

# HURRICANE 130

MANUAL OF

INSTALLATION

OPERATION

MAINTENANCE

PARTS

ALERTING COMMUNICATORS

of

AMERICA

1939 N. HUBBARD ST., MILWAUKEE, WISCONSIN 53212

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## INTRODUCTION

The A.C.A. Hurricane 130 siren is the most powerful siren manufactured in the United States. The output of 130 decibels at 100 feet is radiated through the computer designed horn to an effective 70 DB. range of 6500 feet, thus giving a total circular coverage of 4.5 square miles per siren unit. (Federal CD Guide, March 1964)

Installation of the siren is facilitated through the use of the "swing down" feature. This feature permits raising and lowering of the head and horn assembly for installation or major repairs, often times without the need of an external crane. The self-contained, weatherproof electrical control compartment requires that only two electrical connections be made - the signal source and the main power source.

The signal source for initiating operation of the siren can come from these mechanisms:

1. Direct mechanical switch
2. Telephone relay
3. Radio relay
4. Program timer
5. Any combination of the above

A thorough understanding of the controls of the siren is essential for obtaining maximum operational benefits.

The simple, well balanced design of the siren, using many off-the shelf components, offers an almost maintenance free unit. The tough, color impregnated fiberglass enclosures completely eliminate the need for costly and troublesome periodic painting.

Because of the high dependability of the siren and the use of off-the shelf components, repair is kept to a minimum, but should repairs become necessary in the future, the manufacturer stands ready to advise you in making repairs.

Installation, operation, maintenance, and parts are the key words to any successful warning system and this, then, is the purpose for this manual.

# SPECIFICATIONS

## SIZES

### Weight:

Head and Horn Assembly.....	250 lbs.
Compressor Assembly.....	<u>650</u> lbs.
Total .....	900 lbs.

### Measurements:

Head & Horn Assembly .....	72" long
	11" to 26" wide
	48" high
Compressor Assembly .....	51" long
	24" wide
	18" high

## ACOUSTICAL DATA

Output level .....	130 Db at 100 feet
Output frequencies:	
Standard Dual Tone.....	465 / 582 cps
Special Dual Tone.....	465 / 698 cps
" Dual Tone.....	582 / 698 cps
" Single Tone.....	465 cps
" Single Tone.....	582 cps
" Single Tone.....	698 cps
Output cutoff (Resonant) Frequency.....	80 cps
Horn configuration .....	Dual throat exponentially curved.
Sound Dispersal Beam.....	30° Above Horizontal
	27° Below Horizontal
	30° Wide Horizontally

### MOTOR TYPES

#### Head and Horn Assembly:

Chopper.....2 Hp., Single Phase, High Slip,  
Ball Bearing, Semienclosed,  
Induction Motor.

Rotator.....1/4 HP, Single phase, Ball Bearing,  
Semienclosed, Induction Motor.

Compressor Assembly.....25 HP., 3 Phase, Ball Bearing, Semi-  
enclosed, Induction Motor.

### ELECTRICAL REQUIREMENTS

#### Head and Horn Assembly:

Chopper.....2 HP., 230 Volts, Single Phase,  
Running - 5 Amps., Full load - 10,  
7 Amps., Surge - 60 Amps..

Rotator.....1/4 HP., 115/230 Volts, Single Phase,  
Full Load - 2.8 Amps., Running - 1  
Amp., Surge - 15 Amps.

Compressor Assembly.....25 HP., 230-460 Volts, 3 Phase, Full  
Load - Running - 6 5/32 Amps., Surge  
335 Amps..

### AIR COMPRESSOR

Direct drive through a jaw coupling. Twin Impeller, Positive Displacement,  
Air Cooled, Ball Bearing, Rotary Blower Producing 450 cfm at 10 psi.

### ROTATION

Drive.....Direct drive through a double worm gear box, coupled  
through a disc type toeque limiter.

Speed.....3 RPM in a clockwise direction as viewed from the bottom.

Oscillation.A special rotation system can be purchased which will  
allow the head and horn assembly to oscillate through  
a preset arc.

MOTOR TYPES

Head and Horn Assembly:

- Chopper.....2 Hp., Single Phase, High Slip, Ball Bearing, Semienclosed, Induction Motor.
- Rotator.....1/4 HP, Single phase, Ball Bearing, Semienclosed, Induction Motor.
- Compressor Assembly.....25 HP., 3 Phase, Ball Bearing, Semienclosed, Induction Motor.

ELECTRICAL REQUIREMENTS

Head and Horn Assembly:

- Chopper.....2 HP., 230 Volts, Single Phase, Running - 5 Amps., Full load - 10, 7 Amps., Surge - 60 Amps..
- Rotator.....1/4 HP., 115/230 Volts, Single Phase, Full Load - 2.8 Amps., Running - 1 Amp., Surge - 15 Amps.
- Compressor Assembly.....25 HP., 230-460 Volts, 3 Phase, Full Load - Running - 6 5/32 Amps., Surge 335 Amps..

AIR COMPRESSOR

Direct drive through a jaw coupling. Twin Impeller, Positive Displacement, Air Cooled, Ball Bearing, Rotary Blower Producing 450 cfm at 10 psi.

ROTATION

- Drive.....Direct drive through a double worm gear box, coupled through a disc type toeque limiter.
- Speed.....3 RPM in a clockwise direction as viewed from the bottom.
- Oscillation.A special rotation system can be purchased which will allow the head and horn assembly to oscillate through a preset arc.

# INSTALLATION

## SERVICING

At all times it should be kept in mind that some servicing will be required of the siren after installation. A means of working on the siren should therefore be provided at the time of installation. The most economical, and generally the most useful, provision for working is that of a small platform for the head and horn assembly at the top of the pole on a pole mounted installation (Fig 16) in addition to a platform around the compressor assembly. For a parapet, roof, or water tower installation, a small railing around the platform is an additional safety feature. If rungs or steps are provided for climbing up to a pole mounted siren, a good policy to follow is to have the first rung no closer to the ground than 10-15 feet in order to hinder attempts at vandalism.



# INSTALLATION

## GENERAL LOCATION

Careful thought must be given to the area surrounding the installation site. Any buildings, trees, hills, or other obstructions will tend to create a barrier which will produce a deadened area behind the obstruction.

The type of electrical power available at the installation site must be understood before the siren is ordered from the manufacturer. The voltage (208, 220, 230, 240, 380, 440, 460, 480, 550), phase (single or three), transformer bank ampere rating and other loads on that line, and line frequency (cycles/second) should be tabulated in order to be presented to the manufacturer upon placement of an order. Line voltage must not exceed 10% (NEMA standard).

Once the physical barriers around the installation site are mapped and understood, and the electrical power is deemed sufficient for the siren, the actual type of siren mounting can be considered.

## TYPES OF MOUNTING

Roof mount	Figures 1 & 2
Through Roof Mount	Figures 3
Chimney Mount	Figures 4 & 5
Pole Mount	Figures 6, 7, 8, 9 & 11
Tower or tank mount	Figures 13 & 14

# INSTALLATION

## HEIGHT DETERMINATION

The most basic and critical consideration of installing the siren is the obtaining of the proper height above surrounding barriers to insure good sound coverage. In order to obtain the proper height, two basic factors must be considered:

1. Measure, as accurately as possible, the height of the tallest or otherwise most severe sound barrier within 150 feet of the proposed siren installation. It is the recommendation of the manufacturer that the top of the head and horn assembly be located approximately five feet above the top of the barrier.

To compute the pipe length PL, in order to make the projected sound clear a physical sound barrier of height PB, when the compressor assembly is placed on a platform of height PH, on top of a building of height BH (see figure 1).

Use the formula: Pipe length equals barrier height MINUS (platform height plus building plus 1).

$$\text{OR } PL = PB - (PH + BH + 1)$$

Example:

Find the pipe length (PL) for a siren where a nearby building measures 42 feet (PB=42), the compressor assembly is on a platform measuring 3 feet (PH 3) and the siren is mounted on a building 28 feet tall (BH = 28).

$$PL = PB - (PH + BH + 1)$$

$$= 42 - (3 + 28 + 1)$$

$$= 42 - 32$$

$$PL = 10 \text{ feet.}$$

Thus, the length of 4" galvanized pipe with a standard, tapered pipe thread on both ends is ten feet. Since this is longer than four feet, guy wires will be required.

2. If the siren is to be mounted in the center of, or to one side of a large roof area, use the following formula to compute the required pipe length PL, to make the projected sound clear a roof of length D, when the compressor assembly is placed on a platform of height PH, with a parapet height W. (see figure 2).

Pipe length = Roof length / 3 + parapet height - platform height - 6.

$$\text{Or } PL = D/3 + W - PH - 6.$$

Example:

Find the pipe length (PL) for a siren where the roof length measures 60 feet (D=60) and the parapet measures 3 feet (W=3)

$$PL = \frac{D}{3} + W - PH - 6$$

$$= \frac{60}{3} + 3 - 3 - 6$$

$$= 20 - 6$$

$$PL = 14 \text{ feet}$$

Thus, the length of 4" galvanized pipe with a standard tapered pipe thread on both ends is fourteen feet.

Since this is longer than four feet, guy wires will be required.

It will have to be determined by the installer which of the pipe calculations (surrounding physical barrier or roof length) is the largest, and therefore, the governing factor in the length of pipe required.

Example:

The pipe length calculated for the previous situations were:

A. Physical barrier - PL = 10 feet

B. Roof length - PL = 14 feet

Therefore use the PL at 14 feet and both installation requirements will be met. Since the pipe length is 14 feet, the installation will require guy wires or chains.

# INSTALLATION

## MECHANICAL INSTALLATION

The siren can be lifted in one or two configurations and under certain conditons:

1. The head and horn assembly is connected to the compressor assembly.

### Conditions:

- A. Do not lift the entire siren by the eye bolt on top of the head and horn assembly.
  - B. Remove the fiberglass cover from the compressor assembly.
  - C. The primary lift point is the angle iron strut located between the compressor and the motor on the compressor assembly.
  - D. The lateral ties are required to provide horizontal stability. One tie loops around the end of the air compressor and the other one fastens to the motor eyebolt (see figure 19) (the motor represents 50% of the compressor assembly weight).
  - E. The lifting cable will run along the head and horn assembly and the cable can be strapped to it for additional stability.
  - F. Under no circumstances should the siren be lifted as a unit if the pipe length exceeds 10 feet.
2. The head and horn assembly is separate from the compressor assembly.

### Conditions:

- A. Remove the fiberglass cover from the compressor assembly.
- B. The primary lift point of the compressor assembly is the angle iron strut located between the compressor and the motor.

- C. Two lateral ties are required to provide horizontal stability. One tie loops around the end of the air compressor and the other one fastens to the motor eyebolt (see figure 19) (the motor represents 50% of the compressor assembly weight).
- D. The primary lift point for the head and horn assembly is the eyebolt at the top of the assembly. An additional rope looped around the horn will provide horizontal stability.
- E. The head and horn assembly can be lifted by the eyebolt with a length of 4" pipe attached, provided the pipe does not exceed 2 feet in length. For pipes in excess of 2 feet, the actual lifting should be done by attaching to the pipe and using ties to the head and horn assembly for stability only.

When shipped from the factory, the compressor assembly has 6 predrilled 5/8 inch holes on the mounting legs for a variety of mounting methods.

1. For a pole mount, the compressor assembly can be placed on either a concrete pad at ground level or on an elevated platform - preferably at 10-15 feet off of the ground to help deter attempts of vandalism.
2. For a roof mount, the roof composition, spacing of the rafters or beams, and the roof's load carrying capacity must be known and considered before installation is started.
  - A. If the roof is considered to be capable of supporting the siren, the unit can rest level on the roof as shipped without an elaborate sub base. To preclude damage to any electrical components, the compressor assembly can be placed on two, 4" x 4" x 48" wood beams. For a concrete roof, an angle iron platform, approximately 3 feet high (see figure 17) can be used which offers the additional advantages of increased accessibility for maintenance as well as putting the compressor assembly above the snow line in the winter.
  - B. If the roof composition and/or span loading present a problem, a sub base can be constructed to distribute the weight (see figure 18). If the swing down feature is to be used for erection of the siren the next step is to remove the bolt securing the 4" pipe elbow to the channel iron strut between the compressor and the motor. Using a large pipe wrench turn the pipe elbow down to the horizontal. Insert the required length of 4" galvanized pipe into the pipe elbow and tighten. Be sure to use a good grade of pipe lubricant and sealant. (Note: Do not attempt to utilize "swing down" if pipe exceeds 20 feet in length). Lay the head and horn assembly on its side with the mounting flanges in line with the side with the mounting flanges in line with the 4" compressor pipe (see

figure 20). Remove the four bolts holding the bottom mounting flange to the head and horn assembly and screw the mounting flange to the end of the 4" compressor pipe, again using pipe dope. Move the head and horn assembly into position to be attached to the mounting flange on the compressor pipe. Adjust the position of the compressor pipe, lower mounting flange, and as yet unattached head and horn assembly so that the electrical conduit to be used will be in approximate alignment with the conduit elbow of the electrical enclosure of the compressor assembly. Insert the four bolts into the mounting flanges and securely tighten the lock washer and nut. Attach the rigid conduit at the lower conduit box to the compressor pipe using conduit clamps at approximately 10 feet intervals. Pull the wires through the conduit and connect these wires to the wires coming through the flexible conduit from the electrical enclosure of the compressor base. Be sure to use the correct wire size to allow for 2nd/voltage drop. Follow the color coding of the head and horn assembly and compressor assembly. If the head and horn assembly has to be guyed in place, (pipe length exceeds 4 feet) the guy wires should now be attached to the loops provided on the lower mounting flange (see fig. 21).

The head and horn assembly can be swung up into the vertical position by one of the following methods:

1. Available manpower
2. Spike poles and/or ladder leverage
3. Block and tackle
4. Hand winch
5. Power winch
6. Boom crane
7. Combination of the above.

After the head and horn assembly is in the vertical position, the securing bolt can be replaced, the pivot bolt can be tightened, and the guy wires can be anchored and adjusted.

If the siren is to be installed without the use of the swing down feature, it can be installed as a unit or as separate components. The limiting factor for installation as a unit is the length of the compressor pipe, which must not exceed ten feet. Assemble the head and horn assembly to the compressor assembly as described above except for the application of the guy wires. Lift the unit into place as previously described and make the necessary electrical power and control connections.

When siren is installed as individual components the limiting factor is the length of compressor pipe. The pipe length should not exceed 20 feet for a non-supporting guyed siren and 30 feet for a pole or

chimney supported siren. In the case of an installation as shown in figure 9 the length of pipe is limited only by the capability of the pole to support it. The compressor assembly is installed first, then the compressor pipe with conduit and lower mounting flange already in place is attached to the compressor assembly. The head and horn assembly is then lifted and attached to the lower mounting flange, using the four bolts, lockwashers and nuts provided. A crane or other lifting device will have to be employed to position the head and horn assembly. The electrical power and control connections can then be made to complete the installation.



