

# HARKEN<sup>®</sup> Hoister

7803: 145 lb (66 kg) System

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**WARNING!** Strictly follow all instructions to avoid an accident, damage to property, personal injury or death. See [www.harken.com/manuals](http://www.harken.com/manuals) for additional safety information.



**WARNING!** This product is not to be used for human suspension. Components may fail causing person to fall, possibly resulting in serious injury or death.

## SAVE TIME! READ THE ENTIRE MANUAL BEFORE BEGINNING HOISTER INSTALLATION. INSTRUCTIONS FOR HOISTING JEEP TOPS

### KIT INCLUDES:

- A 1 Welded screw eye HCP1443
- B 4 Pigtail lag screws HCP1444
- C 1 Shackle 072
- D 4 Pulleys 224A
- E 2 Webbing straps with buckles 7' (2.13 m)
- F 1 Single black/red hoisting rope
- G 1 Block and tackle with safety cleat, (G1), rope, and double pulley (G2)
- H 4 Black drop ropes: 2 long, 2 short
- I 4 Lag bolts 1/4" x 2 1/2" (6 x 63 mm)
- J 4 Washers 1/4" (6 mm)
- K 2 Organizer plates
- L 2 Organizer pulleys

### Purchase separately if needed – see "Note" Step 1B

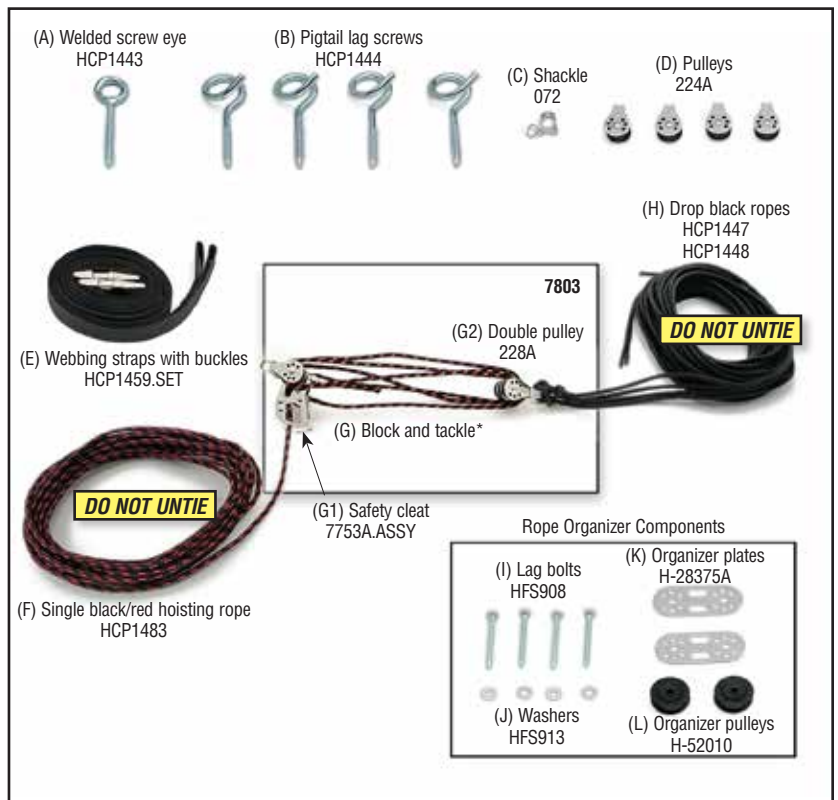
- 1 Pine board (riser) (grade 2) **2" x 6" x 7"** (50 mm x 152 mm x 180 mm) Not used for rafters running sideways
- 2 Pine boards (grade 2) **2" x 6" x 6"** (50 mm x 152 mm x 1.83 m)
- 8 Lag bolts/washers 5/16" x 4" (8 x 100 mm)

### Purchase additional for rafters running sideways (see Step 2A)

- 1 Pine board (grade 2) **2" x 4" x 6"** (50 mm x 100 mm x 1.83 m)
- 2 Lag bolts/washers 5/16" x 3 1/2" (8 mm x 90 mm)

