

CORDAGE, KNOTS & LASHINGS SURVIVAL GUIDE

Tie it. Trust it. Live by it.



CORD

KNOTS

LASH

REPAIR

KNOWLEDGE • SKILL • DISCIPLINE • SURVIVAL

Independent educational field guide • verify current laws, local conditions, and expert guidance

SYSTEM PRIORITIES

START WITH THE SYSTEM

Treat cordage as engineered inventory, not disposable string

Cordage saves construction time and permits adjustment, repair and suspension. Its value depends on selecting the right material, tying a knot for the actual load, protecting fibers from abrasion, and inspecting every loaded system.

1 Core principles

- Know the material: strength, stretch, water response, abrasion resistance, heat sensitivity and knot-holding behavior.
- Use the simplest knot that reliably performs the role and can be inspected and untied when necessary.
- Loaded shelter and lifting systems need redundancy, suitable anchors and protection from sharp edges.
- Leave tails, dress knots cleanly and load them in the direction for which they were selected.
- Inventory cordage by length and condition; retire damaged sections from critical loads.

Every knot reduces usable strength. Unknown material, wet fibers, tight bends and abrasion can reduce it further.

2 First-hour priorities

- Separate structural rope, general-purpose line, bank line, repair cord and short offcuts.
- Practice a compact set: fixed loop, adjustable loop, bend, hitch, tensioner and lashing.
- Mark critical lines and avoid cutting full lengths until a repeated need is proven.
- Build smooth anchors and edge protection before tensioning.
- Create a daily walk-around for shelter ridgelines, hanging loads, trip hazards and animal damage.

Never trust a life-safety load to improvised cordage, unknown knots or field assumptions. This guide is for camp systems, not climbing or rescue.

FIELD RULE

A trustworthy cordage system is identifiable, correctly loaded, protected from abrasion, easy to inspect and backed up where failure would matter.

CORDAGE
AND
KNOT
ROLE
MATRIX

CHOOSE
 DELIBERATELY

Cordage
 and
 knot
 role
 matrix

Choose material and knot together. A perfect knot in the wrong line is still the wrong system.

Role	Useful option	Why it fits	Inspection focus
Fixed loop	Bowline or verified fixed-loop knot	Creates a non-sliding loop around an anchor or object	Tail length, dressing, loading direction and movement.
Adjustable loop	Taut-line style hitch or trucker system	Allows shelter tension and re-tensioning	Slippage on slick line, wet behavior and anchor abrasion.
Join equal lines	Sheet bend, double sheet bend or suitable bend	Connects line without bulky hardware	Diameter mismatch, tails and cyclic loading.
Attach to pole	Clove hitch backed up, constricting hitch or two half hitches	Fast positioning for lashings and camp fixtures	Rolling, end security and pole taper.
High tension	Trucker hitch or mechanical-advantage arrangement	Creates controllable tension with ordinary line	Anchor capacity, trapped fingers and excessive load.
Tripod or shear	Tripod, square or diagonal lashing as geometry requires	Distributes load across poles without cutting joints	Wrap tightness, fraps, pole movement and wet settling.
Temporary repair	Whipping, sewing, binding or splice-like wrap	Stabilizes handles, packs, racks and textiles	Heat, sharp edges, loosening and whether repair is load-critical.

Decision note: Names vary between traditions. Judge a knot by verified structure and function, not by what someone called it beside a campfire.

BUILD AND VERIFY A CORDAGE SYSTEM

REPEATABLE BEATS HEROIC

Build and verify a cordage system

A knot is only one component. The anchor, line path, edge contact, load direction and inspection schedule complete the system.

1

DEFINE THE LOAD

Identify force direction, expected movement, weather, consequences of failure and whether adjustment or release is needed.

2

SELECT MATERIAL AND ANCHOR

Choose line with suitable properties and an anchor that is sound, smooth, correctly oriented and strong enough.

3

TIE, DRESS AND SET

Form the knot correctly, remove crossings, leave adequate tails and apply a controlled test load.

4

PROTECT AND BACK UP

Pad sharp edges, prevent flame and heat exposure, separate moving lines and add redundancy where failure threatens shelter, food or people.

5

INSPECT AND RECLAIM

Check after wind, rain, freezing, load changes and animal contact. Dry, coil, label and return reusable cordage to inventory.

