Heavy Rescue II
Basic
Rigging

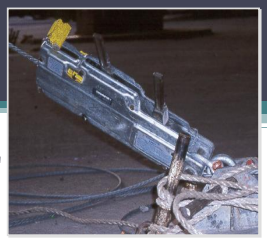
1

Moving Devices

2

Griphoist

MODELS IN USE
TU-32
TU-28



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Griphoist

MODEL	TU-28	TU-32
MAX LOAD	4,000 LBS	8,000 LBS
WIRE ROPE DIA.	7/16	5/8
WIRE ROPE LENGTH	60 FT	30 FT

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Griphoist

- QUICK SET UP
- PULL OR LOWER A LOAD
- CAN BE USED WITH PULLEYS FOR A MECANICAL ADVANTAGE
- CAN BE USED IN VERTICAL OR HORIZONTAL

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Griphoist Disadvantages

- WIRE ROPE KINKS
- OPERATES SLOW UNDER LOAD
- LIMITED LENGTHS OF WIRE ROPE

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Chain Hoist

- 3 Ton Manual Chain Hoist
  - Short Lifts
  - One Man Operation
  - NO Cheater Bars

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Wire Rope Hoist

- 1.5 Ton Manual Wire Rope Hoist
  - Built in 2:1
  - One Man Operation
  - NO Cheater Bars

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Rigging Attachments

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Slings

Can be Nylon, Polyester, Nomex, Kevlar, etc.

- Eye to eye
- Twist Eye

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Slings

•Advantages	•Disadvantages
• Form fitting • Less damaging	•Heat sensitive •Cutting problem

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Slings

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Slings

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Wire Rope

Basic Features

- Number of Strands in the Rope
- Number of Wires in the Strand
- Grade of the Steel
- Type of Core

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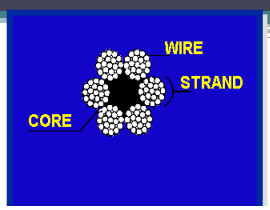
Wire Rope

Is composed of a number of wire strands around a central axis



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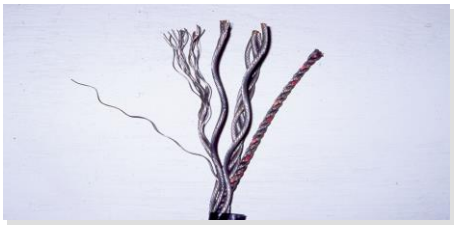
Wire Rope



Generally speaking the more wires in the rope the greater the flexibility

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Wire Rope Slings

Avoid - Sharp bends and cutting edges

Avoid - Over - loading

Avoid - Sudden jerks when lifting

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Chain

Grades of Chain

Grade 3 - Proof Coil
Grade 4 - High Test
Grade 7 - Transport
Grade 8 - Alloy
Grade 10 - Alloy

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Chain

Grades of Chain

Never use a chain unless it is marked with the Grade and Capacity.

For overhead lifting use only
Grade 8 - Alloy or Grade 10 - Alloy

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Chain

Advantages of Chain

Can withstand rough handling
More resistant to corrosion and abrasion that wire rope
Will not kink
Ability to make sharp bends

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Chain Inspection

Check for:
Twisting

Elongation
If more than 3% discard

Physical Damage such as wear

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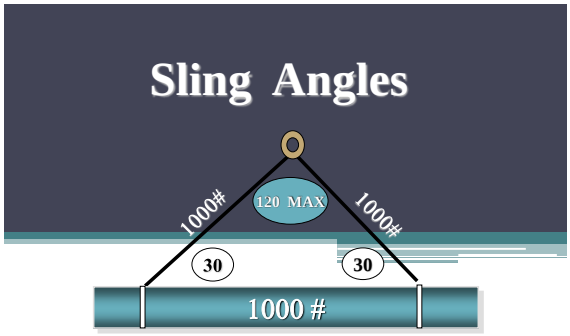
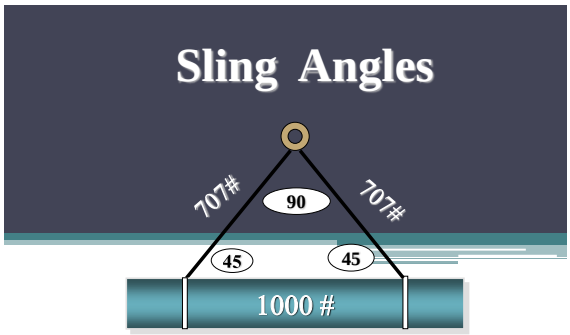
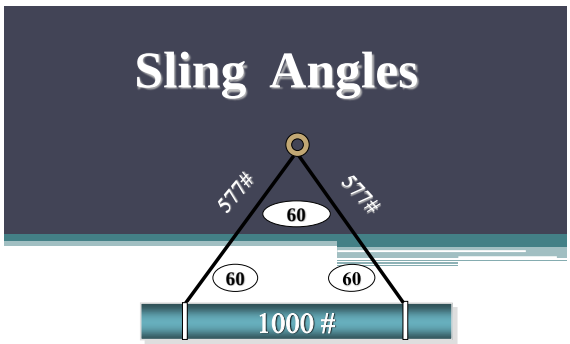

