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Fiberglass Ultralite Prism Poles with TLV Locking Mechanism
SECO and Crain have combined technologies to introduce the Ultralite, ${ }^{\text {TM }}$ the lightest, most user-friendly, pole on the market. The inner and outer poles are constructed of lightweight nonconductive fiberglass.

Newly redesigned TLV ${ }^{\text {™ }}$ (Twistlock with vial) reduces weight while providing the same locking function users have grown to expect from SECO.

Features include Topo Boot, 40-minute adjustable vial, a soft touch knob, and adjustable $5 / 8 \times 11$ tip.

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## 10-Meter RTK Radio Antenna Pole

 \#90036Designed to hold a standard radio antenna at up to 10 meters, extending your RTK range.

Features non-conductive strong fiberglass tube sections for safety.

Kit contains:
1 ea 10 m telescopic pole, 1 ea bottom point,
2 ea guy rings,
4 ea 30 ft ratcheting ropes with quick snaps, 4 ea 40 ft ratcheting ropes with quick snaps, 4 ea velcro straps for cable management 1 ea rope bag.

Complete kit weighs 13 lb


## Basics Plus Prism Poles

These 'no-frills' quality poles are designed to give you tremendous value at a lower cost.

They feature adjustable tips, hardened steel points, your choice of TLV-style or compression locking, and standard red and white paint.

## BASICS푸

## Basics Plus ThumbRelease Prism Pole Bipod \#5217-40-YEL

A surveyor can set up a free-standing GPS antenna pole or prism pole. 1-to-1.25-inch (25.4-to-31.8-mm) OD poles attach easily through the open clamp.

The legs
(independently) extend to 6 feet ( 1.8 m ) and collapse to 43 inches ( 109 cm ).

Available colors: red, yellow, flo yellow, and flo orange.

Weighs $4.25 \mathrm{lb}(1.93 \mathrm{~kg})$
BASICS+

## Reflector Pin Pole Kit

\#5910-10
This new Reflector Pin Pole kit is ideal for use with reflectorless total station instruments.

The target holder is machined anodized aluminum and allows the target to tilt $360^{\circ}$.
A 40-minute vial is built in.
Comes with four
aluminum 30 cm pole sections, prism and system case.

The 5 cm point is a special three piece nonconductive design.

Weighs 1.45 lb ( 0.66 kg )


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## Apache Optical Instruments

SECO is now carrying a full line of Apache optical instruments.

Whether you need a theodolite, construction laser and receiver, or an auto level, we've got you covered with these high-quality measuring products.

## Basics Plus ThumbRelease Tripod <br> \#5218-40-FLY

The Thumb-Release Tripod uses the same thumb action release and lock mechanism as the Thumb-Release Bipod on page 30.

1-to-1.50-inch (25.4-to-38.1-mm) OD poles thread easily through the open clamp on top.

The legs
(independently) extend to $6 \mathrm{ft}(1.8 \mathrm{~m})$ and collapse to 43 in ( 109 cm ).

Available colors: red, yellow, fluorescent yellow, and fluorescent orange.

Weighs $6 \mathrm{lb}(2.6 \mathrm{okg})$

## Dual Scale Leveling Rod

\#7341-52 - 5 meter ( 16 ft ) Dual Scale ' $E$ ' pattern/inches and eighths
This all-aluminum dual scale leveling rod features a 5 -meter ' $E$ ' pattern on the front and 16 -foot graduations in inches and eights on the back.

Its five sections lock in place with durable polycarbonate buttons.

The metric side features standard black/white/red printing making it clear and easy to read.

The inches side uses yellow/black/red printing offering a strong contrasting pattern for sharp visibility.

Included with this leveling rod are a carrying bag and a level vial.

Weighs $3.25 \mathrm{lb}(1.47 \mathrm{~kg})$

## Lightweight Cut and Fill Rods

\#7310-10 - Cm and mm grads \#7310-11 - Inches and Eighths \#7310-12 - 10ths and 100ths
These lightweight aluminum Cut and Fill rods make finish grading easy.

The red section is a 'Cut' value from grade with a range of $1 \mathrm{ft} 7 \mathrm{in}(0.48 \mathrm{~m})$. The clear lower section is a 'Fill' value from grade with a range of 2 ft 2 in ( 0.66 m ).

The rods collapse to 2 ft 8 in $(0.81 \mathrm{~m})$ and extend to 6 ft 2 in $(1.88 \mathrm{~m})$. End to end the collapsed length is 4 ft 3.50 in ( 1.31 m ).

These feature a graduated telescoping bottom section that locks in place with a durable metal clamp screw. The rods also feature a built-in circular vial. Weighs 1.3 lb ( 0.59 kg )

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## Mini Rod

\#5010-01
Handheld rod features height of $120 \mathrm{~mm}, 40-\mathrm{min}$ vial and removable tip.

## Total Station Rucksack <br> \#8120-30-ORG - Standard Size <br> \#8120-40-ORG - Large Size

The Total Station Rucksack is similar to a lightweight day pack.

The main compartment features an innovative 'wrap' made of $3 / 8$ - inch high-density foam with hook and loop adjustment that securely cradles all total stations up to 400 mm in height.

Also features extra pockets and Rhinotek bottom. See page 77 for more details.

Weighs
$2.40 \mathrm{lb}(1.10 \mathrm{~kg})$
Made at Geo de SECO, Mexico.

## Heavy-Duty GPS Antenna Tripods

\#5119-10-FLY — Standard Model, Fluorescent Yellow or Yellow
\#5119-11-FLY - with Precise Adjusters, Fluorescent Yellow or Yellow
\#5119-12-FLY - with Precise Adjusters and Dual Points, Fluorescent Yellow or Yellow
This tripod is similar to the popular SECO 5119-oo-FLY (next page), but stronger. This heavy-duty tripod features a 6 -inch-OD, round head which easily holds lasers or robots.

Its larger telescoping legs (1.25- to 1.50 -inch diameters) feature adjustable handle bolts on the leg pivots creating greater stability. No tools are needed to set the leg pivot tension!

The \#5119-11-FLY has the same standard features as the \#5119-10-FLY but includes precise adjusters to make centering the 8minute vial easier. The adjusters provide fine leg extension, a range of $\pm 0.25$ inch from the center line. It's like having leveling screws for a tripod!

The \#5119-12-FLY is identical to the \#5119-11-FLY with the addition of double leg points (shown at right). Dual points create more bite in the ground and minimize the chance for twisting. Double points are useful with angle measuring instruments such as robots.

All three models are suitable for GPS and machine-control applications. Colors available: fluorescent yellow (FLY) or yellow (YEL).

Each weigh approximately $20 \mathrm{lb}(9.07 \mathrm{~kg})$

## Heavy-Duty GPS

 Tripod Bag\#8154-12-ORG
Make sure your heavy-duty SECO GPS Tripod is protected in this extra-tough Tripod Bag.

This bag features heavy-duty Cordura ${ }^{\circledR}$ material and Rhinotek ${ }^{\mathrm{TM}}$ end pieces for superior strength and longevity. It includes a shoulder strap.

Measures: 8 inch ID x 56 inches. Weighs 1.8 lb ( 0.82 kg )
Made at Geo de SECO, Mexico.


The \#5119-12-FLY features the precise leg adjusters and double leg points

Adjusts to 2, 1.8, and 1.5 m and collapses to 139.7 cm (55 inches)!

Large 6-inchdiameter head

## GPS Accessories

## Heavy-Duty Fixed-Height GPS/MC Antenna Tripod

\#5115-10-FLY - Fluorescent Yellow
\#5115-10-YEL — Yellow
This tripod is the heavy-duty version of SECO's original 2-meter, GPS tripod (below).
The fixed-height center pole measures 2 meters and rotates $360^{\circ}$ for calibration checking. It comes with an 8-minute circular vial. A compass is included as part of the handle set.

The large telescoping legs have a 1.25 -to-1.50-inch diameter and extend to 3.2 meters ( 10.5 feet); its large round head measures 6 inches in diameter and features a removable brass $5 / 8 \times 11$ stud.

This tripod is suitable for machine control instruments, scanners, lasers, robots, prism backsights; anything that needs to be plumbed over a point. Weighs 24.2 lb ( 11 kg )

Heavy Duty Fixed-Height GPS Antenna Tripod with Precise Adjusters (not shown) \#5115-11-FLY - Fluorescent Yellow
\#5115-11-YEL - Yellow

Standard Fixed-Height GPS Antenna Tripod
\#5115-00-FLY — Fluorescent Yellow
\#5115-00-YEL - Yellow
This tripod has a fixed-height, 2-meter center staff that rotates $360^{\circ}$ for calibrating the 8 -minute vial. It also features a removable $5 / 8 \times 11$ adapter, and an on-board compass.

The extendable tripod legs and the pole are electrostatically powder painted and include replaceable points. The aluminum hardware is anodized black. Weighs $15 \mathrm{lb}(6.8 \mathrm{~kg})$

Extra Large Tripod Bag — \#8153-10-ORG (also available in green)

0
Tech Tips available at www.surveying.com
The bag features a full-length zipper and shoulder strap.
Measures: 82 x 9 OD inches ( $208.28 \times 22.86$ OD cm)
Made at Geo de SECO, Mexico.

Note: GPS tripod bags are designed to hold the tripod without the point on the center pole to prevent damage to the pole.

## Graduated Collapsible GPS Antenna Tripod

\#5119-00-FLY — Fluorescent Yellow<br>\#5119-00-YEL — Yellow

This tripod features a collapsible center staff with twist-locking mechanism that rotates $360^{\circ}$ for calibrating the 8 -minute vial. It also features quick release and twist-locking mechanisms on the legs. It is dual graduated and adjusts to three heights: $2 \mathrm{~m}, 1.8 \mathrm{~m}$, and 1.5 m . It collapses to 50 inches ( 127 cm ). Other features include a removable $5 / 8 \times 11$ adapter, and an on-board compass. The extendable tripod legs and the pole are electrostatically powder painted and include replaceable points. The aluminum hardware is anodized black. Weighs $15 \mathrm{lb}(6.8 \mathrm{~kg}$ )

GPS Antenna Tripod Bag - \#8154-00-ORG (also available in green)
The bag features a full-length zipper and shoulder strap. Measures: $50 \times 7$ OD inches ( 127 x 17.78 OD cm). Made at Geo de SECO, Mexico.


CORS, Co-op CORS and private GPS network reference stations are being put together all over. To make the set up simpler SECO now manufactures CORS monument adapters that fit easily to threaded pipe or mount to masonry. There's no need to fabricate adapters - we have a professional solution that is simple and will provide years of stability and accuracy. Choose between anodized aluminum or stainless steel, pipe-fit or masonry mount.

## Adjustable-Tilt, Stainless Steel Monument Adapters

\#2072-30 — use with 1.5-inch pipe with MPT 1-1/2 x 11-1/2 TPI — Weighs $5.5 \mathrm{lb}(2.5 \mathrm{~kg})$
\#2072-31 - use with 2-inch pipe with MPT $2 \times 11-1 / 2$ TPI — Weighs $6.6 \mathrm{lb}(3 \mathrm{~kg})$
\#2072-32 - use with 3-inch pipe with MPT 3-1/2 x 8 TPI — Weighs $6.9 \mathrm{lb}(3.1 \mathrm{~kg})$
\#2072-33 — use with male 5/8 x 11 TPI — Weighs $6.2 \mathrm{lb}(2.8 \mathrm{~kg})$
Like the adapters below, these Adjustable-Tilt Monument Adapters are a perfect, professional solution to fit between your GPS antenna and the mast of your network monument.

The adapters in the \#2072-Series have 3.20 -inch ( 8.19 cm ) diameters and overall heights of 3.036 inches ( 7.71 cm ). They include a removable brass $5 / 8 \times 11$ male stud that is adjustable in azimuth and held in location by two set screws.

The adapters are leveled by three adjusting screws with a tilt range $+/-7$ degrees. The height above the pivot point to the stud shoulder is 1.37 inches ( 3.50 cm ). The height below the brass $5 / 8$ stud to the shoulder is 0.463 inches $(1.18 \mathrm{~cm})$.

The axis height is engraved on the outside of the monuments.

## 40-Minute Leveling Vial \#2072-050

This durable all-aluminum vial features $5 / 8 \times 11$ threads. Leveling a monument adapter is simple: attach, level, rotate $180^{\circ}$ to check calibration. Weighs $0.3 \mathrm{lb}(0.14 \mathrm{~kg}$ )

## Antenna Mast Adapter

\#2072-10
Use the adapter for network GPS antenna mounts.

It's easy to install, it attaches to standard 2-inch threaded pipe used as the 'mast'.

The brass rotating adapter is removable and locks in the azimuth direction.

The body is made of anodized aluminum.

Weighs 2.0 lb ( 0.91 kg )

| All-Terrain Rover Rod $19 \times 1-5 / 8$ Inch 'Big Wheel' \#5125-056 - Without Rod |  |
| :---: | :---: |
| Add a rover top section: \#5125-057-FLY - Aluminum Rod \#5128-052 - Carbon Fiber Rod |  |
| The Big Wheel is ideal for RTK profiling. Weighs $3.8 \mathrm{lb}(1.72 \mathrm{~kg})$ |  |

## 6-Foot Snap-Lock

 Radio Antenna Pole\#5139-02-FLY — Fluorescent Yellow \#5139-02-YEL — Yellow
The snap locks into a fixed length of 6 feet. It collapses to 41.5 inches. A 3.5 -inch OD adapter (\#5182-002) is included for attaching to $5 / 8 \times 11$ tripod heads.

Weighs $1.4 \mathrm{lb}(0.62 \mathrm{~kg})$


## Satellite Stick XL -

 Sectional 2-Meter GIS Pole \#5126-10The Satellite Stick ${ }^{\mathrm{TM}}$ XL is composed of six, 1 -inch OD carbon fiber sections connected by an elastic shock cord. Collapses to 37.5 cm ( 1.23 ft ).
 \#D11145

## Snap-Lock Rover Rods

These rover rods are faster to setup and more user friendly compared to traditional twopiece, screw-together rods. They feature a one-piece design and two locking systems for stability, the snap lock prevents slippage and the compression lock centers the telescopic inner pole and maintains straightness. These lightweight rods come with a 40-minute vial.

## Aluminum Model

\#5125-20-FLY - GT
\#5125-22-FLY - 3-Position
The aluminum model telescopes and locks at 2 meters and collapses to 1.354 meters. The GT model features a 10ths/ 10oths graduated outer pole. Other color options may be available. A GM (metric) model is also available.

Weighs $2.30 \mathrm{lb}(1.05 \mathrm{~kg})$
Carbon Fiber Model \#5128-20 - GM
\#5128-21 — Quick Release Tip \#5128-22 - 3-Position

This model telescopes and locks at 2 meters and collapses to 1.354 meters. The 3-position locks at $2,1.8$ or 1.6 meters. Carbon fiber is strong, dent resistant and has a 'zero' coefficient of expansion.

Weighs $1.60 \mathrm{lb}(0.73 \mathrm{~kg})$
Fiberglass Model \#5128-23
The Fiberglass Snap-Lock Rover Rod is lighter than aluminum and, like carbon fiber, is non-conductive. The yellow fiberglass rod telescopes and locks at 2 meters and collapses to 1.343 meters.

Weighs 1.65 lb ( 0.75 kg )

## GPS Accessories

## Telescoping GPS Carbon Fiber Rover Rods with Locking Pin

These are designed so the GPS surveyor has all the features needed in a single rod! They're ideal for kinematic surveys and have a zero height (o H.T.). Carbon fiber makes these $30 \%$ lighter. The included pin can set the length of the rod. TLV ${ }^{\mathrm{TM}}$ locks with 40 -minute vials are standard.

## \#5129-50 (Dual Graduations) or \#5129-51 (Centimeter Graduations)

The 5129-50 and -51 lock at $1.8 \mathrm{~m}, 2 \mathrm{~m}$ and 2.2 m . The \#5129-50 has dual graduations, 2 mm and 10ths. The \#5129-51 is graduated in centimeters. The rods extend $2.48 \mathrm{~m}(8.14 \mathrm{ft})$ and collapse to 1.366 m ( 4.48 ft ). Weighs 2.3 lb ( 1 kg )
\#5129-70 (Dual Graduations) or \#5129-71 (Centimeter Graduations)
The 5129-70 and -71 lock every $20-\mathrm{cm}$ starting at 1.8 m . The \#5129-70 has dual graduations, cm and 0.05 ft . The \#5129-71 is graduated in centimeters. The rods extend $3.57 \mathrm{~m}(11.7 \mathrm{ft})$ and collapse to 1.43 m ( 4.69 ft ). Weighs $3.3 \mathrm{lb}(1.5 \mathrm{~kg}$ )

Don't forget a case (\#8160-02) for your rover! Made at Geo de SECO, Mexico.

## Two Piece Carbon Fiber Rover Rod \#5128-00

This featherweight is ideal for GPS applications.
The rover rod is a fixed height of 2 meters. Includes 40minute vial and a male $5 / 8 \mathrm{x}$ 11 tip.

Weighs 1.42 lb ( 0.64 kg )
Two Piece
Aluminum Rover Rod
\#5125-00-YEL
This rod features a $40-$ minute vial, $5 / 8$ x 11 tip, vinyl hand grip, and replaceable steel point.

This model is also available with a quickRods are also available with $.625 \times 1.6$-in ( 1.6 x 4.1-cm) slots to hide the cables inside so they're protected and out of the way! \#5125-06-YEL (aluminum) \#5128-08 (carbon fiber) release adapter tip option, \#5125-01-YEL. (shown)

The quick release adapter stays fixed to the GPS antenna. The quick release pin prevents the antenna from rotating.

Outer grads options: GT/GM
Weighs $3 \mathrm{lb}(1.36 \mathrm{~kg})$

GPS Adapters (check for more online @ www.surveying.com)


## Triple Mag Mount

\#5114-01 (shown) \#5114-02 (w/ 5/8-in tip)

This lightweight magnetic mount system adapts easier to curved surfaces. The quick-release adapter allows for quick setups.

Weighs $3.4 \mathrm{lb}(1.54 \mathrm{~kg})$
Magnets rated at 120 pounds pull on $1 / 2$-inch steel plate.

## 8-minute Vial Assembly for 1.25-inch OD Poles <br> \#5081-052-08 <br> This assembly is for 1.25 -inch OD poles.



## Snap-Lock Pole System Bag \#8151-02-FLY

This heavy-duty bag holds a 2-meter Snap-Lock rod or pole and bipod or tripod connected. It's constructed of tough Cordura ${ }^{\circledR}$ material and Rhinotek ${ }^{\mathrm{TM}}$ ends. Measures: 5.5 inches ID x 56 inches ( 13.97 cm ID x 139.7 cm ). Weighs $1.5 \mathrm{lb}(0.68 \mathrm{~kg})$. Made at Geo de SECo, Mexico.


## 2-Meter Height Pin <br> \#7751-50

The height pin, with its 1-mm accuracy, is ideal for measuring antenna heights. Its dual grads are in 10oths and millimeters. The Height Pin is 6.6 feet ( 201 cm ) long and only 16.5 inches ( 43 cm ) when collapsed.

Weighs $0.3 \mathrm{lb}(0.14 \mathrm{~kg})$


## Switchable Kelly Magnet <br> \#5114-052

Designed to hold on to pipes, flip the switch to release its hold on metal surfaces.

Weighs 0.92 lb ( 0.42 kg )

## HI 2-Meter GPS <br> Pocket Rod/Tape <br> \#7752-00

This removable, free-standing tape measures GPS antenna height or is used as a pocket tape. The tape is a dual grad - $\mathrm{ft} / 10 \mathrm{ths} /$ 100ths and $\mathrm{cm} / \mathrm{mm}$.

Weighs $0.25 \mathrm{lb}(0.11 \mathrm{~kg})$

## 10-Meter RTK Radio Antenna Pole

 \#90036Designed to hold a standard radio antenna at up to 10 meters, extending your RTK range.

Features non-conductive strong fiberglass tube sections for safety.

Kit contains:
1 ea 10 m telescopic pole
1 ea bottom point
2 ea guy rings
4 ea 30 ft ratcheting ropes with quick snaps
4 ea 40 ft ratcheting ropes
with quick snaps
4 ea velcro straps for cable
management
1 ea rope bag
Complete kit weighs 13 lb


## GPS Antenna Platform <br> \#2072-40

The platform creates a very stable setup using standard cinder blocks* as weights (sand bags may also be used).

It is ideal for network reference station installers who want to evaluate a site for multipath before committing to the installation.

The platform can be used for private network sites where the building owner does not want any permanent attachment to their building.

It can be used as a temporary site for local networks, construction sites, AG sites, etc.

The mast is 36 inches ( 91.44 cm ) long with standard 2 -inch pipe threads. Sections can be added for more height.

It comes with removable $5 / 8 \times 11$ adapter.

This platform folds up for portability and includes tools and a system carrying bag.

Platform sections hold
$8 \times 16-$ in ( $20.32 \times 40.64 \mathrm{~cm}$ ) cinder blocks.
Weighs (without blocks) 25 lb (11.34 kg)
*Cinder blocks not included.

## Pole Bracket Kit for Pathfinder ProXRT

\#5198-100
This pole bracket kit holds the Trimble ${ }^{\circledR}$ GPS Pathfinder ${ }^{\circledR}$ ProXRT receiver securely to any standard rover rod.

It is easy to attach and adjust the height on the rover rod. It comes with two pole clamps, one clip and two screws and the ProXRT is predrilled for the extra clip.

The pole clamps are made of machined anodized aluminum with stainless steel clamp screws and fit rover rods with 3/4-in (1.90 cm ) to $1-1 / 4-$ in $(3.17 \mathrm{~cm})$ diameters.

Weighs $0.40 \mathrm{lb}(0.18 \mathrm{~kg})$


## Antenna Bracket

\#2133-03
The open clamp attachment allows quick and easy connection to the pole. It connects to 1-to-1.25 inch ( 25.4 -to- 31.8 mm ) OD poles. The brass male $5 / 8 \times 11$ captive stud is easily removed for direct attachment of the radio antenna to the bar. The bracket comes with a non-slip Velcro ${ }^{\circledR}$ cable strap (\#8124012) to help manage the radio cable.

Weighs $0.22 \mathrm{lb}(0.10 \mathrm{~kg})$
It can be used with the SECO Radio Antenna Adapter (\#2133-00) which adapts $1-1 / 8 \times 18$ radio antennas to any $5 / 8 \times 11$ threaded tip.

## Radio Antenna Bracket for Tripod

\#2133-05

This bracket holds a radio antenna securely to a tripod leg. The heavy-duty bracket makes plumbing the antenna easy. It fits all full-size and heavy-duty tripods and uses a $1 / 2$-inch-long, $5 / 8 \times 11$ male stud to secure the antenna or extension.

It can be used with the SECO
Six-Foot Snap Lock Radio
Antenna Pole (5139-02-


Tech Tips available at www.surveying.com

## Antenna Mast Bracket \#2133-10

This bracket allows assembly of sections of standard diameter poles to obtain the desired height above ground of a GPS or radio antenna. It works with any standard $5 / 8 \mathrm{x}$ 11 tripod and any pole sections 1-to-1.25 inch ( $25.4-$-to- 31.8 mm ) OD poles. Easy and controlled setups are achieved by lifting one section at a time up through the bracket. 6-to-7 meters height is stable when using 1.25 -inch sections. For windy conditions or higher setups a plate for attaching guy wires can be used.

Weighs $0.95 \mathrm{lb}(0.42 \mathrm{~kg})$

## Radio Antenna Mast Assembly

\#5561-20
The SECO Antenna Mast Assembly will fit most heavy-dutytype tripods (like the SECO \#520310) after the bolt assembly has been removed.

The mast telescopes to $7.5 \mathrm{ft}(2.3 \mathrm{~m})$ - plus your tripod height for maximum height.

It's easy to install and a hex tool is included.

Convert your extra tripod to a radio base set-up!

Weighs $2.5 \mathrm{lb}(1.13 \mathrm{~kg})$


## Radio Antenna Tripod

 with Antenna Mast\#5300-11 - Hardwood/Fiberglass (shown) \#5300-12 - Aluminum (not shown)
This tripod with antenna mast gets your radio antenna to the desired height. The mast telescopes to 7.5 ft $(2.3 \mathrm{~m})$ and the tripod can be set to $5.5 \mathrm{ft}(1.7 \mathrm{~m})$ for a total elevation of $13 \mathrm{ft}(4 \mathrm{~m})$. The mast is aluminum with a male $5 / 8 \times 11$ tip. The tripod is the SECO \#5302-10-ORG. The antenna mast (shown above) can be purchased separately to convert your own heavy-duty tripod as well (see \#5561-20 above).

Weighs $19 \mathrm{lb}(8.62 \mathrm{~kg})$

## GPS Accessories

## GPS Truck Door Bracket <br> \#5114-20-FLY

This system holds a GPS or RTK-type rod to the door of your survey truck. It's easy to set up and fits most mid- to full-siže pickups and SUVs. Open and close the doors, roll the windows up and down, all normal door functions are preserved!*

## Damo vitico arvitable

## Expands vertically to 61 inches and collapse.

 to 47 inches to fit most trucks or SUVs!
## 3-Inch Extension Kit \#5114-20-051

This kit extends SECO's \#5114-20-FLY GPS Door Bracket to fit on larger-sized trucks!

## Interior Controller/ Collector Bracket System \#5199-60

 (shown)This bracket series is designed to hold your collector or controller inside the cab of your survey vehicle. Use it in conjunction with the \#5114-20-FLY at left and you can watch the GPS data from the comfort of the cab.

