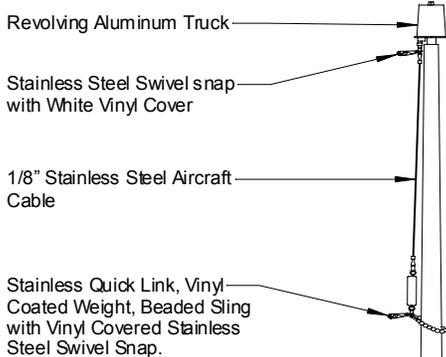


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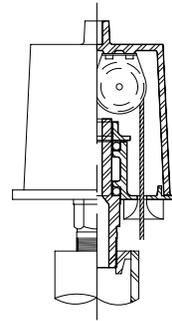
Quality Flagpoles Since 1885

# STANDARD GROUND SET CONE TAPERED ALUMINUM FLAGPOLES WINCH CONCEALED HALYARD



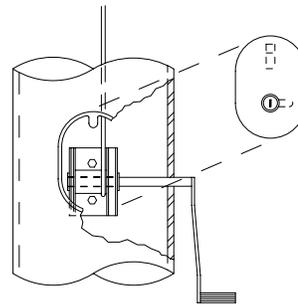
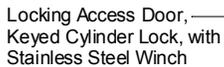
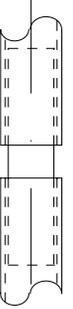
### REVOLVING NON-FOULING TRUCK DETAIL

Aluminum Body, non-fouling Internal Halyard Truck, cast aluminum body, 26 Stainless Steel Ball Bearings & 2 1/2" dia. plated Steel Sheave

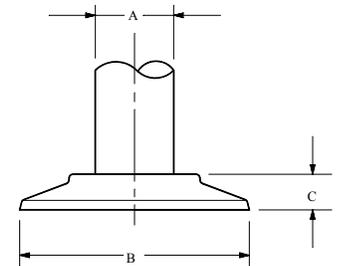


### SELF ALIGNING INTERNAL SLEEVE

This pre-fitted, shop machined sleeve is designed to allow for the field assembly, without welding, of large shafts which must be shipped in sections. Proper mating of the numbered parts will result in a fine

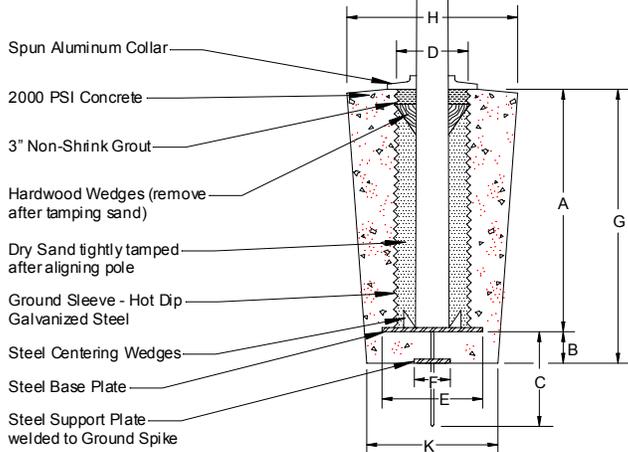


**Stainless Steel Winch**  
Direct Drive, Lockable in any position. Access Door with Six Tumbler Cylinder



### Spun Aluminum Standard Flash Collar

	A	B	C
5'-8"	15"	2.75"	
10'-12"	22"	3.5"	



### FOUNDATION DIMENSIONS

Exposed Height	A	B	C	D	E	F	G	H	K
20'	30"	6"	18"	8"	10"	4"	3'	24"	22"
25'	3'	6"	18"	8"	10"	4"	3'6"	28"	22"
30'	3'	6"	18"	8"	10"	4"	3'6"	28"	24"
35'	3'6"	6"	18"	10"	12"	4"	4'	30"	26"
40'	4'	6"	18"	10"	12"	4"	4'6"	36"	32"
50'	5'	6"	24"	12"	14"	8"	5'6"	48"	42"
60'	6'	6"	24"	15"	16"	8"	6'6"	48"	42"
70'	7'	8"	24"	15"	16"	8"	7'6"	60"	48"

These recommended foundations are only minimums. Dimensions may vary according to soil and wind conditions at location of installation.

Exposed Height	Overall Height	Diameter Butt	Diameter Top	Wall Thickness	Length Tapered	Length Straight	Halyard Dia.	Ship Sections	Ground Sleeve	Flag Size	Shipping Weight
LTI20	23'	5"	3"	.125"	11'	12'	1/8"	1	8"	3'x5'	140#
LHTI20'	23'	5"	3"	.188"	11'	12'	1/8"	1	8"	3'x5'	170#
LTIS25'	28'	5"	3"	.156"	11'	17'	1/8"	1	8"	4'x6'	160#
LHTIS25'	28'	5"	3"	.188"	11'	17'	1/8"	1	8"	4'x6'	178#
LTIS30'	33'	5"	3"	.156"	17'3"	15'9"	1/8"	1 or 2	8"	4'x6'	166#
LHTI30'	33'	5"	3"	.188"	17'3"	15'9"	1/8"	1 or 2	8"	5'x8'	185#
LTI35'	38'6"	6"	3.5"	.156"	20'	18'6"	1/8"	1 or 2	10"	5'x8'	230#
LHTI35'	38'6"	6"	3.5"	.188"	20'	18'6"	1/8"	1 or 2	10"	5'x8'	250#

# L. Ph. Bolander & Sons

## Flagpoles Since 1885



### STANDARD GROUNDSET CONE TAPERED ALUMINUM FLAGPOLES

#### Specifications

**GENERAL.** Bolander aluminum flagpoles are made from all new, heat treated, seamless 6063-T6 tubing and are designed to withstand winds of 120 MPH. All shafts are uniformly cone tapered approximately 1" in every 5'6".

