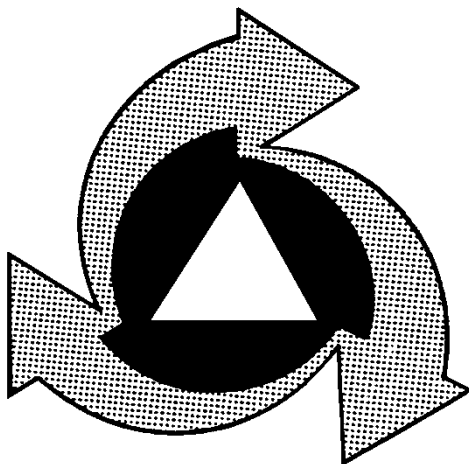


ALLERTOR 125

ROTATING DIRECTIONIAL SIREN



INSTALLATION OPERATION MAINTENANCE And PARTS MANUAL



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GENERAL INFORMATION

The A.C.A. Allertor 125 is a powerful, rotating, directional siren with a unified design that is both compact and weatherproof. The output of 126 decibels at 100 feet is radiated to an effective 70 DB range of 4500 feet, thus giving a total circular coverage of 2.2 square miles per siren. (Federal CD Guide, March 1964.)

The single 10 HP motor produces the sound through direct drive rotor-stator design and also rotates the entire assembly at 3.5 RPM through a direct drive worm and spur gear combination.

Model CD1-103 Size B is a two-signal siren

Model CD-107 Size 3B3 produces two or three signals

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.

All signals are precisely controlled by a solid state integrated circuit master control device or a radio decoder-timer.

When specified, 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

SPECIFICATIONS

Weight:

Allertor 125 (2 signal).....425 lbs.

Allertor 125 (3 signal).....450 lbs.

Dimensions:

Overall assembly.....7 ft. long, 3 ft. wide,
5 ft. high

ACOUSTICAL DATA

Output level.....126 DB at 100 feet

Output frequencies:

Standard dual tone.....523/698 hertz

Special single tone.....465 hertz

Special single tone.....698 hertz

Output cutoff (resonant) frequency.....80 hertz

Sound dispersal beam.....10' above horizontal
15' below horizontal
30' wide horizontally

MOTOR DATA

For compression-

Modulation.....10 hp, 3 phase, ball bearing,
Semi-enclosed, induction
motor. High torque. Direct
coupled to rotor and gear
reducer. Single phase
available as special.

Air compression.....Direct drive back curved fin impeller.

STORAGE

Electrical

Requirements.....230 volt, 3 phase - 31 amp.
460 volt, 3 phase - 15.5 amp.
208 volt, 3 phase - 36 amp.
240 volt, 1 phase - 60 amp.

ROTATION

Drive.....Direct drive through a worm gear
box, coupled through a torque-
limiting device.

Speed.....3.5 RPM

ITEMS FURNISHED

Wood crated siren assembly with horn detached.

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.) if not ordered with siren.

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

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 voltmeter or voltage indicating device.

WARRANTY AND SERVICE

See separate warranty statement.

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 ear 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

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.

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 40-50 feet long 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 I through 4 and 7 illustrate typical siren mounting arrangements, which have been used successfully. These are Roof Mount, Parapet Mount, Chimney Mount, Tower or Tank Mount and Pole Mount. Figures 5, 6 and 8 show 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

NOTE

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

PROVISION FOR SERVICING

A convenient means of working on the siren for periodic servicing must be provided at time of installation. When using a pole mount, a platform should be constructed at the proper work level. Refer to Figures 6 and 7 for platform suggestions.

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

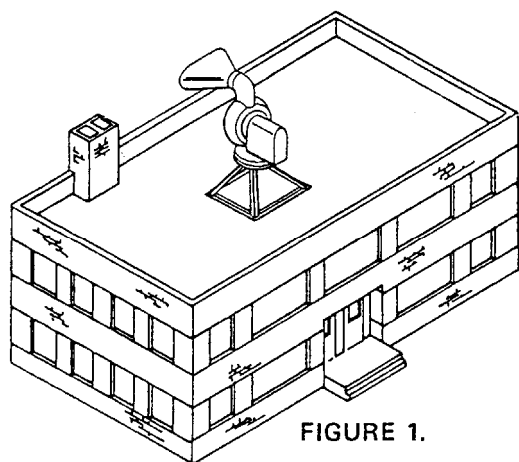


FIGURE 1.

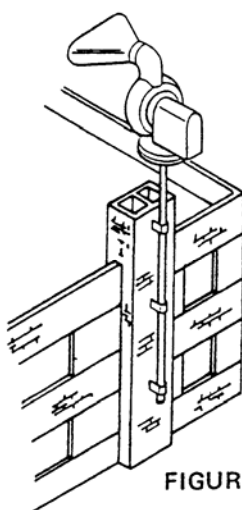


FIGURE 3.

ROOF MOUNT (FIGURE 1)

The siren may be mounted as shown on a support or platform on a flat roof. See Figure 5 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.

CHIMNEY MOUNT (FIGURE 3)

A sturdy chimney may provide a convenient support for mounting the siren. The possibility of corrosive or staining smoke should be considered when this type of installation is planned. Use 4" heavy wall galvanized pipe to a maximum height of 10 feet above the top of the chimney. Use larger pipe for greater height.

