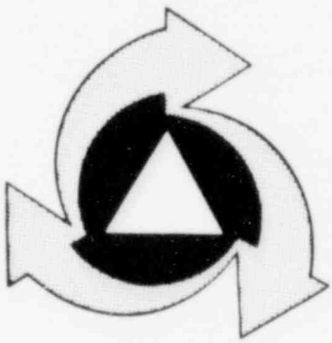
The PENETRATOR 10

ROTATING DIRECTIONAL SIREN

INSTALLATION, OPERATION, MAINTENANCE and PARTS MANUAL



ACA

ALERTING COMMUNICATORS OF AMERICA

10255 N. Enterprise Drive 66 West P.O. Box 308 Mequon, WI 53092

Telephone — (414) 242-2800

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WARRANTY AND SERVICE

ALERTING COMMUNICATORS OF AMERICA warrants that this siren equipment has been manufactured under rigid quality control, has been tested before shipment, and meets all required specifications as set up by O.C.D.

The MECHANICAL components of this equipment, if properly installed and maintained, are guaranteed for a period of 3 YEARS from date of purchase against defective workmanship or material provided such equipment is serviced and operated in accordance with any instructions and manuals supplied by ACA.

The ELECTRICAL components of this equipment, if properly installed and maintained, are guaranteed against defective workmanship or material for a period of 1 YEAR from date of purchase provided such equipment is serviced and operated in accordance with any instructions and manuals supplied by ACA.

Every component of the complete system has been engineered for dependability and minimum maintenance. Should any operating problems develop, use the Trouble-Shooting Check List as a guide in eliminating obvious troubles. Major overhaul or replacement of components should not be undertaken without first contacting the manufacturer.

Equipment developing defects within the warranty period will be repaired or replaced at the option of ACA without cost to the purchaser, provided that such equipment is returned prepaid to the factory at Mequon, Wisconsin.

ACA is not responsible for cost of repairs or service made or attempted by others, nor for cost of labor for dismantling, installing, testing, or other miscellaneous costs relating to the use of its equipment unless specifically authorized in writing before such work is undertaken.

The liability of ALERTING COMMUNICATORS OF AMERICA arising from sale or use of its equipment shall not in any case exceed the cost of correcting defects in the equipment, and upon the expiration of the one and three year periods specified above, all such liability shall terminate.

Specifications subject to change without notice.

Local codes may supersede A.C.A. recommendations.

ALERTING COMMUNICATORS OF AMERICA
10255 NORTH ENTERPRISE DRIVE 66 WEST
MEQUON, WISCONSIN 53092
(414) 242-2800

GENERAL INFORMATION

The PENETRATOR 10 is a powerful, rotating, directional siren with a single 10 HP motor that produces sound through direct drive rotor-stator design and also serves to rotate the entire siren assembly. Output is radiated effectively in a 360° pattern.

The standardized signals are as follows:

1 — ALERT, a dual tone sustained tone scale signal

2 — ATTACK – TAKE COVER, a dual tone wailing slowly up and down tone scale signal

3A — FIRE, a dual tone wail of different timing than the attack signal

3B — FIRE a dual tone yelp or rapid down tone scale signal with a pause between each tone blast.

The electrical controls associated directly with the siren are prewired and contained inside a weatherproof metal enclosure which may be mounted in any convenient location. Electrical installation is simple and straightforward.

A variety of signal sources may be employed to initiate operation of a siren or siren system including —

1 — Direct mechanical switch

2 — Telephone relay system

3 — Radio relay system

4 — Program timer

5 — Any combination of the above

PENETRATOR 10 SPECIFICATIONS

Rated sound output at 100 ft.	(db)(c scale)	125
Sound range at 70 DB	(ft.)	4500
Total circular coverage	(sq. mi.)	2.2
Output frequencies	(Hz)	523/698
Output cutoff (resonant) frequency	(Hz)	80
Sound dispersal		10° above horiz. 10° below horiz.
Rotation speed	(R.P.M.)	3½ ± 0.5
Rotation drive		Direct
Weight (crated)	(lbs.)	385
Dimensions		36" x 36" x 40"

NOTE: The decibel rating of the ACA equipment discussed herein is based on testing done by independent laboratories under ideal conditions. Test results may vary depending on various factors, including weather conditions.

ELECTRICAL INFORMATION:

Ten HP, double ended shaft, induction motor with permanently sealed bearings, direct coupled to rotor.

Electrical requirements:

3 phase models — 10 HP, 230/460 volt ± 10 percent — 33.5/16.75 amps. or 208 volt — 37 amps.

1 phase models — 10 HP, 230 volt ± 10 percent — 50 amps.

ITEMS FURNISHED

Wood crated siren assembly.

When specified, pre-assembled and wired control panel cabinet with telephone relay or radio.

When specified, pole mount, roof mount or parapet mount.

ITEMS REQUIRED FOR INSTALLATION

Suitable mount (pole, platform, etc.)

Electrical conduit and wire for interconnecting to control cabinet and power source.

Base mounting plate (see Figures 5 and 6).

STORAGE

The unit is weather resistant as shipped and may be stored either indoors or outdoors provided there is no danger of submergence in water or other damaging fluids, or subject to possibility of vandalism.

TOOLS AND TEST EQUIPMENT

Ordinary mechanics' tools and electrical tools are suitable for installation of the siren assembly.

No test equipment is required for installation, except that it may be desirable to have available an AC volt-meter or voltage indicating device.

SAFETY PRECAUTIONS

LIFTING THE SIREN — Use a lifting device of adequate capacity. Do not use the eyebolt for lifting if a pole or other mount is attached to the siren. (See other information on lifting under heading INSTALLATION.)

ELECTRICAL — During installation, prewire completely before connecting to power source. Always disconnect from power source before beginning any service or maintenance procedures. Only qualified personnel should open the electrical control panel cabinet. Refer to wiring diagrams and observe proper wiring procedures during installation.

TESTING — CAUTION: Wear ear protectors! Anyone on the same level as or very close to the siren should wear ear protection during operational tests.