### TOOLS:

Drill	Plumb line	Safety glasses
Drill bits: 5/32" (4 mm)	Pencil	Tape measure
7/32" (6 mm)	Stud finder	Wrench (box end or ratcheting) 7/16" (11 mm)
5/16" (8 mm)	Step ladder	

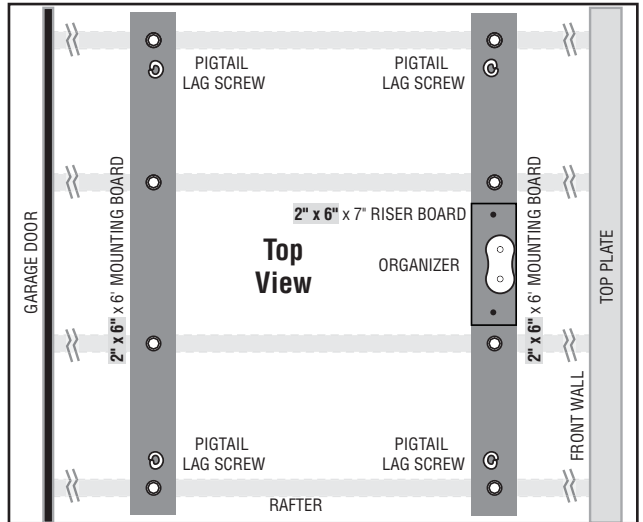


### IMPORTANT SAFETY INFORMATION

- NEVER USE TO LIFT A PERSON.
- DISABLE AUTOMATIC GARAGE DOOR OPENER when installing, raising, or lowering Hoister.
- READ ENTIRE MANUAL CAREFULLY BEFORE starting installation. It will save you time.
  - DO NOT UNTIE ANY ROPES System comes ready to install. Leave F, G and H together.
- DO NOT RAISE OR LOWER HOISTER with anyone standing under object.

