



PIONEERING

SCOUT SKILLS TRAINING

POWAHAY RoundTable Nov 6, 2019

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OBJECTIVE:

- FUN PROJECTS THAT EXCITE SCOUT TO LEARN THE LASHING SKILLS
- WORK THRU CONSTRUCTION PROBLEM SOLVING AS A GROUP
- LEARN TO THINK & ORGANIZE PATROL MEMBERS TO ACCOMPLISH TASK.
- HAVE FUN PLAYING WITH THE PROJECT.
- CREATE LASTING SCOUTING EXPERIENCES.
- HELP SCOUTS ADVANCE & ACCOMPLISH GOALS.

CHALLENGE
SCOUTS

▷ ADVANCEMENT OPPORTS

PIONEERING

MEET BSA RANK REQS.

TENDERFOOT

- 3a - SQUARE KNOT
 - 3b - 2 HALF HITCHES
 - 3c - TAUT-LINE HITCH
 - 3d - PROPER USE OF KNIFE
AXE & SAW (TOOLS OF PIONEERING)
- EARN **TOTE N CHIP**

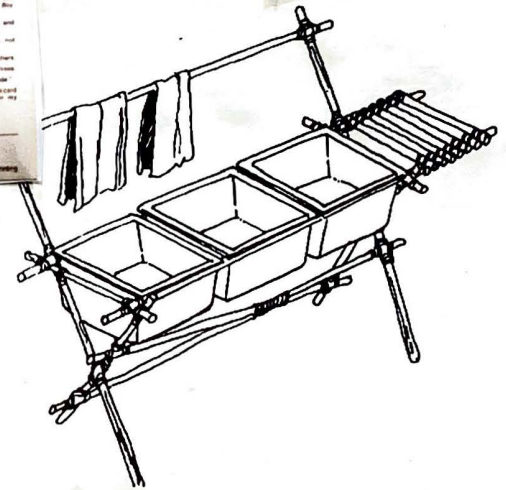
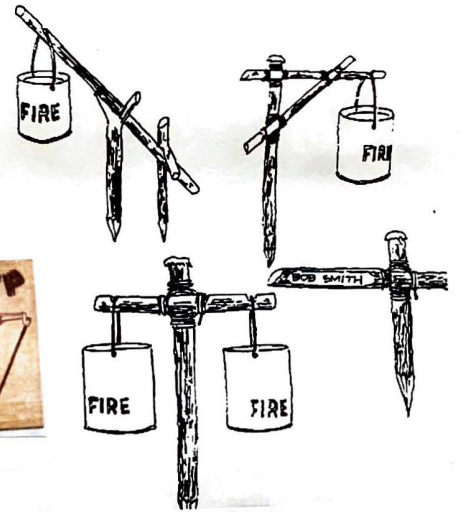
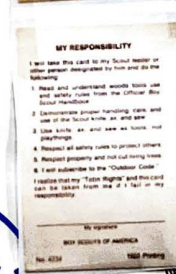
SECOND CLASS

- 2b - PREP FIRE WOOD (TOOLS USE)
- 2f - SHEET BEND KNOT
- 2g - BOWLINE

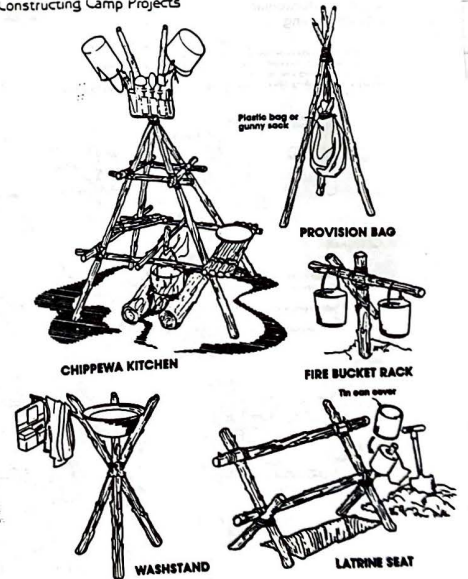
FIRST CLASS

- 3a - LASHING
- 3b - TIMBER HITCH + CLOVE HITCH
- 3c - TIE SQUARE LASH
SHEAR LASH
DIAGONAL LASH

3d - MAKE A USEFUL CAMP GADGET.