PROLONGED EXPOSURE CAN CAUSE
HEARING DAMAGE

INSTALLATION

GENERAL

To insure satisfactory operation, careful consideration must be given to each of these factors:

1 — Site selection for optimum signal coverage

2 — Type of mounting

3 — Power supply requirements

4 — Provision for servicing

SITE SELECTION AND TYPES OF MOUNTING

Careful consideration must be given in selecting a site or sites for installation. Locations should be plotted on local area maps to provide the desired coverage. Generally, the highest possible site in the selected area is the best location. This might be a building, tower or a hill. Do not mount siren too high so that the sound goes over the top of the area.

In lieu of a suitable existing structure for mounting, a cedar pole approximately 50 feet long (minimum) and sunk 8 feet deep is a generally recommended mount. Refer to the illustrated mounting layouts for details. Any tall building, trees, hills or other obstructions will tend to create a barrier which will produce a deadened area behind the obstruction.

Figures 1 through 3 and 6 illustrate typical siren mounting arrangements which have been used successfully.

Also shown are details of suggested supports and platforms as well as erecting details.

Another general mounting recommendation that may be helpful is the following: Determine the height of any building or obstruction within 150 feet of the siren. Keep the siren horn at least 5 feet higher than the obstruction for best sound coverage. Remember that a siren mounted too high will beam the sound over the top of the required area.

ELECTRICAL POWER REQUIREMENTS

Adequate electrical power must be available at each siren site (see SPECIFICATIONS for requirements). Local power companies will charge extra if the siren is located more than 75 feet from the transformer.

NOTE

Line voltage fluctuations must not exceed ± 10 percent for specified performance (NEMA standard).

PROVISION FOR SERVICING

When using a pole mount, a platform may be constructed at the proper work level. Refer to Figures 5 and 6 for platform suggestions.

If rungs or steps are provided for climbing up to the siren, it is advisable to locate the lowest step at least 10 feet above the ground to minimize the opportunity for vandalism.

SIREN MOUNTING SUGGESTIONS

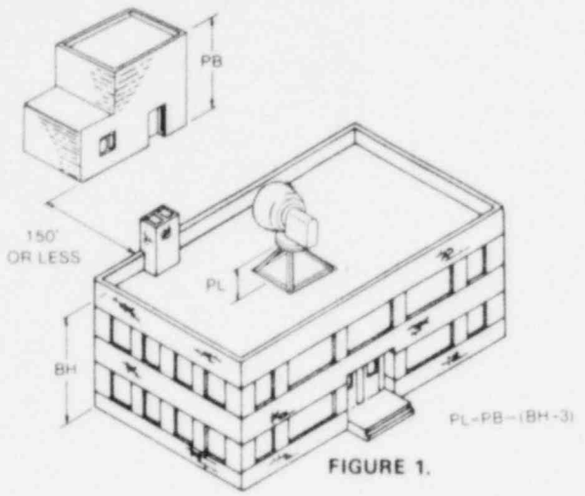


FIGURE 1.

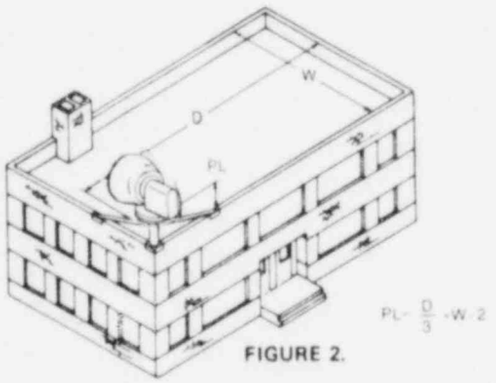


FIGURE 2.

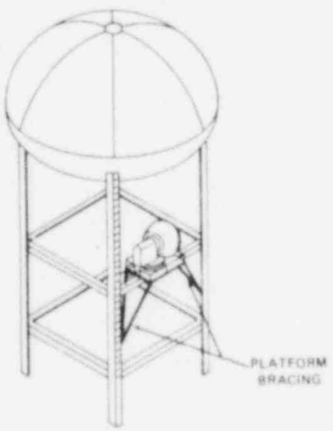


FIGURE 3.

ROOF MOUNT (FIGURE 1)

The siren may be mounted as shown on a support or platform on a flat roof. See Figure 4 for details of construction for a suggested roof mount. The siren should be mounted higher than the highest snow level anticipated at the installation.

PARAPET MOUNT (FIGURE 2)

Various custom-built mounts may be used similar to the parapet mount illustrated. Actual design will be dictated by building construction and height desired.

TOWER OR TANK MOUNT (FIGURE 3)

A properly situated tower or tank may serve as an ideal mount. The support platform must be designed with adequate bracing to help carry the total load.

SIREN SUPPORT PLATFORM

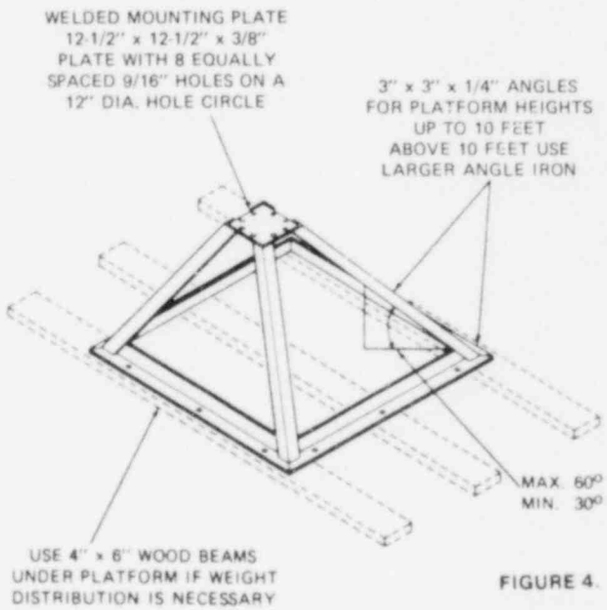
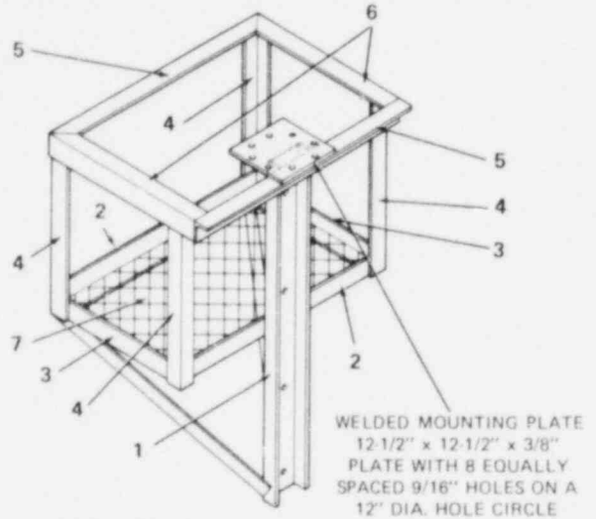