Sling Angles
1000#
120 MAX
1000#
30
30
1000 #

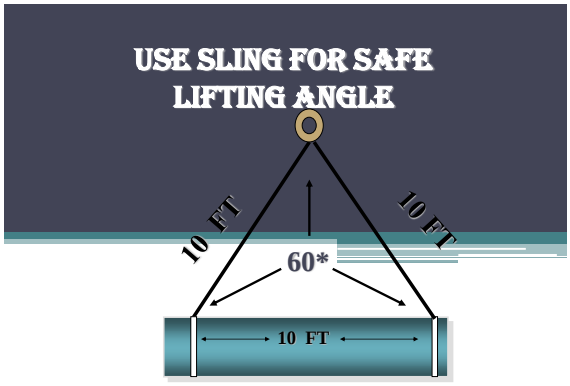
23


Sling Angles
707#
90
707#
45
45
1000 #

24


Sling Angles
577#
60
577#
60
60
1000 #

25



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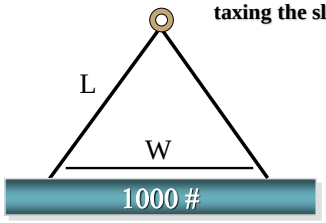
Sling Angles

Bottom line: **L should be the same or longer than W Or load is taxing the slings**



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Sling Angles

Basket Hitch

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Shackles

Types

There are two main types of shackles used in rigging

Bow Type - aka - Anchor
Chain Type - aka - "D"

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Shackles

Never allow a shackle to be pulled at an angle.
This greatly reduces it's load capacity.

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Shackles

Types

Bow Type - aka - Anchor

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Shackles

Types

A variation of the anchor shackle is the Sling -Saver. It is made for flat synthetic slings

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Hooks

Strength of Eye Hooks

The load capacity of a hook is determined by the diameter of the eye

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Hooks

Safety Concerns

- When rigging a load - Hooks point out
- Critical loads should be moused
- Use a shackle when more than 2 slings are placed on the hook
- Never allow the sling to bear against the latch

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Hooks

These hooks should be removed from service

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Blocks

Snatch Block

This type should only be used for a horizontal change of direction. With no critical load.

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Blocks

A Snatch Block With Swivel Shackle

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Hands-on Evolutions

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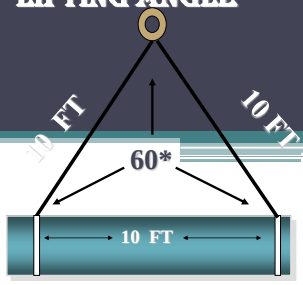
USE SLING FOR SAFE LIFTING ANGLE



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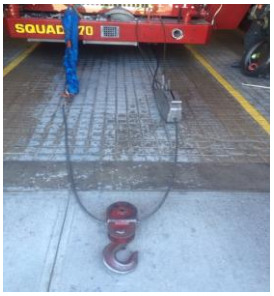
Griphoist with Mechanical Advantage



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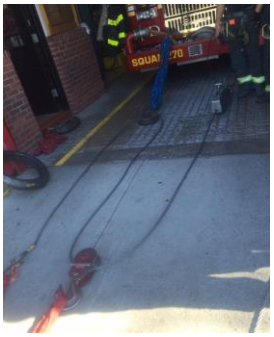
Griphoist with Mechanical Advantage



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Griphoist with Mechanical Advantage

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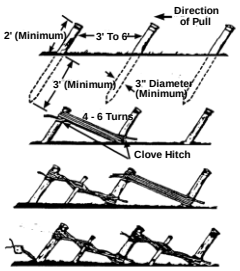
Picket Holdfast

1) Drive Pickets (Steel or Wood) Into Ground 15° Minimum From Vertical

2) Lash Pickets Together, Starting At Top Of First Picket

3) Twist Rope With Rack Stick, Then Drive Stick Into Ground

4) Completed Picket Holdfast



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Controlled Roll

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