

ADJUSTABLE MASTS

- **Rugged and Stable.**
- **Easily disassembled and Transported.**
- **Versatile.**

The ASI Type 8149 telescoping mast assembly is designed to provide a readily portable adjustable mast assembly for supporting optical and electronic equipment in a fixed position. Individual mast sections are 24 inches long with removable baseplate and positioner assemblies. The entire mast assembly can be packaged in a container with approximate inside dimensions of 24 inches x 14 inches x 8 inches.

The Type 8149 consists of rectangular steel tubing of 4 telescoping sections. Each tubing face is perforated one inch on center to provide for latch pins and to reduce weight. The standard assembly is adjustable in 1 inch increments from approx 36 to 80 inches and options are available that offer ranges of 12 to 120 inches. Five latch pins each 3/8 inch diameter are standard.

The Type 8149 is equipped with a light duty azimuth positioner graduated in 5 degree increments from 0 to 180 degrees. A +/- 10 degree elevation axis provides elevation adjustment.

Elevation adjustment is accomplished thru a worm driven gear actuated by a 1 1/2" dia. knob. This yields a 5.6:1 ratio that allows very fine elevation adjustment. Two knurled knobs (one each side) are provided to secure the elevation axis.

For azimuth bearing, the standard positioner uses two six inch diameter aluminum hubs with a sheet of lubricating polymer sandwiched in between. A 3/8 inch diameter stainless steel screw provides the rotation axis and locking means. For applications where a more substantial bearing capability is desired, or where eccentric loads must still turn relatively free, option 01 offers three stainless steel, ball bearing, guide rollers equally spaced around the azimuth plate. Option 01 also includes a clamp to secure the turntable at the desired azimuth, and an azimuth indicator. Moments up to approximately 200ft-lbs are conveniently accommodated by use of option 01.

When ordered with option 01, the upper bearing plate is increased in diameter from 6 inches to 6-5/8 inch diameter to accommodate the guide roller assembly and the azimuth locking device.

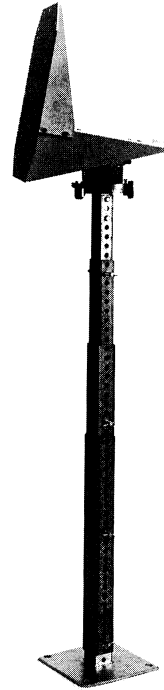


Fig. 1. ASI Type 8149 mast shown with 8157 support and Option 01 (heavy azimuth bearing).

A 10 x 10 inch rectangular baseplate with eight mounting holes and a 6 x 7 inch mounting head plate are standard. The Type 8157 mounting plate mates directly with the standard head plate and provides approximately +/- 2" horizontal position adjustment to help balance a wide range of instrument loads about the elevation axis.

The Type 8157 mounting plate also provides a vertical mounting surface approximately 18 x 18 inches, prepunched with several 3/8 in. and 1/4 in. dia. hole patterns to provide for mounting a variety of instrument packages. The Type 8157 plate is constructed of wrought aluminum alloys approximately 1/8" thick with gold "iridite" chromate finish. Individual parts bolt together with stainless steel machine screws (supplied) to enhance portability. When the Type 8157 is disassembled (normally supplied disassembled), it can be packaged together with the 8149 mast in a container with inside dimensions of approximately 24 x 18 inches.

To provide additional stability or for light duty outdoor applications, two adjustable braces are available as option 02. Each brace consists of three pieces of punched aluminum angle, each 24 inches long, to provide braces adjustable from 4ft. to 5ft. long in 2 inch increments. Joining hardware and hardware to mount to the mast are included. A 7/16 inch diameter hole is provided in each angle face for fastening to the support structure. No hardware is provided for this end but a suitable lag screw or other fastener is recommended. For outdoor use, a set of eight 3/8 dia. aluminum stakes with collars to provide a bearing surface are available as option 03.

When used outdoors, four braces are recommended with three base pins in medium to heavy soil. Options 02 and 03 are not normally suitable for use in sandy soil.