FIGURE 4.

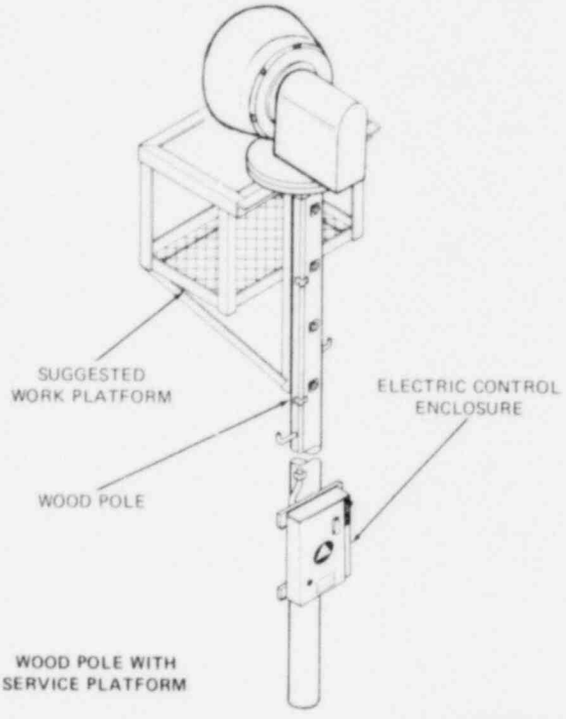
SUGGESTED MATERIAL LIST

ITEM	DESCRIPTION
1	13 lb., 6" Channel, 2.157" Web x 72" Long
2	2" x 2" x 3/16" Angle x 48" Long
3	2" x 2" x 3/16" Angle x 36" Long
4	1-1/2" x 1-1/2" x 1/8" Angle x 36" Long
5	1" x 1" x 1/8" Angle x 48-3/4" Long
6	1" x 1" x 1/8" Angle x 38-3/4" Long
7	4.27 lb. Grating, 1" x 2-7/8" Opening, 47-1/2" Long x 35-1/2" Wide



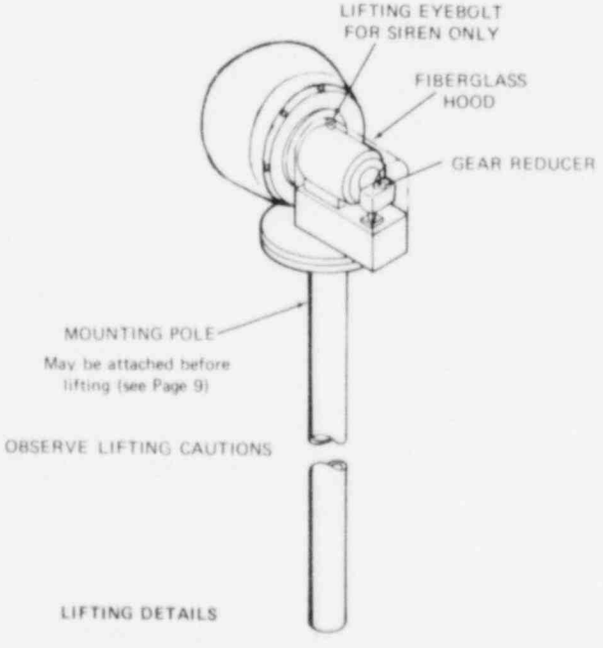
WORK PLATFORM AND SIREN SUPPORT

FIGURE 5.



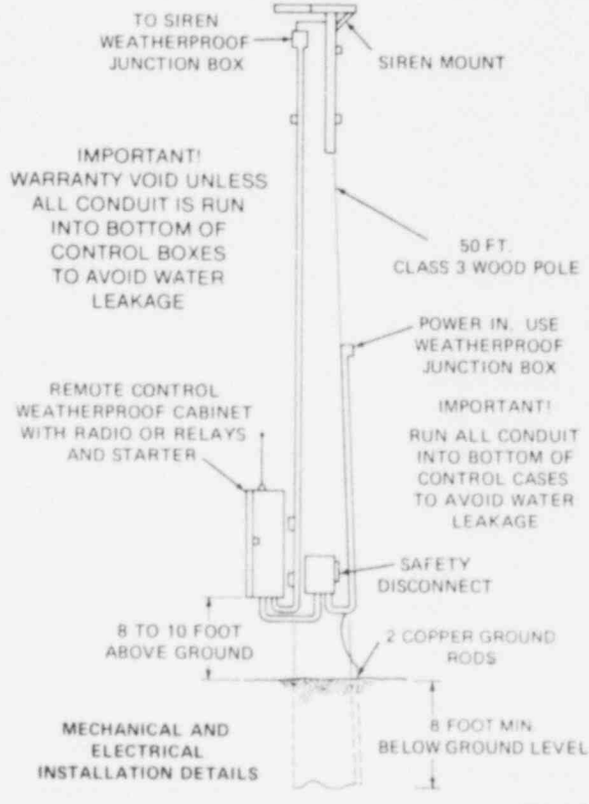
WOOD POLE WITH SERVICE PLATFORM

FIGURE 6.