Overall lengths up to 28' can be fabricated in one piece and shipped via motor freight to almost any destination. Longer lengths requiring shipment in two or three sections shall be factory fitted with self aligning flush seam field joint, requiring no welding.

All poles are highly polished with fine grain aluminum oxide cloths resulting in a high quality deep luster finish. This extremely fine grain finish provides a elegant soft sheen while remaining maintenance free. Optional Duranodic and Clear anodizing finishes are available upon request as well as a full line of powder coating.

Upon completion of polishing, the poles are spiral wrapped in tire paper and shipment is made in a hard fiber tube to protect the finish. The unexposed portion of the shaft, which will be below grade, can be given a heavy coat of asphaltum paint if required.

**STANDARD FITTINGS.** Fittings listed below are standard on all ground mounted LTI internal halyard flagpoles.

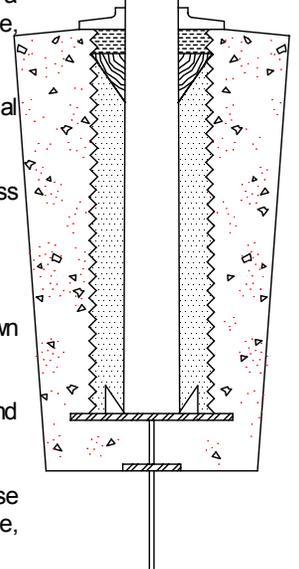
**TRUCK.** Cast of virgin aluminum and shall be one sheave revolving, non fouling, with 26 stainless steel ball bearings, and bronze bushing for halyard longevity.

**HALYARD.** 7x19 stainless steel aircraft cable, 1/8" dia., with stainless steel thimbles & links

**WINCH.** All stainless steel construction, with self locking mechanism, allowing the flag to be flown at any position.

**FLASH COLLAR.** The flash collar shall be spun aluminum alloy 5052-H32, of diameter and shape as detailed. The finish shall match that of the pole.

**GROUND SLEEVE.** Fabricated from #16 ga. galvanized steel with 3/8" steel base plate, whose square dimension is two inches larger than the sleeve diameter. All steel wedges, base plate, support plate and lightning ground rod shall be welded of dimensions as detailed.

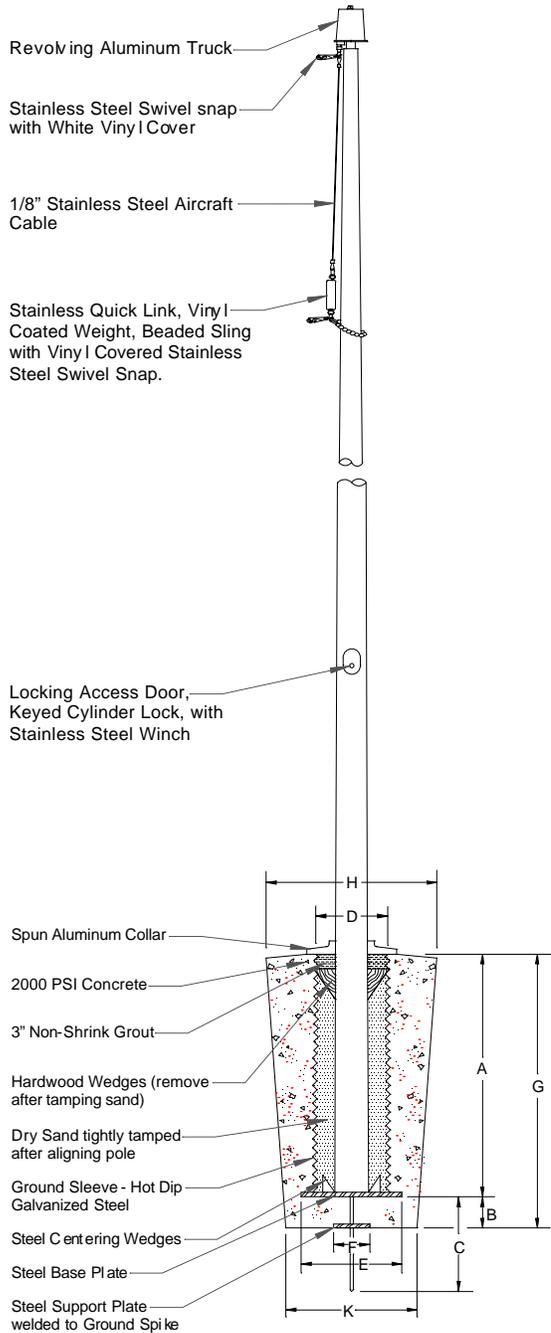


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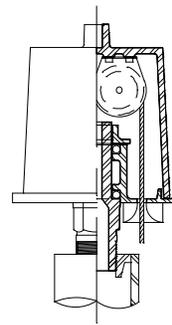
Quality Flagpoles Since 1885