The suction cup mount will grip any clean glass or slick surface.


| Number: | Designed For: |
| :---: | :---: |
| 5199-60 (Claw) | TSC2 ${ }^{\text {TM }}$, Ranger $^{\text {TM }}$ 300X, 500X |
| 5199-62 (Claw) | Allegro, Allegro MX, Jett ${ }^{\circledR} \cdot$ ce, FC-2200 |
| 5199-63 (Claw) | Recon ${ }^{\circledR}$ |
| 5199-64 (Claw) | FC-100 |
| 5199-65 (Claw) | FC-1000, FC-2000 |
| 5199-66 (Claw) | GMS-2, GMS-2 PRO |
| 5199-67 (Claw) | Archer, Leica DX10, Carlson Mini, Javad Victor |
| 5199-68 (Claw) | FC-200, FC-120 |
| 5199-69 | GeoXT ${ }^{\text {TM }}$ (use with your Trimble cradle \#53500-00) |
| 5199-70 (Claw) | Nomad ${ }^{\circledR} 800$ Series |
| 5199-71 (Claw) | $\begin{aligned} & \mathrm{GeoCE}^{\mathrm{TM}}, \mathrm{XT}^{\mathrm{TM}}, \mathrm{XM}^{\mathrm{TM}}, \mathrm{XH}^{\mathrm{TM}}, \mathrm{Geo} \\ & 2008 \end{aligned}$ |
| 5199-72 (Claw) | Workabout Pro |
| 5199-73 (Claw) | Carlson Surveyor, Surveyor+ |
| 5199-74 (Claw) | FC-2500 |

## GPS Accessories

Claw
The Claw ${ }^{\mathrm{TM}}$ is a new and improved anodized aluminum clamping system from SECO, featuring an innovative clamping device that keeps your expensive data collecting hardware snug on the pole where it belongs without crushing it.

## Quick-Release Cradle

| Number: | Designed For: |
| :--- | :--- |
| $5200-050$ | TSC2 $^{\mathrm{TM}}$, Ranger ${ }^{\mathrm{TM}}$ 300X, 500X |
| $5200-052$ | Allegro, Jett $^{\circledR} \cdot$ ce, Explorer, Tracker, FC-2200 |

Quick-Release Clamp (for 1.25-inch od poles)

| Number: | Features: |
| :--- | :--- |
| $5200-150$ | Plain |
| $5200-151$ | With 40-min Vial |
| $5200-152$ | With 20-min Vial |
| $5200-153$ | With 8-min Vial |
| $5200-154$ | With Compass |
| $5200-155$ | With 40-min Vial <br> and Compass (Shown) |

## Ball-and-Socket Link

 \#5200-201Perfect for your custom solution! It fits the 1-inch ram ball on cradles and clamps.


## 1-Inch OD Pole Adapter \#D11145

Use this adapter if you have a 1-inch OD pole and want to use a Claw pole clamp.

Ball-and-Socket Combo

| Number: | Designed For: |
| :---: | :---: |
| 5200-00 | TSC2 ${ }^{\text {TM }}$, Ranger $^{\text {TM }}$ 300X, 500X |
| 5200-02 | Allegro, Jett ${ }^{\bullet}$ •ce, FC-2200, Explorer, Tracker |
| 5200-03 | Recon ${ }^{\circledR}$ |
| 5200-04 | FC-100, Mobile Mapper CE/CX, ProMark ${ }^{\text {TM }} 3$ |
| 5200-05 | FC-1000, FC-2000 |
| 5200-06 | GMS-2 |
| 5200-07 | Archer, Leica DX10, Carlson Mini, Javad Victor |
| 5200-08 | FC-120, QR, FC-200 |
| 5200-09 | Nomad ${ }^{\text {TM }} 800$ Series |
| 5200-10 | GeoCE ${ }^{\text {TM }}, \mathrm{XH}^{\text {TM }}, \mathrm{XT}^{\text {TM }}, \mathrm{XM}^{\text {TM }}$ |
| 5200-11 | Workabout Pro |
| 5200-12 | Carlson Surveyor, Surveyor+ |
| 5200-13 | FC-2500 $\begin{aligned} & \text { Demo video available } \\ & \text { at www.surveying.com }\end{aligned}$ |

Ball-and-Socket Cradle (with 1-inch ram ball)

| Number: | Designed For: |
| :---: | :---: |
| 5200-00-050 | TSC2 ${ }^{\text {TM }}$, Ranger ${ }^{\text {TM }} 300 \mathrm{X}, 500 \mathrm{X}$ |
| 5200-02-050 | Allegro, Jett®**e, Explorer, Tracker, FC-2200 |
| 5200-03-050 | Recon ${ }^{\text {® }}$ |
| 5200-04-050 | FC-100, Mobile Mapper CE/CX, ProMark ${ }^{\text {TM }} 3$ |
| 5200-06-050 | GMS-2, GMS-2 PRO |
| 5200-07-050 | Archer, Leica DX10, Carlson Mini, Javad Victor |
| 5200-08-050 | FC-120, QR, FC 200 |
| 5200-09-050 | Nomad ${ }^{\text {TM }} 800$ Series |
| 5200-10-050 | $\mathrm{GeoCE}{ }^{\mathrm{TM}}, \mathrm{XH}^{\mathrm{TM}}, \mathrm{XT}^{\mathrm{TM}}, \mathrm{XM}^{\text {TM }}$ |
| 5200-11-050 | Workabout Pro |
| 5200-12-050 | Carlson Surveyor, Surveyor+ |
| 5200-13-050 | FC-2500 |

Ball-and-Socket Clamp
(with 1-inch ram ball-for 1.25-inch OD poles)

| Number: | Features: |
| :--- | :--- |
| $5200-160$ | Plain (shown) |
| $5200-161$ | With 40-min Vial |
| $5200-162$ | With 20-min Vial |
| $5200-163$ | With 8-min Vial |
| $5200-164$ | With Compass |
| $5200-165$ | With 40-min Vial and Compass <br> The anti-crush feature locks up when tight but goes no <br> further! |

## GPS Accessories

## Open Clamp Pole Brackets and Cradles

SECO's original Open Clamp Pole Brackets and Cradles offer a fast and efficient way to mount data collectors or controllers to antenna poles and rover rods! Use a Claw Quick-Release cradle (previous page) or a standard cradle (listed below) and one of the popular open clamps (below) for a complete solution. Clamps and cradles are sold separately for easy customizing.

The aluminum open clamp features a quick-release button and a stainless steel clamp screw that attaches to the pole. Depressing the quick-release button will allow the Claw Quick-Release Cradle or standard cradle to rotate in to a comfortable position for reading the data collector or controller.

Brackets \#5198-052, -054, -055, -056, and -o59 are designed for standard poles or rods with a 0.75-to-1.25-inch OD. The \#5198-152 is designed for larger 1.5-inch OD rods and poles.

All SECO pole brackets and cradles are manufactured from black anodized aluminum.

| Number: | Type: |
| :--- | :--- | :--- |
| $5198-052$ | Bracket: Plain |
| $5198-054$ | Bracket: With 40-minute Vial |
| $5198-055$ | Bracket: Compass |
| $5198-056$ | Bracket: Compass and 40-minute Vial (shown) |
| $5198-059$ | Bracket: With o.15 x o.92-inch Slot |
| $5198-152$ | Bracket: For 1.5-inch OD Pole |
| $5198-073$ | Cradle: Designed for Nautix N7, DAP 9800, SDR33. Titan |
| $5198-081$ | Cradle: Designed for PDA |
| $5198-086$ | Cradle: Designed for Leica RX Series, C-10/C-15 (shown) |

## ATV Pole Bracket System with Radio Antenna Bar

 \#5198-50The SECO ATV Pole Bracket System is designed to hold a rover rod and a radio antenna pole (sold separately).

The universal bracket system fits most ATVs, it attaches with u-bolts to the luggage rack.

The bracket holds all poles from 1-to1.25 -inch outside diameter. Quick clamp handles make loading and unloading the rover pole fast and secure.
Installation to the ATV takes about one hour using basic tools.

This system comes with a transport and storage bag.

Weighs $24 \mathrm{lb}(10.89 \mathrm{~kg})$

## ATV Pole Bracket System \#5198-51 (shown)

The SECO \#5198-51 ATV Pole Bracket System is the same as above but does not include the radio antenna bar.


## GPS Accessories

## CRA/N

## Data-Max Data Collector Holders

Some metal data collector holders can cause irreparable damages to the pole by repeated tightening or overtightening of the clamp to the same point on the pole. The Data-Max's patented clamping system is designed to grasp the pole or tripod securely without harm.

This is accomplished with the use of elastomeric materials, a large, uniform clamping area and a knob that is designed to help prevent over-tightening.

The patented design of the Data-Max ${ }^{\mathrm{TM}}$ allows the user to position their data collector in one of twenty-six positions for better viewing and ease of use. Whether you are using it on a pole or tripod, the connection is quick and simple. When in use on a tripod, the clamping arms may be left in the open position for easy access, and then locked in place when necessary.



Data-Max Pole Mount \#91900

The modular design of the Data-Max allows for multiple data
 collectors (and cradles) to be used with the same pole mount.

Note: If purchasing Data-Max mounts and cradles separately, a swivel coupling (\#91930) is necessary.


## Heads-Up Rod Level <br> \#5001-21

The Heads-Up ${ }^{\text {TM }}$ Rod Level offers the same kind of advantages as the two above. Due to the unique prismatic design the bubble is direct reading and centered by moving exactly in the direction needed. It is suitable for use with track light, robotic instruments, or conventional leveling. Features 40-minute sensitivity.

Weighs $0.5 \mathrm{lb}(0.22 \mathrm{~kg})$

## Standard Rod Level \#5001-10

The Standard Rod Level has a die-cast aluminum body and an adjustable 40-minute vial. It is powder-painted orange. The Rod Level fits round or rectangular rods.

Weighs $0.25 \mathrm{lb}(0.11 \mathrm{~kg})$

| Vials for 1.25 -inch OD |
| :--- |
| Pole Levels |


(Complete with 40-min vial)


Vials for 1.50 -inch OD
Pole Levels

\#5070-051-40
(Complete with 40-min vial)


## The Original Heads-Up Level

\#5001-20 - 40-minute bubble \#5001-25 - 10-minute bubble
This innovative tool gives you an added sense of safety while doing routine surveys in traffic areas. You no longer need to look down while traffic is flying by - simply look through the window. You can keep your surveying partner in sight for faster surveying, too! The Heads-Up ${ }^{\mathrm{TM}}$ level is more comfortable to read; the bubble is direct reading. Weighs $0.40 \mathrm{lb}(0.18 \mathrm{~kg})$

## Pole Peg Adjusting Jig <br> \#5195-01

Convenient for adjusting and calibrating pole vials in the office.

The adjusting jig features an 'Lbracket' to rest the prism pole point on and the adjustable top piece.

Use the adjustable top to center your pole before adjusting the bubble.

Tech Tips available at www.surveying.com

## $360^{\circ}$ Robotic Prism Assembly

\#6401-00-YEL — For Topcon Users, \#6401-00-RC3 — Includes Prism and RC3 Adapter
The assembly features six $35-\mathrm{mm}$ prisms - copper-coated for moisture prevention. o-offset; 77 mm prism height. Weighs $1.8 \mathrm{lb}(0.8 \mathrm{~kg}$ )

## Adapter Kit for Topcon RC2 and RC3 Users \#6401-011 (RC2 not shown), \#6401-00-RC3-050 (RC3 shown at right)

Lock the adapter plate into position to hold a Topcon RC2 or RC3.


One-Section Carbon Fiber Robotics Pole<br>\#5129-52 - Dual Graduations<br>\#5129-53 - Metric

These telescoping poles are graduated to read direct for a 135 mm prism height. Adapters (shown below, left) will achieve other prism heights. The carbon composite and aluminum construction make these poles $30 \%$ lighter than similar prism poles.
Features include a stainless steel pin which locks the inner pole allowing no slippage or length change of the pole. The holes are spaced every 0.5 ft on the \#5129-52 and every 20 cm on the \#5129-53. The popular TLV ${ }^{\mathrm{TM}}$ which has a 40 -minute vial built-in to the lock is included. The inner poles have dual graduations: centimeters and 0.01 ft on the \#5129-52; and centimeter graduations on the \#5129-53. The poles collapse to $4.97 \mathrm{ft}(1.516 \mathrm{~m})$ and extend to $8.53 \mathrm{ft}(2.60 \mathrm{~m})$. Weighs 2.3 lb ( 1.04 kg ).

## Two-Section Carbon Fiber Robotics Pole

\#5129-72 - Dual Graduations
\#5129-73 - Metric
These poles achieve 135 mm height to target. The poles are taller two-section versions of the \#5129-52 and \#5129-53. The poles collapse to $5.18 \mathrm{ft}(1.58 \mathrm{~m})$ and extend to $11.81 \mathrm{ft}(3.60 \mathrm{~m})$.

Weighs $3.3 \mathrm{lb}(1.5 \mathrm{~kg})$

## Prism Height Adapters

\#2090-01 - 135-0 mm (shown)
\#2090-02
\#2090-04
\#2090-06
These $5 / 8 \times 11$ male/female aluminum adapters allow the base pole \#512952 to work with other manufacturer's $360^{\circ}$ prisms.


Topcon users w/ 77-mm $360^{\circ}$ prism: order \#5129-52 with \#2090-01 adapter.

Leica users w/ 86-mm $360^{\circ}$ prism: order \#5129-52 with \#2090-02 adapter.

Other users w/ 115 mm std. prism: order \#5129-52 with \#2090-04 adapter.

To convert robotic pole to GPS pole use \#2090-06 adapter.

## Padded System Bags

External and internal side pockets hold a prism with pole, bipod, controller, and radio.

Made at Geo de SECO, Mexico.
Short Padded Bag \#8157-00-ORG
6-inch OD x 42 inches.
Weighs 2.5 lb ( 1.14 kg )
Long Padded Bag \#8157-01-ORG
6-inch OD x 58 inches.
Weighs 2.7 lb ( 1.23 kg )
Robotics Backpack \#8134-00-GRN
See the Padded Field Cases section, page 77 .



SECO specialty prism poles are designed for specific situations or hardware needs. Whether it's a preference for carbon fiber or need of a pole with a 'Swiss-style’ tip, SECO has it covered!

- Sturdy aluminum, carbon fiber or fiberglass construction
- Permanent silk-screened graduations
- Brass hybrid tips and famous TLV ${ }^{\mathrm{TM}}$ or new $\mathrm{QLV}^{\mathrm{TM}}$ locking
- Aluminum poles are electrostatically powder-painted

Tech Tips available
at www.surveying.com

Non-Conductive Fixed-Height Prism Pole
\#90275 - 5-Foot (shown)
\#90274 - 1.3-meter metric
This fixed-height fiberglass prism pole measures 5 -foot (1.52-meter) with your prism and adapter or 4.557 -ft (1.39-meter) without prism and adapter.

Spectra/Trimble 135-mm prisms read direct (no adapter required).

Topcon $77-\mathrm{mm}$ prisms require adapter \#2090-01 (sold separately).

Leica $86-\mathrm{mm}$ prisms require adapter \#2090-02 (sold separately).

SECO/Sokkia/OMNI 115-mm prisms require part \#2090-04 (sold separately).

Weighs 1.1 lb ( 0.50 kg )

Carbon Fiber Pole
\#5129-54
This pole features dual grads; an adjustable tip that will adjust to a prism height of 65 mm -to-115 mm ; and TLV locking.

Extends to $8.53 \mathrm{ft}(2.60 \mathrm{~m})$, collapses to $4.97 \mathrm{ft}(1.51 \mathrm{~m})$.

This prism pole is a lighter version of the popular \#5500-11 pole (see page 21 ).

Carbon fiber poles are approximately $30 \%$ lighter than conventional poles!

Weighs $2.3 \mathrm{lb}(1.05 \mathrm{~kg})$

## QLV Pole for Robotics Applications

\#5802-10 Dual Grads - 8 ft \#5802-11 Metric Grads - 8 ft \#5802-20 Dual Grads - 12 ft \#5802-21 Metric Grads - 12 ft

This pole features the new QLV locking mechanisms. The lower lock features an adjustable 40-minute adjustable vial.

The small-diameter, $25-\mathrm{mm}$ bottom section fits Leica slide-on controller brackets.

It has a Swiss-style quick release stud and reads direct for any 86-mm height prisms.
\#5802-10 \& \#5802-11 weigh $2.50 \mathrm{lb}(1.13 \mathrm{~kg})$
\#5802-20 \& \#5802-21 weigh $3.55 \mathrm{lb}(1.61 \mathrm{~kg})$

## Swiss-style TLV Prism Pole

\#5501-11 - Dual Grad \#5521-11 - Metric Only

This pole features dual graduations (or metric only) for GPH1-type prisms, a Swiss-style tip (for 86 mm prism heights) and TLV locking.

It extends to 8.53 ft
( 2.60 m ) and collapses to $4.97 \mathrm{ft}(1.51 \mathrm{~m})$.

The pole has an outside diameter of 1.25 inches ( 31.75 mm ).

Weighs $3.3 \mathrm{lb}(1.5 \mathrm{~kg})$

## Mini Stakeout <br> \#5010-00-RED

Measures 1.28
ft ( 0.39 m ), also available in flo yellow and orange.
Weighs 1.50 lb ( 0.68 kg )

## Mini Pole

\#5500-23
Features dual grads, adjustable tip and TLV lock. Extends to 5.10 $\mathrm{ft}(1.55 \mathrm{~m})$, collapses to $2.70 \mathrm{ft}(0.82 \mathrm{~m})$.
Weighs 2.3 lb ( 1.04 kg )

## Mini Rod

\#5010-01
Handheld rod features height of $120 \mathrm{~mm}, 40-\mathrm{min}$ vial and removable tip. Weighs $0.4 \mathrm{lb}(0.02 \mathrm{~kg})$

## Swiss-style Twisting Lock Prism Pole \#5503-30

This pole is graduated for GPH1-type prisms.
It features a Swiss-style tip and twist locking.

It extends to 15.25 ft (4.65 m ) and collapses to 5.41 ft ( 1.65 m ).

The pole has an outside diameter of 1.50 inches ( 38.1 mm ).

For 86 mm prism heights.
Weighs $7.6 \mathrm{lb}(3.45 \mathrm{~kg})$

## Geodimeter Style Telescoping Prism Pole

\#5120-Series
Small in diameter ( 20 mm ) this light weight prism pole is designed to work with the Geodimeter ${ }^{\circledR}$ style sliding prism.

It is an excellent pole/prism configuration for all survey applications.

The prism can be mounted on the site rod or the graduated outer section.

The telescoping section is graduated in feet and centimeters and collapses to 4.80 ft (1.46 $\mathrm{m})$ and expands to $8.60 \mathrm{ft}(2.62 \mathrm{~m})$.

The graduations in feet, 10ths and 10oths are on the outer section for direct reading of prism height.

The site rod can be used as a short hand held rod with two height marks, $0.50 \mathrm{ft}(15.24 \mathrm{~cm})$ and $1.00 \mathrm{ft}(30.48 \mathrm{~cm})$.

It comes with the QLV ${ }^{\mathrm{TM}}$ locking mechanism with a 40-min circular, adjustable vial.

This pole also comes with two OD adapters
 for bipods and data collector attachment.

This pole has a hardened steel removable point.

It is painted bright fluorescent orange.
Weighs $2.75 \mathrm{lb}(1.24 \mathrm{~kg})$

Prism and bipod not included.


| Number: | Description: | Weighs: |
| :--- | :--- | :--- |
| $5120-00-F O R-G T$ | Pole Only, ft | $2.05 \mathrm{lb}(0.92 \mathrm{~kg})$ |
| $5120-01-F O R-G M$ | Pole Only, cm | $2.05 \mathrm{lb}(0.92 \mathrm{~kg})$ |
| $5120-02-F O R-G T$ | Pole w/Site Rod, ft | $2.75 \mathrm{lb}(1.24 \mathrm{~kg})$ |
| $5120-03-F O R-G M$ | Pole w/Site Rod, cm | $2.75 \mathrm{lb}(1.24 \mathrm{~kg})$ |
| $5120-024-F O R$ | Site Rod w/Point, cm | $0.70 \mathrm{lb}(0.31 \mathrm{~kg})$ |
| $5120-025-$ FOR | Site Rod w/Point, ft | $0.70 \mathrm{lb}(0.31 \mathrm{~kg})$ |

Demo video available
at www.surveying.com

This pole system is designed to be compatible with all targets, prisms, and GPS antennas. Use the appropriate adapter to achieve a target height of 150 mm .

- Quickly change applications by switching adapters
- Simple adapter determination
- SECO TLV ${ }^{\text {TM }}$ locking mechanism
- Available with or without locking pin \& holes



## Pole Types (\#2090-12 adapter tip included)

| Number: | Grads: | Graduated Length: | Outer Pole: | Locking Pin: |
| :---: | :---: | :---: | :---: | :---: |
| 5507-10 | Dual | 4.36 to 7.22 ft | Aluminum |  |
| 5507-11 | Dual | 1.64 to 2.30 ft | Aluminum |  |
| 5507-13 | Dual | 4.36 to 7.22 ft | Carbon Fiber | Yes |
| 5507-15 | Dual | 4.97 to 8.53 ft | Aluminum |  |
| 5507-16 | Dual | 4.97 to 8.53 ft | Carbon Fiber |  |
| 5507-17 | Dual | 4.97 to 8.53 ft | Carbon Fiber | Yes |
| 5507-20 | Dual | 5.18 to 11.81 ft | Aluminum |  |
| 5507-22 | Dual | 5.18 to 11.81 ft | Carbon Fiber | Yes |
| 5507-30 | Dual | 5.41 to 15.25 ft | Aluminum |  |
| 5527-10 | Metric | 1.33 to 2.20 m | Aluminum |  |
| 5527-11 | Metric | 0.50 to 0.70 m | Aluminum |  |
| 5527-13 | Metric | 1.33 to 2.20 m | Carbon Fiber | Yes |
| 5527-15 | Metric | 1.51 to 2.60 m | Aluminum |  |
| 5527-16 | Metric | 1.51 to 2.60 m | Carbon Fiber |  |
| 5527-17 | Metric | 1.51 to 2.60 m | Carbon Fiber | Yes |
| 5527-20 | Metric | 1.58 to 3.60 m | Aluminum |  |
| 5527-22 | Metric | 1.58 to 3.60 m | Carbon Fiber | Yes |
| 5527-30 | Metric | 1.65 to 4.65 m | Aluminum |  |
| Aluminum and carbon fiber poles can be ordered with external GT or GM graduations. Aluminum GT or GM poles are powder-painted a solid color. |  |  |  |  |




The SECO twisting lock with vial ( $\mathrm{TLV}^{\mathrm{TM}}$ ) is wear-resistant for long life.

The soft rubber knob is easy to tighten or loosen, even when wearing gloves! TLV's feature a

Tech Tips available at www.surveying.com

Demo video available at www.surveying.com convenient 40-minute vial built into the lock.

Moving the vial to the lock frees up space on the pole for other accessories!

## One-Section TLV Prism Poles

Extends to $8.53 \mathrm{ft}(2.60 \mathrm{~m})$, collapses to $4.97 \mathrm{ft}(1.516 \mathrm{~m})$ Weighs approximately $3.3 \mathrm{lb}(1.50 \mathrm{~kg})$

| Number: | Tip: | Pole Type: | Graduations: |
| :--- | :--- | :--- | :--- |
| $5500-11$ | Adjustable | Aluminum | Dual |
| $5512-11$ | Fixed | Aluminum | Dual |
| $5520-11$ | Adjustable | Aluminum | Metric |
| Ask about | graduated outer prism pole versions! |  |  |

## Two-Section TLV Prism Poles

Extends to $11.81 \mathrm{ft}(3.60 \mathrm{~m})$, collapses to $5.18 \mathrm{ft}(1.58 \mathrm{~m})$ Weighs approximately $5.1 \mathrm{lb}(2.32 \mathrm{~kg})$

| Number: | Tip: | Pole Type: | Graduations: |
| :--- | :--- | :--- | :--- |
| $5500-21$ | Adjustable | Aluminum | Dual |
| $5520-21$ | Adjustable | Aluminum | Metric |

## Three-Section Twisting Lock Prism Poles

Extends to $15.25 \mathrm{ft}(4.65 \mathrm{~m})$, collapses to 5.41 ft ( 1.65 m )
Weighs approximately $7.6 \mathrm{lb}(3.45 \mathrm{~kg})$

| Number: | Tip: | Pole Type: | Graduations: |
| :---: | :---: | :---: | :---: |
| 5500-30 | Adjustable | Aluminum | Dual |
| 5520-30 | Adjustable | Aluminum | Metric |

## Pole Colors:

 Red \& White, Flo Orange, Yellow
## ALL METAL LOCKING MUCHANISMS

The new SECO Quick Lever with Vial (QLV ${ }^{\text {тм }}$ ) allows fast, simple setups and easy locking.

Tech Tips available at www.surveying.com

Look how easy it is to adjust the 40-minute bubble and lever tension!

Parts lists and drawings for this and all of the SECO locking mechanisms are online at: www.surveying.com.

## One-Section QLV Prism Poles

Extends to $8.53 \mathrm{ft}(2.60 \mathrm{~m})$, collapses to $4.97 \mathrm{ft}(1.516 \mathrm{~m})$ Weighs approximately $2.95 \mathrm{lb}(1.50 \mathrm{~kg})$

| Number: | Tip: | Graduations: |
| :--- | :--- | :--- |
| $5801-10$ | Adjustable | Dual |
| $5813-10$ | Fixed | Dual |
| $5821-10$ | Adjustable | Metric |

## Two-Section QLV Prism Poles

Extends to $12.00 \mathrm{ft}(3.65 \mathrm{~m})$, collapses to $5.30 \mathrm{ft}(1.65 \mathrm{~m})$ Weighs approximately $4.05 \mathrm{lb}(1.83 \mathrm{~kg})$


Protect your prism pole from dirt and moisture. This bag holds all poles and measures $61.5 \times 6$ inches ( $156.21 \times 15.24 \mathrm{~cm}$ ).
Made at Geo de SECO, Mexico.