LIFTING DETAILS

FIGURE 7.



MECHANICAL AND ELECTRICAL INSTALLATION DETAILS

FIGURE 8.

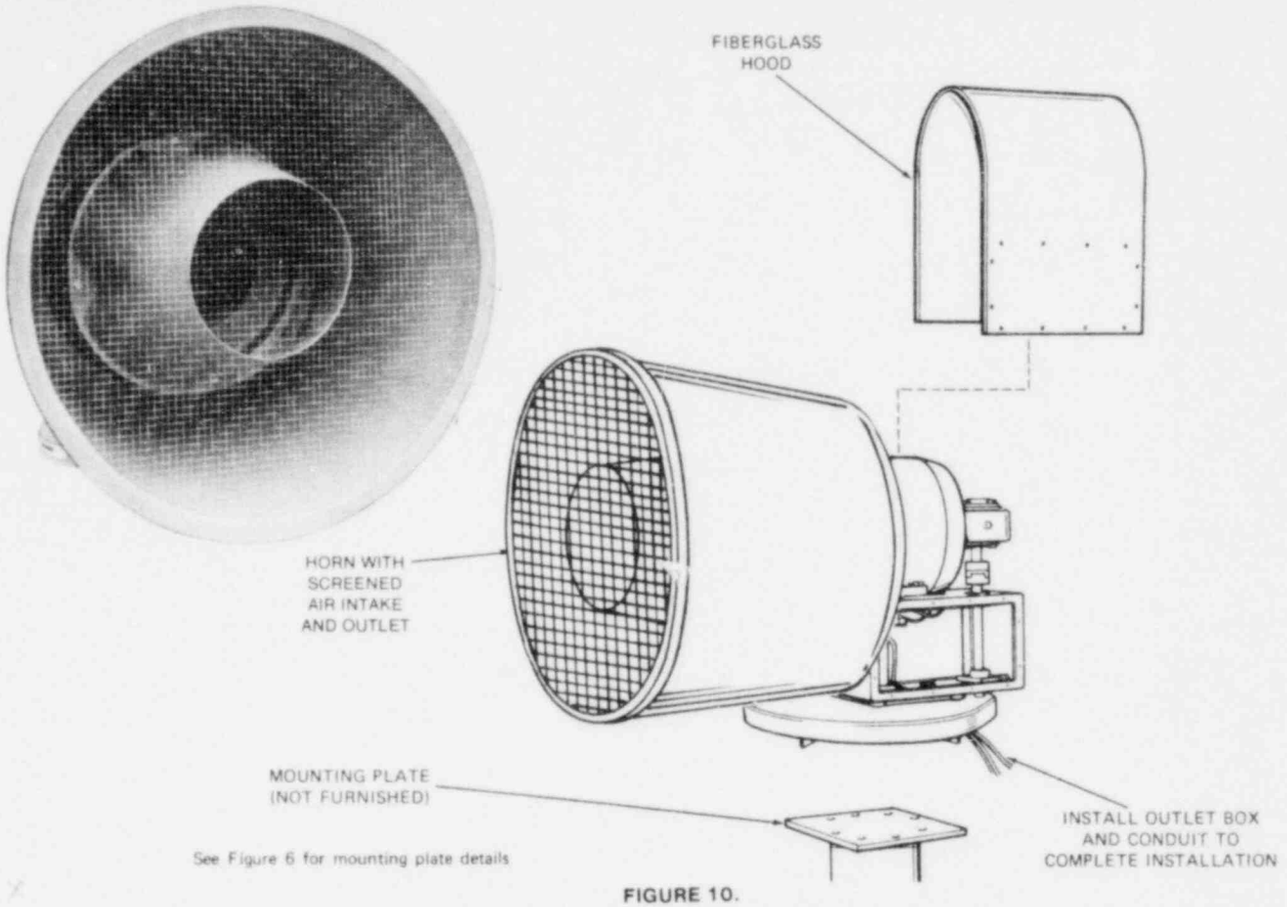


FIGURE 10.