# STANDARD GROUND SET CONE TAPERED ALUMINUM FLAGPOLES WINCH CONCEALED HALYARD



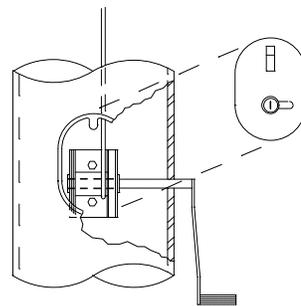
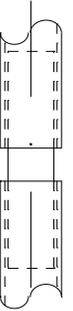
### REVOLVING NON-FOULING TRUCK DETAIL

Aluminum Body, non-fouling Internal Halyard Truck, cast aluminum body, 26 Stainless Steel Ball Bearings & 2 1/2" dia. plated Steel Sheave

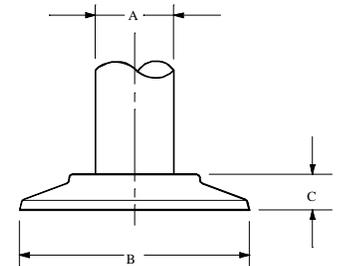


### SELF ALIGNING INTERNAL SLEEVE

This pre-fitted, shop machined sleeve is designed to allow for the field assembly, without welding, of large shafts which must be shipped in sections. Proper mating of the numbered parts will result in a fine



**Stainless Steel Winch**  
Direct Drive, Lockable in any position. Access Door with Six Tumbler Cylinder



### Spun Aluminum Standard Flash Collar

5'-8"	15"	2.75"
10-12"	22"	3.5"
10-12"	22"	3.5"

### FOUNDATION DIMENSIONS

Exposed Height	A	B	C	D	E	F	G	H	K
20'	30"	6"	18"	8"	10"	4"	3'	24"	22"
25'	3'	6"	18"	8"	10"	4"	3'6"	28"	22"
30'	3'	6"	18"	8"	10"	4"	3'6"	28"	24"
35'	3'6"	6"	18"	10"	12"	4"	4'	30"	26"
40'	4'	6"	18"	10"	12"	4"	4'6"	36"	32"
50'	5'	6"	24"	12"	14"	8"	5'6"	48"	42"
60'	6'	6"	24"	15"	16"	8"	6'6"	48"	42"
70'	7'	8"	24"	15"	16"	8"	7'6"	60"	48"

These recommended foundations are only minimums. Dimensions may vary according to soil and wind conditions at location of installation.

Exposed Height	Overall Height	Diameter Butt	Diameter Top	Wall Thickness	Length Tapered	Length Straight	Halyard Dia.	Ship Sections	Ground Sleeve	Flag Size	Shipping Weight
LT140'	44'	7"	3.5"	.156"	22'9"	21'3"	1/8"	2	10"	6'x10'	315#
LT150'	55'	8"	3.5"	.188"	37'2"	17'10"	1/8"	3	12"	8'x12'	472#
LT160'	66'	10"	3.5"	.188"	44'6"	21'6"	1/8"-3/16"	3	15"	10'x15'	636#
LT1S60'	66'	10"	4"	.250"	44'6"	21'6"	1/8"-3/16"	3	15"	12'x18'	709#
LT170'	77'	10"	4"	.312"	52'	25'	1/8"-3/16"	3	15"	12'x18'	829#

# L. Ph. Bolander & Sons

## Flagpoles Since 1885



### STANDARD GROUNDSET CONE TAPERED ALUMINUM FLAGPOLES

#### Specifications

**GENERAL.** Bolander aluminum flagpoles are made from all new, heat treated, seamless 6063-T6 tubing and are designed to withstand winds of 120 MPH. All shafts are uniformly cone tapered approximately 1" in every 5'6".

Overall lengths up to 28' can be fabricated in one piece and shipped via motor freight to almost any destination. Longer lengths requiring shipment in two or three sections shall be factory fitted with self aligning flush seam field joint, requiring no welding.

All poles are highly polished with fine grain aluminum oxide cloths resulting in a high quality deep luster finish. This extremely fine grain finish provides a elegant soft sheen while remaining maintenance free. Optional Duranodic and Clear anodizing finishes are available upon request as well as a full line of powder coating.

Upon completion of polishing, the poles are spiral wrapped in tire paper and shipment is made in a hard fiber tube to protect the finish. The unexposed portion of the shaft, which will be below grade, can be given a heavy coat of asphaltum paint if required.

