of the siren and verifies that it remains ready for use in an emergency, but instills public confidence in the reliability of the warning system.

In order to minimize the possibility of siren failure, annual inspection and maintenance is desirable.

Perform a driver inspection as described in Section 4-3.

4-3. DRIVER REPLACEMENT

To determine if a driver is defective, refer to the procedure outlined in the installation instruction for the amplifier control unit or remove the speaker circuit from the terminal block and measure the impedance of the circuit. The impedance of each 400W cell of the siren will measure approximately 4.5 ohms. If the reading is higher, (9 ohms), one driver is bad. If the circuit is open, then either multiple drivers are bad or a wire has been severed. The impedance of a single driver should be 2.25 ohms.

To determine the location of the bad driver refer to the wiring table in Section 3 and *Figure 3-7 and Figure 3-8.*

To replace a defective driver remove the four hex head 1/4 inch mounting bolts that are holding the inspection plate. Make sure the flat washer and split washer are not misplaced. Note the color and location of the wires going to the driver. Remove the wire from the terminals on the driver. Remove the driver by turning it counterclockwise. Add new driver by turning it clockwise. Make sure that the male threads are greased. Reconnect the wires as previously noted. Reinstall the inspection plate.

PARTS LIST

MOD1004B

ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	857000017-01	PIPE WELDMENT,MOD1004B	1
2	857000013-01-1	SPINNING,MALE,BOTTOM	1
3	8570011A	GASKET,U,SPINNING	10
4	81461331A-14	NAMEPLATE,MODULATOR	1
5	7099A103-15	RIVET, POP, , 1/8 DIA HD, ALUM,	2
6	7000A345-16	SCREW,MACH,HEX HD,1/4-20 X 1"	36
7	7072024	WASHER, FLT, 1/4, 11/16 OD, 0.078"/0.049" THK, SS,	44
8	7074067	LKWASHER, 1/4, 316SS	32
9	7065A049A	NUT, RIVNUT, 1/4-20, , ALUM,	20
10	857000012-01-1	SPINNING,FEMALE,BOTTOM	1
11	857000034	HORN THROAT ASSY.	4
12	7072148	WASHER, FLT, .250 ID, .625 OD, 0.093" THK, NEOPRENE,	4
13	8570053-01	BRKT.ASSY.,SIREN LIFTING	1
14	7000A338-88	SCREW,1/2-13 HEX HD,S.S.	2
15	7074A025	LKWASH,SPLIT,1/2",STL	2
16	7059A077	NUT,HEX,1/2-13,STL	2
17	857000013A-1	SPINNING, ,MALE	1
18	8570010	SCREEN,HORN,MOD2	1
19	8570063A	DRIVER, 100W NEO	4
20	8283A452	WASHER,RUBBER,1/2"	4
21	857000018	DOOR,DRIVER ACCESS	4
22	857000011A-1	SPINNING,TOP	1
23	7003A000-24	BOLT, EYE, 1/2-13, , STEEL, ZINC	1
24	7072A095	WASH,FLT.STL.1/2"	1
25	7072038	WASHER, FLT, .56, 1.750 OD, 0.125" THK, RUBBER,	1
27	7058A010	NUT,EL STOP,1/4-20,S.S.	8
28	161693A	LABEL,FS LOGO	2
29	8570026	RUBBER PAD,2" X 1" X .06"	4
30	17500097A-02	CABLE,MOD1004B/MOD2008B	1
31	R81-11-01	GREASE,NYOGEL	.04
32	R72-02-01	LOCTITE #271 HIGH STRENGTH	.01 OZ
33	R70-08-03	ADHESIVE,RTV #6708	.75 OZ
34	R42-04-01	GASKET, DOOR	11.67 FT
35	150146A	TIE WRAP	4
36	161A507A	LABEL,WARNING,HEARING LOSS	2
37	78000069A	PALLET,38" X 35"	1
38	78000107A	SKID TOP,38" X 35"	1
39	7004A004-32	BOLT,CRG.STL,3/8-16	2
40	7004A004-56	BOLT,CRG.STL,3/8-16	6
41	7057A032	NUT,HEX,STL,3/8-16	8
42	7072A036	WASH,FLAT,3/8	8
43	8291B016	BAG,POLY,RL,14X16	1
44	25500059	MANUAL,MODULATOR,SERIES B	1
45	2561043	SHT.,MOD. SIREN CHECK LIST	0
46	8549A083A	ACCY.KIT,MTG.HRDW	1
47	8549A170A	BRKT.ASSY.,POLE MTG.	4
48	8570081A	INSULATOR,SIREN LEG	4
49	T300214-09-009	T-WITE,48"(1/4NT;1/4NT)	2