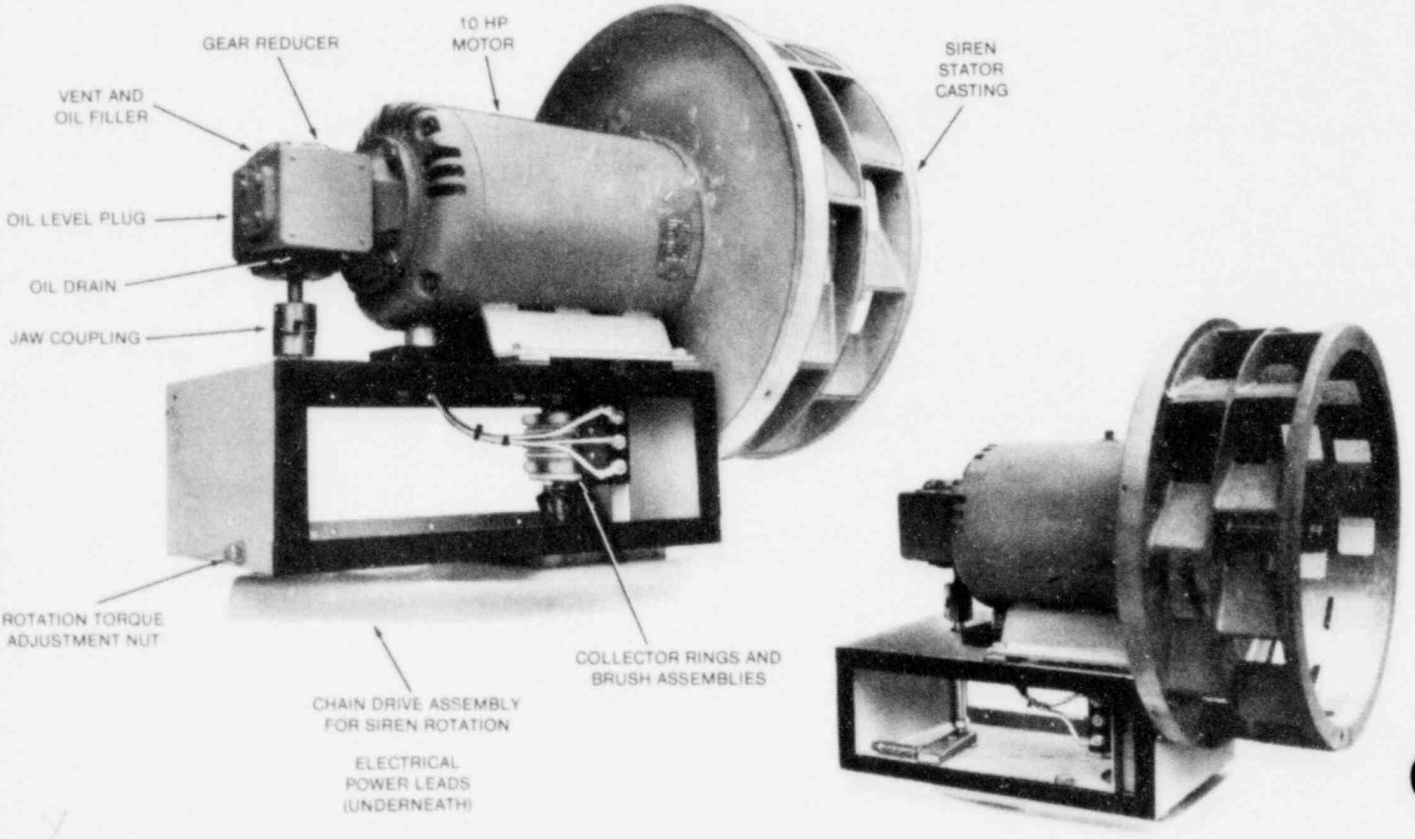


FIGURE 11.

INSTALLATION

MECHANICAL INSTALLATION

A sturdy mounting plate is provided in the sheltered area under the rotating mechanism. A matching plate must be fabricated as part of the siren mount. See Figures 4 and 5 for details. The plate must have eight equally spaced 9/16 inch holes on a 12 inch diameter circle. Mounting to this plate is then accomplished by means of 1/2 inch bolts, nuts and lockwashers.

POLE MOUNT

Figure 6 illustrates a typical work platform with integral mounting plate. The design and construction may be varied to suit conditions. The main requisite is the ability to properly support the weight and wind load of the siren assembly.

The electric control enclosure is usually mounted lower than the siren, but at least 8 feet above ground level to discourage attempts at tampering. Locate the enclosure for easy accessibility by qualified personnel.

IMPORTANT

Refer to Figure 8 for essential information on mechanical and electrical installation.

ROOF MOUNT

The roof composition, spacing of the rafters or beams and the load carrying capacity must be known and considered. If the roof is capable of supporting the siren, no elaborate sub base is necessary provided the installed horn height is adequate for the desired sound coverage. In snow belt areas always mount above the highest snow level expected.

If the roof composition and/or span loading present a problem, a sub base should be used to distribute the weight. This base can consist of several 4 X 6 inch wood beams of sufficient length beneath the angle iron platform (see Figure 4) to spread the roof loading.

LIFTING INTO POSITION

1. When the siren is mounted to the pole before lifting to the vertical position:
   a. Do not lift the entire siren and pole by the eyebolt on top of the siren motor and do not let any weight rest on the fiberglass parts of the siren.
   b. The primary lift point is the pole and not the eyebolt on the siren. The gear reducer end of the siren should lead the way up as the siren and pole are raised to the vertical position (see Figure 7).
   c. With the pole and siren in final position, proceed with electrical connections.
2. When the siren is separate from the pole or platform:
   a. The primary lift point of the siren assembly is the eyebolt located on top of the motor. This eyebolt is sturdy enough to lift the entire siren safely in a vertical direction. Do not lift the unit in this way if attached to a pole or platform mount.
   b. With the siren mounted in final position, proceed with electrical connections.

ELECTRICAL CONTROLS

The siren motor leads terminate under the sheltered rotating mechanism. Attach an approved weatherproof type conduit box at this point.

All electrical controls needed for operating the siren are prewired and contained inside a weatherproof metal enclosure which should be mounted near the siren in a position of easy access to authorized personnel, but out of easy reach of unauthorized persons. Install conduit between the control box and the siren, using wire adequate for the power requirements. Refer to Electrical Requirements in Specification section.

IMPORTANT

Always enter electrical control and junction boxes from the bottom to prevent leakage and water damage. (Refer to Figure 8)

NOTICE: Warranty will be voided if conduit enters the top of the control enclosure.

Warranty is void if improper starter and/or overload protection is used.

Refer to ELECTRICAL INFORMATION for amperage requirements.

Control of the siren can be accomplished by either direct switch control, program timer at the installation, remote control, radio encoder transmitter to decoder receiver, or telephone lines, from a location different from installation.

The incoming signal actuates the magnetic starter which, in turn, starts the siren motor. The system provides thermal overload protection. Refer to wiring diagrams.

Power for each siren is to be run from an ADEQUATELY FUSED DISCONNECT SWITCH CONNECTED TO THE POWER SOURCE. Additional disconnect switches may be required by code between the magnetic starter and the siren.

PRE-OPERATION CHECKS (Mechanical)

A — Gear reducer lubricant level.

B — Lubricant on gear reducer drive chain.

C — Final check all bolted or assembled components.

PRELIMINARY TEST

Prior to final wiring connection of Radio Decoder, Timer or Telephone Relays and with power connected to the starter controls, a check for proper motor rotation MUST be made.

Momentarily energize the motor through the magnetic starter contacts. Siren rotation should be in direction of arrow on siren exterior. If rotation is not correct, interchange line one and line three on a three-phase siren.

FINAL WIRING AND TESTING

(Refer to wiring diagrams)
Connect the signal source wires to the magnetic starter control cabinet terminal block. Proceed to test the entire operation of the siren using the radio controls, timer or telephone system.