# INSTALLATION

## ELECTRICAL CONTROLS:

The compressor magnetic starter and other controls are prewired in a self-contained panel, within the weather-proof, compressor assembly, fiberglass housing. 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 instant and time delay relay module. This, in turn, actuates the magnetic starter and rotator motor with the delay off section and the chopper motor with the instantaneous section. These components are all protected by circuit breakers that disconnect the load should overloading occur. A tripped circuit breaker will show a white band around the reset button. The red trigger is for manually tripping the circuit breaker to the OFF position. To reset, merely push the button in. The magnetic starter which operates the compressor and protects it from over-load, also contains a reset button.

1. Prior to application of ANY power to the control cabinet, CHECK the elapsed time of the time delay relay diaphragm release. Use figure 22 notations:
  - A. The diaphragm release has been preset at the factory. However, a check is important.
  - B. Face the open magnetic starter control panel.
  - C. The time delay relay is located on the right side of the control cabinet.
  - D. With a screwdriver gently move the solenoid armature closed. Then release and listen for the click. The release time of the delay should be 10 seconds.
  - E. To adjust the elapsed time, use the screw located behind the pressed fiber flap on the front of the time delay relay. ONLY a very slight adjustment of the screw will be required. Retest time delay after every 1/4 turn of the screw.

2. A general wiring layout of the complete electrical circuit is shown in figures 25 and 26. 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.
3. Wiring schematic drawings of the magnetic starter control panel and head and horn assembly are provided on the enclosed blueprint copies.
4. Prior to final wiring connection of Radio Decoder, Timer, or Telephone Relays and with power connected to the starter controls, a check of proper 25 H.P. Motor/air compressor rotation MUST be made.

Use Figure 22 notations:

- A. Face the open magnetic starter control panel.
- B. The time delay relay is located on the right side of the control cabinet.
- C. With an insulated object momentarily depress the WHITE PLASTIC TRIGGER on the end that has the delay adjustment screw. Do not press the metal delay ring. CHECK drive shaft rotation. If the rotation is backwards according to the arrow on the compressor, correct the main electrical connections by interchanging any two of the three leads.

NOTE: If the metal delay ring connected to the diaphragm of the delay relay is accidentally pushed, IMMEDIATELY throw the DISCONNECT SWITCH and wait until the diaphragm releases. Prolonged IMPROPER ROTATION will damage the equipment.

5. Wire the Radio Decoder, Timer or Telephone Relays to the magnetic starter control cabinet.

You should now be ready to TEST the entire operation of the siren using the radio controls, timer, or telephone system.

NOTE: 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 should be worn by personnel on the same level as the horn as a precaution at all times during testing or possible remote starting.

# MAINTENANCE

## HEAD AND HORN ASSEMBLY (See Figure 23)

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 (see Fig. 23) 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 grease flows from the seals, remove it from inside the fiberglass tube with a rag. Use Molub Alloy #171 graphite grease manufactured by the Imperial Oil and Grease Co. or equivalent.
3. Access to the gear reducer in the head and horn assembly is through the trap door. The oil in this unit should be changed each year as follows:  
temp +50 to - 20 Oil SAE - 20  
temp +50 to + 115 Oil SAE -30

The unit has been filled at the factory. But should be checked in case spillage has occurred during shipment. Be sure to remove the protective plastic cap on the oil breather before operating siren.

4. At the same time, grease the gear reducer drive chain with Molub Alloy #171 graphite grease or equivalent. Do not over-grease. Check the set screws in the sprockets in the process of greasing the chain.

# MAINTENANCE

## COMPRESSOR ASSEMBLY

1. The oil in the air compressor assembly should be changed each year unless adverse conditions (dust, salt, etc.) warrant more frequent oil replacement. This unit has been filled at the factory with Sinclair SAE 20-20 W, Service MS-DM oil, but should be checked prior to operation.

The following oils have been approved by the manufacturer:

Cities Service  
Conoco  
D-A Lubricants, Indianapolis, Indiana  
Gulf Oil & Refining Co.  
Humble Oil & Refining Co.  
Mobile, Socony Oil Co.  
Phillips 66  
Shell Oil Co.  
Sinclair Oil & Refining Co.  
Standard American Oil Co.  
Sun Oil Co.  
Texaco

2. Check set screws on the motor-air compressor drive coupling.

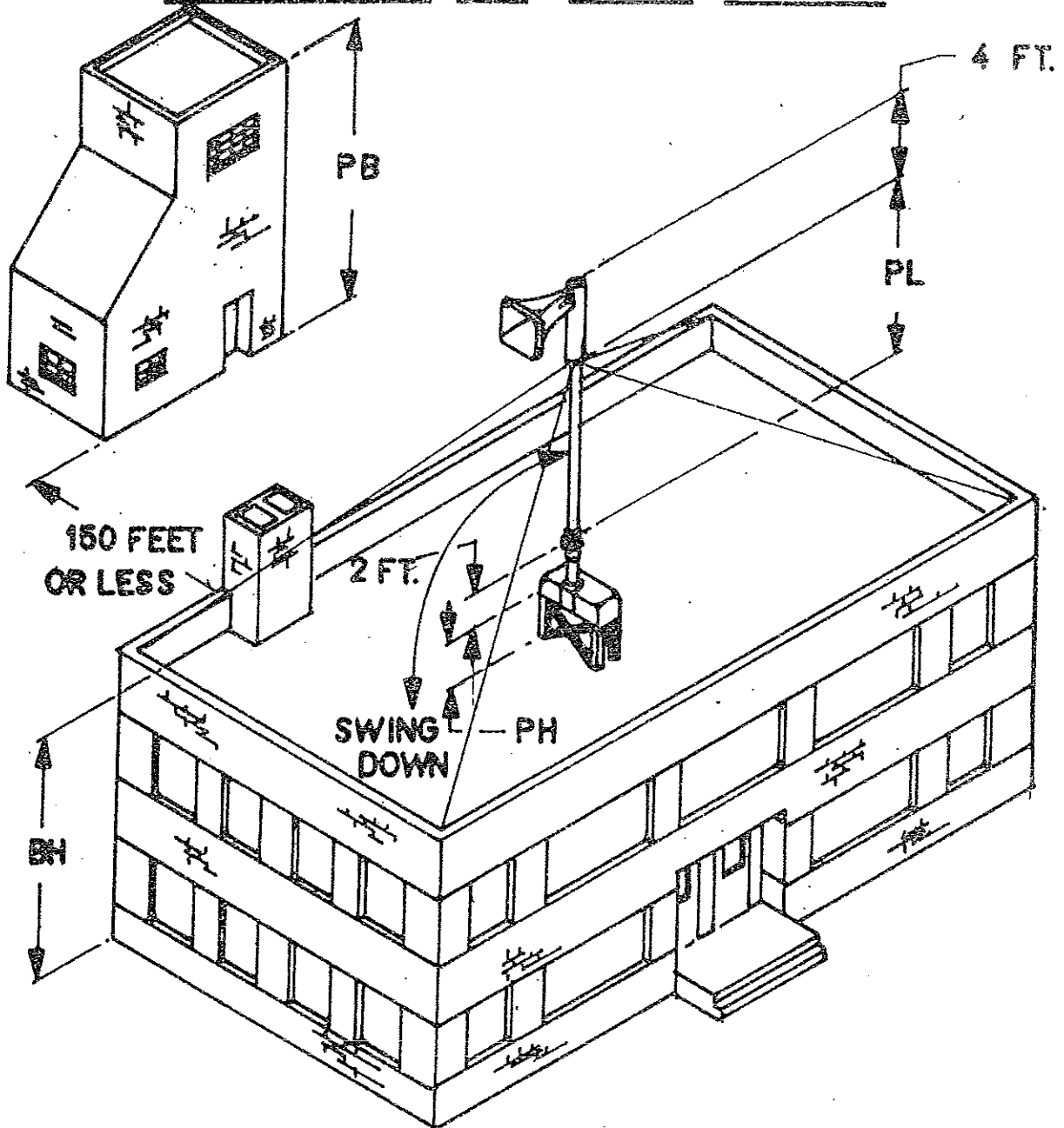
# MAINTENANCE

## GENERAL

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 head and horn assembly by removing the trap door. (Make certain the electrical power is off)

If the collector ring is discolored or has 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 trap door, and then rotating the head and horn 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.

# HURRICANE 130 ROOF MOUNT



TO CALCULATE PIPE LENGTH (PL) FOR:

PHYSICAL BARRIER HEIGHT- PB

BUILDING HEIGHT- BH

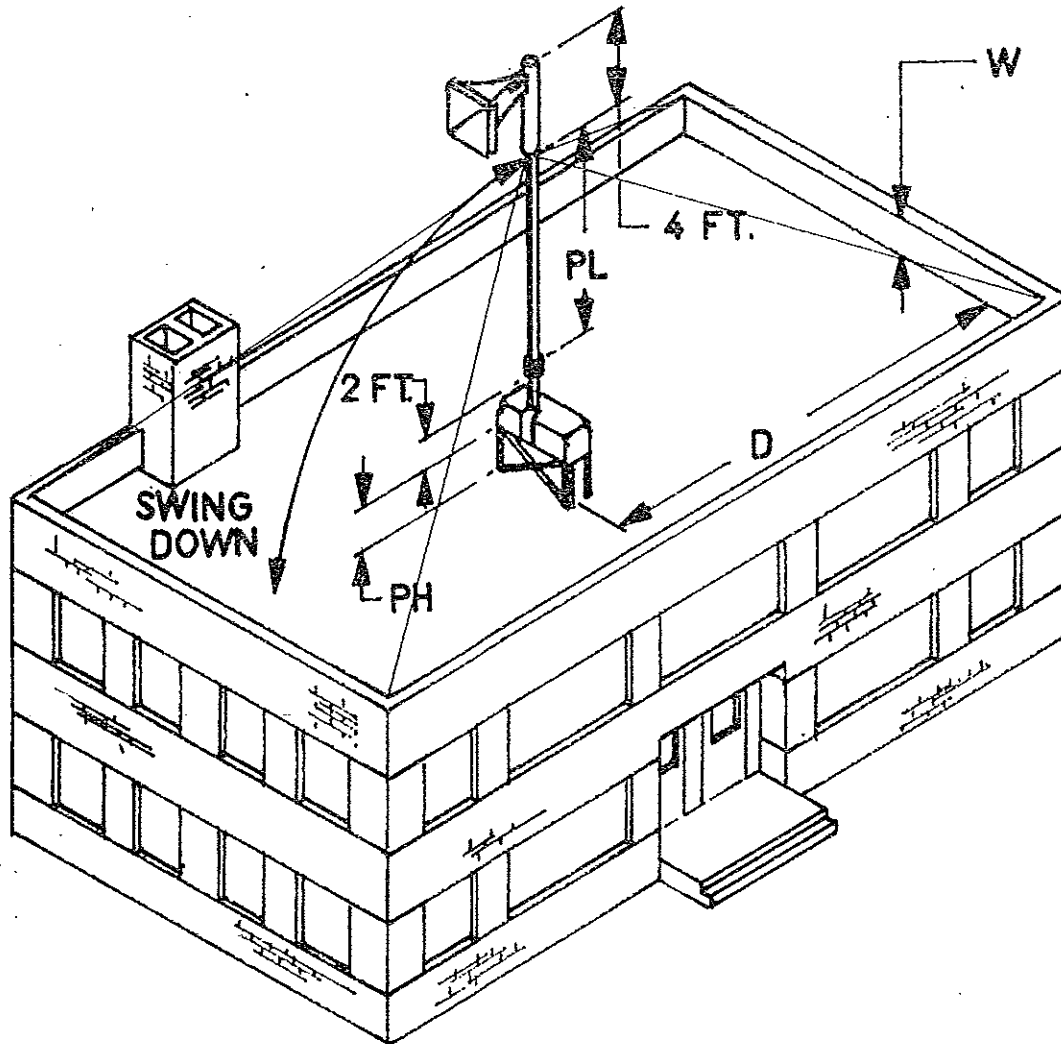
PLATFORM HEIGHT- PH

USE FORMULA:

$$PL = PB - (PH + BH + 1)$$

FIGURE 1

# HURRICANE 130 ROOF MOUNT



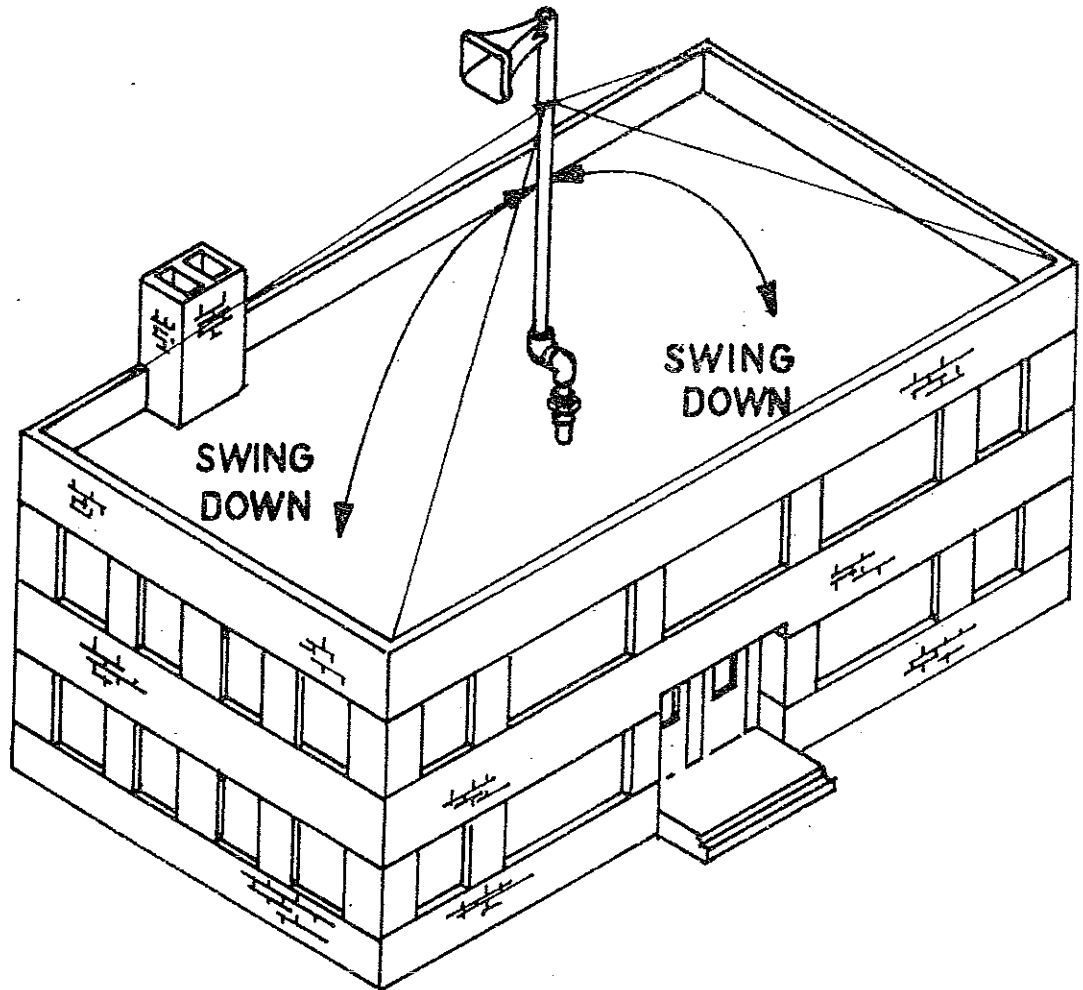
TO CALCULATE PIPE LENGTH (PL) FOR:

ROOF LENGTH - D  
PARAPET HEIGHT - W  
PLATFORM HEIGHT - PH

USE FORMULA:

$$PL = \frac{D}{3} + W - PH - 6$$

HURRICANE 130 THROUGH ROOF MOUNT

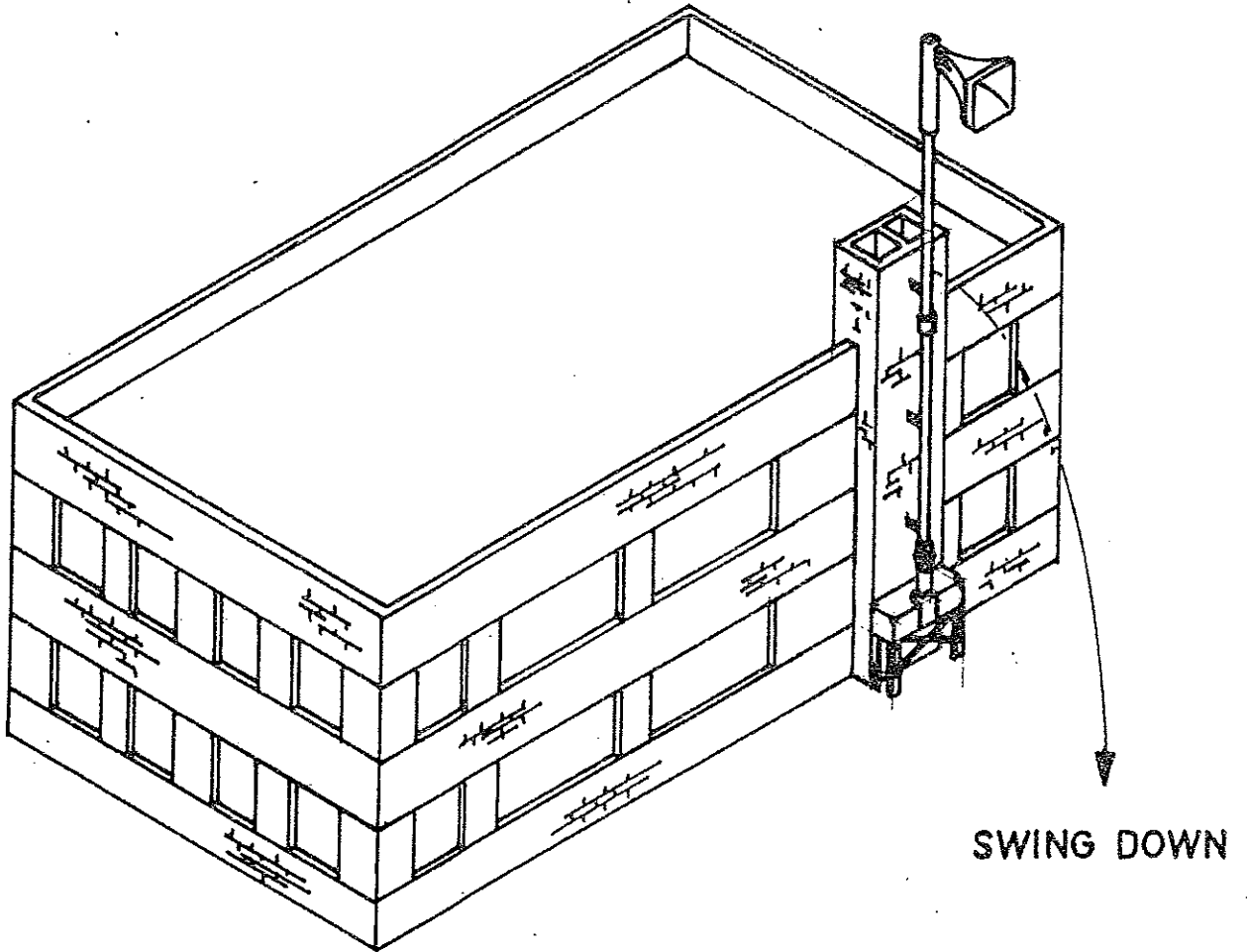


COMPRESSOR ASSEMBLY  
MOUNTED INSIDE-OUT  
OF WIND & WEATHER

FIGURE 3



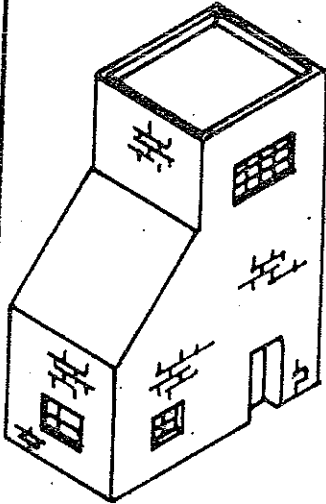
# HURRICANE 130 CHIMNEY MOUNT



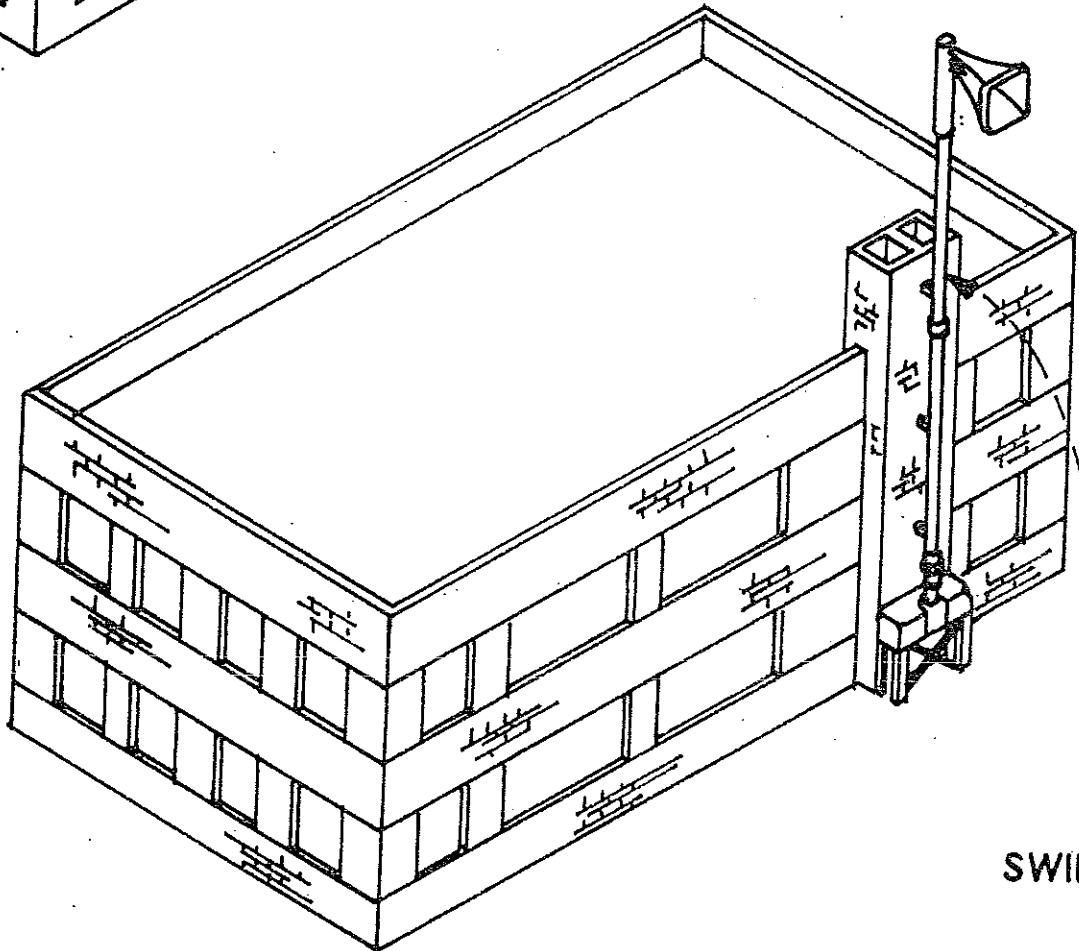
SWING DOWN FEATURE  
CAN BE USED FOR INSTALLATION  
OR MAJOR REPAIR