TOWER OR TANK MOUNT (FIGURE 4)

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

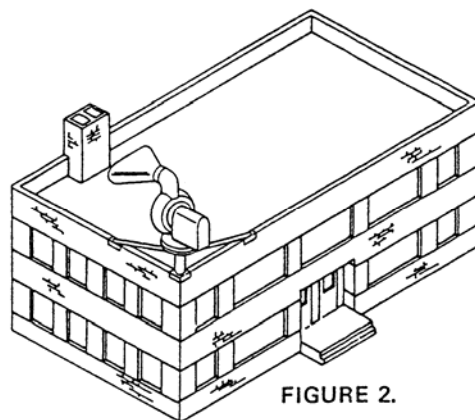


FIGURE 2.

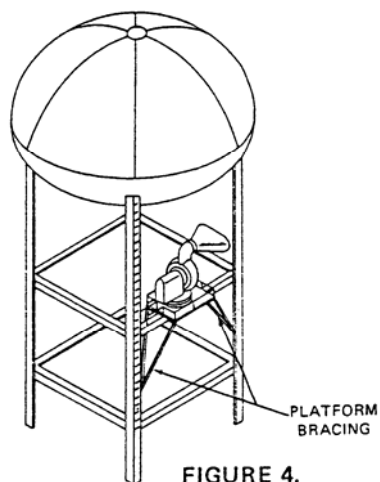


FIGURE 4.

SIREN SUPPORT PLATFORM (FIGURE 5)

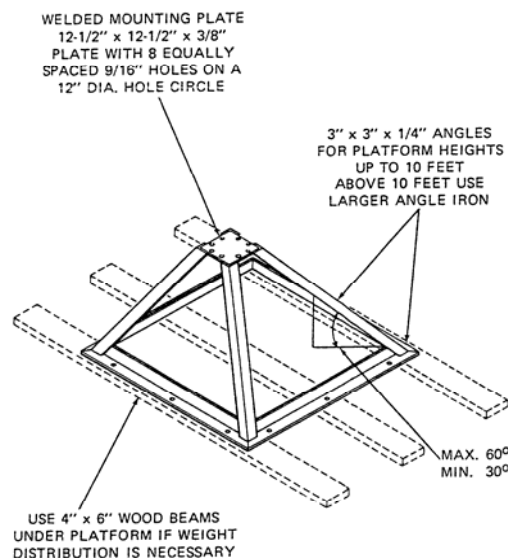


FIGURE 5.

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

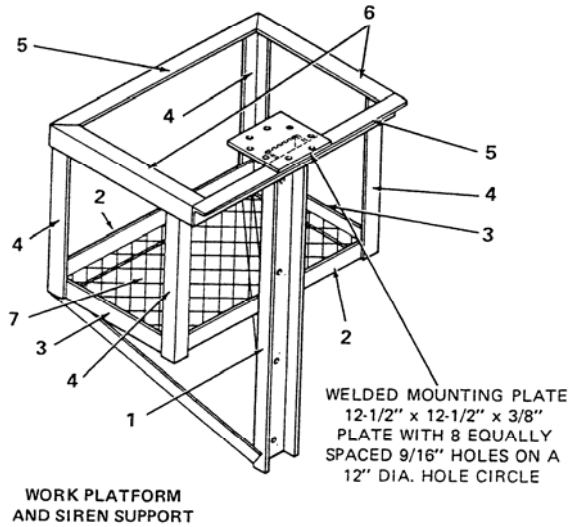


FIGURE 6.

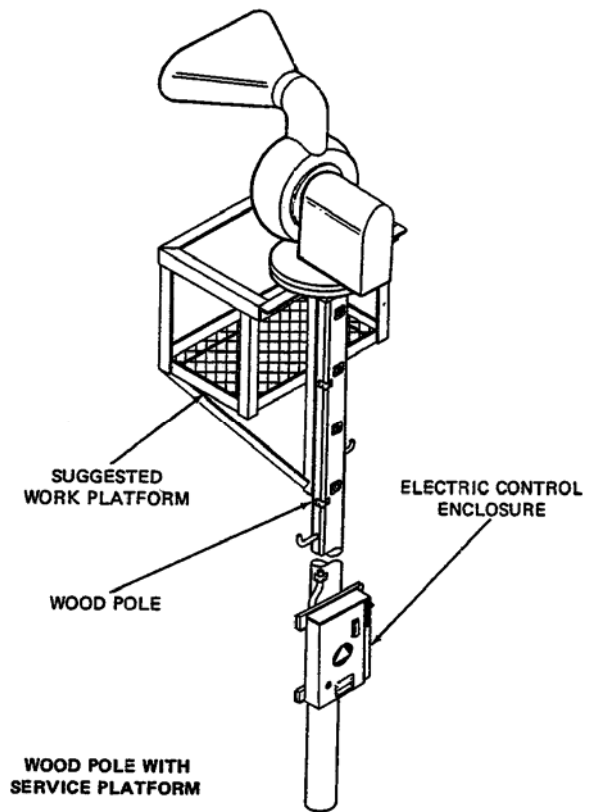


FIGURE 7.

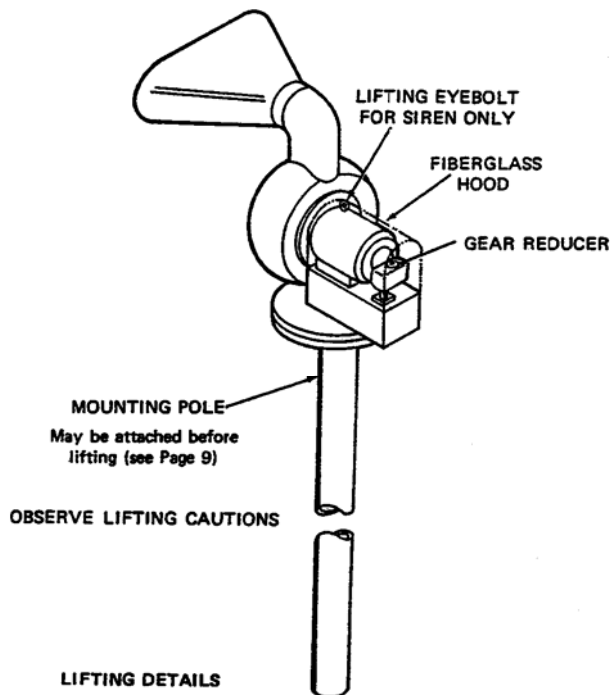


FIGURE 8.

