

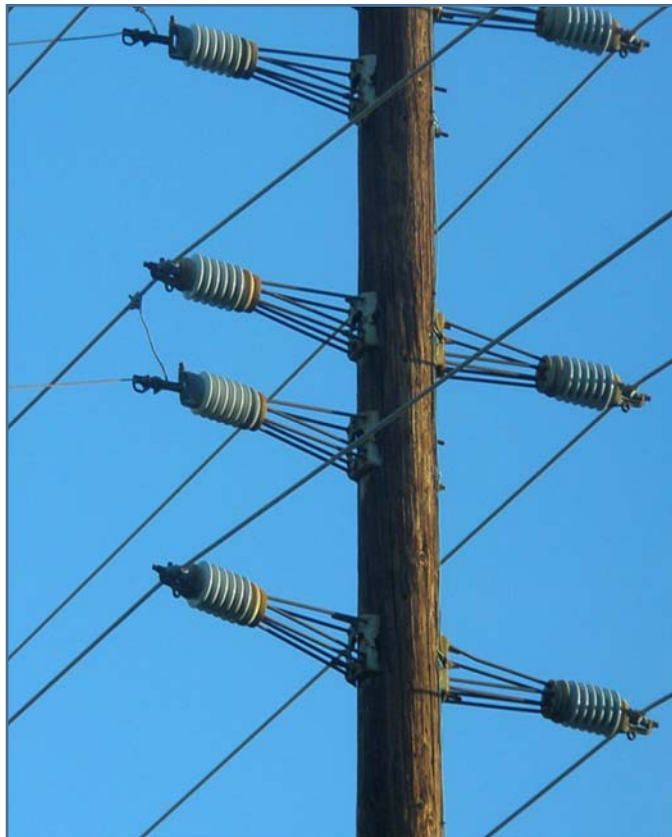
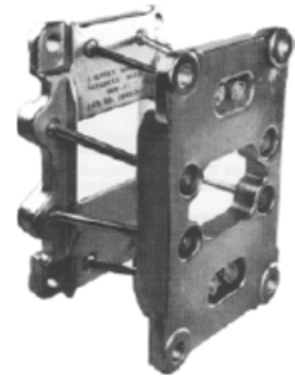
## Insulator Extension Arms

### Fail Safe Insulator Bases

#### Background

Lindsey Fail-Safe™ insulator bases are designed to “fail safe” at overloads predictably below the rated insulator strength. This permits the base to plastically deform and yield in to the load without fracture, avoiding damage to the insulator and the associated cascading effect, holding the conductor above ground for easy repair.

The reliability and ultimate performance of horizontal line post insulators mounted on rigid structures is limited by the insulators ability to withstand severe loading conditions, such as a broken conductor, galloping, heavy ice loading or other highly unbalanced longitudinal loads. It is well known that when horizontal line post insulators are mounted on flexible structures, their ability to withstand severe longitudinal loading is greatly enhanced.



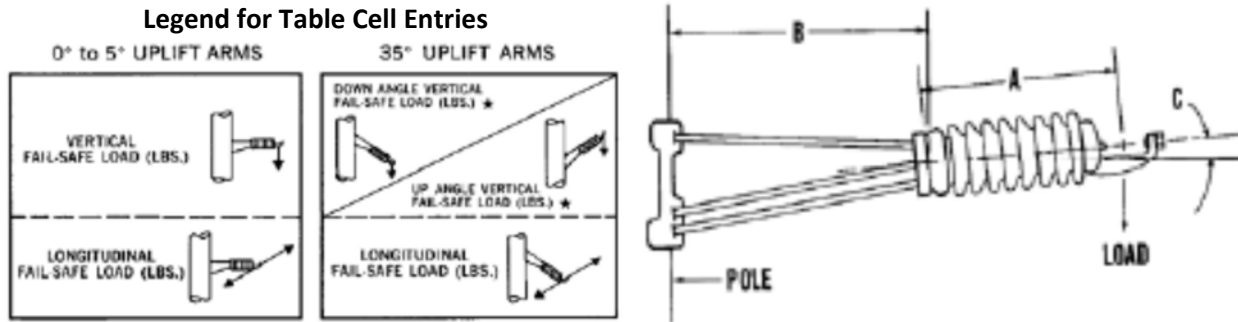
The Lindsey Fail-Safe Base improves the integrity of horizontal line post construction by providing a flexible support for the insulator. This flexibility lowers the dynamic stresses induced in an insulator by an impact load. In addition to this elastic flexibility, Fail-Safe Bases are designed to plastically deform at a predetermined level, thus limiting the maximum cantilever load that can be applied to the insulator. These features protect the insulator not only from longitudinal overloads but also from vertical overloading, e.g. from severe ice conditions.

Extensive static and dynamic tests have been performed on Fail-Safe Bases. These dynamic impact tests demonstrate that insulators, when mounted on a Fail-Safe Base, would not break when subjected to four or five times the maximum impact load of a rigidly mounted insulator.

## Insulator Extension Arms

### Fail Safe Insulator Base Loading Data

The table below lists the fail-safe load conditions of Lindsey Fail-Safe Insulator Extension Arms with insulators installed. Complete information about the arms listed is shown on the following pages.