Constructing Camp Projects



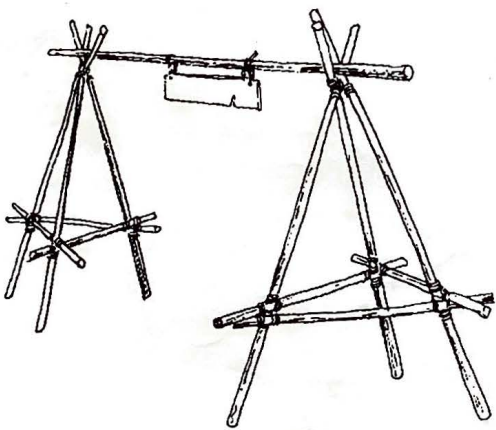
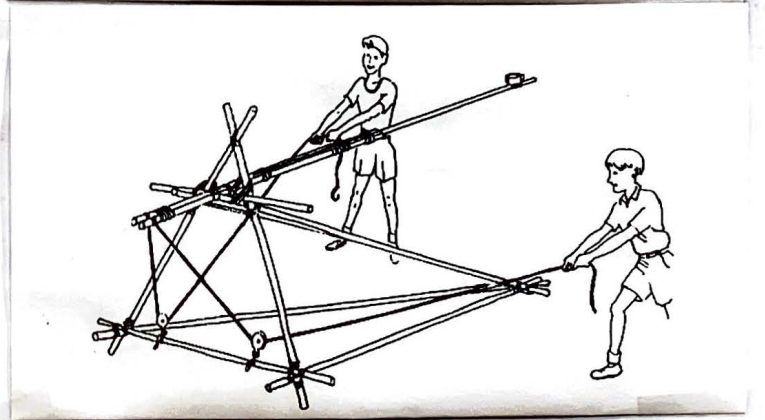
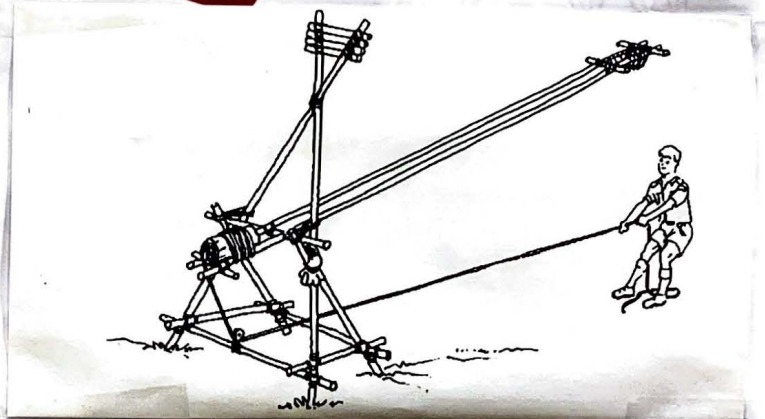
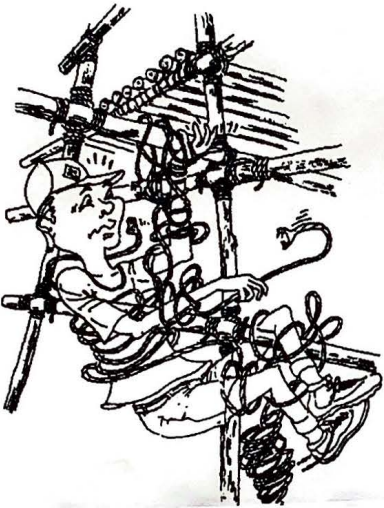
LASHING Project IDEAS.

FUN LASHING Projects

CREAT INTEREST & Help SCOUTS
LEARN SKILLS.

OUTDOOR ENGINEERING

PIONEERING PROJECTS
BIG & SMALL



Pioneering MERIT Badg.
Resource

Scout
Engineering



Getting started

Pioneering or Scout engineering refers to the work of military engineers who went ahead of the army on foot, to build bridges, roads and to generally prepare the way.