## Prism Pole Hard Shell Case

8160-20-BLK
This case is a heavy-duty, polyester-covered tube that protects poles from damage. With a four-inch diameter, it holds one- or two-section poles. It's 65 inches ( 1.63 m ) long.

Weighs $5.5 \mathrm{lb}(2.5 \mathrm{~kg})$
One-Section Quick-Release Prism Poles
Extends to $8.53 \mathrm{ft}(2.60 \mathrm{~m})$, collapses to $4.97 \mathrm{ft}(1.516 \mathrm{~m})$ Weighs approximately $3.3 \mathrm{lb}(1.50 \mathrm{~kg})$

| Number: | Tip: | Graduations: |
| :--- | :--- | :--- |
| $5700-10$ | Adjustable | Dual |
| $5712-10$ | Fixed | Dual |
| $5720-10$ | Adjustable | Metric |
| $5722-10$ | Fixed | Metric |

Two-Section Quick-Release Prism Poles
Extends to $11.81 \mathrm{ft}(3.60 \mathrm{~m})$, collapses to $5.18 \mathrm{ft}(1.58 \mathrm{~m})$ Weighs approximately $5.1 \mathrm{lb}(2.3 \mathrm{~kg})$

| Number: | Tip: | Graduations: |  |
| :---: | :---: | :---: | :---: |
| 5700-20 | Adjustable | Dual |  |
| 5712-20 | Fixed | Dual |  |
| 5720-20 | Adjustable | Metric |  |

## Compression Lock Telescopic Prism Poles



## ALL METAL <br> LOCKING MECHANISMS



The SECO Compression Lock system provides a positive hold and years of error-free operation. The Compression Lock is constructed of brass and aluminum!

Tech Tips available at www.surveying.com

Demo video available at www.surveying.com

Parts lists and drawings for this and all of the SECO locking mechanisms are online at: www.surveying.com.

One-Section Compression Lock Prism Poles Extends to $8.53 \mathrm{ft}(2.60 \mathrm{~m})$, collapses to 4.97 ft ( 1.516 m ) Weighs approximately $3.3 \mathrm{lb}(1.50 \mathrm{~kg})$

| Number: | Tip: | Graduations: |
| :--- | :--- | :--- |
| $5600-10$ | Adjustable | Dual |
| $5612-10$ | Fixed | Dual |
| $5620-10$ | Adjustable | Metric |
| $5622-10$ | Fixed | Metric |

Two-Section Compression Lock Prism Poles
Extends to $11.81 \mathrm{ft}(3.60 \mathrm{~m})$, collapses to $5.18 \mathrm{ft}(1.58 \mathrm{~m})$ Weighs approximately $5.1 \mathrm{lb}(2.3 \mathrm{~kg})$

| Number: | Tip: | Graduations: |
| :--- | :--- | :--- |
| $5600-20$ | Adjustable | Dual |
| $5612-20$ | Fixed | Dual |
| $5620-20$ | Adjustable | Metric |
| $5622-20$ | Fixed | Metric |

## Three-Section Compression Lock Prism Poles

Extends to $15.25 \mathrm{ft}(4.65 \mathrm{~m})$, collapses to 5.18 ft ( 1.65 m )
Weighs approximately $7.6 \mathrm{lb}(3.45 \mathrm{~kg})$

| Number: | Tip: | Graduations: |
| :--- | :--- | :--- |
| $5600-30$ | Adjustable | Dual |
| $5620-30$ | Adjustable | Metric |

## Fiberglass Ultralite Prism Poles with TLV Locking Mechanism

SECO and Crain have combined technologies to introduce the Ultralite, ${ }^{\text {TM }}$ the lightest, most user-friendly, pole on the market. The inner and outer poles are constructed of lightweight non-conductive fiberglass.

Newly redesigned TLV ${ }^{\text {twa }}$ (Twistlock with vial) reduces weight while providing the same locking function users have grown to expect from SECO.

Included in this package is Crain's patented Topo Boot. ${ }^{\circledR}$

Features include a 40-minute adjustable vial, a soft touch knob, and adjustable $5 / 8 \times 11$ tip.

Also available in Flo orange and yellow.


| Number: | Grads: | Height: | Weighs: |
| :--- | :--- | :--- | :--- |
| $5540-10$ | Dual | $8.58 \mathrm{ft}(2.62 \mathrm{~m})$ | $1.95 \mathrm{lb}(0.88 \mathrm{~kg})$ |
| $5541-10$ | Metric | $8.58 \mathrm{ft}(2.62 \mathrm{~m})$ | $1.95 \mathrm{lb}(0.88 \mathrm{~kg})$ |
| $5540-20$ | Dual | $11.81 \mathrm{ft}(3.6 \mathrm{~m})$ | $2.5 \mathrm{lb}(1.13 \mathrm{~kg})$ |
| $5541-21$ | Metric | $11.81 \mathrm{ft}(3.6 \mathrm{~m})$ | $2.5 \mathrm{lb}(1.13 \mathrm{~kg})$ |
| $5541-30$ | Dual | $15.27 \mathrm{ft}(4.65 \mathrm{~m})$ | $3.15 \mathrm{lb}(1.43 \mathrm{~kg})$ |
| $5541-31$ | Metric | $15.27 \mathrm{ft}(4.65 \mathrm{~m})$ | $3.15 \mathrm{lb}(1.43 \mathrm{~kg})$ |



## CRA/N

The Grip-Tite ${ }^{\circledR}$ locking system on all Crain prism poles, eliminates elevation errors due to malfunctioning locks. High-strength elastomeric pads grip the telescopic sections and can be adjusted with an allen wrench (included). Crain prism poles come with a TopoBoot ${ }^{\circledR}$ (see page 29 for more details) and have a standard prism offset of o.500 ft (152.5 mm ). The grads are in 0.01 ft and cm . The adjustable $5 / 8 \times 11$ adapter may be preset within a $0.27-\mathrm{ft}(82.55-\mathrm{mm})$ range to accommodate a broad range of prism heights.

Crain Carbonlite ${ }^{\circledR}$ (Carbon Fiber) Prism Poles Prism poles come with a 42-minute level vial (also available with 10-minute vial and Swiss-style adapter)

| Number: | Height: | Weight: | Grads: |
| :--- | :--- | :--- | :--- |
| 90281 | $8.52 \mathrm{ft}(2.6 \mathrm{~m})$ | $1.90 \mathrm{lb}(0.87 \mathrm{~kg})$ | Dual |
| 90666 | 2.6 m | $1.90 \mathrm{lb}(0.87 \mathrm{~kg})$ | Metric |
| 90283 | $11.5 \mathrm{ft}(3.5 \mathrm{~m})$ | $2.25 \mathrm{lb}(1.02 \mathrm{~kg})$ | Dual |
| 90667 | 3.5 m | $2.25 \mathrm{lb}(1.02 \mathrm{~kg})$ | Metric |
| 90202 | $15.27 \mathrm{ft}(4.7 \mathrm{~m})$ | $2.90 \mathrm{lb}(1.32 \mathrm{~kg})$ | Dual |
| 90668 | 4.7 m | $2.90 \mathrm{lb}(1.32 \mathrm{~kg})$ | Metric |

Crain Alumilite ${ }^{\circledR}$ (Aluminum) Prism Poles
Prism poles come with a 42-minute level vial (also available with 10-minute vial and Swiss-style adapter)

| Number: | Height: | Weight: | Grads: |
| :--- | :--- | :--- | :--- |
| 90276 | $8.52 \mathrm{ft}(2.6 \mathrm{~m})$ | $2.35 \mathrm{lb}(1.07 \mathrm{~kg})$ | Dual |
| 90676 | 2.6 m | $2.35 \mathrm{lb}(1.07 \mathrm{~kg})$ | Metric |
| 90287 | $11.5 \mathrm{ft}(3.5 \mathrm{~m})$ | $3.05 \mathrm{lb}(1.38 \mathrm{~kg})$ | Dual |
| 90677 | 3.5 m | $3.05 \mathrm{lb}(1.38 \mathrm{~kg})$ | Metric |
| 90201 | $15.27 \mathrm{ft}(4.7 \mathrm{~m})$ | $3.75 \mathrm{lb}(1.7 \mathrm{~kg})$ | Dual |
| 90678 | 4.7 m | $3.75 \mathrm{lb}(1.70 \mathrm{~kg})$ | Metric |

## Basics Plus Prism Poles

## 

Introducing the Basics Plus line of prism poles from SECO. These 'no-frills' quality poles are designed to give you tremendous value at a lower cost. They feature 40-minute level vials, adjustable tips, hardened steel points, your choice of TLV-style or compression locking, and standard red and white paint.

## TLV and Twist-Locking Prism Poles

| Number: | Length: | Graduations: | Weighs: |
| :--- | :--- | :--- | :--- |
| $5530-10$ | 8.6 ft | Dual | $2.67 \mathrm{lb}(1.21 \mathrm{~kg})$ |
| $5531-10$ | 2.6 m | Metric | $2.67 \mathrm{lb}(1.21 \mathrm{~kg})$ |
| $5530-20$ | 12 ft | Dual | $3.65 \mathrm{lb}(1.66 \mathrm{~kg})$ |
| $5531-20$ | 3.6 m | Metric | $3.65 \mathrm{lb}(1.66 \mathrm{~kg})$ |
| $5530-30$ | 15 ft | Dual | $5.38 \mathrm{lb}(2.44 \mathrm{~kg})$ |
| $5531-30$ | 4.6 m | Metric | $5.38 \mathrm{lb}(2.44 \mathrm{~kg})$ |

Compression-Locking Prism Poles

| Number: | Length: | Graduations: | Weighs: |
| :--- | :--- | :--- | :--- |
| $5630-10$ | 8.6 ft | Dual | $2.65 \mathrm{lb}(1.20 \mathrm{~kg})$ |
| $5631-10$ | 2.6 m | Metric | $2.65 \mathrm{lb}(1.20 \mathrm{~kg})$ |
| $5630-20$ | 12 ft | Dual | $3.45 \mathrm{lb}(1.56 \mathrm{~kg})$ |
| $5631-20$ | 3.6 m | Metric | $3.45 \mathrm{lb}(1.56 \mathrm{~kg})$ |
| $5630-30$ | 15 ft | Dual | $5 \mathrm{lb}(2.27 \mathrm{~kg})$ |
| $5631-30$ | 4.6 m | Metric | $5 \mathrm{lb}(2.27 \mathrm{~kg})$ |

## Prism Pole Accessories

Wild Prism Adapter \#2080-00
Adapts Swiss-style snap-on prisms to $5 / 8 \times 11$ tribrach adapter or prism pole. Weighs $0.06 \mathrm{lb}(0.03 \mathrm{~kg})$

Prism Pole Point with Replaceable Plumb Bob Point \#5194-00
3.37-inch steel body, removable point. Weighs 0.3 lb ( 0.14 kg )

Wild Prism Pole Adapter \#2090-00
Adapts Swiss-style prism poles to $5 / 8 \times 11$. Weighs 0.06 lb ( 0.03 kg )

Prism Pole Point \#5190-00
3.37-inch steel body, steel body. Weighs $0.3 \mathrm{lb}(0.14 \mathrm{~kg})$

Double Male Adapter \#5180-00

5/8 x 11 adapter.
Weighs $0.06 \mathrm{lb}(0.03 \mathrm{~kg})$

Lightweight Prism Pole Point w/Replaceable Tip \#5194-03
3.37-inch anodized aluminum body, steel point. Weighs $0.16 \mathrm{lb}(0.07 \mathrm{~kg})$

Titanium Prism Pole Point \#5194-06
3.37-inch titanium point. Weighs $0.16 \mathrm{lb}(0.07 \mathrm{~kg})$

Aluminum Prism Pole Point and Steel Tip \#91605
3.37-inch alum. w/ steel tip. Weighs 0.01 lb ( 0.004 kg )

## Wide Base Topo Shoe

 \#5192-003.37-inch length, 2.5 -inch ( $64-\mathrm{mm}$ ) OD., steel body. Weighs $1.26 \mathrm{lb}(0.57 \mathrm{~kg})$

Prism Pole Topo Shoe \#5191-00
3.37-inch aluminum body. Weighs 0.34 lb ( 0.15 kg )

## Laser Detector Mount \#91640

Converts any $5 / 8 \times 11$ prism pole to a laser rod for use with a laser at heights of $5-\mathrm{ft}$ to $15-\mathrm{ft}$. Includes target for mounting laser detector datum line. The user can directly read the pole for the height of the laser.
Weighs $0.60 \mathrm{lb}(0.27 \mathrm{~kg})$

## Stedi-Rest

## \#91641

Crain's Stedi-Rest ${ }^{\circledR}$ fits any 1.25 -to- 1.5 -inch (32-to-38.1-mm) pole and can take the place of three separate products. The Stedi-Rest can act as an equipment "prop" to keep your equipment out of mud or water. It can be used to check the calibration and re-calibrate your pole's level vial. It also can be attached to a tripod for a pole support system. Weighs $0.15 \mathrm{lb}(0.07 \mathrm{~kg})$

## Adjustable Offset Bar <br> \#5198-163

This adjustable offset bar can be used with total stations and prism poles to help get accurate elevation measurements in hard-to-reach places.

It can be used with any standard survey pole; simply unscrew the pole point, attach it to the brass male $5 / 8 \times 11$, then attach the pole to the female $5 / 8 \times 11$.

It has an adjustable centerline, 1.60-to-1.0o-ft (48.76-to-$30.48-\mathrm{cm})$ in $0.20-\mathrm{ft}(6.09-\mathrm{cm})$ increments. The offset bar is ideal to measure sewer inverts down manholes or odd surfaces on bridges and construction sites.

It is constructed of anodized $1 / 2$-inch thick aluminum. Features include: brass male $5 / 8 \times 11$ threaded post and a stainless steel $5 / 8 \times 11$ HeliCoil ${ }^{\circledR}$. Weighs $1.15 \mathrm{lb}(0.52 \mathrm{~kg})$

Attach your prism pole and point and adjust up to 1.6 feet in width between center of the pole and prism pole point

## Offset Pole Holder Kit \#5198-157

Perform odd setups and stay away from dangerous situations with the Offset Pole Holder Kit. Combine the kit with any $5 / 8 \times 11$ threaded pole and a HeadsUp ${ }^{\text {TM }}$ Level for a safe and sturdy setup.

A padded case, hex wrench, and an adapter plate for instrument tripods is included!


## Pole Extensions

The pole extensions have $5 / 8 \times 11$ female threads on the bottom and $5 / 8 \times 11$ male threads on the top to allow more added sections. The aluminum extensions are powder-painted for maximum durability.


## 1-m Pole

Weighs 1.1 lb ( 0.50 kg )

| Carbon Flber |  |  |
| :---: | :---: | :---: |
| 1-inch (25-mm) OD: | 1.25-inch (32-mm) OD: |  |
| \#5143-03 | \#5143-02 <br> 1-m Carbon Fiber Pole Weighs 0.7 lb ( 0.32 kg ) |  |
| 1-m Carbon Fiber Pole |  |  |
| Weighs 0.7 lb (0.32 kg) |  |  |
| \#5144-03 | \#5144-02 <br> $50-\mathrm{cm}$ Carbon Fiber Pole <br> Weighs $0.50 \mathrm{lb}(0.23 \mathrm{~kg})$ |  |
| 50-cm Carbon Fiber Pole |  |  |
| Weighs 0.50 lb ( 0.23 kg ) |  |  |
| \#5145-03 | \#5145-02 25-cm Carbon Fiber Pole Weighs $0.35 \mathrm{lb}(0.16 \mathrm{~kg})$ |  |
| 25-cm Carbon Fiber Pole |  |  |
| Weighs $0.35 \mathrm{lb}(0.16 \mathrm{~kg})$ |  |  |
|  | \#5143-10 |  |
|  | 1.226-m Carbon Fiber Pole for$\text { Z-Max }{ }^{\circledR}$ |  |
| FHberglass | $\text { Z-Max }{ }^{\circledR}$ <br> Weighs | $5 \mathrm{lb}(0.48 \mathrm{~kg})$ |
| 1.25-in (32-mm) OD: |  |  |
| \#5130-10 |  |  |
| o.200-m Fiberglass Pole <br> Weighs $0.34 \mathrm{lb}(0.15 \mathrm{~kg})$ | Sece | 0.200 METER |

## Bipod Leg Clip \#5217-30

The bipod leg clip easily attaches to the base of any 1.25 -inch OD prism or antenna pole.

Weighs 0.04 lb ( 0.02 kg )

## 10 Minute Level Vial Conversion Kit \#91628

Converts Crain prism pole standard 42minute level vial to 10 -minute for increased accuracy. Includes the 10-minute vial, aluminum sleeve and plastic insert.

## Topo-Boot \#91601

Exclusive on Crain's poles, the TopoBoot ${ }^{\circledR}$ screws over the precision point and increases the area of the point for the use on soft surfaces in topo shots. The Topo-Boot is removable and stores conveniently under the large, easy-toread vial. Weighs $0.05 \mathrm{lb}(0.02 \mathrm{~kg})$

## Topo Shoe \& Point Combo

\#5192-02
This aluminum combo allows easy conversions from "control" to "topo" surveys. The quick-release pin and matched drill hole are the key!
Point weighs 0.15 lb ( 0.07 kg ) Topo shoe weighs 0.20 lb ( 0.09 kg )


## Heavy-Duty Range Poles

These are 1.13-inch (29-mm) OD poles, electrostatically powder coated white and orange.
12-ft (3.7-m) Pole - \#5150-00-WOR (shown below)
Three $4-\mathrm{ft}(1.2-\mathrm{m})$ sections, with point. Weighs $5 \mathrm{lb}(2.27 \mathrm{~kg})$
8-ft (2.4-m) Pole - \#5140-00-WOR
Two $4-\mathrm{ft}(1.2-\mathrm{m})$ sections, with point. Weighs $3.4 \mathrm{lb}(1.54 \mathrm{~kg})$
4-ft (1.2-m) Pole Section - \#5160-00-WOR
One $4-\mathrm{ft}(1.2-\mathrm{m})$ section, no point. Weighs 1.5 lb ( 0.68 kg )


## Range Pole Bag <br> \#8170-00-ORG

The range pole bag is perfect for the poles shown above, it measures $46 \times 7.5$ inches. The bag comes in fluorescent orange or green. Made at Geo de SECO, Mexico.

SECO Bipods and Tripods are constructed of high-quality components and are designed for years of worry free service the workmanship of every one guaranteed! Thumb Release Bipods and Tripods come in two different lightweight versions: The aluminum version features powder-coated legs and is available in four distinct colors; the other popular version features strong carbon fiber legs. SECO bipods are designed to be light but extremely strong and durable.


Tech Tips available at www.surveying.com

## The Original Thumb Release Bipod

\#5217-04-YEL — SECO (shown) \#5217-40-XXX — Basics Plus

A surveyor can set up a freestanding GPS antenna pole or prism pole. 1-to-1.25-inch ( $25.4-$ to- $31.8-\mathrm{mm}$ ) OD poles attach easily through the open clamp. 1.5-inch ( 3.81 cm ) OD poles can be loaded through the top.

The legs (independently) extend to 6 feet ( 1.8 m ) and collapse to 43 inches (109 $\mathrm{cm})$.

Available colors: red, yellow, flo yellow, and flo orange.

Weighs $4.25 \mathrm{lb}(1.93 \mathrm{~kg})$

## Thumb Release Mini Bipod

 \#5217-05-FORThe SECO Mini Bipod utilizes the same design concepts as our popular \#5217-04 bipod, it's just shorter.

1-to-1.25-inch (25.4-to-31.8-mm) diameter poles attach easily through the open clamp. 1.5inch ( 3.81 cm ) OD poles can be loaded through the top.

It collapses to 25 inches (63.5 cm ) and extends to 35 inches $(88.9 \mathrm{~cm})$. The \#5217-30 leg clip is included.

Available colors: red, yellow, flo yellow, and flo orange.

Weighs $3.5 \mathrm{lb}(1.6 \mathrm{~kg})$

## Carbon Fiber Quick Lever Bipod

\#5219-50 — For 1.25-inch OD Poles (shown)
\#5219-51 - 1-inch OD Poles
The SECO Carbon Fiber Quick Lever Bipod uses the same design concepts as the popular aluminum Quick Lever Bipod, but weighs less.

1-to-1.25-inch (25.4-to-31.8mm ) diameter poles attach easily through the open clamp.

The legs (independently) extend to $6 \mathrm{ft}(1.8 \mathrm{~m})$ and collapse to 43 in ( 109 cm ).

Weighs $4.1 \mathrm{lb}(1.86 \mathrm{~kg})$


## Carbon Fiber Thumb Release Bipod \#5219-03

The SECO Carbon Fiber Thumb Release Bipod uses the same design concepts as the popular aluminum Thumb Release Bipod (above), but weighs less.

1-to-1.25-inch ( 25.4 -to- 31.8 mm ) diameter poles attach easily through the open clamp. $1.5-$ inch $(3.81 \mathrm{~cm})$ OD poles can be loaded through the top.

The legs (independently) extend to 6 feet ( 1.8 m ) and collapse to 43 inches ( 109 cm ).

Weighs $4.1 \mathrm{lb}(1.86 \mathrm{~kg})$
Carbon Fiber Thumb Release Bipod with Lightweight Points \#5219-04

Includes lighter points. Weighs $3.7 \mathrm{lb}(1.68 \mathrm{~kg})$


Protect your bipod with a SECO bipod bag. See page 33.

## Gardner Engineering Rodrest

\#5214-01 - 1.25-inch OD (shown)
\#5214-02 - 1-inch OD
SECO now makes Gardner Engineering's Rodrest (U.S. Patent pending).

The Rodrest is a self-retracting 'kickstand’ for survey rods.

It attaches quickly with one thumbscrew and is activated by simply pushing down a few inches on the handle.

The legs self-retract when the rod is lifted.

The Rodrest is made of anodized durable-machined aluminum that won't rust or fatigue and has a stainless steel clamp screw.

It holds the rod at a $20-$ degree zenith angle.

Weighs $1.55 \mathrm{lb}(0.70 \mathrm{~kg})$
Pole not included.
1

## Quick Lever Head Bipod

\#5217-50-FOR - Thumb-Release Legs for 1.25 -inch OD Poles
\#5217-51-FOR - Thumb-Release Legs for 1-inch OD Poles

This open-clamp head bipod features a Quick Lever ${ }^{\text {TM }}$ locking mechanism that makes attaching or detaching the pole* lightning fast - the lever cam action is mechanically simple and holds tight.

The locking mechanism is made of non-marring Delrin ${ }^{\circledR}$ with an EPDM 8o-durometer rubber plug for positive grip. It works with $1(25-\mathrm{mm})$ or $1.25^{-}$ inch ( $32-\mathrm{mm}$ ) OD poles.

Weighs $4.2 \mathrm{lb}(1.90 \mathrm{~kg})$
*Pole not included.


## Mini-Prism Monopod Kit

## \#5216-00

The Mini Prism Monopod Kit forms a stable base with your SECO 6000-Series Mini Prism (sold separately).

The kit is easy to set up and can be used by just one person. It's ideal for: construction surveys, inspections, asbuilts, and many other applications.

Add a standard $5 / 8 \times 11$ extension to the kit to achieve heights to four feet.

Weighs $2.25 \mathrm{lb}(1.02 \mathrm{~kg})$

## Alligator Clamp Tripod

 \#5214-00The tripod features a ball-andsocket head, which makes leveling a bubble easy. The rubberized jaws hold a pole (up to 2-inch OD) firmly in place.

Telescopic legs extend from 80 cm ( 2.62 ft ) to 127 cm ( 4.17 ft ).

Weighs $2.65 \mathrm{lb}(1.2 \mathrm{~kg})$

Dual Hinge Bipod
\#5217-57 - Standard Twist-Lock
Open Clamp
\#5217-58 - Quick Lever lock for the 1.25-inch OD pole
\#5217-59 - Quick Lever lock for the 1-inch OD pole

This bipod is perfect for setups on difficult terrain. The dual leg hinges move in two directions.

This bipod sets up fast on rocky, steep slopes, construction sites, or industrial sites where surrounding material may be in the way of proper leg placement.

The push button thumb release legs on the Dual Hinge Bipod are the same as SECO's original open clamp tripod.

The legs collapse to 43 inches ( 109.22 cm ) and extend to 72 inches ( 182.88 cm ).

The Dual Hinge Bipod attaches to the pole with two options: the original standard open clamp or the Quick Lever lock.

Also available in Flo Orange and Yellow

Weighs $4.2 \mathrm{lb}(1.90 \mathrm{~kg})$
Pole not included.



Thumb-Release Tripod
\#5218-02-YEL - SECO \#5218-40-FLY - Basics Plus

The Thumb-Release Tripod uses the same thumb action release and lock mechanism as the Thumb-Release Bipod on page 30 .

1-to-1.50-inch (25.4-to-38.1mm ) OD poles thread easily through the open clamp on top.

The legs (independently) extend to $6 \mathrm{ft}(1.8 \mathrm{~m})$ and collapse to 43 in ( 109 cm ).

Available colors: red, yellow, fluorescent yellow, and fluorescent orange.

Weighs 6 lb (2.60 kg)

Adjust the leg tension by turning the thumb buttons!

## Prism Pole Bipod/

 Tripod Bags\#8180-00-ORG - Standard Bag \#8180-20-ORG - Rhinotek Reinforced Bottom

The prism pole tripod bags hold a prism pole with a tripod or bipod attached.

The 60-inch ( $152-\mathrm{cm}$ ) long bag has a fold-over flap and is made from sturdy nylon Cordura ${ }^{\circledR}$.