FIGURE 4

# HURRICANE 130 CHIMNEY MOUNT



OBSTACLE WITHIN 150 FEET  
OF SIREN - TOP OF SIREN  
MUST BE AT LEAST FIVE FEET  
ABOVE OBSTACLE



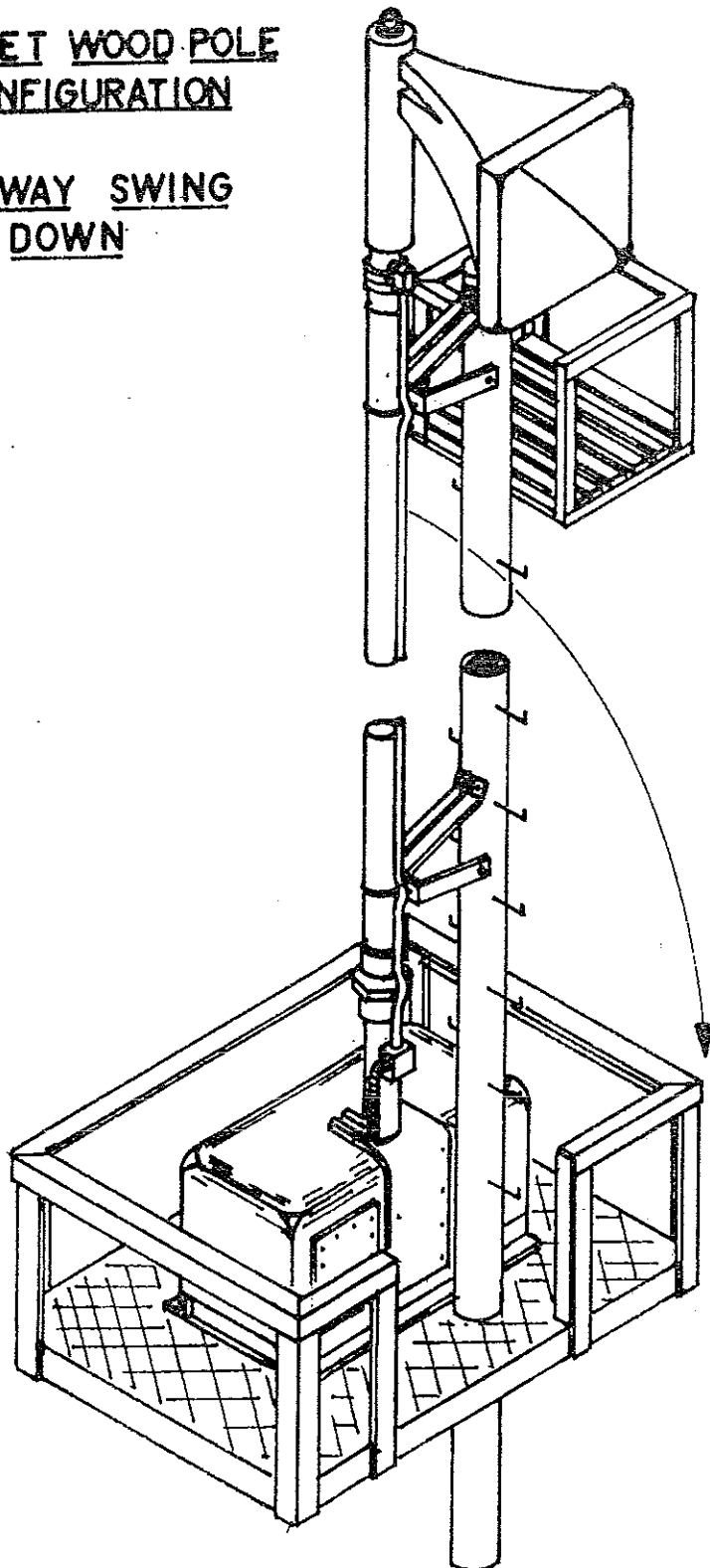
SWING DOWN

FIGURE 5

# HURRICANE 130 POLE MOUNT

OFF-SET WOOD POLE  
CONFIGURATION

ONE-WAY SWING  
DOWN



SWING DOWN

# HURRICANE 130 POLE MOUNT

HEAD-ON WOOD POLE  
CONFIGURATION

TWO-WAY SWING  
DOWN

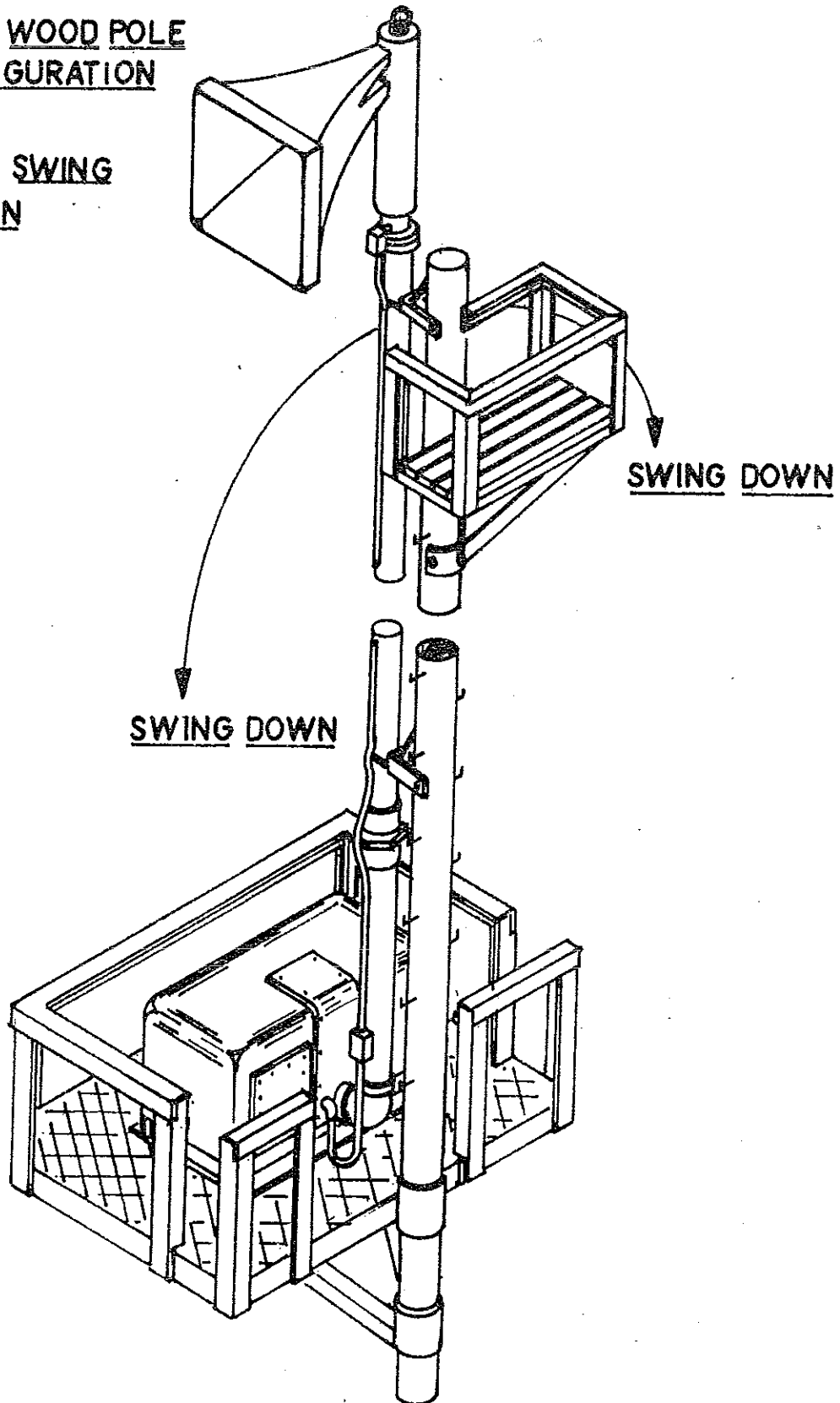


FIGURE 7

# HURRICANE 130 POLE MOUNT

HEAD-ON WOOD POLE  
CONFIGURATION

TWO-WAY SWING  
DOWN

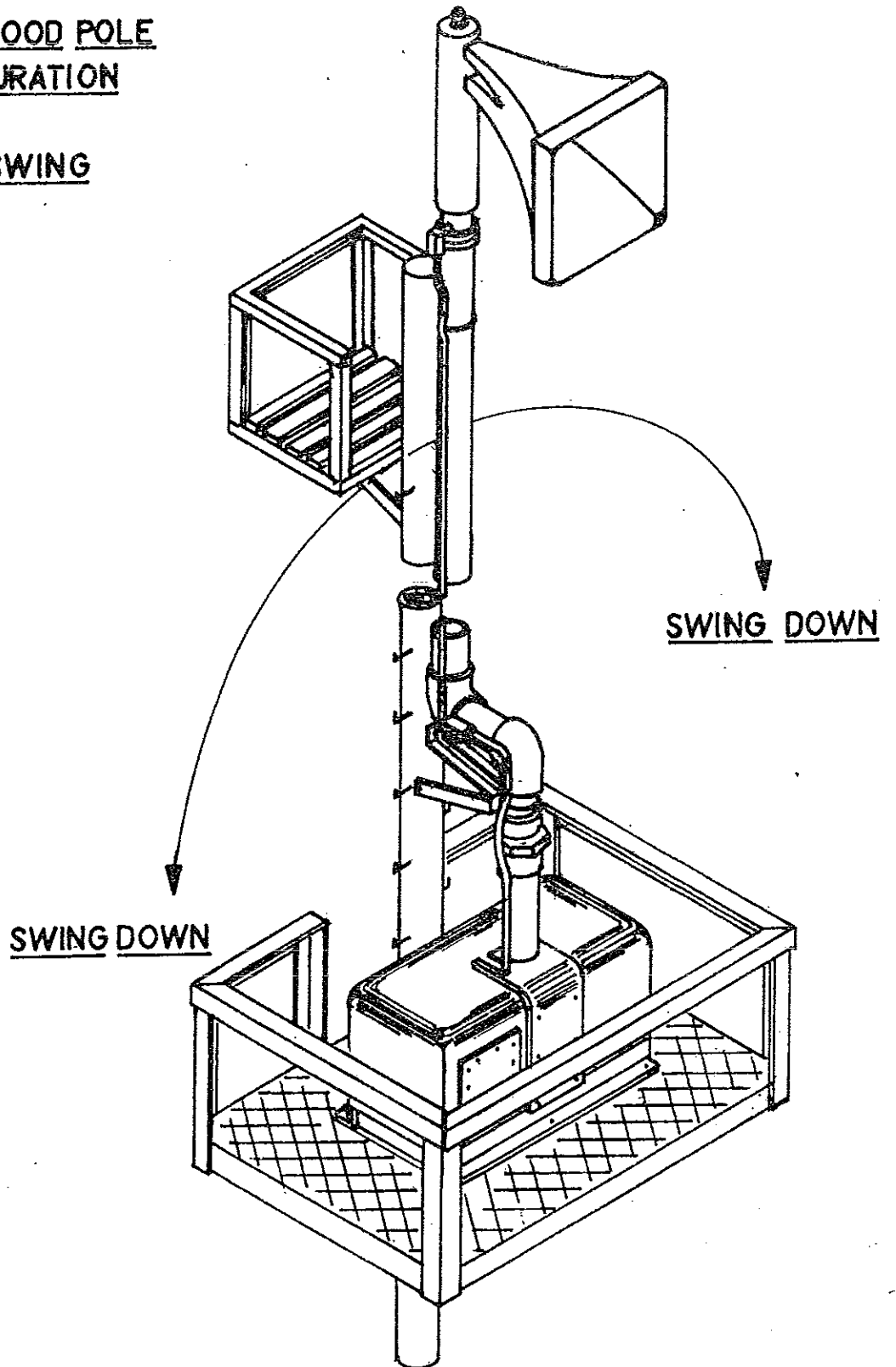