A foam fitted aluminum transit case is available as option 04. External dimension are 26 x 18 x 8.5 inches. Net weight is 14 lbs empty and 74 lbs with all options and mounting heads. Without options 2 & 3, total weight is approximately 62 lbs. the carrying case is equipped with secure latches and a security lock.

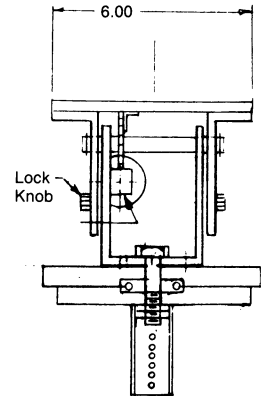
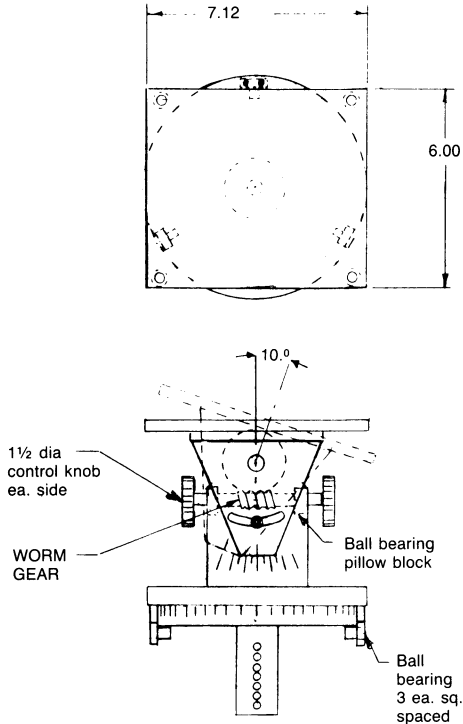
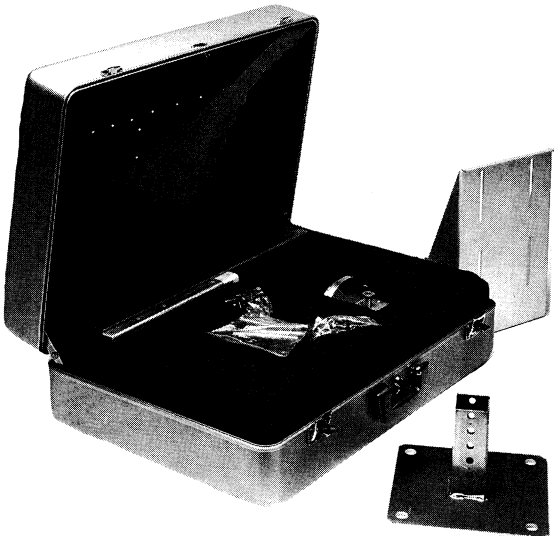
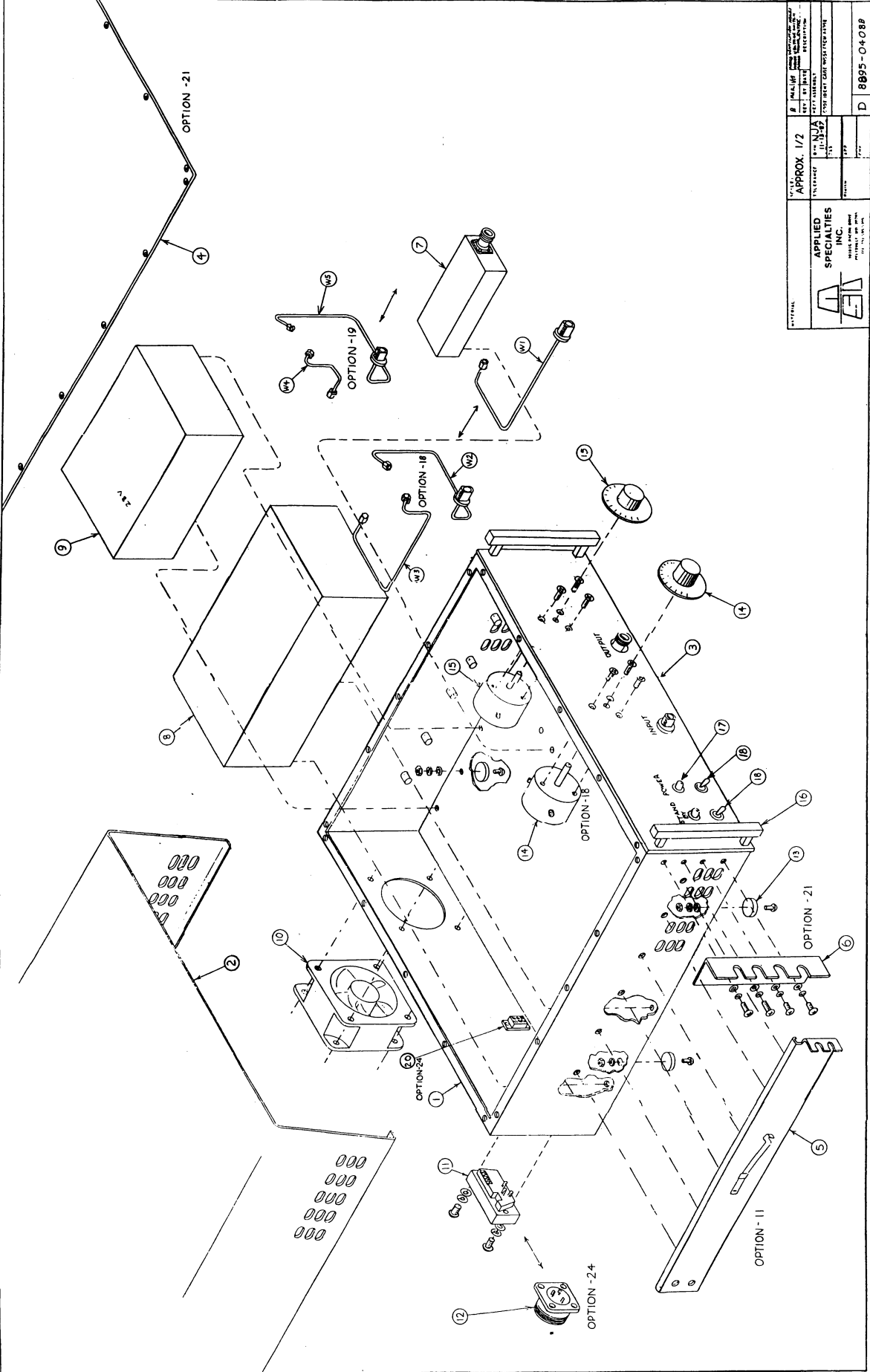