The 8180-20-ORG features Rhinotek ${ }^{\mathrm{TM}}$ material!

Weighs $1.08 \mathrm{lb}(0.49 \mathrm{~kg})$
Made at Geo de SECO, Mexico.


## Carbon Fiber Thumb Release Tripod \#5219-05

The SECO Carbon Fiber Thumb Release Tripod uses the same design concepts as the popular aluminum Thumb Release Tripod (left), but weighs less.

1-to-1.50-inch (25.4-to-38.1mm ) OD poles thread easily through the open clamp on top.

The legs (independently) extend to $6 \mathrm{ft}(1.8 \mathrm{~m})$ and collapse to 43 in ( 109 cm ).

Weighs 4.1 lb
(1.86 kg)

Adjust the leg tension by turning the thumb buttons!

## Simple Tripod with 12-Inch Legs <br> \#5218-15-ABK

This tripod is ideal for use with poles under 24 inches long, and it's simple and easy to use!

1-to-1.50-inch ( 25.4 -to-38.1-mm) diameter poles thread easily through the open clamp on top.

The legs are a fixed length of 12 inches each.
Other features include stainless steel clamp screw and rubber tips for gripping hard or slick surfaces.

Weighs $1.3 \mathrm{lb}(0.6 \mathrm{~kg})$

## PRISMBasies

## Prism Offsets

Corner cube prisms (or retroreflectors) used with electronic distance measuring (EDM) instruments have an offset due to the fact that the transmitted light beam from the EDM takes longer to enter and exit the prism. This longer time translates to a longer distance measured. This distance is corrected by using an 'offset' and/or positioning the prism in relationship to the plumb line of the prism holder. The offset is determined by multiplying the height of the prism by the refractive index of the glass used. Common offsets are $0,-17.5 \mathrm{~mm},-30 \mathrm{~mm},-34 \mathrm{~mm}$, and -40 mm .

## Nodal Offsets

A nodal offset is defined by the relationship of the prism holder and prism that places the optical center of the prism on the plumb line of the holder. This offset is the most advantageous at close range work when the apex or center of the prism is used as a pointing target for vertical and horizontal angle measurement. Every prism has a nodal offset. Prisms and holders that are not in the nodal position however, can cause angular errors when using the prism apex as a target if it is not perfectly pointed toward the measuring instrument.

To reduce pointing errors, several SECO prism assemblies are designed with a nodal point alignment at -17.5 (for $25-\mathrm{mm}$ prisms) or -40 mm offset (for $62-\mathrm{mm}$ prisms). See illustration at right.

Commonly, the best reading of the beam is achieved when the prism face is perpendicular to the incoming beam for a parallel return. Unfortunately, ideal alignment is not always achieved in the field.

To compensate for pointing errors, nodal point alignment minimizes the error associated with misalignments (two illustrations below).

at -17.5 or -40 mm Offset


Non-Aligned at -30 mm Offset


## Prism Range

Corner cube prisms redirect the measuring beam back to the EDM for signal processing. There are two main factors for good range measurement: prism diameter and beam deviation. If the beam deviation is not accurate enough, the returned beam will miss the EDM entirely. This occurs mainly near the maximum range of the EDM (check with your manufacturer). SECO standard prisms are $<5$ seconds. Higher accuracy prisms are also available.

## Prism Holder Accuracy

Prism accuracy is determined by the physical location of the prism in its canister and then to its holder. SECO prism accuracy is 1 mm or less.

SECO uses a ZYGO GPI-XP/D interferometer to test and confirm the beam deviation of prisms to ensure that they meet specifications. Certificates of compliance are available upon request. Come see us for more details.


## 62-mm Prisms and Assemblies

## Rear Locking 62-mm Premier Prism Assembly

This prism assembly design incorporates a simple stainless steel locking mechanism that's easy to set while adjusting the prism and target tilt. The heavy-duty $62-\mathrm{mm}$ silver-coated prism is sealed in a strong canister with an 'O' ring to prevent water and dust from getting inside. The prism can be mounted in either o or $-30-\mathrm{mm}$ offset positions. Two target sizes and five color combinations are available, see below. The tilting axis height is 115 mm .

The 6402-20 weighs $1.75 \mathrm{lb}(0.79 \mathrm{~kg})$. The 6422-20 weighs 1.59 lb ( 0.72 kg ).



62-mm Nitrogen Filled Prism with Hermetically Sealed Canister \#6411-00
Features < 5 -second accuracy.


## 62-mm Copper-Coated Prism with Sealed Canister \#6411-02-BLK

Features < 5 -second accuracy.


## 62-mm Silver-Coated Prism with Heavy-Duty Sealed Canister \#6411-03-BLK

Features < 5 -second accuracy.


## 62-mm Silver-Coated Prism with Heavy-Duty Sealed Canister \#6411-04-BLK

Features <2-second accuracy.


## 62-mm Silver-Coated Strobe Prism \#6416-00

Features 0.5 -second flash.


## 58-mm Silver-Coated flexible Polycarbonate Prism

\#2040-FOR (Orange shown, YEL and FLY also available)
Features <5-second accuracy.


## 62-mm Nodal Point Prism Assembly

 \#6406-00This high-quality GPH1 Swiss-style prism assembly features a copper-coated prism for consistent results and a removable target.

It has a -34 mm -offset prism and an $86-\mathrm{mm}$ 'HT'.

| Weighs $0.92 \mathrm{lb}(0.42 \mathrm{~kg})$ | NODAL |
| :--- | :--- |
| POINT |  |

## Single Prism Tilting

 Assembly \#6440-00-FORThis assembly consists of an aluminum -30-mm offset prism holder (\#6375-oo-FOR), coated with corrosion-proof powder paint, and a coppercoated 62-mm prism (\#6411-02-BLK).

Available colors: yellow, fluorescent yellow, and fluorescent orange.

Weighs $1.5 \mathrm{lb}(0.68 \mathrm{~kg})$

## 62-mm Prism with Non-Tilting Holder \#640-10-FOR

This assembly consists of an aluminum -30-mm offset (or zero offset prism) holder and a $62-\mathrm{mm}$, copper-coated prism in a sealed canister.

Weighs $1.5 \mathrm{lb}(0.68 \mathrm{~kg})$

## 62-mm Prism Assemblies

## Premier 62-mm Prism Assembly

The Premier Prism Assembly features a copper-coated, canister-type prism. It's waterproof, and has an M20 universal mounting thread. The tilting holder is anodized aluminum and features an improved locking clamp screw design and an 18 -gauge steel target. The prism can be mounted in either o or $-30-\mathrm{mm}$ offset positions.

The tilting axis height is 115 mm . The 6402-02 weighs 1.75 lb ( 0.79 kg ). The 6422-02 weighs 1.59 lb ( 0.72 kg ).


## Standard 62-mm Prism Assembly

The Standard Prism Assembly features a copper-coated, canister-type prism. It's waterproof and has a M20 universal mounting thread. The tilting holder is powder-painted die cast aluminum. It uses a simple but proven locking system. The prism can be mounted in either o or -30-mm offset positions. The tilting axis height is 115 mm .
Weighs $1.35 \mathrm{lb}(0.62 \mathrm{~kg})$


## 58-mm Prism Assemblies



## Front Locking Prism Assembly

The new 3015 and the 3050 Series Prism Assemblies feature an all metal tilting prism holder with an improved front locking lever design and target. The prism is 58 mm in diameter with silver coating to protect against moisture, fogging, and severe climate conditions. The prism is made of fine optical glass and has a beam deviation of $<5$ second.

The \#3015 is housed in an American-made rugged polypropylene canister that is highly impact resistant and the \#3050 is housed in an American-made all aluminum canister. The tilting holder is made of anodized aluminum, brass and stainless steel hardware. The new brass locking lever is located in the front, is easy to use and is protected from bumps and falls.

It is available in three color combinations with matching prism canister color. The target's horizontal line continues to the extreme edge to make height measurement easy with a pocket tape. The prism holder provides a o or $-30-\mathrm{mm}$ offset configuration and is compatible with male $5 / 8 \times 11$ in poles or tribrach accessories. The prism canister, tilting holder and target are all made in the USA and come with a lifetime limited warranty. The target height is 115 mm .

The \#3015 weighs $1.54 \mathrm{lb}(0.69 \mathrm{~kg})$, the \#3050 weighs $1.6 \mathrm{olb}(0.60 \mathrm{~kg})$

| Number: | Target Color: | Target Size: |
| :--- | :--- | :--- |
| $3015-$ YLB | Yellow with Black | $5.5 \times 7$ in |
| $3015-$ FLB | Flo Yellow with Black | $5.5 \times 7$ in |
| $3015-$ FOB | Flo Orange with Black | $5.5 \times 7$ in |
| $3050-$ YLB | Yellow with Black | $5.5 \times 7$ in |
| $3050-$ FLB | Flo Yellow with Black | $5.5 \times 7$ in |
| $3050-$ FOB | Flo Orange with Black | $5.5 \times 7$ in |

## Universal Tilting Prism Assembly

The accuracy of the $58-\mathrm{mm}$ prism is $<5$ arc second and is silver coated to protect against moisture, fogging and severe climatic conditions. The \#2050 prism canister, holder, yoke and locking target assembly are manufactured in the United States and have a lifetime limited warranty. The rugged Polypropylene prism canister with brass M20 thread is highly impact resistant.
The dual sided targets have $-30-\mathrm{mm}$ and $\mathrm{o}-\mathrm{mm}$ offsets. The target and yoke assembly are precision manufactured from high quality aluminum, stainless steel and brass. It has an easy to use twist knob tilting target lock.

This assembly fits standard $5 / 8 \times 11$ prism poles, adapters, etc. It is available in three high visibility powder coated colors: yellow, fluorescent orange, and fluorescent yellow.

The height of the tilting axis is 115 mm .
Weighs $1.5 \mathrm{lb}(0.68 \mathrm{~kg})$

| Number: | Target Color: | Target Size: |
| :--- | :--- | :--- |
| 2050-YLB | Yellow with Black | $4.5 \times 4.5$ in |
| 2050-FLB | Flo Yellow with Black | $4.5 \times 4.5$ in |
| 2050-FOB | Flo Orange with Black | $4.5 \times 4.5$ in |

## Tilting Mini Prism System <br> \#6450-00-BLK

The Eclipse ${ }^{\mathrm{TM}}$ mini system includes: a Mini Tilting Prism (\#6451-00BLK); plumb bob attachment; Mini Bob Prism Mount (\#6453-00); Point (\#6220-00), and Belt Case (\#8022-oo-CABLU).

Weighs 0.3 lb ( 0.14 kg )

## Mini Prism System

\#6200-10-FOR — with Center Vial
\#6200-11-FOR — with Side Vial (shown)
This system contains a copper coated $25-\mathrm{mm}$ prism; a tilting holder ( $0,-30 \mathrm{~mm}$ offset) with center or side-mounted 40-minute vial; 100 and $115-\mathrm{mm}$ adapters for pole or tribrach mounting (prism holder height, w/o adapters is 70 mm ); S-hook and bracket for handheld work; a point for stake-outs (97 mm height ); and a padded system bag for carrying it all.

Weighs $0.34 \mathrm{lb}(0.15 \mathrm{~kg})$


## Stakeout Mini Prism with Site Cones \#6405-10-FOR

This prism features 'site cones' that improve vertical angle pointing and an adjustable side-mounted circular vial. The site cones double as tilting-axis lock knobs.

The adjustable $40-\mathrm{min}$ vial is mounted on the front side and is easy to see and adjust.

The prism can be set in 0 and -30 offset positions.

Weighs $0.3 \mathrm{lb}(0.14 \mathrm{~kg})$

## Stakeout Mini Prism Kit \#6405-11-FOR

The white site cones on X and Y axis of the assembly help improve centering of your instrument's crosshairs for vertical and horizontal pointing.

It can be used in four height configurations: $50 \mathrm{~mm}, 100 \mathrm{~mm}$, 115 mm and 150 mm , top or bottom of the pole, handheld, or tribrach mounted.

Weighs $0.8 \mathrm{lb}(0.36 \mathrm{~kg}), 1.3 \mathrm{lb}(0.59$ kg ) with heavy-duty point.

## 25-mm Prisms and Pin Pole Kits

## Euro-Style Prism Pole Systems <br> \#5910-01-ARD ( $0,-30 \mathrm{~mm}$ ) \#5910-02-ARD (-17.5 mm - Nodal) \#5910-03-ARD (-34 mm)

This system is ideal for all handheld prism work, topos or precise layout work; it can be assembled in various configurations.

It's available with the most accurate offset position (-17.5 mm - nodal) that places the optical center of the prism over the plumb line axis. This helps eliminate angular pointing errors, at close range.

All anodized aluminum section lengths are known ( 30 cm ). It features a 40 -minute adjustable vial and white sight cones and comes with a $5 / 8 \times 11$ adapter for standard prism poles (for height of 115 mm ).

An orange
Cordura ${ }^{\circledR}$
carrying case is also included.

Weighs 1.6 lb ( 0.73 kg )

EJTI

Pin Pole with Sliding 25 mm Prism System \#6600-10

This 12.2-mm OD pin pole features three sections - each 60 cm in length to achieve $1.8 \mathrm{~m}(5.91 \mathrm{ft})$; each color section (red or white) is 10 cm in length.

Perfect for use with the Alligator Clamp Tripod (page 32).

Weighs $1.95 \mathrm{lb}(0.9 \mathrm{~kg})$


## Reflector Pin Pole Kit

\#5910-10
This new Reflector Pin Pole kit is ideal for use with reflectorless total station instruments.

The target holder is machined anodized aluminum and allows the target to tilt $360^{\circ}$. A 40minute vial is built in.

Comes with four aluminum 30 cm pole sections, prism and system case.

The 5 cm point is a special three piece nonconductive design.

Weighs 1.45 lb ( 0.66 kg )

## Other Prisms and Accessories

## 62-mm Strobe Prism Premier Assembly <br> \#6402-03 (with $6 \times 9$ inch target - shown)

 \#6402-11 (with $5.5 \times 7$ inch target)This assembly combines the SECO Premier target and holder with a strobe prism.

It's perfect for low light conditions.
The silver-coated prism flashes every 0.5 second.

Weighs 1.35 lb
( 0.61 kg )


## Tilting Triple Prism Holder \#6341-10

This assembly is made from orange polycarbonate, four metal inserts and an aluminum yoke. It can hold one to three standard screw-in 62mm prisms.

The housing features a peep sight to assist with longer distances.

Weighs 0.91 lb ( 0.41 kg )

## Other Prism Accessories Available

## Mining, Tunneling and Deformation Accessories

## Small Tilting <br> Reflector <br> \#6600-01

This yellow Delrin ${ }^{\circledR}$ reflector is perfect for short-range measurements - up to 150 m (492 ft) - or where retrieving the reflector is not practical or economical. It features a $2-\mathrm{mm}$ offset, $60-\mathrm{mm}$ reflector of diamond pattern sheeting. It has an 86-mm height and fits Swiss-style male tips or quickrelease adapters (see below).

Weighs $0.15 \mathrm{lb}(0.07 \mathrm{~kg})$


## Small Tilting Mini prism <br> \#6600-04

The \#6600-04 is similar to the \#6600-01 above but with a 25-mm mini prism for ranges up 2,000 ft ( 600 m ) or more with most instruments. It has a -17.5-mm offset.

Weighs $0.25 \mathrm{lb}(0.11 \mathrm{~kg})$


## Small Tilting Reflector w/ Printed Crosshair Image <br> \#6600-03

This reflector is the same as the \#6600-01 (at left) but with printed crosshair image on front and back.

Weighs $0.15 \mathrm{lb}(0.07 \mathrm{~kg})$


## 25-mm 'L-Bar' Mini Prism \#6600-02

The $25-\mathrm{mm}$ ' L -Bar' is perfect for deformation or mining surveys, or places where a permanent mounting is needed.

This assembly is constructed of anodized aluminum and the prism is water and dust proof. It features a -25 -mm offset and comes with $10.3-\mathrm{mm}$ ID mounting hole.

Weighs $0.45 \mathrm{lb}(0.20 \mathrm{~kg})$


## Stainless Steel Quick Release Adapters

6601-Series Quick Release Adapters are made of T-303 stainless steel with machined threads that attach to corresponding Anchor Bolts or the 6602-Series rebar bolts. Weighs $0.10 \mathrm{lb}(0.05 \mathrm{~kg})$

\#6601-01 $1 / 4 \times 20$ threads

\#6601-02 $3 / 8 \times 16$ threads

\#6601-03 M8 threads

\#6601-04 M12 threads

## Anodized Quick Release Adapter \#5187-00

This adapter features female $5 / 8 \mathrm{x}$ 11 threads. It's made of anodized aluminum.

Weighs $0.05 \mathrm{lb}(0.02 \mathrm{~kg})$

## Rebar Bolts

\#6602-01 - 3/8 x 16 threads
\#6602-02 - M12 Threads
Rebar Bolt measures $3 / 4 \times 9.9$ in ( $19.05 \times 251.46$ mm ) long comes with a hex bolt used to hammer the bolt in the surface, remove the hex bolt and install the 6601-Series Adapter. Choose between $3 / 8 \times 16$ or M12 thread patterns.

Weighs 1.25 lb ( 0.57 kg )

## Laser Tribrach

\#2153-02-BLK

This tribrach has a bright $650-\mathrm{nm}$ focused laser dot that provides prompt and precise positioning over a point.

It has a push-button on/off switch which is now located close to the tribrach body to prevent it from accidentally turning on during transport or handling.

This tribrach has a circular vial w/8-minute sensitivity. It has standard three prong forced centering with center lines on the leveling screw range. Included is a standard 3 volt CR2 Panasonic lithium battery providing 10 hours of continuous operation.

Weighs 1.65 lb ( 0.75 kg )


## European-Style Tribrachs

\#2152-05-BLK (Top with Optical Plummet) \#2153-05-BLK (Bottom without Optical Plummet)

These high-quality tribrachs are available with or without an optical plummet!

The \#2152-05-BLK, with optical plummet, features 2X magnification and a twist focus. Its reticule is composed of two small concentric circles. With a sighting distance of 0.3 m to 15 m , the tribrach has an accuracy of 0.5 mm per 1.5 m .

Both of these have a locking forcedcentering knob, a $5 / 8 \times 11$ base and an 8-minute circular vial.

Each weigh 1.55 lb ( 0.70 kg )


## Optical Plummet Twist Focus Tribrach

 \#2152-04-YELThe Optical Plummet Twist Focus Tribrach features twist focus ( 2.5 X mag) and leveling screws with center line. It has an 8-min vial, 3 -prong forced centering and a $5 / 8 \times 11$ base.

This tribrach has a focusing range of 1.5 to 50 feet ( 0.5 to 15 m ).

Available in black, green, yellow (shown) or grey.
Weighs $1.85 \mathrm{lb}(0.84 \mathrm{~kg})$

## Fixed Tribrach Adapter

\#2010-00
Use this adapter for mounting retro prisms and tripod mounted target systems.
Fits all tribrachs.
Weighs $0.5 \mathrm{lb}(0.23 \mathrm{~kg})$

## Rotating Tribrach Adapter

 \#2020-00This rotating friction top tribrach adapter allows the prism to be pointed after installation in the tribrach. Fits all tribrachs.

Weighs $0.9 \mathrm{lb}(0.41 \mathrm{~kg})$

## Rotating Tribrach Adapter

\#2070-00
This adapts retro prisms to Swiss-style tribrachs and has a removable Zeiss plug and locking screw. Fits all tribrachs.

Weighs 1.75 lb ( 0.8 kg )

## Prism H.T. Adapter

 \#2071-00This allows adjusting of prism height by moving the threaded brass insert in the adapter. Fits all tribrachs.

Weighs $1.91 \mathrm{lb}(0.87 \mathrm{~kg})$

Horizontal Base
\#2021-00
The Horizontal Base will accept any $5 / 8 \times 11$ instrument and features a precision brass slow-motion tangent screw. It's great for dual-axis lasers. Fits all tribrachs.

Weighs $3 \mathrm{lb}(1.36 \mathrm{~kg})$

## Tribrach Case \#8071-00-ORG

This padded carrying case for tribrachs has a heavy-duty zipper, dust flaps \& nylon carrying straps.
Made at Geo de SECO, Mexico.
$6 \times 6 \times 2$ in ( $15.24 \times 15.24 \times 5.08$ cm ) Weighs $0.40 \mathrm{lb}(0.18 \mathrm{~kg})$

## Tribrach Adjusting Cylinder \#2001-00

Use for checking and adjusting optical plummet tribrachs in the office. Precisionmachined, black anodized aluminum. Weighs 0.7 lb ( 0.32 kg )

## Tribrach Adjuster <br> \#2002-00

Use for adjusting optical plummet tribrachs \& tribrach bubbles. The machined black anodized aluminum features a $2^{-}$ minute bubble. Weighs 1.3 lb ( 0.59 kg )


Tech Tips available
at www.surveying.com

## Traverse Tribrach Adapter \#2153-10-GRY

This Tribrach Adapter is for traversing or precise setups. The optical plummet is twist-focus with 2.5 X magnification. It has a 60 -second adjustable plate vial. The precision-machined axis rotates 360 degrees.

This adapter is compatible with all prisms with a $24.9-\mathrm{mm}$ bayonet base. The adjustable height is $100 \mathrm{~mm}-\mathrm{to}-120$ mm . It fits all standard three-prong tribrachs. The over point accuracy is 0.5 mm at 1.5 m .


Other available colors are black, yellow and green.
Weighs 1.70 lb ( 0.77 kg )

## Traverse Kit

\#2159-01-GRY - Single Prism (shown)
\#2159-02-GRY — Triple Prism
\#2159-03-BLK — Single Prism w/ 196-mm Height
This traverse or precise backsight kit includes a $62-\mathrm{mm}$ prism assembly (\#6400-10). The prism canister is silver coated to resist fogging and the prism has $<5$ arc seconds angle deviation. The adjustable tilt target has $0,-30$, and -40 prism offsets and is reversible; orange/white and black/white. The target also has a sighting collimator for precise pointing.

The kit comes with a rotating tribrach adapter (\#2153-10-GRY) that is compatible with all prisms with a $24.9-\mathrm{mm}$ bayonet base. It has a 2.5 X twist focus optical plummet and a 60 -second adjustable plate vial. The adapter has a precision machined axis that rotates 360 degrees. The height is $100-$ to-120 mm and over the point accuracy is 0.5 mm at 1.5 m .

Also included is a tribrach (\#2153-04-GRY) which features three-screw-leveling with center line, an 8-minute circular vial, and 5/8 x 11 base thread.

This kit also comes with a bright orange, hard shell carrying case (\#2159-050) with high density foam inserts, nickel plated latches and backpack straps. This kit is also available without a prism (\#2159-oo). The tribrach and adapter come in gray, green, yellow or black.
Weighs $9.95 \mathrm{lb}(4.51 \mathrm{~kg})$

These aluminum instrument tripods accommodate $5 / 8 \times 11$ instruments and are ideal for mounting lasers, total stations and auto levels. The telescopic legs allow for setup at various heights and are available in aluminum with orange or black hardware (on some models).


|  | Number: | Lock Type: | Legs: | Weight: | Extension: | Head: | Hardware: |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| (A) | 5301-20-ORG | Quick Clamp | Aluminum | $10.2 \mathrm{lb}(4.63 \mathrm{~kg})$ | 66 in (1.70 m) | Flat | Orange or Black |
| B | 5311-20-ORG | Quick Clamp | Aluminum | $10.2 \mathrm{lb}(4.63 \mathrm{~kg})$ | 66 in (1.70 m) | Dome | Orange |
| C | 5401-20-ORG | Twisting Lock | Aluminum | $10.2 \mathrm{lb}(4.63 \mathrm{~kg})$ | 66 in (1.70 m) | Flat | Orange or Black |
| D | 5301-27-BLK | Quick Clamp | Aluminum | 7 lb ( 3.18 kg ) | 65 in ( 1.60 m ) | Flat | Black or Orange |
| E | 5321-16-BLK | Quick Clamp | Aluminum | $16.3 \mathrm{lb}(7.39 \mathrm{~kg})$ | 91.2 in ( 2.32 m ) | Elevator | Black |
| (F) | 5401-23-BLK | Twisting Lock | Aluminum | $6.70 \mathrm{lb}(3.03 \mathrm{~kg})$ | 25.5 in ( 64.77 cm ) | Flat | Black |

## Instrument Tripods

These heavy-duty aluminum tripods offer stability and accuracy. They are built to last with heavy construction throughout, and are designed to withstand rigorous field conditions. They feature both quick clamp and screw clamp models in flat or dome head, and these tripods come equipped with square outer dowels for a more secure lock. These tripods are equipped with a $5 / 8 \times 11$ thread adapter for convenient mounting of instruments.


## Extra-Large Tripod Bag

\#8154-11-ORG
This heavy-duty bag will carry many different brands of tripods, including SECO and Crain Tri-Max.
It measures $8 \times 48$ inches ( $20.3 \times 121.9 \mathrm{~cm}$ ).
Made at Geo de SECO, Mexico.
Weighs 1.7 lb ( 0.77 kg )

## Instrument Tripods

## Tri-Max Tripod \#90550 (shown)

The Tri-Max ${ }^{\circledR}$ by Crain is without a doubt the best instrument tripod on the market today. It's the only surveying-grade tripod with certified accuracy - highly recommended for all servodriven and robotic total stations and 3-D laser scanners.

This tripod easily meets the ISO 12858-2-H standard for the stability of instrument tripods. The revolutionary design of this tripod series and Crain's commitment to quality mean this tripod will meet the ISO standard right out of the box, and after years of field use.

The Tri-Max features a 6-5/8-inch head with large center hole ( $2-5 / 8$ inch) to facilitate an easy set-up over a point.