FIGURE 8

# HURRICANE 130 POLE MOUNT

HEAD-ON WOOD POLE  
CONFIGURATION

NO SWING DOWN  
PIPE STRAPPED TO POLE

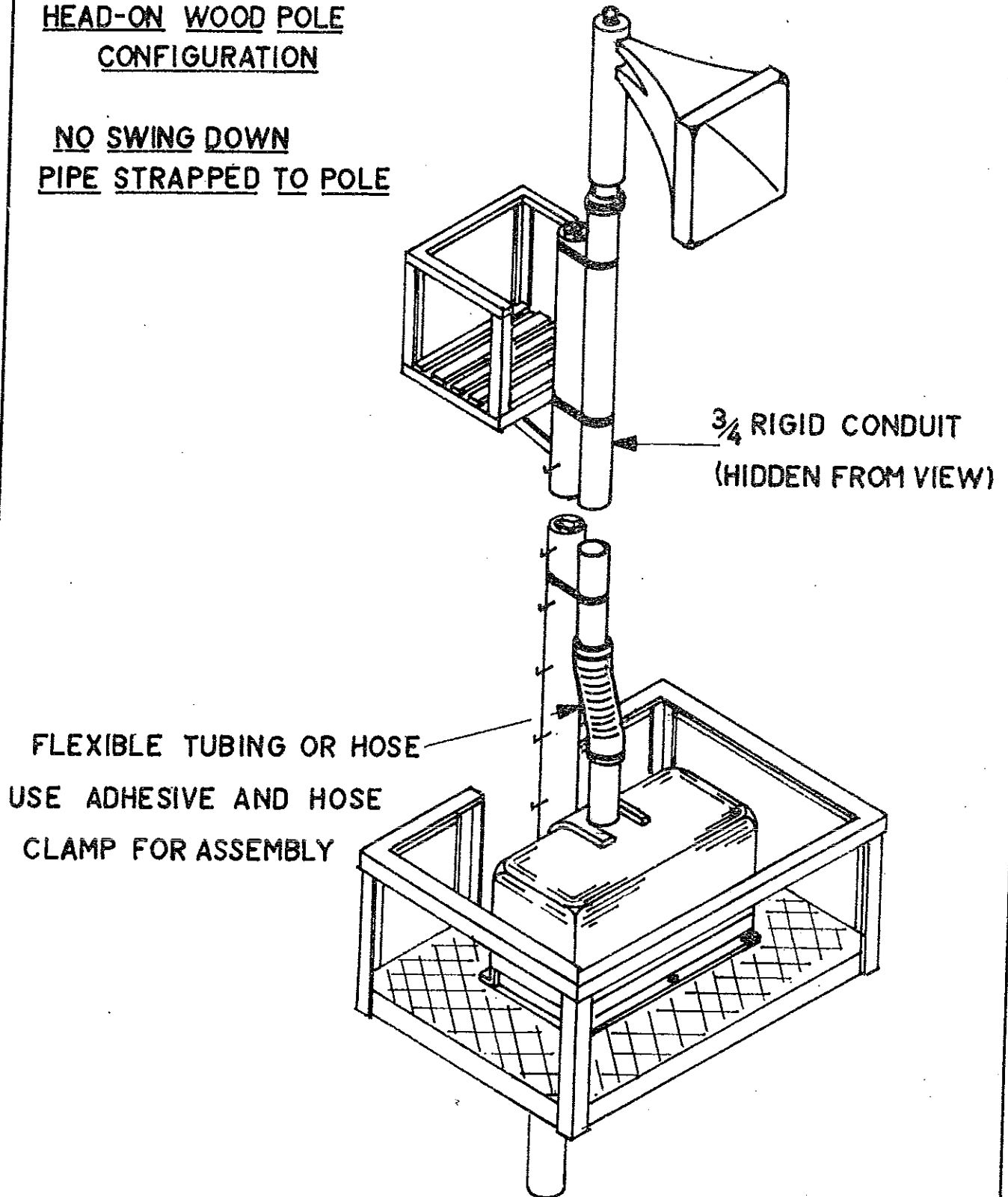


FIGURE 9

# PIPE SUPPORT BRACKET

HEAD-ON WOOD POLE CONFIGURATION

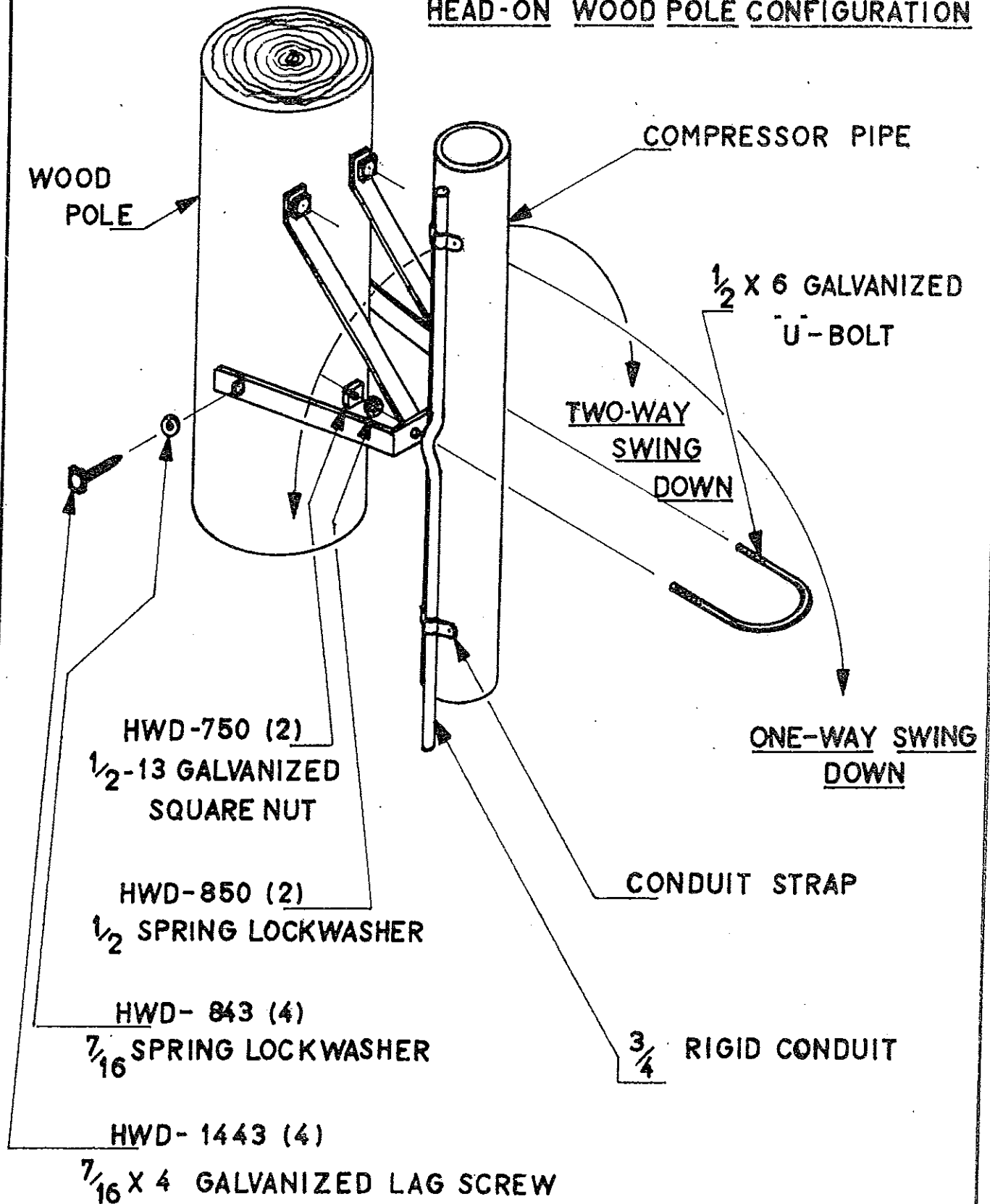


FIGURE 10

# HURRICANE 130 - POLE MOUNT

HEAD-ON WOOD POLE  
CONFIGURATION

ONE-WAY SWING  
DOWN

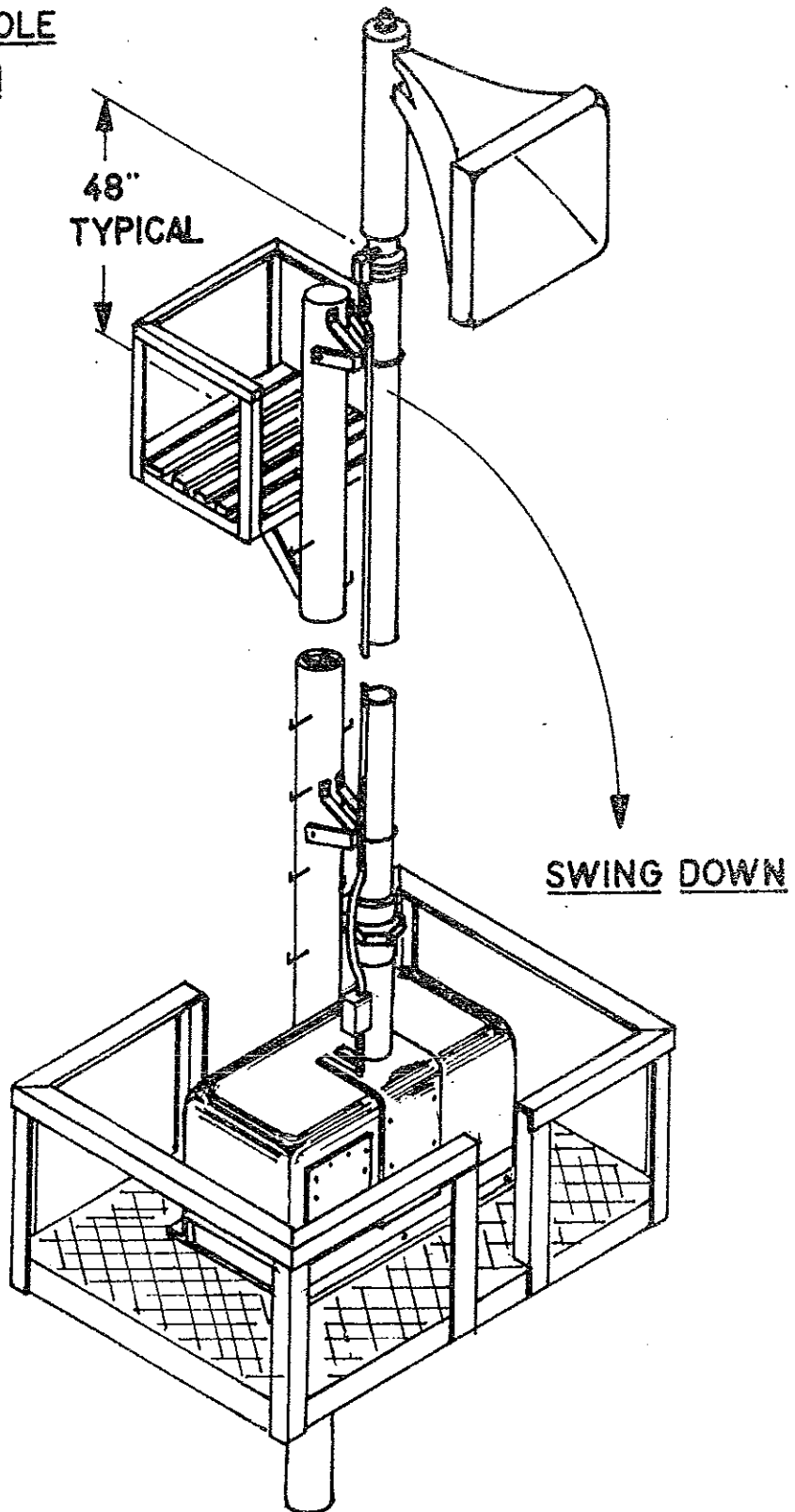


FIGURE 11



# PIPE SUPPORT BRACKET

OFF-SET WOOD POLE CONFIGURATION

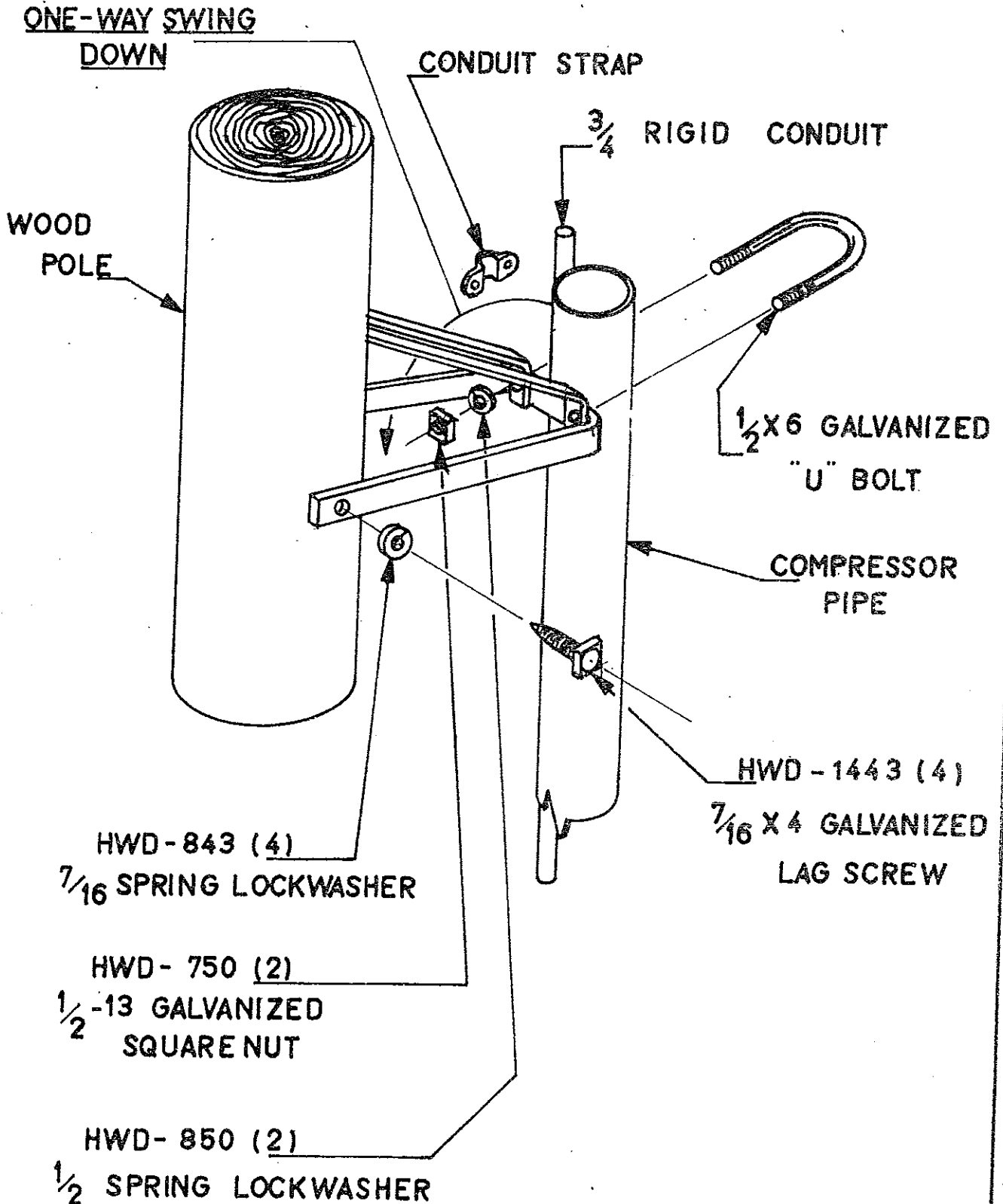
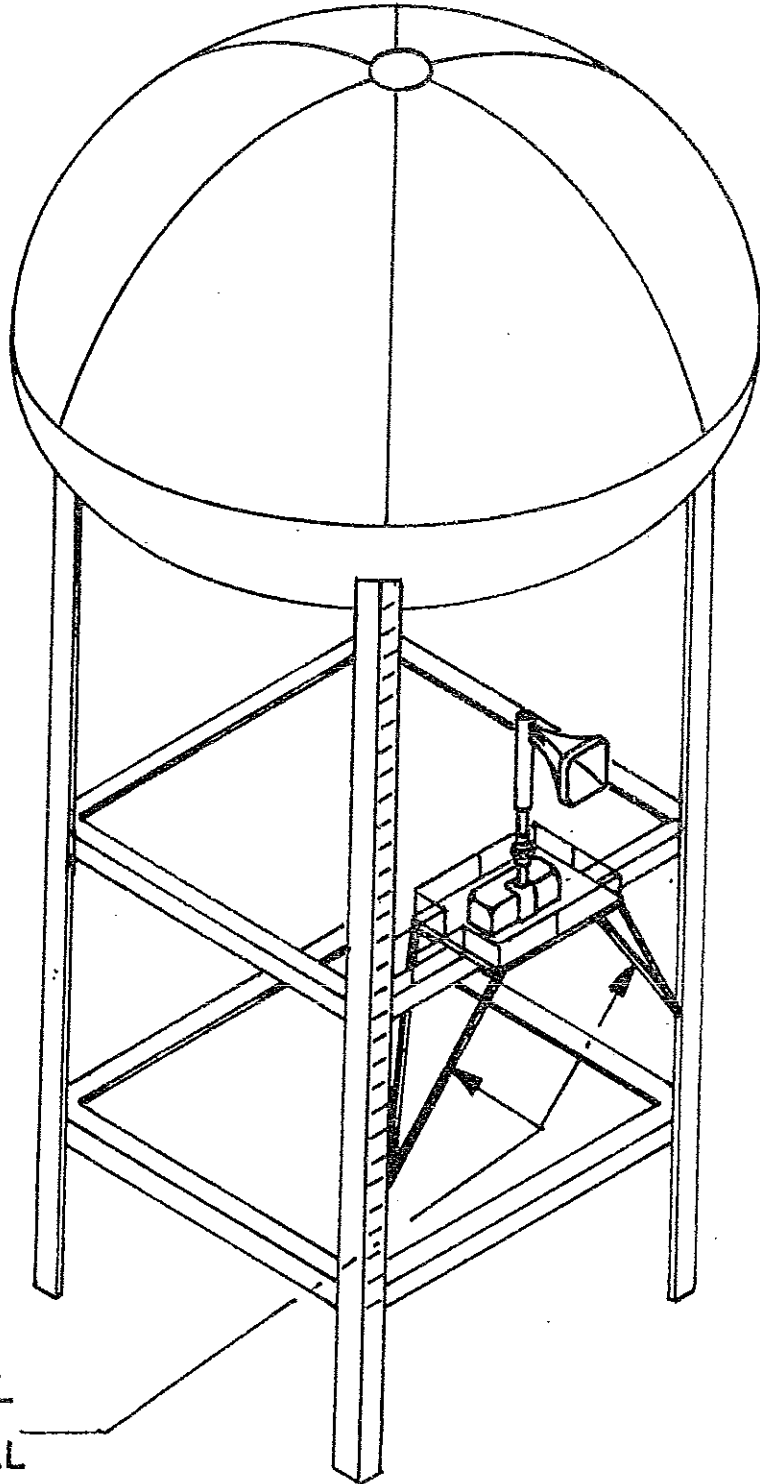