**STANDARD FITTINGS.** Fittings listed below are standard on all ground mounted LTI internal halyard flagpoles.

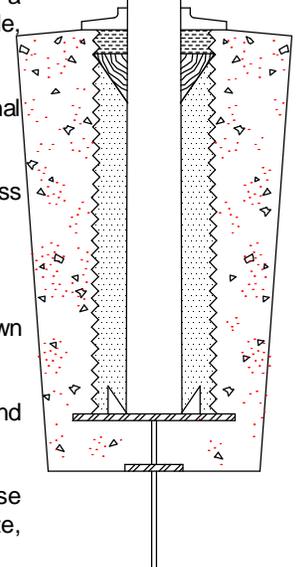
**TRUCK.** Cast of virgin aluminum and shall be one sheave revolving, non fouling, with 26 stainless steel ball bearings, and bronze bushing for halyard longevity.

**HALYARD.** 7x19 stainless steel aircraft cable, 1/8" dia., with stainless steel thimbles & links

**WINCH.** All stainless steel construction, with self locking mechanism, allowing the flag to be flown at any position.

**FLASH COLLAR.** The flash collar shall be spun aluminum alloy 5052-H32, of diameter and shape as detailed. The finish shall match that of the pole.

**GROUND SLEEVE.** Fabricated from #16 ga. galvanized steel with 3/8" steel base plate, whose square dimension is two inches larger than the sleeve diameter. All steel wedges, base plate, support plate and lightning ground rod shall be welded of dimensions as detailed.

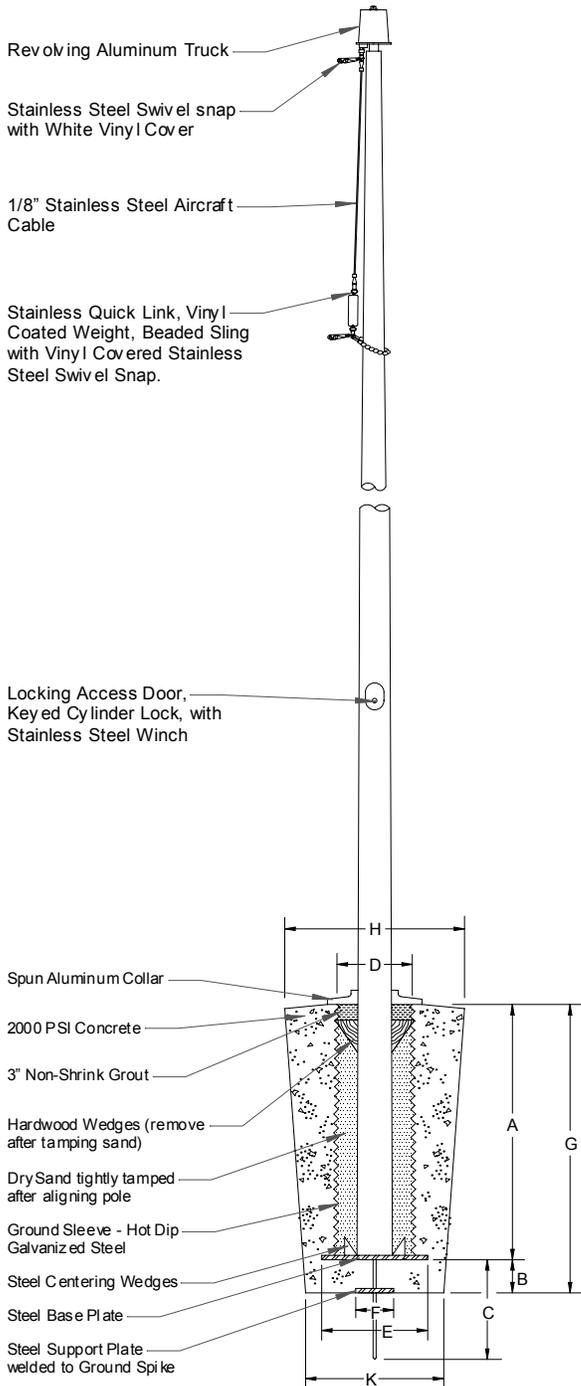


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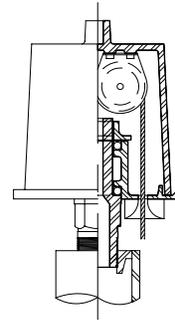
Quality Flagpoles Since 1885

# EXTRA HEAVY GROUND SET CONE TAPERED ALUMINUM FLAGPOLES WINCH CONCEALED HALYARD



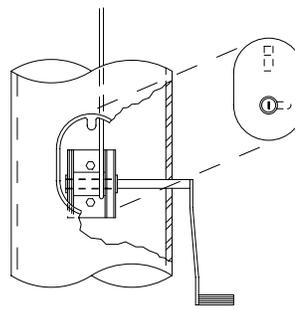
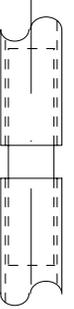
### REVOLVING NON-FOULING TRUCK DETAIL

Aluminum Body, non-fouling Internal Halyard Truck, cast aluminum body, 26 Stainless Steel Ball Bearings & 2 1/2" dia. plated Steel Sheave.