A retaining system-which prevents leg kick out and accidental falls on slick surfaces- is stored on the inside of the leg and can be left in place when the tripod is not in use.

The Tri-Max features an advanced foot design. The large 'footbed' is there to facilitate solid planting for stability. The shape and size of the foot are designed to allow for a solid placement on any terrain. The foot is equipped with a replaceable point and a retention loop for use with a safety strap.

The Tri-Max can handle equipment up to $65 \mathrm{lb}(30 \mathrm{~kg})$ !

Demo video available at www.surveying.com


The Quick-Clamp positive locking system can be placed on the inside of the leg if needed.


The Tri-Max foot plants firmly and holds tight.

| Number: | Lock Type: | Legs: | Weight: | Extension: | Head: | Harduare: |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- |
| 90550 | Quick Clamp | Fiberglass | $17 \mathrm{lb}(7.7 \mathrm{~kg})$ | $71 \mathrm{in}(1.8 \mathrm{~m})$ | Flat | Black |
| 90551 | Screw Clamp | Fiberglass | $17 \mathrm{lb}(7.7 \mathrm{~kg})$ | $71 \mathrm{in}(1.8 \mathrm{~m})$ | Flat | Black |
| 90553 | Dual Clamp | Fiberglass | $17 \mathrm{lb}(7.7 \mathrm{~kg})$ | $71 \mathrm{in}(1.8 \mathrm{~m})$ | Flat | Black |
| 90560 | Quick/Dual Clamp | Fiberglass | $20 \mathrm{lb}(9.0 \mathrm{~kg})$ | $91 \mathrm{in}(2.3 \mathrm{~m})$ | Flat | Black |
| 90561 | Screw/Dual Clamp | Fiberglass | $20 \mathrm{lb}(9.0 \mathrm{~kg})$ | $91 \mathrm{in}(2.3 \mathrm{~m})$ | Flat | Black |
| 90570 | Fixed Leg | Fiberglass | $17 \mathrm{lb}(7.7 \mathrm{~kg})$ | $54 \mathrm{in}(1.3 \mathrm{~m})$ | Flat | Black |

## Tri-Max

 Tripod5-Inch Points
\#91702-3 count
For use in soft terrains, such as mud and swampy areas.

The longer point allows for the tripod to be more firmly planted in the ground.

Weighs 0.9 lb ( 0.4 kg )

## Tri-Max Tripod Snow Plates

\#91703 - 3 count
Snow plates widen foothold area for more secure planting in harder surfaces, like ice or snow. Tri-Max feet have a dimple in the center of the foot pad.

Drill out using a $3 / 8$-inch bit and then attach bolt clamp from underneath. Place the plate over top and secure with screw knob. Weighs $2.17 \mathrm{lb}(0.98 \mathrm{~kg})$


## Portable 11-Foot Fiberglass Tripod \#5203-20-ORG

This tripod is very portable; it breaks down in two, four-foot sections.

It's easy to setup and take apart and comes with two carrying cases. Add the three additional legs and this tripod goes from 7 ft collapsed to 11 ft extended!

The tripod features a unique telescoping strut system to stabilize the fiberglass legs, dual clamps on each leg, and a flat head with standard $5 / 8 \times 11$ instrument fastener.
It's waterproof and ideal for machine control, scanning, AG leveling or robotic applications where a taller platform is required.

Weighs $36 \mathrm{lb}(16.3 \mathrm{~kg})$
Includes bags for transporting or storage



Heavy-Duty, Extra Tall, Fiberglass Elevator Tripod \#5321-17-ORG
This tripod has a fully-extended leg height of $12.40 \mathrm{ft}(3.80 \mathrm{~m})$; collapsed height is $5.97 \mathrm{ft}(1.82 \mathrm{~m})$.

The legs and dowels are constructed of fiberglass for durability, strength and resistance to weathering. It features an adjustable center column that gives you $5.97 \mathrm{ft}(1.82 \mathrm{~m})$ of lift. A detachable round head plate, with a $5 / 8 \mathrm{x} 11$ stud, gives your instrument a sturdy platform. Lockable leg stabilizer struts, dual clamps, twist locks and quick clamps, along with dual metal and rubber leg points create greater stability. It comes with a handy leg strap!

Use with lasers, scanners, machine control or other instruments.
Weighs 33.1 lb ( 15.0 kg )

Extra Large Tripod Bag — \#8153-10-ORG (also available in green)
The bag features a full-length zipper and shoulder strap.
Measures: $82 \times 9$ OD inches ( $208.28 \times 22.86$ OD cm)
Made at Geo de SECO, Mexico.

## Premier Heavy-Duty Wood Tripod with Round Head \#5220-10-BLK

Features include wood legs with hand holes; 6.5-inch round head; quick-release and twisting locks; a leg stabilizer strap and tool kit.
The legs extend to 72 inches ( 182.8 cm ), and collapse to 46.5 inches ( 118 cm ).
Weighs $16.5 \mathrm{lb}(7.48 \mathrm{~kg})$


## Premier Heavy-Duty Wood Tripod with Round Head and Quick Clamp Legs <br> \#5320-10-ORG (Choose orange, shown, or black hardware)

This new heavy-duty tripod features a round head for $5 / 8 \times 11$ instruments, all-wood legs with Quick Clamps and hand holes.

The tripod extends to 72 inches ( 183 cm ), and collapses to 46.5 inches ( 118 cm ).
A shoulder strap is included for convenient carrying and the package includes a tool kit and a stabilizing strap. Weighs 16.5 lb ( 7.48 kg )


## Premier Heavy-Duty Wood Tripod with Round Head and Twisting Lock Legs

\#5420-10-ORG (Choose orange, shown, or black hardware)
This new heavy-duty tripod features a round head for $5 / 8 \times 11$ instruments, all-wood legs with twisting locks and hand holes.

The tripod extends to 72 inches ( 183 cm ), and collapses to 46.5 inches ( 118 cm ).
A shoulder strap is included for convenient carrying and the package includes a tool kit and a stabilizing strap.

Weighs 16.5 lb ( 7.48 kg )


These Wood and Fiberglass Tripods are stable and accurate. They're perfect for mechanically-driven total stations and survey-grade theodolites and levels. More stable than aluminum tripods, these tripods stand up to demanding field conditions. The $5 / 8 \times 11$ threaded post accommodates standard instruments - an ideal tripod for many applications.


|  | Number: | Lock Type: | Legs: | Weight: | Extension: | Head: | Harduvare: |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| (A) | 5302-10-BLK | Quick Clamp | Wood/Fiberglass | $18 \mathrm{lb}(8.16 \mathrm{~kg})$ | 72.5 in (1.8 m) | Triangle | Black or Orange |
| B | 5402-10-BLK | Screw Clamp | Wood/Fiberglass | $18 \mathrm{lb}(8.16 \mathrm{~kg})$ | 72.5 in (1.8 m) | Triangle | Black or Orange |
| C | 5203-10-BLK | Dual Clamp | Fiberglass | $18.2 \mathrm{lb}(8.26 \mathrm{~kg})$ | 72.5 in (1.8 m) | Round | Black or Orange |

## Tripod Bag

\#8150-00-ORG
\#8150-20-ORG - with Rhinotek

The tripod bag holds all major brands of aluminum, fiberglass, and wood tripods. It's made of heavy-duty nylon Cordura ${ }^{\circledR}$.

Both models feature drawstring closures and interior leather bottoms. The \#8150-20 (shown) has a Rhinotek ${ }^{\mathrm{TM}}$ outer reinforced bottom.

Available in flo orange or flo green. Made at Geo de SECO, Mexico.

It measures $52 \times 8.75$
inches ( $132.1 \times 22.23 \mathrm{~cm}$ ).
Weighs 0.26 lb ( 0.57 kg )

Tripod Hard Shell Shipping Case \#8160-30

This is an ideal case to ship any surveying tripod.
It has 2 inches ( 5.08 cm ) of padding inside the top and the bottom and a built-in hard plastic disc to keep tripod points from damaging the case.

It fits most standard height surveying instrument tripods and GPS base station tripods too.

This case is made of durable rotational molded cross linked safety orange polyethylene and comes with a life-time warranty and is UV stable.

The inside dimensions are $9 \times 47$ inches (22.86 x 119.38 cm ) and is adjustable to 51 inches ( 129.54 cm ). This case has a strong carrying handle and a 2-inch ( $5.08-\mathrm{cm}$ ) wide web belt with quick release buckle to hold and release lid.

It also boasts an ID card holder and shipping label area.

Weighs 18 lb ( 8.16 kg )

## Sta-Level Feet Tripod Stabilizers

\#5610-10

Lightweight and portable, Sta-Level ${ }^{\text {TM }}$ Feet keep your tripod level in all surface conditions.

Position the feet on the ground, set the tripod points in the center divot of each foot and level the tripod. Set of three - each weighs $0.29 \mathrm{lb}(0.12 \mathrm{~kg})$


## Tilted Tripod Bracket \#5196-07

This tilted SECO bracket holds the Allegro, Archer ${ }^{\circledR}$, Explorer, Recon ${ }^{\circledR}$ or Jett® ${ }^{\bullet}$ ce controller to a SECO or any similar brand tripod.
Weighs 0.06 lb ( 0.03 kg )


## Rotating Tripod Bracket

\#5196-13
\#5196-13-005 — Brass Adapter
This aluminum bracket rotates around the tripod head for easier access to your collector. It's perfect for layout work or large topo surveys!


## Tripod Collector Bracket <br> \#5196-01

Designed for TSCe, ${ }^{\text {TM }}$ Ranger, ${ }^{\text {TM }}$ FS Series collectors. This bracket is fully adjustable. Weighs 0.98 lb ( 0.44 kg )


## Tripod Stabilizer <br> \#5610-00

The tripod stabilizer is designed to provide the extra stability required when working indoors on concrete and other hard surfaces. It's made of heavy-duty aluminum and measures $35 \times 35 \times 35$ in (88.9 x $88.9 \times 88.9 \mathrm{~cm}$ ). It collapses for compact storage.
Weighs $3 \mathrm{lb}(1.36 \mathrm{~kg})$


## Tripod Adapters

\#2120-00: Adapts $3-1 / 2 \times 8$ tripod to $5 / 8 \times 11$.
\#2130-00: Adapts $5 / 8 \times 11$ tripod to 3-1/2 x 8 .
\#2132-01: Adapts 5/8 x 11 tripod to $1 / 4 \times 20$.

Tripod Hook Brackets
\#5196-14 — For Ranger 300X, 500X, TSC2
\#5196-15 - For Recon
\#5196-16 - Archer
\#5196-17 - Nomad
SECO has four solutions to secure your TDS ${ }^{\text {TM }}$ Ranger 300X/500X,
Trimble ${ }^{\circledR}$ TSC2 $^{\text {TM }}$,
Recon ${ }^{\circledR}$, Archer ${ }^{\circledR}$ or Nomad ${ }^{\circledR}$ controller to a surveying tripod.

Both include instructions and a tool for installation!


## Tripod Bracket <br> \#5196-04

This economy model bracket fits snug on a tripod and holds the Allegro, Archer ${ }^{\circledR}$, Explorer, Recon ${ }^{\circledR}$ or Jett ${ }^{®} \cdot$ ce controller to a SECO or any similar brand tripod.


## Tripod Laptop Bracket \#5196-02

Use your laptop at the job site! It's easily held on the instrument tripod with this fully-adjustable bracket. Measures $13 \times 10.25$ in ( $33 \times 26.04 \mathrm{~cm}$ )

Weighs $2.2 \mathrm{lb}(1.02 \mathrm{~kg})$


## Omnidirectional Scanner Target <br> \#6700-Series

The new omnidirectional ball or sphere target, for use with laser scanners, is now available from SECO.

This target is 6 inches round and is made of durable mattewhite polyester.

The target height is 150 mm and it has a small center groove for measuring the height above the ground point.

This target is compatible with all standard surveying equipment; tribrachs, poles, etc.

Accessories sold separately include: \#6700o50 Quick Disconnect adapter; \#8081-ooORG padded bag, \#8130-oo-ORG padded bag (which holds target with tribrach and adapter); \#2152-O4-BLK optical plummet; \#2070-00 tribrach adapter; \#5507 series 150-mm height poles; \#5218 series pole bipod or tripod.

Weighs between 2.43 and 2.87 lb
( 1.1 and 1.3 kg )
with female $5 / 8 \times 11$ adapter


## \#6700-02

with Quick Disconnect adapter


## Optical Instruments

The \#4811-Series Auto Levels feature a sturdy metal Japanese-style body with a magnetic dampened compensator and 24 X or 32 X magnification. The top cover plate is easily removed for quick adjustment. It fits $5 / 8 \mathrm{x} 11$ flat or domed tripods. A high quality aluminum carrying case is included. It's accurate to $1 / 16$-inch per 100 feet (in good conditions).

| \#4811-32: |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- |

Apache auto levels feature 24X or 32X magnification and air-dampened or magnetic-dampened compensators.
The removable top cover makes access to the compensator easy. These auto levels are accurate to $1 / 16$-inch per 100 feet (in good weather conditions). Package includes: auto level, allen wrench, pin tool, rain cover, and plumb bob-all within the hard-shell case.


## Auto Level Packages: the whole kit in one box!

These packages include a 24X auto level, aluminum tripod and an aluminum builder's rod.

## The \#4811 Package Includes:

24X Auto Level \#4811-24,
Aluminum Tripod \#5301-27-BLK and one of the following Builder's Rods:
\#4811-24P1 - Aluminum Rod \#7321-30 (9 ft, in/ft grads) \#4811-24P2 - Aluminum Rod \#7301-30 (9 ft, 10ths/ft grads) \#4811-24P3 - Aluminum Rod \#7341-30 (3 m, 5 mm grads)

Weighs approximately 24 lb ( 10.9 kg )

## The \#4812 Package Includes:

24X Auto Level \#4812-24,
Aluminum Tripod \#5301-27-BLK and one of the following Builder's Rods:
\#4812-24AP1 - Aluminum Rod \#7321-30 (9 ft, in/ft grads) \#4812-24AP2 - Aluminum Rod \#7301-30 ( $9 \mathrm{ft}, 10 \mathrm{ths} / \mathrm{ft}$ grads) \#4812-24AP3 - Aluminum Rod \#7341-30 (3 m, 5 mm grads)

Weighs approximately 24 lb ( 10.9 kg )

## Apache ADT-2 Digital Electronic Theodolite \#4855-00

Designed for general construction applications, the Apache ADT-2 digital electronic theodolite gives you accurate measurements in an affordable, versatile, easy to use platform.

## Apache ADT-2 Specifications

| Telescope | Erect |
| :--- | :--- |
| Image | 30 X |
| Magnification | $45 \mathrm{~mm}(1.7 \mathrm{in})$ |
| Aperture | $1.35 \mathrm{~mm}(4.43 \mathrm{ft})$ to $\infty$ |
| Focus Distance | $1^{\circ} 30^{\prime}$ |
| Field of View | $100 / \mathrm{o}$ |
| Stadia Ratio / Constant |  |
|  | Erect |
| Optical Plummet | 3 X |
| Image | $5^{\circ}$ |
| Magnification | $0.5 \mathrm{~m} \sim \infty(1.6 \mathrm{ft} \sim \infty)$ |
| Angle of View | Crosshair |
| Focusing Range |  |
| Reticle Type | $1^{\prime \prime}$ or $5 "$ |
| Angle Measuring System | $2^{\prime \prime}$ |
| Minimum Reading | Deg / mil / gon / V \% |
| Precision | Dual, Large Character, Backlit LCD both sides |
| Units |  |
| Display |  |


| Tilt Sensor |  |
| :--- | :--- |
| Automatic Compensation | User set On/Off, $\pm 3^{\prime}$ Range |
| Vials |  |
| Tubular | $30^{\prime \prime} / 2 \mathrm{~mm}$ |
| Circular | $8^{\prime} / 2 \mathrm{~mm}$ |


| Illumination |  |
| :--- | :--- |
| Display | Yes |
| Reticle | Yes |


| Other |  |
| :--- | :--- |
| Dust/Water Resistance | $\mathrm{IP}-54$ |
| Operating Temperature | $-20^{\circ} \mathrm{C}$ to $+50^{\circ} \mathrm{C}\left(-4^{\circ} \mathrm{F}\right.$ to $\left.+122^{\circ} \mathrm{F}\right)$ |
| Size | $164 \times 154 \times 340 \mathrm{~mm}(6.4 \times 6.1 \times 13.4 \mathrm{in})$ |
| Weight | $4.5 \mathrm{~kg}(9.9 \mathrm{lb})$ |
| Shipping Weight | $8.6 \mathrm{~kg}(19 \mathrm{lb})$ |
| Warranty | 1 year |



## Apache Summit Laser and Laserometer Packages

\#4850-01 - Summit 1 Single Grade, Single Axis
\#4850-02 - Summit 2 Dual Grade, Dual Axes
The Apache Summit ${ }^{\text {TM }}$ series are easy-to-use and feature horizontal leveling, vertical alignment, and adjustable grade control (in single or dual axes - depending on model). The horizontal and vertical accuracy: $1 / 16$-inch per 100 ft ( 10 arc seconds).

They feature a self-leveling range of $+/-5$ degrees and a grade range of $-10 \%$ to $+15 \%$ in $0.001 \%$ resolution. The grade accuracy is: $0.015 \%$, ( $1 / 8$ in @ 100 ft ).

The power comes from four D-cell NiMh or alkaline batteries. Average battery life is: 28 hrs (NiMh), 90 hrs (alkaline).

Operating diameter: Summit 1 2,000 ft / Summit 2-2,600 ft

All operations can be performed with the remote control unit, which features a range of 330 feet. Both units are water resistant.

Summit Warranty: 2 yrs.
Laserometer Warranty: 3 yrs
The package includes Summit 1 or 2 slope laser, Storm ${ }^{\circledR}$
Laserometer, ${ }^{\circledR}$ rod clamp, remote control, NiMh batteries, charger, and a hard shell case.

Weighs: 6.8 lb ( 3.1 kg )

Summit 1, single-grade, single-axis laser shown.


2-Way Radio
Remote
Included.

## Apache Horizon and Storm Laserometer Package \#4850-00

The Horizon ${ }^{\mathrm{TM}}$ emits a continuous self-leveled laser beam that is rotated to create a plane of laser light that extends over a work area up to 1,600 foot ( 500 m ) diameter.

It has accuracy of $\pm 1 / 16$ in at 100 ft ( $\pm 1.5 \mathrm{~mm}$ at $30 \mathrm{~m} / 10$ arc seconds).
The Horizon has a built-in out-of-level-warning and shut-off to eliminate rework caused by communication errors or out-of-level instruments.

Four standard D-cell alkaline batteries provide 175 hours of continuous use.

This unit has a rugged, ironclad design and comes with a two-year laser warranty.

The Horizon comes with the Storm ${ }^{\circledR}$ Laserometer, ${ }^{\circledR}$ rod clamp, batteries, and a hard shell case.

Weighs (with batteries) $7.5 \mathrm{lb}(3.4 \mathrm{~kg}$ )

Aluminum tripod and fiberglass rod sold separately.


## LaserLevel HL300 Rotating Laser with LD350 Receiver and Remote Control \#4850-03

The LaserLevel's ${ }^{\text {TM }}$ fully-automatic leveling provides fast and accurate setups.

Self-Leveling range of $\pm 5^{\circ}$ with an operating range up to $1,000 \mathrm{ft}$ diameter.

Laser Accuracy is $< \pm 3 / 32$ inch per $100 \mathrm{ft}(< \pm 2.2 \mathrm{~mm}$ per 30 m ).
4 "D" size Alkaline Batteries, provide 90 hrs of use.
Applications include: elevation control, excavations, basic slopes, leveling forms and footers, concrete pours.

In horizontal manual mode, single axis grade matching can be done for basic slope work. This 'Single Slope Mode' is accessed only with the optional Remote Control. In this mode the cross axis remains self leveling, ideal for driveways, ramps etc. In vertical manual mode, the laser can be used for basic, non-plumb, line work.

Comes standard with a 2 -year warranty.
Part No. 4850-03 includes laser level, receiver, rod clamp, alkaline batteries, instruction manual, and carrying case.

Weighs $6 \mathrm{lb}(2.7 \mathrm{~kg})$

## Construction Lasers and Receivers

## Apache Storm Laserometer <br> \#4851-00

The Apache Storm ${ }^{\circledR}$ Laserometer ${ }^{\circledR}$ Receiver features a digital readout of elevation which provides a numeric display of $\pm 2$ inches ( $\pm 5 \mathrm{~cm}$ ).

Accurate measurements can be made without moving the rod clamp, saving time and increasing productivity. A 5 -inch ( 12.7 cm ) reception height, more than double the industry standard, allows quick acquisition of the laser beam.

It is waterproofed to IP67 standards which means no downtime due to moisture, bad weather, or dust conditions. The protective over-molding allows it to withstand a drop of 10 feet (3 meters) onto concrete.

A patented anti-strobe sensor prevents construction lights from giving faulty signals. The high visible LEDs on the front show red for high and low and green for on-grade.

The patented universal reversible clamp fits square and oval rods. Available in red or yellow. Weighs (with batteries) $0.85 \mathrm{lb}(0.38 \mathrm{~kg}$ ) Weighs (with batteries and rod clamp) 1.20 lb ( 0.54 kg )

Fiberglass rod sold separately.


## Apache Lightning 2 <br> \#4851-02

The Lightning ${ }^{\text {TM }} 2$ has an easy-to-read dual LCD and LED displays.
It comes equipped with a snap-in rod clamp allowing for fast switching from rod-mounted to hand-held applications. Its tough IP67 waterproof housing protects the unit from dust, moisture, and accidental drops.

With two on-grade sensitivities (fine and medium), the Lightning 2 lets you get to grade faster on a wide variety of job sites.

Its loud 100 db speaker can be heard on noisy job sites.
Weighs (with batteries) $0.65 \mathrm{lb}(0.29 \mathrm{~kg})$.
Weighs (with batteries and rod clamp) $1.00 \mathrm{lb}(0.45 \mathrm{~kg})$.


Fiberglass rod sold separately.

## Apache Twister <br> \#4851-05

The TWISTER ${ }^{\text {TM }}$ laser receiver is designed to receive reference elevation information from rotating laser levels. The detector receives invisible laser beams as well as visible red beams.

The detector includes a Liquid Crystal Display (LCD) on the front and rear for easy indication of detector status and grade information. A beeper emits an audible tone that indicates on grade, high or low. Accuracy levels are user selectable to meet various job requirements.

The TWISTER receivers have been specifically designed for use in harsh, loud construction environments. Impact resistant housings, recessed windows, waterproof design, durable battery contacts, and a high volume beeper are incorporated into every detector.

A general purpose clamp is designed to mount the detector on various grade rods and staffs. The clamp can be mounted to round, oval, square, and rectangular rods, as well as various sizes of wooden staffs.

The beam window height is 2 inches. The battery life is $70+$ hours.
Weighs 1 lb ( 0.45 kh ) with batteries.

## Construction Lasers and Receivers

## Apache Thunder

\#4851-03 - Thunder 54 (for outdoor use)
\#4851-04 - Thunder 56 (for Indoor use)
These laser receivers work with all infrared and red beam rotating lasers. The THUNDER ${ }^{\text {tw }} 54$ is designed for general purpose outdoor elevation control. An adjustable rod clamp is included. The THUNDER 56 is designed for interior elevation and alignment applications. The "electronic target" increases productivity by extending the laser's usable range up to 250 ft . Both units are $100 \%$ waterproof and dustproof to IP 67 . Available in red or yellow.

| Specifications | Thunder 54: | Thunder 56: |  |
| :--- | :--- | :--- | :--- |
| Working Range | $500 \mathrm{ft} / 150 \mathrm{~m}$ | $250 \mathrm{ft} / 75 \mathrm{~m}$ |  |
| Reception Angle | $\pm 45$ degrees | $\pm 45$ degrees |  |
| Marking Notch | $1 \mathrm{in} / 25 \mathrm{~mm}$ | $1 \mathrm{in} / 25 \mathrm{~mm}$ |  |
| Detection Height | $1.5 \mathrm{in} / 38 \mathrm{~mm}$ | $1.5 \mathrm{in} / 38 \mathrm{~mm}$ |  |
| Detection Accuracy | $\pm 1 / 8 \mathrm{in} / \pm 3.0 \mathrm{~mm}$ | $\pm 1 / 16 / \pm 2.0 \mathrm{~mm}$ |  |
| Power Supply | $2 \times 1.5 \mathrm{~V} \mathrm{AA}$ batteries | $2 \times 1.5 \mathrm{~V} \mathrm{AA}$ batteries |  |
| Battery Life | $>100$ continuous hours | $>70$ continuous hours |  |
| Display | LCD (arrow/bar/arrow) | LEDs (red/green/red) |  |
| Display Channels | 3 | 3 |  |
| Automatic Shutoff | 30 minutes | 30 minutes |  |
| Warranty | 2 years | 2 years |  |

## Apache Hawkeye Universal Laser Receiver \#4851-06

Features include a 5 -inch laser capture height for quick beam pick-up; 240-degree angular reception for increased laser visibility; rugged polycarbonate housing that stands up to harsh construction environments; dual powerful magnets for quick, secure mounting to equipment, without welding.

The Hawkeye ${ }^{\mathrm{TM}}$ works with all rotating lasers. It's ideal for backhoes, small excavators, dozers, skid steers, and box blades. Works on both sides of the dipper stick.

Bright flashing LED grade indication lights are easy to see from the machine - Green on-grade - Red high and low
Adjustable accuracy - fine and wide - to meet your jobsite requirements. Ideal for general purpose elevation control around the jobsite. Use to check form work, footers, and site preparation.

Bright LCD indicates high, low, or on-grade as well as battery, beeper, and volume status.
Additional features include selectable beeper volume, heavy duty rod clamp, and automatic shut-off.