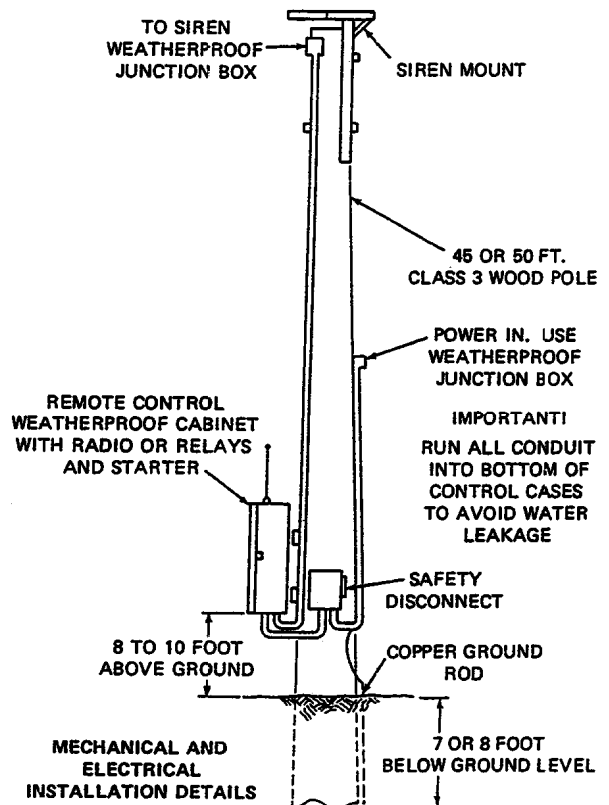


FIGURE 9.