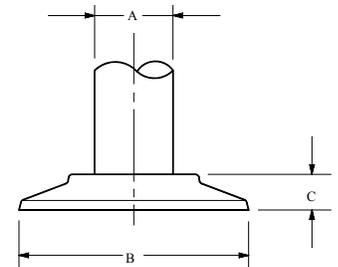


### SELF ALIGNING INTERNAL SLEEVE

This pre-fitted, shop machined sleeve is designed to allow for the field assembly, without welding, of large shafts which must be shipped in sections. Proper mating of the numbered parts will result in a fine



**Stainless Steel Winch**  
Direct Drive, Lockable in any position. Access Door with Six Tumbler Cylinder



**Spun Aluminum Standard Flash Collar**

A	B	C
5"-8"	15"	2.75"

### FOUNDATION DIMENSIONS

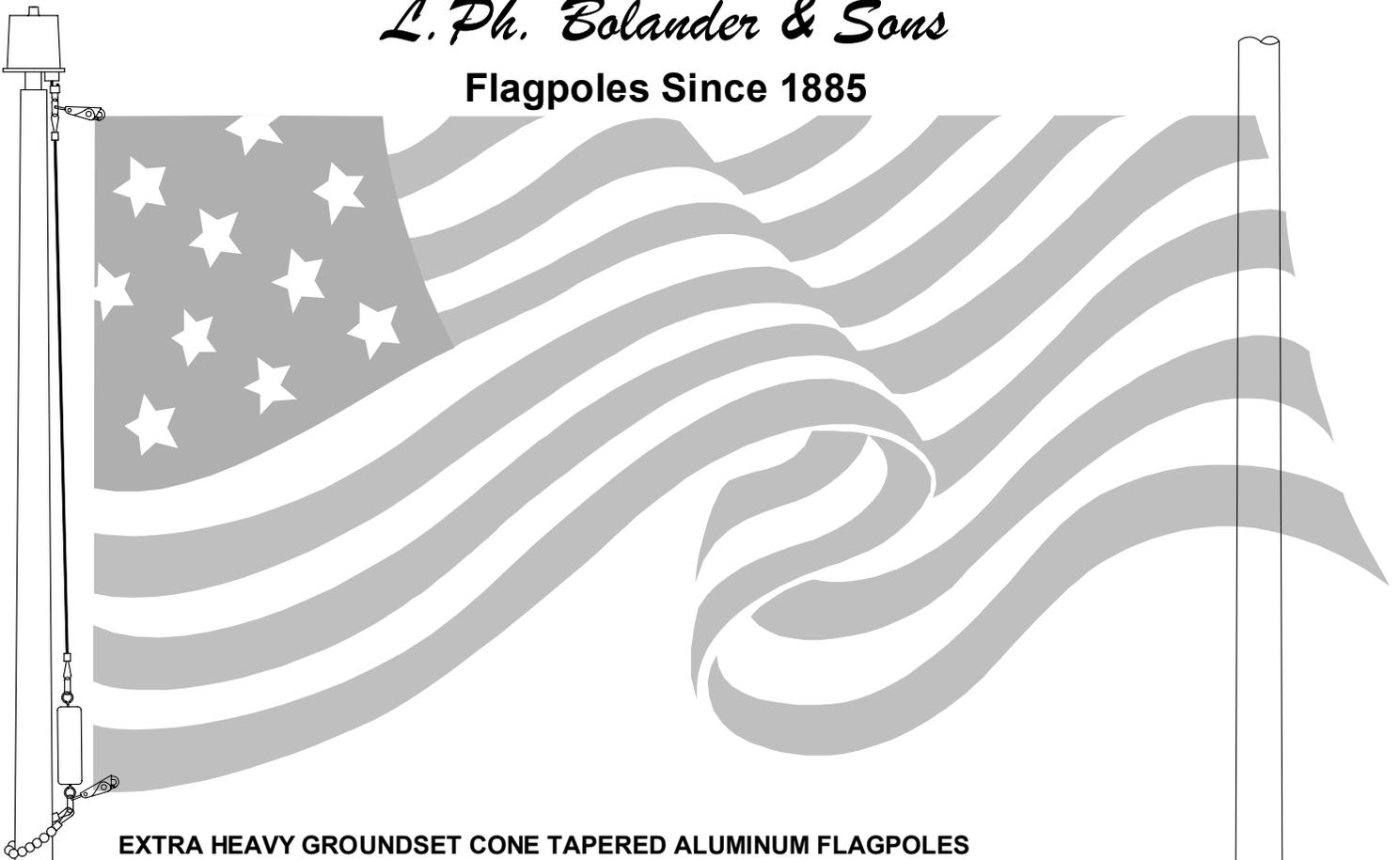
Exposed Height	A	B	C	D	E	F	G	H	K
20'	3'	6"	18"	8"	10"	4"	3'6"	24"	22"
25'	3'	6"	18"	8"	10"	4"	3'6"	28"	22"
30'	3'	6"	18"	10"	12"	4"	3'6"	30"	24"
35'	3'6"	6"	18"	10"	12"	4"	4'	30"	26"
40'	4'	6"	18"	12"	14"	8"	4'6"	36"	32"
45'	4'6"	6"	18"	12"	14"	8"	5'	42"	36"
50'	5'	6"	24"	15"	18"	8"	5'6"	48"	42"
60'	6'	6"	24"	15"	18"	8"	6'6"	48"	42"
70'	7'	6"	24"	15"	18"	8"	7'6"	60"	48"
80'	8'	6"	24"	15"	18"	8"	8'6"	60"	48"

These recommended foundations are only minimums. Dimensions may vary according to soil and wind conditions at location of installation.

