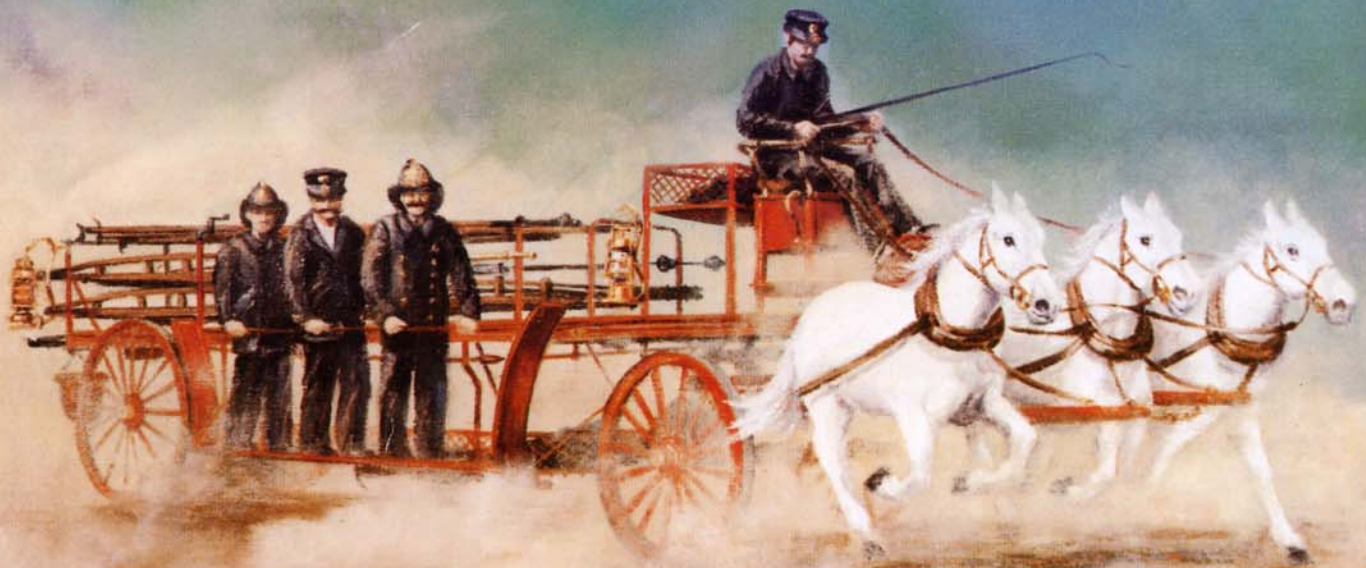


ALACO TAPERED TRUSS WOOD GROUND LADDERS

...since 1881



ALACO Ladder Company



THE ALACO STORY

ALACO LADDER COMPANY manufactures industrial, commercial, and special application ladders in Chino, California, a suburb of Los Angeles.

ALACO's facility is a 26,000 square foot plant devoted entirely to producing ladders. . . wood, aluminum and fiberglass.

Raw materials, grown or made to meet ALACO'S unique high standards, come from throughout the nation. ALACO'S skilled craftsmen transform these materials into ladder parts, using our own in-house mill, foundry, welding, presses and complete machining facilities. Then, these parts are assembled into finished ladders with skill and pride . . . to the most exacting requirements.

Each ALACO ladder is created with individual care because ALACO is not a production line shop.

ALACO LADDER COMPANY brings together the experience, knowledge and product history of several old companies, each with its own unique strengths.

LOS ANGELES LADDER COMPANY (LALCO) was one of these, beginning business in 1883. In 1982 . . . almost 100 years later . . . most of LALCO'S assets were purchased by ALACO, and moved to our plant in Chino. There, they were modernized and combined with ALACO'S other machinery and equipment to create what is now one of the leading and largest ladder plants in the world.

Fortunately, the best LALCO wood ladder craftsmen . . . some with 30 years of ladder making experience, or more . . . came to ALACO and are still with us today. And they still build ladders of superb quality and workmanship.



THE TAPERED TRUSS GROUND LADDER

One LALCO line, made today by ALACO, is the tapered truss sided wood ground ladder series.

The design is almost historic. . . dating back to the beginnings of the fire apparatus industry. Yet, today, this time-tested wood ground ladder is used by some of the largest and most modern fire departments in the United States. Its popularity is growing stronger every day.

Now, equipment committees of many fire departments using aluminum ground ladders are seeing the disadvantages of aluminum for fire service and are recognizing a better alternative.

ALACO wood ground ladders have been around for a while, but are proving more advantageous than ever for their special purpose. To many fire departments they appear to be a new equipment idea, with new features that offer a new and better answer for safety, dependability, and fast operation in emergency fire conditions.

ALACO's ground ladders started as an original design by Frederick Seagrave who made wood orchard ladders before he began building fire apparatus in 1881, in Columbus, Ohio.

Seagrave and his engineers wanted very light weight ladders for easy and fast handling. Strong and tough to resist abuse. Convenient to operate safely. Stiff, with as little bounce as possible, for quick, sure climbing.

By using wood, they also designed a ladder that did not conduct heat or electricity, as aluminum does. However, electrical conductivity was not much of a problem then. And, heat conductivity was not a concern because there was no practical ladder material other than wood. Aluminum didn't exist. Steel was too heavy.

Seagrave's design was brilliant, even by today's high tech standards.

To save weight, they devised a truss side rail, using material at the chords of the beam . . . the outside, weight-bearing surfaces . . . eliminating material from the center of the beam where it serves no load bearing function.