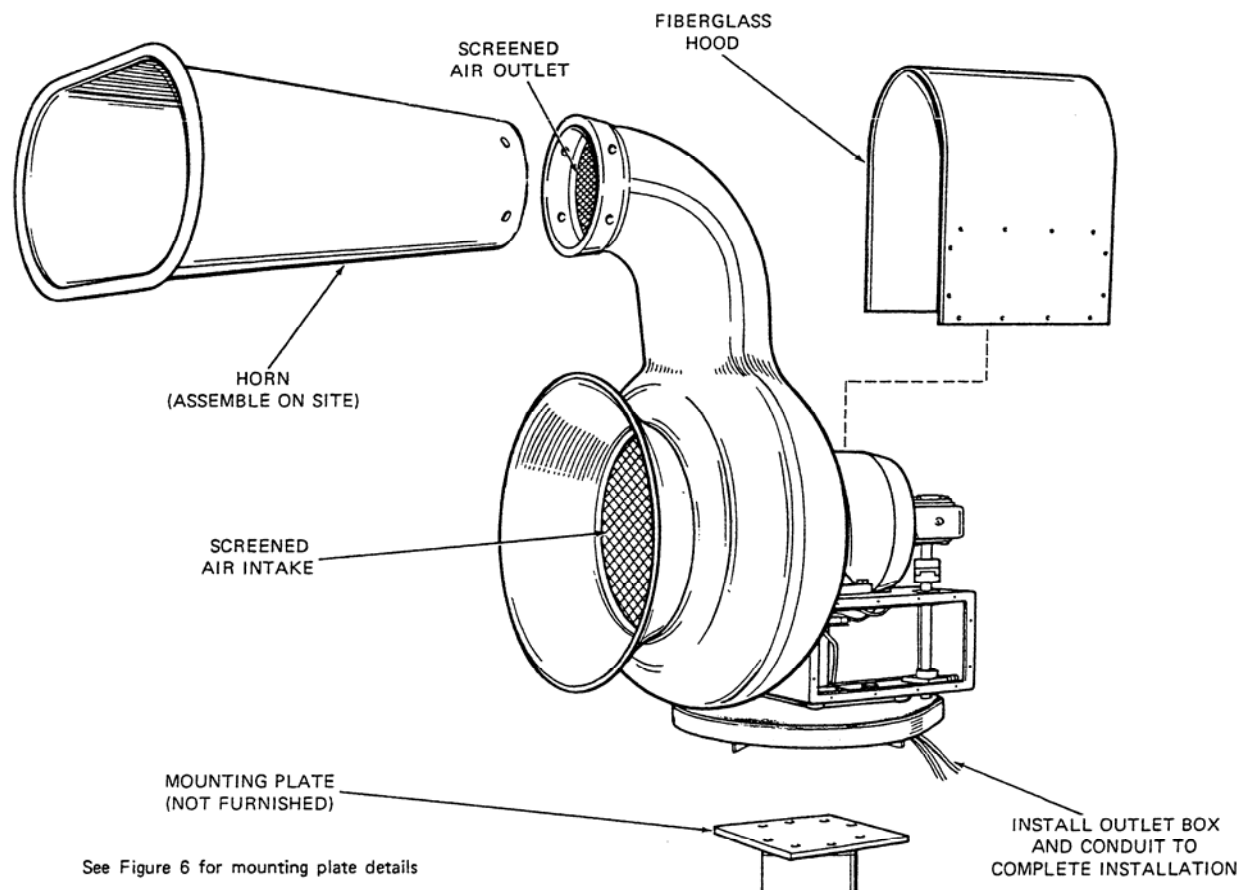


FIGURE 10

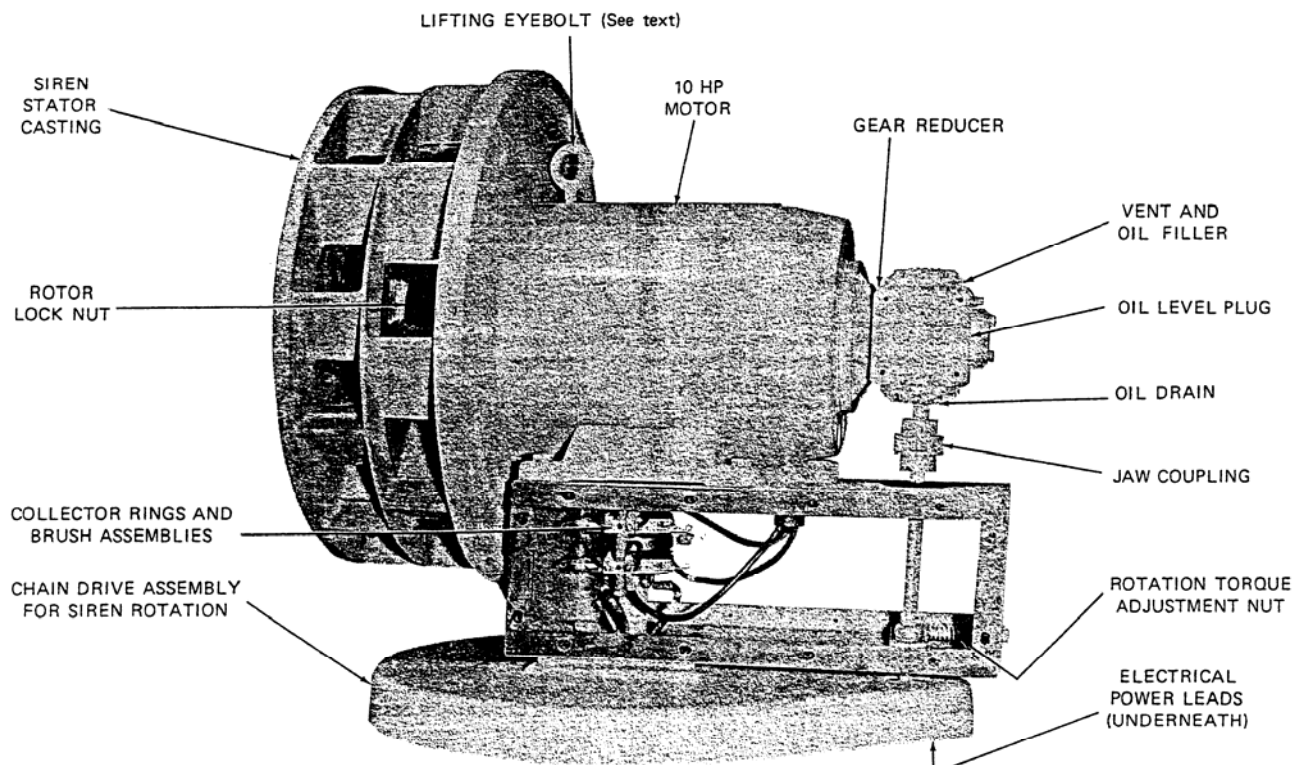


FIGURE 11

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 5, 6 and 7 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 lock washers.

POLE MOUNT

Figure 7 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 9 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 (approximately 450 lbs.), 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 5) 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 8).

- c. The fiberglass horn may be assembled to the compression chamber before erection provided no weight is put on the horn and it does not interfere with erection.
 - d. 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 450 lb. 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-I Requirements in Specification section.

IMPORTANT

Always enter electrical control and junction boxes from the bottom to prevent leakage and water damage. (Refer to Figure 9.)

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.

1. Have one person observe the open siren air intake.
2. Momentarily energize the motor through the magnetic starter contacts. Siren motor rotation should be counterclockwise. If rotation is not correct, interchange line one and line three on a three-phase siren.

FINAL WIRING AND TESTING (See Figures 11 through 14 and 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 by personnel on the same level as the horn as a precaution at all times during testing or possible remote starting.

OPERATION

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, to be provided at time of installation, must be specified when ordering the siren. This manual will not attempt to define the exact operational procedure of the siren.

MAINTENANCE INSTRUCTIONS

LUBRICATION (See Figures 10 and 11)

NOTE

DISCONNECT POWER FIRST.

1. A self-aligning ball bearing is installed above the collector ring assembly. This bearing is sealed for lifetime use and no additional lubrication is necessary.
2. Another self-aligning ball bearing is installed under the base in the center of the assembly. This bearing has an external grease fitting and has been lubricated at the factory so no additional lubricant is necessary for one year. When greased, one shot of the grease gun is sufficient. If excess flows from the seals, remove it from inside the base with a rag. Use Molub Alloy #171 graphite grease manufactured by the Imperial Oil and Grease Co. or equivalent.
3. Oil in the gear reducer should be changed each year. Use high quality SAE IOW-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 setscrews in the sprockets, collars and couplings when greasing the chain.

ADJUSTING DRIVE CHAIN TENSION

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 torque adjustment is provided. (See Figure 11.) 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, turn the torque adjustment nut to increase compression of spring.

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. (See Figure 11.)