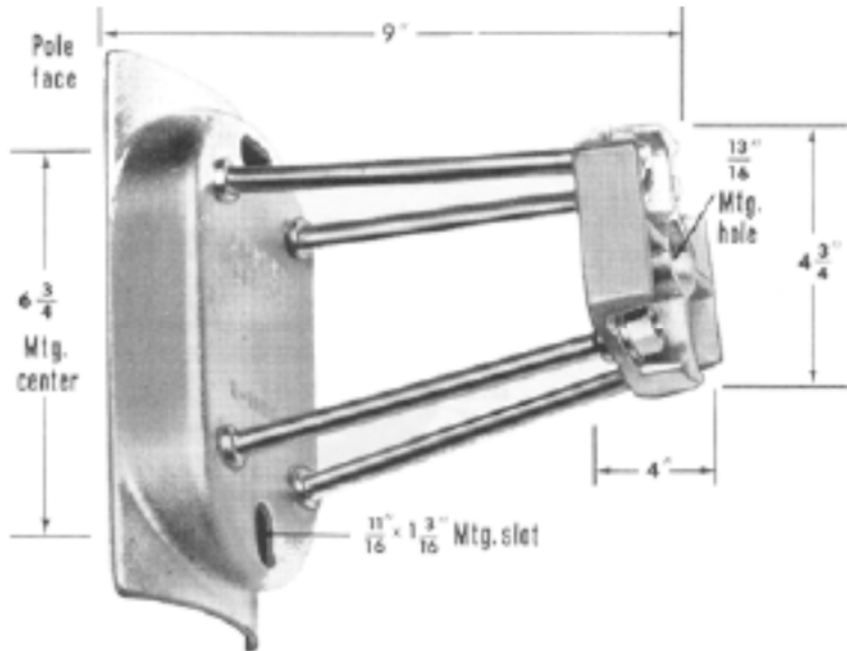


To find the cantilever load on the insulator having an uplift angle of 35' multiply these values by .818.

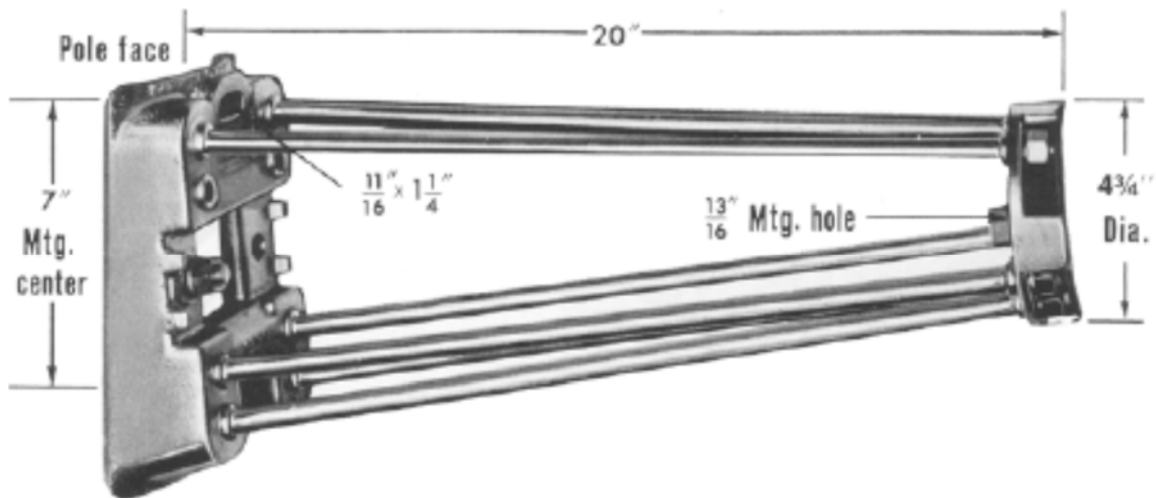
CATALOG NUMBER	INSULATOR LENGTH (INCHES) A		10 %	13 %	16 ½	19 %	22 %	25	28 ¼
	TYPICAL KV RATING		25	35	45	55	66	88	96
	ARM LENGTH INCHES B	UPLIFT ANGLE DEGREES C							
4130	9	5	2900	2200	1825				
			1450	1150	1000				
4131	20	5	2150	2000	1750				
			1370	1300	1250				
4231	14	5			2250	2450	2400	2300	2100
					2550	2200	1950	1700	1550
4232	14	35					2900 / 3400	2650 / 3100	2350 / 2700
4233	19	5					2800	2550	2300
								3150	2650
							2425	2150	

## Insulator Extension Arms

### Light-Duty Fail Safe Insulator Bases



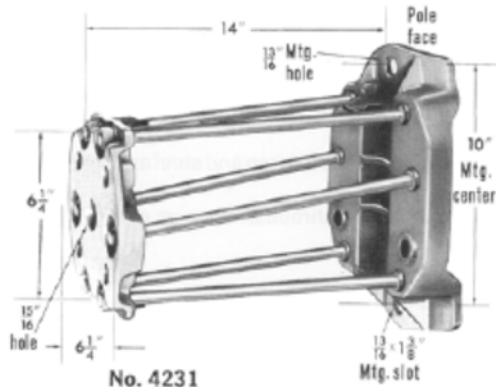
**No. 4130:**  
Weight: 7 lbs. /  
Mounts: 5 degrees  
upward from horizontal.