Cover painting by Gerda Holcomb depicts a hook and ladder wagon made in 1903 by Charles T. Holloway & Co. of Baltimore. This "city" Model #4025 was built for the Marion Fire Co. #1 of Mauch Chunk, PA. The ladders are by Seagrave.

ALACO LADDER COMPANY

tapered truss ground ladders are lighter and stiffer for easier and faster use.

Most trusses are straight, such as used in bridges. The Seagrave engineering innovation is that the ladder trusses are tapered and the truss members vary in size . . . using larger cross sections for longer spans, and smaller (hence, lighter) cross sections for the shorter spans.

They even thought to design the extension ladder trusses with special tapers and extra diagonals so that load bearing efficiency was optimized in the fully extended position. The top half of the base section, and the bottom half of the fly section had heavier load bearing capacity than their other halves.

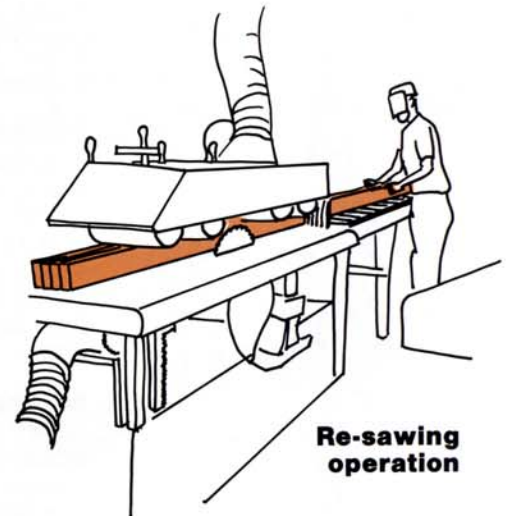
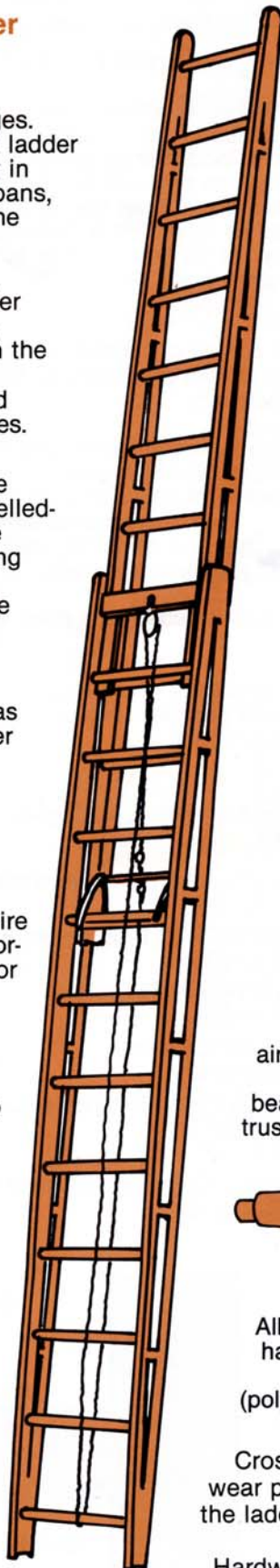
These inventive engineers even went beyond the truss design to save weight. They also used swelled-center rungs . . . with the largest diameter at the center of the span, where maximum load carrying capacity was necessary . . . and with smaller diameters at the ends, where support of the side rails was provided. This eliminated weight and material not needed for load carrying.

Also, attention was paid to smaller details, such as hardware, manufacturing requirements, and ladder configurations. Generations of engineer successors have made small but important improvements. Today, the tapered truss sided ground ladder is the very best overall answer to the firefighter's need for access by ground ladder.

As Seagrave and other manufacturers evolved, fire apparatus was made of metal and became motorized. Moving into the 20th century, the only major equipment not made of metal was the ground ladder, and it was obvious that the age of specialization was here.

At that time, apparatus manufacturers turned to ladder manufacturers, like LOS ANGELES LADDER COMPANY, to supply their ladders. At one point in the first half of this century, LALCO made ladders for all the U.S. apparatus manufacturers. Further improvements and refinements that followed were made by LALCO engineers. Today, they are still being made by ALACO engineers.

ALACO'S wood ground ladders, then, are a result of evolution. Designed originally by Seagrave. Developed further by LOS ANGELES LADDER COMPANY. Under continuing refinement by ALACO. These ground ladders are **the** answer. . . historically old, yet new in the sense that they provide the firefighter with today's features. Everything required in a ladder to fight today's fires under today's conditions. . . most effectively and with the greatest personal safety.



ALACO ground ladders are constructed of Douglas Fir, Oak and Hickory woods, and with steel fasteners and hardware.

Tapered truss side rails are made of carefully selected West Coast Douglas Fir, which is the strongest, toughest, and best species for ladders. We select this wood at lumber mills in the Willamette Valley, Oregon because the western slopes of the Cascades provide ideal climatic conditions for close grained, old growth trees. Our longer lengths of ground ladder lumber comes from trees that are one hundred to two hundred years old.

Rough sawn cants come green from the lumber mills. Immediately upon arrival, we regrade the lumber, selecting only perfect cants for ground ladders. After re-sawing them into ladder part blanks, we carefully air dry them in our own yards. Then we finish plane all four sides and corners into ladder beams and truss parts which become finished truss side rails.