Exposed Height	Overall Height	Diameter		Wall Thickness	Length		Halyard Dia.	Ship Sections	Ground Sleeve	Flag Size	Shipping Weight
		Butt	Top		Tapered	Straight					
HTI20'	23'	6"	3.5"	.156"	17'3"	5'9"	1/8"	1	10"	4'x6'	150#
HTIS25'	28'	6"	3.5"	.156"	17'3"	10'9"	1/8"	1	10"	4'x6'	155#
HTI25'	28'	6"	3.5"	.188"	17'3"	10'9"	1/8"	1	10"	4'x6'	178#
HTIS30'	33'	6"	3.5"	.156"	17'3"	15'9"	1/8"	1 or 2	10"	5'x8'	224#
HTI30'	33'	6"	3.5"	.188"	17'3"	15'9"	1/8"	1 or 2	10"	5'x8'	236#
HTIS35'	38'6"	7"	3.5"	.156"	20'	18'6"	1/8"	1 or 2	10"	5'x8'	263#
HTI35'	38'6"	7"	3.5"	.188"	20'	18'6"	1/8"	1 or 2	10"	5'x8'	281#

# L. Ph. Bolander & Sons

Flagpoles Since 1885



## EXTRA HEAVY GROUNDSET CONE TAPERED ALUMINUM FLAGPOLES

### Specifications

**GENERAL.** Bolander aluminum flagpoles are made from all new, heat treated, seamless 6063-T6 tubing and are designed to withstand winds of 160 MPH. All shafts are uniformly cone tapered approximately 1" in every 5'6".

Overall lengths up to 28' can be fabricated in one piece and shipped via motor freight to almost any destination. Longer lengths requiring shipment in two or three sections shall be factory fitted with self aligning flush seam field joint, requiring no welding.

All poles are highly polished with fine grain aluminum oxide cloths resulting in a high quality deep luster finish. This extremely fine grain finish provides a elegant soft sheen while remaining maintenance free. Optional Duranodic and Clear anodizing finishes are available upon request as well as a full line of powder coating.

Upon completion of polishing, the poles are spiral wrapped in tire paper and shipment is made in a hard fiber tube to protect the finish. The unexposed portion of the shaft, which will be below grade, can be given a heavy coat of asphaltum paint if required.

**STANDARD FITTINGS.** Fittings listed below are standard on all ground mounted HTI internal halyard flagpoles.

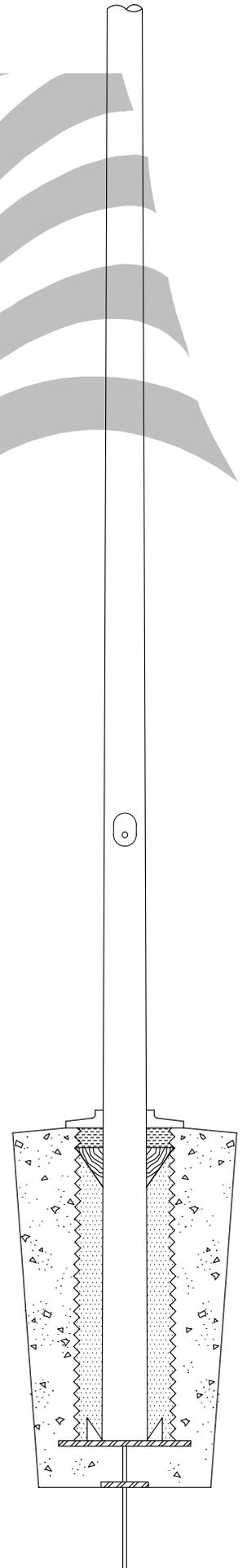
**TRUCK.** Cast of virgin aluminum and shall be one sheave revolving, non fouling, with 26 stainless steel ball bearings, and bronze bushing for halyard longevity.

**HALYARD.** 7x19 stainless steel aircraft cable, 1/8" dia., with stainless steel thimbles & links

**WINCH.** All stainless steel construction, with self locking mechanism, allowing the flag to be flown at any position.

**FLASH COLLAR.** The flash collar shall be spun aluminum alloy 5052-H32, of diameter and shape as detailed. The finish shall match that of the pole.

**GROUND SLEEVE.** Fabricated from #16 Ga. galvanized steel with 3/8" steel base plate, whose square dimension is two inches larger than the sleeve diameter. All steel wedges, base plate, support plate and lightning ground rod shall be welded of dimensions as detailed.



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Quality Flagpoles Since 1885

# EXTRA HEAVY GROUND SET CONE TAPERED ALUMINUM FLAGPOLES WINCH CONCEALED HALYARD

- Revolving Aluminum Truck
- Stainless Steel Swivel snap with White Vinyl Cover
- 1/8" Stainless Steel Aircraft Cable
- Stainless Quick Link, Vinyl Coated Weight, Beaded Sling with Vinyl Covered Stainless Steel Swivel Snap.