Fig. 2 Detail of Option 01 for Type 8149 mast assembly.

Specifications Type 8149/8157 Support System

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|------------------------|---|
| Extension Range | 35 1/2 inch to 80 1/2 inch |
| Increment | one inch |
| Weight | 48 lbs. (no option) 75 lbs. (all options) |
| Maximum Moment | 720 ft./lbs. |
| Recommended max moment | 500 ft.-lb. |
| Shear force at head | 386 lbs., 200 max recommended |
| Finishes: | Painted steel tube Chromate conversion-coated aluminum |
| Azimuth Range | 360 deg. continuous |
| Aximuth indicator | 180 deg. range 2.5 deg. resolution |
| Elevation Range | ± 10 deg. |
| Elevation indicator | ± 10 deg., 2.5 deg. resolution |
| Options available: | |
| 01 | Heavy azimuth bearing (adds 5 lbs) |
| 02 | Set of 2 braces (5.2 lbs) |
| 03 | Aluminum stakes (2.6 lbs) |
| 04 | Transit case (14 lbs) |
| 05 | Station marking (0 lbs) |





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| APPLIED SPECIALTIES INC. 100 WEST 10TH AVENUE NEW YORK, N.Y. 10011 | | APPROX. 1/2 N.J.A. 11-13-67 | PART NO. 8895-04-088 REV. 10-1-67 BY: [unclear] CHECKED BY: [unclear] |
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