Swelled-center rung

All rungs are made of Hickory hardwood. Each has a swelled-center and compound tenons at both ends, hand fitted and glued with PVA (polyvinyl acetate) into the rung beams.

Cross beams, slide guides, and miscellaneous wear parts are made of Red Oak. All are fitted to the ladders by hand.

Hardware is cast or wrought steel, plated before painting for best protection against corrosion.



THE TAPERED TRUSS GROUND LADDER



West Coast Douglas Fir

ALACO LADDER COMPANY
ground ladders are made of top quality materials by experienced craftsmen.

Careful attention to detail by our ladder craftsmen includes fabrication and fitting of the hardware too. For example, ladder shoe points are milled, painstakingly, so they will be sharper and provide a more secure grip than the formed aluminum shoes used by others. In an emergency, when a ladder may not be tied down or otherwise secured by a firefighter, it will remain more securely in place.

Bolts have domed or countersunk heads and are locked with tamper-proof nuts to discourage improper adjustment.

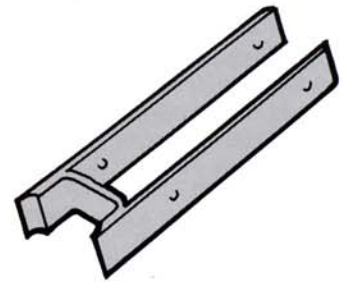
The folding roof ladder hooks are made of chrome moly steel alloy and heat treated for maximum strength, before plating and painting. Bronze oilite bearings are used on machined aluminum sheaves so that lubrication is never required and free operation is assured indefinitely.

Quality details include many other examples like these.

After final assembly, each ladder is finished with three coats of phenolic-tung oil varnish with ultra-violet ray absorbers.

The complete line of ALACO ground ladders are available as:

- 2 Section Rapid Hoist Extension Ladders
Sizes 20' to 50'
- Roof Ladders with Folding Hooks
sizes 10' to 20'
- Single Section Wall Ladders
sizes 10' to 28'
- Folding Attic Ladders
sizes 10' and 12'
- 2 Section Push-Up Extension Ladders
(Baby Bangor)
sizes 10' to 16'
- Combination Step and Extension Utility Ladders
sizes 10' and 12'



Milled steel ladder shoes



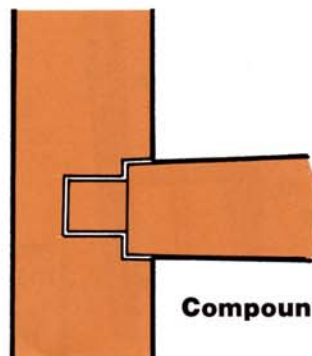
Extension ladder sheave



Chrome moly steel roof ladder hook



Finishing operation



Compound tenon rung joint



Tamper-proof nut



FEATURES AND BENEFITS

Here are some of the more important advantages of ALACO wood tapered truss side ground ladders over others:

LIGHT WEIGHT. . . comparable in weight to aluminum ground ladders. With some models the ALACO Ladder actually weighs less than the same size aluminum ground ladder. In virtually all instances, the tapered truss wood ladder with swelled-center rungs varies only 10% or less from the weight of an aluminum ladder of the same duty rating and quality.

Thus, a 2 man ladder is a 2 man ladder whether ALACO's wood or aluminum.

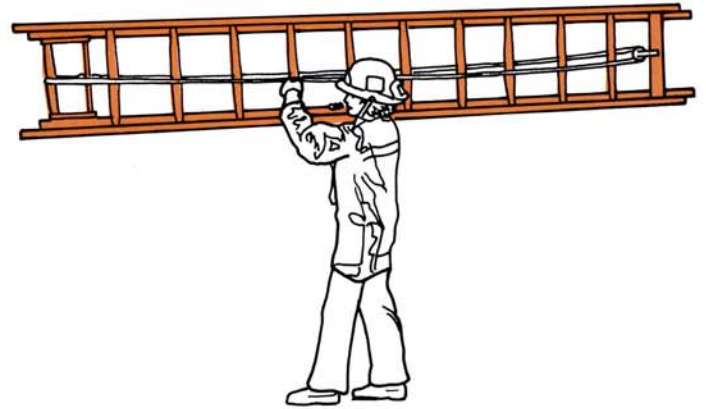
DOES NOT CONDUCT ELECTRICITY . . . the feature that saves lives and avoids injuries caused by ladder contact with an unknown source of electricity under emergency fire conditions. It prevents inadvertant electrocution.

DOES NOT CONDUCT HEAT. . . the insulating value of Douglas Fir is the same as rock wool. If one end of an ALACO ground ladder is exposed to heat or flame, the rest of the ladder remains cool to the touch, with no discomfort or danger to the climber.

STAYS STRONG AT THE FIRE . . . does not become weak or dangerous when exposed to heat. While the outside surfaces of wood may char if exposed to extreme heat or flame for a long enough period of time, the wood inside and in the rest of the ladder retains its original strength. Wood does not anneal. Damage to the wood ladder, if any, is immediately apparent and easily observable, even at the scene of a fire.

Aluminum ground ladders, however may not retain their strength when exposed to heat, and the damage is not observable at all. In fact, an aluminum ground ladder can lose half of its strength at a fire scene . . . during use . . . with no change in appearance of the metal. This serious loss of load capacity may be determinable only when the ladder is loaded with a firefighter or two, or a fire victim . . . and the only evidence of the weakened ladder might be complete and unexpected failure, causing serious injury from a fall.