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 triggers 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

- 1.No power to motor controls
- 2.Defective magnetic starter relay
- 3.Burned or pitted magnetic starter relay contacts
- 4.Loose connections in control panel
- 5.Overload is kicked out on starter relay
- 6.Electric motor windings either open or shorted
- 7.Remote actuating system defective
- 8.Worn collector rings or brushes
- 9.Dirty or corroded collector rings
- 10.Loose connection on collector ring assembly
- 11.Ice in siren rotor-stator

CORRECTIVE PROCEDURE

- 1.Check fuses and power supply
2. Replace relay
3. Replace relay
- 4.Check and repair
- 5.Trace overload and correct the cause
- 6.Test motor and replace
- 7.Trouble-shoot and correct
- 8.Replace
- 9.Clean and polish
- 10.Trace and repair
- 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

- 1.Siren air intake clogged
- 2.Build-up of foreign material between siren rotor and stator
- 3.Rotation mechanism binding

CORRECTIVE PROCEDURE

1. Clear obstruction
2. Disassemble housing and clean. Air gap should be .025 inch or more.
3. Inspect to determine cause and free-up or replace defective parts

C - Siren sounds but does not rotate.

POSSIBLE CAUSE

- 1.Foreign material jamming rotating mechanism
- 2.Defective gear reducer
- 3.Broken jaw coupling
- 4.Loose setscrew on jaw coupling
- 5.Improper torque adjustment on drive chain assembly
- 6.Chain slipping or off track
- 7.Broken drive chain
- 8.Upper or lower bearing seized

CORRECTIVE PROCEDURE

- 1.Clear obstructions
- 2.Replace
- 3.Replace
- 4.Retighten
- 5.Adjust torque spring to correct slippage
- 6.Adjust torque spring or replace chain
- 7.Repair broken links
- 8.Free-up and lubricate or replace

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 function ability. 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 screens are securely fastened.

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 weatherresistant enclosure for all moving parts.

The parts drawing (Figure 15) illustrates component placement. Upon removal of the fiberglass hood, the electric motor, gear reducer, jaw coupling, collector ring assembly and torque adjusting spring 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

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 that brushes. Clean and polish as necessary.

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. Horn may be removed for transporting or shipping.
6. 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