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PARTS LIST

MOD2008B

ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	857000017-02	PIPE WELDMENT,MOD2008B	1
2	857000013-01	SPINNING,MALE,BOTTOM	1
3	8570011A	GASKET,U,SPINNING	14
4	81461331A-15	NAMEPLATE,MODULATOR	1
5	7099A103-15	RIVET, POP, , 1/8 DIA HD, ALUM,	2
6	7000A345-16	SCREW,MACH,HEX HD,1/4-20 X 1"	64
7	7072024	WASHER, FLT, 1/4, 11/16 OD, 0.078"/0.049" THK, SS,	80
8	7074067	LKWASHER, 1/4, 316SS	48
9	7065A049A	NUT, RIVNUT, 1/4-20, , ALUM,	36
10	857000012-01	SPINNING,FEMALE,BOTTOM	1
11	857000034	HORN THROAT ASSY.	8
12	7072148	WASHER, FLT, .250 ID, .625 OD, 0.093" THK, NEOPRENE,	8
13	8570053-01	BRKT.ASSY.,SIREN LIFTING	1
14	7000A338-88	SCREW,1/2-13 HEX HD,S.S.	2
15	7074A025	LKWASH,SPLIT,1/2",STL	2
16	7059A077	NUT,HEX,1/2-13,STL	2
17	857000013	SPINNING, ,MALE	2
18	8570010	SCREEN,HORN,MOD2	2
19	8570063A	DRIVER, 100W NEO	8
20	8283A452	WASHER,RUBBER,1/2"	8
21	857000018	DOOR,DRIVER ACCESS	8
22	857000011	SPINNING,TOP	1
23	7003a000-24	BOLT, EYE, 1/2-13, , STEEL, ZINC	1
24	7072A095	WASH,FLT.STL.1/2"	1
25	7072038	WASHER, FLT, .56, 1.750 OD, 0.125" THK, RUBBER,	1
26	857000012	SPINNING,FEMALE,MACH.	1
27	7058A010	NUT,EL STOP,1/4-20,S.S.	16
28	161693A	LABEL,FS LOGO	2
29	8570026	RUBBER PAD,2" X 1" X .06"	8
30	17500097A-02	CABLE,MOD1004B/MOD2008B	1
31	R81-11-01	GREASE,NYOGEL	.06
32	R72-02-01	LOCTITE #271 HIGH STRENGTH	.01 OZ
33	R70-08-03	ADHESIVE,RTV #6708	1.5 OZ
34	R42-04-01	GASKET, DOOR	23.34 FT
35	150146A	TIE WRAP	8
36	161A507A	LABEL,WARNING,HEARING LOSS	2
37	78000069A	PALLET,38" X 35"	1
38	78000107A	SKID TOP,38" X 35"	1
39	7004A004-32	BOLT,CRG.STL,3/8-16	2
40	7004A004-56	BOLT,CRG.STL.3/8-16	6
41	7057A032	NUT,HEX,STL,3/8-16	8
42	7072A036	WASH,FLAT,3/8	8
43	8291B016	BAG,POLY,RL,14X16	1
44	25500059	MANUAL,MODULATOR,SERIES B	1
45	2561043	SHT.,MOD. SIREN CHECK LIST	0
46	8549A083A	ACCY.KIT,MTG.HRDW	1
47	8549A170A	BRKT.ASSY.,POLE MTG.	1
48	8570081A	INSULATOR,SIREN LEG	1
49	T300214-09-009	T-WITE,48"(1/4NT;1/4NT)	4