FIGURE 12

# HURRICANE 130 TOWER MOUNT

PLATFORM MOUNTING ON  
WATER TOWER CROSS  
BEAM



ANGLE OR CHANNEL  
IRON FOR ADDITIONAL  
BRACING

FIGURE 13

# HURRICANE 130 TANK MOUNT

PLATFORM MOUNTING ON  
UPRIGHT TANK STRUCTURE

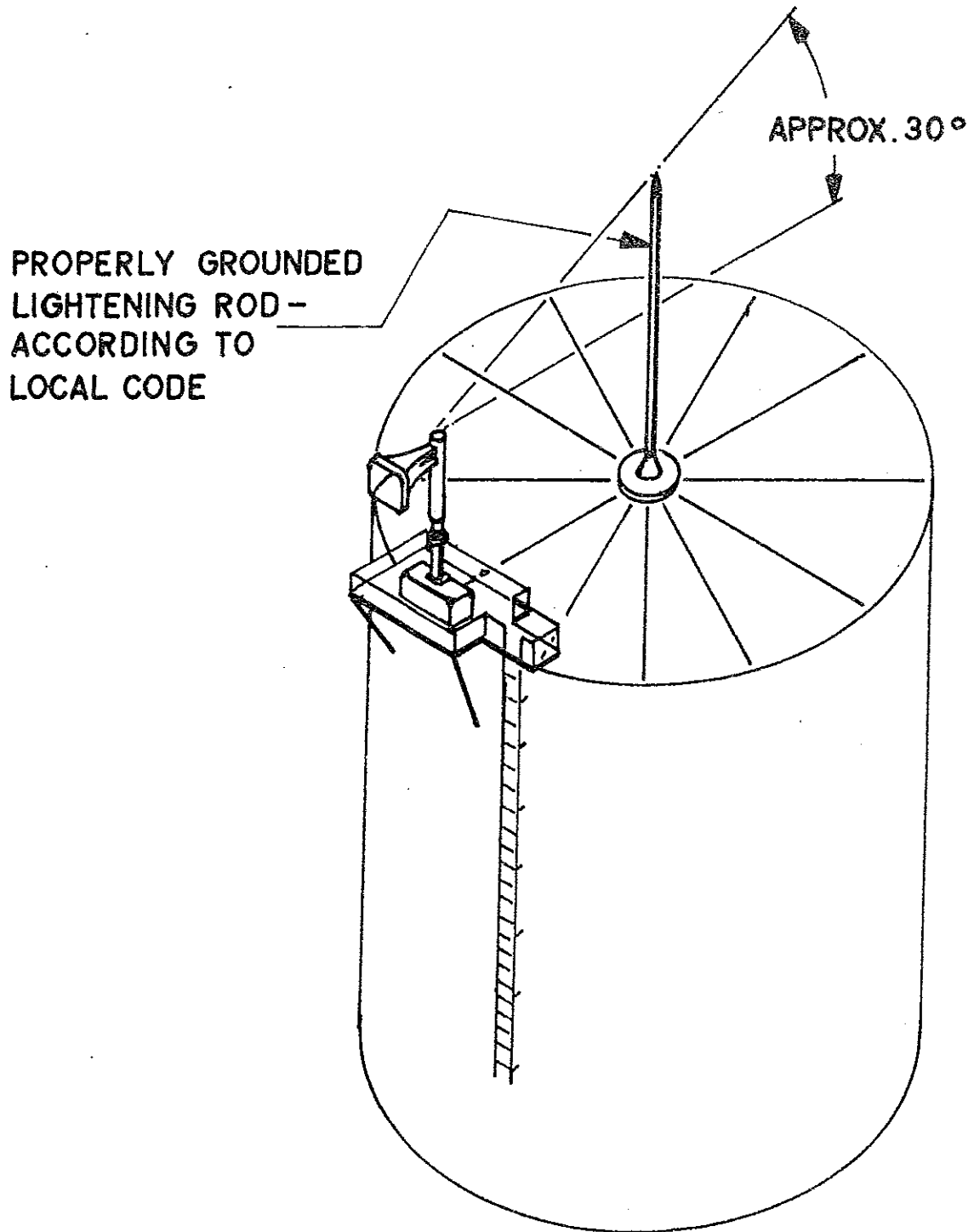


FIGURE 14

# HURRICANE 130

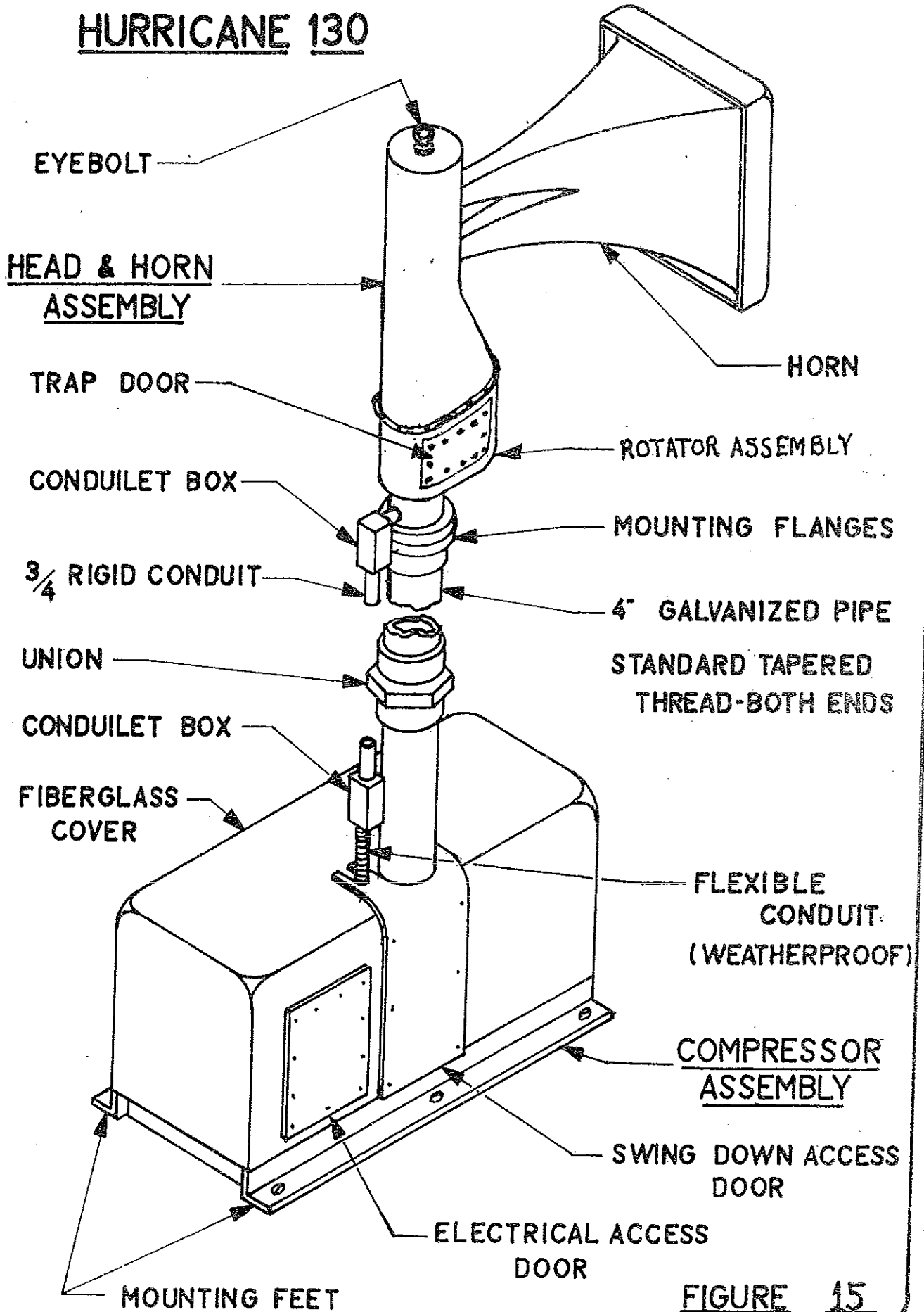


FIGURE 15

# HURRICANE 130 WORK PLATFORM

SUGGESTED WORK PLATFORM FOR POLE MOUNTED SIREN

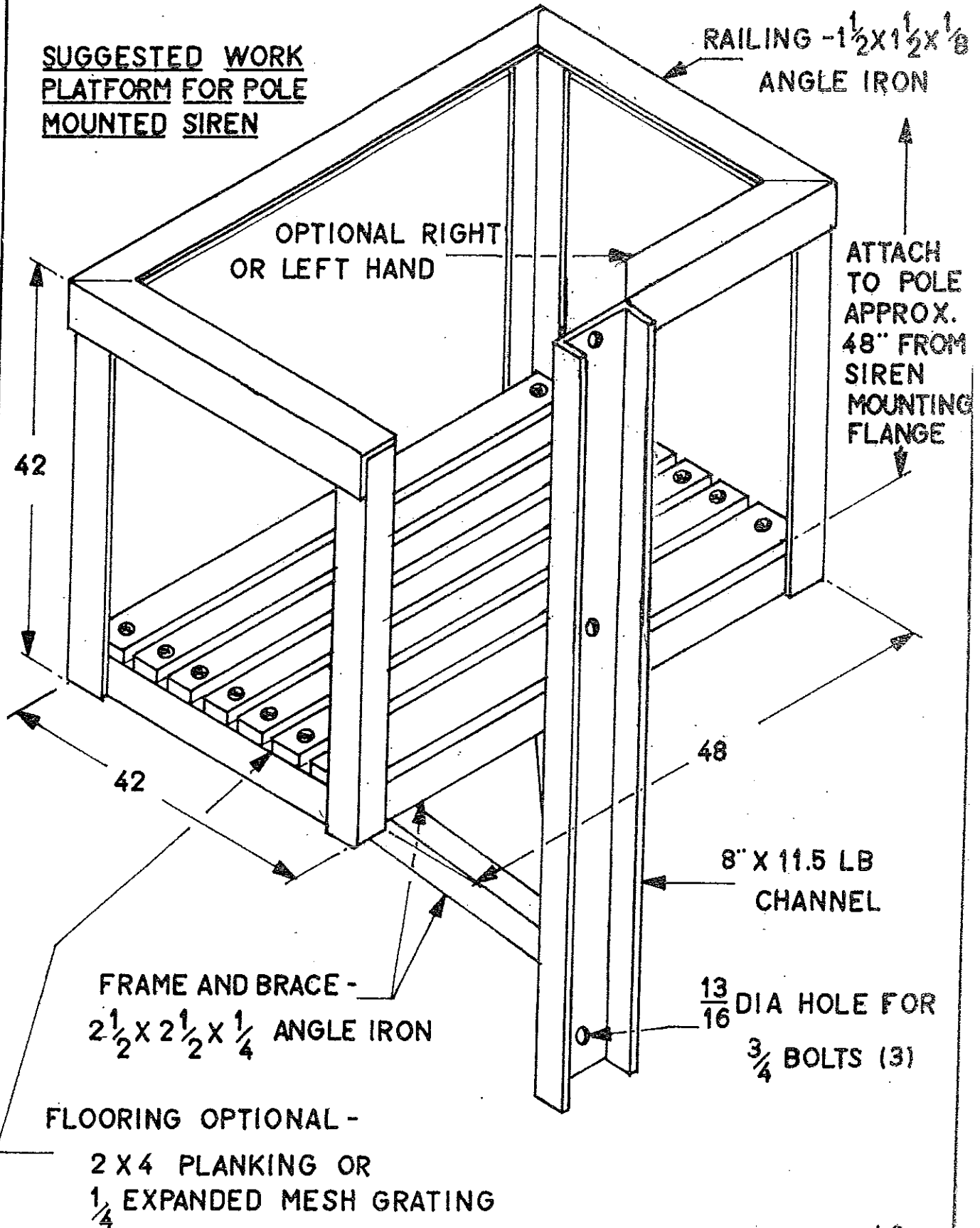


FIGURE 16

# HURRICANE 130 SIREN PLATFORM

SUGGESTED PLATFORM  
FOR MOUNTING COMPRESSOR  
ASSEMBLY

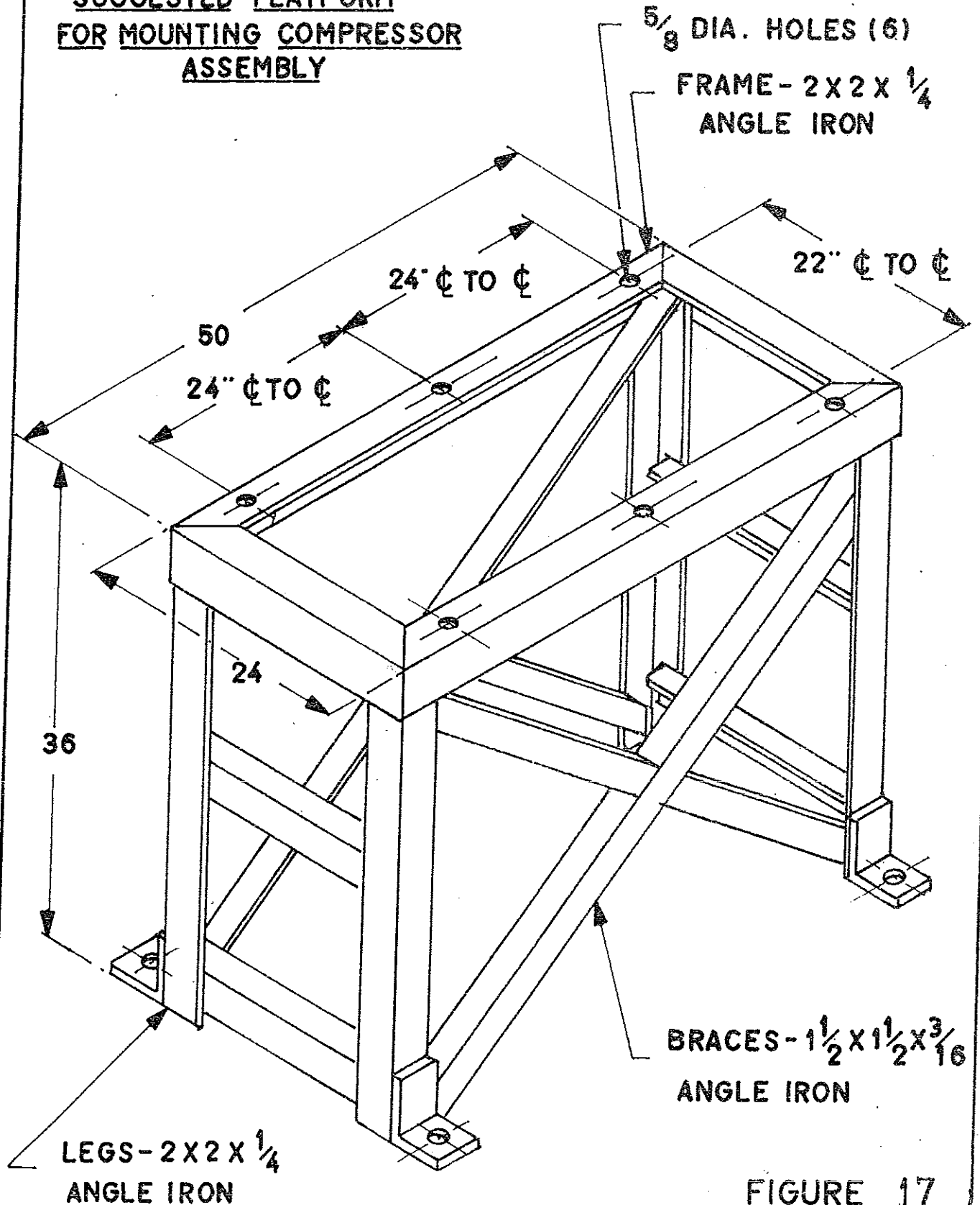
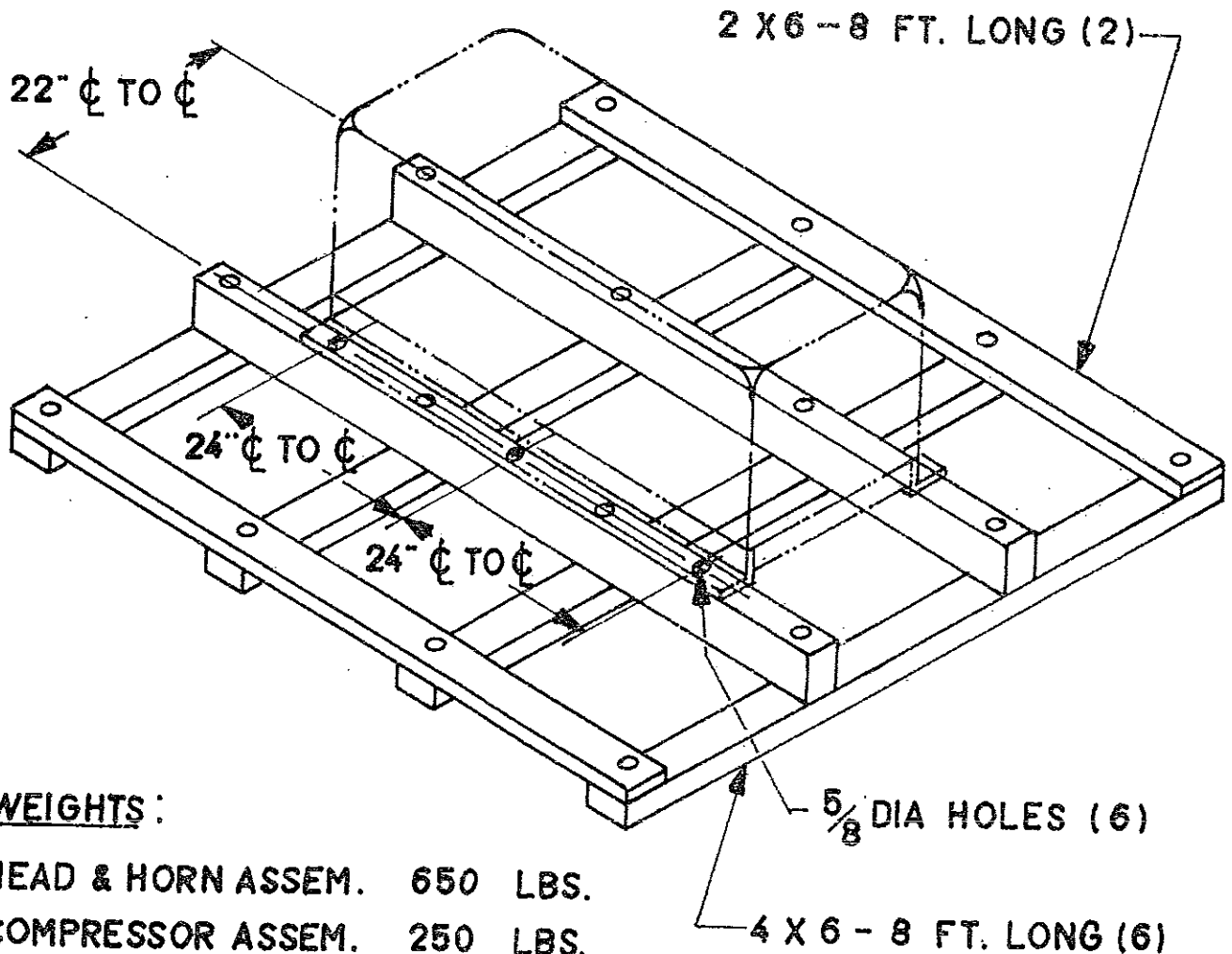


FIGURE 17

# HURRICANE 130   ROOF MOUNT

## ROOF PLATFORM FOR SPREADING SIREN LOADING



**WEIGHTS :**

HEAD & HORN ASSEM.	650	LBS.
COMPRESSOR ASSEM.	250	LBS.
PLATFORM	300	LBS.
PIPE $\frac{10.75 \text{ LB}}{\text{FT.}}$ X ___ FT.	___	LBS.

TOTAL \_\_\_ LBS. , THUS LOAD IS  $\frac{\text{LBS.}}{64 \text{ FT}^2}$

$$= \frac{\text{LBS.}}{\text{FT}^2}$$

USE WEATHER PROOFING MATERIAL  
UNDER ALL PARTS OF PLATFORM  
IN CONTACT WITH ROOF.