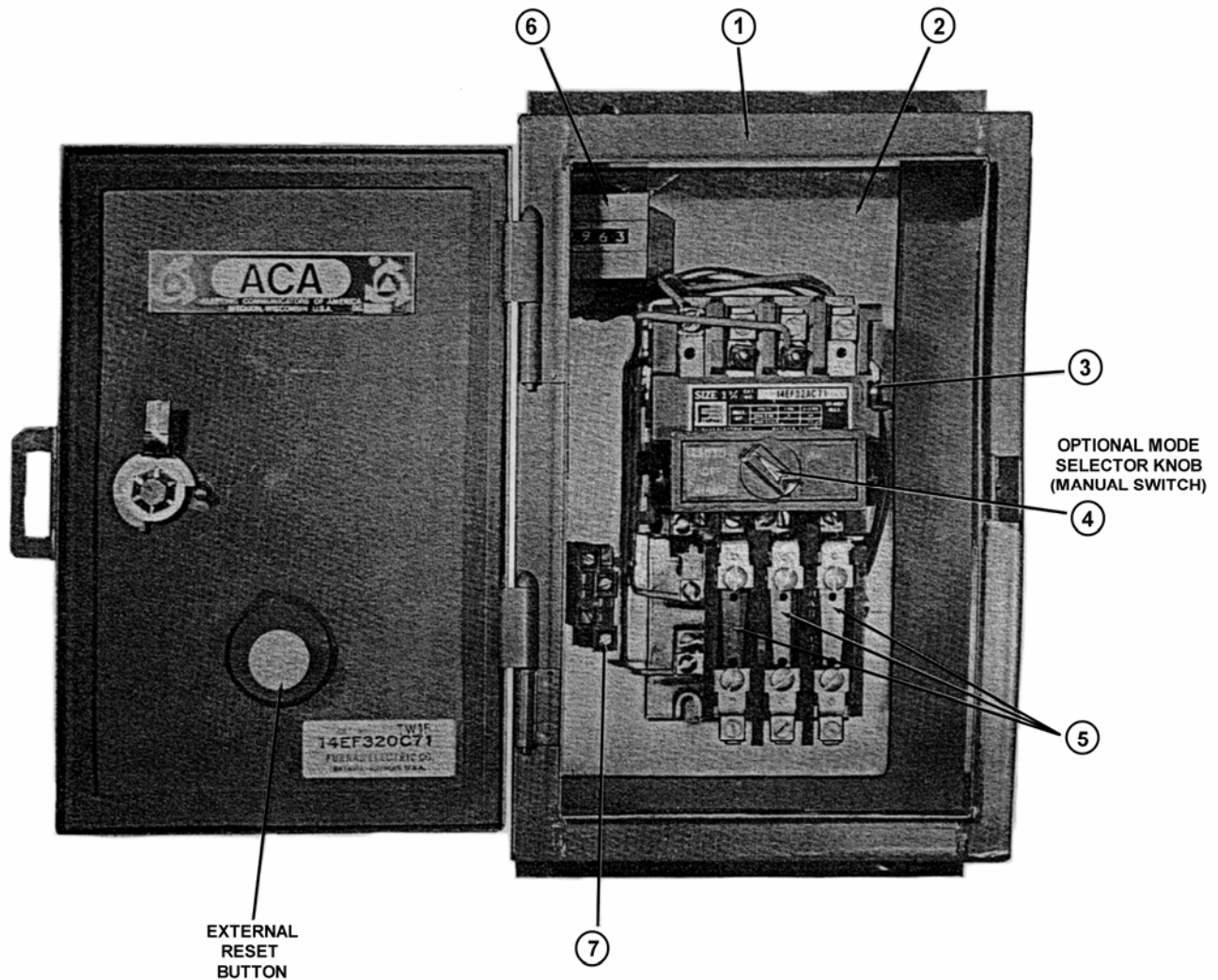


FIGURE 12. THREE PHASE, TWO SIGNAL SIREN - CONTROL PANEL DETAIL AND PARTS

FIG. & REF. NO.	PART NO.	CONTROL PANEL FOR 3 PHASE 2 SIGNAL SIREN	NO. REQ'D.
		DESCRIPTION	
12-	20100	CONTROL PANEL ASSEMBLY, Complete	REF
-1	20101	ENCLOSURE, NEMA 12 Furnas (for maometric starter 14EF32AC71)	1
-2	20102	PANEL, Interior mounting	1
-3	20103	STARTER, Magnetic, Furnas, size 1-3/4 NEMA	1
-4	20104	SWITCH, Operating (optional)	1
-5	20105	OVERLOAD, Bi-metal, 31. 5 amp for 230V siren	1
-6	20106	COUNTER, 230 volt (optional)	1
-7	20108	BLOCK, Terminal	1

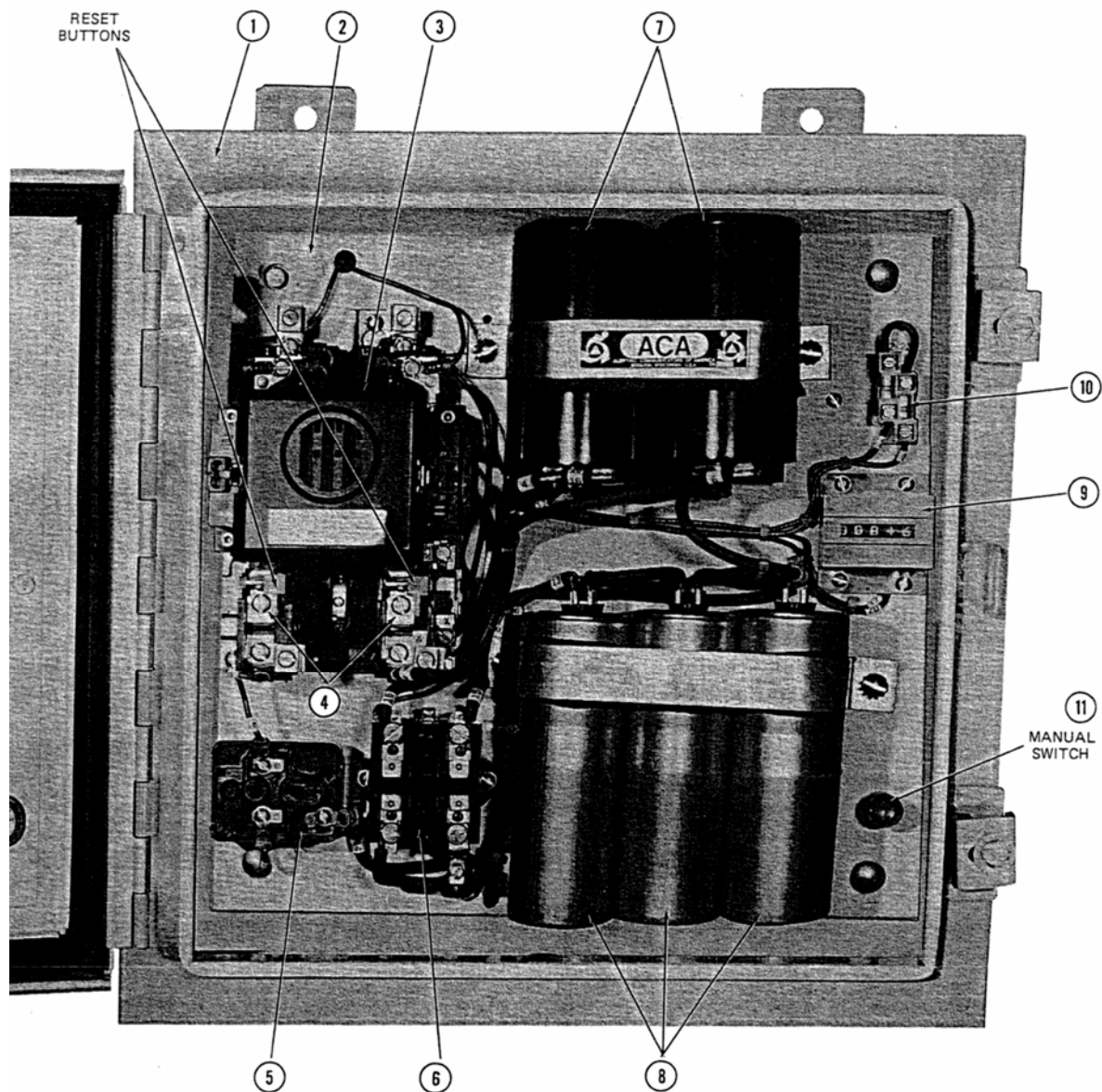


FIGURE 13. SINGLE PHASE, TWO SIGNAL SIREN – CONTROL PANEL DETAIL AND PARTS

FIG. & REF. NO.	PART NO.	CONTROL PANEL FOR SINGLE PHASE 2 SIGNAL SIREN	NO. REQ'D.
		DESCRIPTION	
13-	20200	CONTROL PANEL ASSEMBLY, Complete	REF
-1	20201	ENCLOSURE, NEMA 12 Furnas	1
-2	20202	PANEL, Interior mounting	1
-3	20203	STARTER, Magnetic, single phase, size 2 NEMA	1
-4	20204	OVERLOAD, Bi-metal, 60 axnp for 230V siren	2
-5	20205	RELAY, Current sensing (for No. 10234 motor) for start capacitor	1
-6	20206	CONTACTOR, Start	1
-7	20207	CAPACITOR, Start (for No. 10234 motor)	4
-8	20208	CAPACITOR, Run (for No. 10234 motor)	3
-9	20209	COUNTER, 230 volt (optional)	1
-10	20211	BLOCK, Terminal	1
-11	20212	SWITCH, Manual (optional)	1