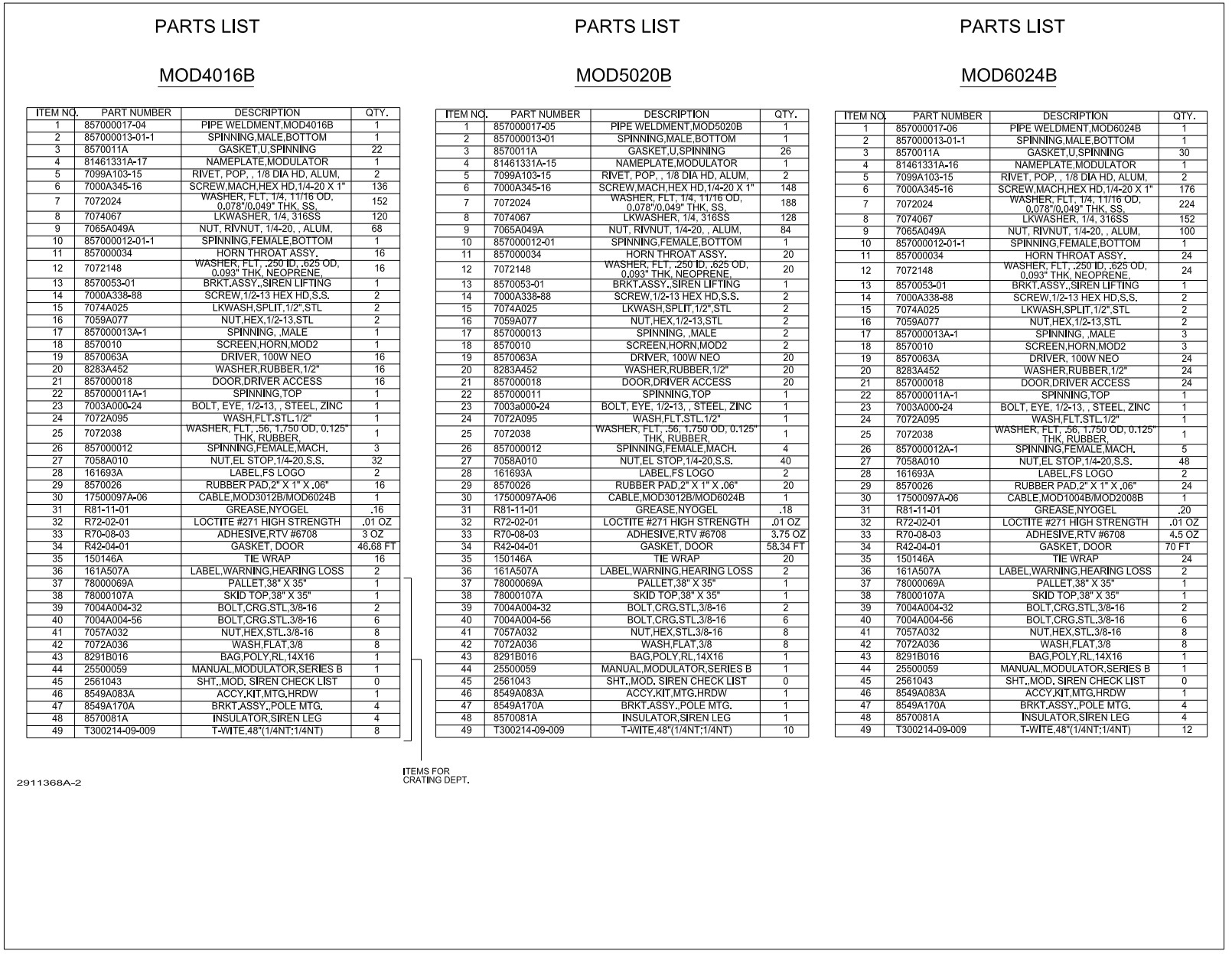
PARTS LIST

MOD3012B

ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	857000017-03	PIPE WELDMENT,MOD3012B	1
2	857000013-01-1	SPINNING,MALE,BOTTOM	1
3	8570011A	GASKET,U,SPINNING	14
4	81461331A-16	NAMEPLATE,MODULATOR	1
5	7099A103-15	RIVET, POP, , 1/8 DIA HD, ALUM,	2
6	7000A345-16	SCREW,MACH,HEX HD,1/4-20 X 1"	92
7	7072024	WASHER, FLT, 1/4, 11/16 OD, 0.078"/0.049" THK, SS,	116
8	7074067	LKWASHER, 1/4, 316SS	80
9	7065A049A	NUT, RIVNUT, 1/4-20, , ALUM,	52
10	857000012-01-1	SPINNING,FEMALE,BOTTOM	1
11	857000034	HORN THROAT ASSY.	12
12	7072148	WASHER, FLT, .250 ID, .625 OD, 0.093" THK, NEOPRENE,	12
13	8570053-01	BRKT.ASSY.,SIREN LIFTING	1
14	7000A338-88	SCREW,1/2-13 HEX HD,S.S.	2
15	7074A025	LKWASH,SPLIT,1/2",STL	2
16	7059A077	NUT,HEX,1/2-13,STL	2
17	857000013A-1	SPINNING, ,MALE	3
18	8570010	SCREEN,HORN,MOD2	3
19	8570063A	DRIVER, 100W NEO	12
20	8283A452	WASHER,RUBBER,1/2"	12
21	857000018	DOOR,DRIVER ACCESS	12
22	857000011A-1	SPINNING,TOP	1