The job there first, often in the wilderness, and had to make do with what they could find, or carry. With time and ropes they worked wood and created many functional structures. In Scouting we carry on this tradition as it provides Scouts with a challenge and an opportunity to develop as a team and achieve something worthwhile. Before building it is necessary to have an understanding of the skills involved as well as enthusiasm. Firstly, it is necessary to know how to use the required tools and lashings, secondly, you must have spare or poles from which to build your project. The next consideration is ropes and pulleys to

bridge and secure your project and lastly some know how and loads of common sense. Each project should be approached in a logical way:-

- What are we trying to do
- What equipment do we have
- What is the best way to use this equipment
- Designing the project
- Planning the steps to complete the project
- Building and safety
- Demanding the project

Every project should be approached in this way. The designs suggested are tried and tested however you may find a better one but or trees in the right places for rope bridges etc. so each of the basic designs suggested will have to be modified to suit the conditions you encounter.



TRAMP WEB SITE: TR LIGMAN: GARDNER, C. AND D. EDWARDS MBE

GROUP LASHING Projects

USE SCALE MODELS
TO SHOW DESIGN

o MONKEY BRIDGE

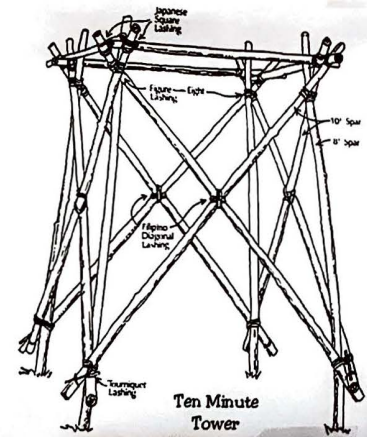
o COMAND BRIDGE

o 10 MINUTE TOWER

o WALKING "A" FRAME CHALLENGE

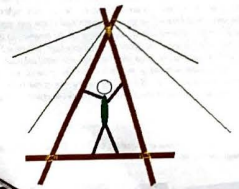
A BAMBOO CHARIOT (GO KART OPTION FRONT AXLE)

Ten Minute Tower



The Walking A-Frame Challenge

Also Known as the Norwegian Waddle

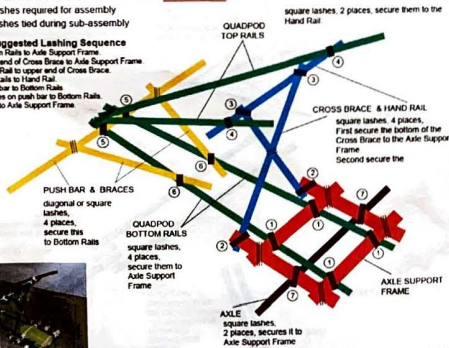


Bamboo Chariot Assembly

ASSEMBLY DIAGRAM FOR BAMBOO BOTTOM RAILS

■ lashes required for assembly
■ lashes tied during sub-assembly

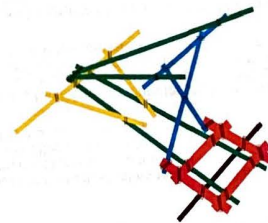
- ① Suggested Lashing Sequence
1. Bottom Rails to Axle Support Frame
 2. Lower end of Cross Brace to Axle Support Frame
 3. Hand Rail to upper end of Cross Brace
 4. Top Rails to Hand Rail
 5. Push bar to Bottom Rails
 6. Straps on push bar to Bottom Rails
 7. Axle to Axle Support Frame



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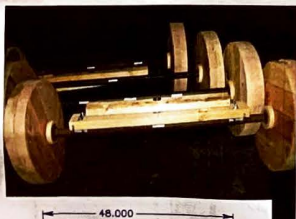
Bamboo Chariot Assembly

- Set up your patrols assembly teams like a "race car pit crew".
- Practice your lashing techniques.
- Divide the lashing construction and assembly process as follows.
- Modular assembly parts:
 - Quad Pod rails - Green
 - Axle support frame - Red
 - Wheel & Axle - Black
 - Push Bar & Braces - Yellow
 - Cross Brace & Hand Rail - Blue
 - Plywood foot platform
- Riders - remember your Safety Helmet

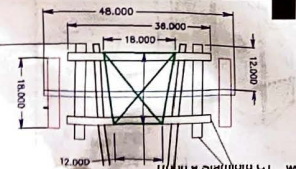


Wheel & Axle construction specs.