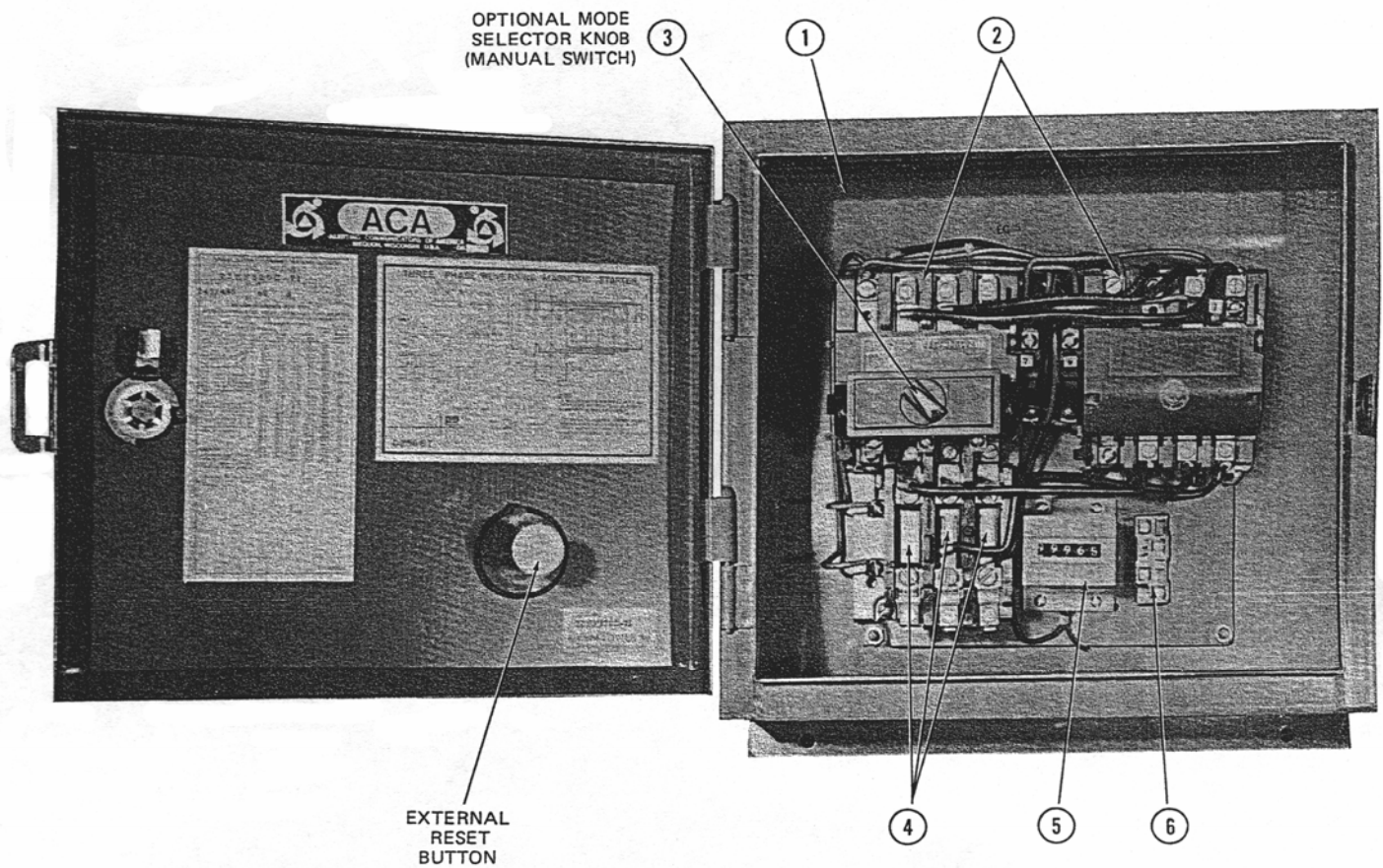


FIGURE 14. THREE PHASE, THREE SIGNAL SIREN TYPE 3B – CONTROL PANEL DETAIL AND PARTS

FIG. & REF. NO.	PART NO.	CONTROL PANEL FOR 3 PHASE, YELP TYPE SIGNAL	NO. REQ'D.
		DESCRIPTION	
14-	20300	CONTROL PANEL ASSEMBLY, Complete	REF
-1	20301	ENCLOSURE, NEMA 12 Furnas (for magnetic starter 22EF32A71)	1
-2	20302	STARTER, Magnetic, Furnas, 1-3/4 size, reversing type (includes mounting panel)	1
-3	20303	SWITCH, Operating (optional)	1
-4	20304	OVERLOAD, Bi-metal, special type from A.C.A	3
-5	20305	COUNTER, 230 volt (optional)	1
-6	20306	BLOCK, Terminal	1