The higher the heat and/or the longer the exposure above 350°F the faster and more complete the strength loss occurs.



ALACO ground ladders weigh less. Many old fashioned wood ladders are heavy. The ALACO line is light in weight, yet strong and durable.

One manufacturer of aluminum ground ladders states:

"If your aluminum ladder has been subjected to extreme heat exposure at a fire, for even a brief period, it may have become annealed and no longer has the load capacity it had even minutes ago. Once aluminum ladders have been exposed to extreme heat they probably have lost their heat treatment and have become annealed. This means the load capacity may be greatly reduced even though the metal shows no sign of any change.

"BEWARE: When a fire crowns on the lower floor and your aluminum ladder is engulfed in flame, this ladder probably will no longer support even one man."

The aluminum alloy used for ground ladders is called 6061-T6. The "T 6" means the metal was heat treated at 350°F to achieve a typical ultimate tensile strength of 42,000 p.s.i. When the metal loses its heat treatment and becomes annealed, the tensile strength drops to 22,000 p.s.i., or less. Heating any part of the aluminum ladder to only 350°F or more begins the annealing process. Since aluminum is such a good conductor of heat, the entire ladder can become annealed even if only one part of it is exposed to extreme heat.

350°F is not a high temperature and may be encountered even without direct exposure to flame. Because of this clear danger, aluminum ladders are required to have labels that change color at 300°F. However, such heat sensing labels may not easily be observable at the fire scene, and under emergency conditions an injury may result.



FEATURES AND BENEFITS

... more advantages: comfortable, faster to use and foolproof to operate.

STIFFER . . . more resistant to flexing and bouncing when climbed quickly, Douglas Fir is not springy like metal, and extra deep trusses are more resistant to bending. The ALACO ground ladder is much stiffer. The firefighter can climb it faster and with more safety.

12" RUNG SPACING . . . instead of 14" spacing. This safety feature provides more climbing power. Just as low gear in a vehicle is needed for a fast start and an easier climb up a hill, closer rung spacing gives the firefighter the lower gear advantage. This is particularly important when he has to carry his equipment **and** a fire victim to safety. He needs as much power as possible.

The 12" rung spacing also allows the firefighter to employ a more comfortable leg lock.

Attention to detail by all engineers who have collectively developed and improved the ALACO ground ladder line is well illustrated in ALACO extension ladders, which have 2 important and unique features.

FRONT HALYARD

Ideally, the halyard should be operated from the front of the ladder (ALACO's design) so that one firefighter can easily control both placement and adjustable length of the ladder. Halyards operated from the rear (other's designs), mean pulling force on the rope is toward the rear, while force required to hold the ladder erect is from the front. The two forces act against each other instead of working together.

POSITIVE ACTING RUNG LOCKS

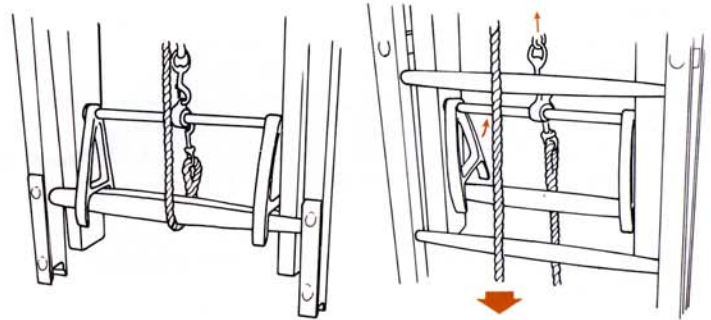
The rung locks should be positive acting so the firefighter knows when they are both securely engaged . . . even if position of the locks is not easily visible . . . as at night. They should also be simple, with as few moving parts as possible to lessen the possibility of a malfunction and need for maintenance.

ALACO'S halyard operates from the front of the ladder. Further, it is endless, with no slack or loops to catch on anything.

ALACO'S rung locks are connected by a steel bar so that both always operate together, never separately. The design is simple . . . no springs, no cams, no latches, no flipper fingers. And, no maintenance, lubrication, or problems.

ALACO rung locks: simple as 1-2-3.

Step 1



Start: locked

Locks swing free

Step 2



STEP ONE

Brace the ladder upright, Pull **DOWN** on the front halyard to raise the fly section. The rung locks swing free automatically.

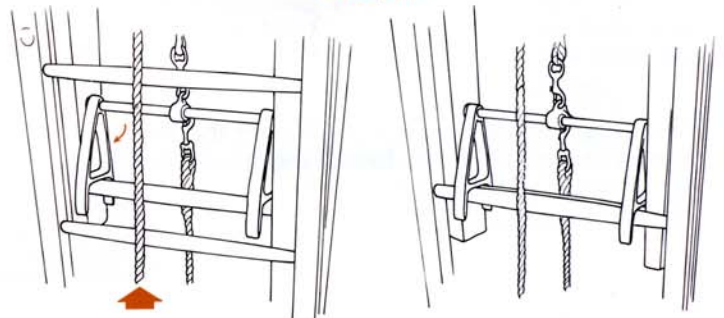
STEP TWO

Steady the raised fly section with the upper hand, holding **DOWN** on the halyard. Then, use the lower hand to pull **UP** on the halyard. This swings the locks back into locking position.

STEP THREE

Let the fly section **DOWN** with the upper hand to re-set both rung locks with a positive, solid feel.

Step 3



In locking position

Finish: locked



FEATURES AND BENEFITS

... still more advantages: safer rungs, less trouble, more wear resistant.