CAUTION

WEAR EAR PROTECTION. With the installation complete, the siren SHOULD NOT BE ALLOWED TO SOUND FOR ANY PROLONGED PERIOD (more than 30 seconds) while any person is on the same level as the horn. Ear guards must be worn as a precaution at all times during testing or possible remote starting.

OPERATION

The magnetic starter assembly furnished with the siren is designed for universal application. Actuation and control may be by means of remote direct wired lines, telephone lines and relays or special radio controls. The activating and timing equipment is to be provided by the procurement agency at time of installation. This manual will not attempt to define the exact operational procedure of the siren.

MAINTENANCE INSTRUCTIONS

LUBRICATION

NOTE — DISCONNECT POWER FIRST

1. Self-aligning ball bearings are located above and below the collector rings. These bearings should be greased every year.

2. When greasing the bearings, one shot of the grease gun is sufficient. If excess flows from the seals, remove it from the base with a rag. Use Molub Alloy #171 graphite grease manufactured by the Imperial Oil and Grease Company or equivalent.

3. Oil in the gear reducer should be changed each year. Use a high quality SAE 10W-30 Motor Oil and fill to oil level hole.

4. Before operating, check drive chain under circular base for protective grease coating. If needed, grease with Molub Alloy #171 graphite grease or equivalent. Do not over-grease. Check the set-screws in the sprockets, collars and couplings when greasing the chain.

ADJUSTING ROTATION DRIVE ASSEMBLY

The rotation drive assembly is factory adjusted to provide slippage as a precaution against possible component damage if a physical force prevents the siren assembly from rotating. A quick torque check may be made by grasping the upper siren assembly with both hands and attempting to rotate. Considerable force should be required to rotate manually.

If adjustment is necessary, proceed as follows:

A torque adjustment is provided (see Figure 11). Turn the adjustment nut to increase or decrease compression of the torque spring as required to provide proper operation.

CLEANING COLLECTOR RINGS

If the siren is inoperative and all electrical connections such as fuses, overloads in the magnetic starter and circuits have been checked, inspect the collector rings in the rotation assembly by removing the fiberglass hood.

CAUTION

Make certain the electrical power is off.

If the collector rings are discolored or have a dirt or oil film coating, polish each ring with a fine crocus cloth. This can be accomplished by polishing the portion of the ring near the opening, and then rotating the assembly by hand far enough to expose another portion of the collector ring. Also check the spring tension on the brush holders to see if there is sufficient pressure on each brush to maintain contact.

TROUBLE-SHOOTING CHECK LIST

SYMPTOMS

A — Siren motor does not start and siren does not rotate.

POSSIBLE CAUSE	CORRECTIVE PROCEDURE
1. No power to motor controls	1. Check fuses and power supply
2. Defective magnetic starter relay	2. Replace relay
3. Burned or pitted magnetic starter relay contacts	3. Replace relay
4. Loose connections in control panel	4. Check and repair
5. Overload is kicked out on starter relay	5. Trace overload and correct the cause
6. Electric motor windings either open or shorted	6. Test motor and replace
7. Remote actuating system defective	7. Trouble-shoot and correct
8. Worn collector rings or brushes	8. Replace
9. Dirty or corroded collector rings	9. Clean and polish
10. Loose connection on collector ring assembly	10. Trace and repair
11. Ice in siren rotor-stator	11. De-ice with hot antifreeze or hot air blower. Do not use flame near fiberglass

B — Siren operates with difficulty or erratically.

POSSIBLE CAUSE	CORRECTIVE PROCEDURE
1. Siren air intake clogged	1. Clear obstruction
2. Build-up of foreign material between siren rotor and stator	2. Disassemble housing and clean. Air gap should be .025 inch or more.
3. Rotation mechanism binding	3. Inspect to determine cause and free-up or replace defective parts
4. Electric motor, rotor or windings damaged	4. Inspect motor armature. Check supply voltage and current during operation. Test motor and repair or replace.

C — Siren sounds but does not rotate.

POSSIBLE CAUSE	CORRECTIVE PROCEDURE
1. Foreign material jamming rotating mechanism	1. Clear obstructions
2. Defective gear reducer	2. Replace
3. Upper or lower bearing seized	3. Free-up and lubricate or replace
4. Broken jaw coupling	4. Replace
5. Loose setscrew on jaw coupling	5. Retighten
6. Improper torque adjustment on drive chain assembly	6. Adjust torque spring to correct slippage
7. Chain slipping off track	7. Adjust torque spring or replace chain
8. Broken drive chain	8. Repair broken links

INSPECTION

Since the siren is an emergency warning device which will get minimal operational use, very little operational wear is to be anticipated.

Periodic operational tests should be made to verify functionability. The frequency of testing is considered to be a local option. Once every six months, or at other optional intervals, perform the following inspections:

1. Inspect external fiberglass surfaces for any physical damage.
2. Inspect screened openings to determine that they are unobstructed and that screens are securely fastened.
3. Inspect control panel door gasket and interior to determine that no water leakage exists.
4. Remove fiberglass hood from motor compartment and check gear reducer oil level. Add or change as necessary. Refer to MAINTENANCE INSTRUCTIONS under "LUBRICATION."
5. While fiberglass hood is removed, inspect collector rings and brushes. Clean and polish as necessary. If deeply scored or burned, replace rings and brushes. Refer to MAINTENANCE INSTRUCTIONS under "CLEANING COLLECTOR RINGS."

6. Inspect rotating chain drive mechanism under siren base. Apply grease and check chain tension. Refer to MAINTENANCE INSTRUCTIONS Under "LUBRICATION" and "ADJUSTING CHAIN DRIVE TENSION."

DISASSEMBLY, REPAIR, REPLACEMENT AND REASSEMBLY

The siren's physical design is such that it precludes most mechanical problems other than those caused by natural disasters or violent physical damage. The siren configuration is constructed from reinforced fiberglass and bolted together to form a weather-resistant enclosure for all moving parts.