23	7003A000-24	BOLT, EYE, 1/2-13, , STEEL, ZINC	1
24	7072A095	WASH,FLT.STL.1/2"	1
25	7072038	WASHER, FLT, .56, 1.750 OD, 0.125" THK, RUBBER,	1
26	857000012A-1	SPINNING,FEMALE,MACH.	2
27	7058A010	NUT,EL STOP,1/4-20,S.S.	24
28	161693A	LABEL,FS LOGO	2
29	8570026	RUBBER PAD,2" X 1" X .06"	12
30	17500097A-06	CABLE,MOD3012B/MOD6024B	1
31	R81-11-01	GREASE,NYOGEL	.06
32	R72-02-01	LOCTITE #271 HIGH STRENGTH	.01 OZ
33	R70-08-03	ADHESIVE,RTV #6708	2.25 OZ
34	R42-04-01	GASKET, DOOR	35 FT
35	150146A	TIE WRAP	12
36	161A507A	LABEL,WARNING,HEARING LOSS	2
37	78000069A	PALLET,38" X 35"	1
38	78000107A	SKID TOP,38" X 35"	1
39	7004A004-32	BOLT,CRG.STL,3/8-16	2
40	7004A004-56	BOLT,CRG.STL.3/8-16	6
41	7057A032	NUT,HEX,STL.3/8-16	8
42	7072A036	WASH,FLAT,3/8	8
43	8291B016	BAG,POLY,RL,14X16	1
44	25500059	MANUAL,MODULATOR,SERIES B	1
45	2561043	SHT.,MOD. SIREN CHECK LIST	0
46	8549A083A	ACCY.KIT,MTG.HRDW	1
47	8549A170A	BRKT.ASSY.,POLE MTG.	4
48	8570081A	INSULATOR,SIREN LEG	4
49	T300214-09-009	T-WITE,48"(1/4NT;1/4NT)	6