## Construction Lasers and Receivers

## Apache Bullseye 3+ Machine Control Laser Receiver <br> \#4851-10A - Alkaline

\#4851-10N - NiMH
Adapts to grading and excavating machinery - Use on dozers, graders, scrapers, and box blades.

Super bright LED's with green on-grade are easy to see in all light conditions.

Easy to move from one machine to another.
3 selectable accuracies - work from rough grading to final finishing.
5 channels of grade information plus directional out of beam indicators.
Long battery life keeps you going and moving dirt.

Remote Display \#4851-010. Available in red or yellow.


## Apache Bullseye 5+ Machine Control Laser Receiver

4851-11A - Alkaline

\#4851-11N - NiMH
Built-in blade tilt indication helps the operator keep the blade level or the stick plumb for increased production and accuracy. It can be programmed to match an existing or known grade for slope matching operations.

Center On-grade provides an equal amount of grade information above and below on-grade. Use on dozers, graders, scrapers, backhoes, excavators, trenchers, scrapers, and box blades. Plumb indication is built in for quick and accurate grade checking.

Offset On-grade provides more information above grade utilizing the entire receiver for productive excavation. Three selectable accuracies for each on-grade location and up to six channels of grade information plus directional out of beam indicators.


Use as a stand alone display receiver or combine with the optional RD15 Remote Display \#4851-010. Available in red or yellow.

## Apache Bullseye 6 Machine Control Laser Receiver \#4851-12A - Alkaline <br> \#4851-12N - NiMH

Angle compensation automatically calculates and corrects the grade display for the angle of the dipper arm. Check grade with the dipper arm extended or retracted up to 30 degrees. Plumb indication built in - for quick and accurate grade checking for excavators and backhoes.

Center On-grade - for grading operations - use on dozers, graders, scrapers, box blades. Offset On-grade - for productive excavation.

4 selectable accuracies for each on-grade location.
Up to 8 channels of grade information plus directional out of beam indicators.


Use as a stand alone display receiver or combine with the optional RD15
Remote Display \#4851-010. Available in red or yellow.

## Construction Lasers and Receivers

## Apache Bullseye Remote Display \#4851-010

The Remote Display can be used with all Bullseye ${ }^{\mathrm{TM}}$ receivers with an accessory connector.

The 4851-010 allows the operator to view grade information in the cab when it is not otherwise convenient.

The LED's mimic the receiver display.
The remote display is an ideal solution when the receiver is behind the operator such as in trenchers, box blades, scrapers, etc.

Power and signal are drawn from the receiver using the either the 4851-013 or the 4851-014 cables.

The 4851-010 can be powered by the machine with the optional 4851-016 or 4851-017 remote power cables.

Available in red or yellow. optional 4851-011 Swivel Mount
The bright LED's mimic the receiver display


## Apache Bullseye Magnetic Mounts \& Receiver Accessories \#4851-023 (top right)

This magnetic mount can be used with all Bullseye receivers.

Two magnet banks combine
 for 900 pounds of holding force. Easy removal is accomplished using a release lever.

The 4851-023 features a large vertical adjustment range for quicker laser setups.

It is easy to slide the receiver up and down.

Ideal for quick installation on backhoes and excavators.
\#4851-024 (bottom right)
This magnet mount can be used with all Bullseye receivers.

The magnet banks attach to flat back dozer blades.

The 4851-024 is ideal for lighter duty applications.

For use on flat back dozer blades

| Number: | Other Bullseye Receiver <br> Accessories: |
| :--- | :--- |
| \#4851-018 | Universal battery charger w/ wall plug |
| \#4851-019 | Cannon adapter for charger |
| \#4851-020 | Car lighter adapter, 12-volt DC |
| \#4851-021 | NiMH HD rechargeable batteries, C size <br> (4 required) |
| \#4851-022 Bullseye carrying case <br> \#4851-025 25 ft machine power cable |  |

## Ash/Aluminum DE Laser Rods

\#7502-21 - Bold Face 10ths/100ths \#7602-21 - Cut \& Fill 10ths/100ths

The rods extend 10 ft (3 m) and retract to $5.4 \mathrm{ft}(1.6 \mathrm{~m})$.

The front features a graduated, endless 10 -foot stainless steel band which runs over Delrin ${ }^{\circledR}$ end-rollers.

The latch in the back locks the band in any position.

These come with a side rail for connecting an optional bracket (at right).

Weighs $7 \mathrm{lb}(3.2 \mathrm{~kg})$
Lenker Sture!


## Ash/Aluminum DE Rods (non laser) <br> \#7501-21 - Aluminum Bold Face 10ths/100ths <br> \#7601-21 - Aluminum Cut \& Fill 10ths/100ths <br> \#7502-20 — Bold Face 10ths/100ths <br> \#7602-20 - Cut \& Fill 10ths/100ths

These rods have the same high-quality features as their counterparts above but without the rail for the detector bracket.


## DE Rod Bag <br> \#8166-01-ORG

This Cordura ${ }^{\circledR}$ bag has a reinforced bottom and a pocket for a sensor bracket. A shoulder strap is included.
$4 \times 71$ in ( $10.16 \times 180.34 \mathrm{~cm}$ ). Weighs $0.5 \mathrm{lb}(0.23 \mathrm{~kg})$
Made at Geo de SECO in Mexico.

## Detector Brackets for Laser DE Rods

The high-quality metal brackets below fit the ash/ aluminum SECO Laser DE Rods!


|  | Number: | Bracket Designed For: |
| :--- | :--- | :--- |
| A | $5079-038$ | Topcon LS-30, LS-50, LS-70, LS-80 |
| B | $5079-054$ | Laser Alignment Rod-Eye 6 |, | (C) 5pectra Physics 1275, Apache 34, 44, Laser |
| :--- | :--- |
| Reference R8 |

## One Shot Cut and Fill Rod

While leveling rods are great for cut and fill applications with large changes in elevation, they require math to calculate the cut or fill measurement. This introduces a large potential for error. Worse yet, most of the time, if the math is wrong, it is off by two times the correct measurement.

The cut or fill measurement on the Crain One Shot ${ }^{\circledR}$ is read directly on the rod. The correct measurement is virtually guaranteed - saving you time and money.

The durable construction of the One Shot means no brittle or easily breakable tapes or parts.

Some typical uses include: grading, masonry, site work, forms, landscaping, foundations, sewers, drainage, and slab work. Includes carrying case.


| Number: | Length: | Graduations: | Weight: |
| :--- | :--- | :--- | :--- |
| 94001 | 8 ft | 1oths | $4 \mathrm{lb}(1.81 \mathrm{~kg})$ |
| 94002 | 8 ft | inches | $4 \mathrm{lb}(1.81 \mathrm{~kg})$ |
| 94003 | 2.4 m | E metric | $4 \mathrm{lb}(1.81 \mathrm{~kg})$ |
| 94021 | 13 ft | 10ths | $5 \mathrm{lb}(2.26 \mathrm{~kg})$ |
| 94022 | 13 ft | inches | $5 \mathrm{lb}(2.26 \mathrm{~kg})$ |
| 94023 | 4.0 m | E metric | $5 \mathrm{lb}(2.26 \mathrm{~kg})$ |
| 94041 | 16 ft | 10ths | $7 \mathrm{lb}(3.17 \mathrm{~kg})$ |
| 94042 | 16 ft | inches | $7 \mathrm{lb}(3.17 \mathrm{~kg})$ |
| 94043 | 5.0 m | E metric | $7 \mathrm{lb}(3.17 \mathrm{~kg})$ |

## One Shot Carrying Case

\#91422 - $8 \mathrm{ft}(2.4 \mathrm{~m})$ - Measures: $4.25 \times 43$ inches $(10.8 \times 109.2 \mathrm{~cm})$
\#91423 - 13 ft ( 4.0 m ) — Measures: $4.25 \times 59$ inches ( $10.8 \times 149.9 \mathrm{~cm}$ )
This case is made from quality 1000-denier nylon and is water-resistant.



One Shot Rod telescopes out to taller heights

Instructions: Locking on line permits direct reading of cut or fill - no math!


Adjust and securely lock One Shot on target elevation.

Direct read grades on the scale.


## Lightweight Cut and Fill Rods

\#7310-10 - Centimeter and Millimeter Graduations (shown) \#7310-11 - Inches and Eighths Graduations \#7310-12 - Tenths and Hundredths
These lightweight aluminum Cut and Fill rods make finish grading easy.

The red section is a 'Cut' value from grade with a range of 1 ft 7 in ( 0.48 m ). The clear lower section is a 'Fill' value from grade with a range of $2 \mathrm{ft} 2 \mathrm{in}(0.66 \mathrm{~m})$.

The rods collapse to $2 \mathrm{ft} 8 \mathrm{in}(0.81 \mathrm{~m})$ and extend to 6 ft 2 in ( 1.88 m ). End to end the collapsed length is 4 ft 3.50 in ( 1.31 m ).

These feature a graduated telescoping bottom section that locks in place with a durable metal clamp screw. The rods also feature a builtin circular vial.

The sliding laser receiver bracket works with all laser receivers using standard rod clamps. Weighs $1.30 \mathrm{lb}(0.59 \mathrm{~kg})$



Sliding Detector Bracket works with all laser receivers (sold separately) and their standard rod clamps


Demo video available at www.surveying.com

## Fiberglass Leveling Rods

## Surveyor's Series Leveling Rods (SVR)

The Crain SVR Leveling Rod features some recent design improvements that keep it on top and still the industry standard! The new sleeker design features a new shorter collapsed length ( 58.5 inches on 25 -foot versions) and a lighter weight.

It's constructed of strong, rigid fiberglass with reinforcing ribs for added stability. It's waterproof and non-conductive. The rectangular-oval shape allows for wide, glare resistant scales that are wear-resistant.

A tight locking mechanism features round buttons that resist jamming from sand and dirt. Features a $1 / 4 \times 20$ female adapter in top section.

## cranN



Rectangular-oval shape allows for wide, glareresistant scales that are wearresistant.

| Number: | Length: | Graduations: | Weight: | Number: | Length: | Graduations: | Weight: |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 90343 | 16 ft | 10ths | 5 lb (2.27 kg) | 98010 | 25 ft | 10ths | $6 \mathrm{lb}(2.72 \mathrm{~kg})$ |
| 90344 | 16 ft | inches | $5 \mathrm{lb}(2.27 \mathrm{~kg})$ | 98011 | 25 ft | inches | $6 \mathrm{lb}(2.72 \mathrm{~kg})$ |
| 90370 | 5.0 m | 0.5 cm metric | $5 \mathrm{lb}(2.27 \mathrm{~kg})$ | 98012 | 7.6 m | 0.5 cm metric | $6 \mathrm{lb}(2.72 \mathrm{~kg})$ |
| 90386 | 5.0 m | 'E' metric | $5 \mathrm{lb}(2.27 \mathrm{~kg})$ | 98013 | 7.6 m | 'E' metric | $6 \mathrm{lb}(2.72 \mathrm{~kg})$ |
| 90388 | 5.0 m | Philly metric | $5 \mathrm{lb}(2.27 \mathrm{~kg})$ | 98014 | 7.6 m | Philly metric | $6 \mathrm{lb}(2.72 \mathrm{~kg})$ |
| 90301* | 16 ft ( 5.0 m ) | inches/10ths | $5 \mathrm{lb}(2.27 \mathrm{~kg})$ | 98015* | 25 ft ( 7.6 m ) | inches/10ths | $6 \mathrm{lb}(2.72 \mathrm{~kg})$ |
| 90345* | 16 ft ( 5.0 m ) | 10ths/Philly metric | 5 lb (2.27 kg) | 98016* | 7.6 m (25 ft) | 10ths/Philly metric | $6 \mathrm{lb}(2.72 \mathrm{~kg})$ |
| * Dual scale r |  |  |  | 98017* | 25 ft (7.6 m) | 10ths/10ths | $6 \mathrm{lb}(2.72 \mathrm{~kg})$ |
| SVR rods come with a carrying case. The rod case can also be purchased separately. Measures $4.25 \times 65.5 \mathrm{in}$ ( $10.8 \times 166.4 \mathrm{~cm}$ ) <br> \#91411 |  |  |  |  |  |  |  |
| \#91411 <br> Made at Geo de SECO in Mexico. |  |  |  |  |  |  |  |

## SVR Series Laser Brackets

\#91100 - Universal Top Mounting Block \#91120 - Universal Rod Clamp
Brackets are needed to attach laser sensors to the SVR. Universal brackets are available in both the rod clamp and top mount versions.


## SVR Sensor Top Mount Series

| Number: | Description: |
| :--- | :--- |
| 91108 | Topcon LS-o3 Top Mount |
| 91110 | Laser Alignment Rod-Eye <br> Pro Top Mount |
| 91111 | Trimble <br> Mount |
| 91117 | Apache Lightning ${ }^{\circledR}$ Top <br> Mount |
| 91118 | Apache Cyclone ${ }^{\circledR}$ Top <br> Mount |
| 91162 | Apache Storm <br> Laserometer <br> ® |
| HL 700 $/ 750$ |  |

## SVR Sensor Rod Clamp Series

| Number: | Description: |
| :--- | :--- |
| 91121 | S-P 1077, LA-4, AGL-4 Rod <br> Clamp |
| 91128 | Topcon LS-30 Rod Clamp <br> 91129 |
| 91141 | Spectra Physics 1175 \& 1177 <br> Rod Clamp |
| 91163 | Trimble <br> Clamp |
|  | Apache Storm 500 Rod <br> Laserometer $\left.{ }^{\circledR( }\right)$ <br> HL 700 / 750 |
|  |  |

## Other Accessories Available

Other Accessories Available

| Number: | Product Description: |
| :--- | :--- | :--- |
| 91014 | 6-inch Long Caliper for SVR/Oval Rod and CMR Ruler |
| 91255 | Snap-Tite® SVR Rod Level |
| 91258 | $5 / 8 \times 11$ Prism Mounting Adapter Kit |
| 91259 | Swiss-style Prism Adapter |
| 91275 | SVR Hook |
| 91276 | SVR Caliper |
| 91535 | Snap-Tite ${ }^{\circledR}$ CR Rod Level |

## Rectangular Series Leveling Rods (CR)

The CR Series Leveling Rod incorporates many features including a rectangular shape with rounded back corners for better gripping, a scale width graduated to fill the entire face of the rod, and a measuring scale on the back side that allows for overall height readings.

Our leveling rods are made with strong fiberglass, which is waterproof and corrosion-resistant. The CR series is a natural for laser detector mounting with no special brackets required.

The CR series is non-conductive and features a $1 / 4 \times 20$ female adapter in the top section. A carrying case is included.

| Number: | Length: | Graduations: | Weight: |
| :--- | :--- | :--- | :--- |
| 92001 | 8 ft | 1oths | $3 \mathrm{lb}(1.36 \mathrm{~kg})$ |
| 92002 | 8 ft | inches | $3 \mathrm{lb}(1.36 \mathrm{~kg})$ |
| 92021 | 13 ft | 1oths | $5 \mathrm{lb}(2.26 \mathrm{~kg})$ |
| 92022 | 13 ft | inches | $5 \mathrm{lb}(2.26 \mathrm{~kg})$ |
| 92041 | 16 ft | 10ths | $6 \mathrm{lb}(2.72 \mathrm{~kg})$ |
| 92042 | 16 ft | inches | $6 \mathrm{lb}(2.72 \mathrm{~kg})$ |
| 92031 | 20 ft | 10ths | $7 \mathrm{lb}(3.17 \mathrm{~kg})$ |
| 92032 | 20 ft | inches | $7 \mathrm{lb}(3.17 \mathrm{~kg})$ |
| 92003 | 2.4 m | Philly metric | $3 \mathrm{lb}(1.36 \mathrm{~kg})$ |
| 92026 | 4.0 m | E metric | $5 \mathrm{lb}(2.26 \mathrm{~kg})$ |
| 92027 | 4.0 m | o.5 cm metric | $5 \mathrm{lb}(2.26 \mathrm{~kg})$ |
| 92028 | 4.0 m | British E metric | $5 \mathrm{lb}(2.26 \mathrm{~kg})$ |
| 92023 | 4.0 m | Philly metric | $5 \mathrm{lb}(2.26 \mathrm{~kg})$ |
| 92046 | 5.0 m | E metric | $6 \mathrm{lb}(2.72 \mathrm{~kg})$ |
| 92047 | 5.0 m | o.5 cm metric | $6 \mathrm{lb}(2.72 \mathrm{~kg})$ |
| 92048 | 5.0 m | British E metric | $6 \mathrm{lb}(2.72 \mathrm{~kg})$ |
| 92043 | 5.0 m | Philly metric | $6 \mathrm{lb}(2.72 \mathrm{~kg})$ |
|  |  |  |  |



Rectangular shape allows for laser detectors to be mounted directly to the rod - no bracket required!

## CR Carrying Case

 \#91410For 8 ft ( 2.4 m ) rods.
Measures: $3.5 \times 56.5$ in (8.9
x 143.5 cm )
\#91411
For $13 \mathrm{ft}(4 \mathrm{~m}), 16 \mathrm{ft}(5 \mathrm{~m})$ and $20 \mathrm{ft}(6 \mathrm{~m})$ rods.
Measures: $4.25 \times 65.5$ in ( $10.8 \times 166.4 \mathrm{~cm}$ )
This carrying case is made from the highest quality 1000-denier nylon and is waterresistant.

Made at Geo de SECO in Mexico.

## Standard Series Leveling Rods (LR)

The LR Series leveling rods are round and easy to handle. The LR-STD is available in a 25 - ft model in 10ths, inches, and $0.5-\mathrm{cm}$ metric scales.

The LR-PRO is larger in diameter so sturdier and easier to read.

The LR-PRO leveling rod is available in $25 \mathrm{ft}, 35 \mathrm{ft}$ and 45 ft lengths in feet/10ths/10oths. A carrying case is included.

| Number: | Description: | Length: | Graduations: | Weight: | OD: |
| :--- | :--- | :--- | :--- | :--- | :--- |
| 90004 | LR-STD | 25 ft | 10 ths | $5 \mathrm{lb}(2.26 \mathrm{~kg})$ | $1-5 / 8-\mathrm{in}$ |
| 90009 | LR-STD | 25 ft | inches | $5 \mathrm{lb}(2.26 \mathrm{~kg})$ | $1-5 / 8-\mathrm{in}$ |
| 90014 | LR-STD | 7.6 m | metric | $5 \mathrm{lb}(2.26 \mathrm{~kg})$ | $1-5 / 8-\mathrm{in}$ |
| 90022 | LR-PRO | 25 ft | 10 ths | $7 \mathrm{lb}(3.17 \mathrm{~kg})$ | $2-\mathrm{in}$ |
| 90024 | LR-PRO | 35 ft | 10 ths | $9 \mathrm{lb}(4.08 \mathrm{~kg})$ | $2-3 / 16-\mathrm{in}$ |
| 90026 | LR-PRO | 45 ft | 10 ths | $10 \mathrm{lb}(4.53 \mathrm{~kg})$ | $2-3 / 16-\mathrm{in}$ |

## 5/8 x 11 Double Male Prism Adapter \#91133

Adapt the thread size to $5 / 8 \times 11$ for mounting prisms on the LR's female adapter.

Weighs 0.20 lb
( 0.09 kg )


## CRA/N



Round design makes the LR Series rods a good choice for certain applications like in areas of high wind.

## LR-STD/LRPRO Carrying

## Case

## \#91402

Measures: $4.5 \times 82$ in ( $11.4 \times 208.3 \mathrm{~cm}$ )

This carrying case is made from the highest quality 1000 -denier nylon and is waterresistant.

Made at Geo de SECO in Mexico.

## Aluminum Builder's Rods and Accessories

## Aluminum Leveling Rods

SECO aluminum leveling rods are made of a light and durable alloy. The telescopic sections are anodized and silk-screened with moisture-resistant ink. Each rod section uses sturdy polycarbonate buttons that lock each section when extended; the height gauge is on the back side. These rods come in three heights and graduations. Each rod includes a special level and protective bag. Three-piece rods weigh 2.4 lb ( 1.1 kg ); 4-piece rods weigh $3.1 \mathrm{lb}(1.4 \mathrm{~kg}) ; 5$-piece rods weigh $3.5 \mathrm{lb}(1.6 \mathrm{~kg})$

| Number: | Sections: | Length: | Graduations: |  |
| :---: | :---: | :---: | :---: | :---: |
| 7321-30 | 3 | $9 \mathrm{ft}, 9.5 \mathrm{in}$ | inches | Replacement Rod Button <br> \#70014-6 - Round - 17 mm <br> \#70014-7 — Round with Metal Ring - 13 mm <br> These replacement buttons <br> fit on SECO aluminum leveling rods shown here. |
| 7301-30 | 3 | 9.8 ft | 10ths |  |
| 7341-30 | 3 | 3 m | 5 mm |  |
| 7321-40 | 4 | $13 \mathrm{ft}, 1.38$ in | inches |  |
| 7301-40 | 4 | 13.12 ft | 10ths |  |
| 7341-40 | 4 | 4 m | 5 mm |  |
| 7321-50 | 5 | $16 \mathrm{ft}, 4.75$ in | inches |  |
| 7301-50 | 5 | 16.4 ft | 10ths |  |

Leveling Rod Thumb Release Bipod
\#5217-21-FOR
This bipod features a special head that will hold a rectangular rod.

The head will fit rods with widths between
1.57 and 2.56 inches!

Weighs approximately $4 \mathrm{lb}(1.82 \mathrm{~kg})$


## 'E' Pattern Builder's Rod

## \#7341-31 - 3 meter

\#7341-41 - 4 meter
\#7341-51 - 5 meter
\#7341-52 - 5 meter ( 16 ft ) Dual Scale 'E' pattern / inches and eighths
This rod has a standard ' $E$ ' pattern. The grads are in centimeters on the front and numbered every 10 cm (except the \#7341-52). The height scale is in millimeters on the back. This rod comes with a level vial and a case.

The lightweight aluminum sections are in contrasting white, red and black colors and have round spring-loaded locking buttons.
\#7341-31 weighs 2.4 lb ( 1.1 kg ), \#7341-41 weighs 3.1 lb ( 1.4 kg ), \#7341-51 weighs $3.5 \mathrm{lb}(1.6 \mathrm{~kg}$ ), \#7341-52 weighs $3.25 \mathrm{lb}(1.47 \mathrm{~kg}$ )

## Leveling Rod Vial

\#7321-050
Use with aluminum leveling rods.
Weighs $0.5 \mathrm{lb}(0.23 \mathrm{~kg})$

## Invar Rod Thumb Release Bipod \#5217-20-FLY

This bipod features a special head that will hold a rectangular rod. The head will fit rods with widths between 2.95 and 3.54 inches!

Weighs approximately 4 lb ( 1.82 kg )

## 6.5-Foot Pocket Rod

## \#7321-00 - Inches

\#7301-00 - 10ths
This 6.5 -foot nylon-coated tape is ideal for foundation work, grading, swimming pools, and construction. Easy-to-read numbers are printed on both sides. The blade also features a built-in target.

## SubSurface Handheld Magnetic Locators

\#ML-1 — Standard Model
\#ML-1M - With LCD Meter
SECO has teamed up with SubSurface Instruments ${ }^{\text {TM }}$ to distribute these high-quality magnetic locators. The SubSurface team has the most experience in the industry when it comes to building and servicing high-quality magnetic locators.

The SSI ML- 1 and ML-1M both come with an industry exclusive lifetime warranty.

You choose: the standard model or the LCD meter model.

These ferrous metal locators are perfect for locating survey corner markers, PK and Mag Nails, valve and covers, steel and iron pipes, well casings, steel tanks, lost tools or even downed and buried fence lines.

The tube-through construction ensures strength and durability from the bottom tip to the handle.

The system comes with a padded carrying bag and four alkaline 9 -volt batteries - two to use and two spares. A hard-shell case for the SSI Locators (shown below) is sold separately.

Weighs less than $2 \mathrm{lb}(0.91 \mathrm{~kg})$

## SubSurface Hard Shell Case for Magnetic Locators <br> \#ML-1-050

Need more protection for your SSI locator? Order the ML-1-050 case. Its impact resistant ABS plastic construction is perfect for storing the locator or for transporting.

SECO Hand Levels feature brass bodies, a non-glare internal finish, highvisibility neon yellow vials, and three-line mirrors. The typical accuracy of the SECO Hand Level is 0.25 inch per 20 feet. Don't settle for less, buy the industry's standard hand level.


\#4040-05
This 5 -inch ( $127-\mathrm{mm}$ ) 1 X hand level extends to 7 inches ( 178 mm ).
The external vial is easily replaced in the field.

Weighs $0.3 \mathrm{lb}(0.14 \mathrm{~kg})$


## \#4051-00 (1X Hand Level) \#4052-00 (2X Hand Level)

These 5 -inch hand levels feature larger diameters, 1 -inch lenses, and internal glass vials. Both of these hand levels come with a padded case.

Weighs 0.35 lb ( 0.15 kg )

\#4300-00
This 2X model is a heavy-duty, 5 -inch (127mm ) hand level that extends to 7 inches (178 mm ) and has an enclosed vial.

Weighs 0.4 lb ( 0.18 kg )


## \#4050-01

The Abney Level is ideal for preliminary survey or landscaping, where the determination of slope, angle and percentage of grade is required. Measures 5.25 inches in length.