The parts drawings illustrate component placement. Upon removal of the fiberglass hood, all working parts are exposed to view. The chain drive assembly is always accessible from the underside of the protective base cover.

Disassembly procedures are extremely simple and will become obvious to the mechanic, depending on the parts or components needing service. Ordinary mechanics tools are adequate for all service work. Refer to MAINTENANCE PROCEDURES for servicing and lubricating instructions.

PREPARATION FOR RESHIPMENT

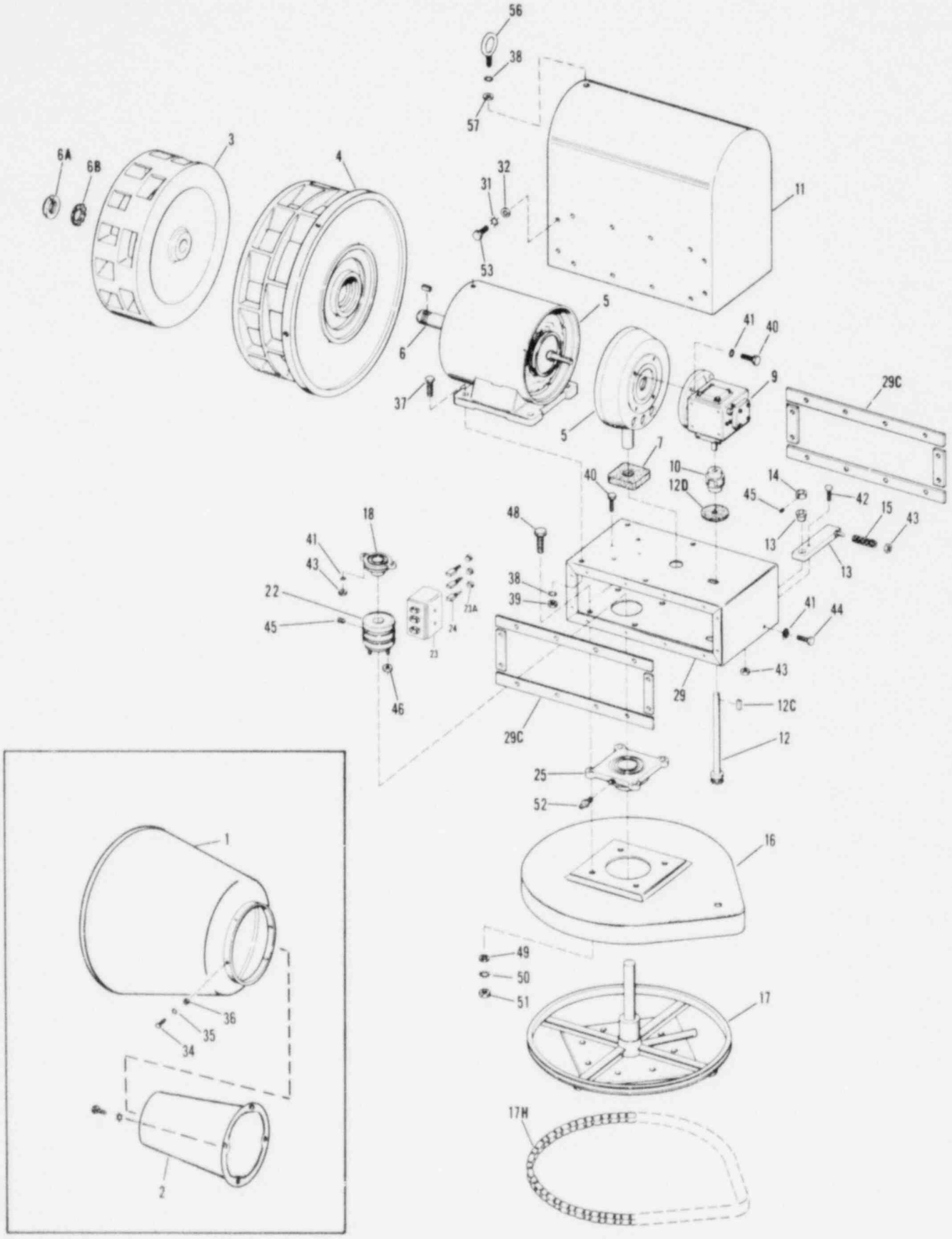
Should the siren need to be relocated, the following procedures should be followed:

1. Disconnect all controls and electrical connections.
2. Remove magnetic starter control cabinet.
3. Provide means of lifting the siren from its mount.
4. Unfasten from the mount and lower to the ground.
5. Provide suitable shipping mount or crate.

STORAGE

No special precautions are necessary except that the unit should never be submerged in water or other damaging fluids.