SWELLED-CENTER RUNGS ... save weight as explained earlier. Also they present a range of diameters. Big hands can grasp the larger diameters near the center. Smaller hands can grasp the smaller diameters near the side rails. Each individual has the most secure grip for hand size and strength.

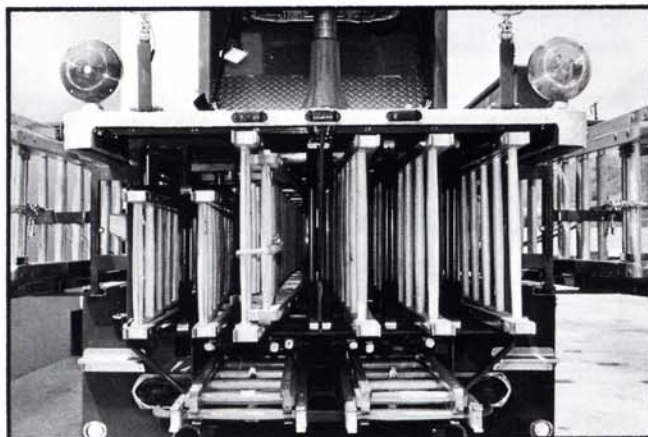
STRONGER CONNECTIONS ... welded, bolted or glued with PVA (polyvinyl acetate) adhesive, which is stronger than the wood fibers it secures. Never used in an ALACO Ladder are hollow, or "pop" type rivets such as in many aluminum ladders. Only the strongest connections are acceptable.

NESTED SECTIONS ... on ALACO extension ladders, operate smoothly and easily, with no lubrication required. Simple. Trouble-free. Aluminum ladders with interlocked sections, however, do require lubrication and can jam and become in-operative. If one part of one section becomes slightly bent from abuse or hard usage, a permanent jam can occur requiring complete replacement.

SOLID RUNGS ... made of wear-resisting Hickory ... ALACO rungs never wear through while hollow aluminum rungs can and do require replacement.

All these advantages add up to **EIGHT BIG BENEFITS:**

- 1. Save Lives
- 2. Save Time
- 3. Prevent Accidents
- 4. Provide Reliability
- 5. Make Climbing Easier
- 6. Increase Comfort
- 7. Last Longer
- 8. Operate Conveniently



MODEL 2300



MODEL 2301

MODEL 2302

MODEL 2305

MODEL 2304



MODEL 1600F



MODEL 1600F DETAIL



MODEL 1600F



Rapid Hoist 2 Section Extension Ladder

MODEL 2300-Size.

Size is the extended in-use length, in feet.

2 section wood extension ladder. Fast, safe, light, for easier use. Used fly-in for a safer climb. Fly raised rapidly by front-operated halyard. Stiff, for a faster climb. Solid rungs. Stronger connections. Does not conduct electricity. Does not lose strength when exposed to heat. Not subject to fatigue cracks.

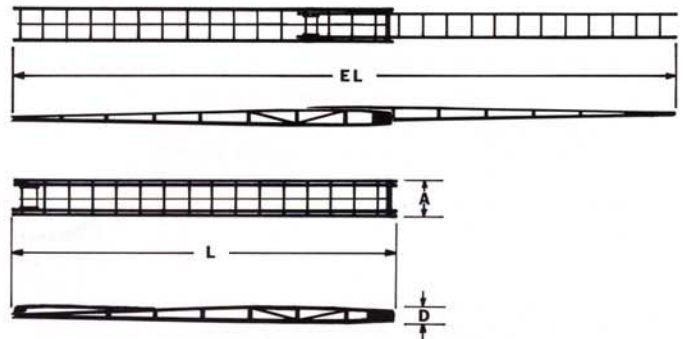
Tapered truss beams, made of Coast Douglas Fir. Swelled center Hickory rungs on 12" centers.

Assembled with PVA (polyvinyl acetate) adhesive, steel tie rods, special spanner nuts. Wood wear parts are Red Oak. Tops of both sections protected with steel end bands. Bottom ends of base section beams fitted with "H" type butt spurs, steel, welded and milled. One piece steel rung lock assembly, no moving parts, halyard actuated. Polyester core/woven sheath "Ladder Line" continuous halyard rides on 3" solid aluminum sheave with bronze Oilite bearing in steel bracket. Zinc gold iridite plated steel hardware.

Ladder is finished with 3 coats phenolic tung oil varnish with ultraviolet ray absorbers (Boat-Koat), hand sanded before each coat.

OPTIONS

- Special widths up to 24". No extra charge.
- Manila or Unmanila halyard. No extra charge.
- Hardware finished in bright brass plating or bright chrome plating at extra charge.
- Finished with 2 coats boiled linseed oil, thinned with turpentine, hand sanded before first coat. No extra charge.
- Finished with 3 coats "Watco Oil". No extra charge.
- Black and white ends. No extra charge.
- Bolted-on tormenter poles, 2-1/8" square with spike ends.
NOTE: Tormenter poles standard on 50' extension ladders (included in price). Optional on sizes 35' and 40' at extra charge.
- Cadmium gold iridite plated steel hardware at extra charge.