Weighs $0.15 \mathrm{lb}(0.07 \mathrm{~kg})$


## \#8030-00-CABLU

Constructed of padded nylon Cordura ${ }^{\circledR}$, it's perfect for protecting your hand level when not in use.
$6.5 \times 2.62$ in ( $16.5 \times 6.66 \mathrm{~cm}$ ).
Made at Geo de SECO in Mexico.
Weighs 0.05 lb ( 0.02 kg )

## PVC-Coated Fiberglass Tapes

The PVC-coated tape features high-tension-resistant fiberglass, encased with two layers of clear PVC! And, the injected fiberglass ribbon's color never wears off!

| Number: | Length: | End: | Graduations: |
| :---: | :---: | :---: | :---: |
| 3003-03 | 200 ft | Hook | ft/in/8ths |
| 3003-05 | 50 ft | Hook | $\mathrm{ft} /$ 10ths/10oths |
| 3003-06 | 100 ft | Hook | $\mathrm{ft} /$ 10ths/100ths |
| 3003-07 | 200 ft | Hook | ft/10ths/100ths |
| 3003-08 | 300 ft | Hook | $\mathrm{ft} / 10 \mathrm{ths} / 100$ ths |
| 3003-15 | 100 ft | Hook | ft/in/1oths (Dual Grad) |
| 3003-17 | 200 ft | Hook | ft/in/10ths (Dual Grad) |

## Nylon-Coated Steel Tapes

The $1 / 2$-inch nylon-coated steel tapes are designed for the hardest use, in all kinds of climate conditions. This tape is designed for durability and longevity.

| Number: | Length: | End: | Graduations: |
| :--- | :--- | :--- | :--- |
| $3006-03$ | 200 ft | Hook | $\mathrm{ft} / \mathrm{in} / 8 \mathrm{ths}$ |
| $3006-06$ | 100 ft | Hook | $\mathrm{ft} / 10 \mathrm{ths} / 100 \mathrm{ths}$ |
| $3006-07$ | 200 ft | Hook | $\mathrm{ft} / 10 \mathrm{ths} / 100 \mathrm{ths}$ |
| $3006-08$ | 300 ft | Hook | $\mathrm{ft} / 10 \mathrm{ths} / 100 \mathrm{ths}$ |
| $3006-10$ | 30 m | Hook | $\mathrm{m} / \mathrm{cm} / \mathrm{mm}$ |
| $3006-11$ | 60 m | Hook | $\mathrm{m} / \mathrm{cm} / \mathrm{mm}$ |
| $3006-17$ | 200 ft | Hook | $\mathrm{ft} / \mathrm{in} / 10$ ths |
| $3006-18$ | 200 ft | Hook | $10 t h s / m e t r i c$ |

CMR Series Carrying Cases
\#91415-25 ft (4.6 m)
Measures: $3.5 \times 65$ in
\#91416-36 ft ( 11 m ) Measures: $4.5 \times 68$ in \#91417-50 ft ( 15.2 m ) Measures: $4.5 \times 68$ in
This case is made from the highest quality 1000-denier nylon.

Weighs 0.5 lb
( 0.22 kg )
Made at Geo de SECO in Mexico.

## Measuring Tapes and Rulers

## Triangular Engineer and Architect Scale Tapes

## \#9006-00 - Engineer Tape

\#9006-01 - Architect Tape
The Engineer and Architect Scale Tapes are the new standard for scaling plans in the field or office. One of the main problems with triangular rules is they cannot easily be taken out on a job site or carried in your pocket.
The Engineer Scale Tape has all of the 10, 20, 30, 40, 50, 60 scales you'd find on a standard Engineer rule. Included in the Architect Scale Tape you'll find the following scales: $16,3,11 / 2,1,1 / 2,1 / 4,1 / 8,3 / 4,3 / 8,3 / 16,3 / 32$, and $1 / 16$.


## Rhino Ruler Waterproof Fiberglass Engineer's Folding Ruler

\#4770-00 - 10ths/Inches
\#4770-01 - 10ths/Metric
Waterproof fiberglass construction prevents common problems that occur with wood rulers such as fading, splintering, and chipping. Engraved graduations resist weather and scratches. Easy-to-fold locking joints are tighter than traditional folding rulers made of wood allowing for a more accurate measurement along the ruler's length.

The Rhino Ruler outlasts wood rulers four to one!



## Heavy-Duty Pocket Tape

The heavy-duty power tape features a rubberized black and high visibility yellow case with a positive thumb lock and release action.

| Number: | Length: | Graduations: |
| :--- | :--- | :--- |
| $4769-00$ | 25 ft | 10 ths |
| $4769-01$ | 25 ft | $10 \mathrm{ths} /$ metric |
| $4769-02$ | 25 ft | $10 \mathrm{fhs} / \mathrm{in}$ |
| $4769-03$ | 33 ft | 10 ths |
| $4769-04$ | 33 ft | $10 \mathrm{th} / \mathrm{in}$ |
| $4769-06$ | 33 ft | $10 \mathrm{ths} /$ metric |
| $4769-12$ | 12 ft | 10 hhs $/$ in |
| $4769-13$ | 12 ft | $10 \mathrm{ths} /$ metric |



## Steel Tape

\#4769-10 Inches, 25 ft
Features include a steel, doublecoated, one-inchwide tape blade with a four-rivet hook. The tape has a doublesided stand-up backscale for measuring wall and ceiling heights.

## Stainless Steel Tape \#4769-11 Inches, 25 ft

This tape is similar to the tape above but features stainless steel hook, belt clip and rivets. Get it dirty on the job? Just hose it off!

## 8365 Class 3 SUV

This SECO vest meets the standards for the ANSI/ISEA 107-2010 Class 3 specifications.

This vest was developed in conjunction with surveyors from the California Department of Transportation. It is made from durable ANSI/ISEA compliant polyester and polyester mesh.

This vest has YKK zippers. It has 4-inch ( 10.16 cm ) wide reflective tape with 2-inch ( 5.08 cm ) wide silver stripes made with 3M Scotchlite Reflective Material. The padded collar is made with Outlast fabric on the inside. This vest features multiple pockets for cell phone, tapes, radio, pencils, maps, spray cans, etc., plus two inside pockets. It comes with dual mic clips.

The sizes range from M to J .
This vest is available in fluorescent orange and fluorescent yellow.

Made at Geo de SECO, Mexico


## 8390 Class 3 SUV

This new vest meets ANSI/ISEA 107-2010 Class 3 standards for reflectivity.

It's manufactured with tricot and textured Polyester mesh for durability and comfort.

Features include three front outside pockets and a mic clip.

These vests stay cool in the summer heat and are highly visible in lowlight conditions

The 8390 has 3-in ( 7.62 cm ) wide reflective tape with 2 -in (5.08 cm ) wide silver stripes

There are four sizes available (Large, XL, 2X, 3X) in fluorescent orange and yellow.

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## ANSI/ISEA Class 3 Safety Utility Vests

## 8368 Class 3 SUV

This SECO vest meets the standards for the ANSI/ISEA 107-2010 Class 3 specifications. It's specifically designed for high-speed traffic areas and/or where workers need to be as conspicuous as possible.
It features 2-inch-wide retroreflective tape on the fluorescent body and sleeves.
The pocket layout is the same as the 8068 SUV.
Other features include convenient pockets with flaps (including the map pocket) for items like pens and pencils, notebooks, a radio and flagging tape.

The durable fluorescent fabric is constructed of $100 \%$ texturized polyester for softness, comfort, superior strength, and abrasion resistance. Four sturdy snaps keep the vest closed.

This model is available in fluorescent orange and fluorescent yellow, in sizes from XS to J and is machine-washable.

Made at Geo de SECO, Mexico.


## 8374 Class 3 Mesh SUV

This SECO mesh vest meets the standard for the ANSI/ISEA 107-2010 Class 3 specifications.

It features 2-inch wide retroreflective tape on the fluorescent body and sleeves. Its comfortable, relaxed fit is due, in part, to the large neck opening, four high-quality snaps, and the new 70D mesh polyester material.

As with many SECO vests, this one features a radio mic clip, pockets and pen/pencil slots. It also sports 'hand-warmer' pockets, 5 and 6.5 -inch deep outer pockets!

This model is available in fluorescent orange and fluorescent yellow, in sizes from XS to J and is machine-washable. Made at Geo de SECO, Mexico.

## Fitting a SECO Safety Vest

Measure around the fullest part of your chest. Allow room for your work shirt and/or jacket under the vest when measuring - an inch or two is recommended.

| Chest Size: | Vest Size: |
| :--- | :--- |
| 36 to 38 inch | XS |
| 40 to 42 inch | S |
| 44 to 46 inch | M |
| 48 to 50 inch | L |
| 52 to 54 inch | XL |
| 56 to 58 inch | 2 X |
| 60 to 62 inch | 3 X |
| 64 to 66 inch | J |

## Vest part number specifics

Example: If you are looking to purchase an 8374 Series vest in size 'Large' in 'fluorescent orange' material, then the correct part number is 8374-$50^{*}$-FOR**.
*The chest size uses the higher number in the size range (50).
**The color is specified by using FOR for fluorescent orange or FLY for fluorescent yellow.


## ANSI/ISEA Class 2 Safety Utility Vests

## 8265 Class 2 Safety Utility Vest with Outlast Adaptive Comfort Collar

This vest was developed in conjunction with surveyors from the California DOT. It meets ANSI/ISEA 107-2010 Class 2 federal mandatory requirements.

Safety features include bright fluorescent material, 4-inch ( $10.16-\mathrm{cm}$ ) wide contrasting reflective material with 2 -inch ( $5.08-\mathrm{cm}$ ) wide silver stripes made of $3 \mathrm{M}^{\mathrm{TM}}$ Scotchlite ${ }^{\mathrm{TM}}$ reflective material.

This vest is made of durable ANSI/ISEA compliant polyester and polyester mesh. Other high-quality components include brass grommets, heavy-duty webbing and trim, and a genuine $\mathrm{YKK}^{\mathrm{TM}}$ zipper. The padded collar is made of Outlast ${ }^{\circledR}$ fabric to help regulate body temperature.

Carrying lot's of gear? Not a problem for this vest. It comes with four large pockets on the outside and two generous pockets on the inside. Great for field books, tapes, pencils, flagging, cell phones, etc.

Fold the flap up on the left breast pocket for easy access to pencils and markers. Pen and pencil slots now have a special 'stiffener' sewn in to keep items in place.

Two new spray can holders on the hips of the vest include straps for keeping the cans in place until you need them.

This vest also comes with two convenient mic clips-one above each breast pocket.

Sizes range from S to J . Also available in fluorescent yellow.
Made at Geo de SECO, Mexico.

## ANSI/ISEA Class 2 Safety Vest

## \#8292-XX-FOR — Flo Orange

\#8292-XX-FLY - Flo Yellow
This zippered mesh vest is designed to meet ANSI/ISEA 107-2010 regulations for safety clothing on job sites.

Safety features include bright fluorescent material and reflective tape.

Sizes range from L to 3X. Also available in fluorescent yellow.

Imported.

## ANSI/ISEA Class 2 Safety Utility Vests

There is no doubt you will see the SECO 8063, 8069, and 8290 series Safety Utility Vests (SUV) on the job site because they are simply that comfortable!

## 8063 Class 2 SUV with Outlast Liner

The 100\% polyester 8063 is manufactured to meet ANSI/ISEA 107-2010 Class 2 standards. Combining the flash of the retroreflective material and the tremendous cargo space gives you the package you're looking for in an SUV! This vest is based on the popular SECO 8068.

## Standard Features of the 8063

Climate Control: The 8063 features a comfortable hi-tech liner made of Adaptive Comfort ${ }^{\circledR}$ material by Outlast ${ }^{\circledR}$, a Certified Space Technology, ${ }^{\mathrm{TM}}$ designed to balance temperature.

By storing your excess heat as it's created and releasing it as needed, you won't be too hot or too cold. You'll be comfortable all day. This vest with its Adaptive Comfort liner is destined to change the way you think about safety vests. Cargo Room: The special compartments include a field notebook pocket, map pocket, pencil slots, compass pocket with grommet, oversized adjustable back compartment, flagging tape pocket with grommets, and inside pockets. There's even an exterior radio mic clip! This model is available in either fluorescent orange or fluorescent yellow, in sizes XS to J .
Made at Geo de SECO, Mexico.


## 8069 Class 2 SUV with Mesh Back

The 8069 is a $100 \%$ polyester SUV manufactured to meet ANSI/ ISEA 107-2010 Class 2 standards. This vest is based on the popular SECO 8068-Series.

## Standard Features of the 8069

Climate Control: The 8069 features a cool, comfortable mesh back. Cargo Room: The special compartments include a field notebook pocket, pencil slots, compass pocket with grommet, flagging tape pocket with grommets, and inside pockets. There's an exterior radio mic clip on this model also! This model is available in either fluorescent orange or fluorescent yellow, in sizes XS to J .
Made at Geo de SECO, Mexico.

## 8290 Class 2 Mesh Vest

The 8290 series economy vest is manufactured with tricot and textured polyester mesh for durability and comfort. It's also manufactured to meet ANSI/ISEA 107-2010 Class 2 standards.

## Standard Features of the 8290

This vest features a wide variety of pockets including: radio pocket; pencil pocket; two front outside pockets; two front inside pockets; rear map pocket.

It is made with $3 \mathrm{M}^{\mathrm{TM}}$ Scotchlite ${ }^{\mathrm{TM}}$ Reflective Material. The sizes range from L to 3 X . Also available in fluorescent yellow. If you need a cool vest with different reflective tape, this is the vest for you! Imported.


## Standard Series Safety Utility Vests

## 8067-Series Heavy-Duty Safety Utility Vest

The 8067-Series Safety Utility Vest with two-inch-wide reflective tape is highly visible in any weather condition day or night. The vest is made of heavy-duty 1000 denier Cordura. ${ }^{\text {® }}$
The material is treated with a durable, water-repellent finish. It also has a urethane backing for additional water-resistance and strength.

Cordura is more durable than cotton, polyester, ordinary nylon, or polypropylene, and has exceptional resistance to punctures and tearing. This vest is available in fluorescent yellow and fluorescent orange and is perfect for jobs away from federal highways but where high visibility is desired.
Weighs 1.65 lb ( 0.72 kg )


Made at Geo de SECO, Mexico.

| Number: | Color: | Chest Size: | Vest Size: |
| :--- | :--- | :--- | :--- |
| $8067-38-$ FOR | Flo Orange or Yellow | 36 to 38 in | XS |
| $8067-42-$ FOR | Flo Orange or Yellow | 40 to 42 in | S |
| $8067-46-$ FOR | Flo Orange or Yellow | 44 to 46 in | M |
| $8067-50-$ FOR | Flo Orange or Yellow | 48 to 50 in | L |
| $8067-54-$ FOR | Flo Orange or Yellow | 52 to 54 in | XL |
| $8067-58-$ FOR | Flo Orange or Yellow | 56 to 58 in | 2 X |
| $8067-62-$ FOR | Flo Orange or Yellow | 60 to 62 in | 3 X |
| $8067-66-$ FOR | Flo Orange or Yellow | 64 to 66 in | J |

## 8068-Series Lightweight Safety Utility Vest

The 8068-Series Safety Utility Vest offers visibility and safety on the job site.
The durable fluorescent fabric is constructed of $100 \%$ polyester for softness, comfort, superior strength, and abrasion resistance.

This vest is designed to comply with ANSI/ISEA 107-2010 Class 2 standards for high-visibility safety apparel. The vest has two-inch-wide stripes of retroreflective tape. It features convenient pockets with sturdy snap fasteners.
Weighs $1 \mathrm{lb}(0.45 \mathrm{~kg})$
Made at Geo de SECO, Mexico.


| Number: | Color: | Chest Size: | Vest Size: |
| :--- | :--- | :--- | :--- |
| 8068-38-FOR | Flo Orange or Yellow | 36 to 38 in | XS |
| $8068-42-$ FOR | Flo Orange or Yellow | 40 to 42 in | S |
| $8068-46-$ FOR | Flo Orange or Yellow | 44 to 46 in | M |
| $8068-50-$ FOR | Flo Orange or Yellow | 48 to 50 in | L |
| $8068-54-$ FOR | Flo Orange or Yellow | 52 to 54 in | XL |
| $8068-58-$ FOR | Flo Orange or Yellow | 56 to 58 in | 2 X |
| $8068-62-$ FOR | Flo Orange or Yellow | 60 to 62 in | 3 X |
| $8068-66-$ FOR | Flo Orange or Yellow | 64 to 66 in | J |

## Safety Vests and Padded Field Cases

## Reflective Economy Nylon Mesh Safety Vest \#8076-01-FLY

This vest features elastic sides and a front Velcro closure.
The lightweight, cool mesh vest fits all sizes.
It has one-inch-wide reflective stripes and is trimmed with a quarter-inchwide nylon binding.

This model is available in either fluorescent orange or fluorescent yellow.
Weighs $0.27 \mathrm{lb}(0.12 \mathrm{~kg})$
Imported.

## BASICS



## Non-Reflective Fluorescent Utility Vest - Robotic and EDM Friendly

## \#8270-Series

This SECO vest is useful if reflective tape is interfering with EDMs.
This model is made of durable, two-ply, 150 denier textured polyester.
It features a standard inside pocket like the 8072-Series vest, but also has pockets on the outside to help keep all your gear handy, and a mic clip.

This model is available in either fluorescent orange or fluorescent yellow, in sizes XS to J. Machine-washable.


Made at Geo de SECO, Mexico.

## Tribrach Case

 \#8071-00-ORGEasily holds a tribrach.
Also available in green.
Measures: $6 \times 6 \times 2$ in
( $15.2 \times 15.2 \times 5.1 \mathrm{~cm}$ ).*
Weighs $0.40 \mathrm{lb}(0.18 \mathrm{~kg})$
Made at Geo de SECO, Mexico.

## Super Jumbo Bag

 \#8082-00-ORGHolds a tilting prism with tribrach and adapter. Measures: $12 \times 12 \times 3$ in ( $30.5 \times 30.5 \times 7.6 \mathrm{~cm}$ ).*

Weighs $1.85 \mathrm{lb}(0.84 \mathrm{~kg})$


## Triple Prism Bag <br> \#8080-00-ORG

Heavily padded for triple prisms. Also available in green.
Measures: $9 \times 7 \times 2$ in
( $22.9 \times 17.8 \times 5.1 \mathrm{~cm}$ ).*
Weighs $0.75 \mathrm{lb}(0.34 \mathrm{~kg})$
Made at Geo de SECO, Mexico.

## Tall Triple Prism Bag \#8130-00-ORG

Designed for vertical triple prism assemblies.
Measures: $15 \times 8 \times 2$ in ( $38.1 \times 20.3 \times 5.1 \mathrm{~cm}$ ).*

Weighs 1.45 lb ( 0.66 kg )
Made at Geo de SECO, Mexico.

## Total Station Rucksack

\#8120-30-ORG - Holds 400 mm T. Station \#8120-40-ORG - Holds 500 mm T. Station

The Total Station Rucksack is similar to a lightweight day pack.

The main compartment features an innovative 'wrap' made of $3 / 8$ inch high-density foam with hook and loop adjustment that securely cradles all total stations (400 or 500 mm height).

Also features extra pockets and


## Front-Loading Total Station Field Case

 \#8120-00-ORGLoads from the front and has a compartment for accessories. Features a Rhinotek bottom and durable backpack straps.

Measures: $14 \times 9 \times 7$ in
( $35.6 \times 22.9 \times 17.8 \mathrm{~cm}$ ).*
Weighs $5.75 \mathrm{lb}(2.61 \mathrm{~kg})$
Made at Geo de SECO, Mexico.

## Front-Loading Total Station Case with Frame \#8122-00-ORG

Loads from the front and has a heavy-duty aluminum frame. Features Rhinotek on the bottom. Features backpack straps for easy carrying.
Measures: $14 \times 9 \times 7$ in ( $35.6 \times 22.9 \times 17.8 \mathrm{~cm}$ )*


## Top-Loading Total Station Field Case with Frame <br> \#8123-00-ORG

Loads from the top and has a heavy-duty frame. Features Rhinotek on the bottom. Features backpack straps for easy carrying.
Measures: $14 \times 9 \times 7$ in ( $35.6 \times 22.9 \times 17.8 \mathrm{~cm}$ )*
Weighs 7.5 lb ( 3.4 kg )

*Approximate dimensions between the interior foam wall padding.

## Robotics Backpack

\#8134-00-GRN — Fluorescent Green
Designed for robotics, this pack features a double-zipped, top-loading station compartment lined with rigid foam padding, two side pockets for cables, and one front battery pocket. It has a top rain flap with closure and rain flaps on the side pockets. The free-standing aluminum frame keeps the pack upright even when fully loaded. It has a comfortable padded belt with our new lumbar back support system, shoulder straps with all-point adjustment features, and a rubberized carrying handle. For safety, the pack has 1.5 -inch yellow reflective stripes on all sides. Also features a Rhinotek ${ }^{\mathrm{TM}}$ bottom. Made at Geo de SECO, Mexico.

Interior dimensions*:
$17 \times 10 \times 10$ inches ( $43.2 \times 25.4 \times 25.4 \mathrm{~cm}$ )
Exterior dimensions:
$24.5 \times 15 \times 16$ inches ( $62.2 \times 38.1 \times 40.7 \mathrm{~cm}$ )
Weighs $8 \mathrm{lb}(3.62 \mathrm{~kg})$ and holds $40 \mathrm{lb}(18.14 \mathrm{~kg})$


## Large GIS Backpack with Antenna Bar \#8125-00-ORG - Orange (shown)

This pack, which includes cool mesh and foam back pad, offers a convenient and comfortable way to transport and manage GIS instrumentation. A builtin pocket for CamelBak ${ }^{\circledR}$ or other hydration systems and a protective rain flap round out this pack. Made at Geo de SECO, Mexico.
Large GIS Backpack with Cam-Lock Antenna Pole \#8125-11-ORG - Orange
This pack is the same as above, but with a cam-lock antenna pole instead of a bar.

These packs are made of heavy-duty, high-vis polyester. The packs have adjustable internal pockets; padded, adjustable shoulder straps, and waist belt.

Interior dimensions*: $20 \times 9.5 \times 4$ inches ( $50.8 \times 24.2 \times 10.2 \mathrm{~cm}$ ) Weighs $2.8 \mathrm{lb}(1.27 \mathrm{~kg})$ Made at Geo de SECO, Mexico.


## Small GIS Backpack

 \#8125-50-ORG - OrangeThis pack includes a cam-lock antenna pole; adjustable straps; several interior pockets; belt loop straps; a rain flap, and much more.

Interior dimensions*: $15 \times 9 \times 4$ inches ( $38.1 \times 22.86 \times 10.16 \mathrm{~cm}$ )

Weighs $2 \mathrm{lb}(0.91 \mathrm{~kg})$
Made at Geo de SECO, Mexico.
Cam-Lock Antenna Pole \#5139-01

The pole extends from 16.5-to-36.5 inches ( 41.91 to 92.71 cm ).

## GPS Backpack <br> \#8124-00-ORG - Orange

This pack features a heavyduty freestanding aluminum frame with twist locking antenna pole extensions.

It includes three adjustable internal pockets, two side and two bottom egress openings for cables, and four cable straps. It also has adjustable pockets in three sizes. Interior dimensions*:
$17.5 \times 14.75 \times 3.75$ inches ( 44.45 x $37.47 \times 9.53 \mathrm{~cm}$ )

Weighs $6.3 \mathrm{lb}(2.86 \mathrm{~kg})$
Made at Geo de SECO, Mexico.

[^1]
## Heavy-Duty Bag for 18 -inch (46.72-cm) Stakes or Rebar

 \#8090-20-ORGThe main compartment of this bag is constructed of tough Rhinotek ${ }^{\mathrm{TM}}$ material and designed to hold 18 -inch stakes or rebar. Other features include a hammer loop, an adjustable strap and brass grommet drain holes at both ends of the bag. Weighs $1.55 \mathrm{lb}(0.70 \mathrm{~kg})$

## Heavy-Duty Bag with Center Partition

 \#8091-20-ORGThis stake bag is the same as above but features a partition down the middle of the bag for separating stakes and hubs. Weighs $1.70 \mathrm{lb}(0.77 \mathrm{~kg})$
Made at Geo de SECO, Mexico.

## Heavy-Duty Bag for 24-Inch (60.96-cm) Stakes or Rebar <br> \#8092-20-ORG - Single compartment (shown) <br> \#8096-20 - Split compartment (center partition)

This stake bag is the same as the \#8090-20-ORG above, but holds 24-inch stakes. Features a Rhinotek bottom. Weighs $1.7 \mathrm{olb}(0.77 \mathrm{~kg})$

Made at Geo de SECO, Mexico.


## Heavy-Duty Bag for Lath or Rebar

\#8100-20-ORG - 8 ID x 34 inches (20.3 ID x 86.4 cm )
\#8101-20-ORG - 8 ID x 46 inches ( 20.3 ID x 116.9 cm )
These two are similar to the popular SECO \#8100-oo-ORG Lath Bag but with the addition of Rhinotek material on the bottom and six inches up the sides. Also available in green.

Both weigh approximately $1.50 \mathrm{lb}(0.68 \mathrm{~kg})$
Made at Geo de SECO, Mexico.


## Surveyor's Tool Pouch with Belt \#8046-30-ORG

The Surveyor's Tool Pouch features a $9 \times 2 \times 11-$ inch ( $22.9 \times 5.1 \times 27.9-\mathrm{cm}$ ) pocket with two vent grommets. The large pocket is lined with two layers of 1000D Cordura ${ }^{\circledR}$. A smaller pocket on the front is made of durable Rhinotek. Other features include a hammer loop and marker storage. The webbed belt adjusts to a $50-\mathrm{inch}(127-\mathrm{cm})$ waist. Weighs $1.05 \mathrm{lb}(0.48 \mathrm{~kg})$

Made at Geo de SECO, Mexico.

## Heavy-Duty Prism Pole Tripod Bag <br> \#8180-20-ORG - 7.5 ID x 60 inches ( 19.1 ID x 152 cm )

This bag is designed to carry a prism pole with the tripod attached. The bag has a fold-over flap and is made from nylon Cordura and durable Rhinotek. Weighs 1.55 lb ( 0.7 okg )

Made at Geo de SECO, Mexico.