**FIGURE 18**

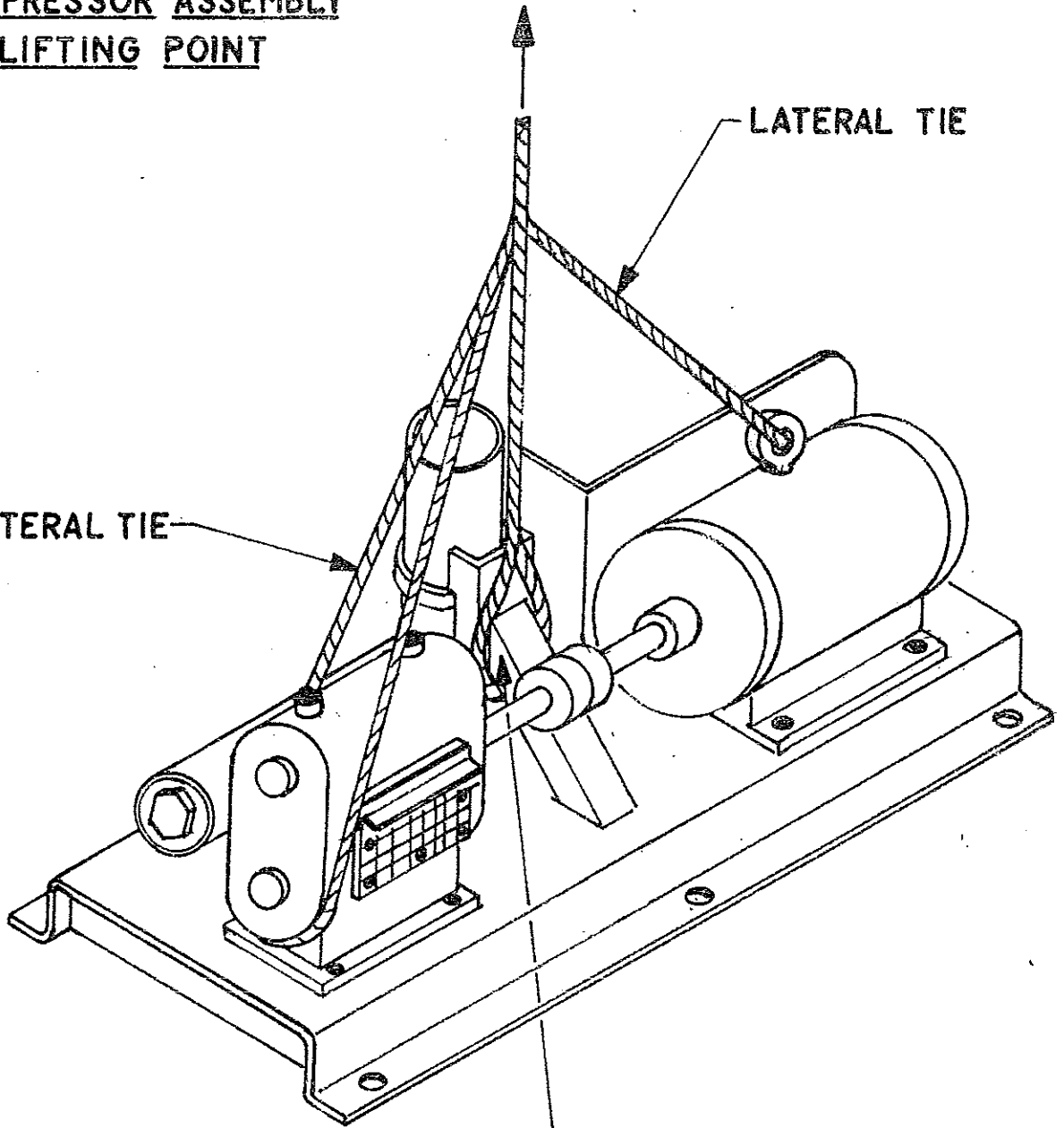
# HURRICANE 130

COMPRESSOR ASSEMBLY  
LIFTING POINT

LIFT

LATERAL TIE

LATERAL TIE



MAIN LIFTING  
POINT

FIGURE 19



# HURRICANE 130 SWING DOWN

## HEAD AND HORN ASSEMBLY IN DOWN POSITION

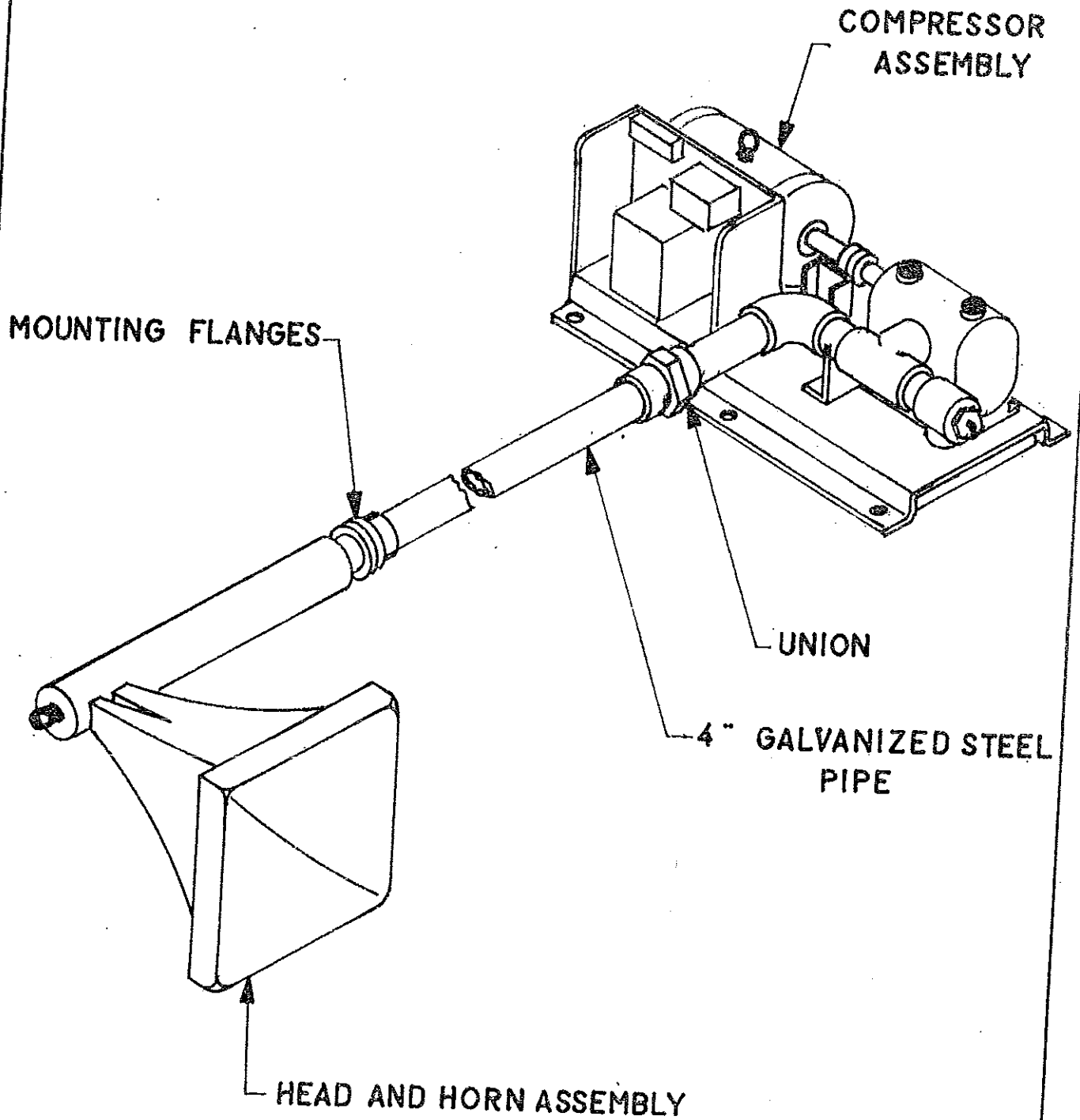


FIGURE 20

# HURRICANE 130 GUY ATTACHMENT

ATTACHMENT POINTS -

4 WIRE GUY

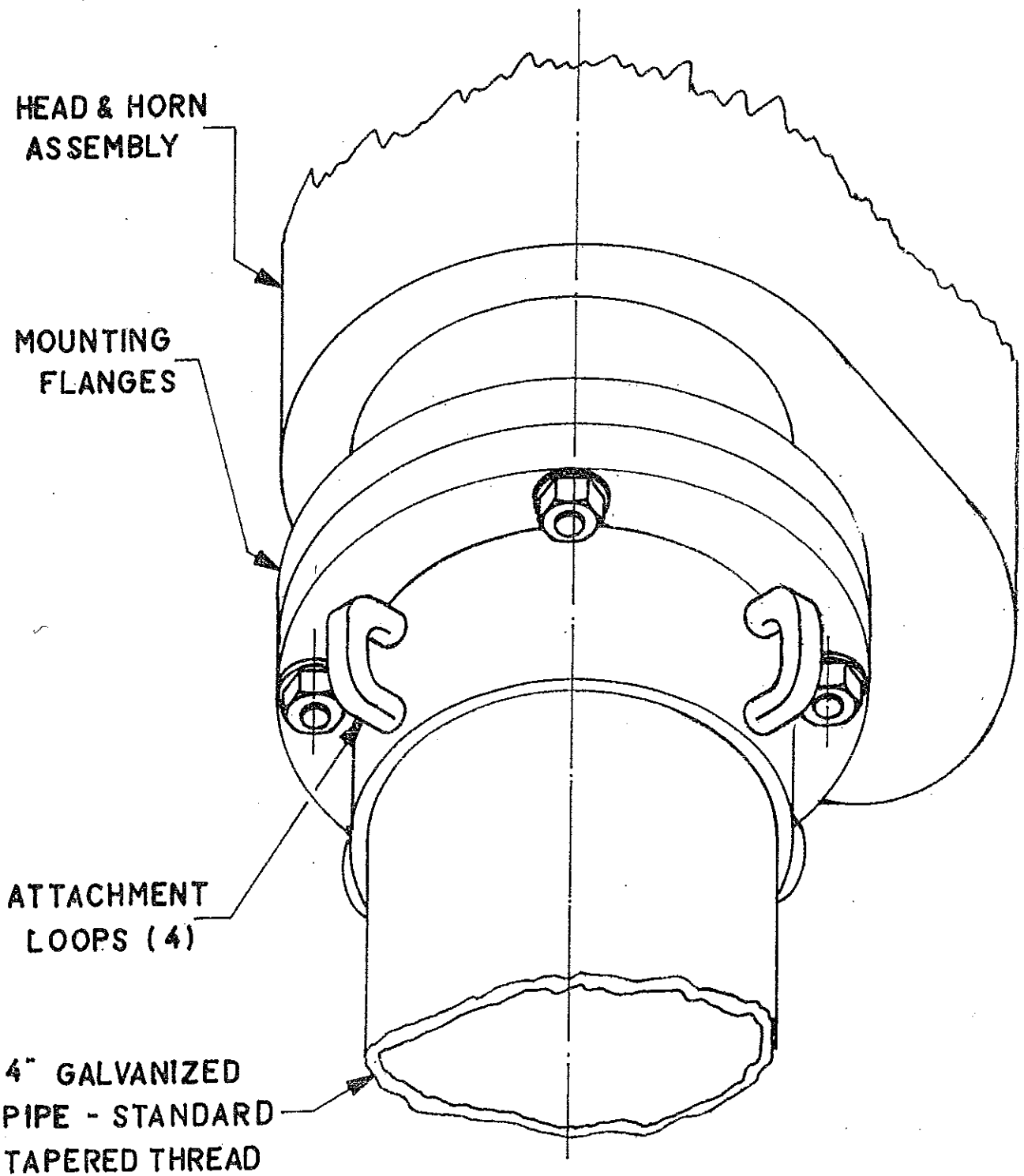


FIGURE 21

# HURRICANE 130    TIMING RELAY

## ADJUSTMENT OF TIME DELAY RELAY MODULE

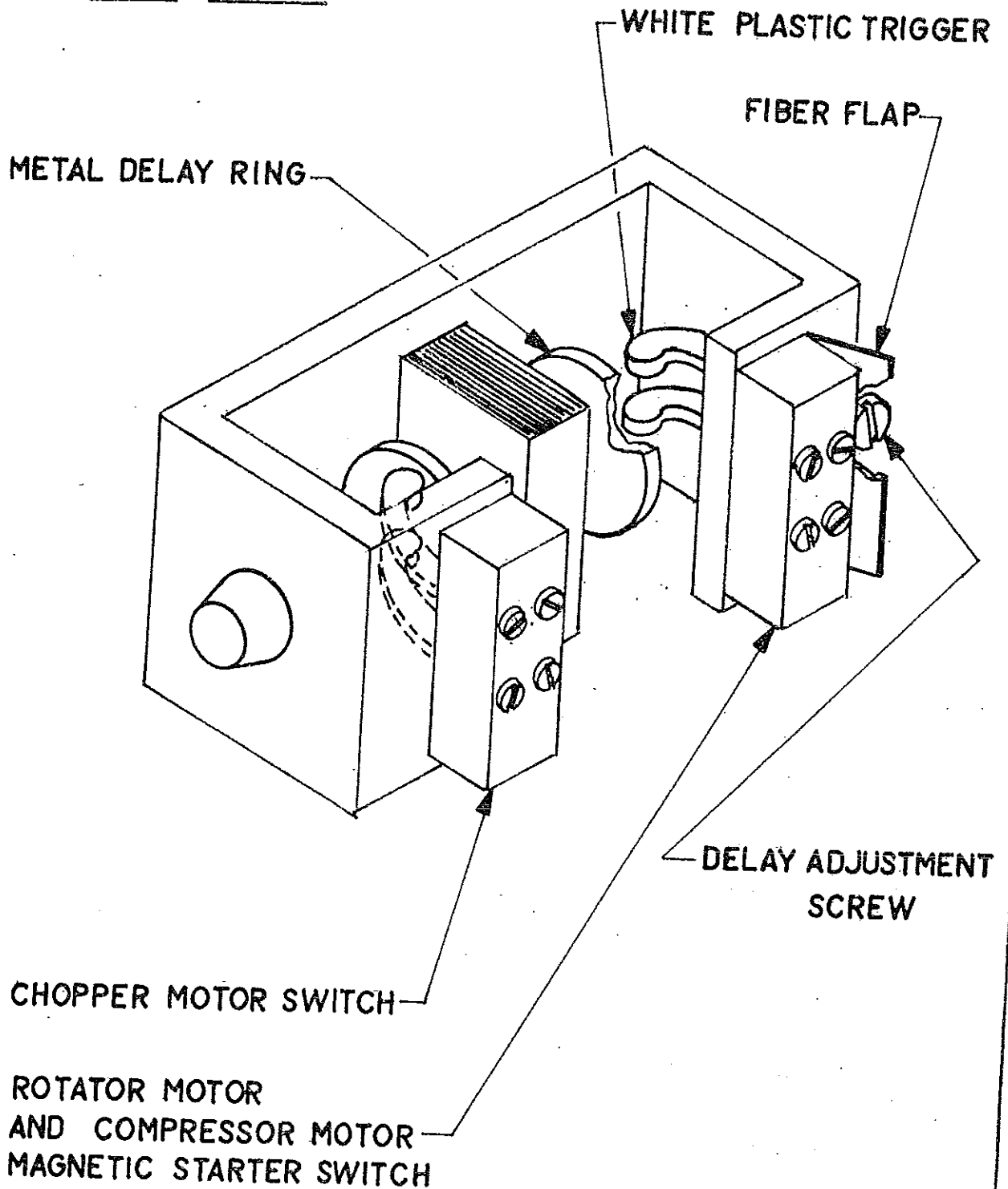


FIGURE 22

# HURRICANE 130 BLOWER

FILL BOTH ENDS OF BLOWER  
TO OIL LEVEL HOLE

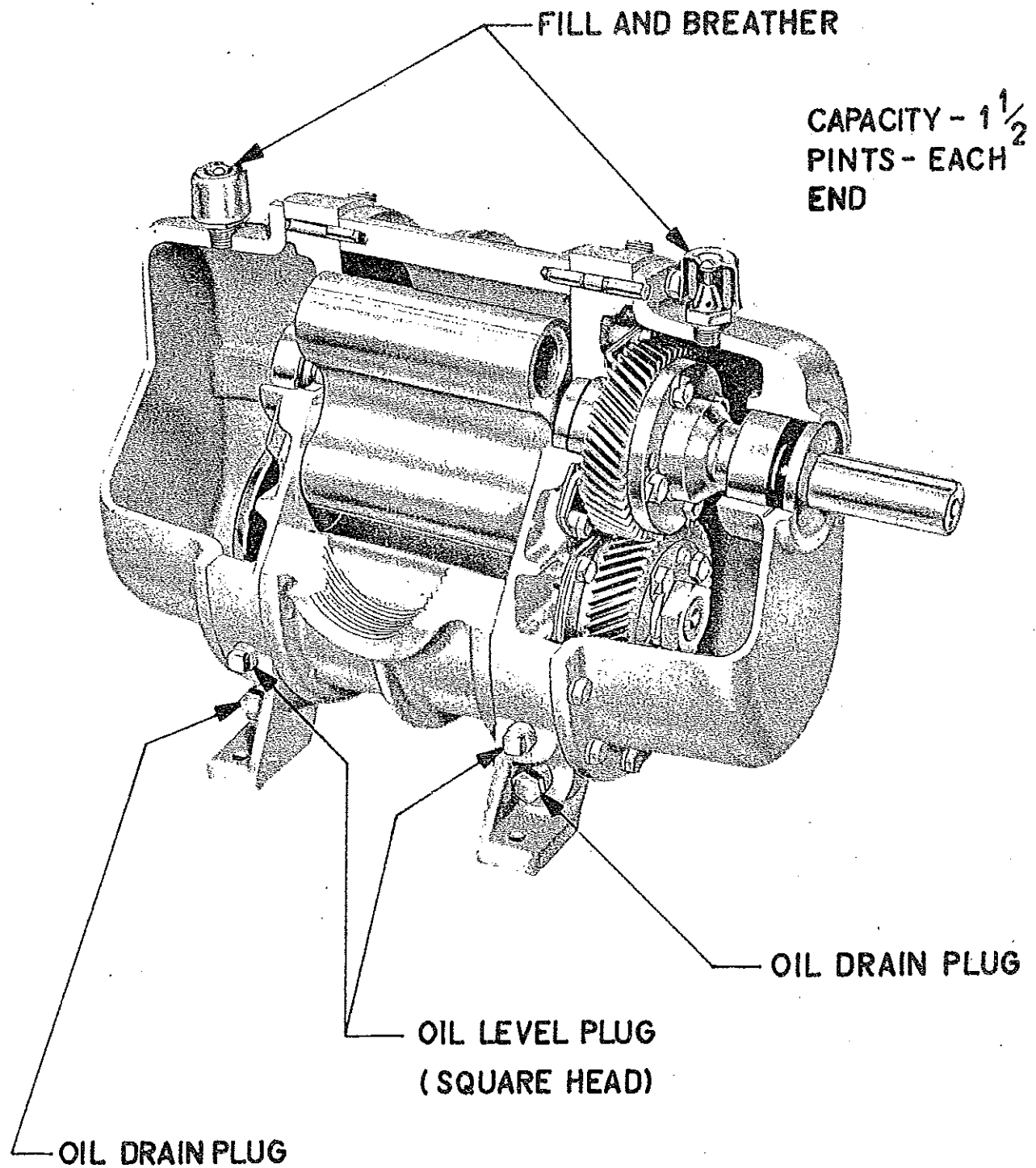
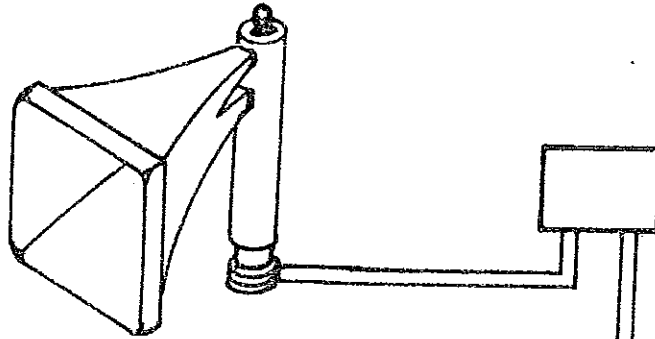


FIGURE 24

# HURRICANE 130 WIRING LAYOUT

TWO SIGNAL



HEAD & HORN  
ASSEMBLY  
PULL BOX - IF  
REQ'D BY  
LOCAL CODE

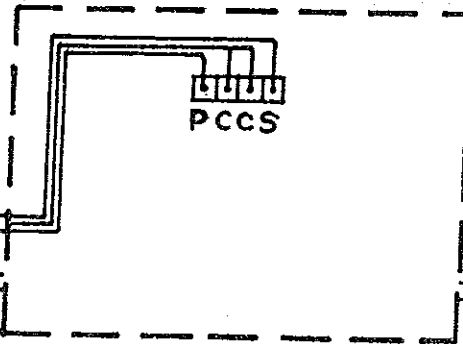
RADIO DECODER  
PROGRAM TIMER



3 - #10 WIRES  
IN 3/4" RIGID  
CONDUIT

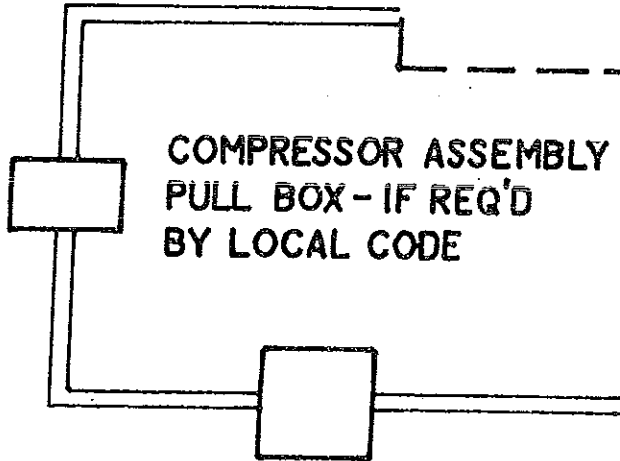
MAGNETIC STARTER CABINET  
IN COMPRESSOR ASSEMBLY

3 - #14 WIRES  
IN 1/2" CONDUIT



S - SIGNAL  
P - POWER  
C - COMMON

COMPRESSOR ASSEMBLY  
PULL BOX - IF REQ'D  
BY LOCAL CODE



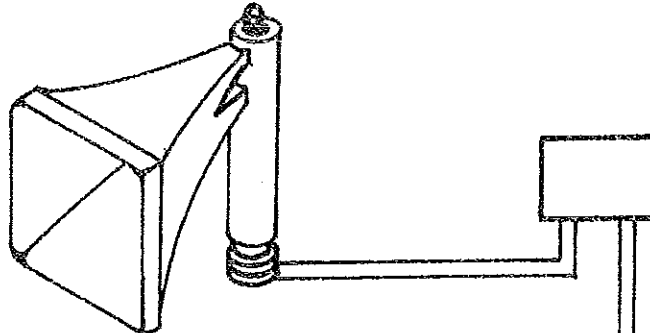
3 PHASE ± 10% VOLTAGE  
POWER SUPPLY TO MATCH  
SIREN

DISCONNECT SWITCH  
100 AMP. FOR 230 VOLT  
60AMP. FOR 460 VOLT  
3 - #4 WIRES (UP TO 25 FT.)  
IN 1" CONDUIT

FIGURE 25

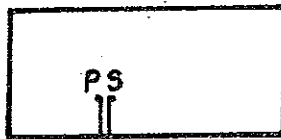
# HURRICANE 130 WIRING LAYOUT

TWO SIGNAL



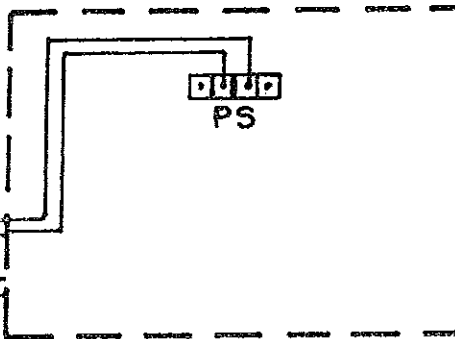
HEAD & HORN ASSEMBLY  
PULLBOX - IF REQ'D BY LOCAL CODE

MECHANICAL SWITCH  
TELEPHONE RELAY



3 - # 10 WIRES  
IN 3/4" RIGID  
CONDUIT

MAGNETIC STARTER CABINET  
IN COMPRESSOR ASSEMBLY



2 - # 14 WIRES  
IN 1/2" CONDUIT

S - SIGNAL  
P - POWER

COMPRESSOR ASSEMBLY  
PULLBOX - IF REQ'D  
BY LOCAL CODE



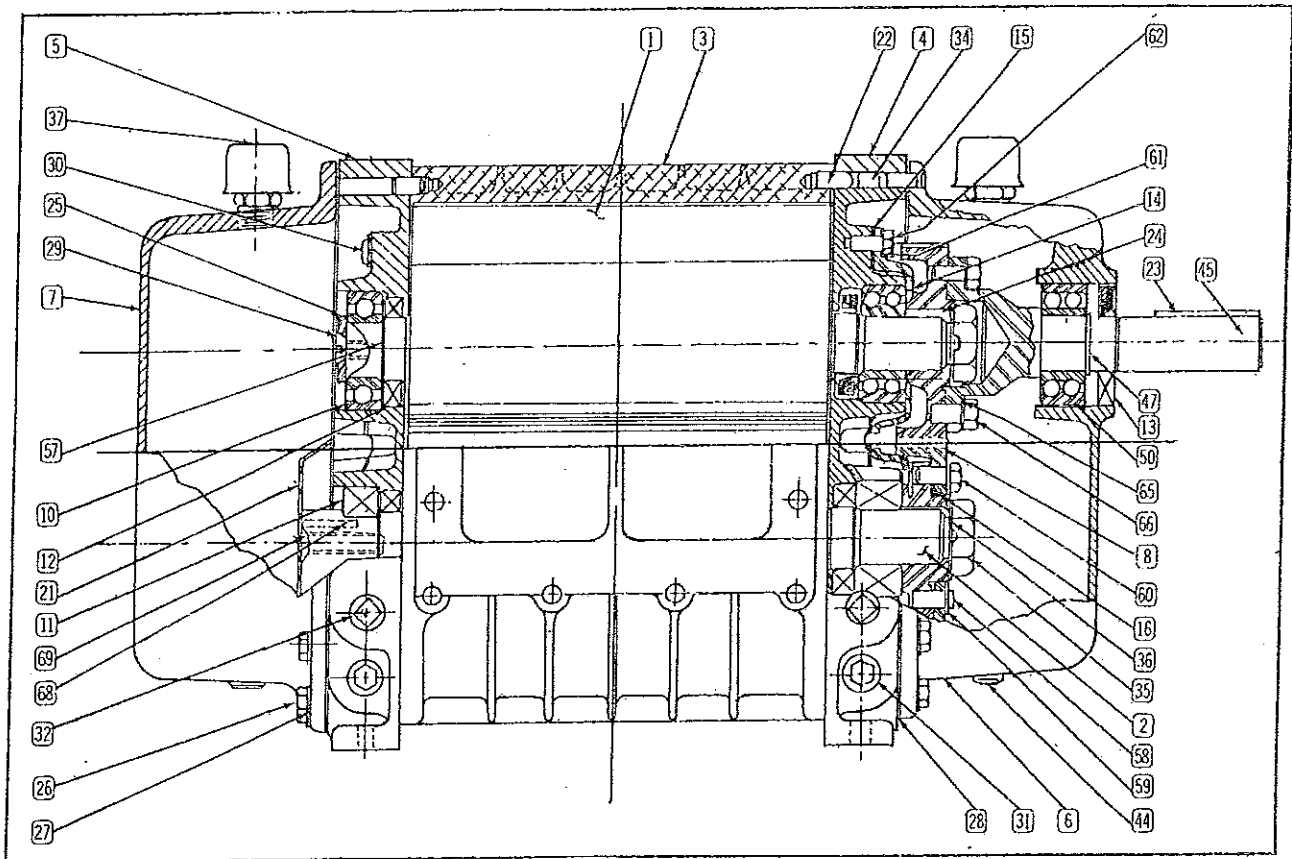