2300 Dimensions and Weights

SIZE*	EXTENDED LENGTH EL	RETRACTED LENGTH L	OUTSIDE WIDTH A	OVERALL DEPTH D	HALYARD DIAMETER	WEIGHT LBS
2300-20	20'	12' 1"	22"	7 1/4"	1/2"	86
2300-24	24'	14' 0"	22"	7 3/4"	1/2"	105
2300-28	28'	16' 0"	22"	8"	1/2"	125
2300-35	35'	19' 10"	24"	8 1/2"	5/8"	171
2300-40	40'	22' 11"	24"	9 1/2"	5/8"	195
2300P-35	35'	20' 4"	28 5/8"	8 1/2"	5/8"	212
2300P-40	40'	23' 4"	28 5/8"	9 1/2"	5/8"	248
2300P-50	50'	28' 6"	28 5/8"	9 3/4"	5/8"	298

* "P" MODEL NUMBER SUFFIX INDICATES TORMENTER POLES INCLUDED.

Baby Bangor 2 Section Push Up Extension Ladder

MODEL 2301-Size.

Size is the nominal extended in-use length, in feet.

2 section wood extension ladder for inside use by one fire-fighter. For attic and roof scuttle access. Extremely light. No halyard. Fixed rung locks. Stiff, for a faster climb. Used fly-in. Solid rungs. Stronger connections. Does not conduct electricity. Does not lose strength when exposed to heat. Not subject to fatigue cracks.

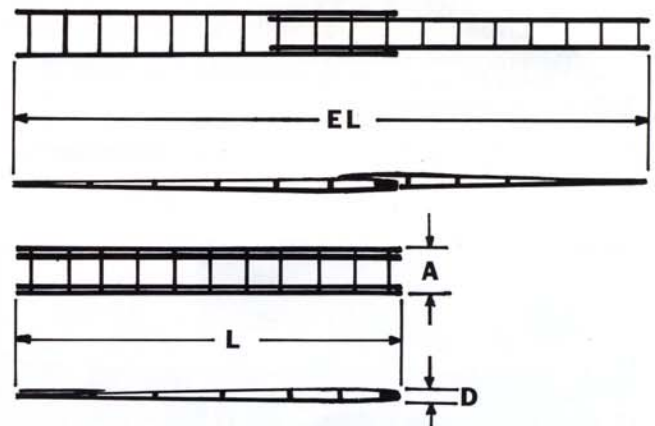
Tapered truss beams, made of Coast Douglas Fir. Swelled center Hickory rungs on 12" centers.

Assembled with PVA (polyvinyl acetate) adhesive, steel tie rods, special spanner nuts. Wood wear parts are Red Oak. Top ends of fly section beams protected with steel end bands. Bottom ends of base section beams fitted with "H" type butt spurs, steel, welded and milled. Rung locks are welded steel stationary hooks, no moving parts.

Zinc gold iridite plated steel hardware. Ladder is finished with 3 coats phenolic tung oil varnish with ultraviolet ray absorbers (Boat-Koat), hand sanded before each coat.

OPTIONS

- Hardware finished in bright brass plating or bright chrome plating at extra charge.
- Finished with 2 coats boiled linseed oil, thinned with turpentine, hand sanded before first coat. No extra charge.
- Finished with 3 coats "Watco Oil". No extra charge.
- Black and white ends. No extra charge.
- Cadmium gold iridite plated steel hardware at extra charge.



2301 Dimensions and Weights

SIZE	EXTENDED LENGTH EL	RETRACTED LENGTH L	OUTSIDE WIDTH A	OVERALL DEPTH D	WEIGHT LBS
-10	10'	7' 1"	14 1/2"	6"	36
-12	12'	8' 1"	14 1/2"	6"	40
-14	14'	9' 1"	14 1/2"	6"	45
-16	15' 6"	9' 6"	14 1/2"	6"	46



Wall Ladder or Single Section Ladder

MODEL 2302-Size. Size is length, in feet.

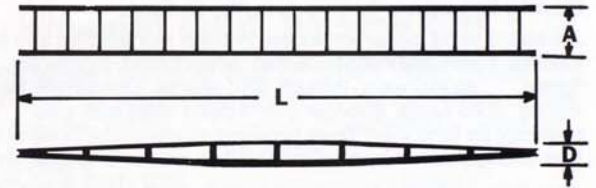
A very light one or two person ladder. Light weight for easier, faster placement. Solid rungs. Stronger connections. Does not conduct electricity. Does not lose strength when exposed to heat. Not subject to fatigue cracks.

Tapered truss beams, made of Coast Douglas Fir. Swelled center Hickory rungs on 12" centers.

Assembled with PVA (polyvinyl acetate) adhesive, steel tie rods, special spanner nuts. Both ends of beams fitted with "H" type butt spurs, steel, welded and milled so ladder may be used safely either end up. Zinc gold iridite plated steel hardware. Ladder is finished with 3 coats phenolic tung oil varnish with ultraviolet ray absorbers (Boat-Koat), hand sanded before each coat.

OPTIONS

- Special widths up to 24". No extra charge. May be specified to nest inside the fly section of a Model 2300 Rapid Hoist extension ladder for bedding.
- Hardware finished in bright brass plating or bright chrome plating at extra charge.
- Finished with 2 coats boiled linseed oil, thinned with turpentine, hand sanded before first coat. No extra charge.
- Finished with 3 coats "Watco Oil". No extra charge.
- Black and white ends. No extra charge.
- Cadmium gold iridite plated steel hardware at extra charge.