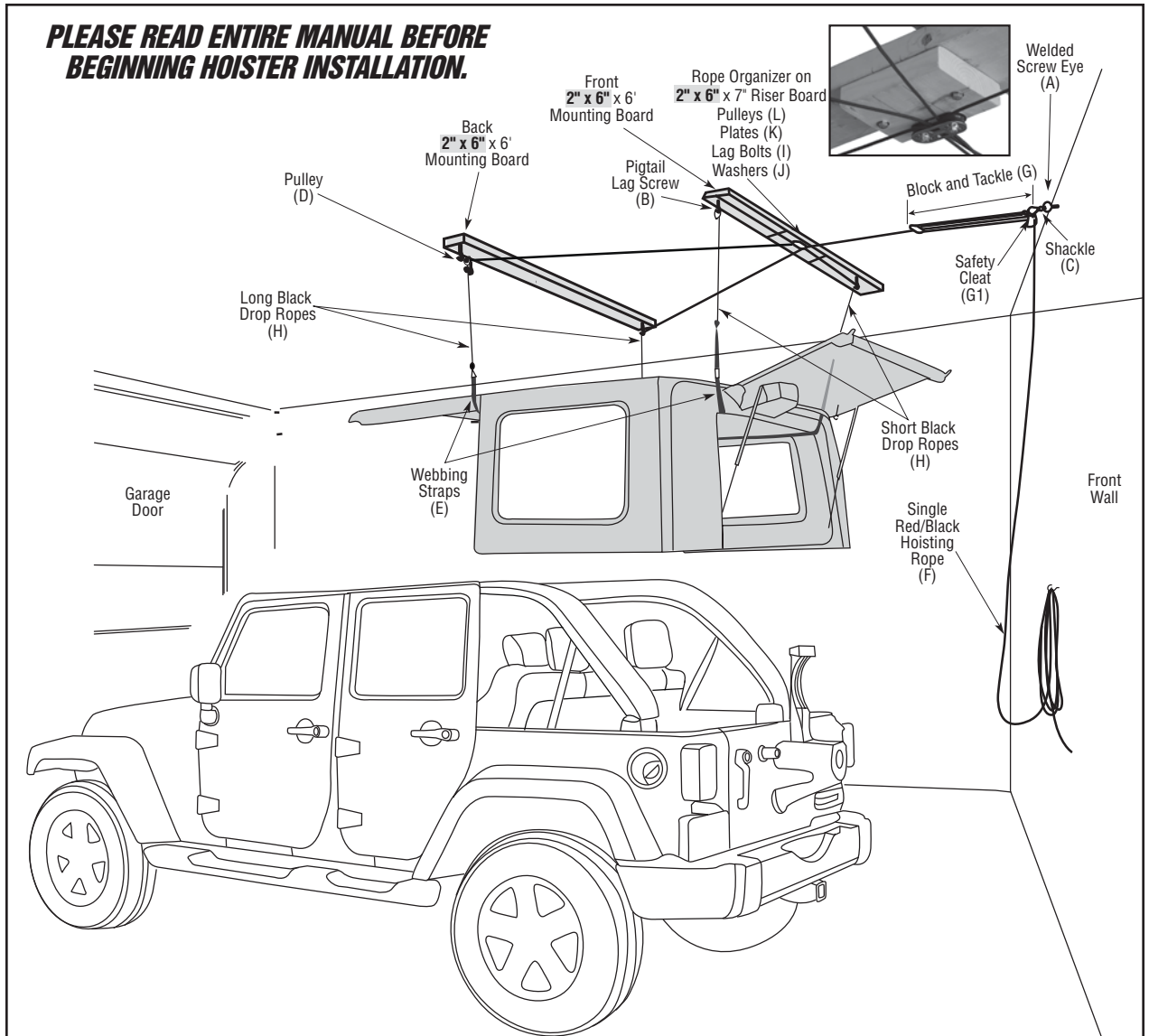
# INSTALLATION OVERVIEW

- STEP 1 DETERMINE HOISTER LOCATION**
  - STEP 2 INSTALL MOUNTING BOARDS**
  - STEP 3 INSTALL PIGTAIL LAG SCREWS**
  - STEP 4 INSTALL ROPE ORGANIZER**
  - STEP 5 ASSEMBLE HOISTER SYSTEM**
  - STEP 6 OPERATING HOISTER SYSTEM**
- MAINTENANCE & WARRANTY**



Rafters run other way? See steps 1B and 2A.

**PLEASE READ ENTIRE MANUAL BEFORE BEGINNING HOISTER INSTALLATION.**



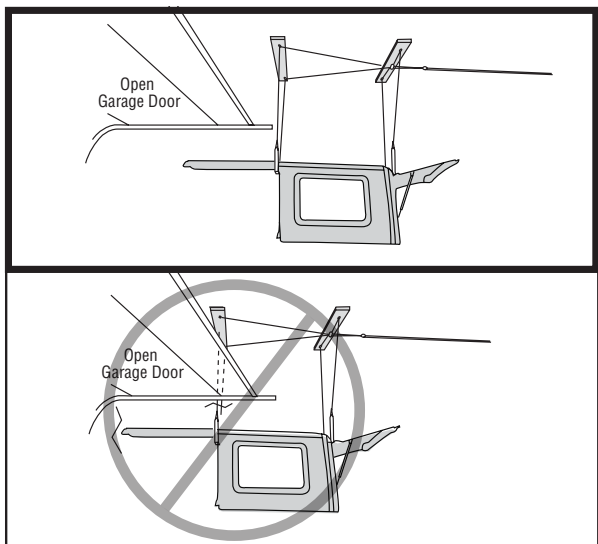
# STEP 1: DETERMINE HOISTER LOCATION

## A. PLAN THE INSTALLATION

Pull Jeep with top on into garage.



Measure length of top. Position Hoister so garage door can open with top lowered.



**DIAGRAM 1.** Position top above Jeep with clearance to open garage door. If Hoister is mounted too close to garage door, there may not be clearance to open door.

## STORAGE OPTIONS

Measure height of top. Make sure top can be stored above or below the open garage door.



**OPTION 1.** Above Garage Door: Clearance to lift and store top above open garage door.



**OPTION 2.** Below Garage Door: Use if not enough clearance for Above Garage Door Storage (Option 1). Top has clearance to lift and store below open garage door.

# STEP 1 CONTINUED: DETERMINE HOISTER LOCATION

## B. PLAN LOCATION OF MOUNTING BOARDS

Mounting boards are used to position Hoister directly above top to be lifted.