HIGH-VALUE CAMP CORDAGE SYSTEMS

ADAPT BEFORE CONDITIONS FORCE IT

High-value camp cordage systems

Cordage has its highest return when it creates repeatable camp infrastructure without becoming a web of trip hazards.

1 Shelter ridgeline

- Use sound anchors outside likely drainage.
- Keep tension within material and anchor limits.
- Protect bark and line at contact points.
- Add adjustable sections reachable from shelter cover.
- Inspect after wind, rain and temperature change.

2 Tripod and rack

- Select poles with matching strength and safe feet.
- Tie the lashing at the correct hinge geometry.
- Spread legs gradually under control.
- Test with a light load before pots, food or tools.
- Keep fire heat and sharp hardware away from line.

3 Pack and tool repair

- Remove sharp edges before binding.
- Use whipping or lashing that cannot slide toward a taper.
- Back up temporary repairs where failure could cause injury.
- Reserve clean cord for food and medical applications.
- Schedule replacement rather than forgetting the temporary fix.

4 Inventory and reclamation

- Store long lengths separately from short utility pieces.
- Coil without kinks and dry before sealing.
- Mark damaged line for noncritical uses only.
- Untie systems no longer producing value.
- Record repeated lengths to improve future cutting decisions.

FAILURE MODES AND CORRECTIONS

DIAGNOSE THE SYSTEM

Failure modes and corrections

Cordage failures usually begin at an edge, knot, anchor or overlooked change in load. Frequent inspection costs almost nothing compared with rebuilding a collapsed system.

Failure signal	Likely cause	Best correction
Knot slips under load	Wrong knot, slick material, poor dressing or short tail	Unload safely, select a better knot and retest with adequate tails.
Line fuzzes or flattens	Abrasion, overload, heat or repeated bending	Remove from critical service, protect the contact and reroute the line.
Shelter loses tension	Wet stretch, anchor movement, knot creep or fabric settling	Re-anchor, use an adjustable system and inspect after weather changes.
Lashing rotates	Incorrect lashing, loose wraps, no fraps or tapered poles	Unload, rebuild for the actual geometry and add anti-slip features.
Anchor pulls or damages tree	Weak soil, dead wood, bad direction or excessive tension	Choose a sound anchor, reduce load and use protective padding.
Camp becomes tangled	Too many permanent lines, poor height or no traffic plan	Reroute, mark, elevate or remove low-value lines and define walkways.

FIELD CARD, RED FLAGS AND SOURCES

CARRY THE STANDARD

Knot, lashing and cordage inspection card

A clean knot is inspectable. An inspectable knot is maintainable. A mysterious knot-shaped lump is merely suspense.

FIELD CHECKLIST

- ☐ Load, direction and failure consequence defined.
- ☐ Material properties and condition are known.
- ☐ Anchor is sound, correctly oriented and protected.
- ☐ Knot matches the role and is tied from memory under realistic conditions.
- ☐ Knot is dressed, set and has adequate tails.
- ☐ Sharp edges, heat, flame and moving parts are isolated.
- ☐ Critical loads have suitable backup or redundancy.
- ☐ Shelter lines can be adjusted without unsafe exposure.
- ☐ Trip hazards are marked, elevated or removed.
- ☐ Cordage inspected after weather and load changes.
- ☐ Wet line dried before storage.
- ☐ Damaged line labeled and removed from structural use.

STOP / REASSESS

Unknown cordage or knot is carrying a person, suspended heavy load or critical shelter.

Melted, glazed, cut, heavily abraded or chemically contaminated fibers.

Dead tree, loose rock or shallow stake used as a critical anchor.

Line crosses fire, stove, blade path or primary walkway.

Knot changes shape, slips or cannot be inspected while loaded.

AUTHORITATIVE STARTING POINTS

HISTORY - published Alone gear list
<https://www.history.com/shows/alone/articles/gear-list>

Cordage Institute
<https://www.ropecord.com/>

Animated Knots - reference library
<https://www.animatedknots.com/>

U.S. Forest Service
<https://www.fs.usda.gov/>

This guide does not cover climbing, rescue, fall arrest or human suspension. Life-safety rope systems require certified equipment, qualified instruction and applicable standards.