PARTS LIST — PENETRATOR 10 SIREN



PENETRATOR 10 SIREN ASSEMBLY

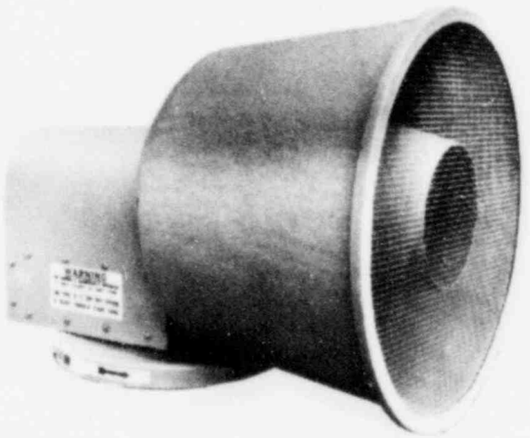
REF. NO.	PART NO.	DESCRIPTION	NO. REQ'D.
1	P-125-1	HORN	1
2	P-125-2	INTAKE HORN	1
3	AL-125-3	ROTOR, Siren	1
4	AL-125-4	STATOR, Siren	1
5	AL-125-5	END BELL, Motor-gear reducer	1
5A	AL-125-5A	MOTOR (For 3/phase sirens — 230/460V)	1
5B	AL-125-5B	MOTOR (For 3/phase sirens — 208V)	1
5C	AL-125-5C	MOTOR (For single phase sirens — 240V)	1
6	AL-125-6	SHAFT, Motor (specify motor type)	1
6A	AL-125-6A	LOCK NUT, Motor shaft	1
6B	AL-125-6B	LOCK WASHER, Motor shaft	1
7	AL-125-7	GASKET, Motor conduit	1
8	AL-125-8	CONDUIT, Motor	1
9	AL-125-9	REDUCER, Gear	1
10	AL-125-10	COUPLING, Jaw type, 5/8 x 5/8 in.	1
11	AL-125-11	HOOD	!
12	AL-125-12	SHAFT, Drive (with sprocket)	1
12C	AL-125-12C	KEY, Drive shaft	1
12D	AL-125-12D	GASKET	1
13	AL-125-13	LIMITER ASSEMBLY, Torque (includes bushing and arm)	1
14	AL-125-14	COLLAR, 5/8 in. I.D.	1
15	AL-125-15	SPRING, Torque setting	1
16	AL-125-16	COVER, Chain	1
17	AL-125-17	DRIVE ASSEMBLY, Base rotator	1
17H	Coml	CHAIN, Base rotator No. 35 standard, 68-11/16 in. plus 1 connector	1
18	AL-125-18	BEARING, Upper rotator, 1-1/4 in. I.D.	1
19	AL-125-19	Not applicable	
20	AL-125-20		
22	AL-125-22	RING ASSEMBLY, Collector, 3 ring (standard siren)	1
23	AL-125-23	BRUSH HOLDER ASSEMBLY	1
23A	AL-125-23A	CAP, Brush holder	3
24	AL-125-24	BRUSH	3
25	AL-125-25	BEARING, Main rotator, 2-1/4 in. I.D.	1
29	AL-125-29	BASE	1
29C	AL-125-29C	GASKET, Side panel (set)	2

HARDWARE ITEMS (ZINC PLATED STANDARDS)

REF. NO.	PART NO.	DESCRIPTION	NO. REQ'D.
H31	Coml	WASHER, External, star, 1/4 in.	24
H32	Coml	WASHER, Flat, 1/4 in.	24
H34	Coml	SCREW, Hex hd cap, 5/16-18 x 3/4 in.	6
H35	Coml	WASHER, Internal-external, star, 5/16 in.	6
H36	Coml	WASHER, Flat, 5/16 in.	6
H37	Coml	SCREW, Hex hd cap, 1/2-13 x 1-1/2 in.	4
H38	Coml	WASHER, Internal-external, star, 1/2 in.	5
H39	Coml	NUT, Hex, 1/2-13	4
H40	Coml	SCREW, Hex hd cap, 3/8-18 x 1 in.	6
H41	Coml	WASHER, Internal, star, 3/8 in.	6
H42	Coml	SCREW, Hex hd cap, 3/8-18 x 1-1/4 in.	1
H43	Coml	NUT, Hex, 3/8-18	8
H44	Coml	SCREW, Hex hd cap, 3/8-18 x 1-1/2 in.	1
H45	Coml	SETSCREW, 5/16-18 x 5/16 in.	2
H46	Coml	NUT, Brass, No. 10-32	6
H48	Coml	SCREW, Hex hd cap, 5/8-11 x 2-1/4 in.	4
H49	Coml	WASHER, Flat, 5/8 in.	4
H50	Coml	WASHER, Internal-external, star, 5/8 in.	4
H51	Coml	NUT, Hex, 5/8-11	4
H52	Coml	FITTING, Grease, 45 degrees, 1/8 in. N.P.T.	1
H53	Coml	SCREW, Hex hd cap, 1/4-20 x 5/8 in.	24
H56	Coml	EYEBOLT, 1/2-13	1
H57	Coml	WASHER, Flat, 1/2 in.	1

A.C.A. PART NUMBERS FOR COMPLETE PENETRATOR 10 UNITS

Standard	With Valve (Fire) Signal
125000-100 — 230 VAC 3/Ph	125000-101 — 230 VAC 3/Ph
125000-200 — 208 VAC 3/Ph	125000-201 — 208 VAC 3/Ph
125000-300 — 460 VAC 3/Ph	125000-301 — 460 VAC 3/Ph



The PENETRATOR 10

ROTATING DIRECTIONAL SIREN

ENCLOSED IN FIBERGLASS FOR SUPERIOR WEATHER RESISTANCE

SPECIFICATIONS

Rated at 125 DB at 100 feet.

Weight – 376 lbs. (approx.)

Dimensions – 38" x 47"

- A single 10 HP motor produces the sound through direct drive rotor-stator assembly and rotates the sound beam at 3.5 RPM.
- Maximum sound penetrations is achieved by directing the sound in a beam 15° above horizontal to 15° below horizontal.
- Direct coupling of all sound producing and rotational components means greatly increased reliability and freedom from breakdowns. No drive belts to slip.
- Completely enclosed in durable fiberglass to eliminate rusting and painting problems.
- Unified design allows effective mounting on pole, roof or parapet.
- Dual tone, non-harmonic models available in 523-698 hertz or other special frequencies and with two or three signal capabilities.
- All sirens are tested before shipment.
- Guaranteed – 3 years on siren parts and one year on electrical parts.

The PENETRATOR 10 features the latest up-to-date efficient horn design. Its sound output rating exceeds the output rating requirements for CD1-103 Size B and CD1-107 Size 3A3 sirens. It is extremely compact and resistant to the effects of environmental elements.

The decibel rating of the ACA equipment discussed herein is based on testing done by independent laboratories under ideal conditions. Test results may vary depending on various factors, including weather conditions.

A.C.A.

"YOU CAN DEPEND ON US"

Our sirens have been in use around the world for more than 30 years. Entire communities depend on reliability A.C.A. siren systems for disaster warning and signaling applications. Every siren is pre-tested and warranted by A.C.A.

Manufactured by

ALERTING COMMUNICATORS OF AMERICA

P.O. BOX 308 • 10255 N. ENTERPRISE DR. • MEQUON, WI 53092
TELEPHONE (414) 242-2800

ATTACHMENT