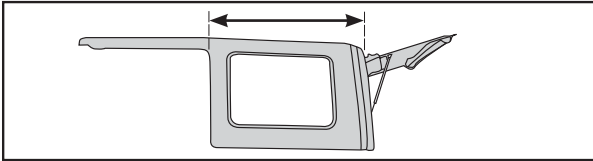
Mounting boards should span a minimum of three rafters.



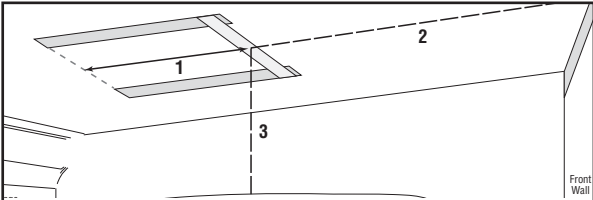
**WARNING! Do not screw into laminated rafters. They are not intended to accept fasteners. Consult rafter maker for recommendations. Screwing into laminated rafters may considerably weaken system, causing load to fall which may cause an accident, damage to property, personal injury or death.**

**Note:** Mounting boards may not be necessary for installation in ceiling with exposed rafters. In ceilings with exposed rafters, system can be installed on rafters. Position Hoister directly above top to be lifted. If installing without mounting boards, go to step 3.

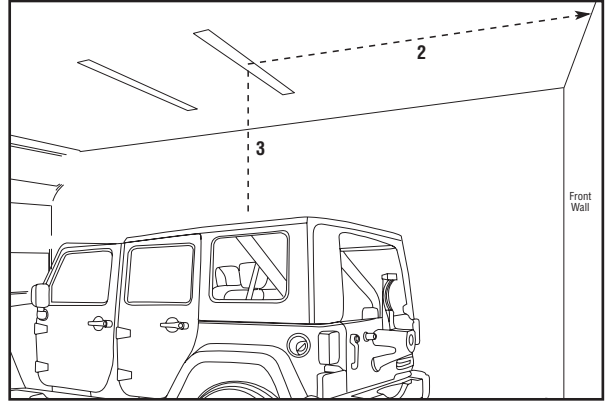
### LOCATE CEILING MOUNTING BOARD POSITION



**DIAGRAM 2.** Measure the distance as indicated.



**DIAGRAM 3a.** Alternate position for rafters running sideways. Check to make sure 6' (1.83 m) boards are long enough.



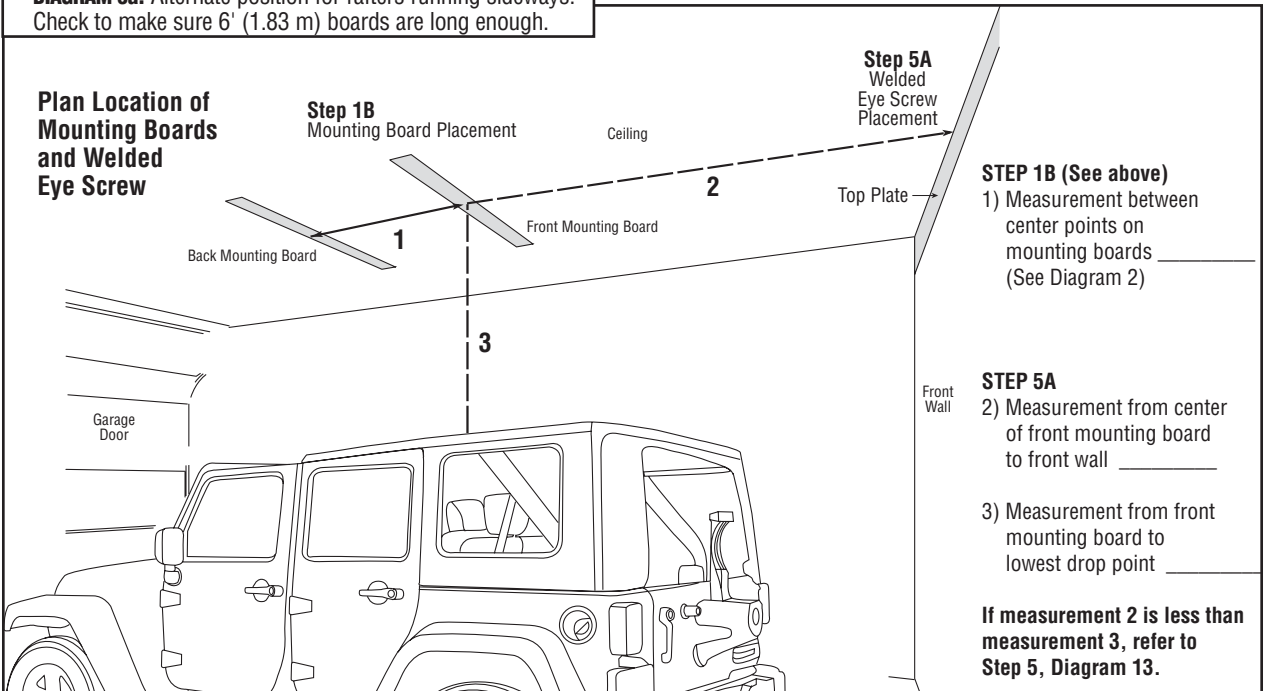
**DIAGRAM 4.** Distance 2 must be equal or somewhat greater than distance 3. See chart below. For a larger view, see Diagram 3.