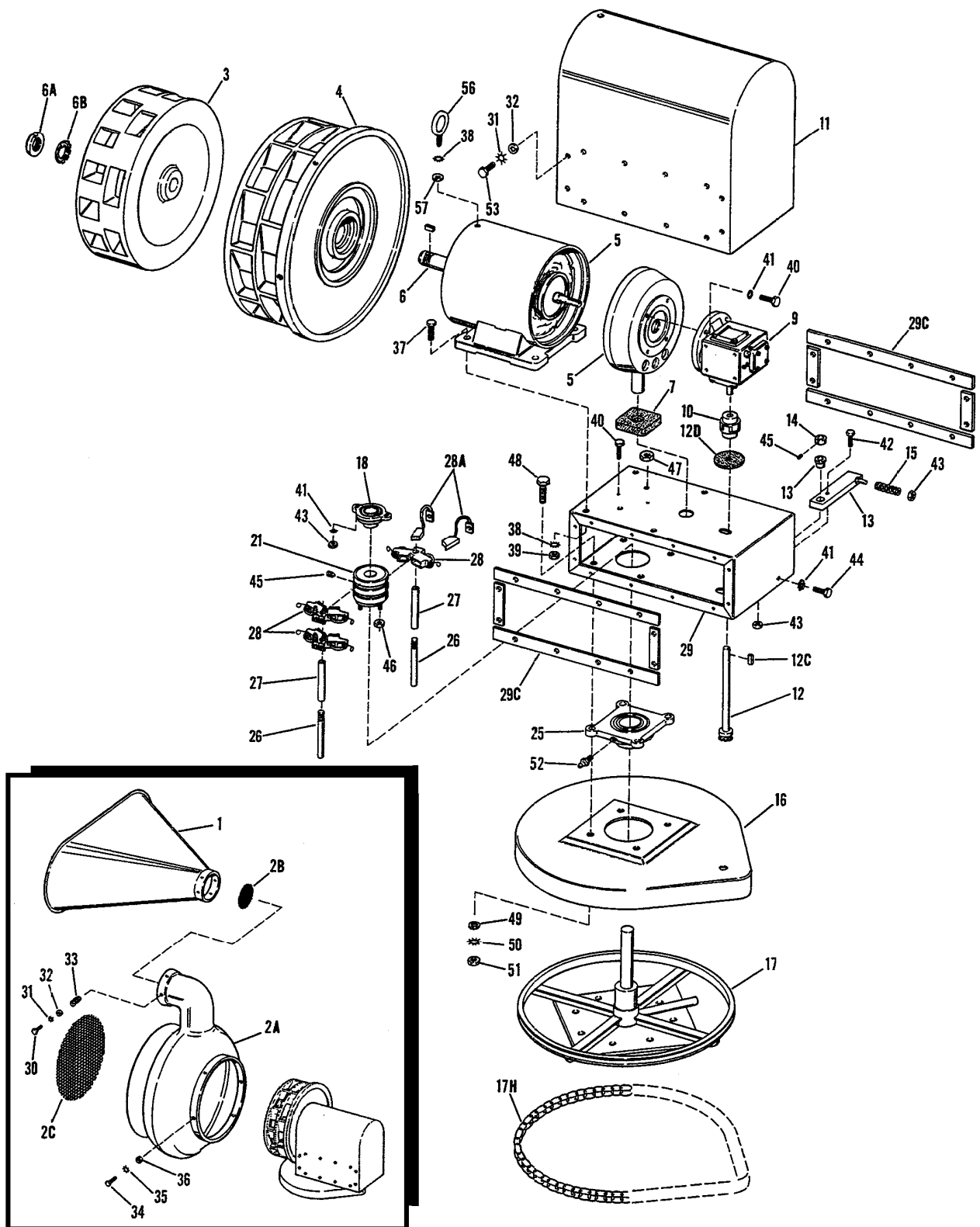


FIGURE 15. SIREN ASSEMBLY

PARTS LIST (CONT)

SIREN ASSEMBLY

FIG. & REF. NO.	PART NO.	DESCRIPTION	NO. REQ'D.
15-	AL-125-1	HORN	1
-2A	AL-125-2A	CHAMBER, Compression	1
-2B	AL-125-2B	SCREEN, Outlet	1
-2C	AL-125-2C	SCREEN, Inlet	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	1
-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	Not applicable	
-21A	AL-125-21A	RING ASSEMBLY, Collector, 3 ring (standard siren)	1
-21B	AL-125-21B	RING ASSEMBLY, Collector, 5 ring (siren with heater or valve)	1
-22	AL-125-22	Not applicable	
-23	AL-125-23	Not applicable	
-24	AL-125-24	Not applicable	
-25	AL-125-25	BEARING ' Main rotator, 2-1/4 in. I. D	1
-26	AL-125-26	ROD, Brush holder	2
-27	AL-125-27	INSULATOR, Brush holder	2
-28	AL-125-28	HOLDER, Brush	3
-28A	AL-125-28A	BRUSH	3
-29	AL-125-29	BASE	1
-29C	AL-125-29C	GASKET, Side panel (set)	2

HARDWARE ITEMS (ZINC PLATED STANDARDS)

FIG. & REF. NO.	PART NO.	DESCRIPTION	NO. REQ'D.
15-H30	Coml.	SCREW, Hex hd cap, 1/4-20 x 1 in	6
-H31	Coml.	WASHER, External, star, 1/4 in	30
-H32	Coml.	WASHER, Flat, 1/4 in	30
-H33	Coml.	FASTENER, Jack nut, 1/4-20	6
-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
-H47	Coml.	NUT, Hex hd jam, 1/2 -13	2
-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
-H54	Coml.	NUT, Half, 3/8-18	1
-H55	Coml.	WASHER, Internal-external, star, 3/8 in	1
-H56	Coml.	EYEBOLT, 1/2-13	1
-H57	Coml.	WASHER, Flat, 1/2 in	1