- Locking Access Door, Keyed Cylinder Lock, with Stainless Steel Winch

- Spun Aluminum Collar

- 2000 PSI Concrete

- 3" Non-Shrink Grout

- Hardwood Wedges (remove after tamping sand)

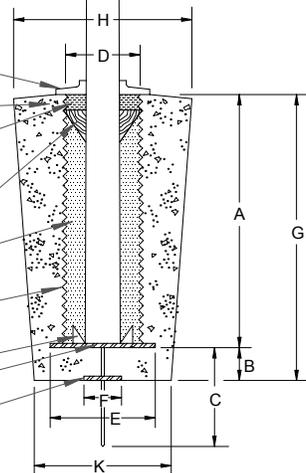
- Dry Sand tightly tamped after aligning pole

- Ground Sleeve - Hot Dip Galvanized Steel

- Steel Centering Wedges

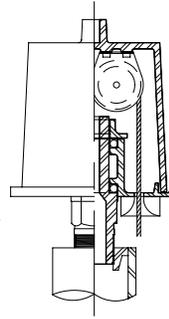
- Steel Base Plate

- Steel Support Plate welded to Ground Spike



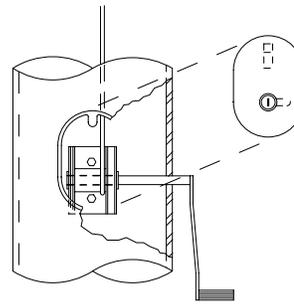
### REVOLVING NON-FOULING TRUCK DETAIL

Aluminum Body, non-fouling Internal Halyard Truck, cast aluminum body, 26 Stainless Steel Ball Bearings & 2 1/2" dia. plated Steel Sheave.

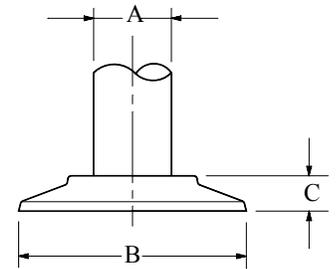


### SELF ALIGNING INTERNAL SLEEVE

This pre-fitted, shop machined sleeve is designed to allow for the field assembly, without welding, of large shafts which must be shipped in sections. Proper mating of the numbered parts will result in a fine



**Stainless Steel Winch**  
Direct Drive, Lockable in any position. Access Door with Six Tumbler Cylinder



### Spun Aluminum Standard Flash Collar

A	B	C
5"-8"	15"	2.75"
10-12"	22"	3.5"

### FOUNDATION DIMENSIONS

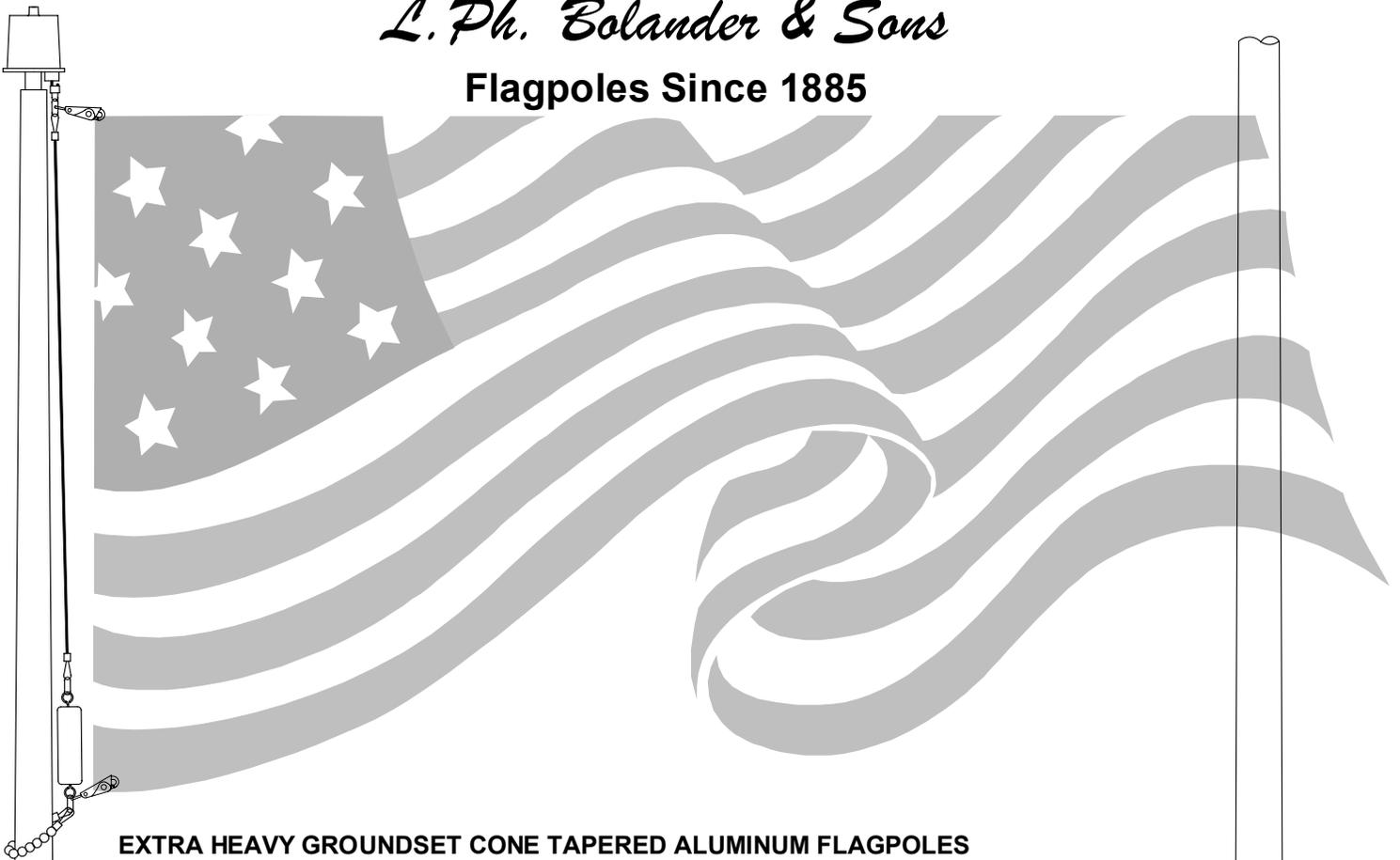
Exposed Height	A	B	C	D	E	F	G	H	K
20'	3'	6"	18"	8"	10"	4"	3'6"	24"	22"
25'	3'	6"	18"	8"	10"	4"	3'6"	28"	22"
30'	3'	6"	18"	10"	12"	4"	3'6"	30"	24"
35'	3'6"	6"	18"	10"	12"	4"	4'	30"	26"
40'	4'	6"	18"	12"	14"	8"	4'6"	36"	32"
45'	4'6"	6"	18"	12"	14"	8"	5'	42"	36"
50'	5'	6"	24"	15"	18"	8"	5'6"	48"	42"
60'	6'	6"	24"	15"	18"	8"	6'6"	48"	42"
70'	7'	6"	24"	15"	18"	8"	7'6"	60"	48"
80'	8'	6"	24"	15"	18"	8"	8'6"	60"	48"