### MAXIMIZING LOWERING TOP

You may want to lower top to floor or sawhorses. If distance 2 is much greater than 3, the amount top can be lowered will be limited by length of supplied line.

If Distance 2 is	Distance 3 will be	If Distance 2 is	Distance 3 will be
10	10	14	6
11	9	15	5
12	8	16	4
13	7	17	3

When distance 2 is much greater than 3, purchase longer line for drop ropes (H) to maximize distance top can be lowered.



**DIAGRAM 3.** Distance of mounting boards from front wall is important, as it affects the position of the welded screw eye in Step 5A.

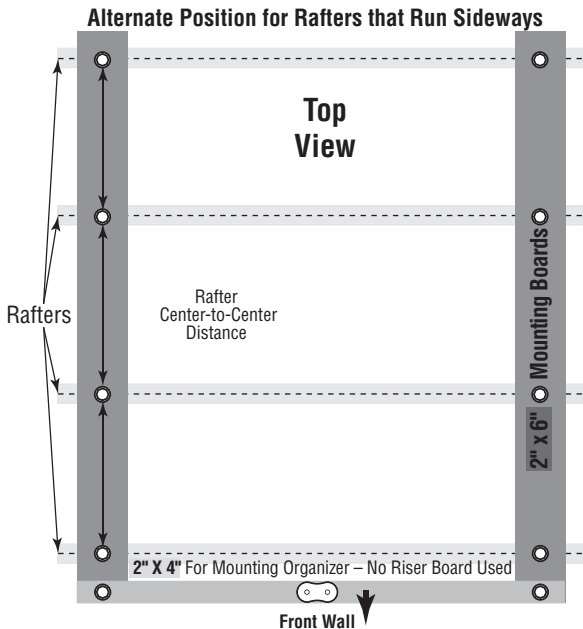
## STEP 2: INSTALL MOUNTING BOARDS

### A. DRILL CEILING RAFTER ATTACHMENT POINTS

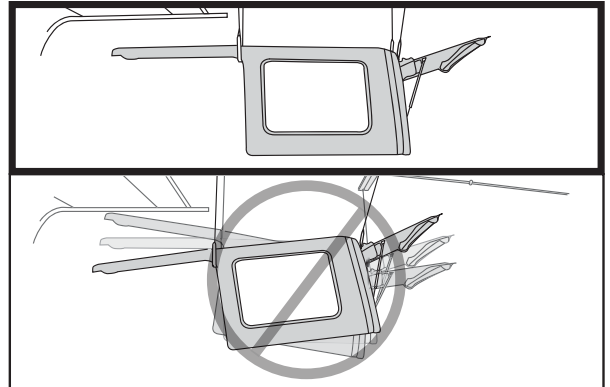
#### LOCATE CEILING RAFTERS

Mounting boards must attach to ceiling rafters (see diagram 5 and 5A). On finished ceilings, locate rafters using stud finder. Follow manufacturer's instructions.