Figure 4-1. Parts lists for MOD1004B, MOD2008B & MOD3012B

Refer to *Figure 4-3* for parts locations



PARTS LIST

MOD4016B

ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	857000017-04	PIPE WELDMENT,MOD4016B	1
2	857000013-01-1	SPINNING,MALE,BOTTOM	1
3	8570011A	GASKET,U,SPINNING	22
4	81461331A-17	NAMEPLATE,MODULATOR	1
5	7099A103-15	RIVET, POP, , 1/8 DIA HD, ALUM,	2
6	7000A345-16	SCREW,MACH,HEX HD,1/4-20 X 1"	136
7	7072024	WASHER, FLT, 1/4, 11/16 OD, 0,078"/0,049" THK, SS,	152
8	7074067	LKWASHER, 1/4, 316SS	120
9	7065A049A	NUT, RIVNUT, 1/4-20, , ALUM,	68
10	857000012-01-1	SPINNING,FEMALE,BOTTOM	1
11	857000034	HORN THROAT ASSY.	16
12	7072148	WASHER, FLT, .250 ID, .625 OD, 0,093" THK, NEOPRENE,	16
13	8570053-01	BRKT.ASSY.,SIREN LIFTING	1
14	7000A338-88	SCREW,1/2-13 HEX HD,S.S.	2
15	7074A025	LKWASH,SPLIT,1/2",STL	2
16	7059A077	NUT,HEX,1/2-13,STL	2
17	857000013A-1	SPINNING, ,MALE	1
18	8570010	SCREEN,HORN,MOD2	1
19	8570063A	DRIVER, 100W NEO	16
20	8283A452	WASHER,RUBBER,1/2"	16
21	857000018	DOOR,DRIVER ACCESS	16
22	857000011A-1	SPINNING,TOP	1
23	7003A000-24	BOLT, EYE, 1/2-13, , STEEL, ZINC	1
24	7072A095	WASH,FLT.STL.1/2"	1
25	7072038	WASHER, FLT, .56, 1.750 OD, 0.125" THK, RUBBER,	1
26	857000012	SPINNING,FEMALE,MACH.	3
27	7058A010	NUT,EL STOP,1/4-20,S.S.	32
28	161693A	LABEL,FS LOGO	2
29	8570026	RUBBER PAD,2" X 1" X ,06"	16
30	17500097A-06	CABLE,MOD3012B/MOD6024B	1
31	R81-11-01	GREASE,NYOGEL	.16
32	R72-02-01	LOCTITE #271 HIGH STRENGTH	.01 OZ
33	R70-08-03	ADHESIVE,RTV #6708	3 OZ
34	R42-04-01	GASKET, DOOR	46.68 FT
35	150146A	TIE WRAP	16
36	161A507A	LABEL,WARNING,HEARING LOSS	2
37	78000069A	PALLET,38" X 35"	1
38	78000107A	SKID TOP,38" X 35"	1
39	7004A004-32	BOLT,CRG.STL,3/8-16	2
40	7004A004-56	BOLT,CRG.STL.3/8-16	6
41	7057A032	NUT,HEX,STL.3/8-16	8
42	7072A036	WASH,FLAT,3/8	8
43	8291B016	BAG,POLY,RL,14X16	1
44	25500059	MANUAL,MODULATOR,SERIES B	1
45	2561043	SHT.,MOD. SIREN CHECK LIST	0
46	8549A083A	ACCY.KIT,MTG.HRDW	1
47	8549A170A	BRKT.ASSY.,POLE MTG.	4
48	8570081A	INSULATOR,SIREN LEG	4
49	T300214-09-009	T-WITE,48"(1/4NT;1/4NT)	8