2302 Dimensions and Weights

SIZE	LENGTH L	OUTSIDE WIDTH A	OVERALL DEPTH D	WEIGHT LBS
- 10	10' 2 1/2"	16"	5 1/2"	32
- 12	12' 2 1/2"	16"	5 1/2"	40
- 14	14' 2 1/2"	16"	5 3/4"	46
- 16	16' 2 1/2"	16"	6 "	49
- 18	18' 2 1/2"	18"	6 1/4"	60
- 20	20' 2 1/2"	22"	6 1/2"	65
- 22	22' 2 1/2"	22"	6 3/4"	72
- 24	24' 2 1/2"	24"	7 "	83
- 26	26' 2 1/2"	24"	7 1/4"	91
- 28	28' 2 1/2"	24"	7 1/2"	98



Roof Ladder

MODEL 2304-Size.

Size is ladder length, in feet, excluding hooks.

A wood single section ladder with folding hooks for fast safe access on a peaked roof. Light weight for fast handling. Straight truss beam for full roof contact. Solid rungs. Stronger connections. Does not conduct electricity. Does not lose strength when exposed to heat. Not subject to fatigue cracks.

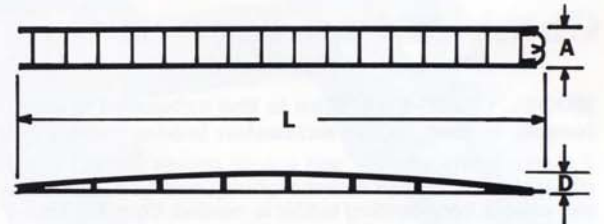
Tapered truss beams, made of Coast Douglas Fir. Swelled center Hickory rungs on 12" centers.

Assembled with PVA (polyvinyl acetate) adhesive, steel tie rods, special spanner nuts. Top beam ends protected with steel end bands. Bottom ends of beams fitted with "H" type butt spurs, steel, welded and milled. May be used as a wall ladder. Folding hooks are heat treated chromium molybdenum steel with sharpened penetrating points. Zinc gold iridite plated steel hardware.

Ladder is finished with 3 coats phenolic tung oil varnish with ultraviolet ray absorbers (Boat-Koat) hand sanded before each coat.

OPTIONS

- Special widths up to 24". No extra charge. May be specified to nest inside the fly section of a Model 2300 Rapid Hoist extension ladder for bedding.
- Hardware finished in bright brass plating or bright chrome plating at extra charge.
- Finished with 2 coats boiled linseed oil, thinned with turpentine, hand sanded before first coat. No extra charge.
- Finished with 3 coats "Watco Oil". No extra charge.
- Black and white ends. No extra charge.
- Cadmium gold iridite plated steel hardware at extra charge.



2304 Dimensions and Weights

SIZE	LENGTH L	OUTSIDE WIDTH A	OVERALL DEPTH D	WEIGHT LBS
- 10	10' 6"	14"	4 1/2"	30
- 12	12' 6"	14"	5 "	36
- 14	14' 6"	14"	5 "	40
- 16	16' 6"	16"	5 1/4"	48
- 18	18' 6"	16"	5 1/2"	52
- 20	20' 6"	16"	6 1/8"	60



Folding Attic Ladder

MODEL 2305-Size.

Size is the open, in-use length, in feet.

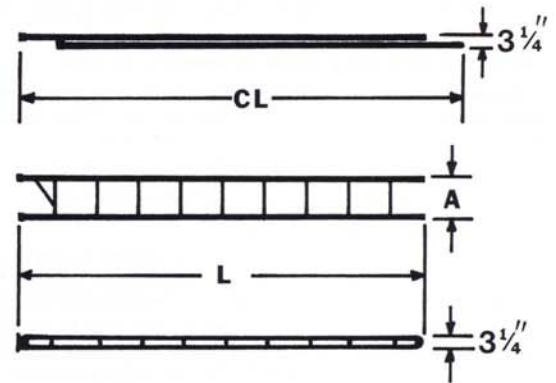
A foldable wood ladder for access through roof scuttles and attic hatches. Easily and quickly carried, when folded, by one fire fighter . . . up stairwells, through tight spaces. Opens fast. Secure footing. Solid rungs. Stronger connections fitted with steel bushings for long wear. Does not conduct electricity. Does not lose strength when exposed to heat. Not subject to fatigue cracks.

Straight truss design beams, made of Coast Douglas Fir. Oval Hickory rungs on 12" centers. Beam ends protected with steel end bands. Bottom ends of beams fitted with pivoting rubber bottom safety shoes. Locking latch keeps ladder open when set up. Hinged rungs pivot on steel bushings. Zinc gold iridite plated steel hardware.

Ladder is finished with 3 coats phenolic tung oil varnish with ultraviolet ray absorbers (Boat-Koat), hand sanded before each coat.

OPTIONS

- Hardware finished in bright brass plating or bright chrome plating at extra charge.
- Finished with 2 coats boiled linseed oil, thinned with turpentine, hand sanded before first coat. No extra charge.
- Finished with 3 coats "Watco Oil". No extra charge.
- Cadmium gold iridite plated steel hardware at extra charge.



2305 Dimensions and Weights

SIZE	OPEN LENGTH L	CLOSED LENGTH CL	OPEN WIDTH A	CLOSED WIDTH	WEIGHT LBS.
-10	10' 2 1/2"	11' 2"	12 1/8"	3 1/4"	20
-12	12' 2 1/2"	13' 2"	12 1/8"	3 1/4"	22



Combination Step and Extension Ladder

MODEL 1600F-Size. Size is the extended in-use length, in feet, in the extension ladder mode.