[^2]
## Bags and Cases

## Heavy-Duty Lath Carrier

\#8102-01-ORG

Hold up to 50 lath or rebar! It's constructed of Cordura ${ }^{\circledR}$, leather and Rhinotek ${ }^{\text {TM }}$ materials. Measures $9 \times 38$ inches ( $2.54 \times$ 96.52 cm ). Weighs $0.22 \mathrm{lb}(0.10 \mathrm{~kg})$

Made at Geo de SECO, Mexico.

## Lath Bag

\#8100-00-ORG - 8 ID x 34 inches (20.3 ID x 86.4 cm ) \#8101-00-ORG - 8 ID x 46 inches (20.3 ID x 116.9 cm )
Holds 36 or 48 -inch ( 84 or $122-\mathrm{cm}$ ) wood lath. Features a hand loop, shoulder strap, and outside pocket. Weighs $0.8 \mathrm{lb}(0.36 \mathrm{~kg})$

Made at Geo de SECO, Mexico.

## Wire Stake Flag Bags

\#8093-00-ORG - For 21-inch Flags (shown)
\#8094-00-ORG - For 30-inch Flags
Use to carry 21 -inch ( $53-\mathrm{cm}$ ) or 30 -inch ( $76-\mathrm{cm}$ ) flags.
\#8093-00-ORG weighs 0.22 lb ( 0.10 kg ) \#8094-oo-ORG weighs 0.28 lb ( 0.13 kg )
Made at Geo de SECO, Mexico

## Pole Case for Pathfinder \#8143-21-YEL

This case holds the Trimble ${ }^{\circledR}$ Pathfinder ${ }^{\circledR}$ ProXH ${ }^{\text {TM }}$ or the ProXT ${ }^{\text {TM }}$ GPS unit securely. Weighs $0.45 \mathrm{lb}(0.20 \mathrm{~kg})$

Made at Geo de SECO, Mexico.

## Cell Phone Pole Case <br> \#8143-22-FLY

The case secures your cell phone to any survey pole without slipping! Inside dimensions: $5 \times 2.5 \times 1.5$ inches ( $12.7 \times 6.35 \times 3.81 \mathrm{~cm}$ ). Weighs $0.10 \mathrm{lb}(0.45 \mathrm{~kg})$

Made at Geo de SECO, Mexico


## Case for Recon w/CF Cap

\#8240-10-ORG
\#8240-00-ORG (w/out flash cap, shown)
This Cordura case is designed for the TDS ${ }^{\text {TM }}$ Recon ${ }^{\circledR}$ with compact flash cap installed. Inside dimensions: $1 \times 3.25 \times 9$ in ( $2.5 \times 8.3$ x 22.9 cm ). Weighs $0.20 \mathrm{lb}(0.09 \mathrm{~kg})$
Made at Geo de SECO, Mexico

## Lath Carrier

\#8102-00-ORG - Orange (shown)
\#8102-00-GRN - Green
The carrier measures 33 inches ( 84 cm ) long with two handle straps. Carries up to 50 lath.
Weighs $1.46 \mathrm{lb}(0.66 \mathrm{~kg})$
Made at Geo de SECO, Mexico.

## Lath Bag

\#8103-00-ORG
\#8103-20-ORG — With Rhinotek (shown)
Holds 24-inch ( $61-\mathrm{cm}$ ) wood lath. It has a hand loop, a shoulder strap, and an outside pocket. It features an 8 -inch diameter.
Weighs $0.4 \mathrm{lb}(0.18 \mathrm{~kg})$
Made at Geo de SECO, Mexico.

## Map Holster <br> \#8083-00-ORG

The 3 -inch ( $7.6-\mathrm{cm}$ ) diameter opening is held open. It's 18 inches ( 46 cm ) long and made from heavy-duty nylon Cordura with leather bottom. Weighs $0.75 \mathrm{lb}(0.34 \mathrm{~kg})$

Made at Geo de SECO, Mexico.

## Cell Phone Pole Case <br> \#8143-20-FLY

This case holds all popular cell phones. This setup is used with GPS systems using GSM phone links. Interior Dimensions: $4 \times 2.5 \mathrm{x}$ 1.5 inches. Weighs $0.35 \mathrm{lb}(0.16 \mathrm{~kg})$

Made at Geo de SECO, Mexico.

## Battery Pole Case <br> \#8015-01-FLY

Carry a camcorder battery as an alternative power source for RTK setups!

Interior Dimensions: $6.5 \times 2.5 \times 1$ inches.
Weighs $0.30 \mathrm{lb}(0.13 \mathrm{~kg})$
Made at Geo de SECO, Mexico.

## Construction-Style Tool Pouch <br> \#8046-20-ORG - Orange

Features include an $11 \times 7$-inch ( $28 \times 18$ cm ) and $6 \times 4$-inch ( $15 \times 10-\mathrm{cm}$ ) pouches.

It has slots for markers, a loop for axes or hammers.
Made at Geo de SECO, Mexico.

## Bag for 18-inch ( $46-\mathrm{cm}$ ) Wood Stakes \#8090-00-ORG

For 18 -inch ( $46-\mathrm{cm}$ ) stakes and rebar. Measures: $19 \times 8 \times 12$ in $(48.3 \times 20.3 \times 30.4 \mathrm{~cm})$.

Weighs 0.78 lb ( 0.35 kg )
Made at Geo de SECO, Mexico.


## Bag for 18 -inch ( $46-\mathrm{cm}$ ) Wood Stakes \#8091-00-ORG

Same as above but with center partition to separate stakes and hubs.

Weighs $0.88 \mathrm{lb}(0.40 \mathrm{~kg})$
Made at Geo de SECO, Mexico.


## Monster Gear Bag \#8106-10-ORG

Need more room for tools, clothes, or other gear?

This bag measures a whopping
$30 \times 14 \times 20$ in ( $76 \times 36 \times 51 \mathrm{~cm}$ ). Weighs $3.4 \mathrm{lb}(1.54 \mathrm{~kg})$ Made at Geo de SECO, Mexico.

## Collapsible Bucket

 Bag\#8095-20-ORG
Features include an outside pocket with a Velcro closure and 2 -inch straps made with heavy-duty webbing. It has a Rhinotek and leather reinforced bottom.

Measures $10.25 \times 15$ inches ( $26 \times 38 \mathrm{~cm}$ ).

Weighs $1.3 \mathrm{lb}(0.59 \mathrm{~kg})$

Made at Geo de SECO, Mexico.


## Spray Can Holder

\#8098-00-ORG - Standard Holder \#8098-10-ORG - With Accessory Pockets (shown)
Choose between a standard spray can holder or a holder with updated features like four pockets for pens/pencils and a heavy web strap.
Made at Geo de SECO, Mexico.
Demo video available at www.surveying.com

## Bag for 24-inch (61-cm) Wood Stakes \#8092-00-ORG

For 24-inch (61-cm) stakes and rebar. Measures: $25 \times 8$ x 12 in ( $63.5 \times 20.3 \times 30.5 \mathrm{~cm}$ ).

Weighs $0.95 \mathrm{lb}(0.43 \mathrm{~kg})$
Made at Geo de SECO, Mexico.

## Bag for 24-inch (61-cm) Wood Stakes

\#8096-00-ORG
Same as above but with center partition to separate stakes and hubs.

Weighs $1.10 \mathrm{lb}(0.50 \mathrm{~kg})$
Made at Geo de SECO, Mexico.

## Gear Bag \#8106-20-ORG

Excellent for carrying surveying accessories. Made of heavy-duty water resistant polyester and Rhinotek ${ }^{\mathrm{TM}}$. Measures 27 x $11 \times 11$ in ( $69 \times 28 \times 28 \mathrm{~cm}$ ). Weighs $1.56 \mathrm{lb}(0.71 \mathrm{~kg})$
Made at Geo de SECO, Mexico.

## Heavy-Duty Bucket Bag \#8095-50-RED

This heavy-duty, water-resistant bucket bag is reinforced at all the wear points. It features plenty of pockets.
Weighs 1.6 lb ( 0.73 kg )
Imported.

## Heavy-Duty Bucket Lath Carrier

 \#8104-20-ORGDemo video available at www.surveying.com
This heavy-duty lath carrier features space inside for any standard 12-inch, five-gallon bucket. Weighs $1.5 \mathrm{lb}(0.68 \mathrm{~kg})$ without bucket and approx. $3.85 \mathrm{lb}(1.75 \mathrm{~kg})$ with bucket added. Made at Geo de SECO, Mexico.

## Flagging Dispenser

 \#8025-00-YELHolds four rolls of flagging! Includes a belt strap.
Made at Geo de SECO, Mexico.

## Aervoe Survey Marking Paint

Aervoe's Survey Marking Paint is a superior upside down marking paint that is designed for survey marking. It provides the best quality paint in terms of color visibility and retention, durability, and a lasting mark of up to six months. Nonfreezing and operational to $14^{\circ} \mathrm{F}$. Colors formulated to meet standards set by OSHA and APWA/One Call Systems.

Aervoe marking paint is designed to be used with the Spot Marker or Marking Stick (shown below) or can be used by hand. Use for survey marking, landscape, utility location, construction and proposed excavation. Comes in 20 Oz aerosol cans.

| Number: | Quantity: | Color: |
| :---: | :---: | :---: |
| 9020-01 | 12 cans per case | Flo Orange |
| 9020-02 | 12 cans per case | Flo Pink |
| Aervoe Marking Stick \#9020-10 <br> Aervoe's Marking Stick is constructed of tough, durable materials for easy single-hand operation. Intended for upside down marking only. Weighs $2 \mathrm{lb}(0.91 \mathrm{~kg})$ |  |  |
|  |  |  |


| Case Weighs: |
| :--- |
| $18 \mathrm{lb}(8.16 \mathrm{~kg})$ |
| $18 \mathrm{lb}(8.16 \mathrm{~kg})$ |

## Aervoe Spot Marker \#9020-11

This simple, hand held marking gun provides accuracy and control for either upright or upside down marking.

Weighs 1 lb ( 0.45 kg )


## Dixon Redimark Marker

\#9060-06 — Red, 12 count \#9060-14 - Black, 12 count

The Dixon ${ }^{\circledR}$ Redimark ${ }^{\circledR}$ six-inch metal barrel permanent marker is leak-proof with a seamless metal body. Heavy-duty chisel felt-tip with anchored nib construction. Marks are extremely durable on wood, metal, and more. AP certified non-toxic.
Box weighs 3.75 lb ( 1.70 kg )

## Ideal-Mark Valve Action Markers

\#9063-06 - Red, 12 count \#9063-14 - Black, 12 count Replacement Tips \#9064-01 - Bullet Tip, 12 count \#9064-02 - Chisel Tip, 12 count

Ideal-Mark ${ }^{\circledR}$ permanent marking pens are legendary for their performance and are an excellent value. Features include a leakproof aluminum valve, pocket clip and color-coded cap.

## Dixon Lumber Crayons

\#9061-02 — Flo Pink, 12 count
\#9061-03 - Yellow, 12 count
\#9061-04 - White, 12 count
\#9061-05 - Blue, 12 count
\#9061-06 - Red, 12 count
\#9061-14 — Black, 12 count
Dixon ${ }^{\circledR}$ Lumber Crayons are great for marking steel, concrete, stone, lumber, etc.

Box weighs 3 lb ( 1.36 kg )

## Dixon Wood Crayon Holder

\#9062-00
The high quality Wood Crayon Holder can accommodate both crayons and markers for increased convenience. It can hold a crayon or marker that is up to 0.5 -inch diameter and holds both round and hexagonal shapes. The walnut Crayon Holder has a metal chuck and a wrist strap hole for increased durability and functionality. Weighs $0.5 \mathrm{lb}(0.23 \mathrm{~kg})$

## Automatic Center Punches and Utility Scriber

\#9068-02 — Heavy-Duty Center Punch \#9068-03 - Carbide Scriber

Lightweight aluminum center punches are great for marking a variety of materials or punching starter holes for nails or drill bits.

Durable removabletip scribers are perfect for making quick and accurate marks on hard work pieces. They work well on metal, ceramic, concrete, stone, lumber or other surfaces. The scriber features a durable tungsten carbide point that is able to make precise marks to $1 / 100$ th of an inch.
The magnetic cap quickly cleans up stray metal shavings.

## Stake Flags, Flagging Tape and Whiskers

## Presco 100 Count Stake Flag Bundle

These biodegradable stake flags are made of a new superior formula. Presco PVC marking flags resist breaking under high wind conditions and extreme cold. Two flag sizes and two wire length options are available in regular or PresGlo colors.

| Number: | Flag Size: | Wire: | Color: |
| :---: | :---: | :---: | :---: |
| 9030-01 | $2 \times 3$ inch | 21 inch | Orange Glo |
| 9030-02 | $2 \times 3$ inch | 21 inch | Pink Glo |
| 9030-03 | $2 \times 3$ inch | 21 inch | Yellow |
| 9030-04 | $2 \times 3$ inch | 21 inch | White |
| 9031-01 | $2 \times 3$ inch | 30 inch | Orange Glo |
| 9031-02 | $2 \times 3$ inch | 30 inch | Pink Glo |
| 9031-03 | $2 \times 3$ inch | 30 inch | Yellow |
| 9031-04 | $2 \times 3$ inch | 30 inch | White |
| 9031-06 | $2 \times 3$ inch | 30 inch | Red |
| 9035-01 | $4 \times 5$ inch | 21 inch | Orange Glo |
| 9035-02 | $4 \times 5$ inch | 21 inch | Pink Glo |
| 9035-03 | $4 \times 5$ inch | 21 inch | Yellow |
| 9035-04 | $4 \times 5$ inch | 21 inch | White |
| 9035-05 | $4 \times 5$ inch | 21 inch | Blue |
| 9035-06 | $4 \times 5$ inch | 21 inch | Red |
| 9035-07 | $4 \times 5$ inch | 21 inch | Blue Glo |
| 9035-11 | 4×5 inch | 21 inch | Orange |
| 9035-12 | $4 \times 5$ inch | 21 inch | Red Glo |
| 9035-13 | $4 \times 5$ inch | 21 inch | Yellow Glo |
| 9036-01 | $4 \times 5$ inch | 30 inch | Orange Glo |
| 9036-02 | $4 \times 5$ inch | 30 inch | Pink Glo |
| 9036-03 | $4 \times 5$ inch | 30 inch | Yellow |
| 9036-04 | $4 \times 5$ inch | 30 inch | White |
| 9036-05 | $4 \times 5$ inch | 30 inch | Blue |
| 9036-06 | $4 \times 5$ inch | 30 inch | Red |
| 9036-07 | $4 \times 5$ inch | 30 inch | Blue Glo |
| 9036-08 | $4 \times 5$ inch | 30 inch | Green |
| 9036-09 | $4 \times 5$ inch | 30 inch | Green Glo |
| 9036-10 | $4 \times 5$ inch | 30 inch | Lime Glo |
| 9036-11 | $4 \times 5$ inch | 30 inch | Orange |
| 9036-12 | $4 \times 5$ inch | 30 inch | Red Glo |
| 9036-13 | $4 \times 5$ inch | 30 inch | Yellow Glo |
| 9037-01 | $4 \times 5$ inch | 36 inch | Orange Glo |
| 9037-02 | $4 \times 5$ inch | 36 inch | Pink Glo |
| 9037-03 | $4 \times 5$ inch | 36 inch | Yellow |
| 9037-05 | $4 \times 5$ inch | 36 inch | Blue |

10o flags per bundle!

## Presco Roll Flagging

Presco long-lasting outdoor flagging comes in 5 lb boxes of 12 rolls.

| Number: | Color: | Length: |
| :--- | :--- | :--- |
| $9040-01$ | Orange Glo | 150 ft |
| $9040-02$ | Pink Glo | 150 ft |
| $9040-03$ | Yellow | 300 ft |
| $9040-04$ | White | 300 ft |
| $9040-05$ | Blue | 300 ft |
| $9040-06$ | Red | 300 ft |
| $9040-07$ | Blue Glo | 150 ft |
| $9040-08$ | Green | 300 ft |

Flagging Tape Dispenser \#9040-20 The Presco Roll Flagging Belt Dispenser is a convenient time-saver. It is made of durable anodized steel.

Weighs 1.3 lb ( 0.59 kg )

## Presco Marking Whiskers

Presco 6-inch Marking Whiskers ${ }^{\mathrm{TM}}$ are an alternative marking choice for survey and construction sites, underground utility locating and many other uses. Whiskers come in a bundle of 25 each.

| Number: | Color: | Weighs: |
| :--- | :--- | :--- |
| $9050-02$ | Pink Glo | $0.3 \mathrm{lb}(0.14 \mathrm{~kg})$ |
| $9050-04$ | White | $0.3 \mathrm{lb}(0.14 \mathrm{~kg})$ |
| $9050-05$ | Blue | $0.3 \mathrm{lb}(0.14 \mathrm{~kg})$ |
| $9050-06$ | Red | $0.3 \mathrm{lb}(0.14 \mathrm{~kg})$ |
| $9050-08$ | Green | $0.3 \mathrm{lb}(0.14 \mathrm{~kg})$ |
| $9050-11$ | Orange | $0.3 \mathrm{lb}(0.14 \mathrm{~kg})$ |



## Presco Aerial Flagging

For aerial mapping and surveying jobs requiring a perimeter for photos.

| Number: | Color: | Size: | Weighs: |
| :--- | :--- | :--- | :--- |
| $9045-01$ | White | $300 \mathrm{ft} \times 12$ in | $4.90 \mathrm{lb}(2.22 \mathrm{~kg})$ |
| $9045-02$ | White | $300 \mathrm{ft} \times 18$ in | $7.36 \mathrm{lb}(3.34 \mathrm{~kg})$ |
| $9045-03$ | White | $300 \mathrm{ft} \times 24$ in | $7.70 \mathrm{lb}(3.49 \mathrm{~kg})$ |
| $9045-04$ | White | $300 \mathrm{ft} \times 36$ in | $14 \mathrm{lb}(6.35 \mathrm{~kg})$ |

## Camper's Axe with Sheath

\#9070-00
Estwing's Camper's Axe is forged in one piece steel and features the exclusive Nylon Shock Reduction Grip ${ }^{\circledR}$. It comes with an embossed leather sheath.

Cutting edge:
4 inches (102 mm)
Overall length:
16 inches ( 406 mm )
Weighs $2.90 \mathrm{lb}(1.32 \mathrm{~kg})$

Rock Pick
\#9070-03
Estwing Rock Picks have bonded and molded Shock Reduction Grip ${ }^{\circledR}$ which offers the utmost in both comfort and durability, while reducing vibrations caused by impact. The head and handle are forged in one piece and have a fully polished head.

Overall length: 13 inches ( 330 mm )

Weighs 22 oz (616 g)

## Drilling Hammer \#9070-06

The Drilling Hammer has a bonded and molded Shock Reduction Grip ${ }^{\circledR}$ which offers the utmost in both comfort and durability, while reducing vibrations caused by impact. The head and handle are forged in one piece, both faces are fully polished.

Overall length:
11.5 inches ( 292 mm )

Weighs $4 \mathrm{lb}(1.80 \mathrm{~kg})$

## Rigger's Axe

\#9070-01
Estwing's Rigger's Axe is forged in one piece steel and features the exclusive Nylon Shock Reduction Grip ${ }^{\circledR}$. It has a hammer head on one side and cutting edge on the other.

Cutting edge: 3.5 inches ( 89 mm )

Overall length:
16.75 inches ( 426 mm )

Weighs $3 \mathrm{lb}(1.36 \mathrm{~kg})$

## Leather Pick Sheath \#9070-04



Estwing Sheath for Pointed Tip and Chisel Edge Picks. Constructed of genuine leather.

## Clear Safety Goggles \#9070-09

Estwing's Safety Goggles feature large ventilated vinyl frames that can be worn over glasses.

## Rock Chisel

 \#9070-07The The Estwing Rock Chisel features a vinyl grip for comfort and durability.

Overall length:
12 inches (305 mm)
Cut Point:
0.625 inch

Stock:
0.375 inch

Weighs 0.97 lb ( 0.44 kg )

## Long Handle

 Rock Pick\#9070-02
The 22 oz Long Handle Rock Pick has a bonded and molded Shock Reduction Grip ${ }^{\circledR}$ which offers the utmost in both comfort and durability, while reducing vibrations caused by impact. The head and handle are forged in one piece and have a fully polished head.

Overall length:
16.5 inches ( 419 mm )

Weighs 22 oz ( 616 g )

## Milled Face Framing Hammer

 \#9070-05Estwing's Solid Steel Framing Hammer has a long handle for more striking power. The head and handle are fully polished and forged in one piece. Our exclusive Shock Reduction Grip ${ }^{\circledR}$ is molded on and offers the utmost in both comfort and durability, while reducing vibrations caused by impact.

Overall length:
16 inches ( 406 mm )
Weighs 30 oz ( 840 g )

## Engineer's Hammer <br> \#9070-08

The Engineer's Hammer has a bonded and molded Shock Reduction Grip ${ }^{\circledR}$ which offers the utmost in both comfort and durability, while reducing vibrations caused by impact. The head and handle are forged in one piece, and have an attractive blue UV coating, both faces are fully polished.

Overall Length:
16 inches ( 406 mm )
Weighs 48 oz ( 1.34 kg )

## Field Books and Loose Sheets

## Bound Books

\#9090-00 - Transit Pattern<br>\#9091-00 - Level Pattern

Rite in the Rain bound books ensure that your valuable data won't be lost. These all-weather books have 160 pages ( 80 sheets), including a title and contents page.

This $4-3 / 4 \times 7-1 / 2$-inch yellow field book also features a sewn binding.

Weighs $0.65 \mathrm{lb}(0.29 \mathrm{~kg})$


## Transit Pattern Loose Leaf Sheets

\#9092-01 - 100 Sheet Pack
Tough, durable and weather-proof, these Rite in the Rain Loose Leaf sheets are perfect for recording data that will be filed or reorganized. Sold in packs of 100 sheets. Use with Field Ring Binder (above).

Measures:
4-5/8 x 7-inches
Weighs 0.55 lb ( 0.25 kg )

## Miscellancous Field Accessories

## Plumb Bobs

\#6000-Series
Each solid brass bob features a hardened steel point and a storage area for a spare point. Available weights: 12 oz ( 340 g ), $14 \mathrm{oz}(397 \mathrm{~g}), 16 \mathrm{oz}$ ( 454 g ), $18 \mathrm{oz}(510 \mathrm{~g}), 24 \mathrm{oz}(680 \mathrm{~g}), 32 \mathrm{oz}(907 \mathrm{~g})$

## Leather Sheaths

\#6000-120 - 10-12 oz (283-340 g)
\#6000-160 - 14-18 oz (397-454 g)
\#6000-240 - 24-32 oz (510-907 g)
The heavy-duty sheath is double stitched top grain leather with a belt loop for SECO bobs (above).

## Gammon Reel

\#6001-06-7 ft (2 m)
\#6001-12 - 12 ft ( 3.7 m )
The Gammon Reel ${ }^{\circledR}$ is almost a given on any job site. The 24-yard refillable cord comes in many colors.

## Tac Ball

\#2180-00 - Regular Tac Ball \#2180-01 - Tac Ball with Clip

Pin cushion for holding stake tacks!

## Double Right-Angle Prism <br> \#4900-00

This prism allows for easy determination of right angle points or perpendicular points between two targets.

## Caps \& Points

\#6000-001 - Bob Cap
\#6000-002 - Bob Point
Replacement caps and points fit all SECO plumb bobs (at left).

Shot Bags (paperweights)
\#8010-00 - Vinyl
\#8010-10-BLU - Cordura ${ }^{\text {® }}$
Shot bags are great for holding down maps or blueprints in windy conditions.
Weighs $1.5 \mathrm{lb}(0.68 \mathrm{~kg})$

## Paper Targets

\#9000-01 - With holes, 100 count
\#9000-02 - Sticky, 25 count
Use the paper targets with a \#50 survey nail or stick the target to just about anything. Measures $2 \times 3.5$ inches.

## Machetes

\#9500-17 - 17.5-inch blade, includes sheath \#9500-13 - 13-inch blade, includes sheath

Choose between a 17.5 -inch blade and a 13 inch blade for clearing that thick underbrush on the job site. Weighs approx. 1 lb ( 0.45 kg )

## Marking Pins

\#2183-00 - 11 count
The $3 / 16$-inch spring steel, 14 -inch pins are powderpainted red and white, alternating at each inch. Quiver (\#8041-oo-ORG) sold separately.
Weighs 1.54 lb ( 0.7 gkg )

## Knife and Axe Sharpeners


\#9500-01 - For knives and scissors \#9500-02 - For hand tools

The \#9500-01 is for knives and scissors.
Weighs $0.05 \mathrm{lb}(0.02 \mathrm{~kg})$
The \#9500-02 is for Axes or other edged tools like Pulaskis and machetes.
Weighs 0.20 lb ( 0.09 kg )


## Bulk Shiners

\#2181-10 — Flat \#2182-10 — Raised

10 lb of Shiners with included bag.
\#2181-10 approximate
qty: 1,125
\#2182-10 approximate qty: 1,300

Weighs 10 lb ( 4.53 kg )

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[^0]:    Imported.

[^1]:    *Approximate dimensions between the foam wall padding.

[^2]:    Heavy-Duty Instrument Tripod Bag \#8150-20-ORG
    This heavy-duty bag holds all major brands of aluminum or wood tripods. It's made of heavy-duty nylon Cordura and Rhinotek. It features pull string ties at the top. Weighs $1.85 \mathrm{lb}(0.84 \mathrm{~kg})$
    Made at Geo de SECO, Mexico.