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PARTS LIST

MOD5020B

ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	857000017-05	PIPE WELDMENT,MOD5020B	1
2	857000013-01	SPINNING,MALE,BOTTOM	1
3	8570011A	GASKET,U,SPINNING	26
4	81461331A-15	NAMEPLATE,MODULATOR	1
5	7099A103-15	RIVET, POP, , 1/8 DIA HD, ALUM,	2
6	7000A345-16	SCREW,MACH,HEX HD,1/4-20 X 1"	148
7	7072024	WASHER, FLT, 1/4, 11/16 OD, 0,078"/0,049" THK, SS,	188
8	7074067	LKWASHER, 1/4, 316SS	128
9	7065A049A	NUT, RIVNUT, 1/4-20, , ALUM,	84
10	857000012-01	SPINNING,FEMALE,BOTTOM	1
11	857000034	HORN THROAT ASSY.	20
12	7072148	WASHER, FLT, .250 ID, .625 OD, 0,093" THK, NEOPRENE,	20
13	8570053-01	BRKT.ASSY.,SIREN LIFTING	1
14	7000A338-88	SCREW,1/2-13 HEX HD,S.S.	2
15	7074A025	LKWASH,SPLIT,1/2",STL	2
16	7059A077	NUT,HEX,1/2-13,STL	2
17	857000013	SPINNING, ,MALE	2
18	8570010	SCREEN,HORN,MOD2	2
19	8570063A	DRIVER, 100W NEO	20
20	8283A452	WASHER,RUBBER,1/2"	20
21	857000018	DOOR,DRIVER ACCESS	20
22	857000011	SPINNING,TOP	1
23	7003a000-24	BOLT, EYE, 1/2-13, , STEEL, ZINC	1
24	7072A095	WASH,FLT.STL.1/2"	1
25	7072038	WASHER, FLT, .56, 1.750 OD, 0.125" THK, RUBBER,	1
26	857000012	SPINNING,FEMALE,MACH.	4
27	7058A010	NUT,EL STOP,1/4-20,S.S.	40
28	161693A	LABEL,FS LOGO	2
29	8570026	RUBBER PAD,2" X 1" X ,06"	20
30	17500097A-06	CABLE,MOD3012B/MOD6024B	1
31	R81-11-01	GREASE,NYOGEL	.18
32	R72-02-01	LOCTITE #271 HIGH STRENGTH	.01 OZ
33	R70-08-03	ADHESIVE,RTV #6708	3.75 OZ
34	R42-04-01	GASKET, DOOR	58.34 FT
35	150146A	TIE WRAP	20
36	161A507A	LABEL,WARNING,HEARING LOSS	2
37	78000069A	PALLET,38" X 35"	1
38	78000107A	SKID TOP,38" X 35"	1
39	7004A004-32	BOLT,CRG.STL,3/8-16	2
40	7004A004-56	BOLT,CRG.STL.3/8-16	6
41	7057A032	NUT,HEX,STL.3/8-16	8
42	7072A036	WASH,FLAT,3/8	8
43	8291B016	BAG,POLY,RL,14X16	1
44	25500059	MANUAL,MODULATOR,SERIES B	1
45	2561043	SHT.,MOD. SIREN CHECK LIST	0
46	8549A083A	ACCY.KIT,MTG.HRDW	1
47	8549A170A	BRKT.ASSY.,POLE MTG.	1
48	8570081A	INSULATOR,SIREN LEG	1
49	T300214-09-009	T-WITE,48"(1/4NT;1/4NT)	10

PARTS LIST

MOD6024B

ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	857000017-06	PIPE WELDMENT,MOD6024B	1
2	857000013-01-1	SPINNING,MALE,BOTTOM	1
3	8570011A	GASKET,U,SPINNING	30
4	81461331A-16	NAMEPLATE,MODULATOR	1
5	7099A103-15	RIVET, POP, , 1/8 DIA HD, ALUM,	2
6	7000A345-16	SCREW,MACH,HEX HD,1/4-20 X 1"	176
7	7072024	WASHER, FLT, 1/4, 11/16 OD, 0,078"/0,049" THK, SS,	224
8	7074067	LKWASHER, 1/4, 316SS	152
9	7065A049A	NUT, RIVNUT, 1/4-20, , ALUM,	100
10	857000012-01-1	SPINNING,FEMALE,BOTTOM	1
11	857000034	HORN THROAT ASSY.	24
12	7072148	WASHER, FLT, .250 ID, .625 OD, 0,093" THK, NEOPRENE,	24
13	8570053-01	BRKT.ASSY.,SIREN LIFTING	1
14	7000A338-88	SCREW,1/2-13 HEX HD,S.S.	2
15	7074A025	LKWASH,SPLIT,1/2",STL	2
16	7059A077	NUT,HEX,1/2-13,STL	2
17	857000013A-1	SPINNING, ,MALE	3
18	8570010	SCREEN,HORN,MOD2	3
19	8570063A	DRIVER, 100W NEO	24
20	8283A452	WASHER,RUBBER,1/2"	24
21	857000018	DOOR,DRIVER ACCESS	24
22	857000011A-1	SPINNING,TOP	1
23	7003A000-24	BOLT, EYE, 1/2-13, , STEEL, ZINC	1
24	7072A095	WASH,FLT.STL.1/2"	1
25	7072038	WASHER, FLT, .56, 1.750 OD, 0.125" THK, RUBBER,	1
26	857000012A-1	SPINNING,FEMALE,MACH.	5
27	7058A010	NUT,EL STOP,1/4-20,S.S.	48
28	161693A	LABEL,FS LOGO	2
29	8570026	RUBBER PAD,2" X 1" X ,06"	24
30	17500097A-06	CABLE,MOD1004B/MOD2008B	1
31	R81-11-01	GREASE,NYOGEL	.20
32	R72-02-01	LOCTITE #271 HIGH STRENGTH	.01 OZ
33	R70-08-03	ADHESIVE,RTV #6708	4.5 OZ
34	R42-04-01	GASKET, DOOR	70 FT
35	150146A	TIE WRAP	24
36	161A507A	LABEL,WARNING,HEARING LOSS	2
37	78000069A	PALLET,38" X 35"	1
38	78000107A	SKID TOP,38" X 35"	1
39	7004A004-32	BOLT,CRG.STL,3/8-16	2
40	7004A004-56	BOLT,CRG.STL.3/8-16	6
41	7057A032	NUT,HEX,STL.3/8-16	8
42	7072A036	WASH,FLAT,3/8	8
43	8291B016	BAG,POLY,RL,14X16	1
44	25500059	MANUAL,MODULATOR,SERIES B	1
45	2561043	SHT.,MOD. SIREN CHECK LIST	0
46	8549A083A	ACCY.KIT,MTG.HRDW	1
47	8549A170A	BRKT.ASSY.,POLE MTG.	4
48	8570081A	INSULATOR,SIREN LEG	4
49	T300214-09-009	T-WITE,48"(1/4NT;1/4NT)	12