3 PHASE ± 10% VOLTAGE  
POWER SUPPLY TO MATCH  
SIREN



DISCONNECT SWITCH  
100 AMP. FOR 230 VOLT  
60 AMP. FOR 460 VOLT  
3 - # 4 WIRES (UP TO 25 FT.)  
IN 1" CONDUIT

FIGURE 26

# HURRICANE 130 COMPRESSOR



Item No.	Description	Quantity
1	Drive Rotor	1
2	Driven Rotor	1
3	Rotor Housing	1
4	Gear End Plate	1
5	Free End Plate	1
6	Drive End Cover	1
7	Non-Drive End Cover	1
8	Timing Gear Assembly	1
9	Gear End Ball Bearing	2
10	Free End Ball Bearing - Drive	1
11	Free End Ball Bearing - Driven	1
12	Rotor Shaft Seal	4
13	Drive Shaft Seal	1
14	Bearing Retaining Ring	2
15	Oil Retainer Ring	4
16	Timing Gear Adj. Shim	1
19	Spacer	-
21	Oil Slinger Assembly	1
22	Dowel Pin	6
23	Drive Shaft Key	1
24	Gear Key	1
25	Rotor Shaft Washer	1
26	End Cover Hex. Screw	28
27	Lockwasher	28
28	End Cover Gasket	2
29	Flat Hd. Socket Cap Screw	1
30	Button Hd. Socket Cap Screw	8
31	Magnetic Drain Plug - Hex. Hd.	2
32	Oil Level Pipe Plug - Sq. Hd.	4
34	Dowel Spacer - Upper	2
35	Gear & Bearing Locknut	2
36	Lockwasher	2
37	Breather	2

Item No.	Description	Quantity
38	Port Fitting	2
39	Port Fitting - Gasket	2
40	Port Fitting - Hex Screw	24
41	Lockwasher	24
42	Name Plate	1
43	Name Plate Drive Screw	6
44	Socket Hd. Pipe Plug	14
45	Drive Shaft	1
46	Seal Adapter Ring	-
47	Snap Ring	1
50	Drive Shaft - Ball Bearing	1
53	Adjusting Shim	-
54	Rotor Shaft Face Seal Assembly	-
54a	Face Seal Stator	-
54b	Face Seal Rotor	-
56	Face Seal Rotor Spacer - F.E. Only	-
57	Bearing Spacer - F.E. Only	2
58	Dowel Pin - Tab.	2
59	Screw Lock Plate	2
60	Hex. Hd. Cap Screw	4
61	Screw Lock Plate	1
62	Hex. Hd. Cap Screw - G.E. Only	8
63	Drive Shaft Dowel Pin	-
64	Dowel Pin Retaining Ring	-
65	Screw Lock Plate	2
66	Hex. Hd. Cap Screw	4
67	Spacer - F.E. Only	-
68	Oil Slinger Drive Pin	1
69	Flat Hd. Soc. Cap Screw	1
70	Oil Level Sight Gauge	-
118	Shim	-
125	Mounting Bracket	2

**FIGURE 27**