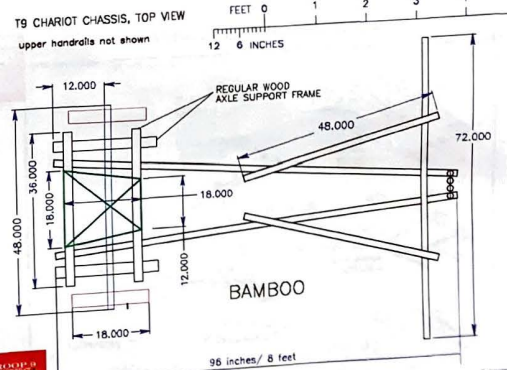
Rear axle - straight black pipe



- Axle
 - Standard 1" black iron plumbers pipe
 - OD=1.25" 48" long
- Sleeve in wheel
 - Cut standard 1 1/4" metal electrical conduit into 3 inch long sleeves to fit inside wheel axle hole.
 - (conduit ID=1.25, OD=1.60)
 - Electrical conduit - 3" long to fit inside wheel axle hole
 - Cut axle holes in wood using a 1 1/2" hole saw and drive in the conduit sleeves
 - (If the fit is not tight enough, then hammer and countersink some finishing nails between the wood and the outside of the sleeves.)
 - Press sleeve into wood wheel 1.25" hole
 - Pack axle grease in wheel sleeve
- Plywood Washer
 - 0.25" thick (4 per axle)
- Cotter Pin or double headed carpenter nail (4/axle)
- Drill 4-holes for Cotter Pins in axle.
 - Outside cotter pin hole 0.5" in from each end
 - Adjust interior cotter pin holes based on wheel and washer thickness



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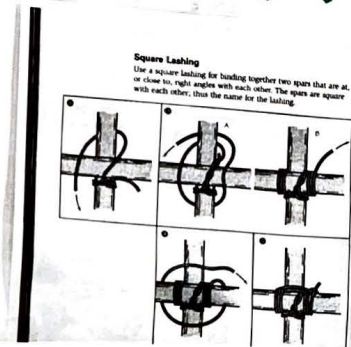
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LASHING TECHNIQUES

KNOTS & LASHINGS

SQUARE LASHING

- JAPANESE SQ LASHING



DIAGONAL LASHING

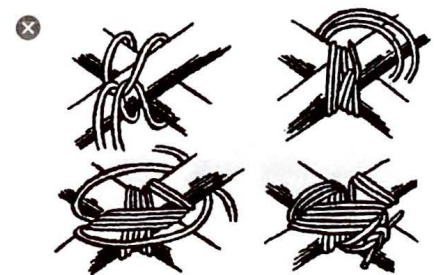
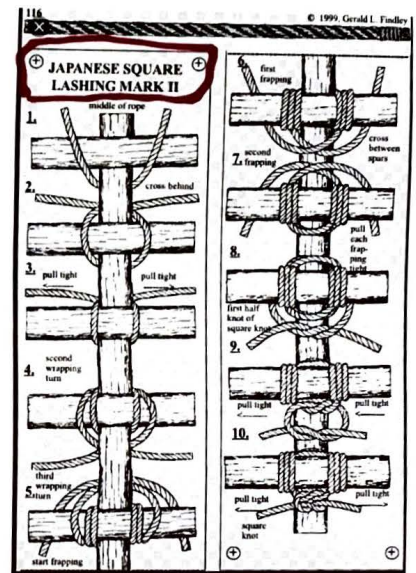
- FILIPINO DIAG LASH.

SHEER LASHING

ROUND LASHING

TRIPOD LASHING

FLOOR/TABLE LASHING



FILIPINO DIAGONAL LASHING