Figure 4-2. Parts lists for MOD4016B, MOD5020B & MOD6024B
Refer to Figure 4-3 for Part Locations

PARTS LIST

MOD8032B

ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	857000017-08	PIPE WELDMENT,MOD8032B	1
2	857000013-01-1	SPINNING,MALE,BOTTOM	1
3	8570011A	GASKET,U,SPINNING	38
4	81461331A-20	NAMEPLATE,MODULATOR	1
5	7099A103-15	RIVET, POP, , 1/8 DIA HD, ALUM,	2
6	7000A345-16	SCREW,MACH,HEX HD,1/4-20 X 1"	232
7	7072024	WASHER, FLT, 1/4, 11/16 OD, 0.078"/0.049" THK, SS,	296
8	7074067	LKWASHER, 1/4, 316SS	200
9	7065A049A	NUT, RIVNUT, 1/4-20, , ALUM,	132
10	857000012-01-1	SPINNING,FEMALE,BOTTOM	1
11	857000034	HORN THROAT ASSY.	32
12	7072148	WASHER, FLT, .250 ID, .625 OD, 0.093" THK, NEOPRENE,	32
13	8570053-01	BRKT.ASSY.,SIREN LIFTING	1
14	7000A338-88	SCREW,1/2-13 HEX HD,S.S.	2
15	7074A025	LKWASH,SPLIT,1/2",STL	2
16	7059A077	NUT,HEX,1/2-13,STL	2
17	857000013A-1	SPINNING, ,MALE	8
18	8570010	SCREEN,HORN,MOD2	8
19	8570063A	DRIVER, 100W NEO	32
20	8283A452	WASHER,RUBBER,1/2"	32
21	857000018	DOOR,DRIVER ACCESS	32
22	857000011A-1	SPINNING,TOP	1
23	7003A000-24	BOLT, EYE, 1/2-13, , STEEL, ZINC	1
24	7072A095	WASH,FLT.STL.1/2"	1
25	7072038	WASHER, FLT, .56, 1.750 OD, 0.125" THK, RUBBER,	1
26	857000012A-1	SPINNING,FEMALE,MACH.	7
27	7058A010	NUT,EL STOP,1/4-20,S.S.	64
28	161693A	LABEL,FS LOGO	2
29	8570026	RUBBER PAD,2" X 1" X .06"	32
30	17500097A-08	CABLE, MOD8032B	1
31	R81-11-01	GREASE,NYOGEL	.25 OZ
32	R72-02-01	LOCTITE #271 HIGH STRENGTH	.01 OZ
33	R70-08-03	ADHESIVE,RTV #6708	6.00 OZ
34	R42-04-01	GASKET, DOOR	78 FT
35	150146A	TIE WRAP	32
36	161A507A	LABEL,WARNING,HEARING LOSS	2
37	78000069A	PALLET,38" X 35"	1
37	78000070A	SADDLE, FOAM	4
38	78000107A	SKID TOP,38" X 35"	1
39	7004A004-32	BOLT,CRG.STL,3/8-16	2
40	7004A004-56	BOLT,CRG.STL.3/8-16	6
41	7057A032	NUT,HEX,STL.3/8-16	8
42	7072A036	WASH,FLAT,3/8	8
43	8291B016	BAG,POLY,RL,14X16	1
44	25500059	MANUAL,MODULATOR,SERIES B	1
45	2561043	SHT.,MOD. SIREN CHECK LIST	0
46	8549A083A	ACCY.KIT,MTG.HRDW	1
47	8549A170A	BRKT.ASSY.,POLE MTG.	4
48	8570081A	INSULATOR,SIREN LEG	4
49	T300214-09-009	T-WITE,48"(1/4NT;1/4NT)	16