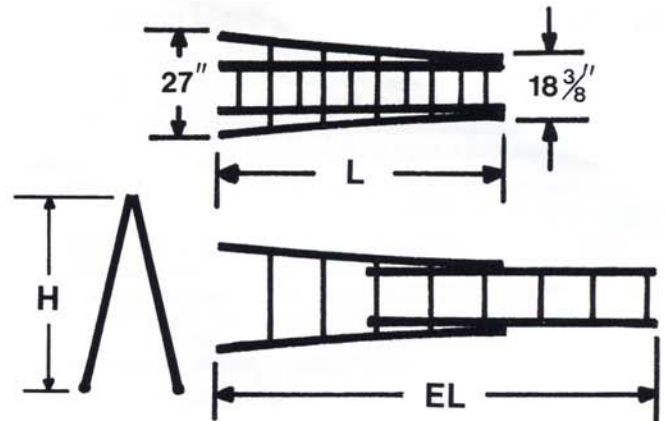
2 section utility, salvage, and special access ladder for unusual situations. For access across highway median barriers. For use when a free standing ladder is needed. Converts from stepladder to extension ladder without tools, latches, or fasteners. Light and fast to use by one firefighter. Solid rungs, stronger connections. Does not conduct electricity. Does not lose strength when exposed to heat. Not subject to fatigue cracks.

Beams are solid Coast Douglas Fir. Round Hickory rungs on 12" centers.

Assembled with PVA (polyvinyl acetate) adhesive, steel tie rods, special spanner nuts. Bottom ends of both sections fitted with corrugated rubber shoes reinforced with tire cord. Cast iron gravity rung locks and pivoting hinge lock assemblies. Flared base for stability. Ladder is finished with 3 coats phenolic tung oil varnish with ultraviolet ray absorbers (Boat-Koat), hand sanded before each coat. Rung locks and hinges are red enamel.

OPTIONS

- Hardware finished in bright brass plating or bright chrome plating at extra charge.
- Finished with 2 coats boiled linseed oil, thinned with turpentine, hand sanded before first coat. No extra charge.
- Finished with 3 coats "Watco Oil". No extra charge.



1600F Dimensions and Weights

SIZE	EXTENDED LENGTH EL	RETRACTED LENGTH L	HEIGHT AS STEPLADDER H	OVERALL DEPTH D	WEIGHT LBS.
-10	10'	6' 1"	70"	5 3/4"	30
-12	12'	7' 1"	82"	5 3/4"	34



GUIDE SPECIFICATIONS



ALACO LADDER COMPANY
uses naturally conditioned, Air Dried
lumber in all tapered truss ground ladders.
No kiln dried wood. No short cuts.

Long length cants of sturdy, green West Coast Douglas Fir arrive directly from lumber mills of the Willamette Valley in Oregon . . . especially selected for ground ladders. The cants are re-sawn in ALACO's own mill.

Stacked for air drying, the process requires 2 to 6 months under carefully controlled conditions. Fortunately, Southern California weather is uniquely suited to preparing the wood. Not too dry or too damp . . . ideal year around for air drying precision quality lumber. Moisture content lowers naturally to match that of a very cooperative environment.

The Forest Products Laboratory of the U.S. Department of Agriculture reports West Coast Douglas Fir is the best species for wood ladders because of great structural strength and exceptional toughness. Further, trees grow tall and upright . . . the only species that yield 30 to 40 foot, straight grained lengths.



This cross section of an ALACO ground ladder has seen many years of dependable service. Properly maintained, its handsome and sturdy wood structure remains good as new.

PURCHASE SPECIFICATIONS

Written guide specifications for purchasing on a competitive bid basis are available from ALACO upon request. There is no charge for this service. Here is an example of such a specification for a 24' extension ladder.

Two section extension ladder shall be made of Air Dried West Coast Douglas Fir tapered truss side rails, solid Hickory swelled-center rungs, Red Oak wear parts, steel end bands and "H" type welded steel shoes. Sections shall be assembled with PVA adhesive and steel tie rods with special spanner nuts. Rungs shall be spaced 12" on centers and fitted to rung beams with compound tenons. Rung locks shall be steel, unitized,

positive acting, and actuated by a front-operated halyard. The halyard shall be a 1/2" polyester rope with braided polyester cover, on a solid aluminum sheave with a bronze oilite bearing, in a welded steel bracket. Overall width of the base section shall be 22" and extended length shall be 24 feet. Hardware shall be zinc yellow plated. Entire ladder shall be finished with three coats of phenolic-tung oil varnish with ultra violet ray absorbers, hand sanded before each coat.

An acceptable unit which meets the requirements of this specification is Model 2300-24 as manufactured by Alaco Ladder Company, Chino, California. Other units may be submitted for evaluation by the _____ (INSERT CITY) Fire Department. If equal in all respects and, if approved, will also be acceptable.



photo by Alan Simmons

When it comes to ground ladders, firefighters are using none better than the ALACO line. None as dependable.

ALACO builds every model we have described . . . for direct sale to fire departments and apparatus manufacturers throughout the U.S.

We invite your phone call for price and delivery information. Also, our engineers can help prepare purchase specifications and handle any questions unanswered by this literature.

When it comes to purchasing ground ladders, you can specify none better than ALACO. Thank you for calling ALACO when that time comes.

FAX: (909) 591-7565



ALACO Ladder Company

5167 "G" Street • Chino, CA 91710-5143 • (909) 591-7561

Over 140 years of ladder making experience. . . the only modern, fully integrated ladder manufacturer in the county.