These recommended foundations are only minimums. Dimensions may vary according to soil and wind conditions at location of installation.

Exposed Height	Overall Height	Diameter		Wall Thickness	Length		Halyard Dia.	Ship Sections	Ground Sleeve	Flag Size	Shipping Weight
		Butt	Top		Tapered	Straight					
HTIS40'	44'	8"	3.5"	.156"	29'1"	14'11"	1/8"	2	12"	6'x10'	325#
HTI40'	44'	8"	3.5"	.188"	29'1"	14'11"	1/8"	2	12"	6'x10'	346#
HTI45'	49'6"	8"	3.5"	.188"	32'8"	16'10"	1/8"	2	12"	6'x10'	375#
HTI50'	55'	10"	4"	.188"	37'2"	17'10"	1/8"	3	15"	8'x12'	547#
HTI60'	66'	12"	4"	.250"	60	6'	1/8"	3	15"	10'x15'	699#
HTI70'	77'	12"	4"	.250"	66'6"	10'6"	1/8"	3	15"	12'x18'	876#
HTI80'	88'	12"	4"	.375"	77'6"	10'6"	1/8"	3	15"	15'x25'	1153#

# L. Ph. Bolander & Sons

Flagpoles Since 1885



## EXTRA HEAVY GROUNDSET CONE TAPERED ALUMINUM FLAGPOLES

### Specifications

**GENERAL.** Bolander aluminum flagpoles are made from all new, heat treated, seamless 6063-T6 tubing and are designed to withstand winds of 160 MPH. All shafts are uniformly cone tapered approximately 1" in every 5'6".

Overall lengths up to 28' can be fabricated in one piece and shipped via motor freight to almost any destination. Longer lengths requiring shipment in two or three sections shall be factory fitted with self aligning flush seam field joint, requiring no welding.

All poles are highly polished with fine grain aluminum oxide cloths resulting in a high quality deep luster finish. This extremely fine grain finish provides a elegant soft sheen while remaining maintenance free. Optional Duranodic and Clear anodizing finishes are available upon request as well as a full line of powder coating.

Upon completion of polishing, the poles are spiral wrapped in tire paper and shipment is made in a hard fiber tube to protect the finish. The unexposed portion of the shaft, which will be below grade, can be given a heavy coat of asphaltum paint if required.

**STANDARD FITTINGS.** Fittings listed below are standard on all ground mounted HTI internal halyard flagpoles.

**TRUCK.** Cast of virgin aluminum and shall be one sheave revolving, non fouling, with 26 stainless steel ball bearings, and bronze bushing for halyard longevity.

**HALYARD.** 7x19 stainless steel aircraft cable, 1/8" dia., with stainless steel thimbles & links

**WINCH.** All stainless steel construction, with self locking mechanism, allowing the flag to be flown at any position.

**FLASH COLLAR.** The flash collar shall be spun aluminum alloy 5052-H32, of diameter and shape as detailed. The finish shall match that of the pole.

**GROUND SLEEVE.** Fabricated from #16 Ga. galvanized steel with 3/8" steel base plate, whose square dimension is two inches larger than the sleeve diameter. All steel wedges, base plate, support plate and lightning ground rod shall be welded of dimensions as detailed.