ITEMS FOR CRATING DEPT.

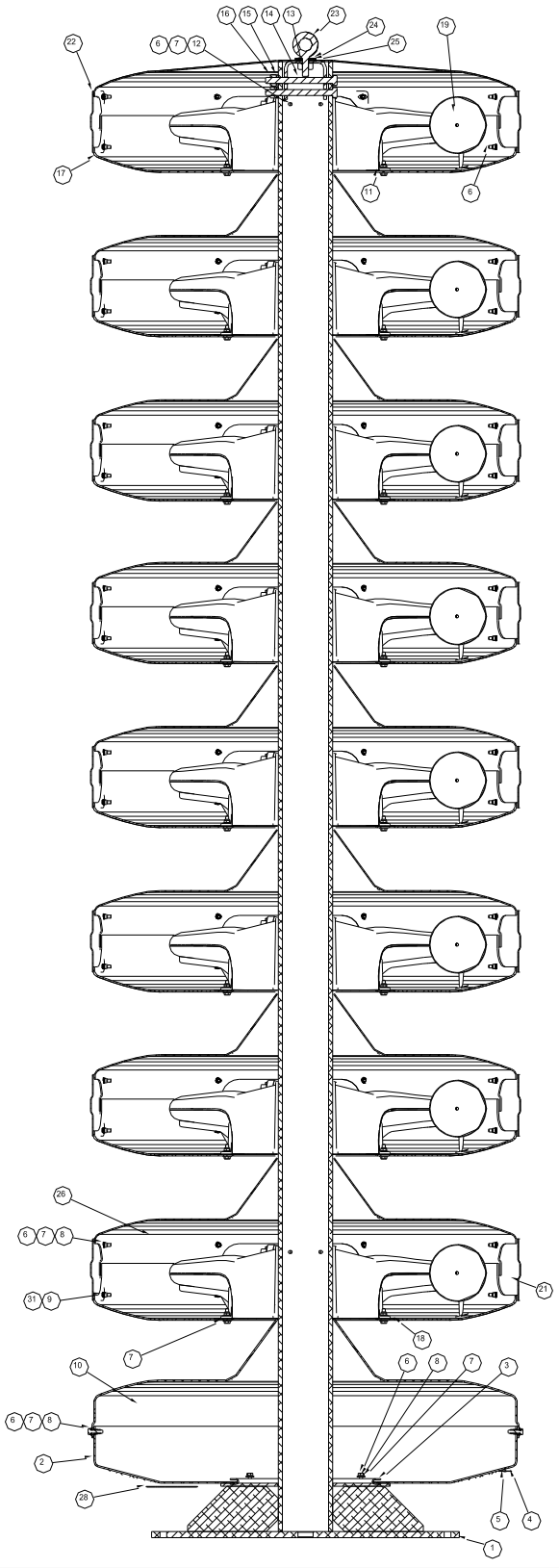

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Figure 4-3. Model MOD8032B Parts Location Diagram