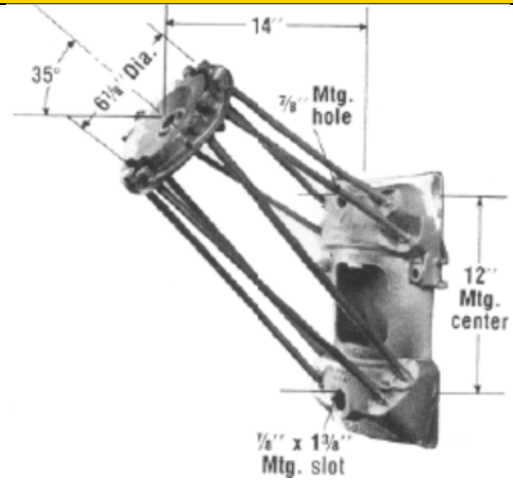
**No. 4131** - Weight: 15 lbs. / Mounts: 5 degrees upward from horizontal.

## Insulator Extension Arms

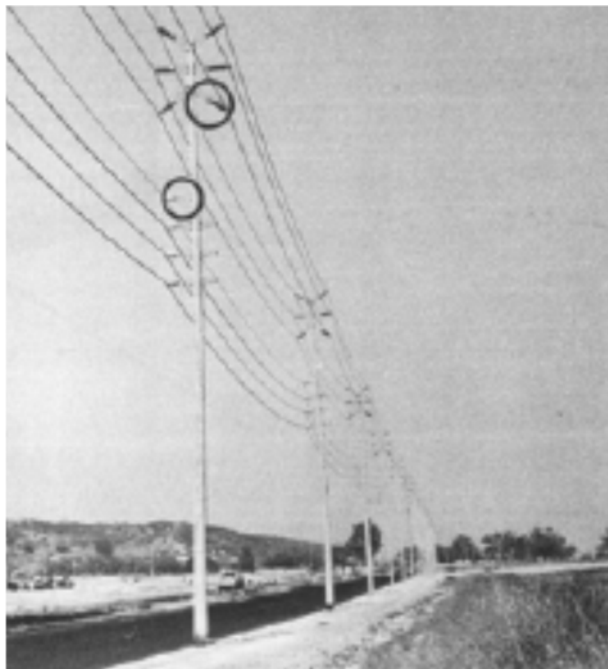
### Heavy Duty Fail Safe Insulator Bases



**No. 4231:** Weight: 24 lbs. / Mounts: 5 degrees upward from horizontal.



**No. 4232:** Weight: 30 lbs. / Mounts: 35 degrees upward or downward from horizontal.



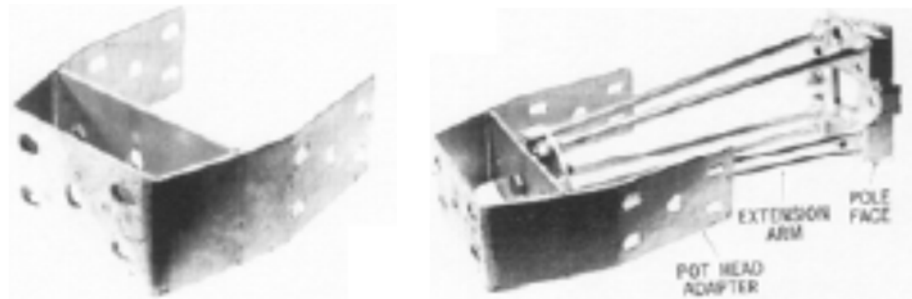
Both Light Duty (lower) and Heavy Duty (upper) Fail-Safe bases in use on the same pole.

## Insulator Extension Arms

### Fail Safe Insulator Bases Accessories

#### Pole Top Bracket

Lindsey's **No. 2050** Pole Top Bracket (right) is designed to complement our Fail-Safe Insulator Extension Arms for mounting in triangular configuration. It securely mounts to a pole top for installation of a vertical insulator directly above the center of the pole for more uniform appearance.



#### Pot Head Adapter

The **No. 4300** Pot Head Adapter (above) is designed to mount on the end of Lindsey's Fail-Safe Insulator Extension Arm with a single bolt. Material is 1/4" x 4" steel with 9/16" diameter holes and 3/8" x 1" slots. Hot dipped galvanized.

#### Side Arm Base

The **No. 4350** Side Arm Base fits on the **No. 4131** Fail-Safe Insulator Extension Arm and provides a base on which two additional horizontal insulators or other equipment may be mounted. The Side Arm Base fits securely on the end plate and is held in place with two bolts. The outer diameter of the Side Arm Base is 3 1/2" and the insulator mounting holes are 13/16" diameter. Material is 60-45-15 ductile iron, hot dipped galvanized.