Mark center of ceiling rafters. Drill  $\frac{7}{32}$ " (5.5 mm) holes.



**DIAGRAM 5a.** For Alternate Position attach board for mounting organizer using  $\frac{5}{16}$ " (8 mm)  $3\frac{1}{2}$ " (90 mm) lag bolts and washers (not included). See Step 3A to determine distance between mounting boards.



**DIAGRAM 6.** Center top under mounting points. Position mounting boards so lifted object is balanced.

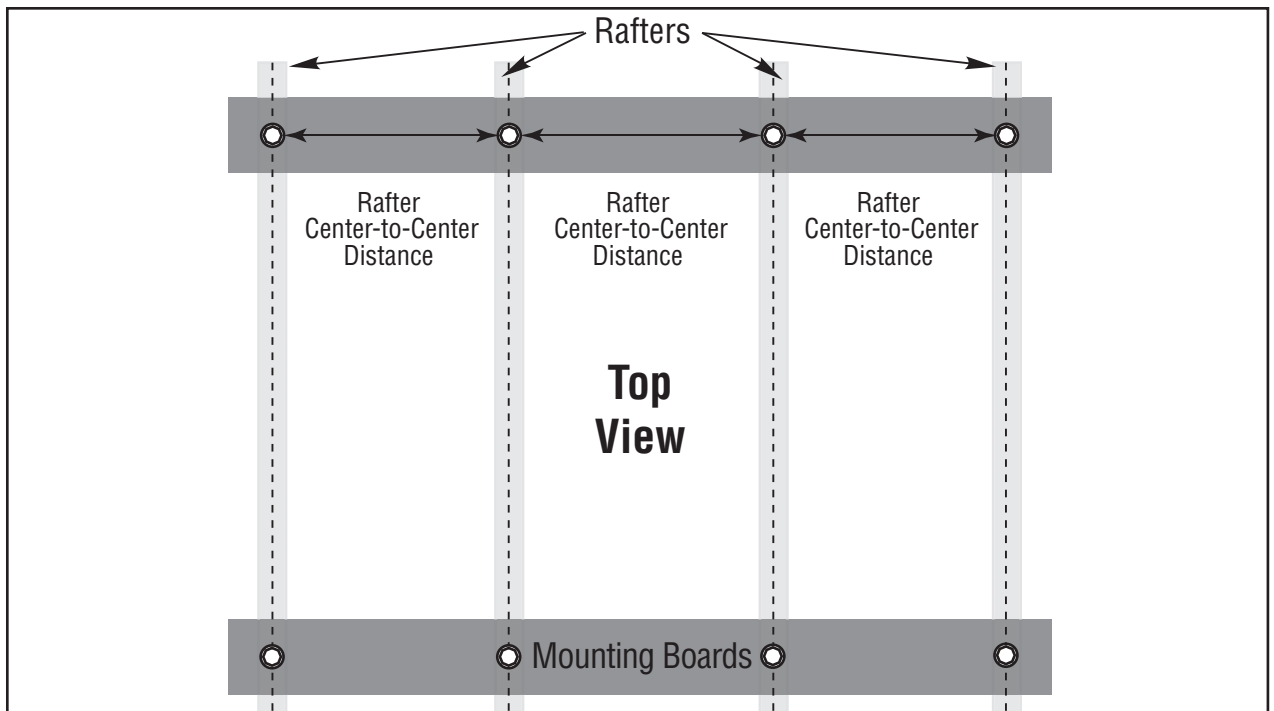
### B. DRILL MOUNTING BOARDS

Measure center-to-center distance between rafters. Mark distance on mounting boards. Mark drill points in the center of the board. Drill  $\frac{5}{16}$ " (8 mm) holes completely through the mounting boards.

### C. ATTACH MOUNTING BOARDS TO CEILING

Attach mounting boards using  $\frac{5}{16}$ " (8 mm) lag bolts and washers (not included).

Do not over-tighten.



**DIAGRAM 5.** Mark center-to-center distance between rafters on mounting boards. Attach mounting boards to rafters.

## STEP 3: INSTALL PIGTAIL LAG SCREWS

### A. DRILL CEILING RAFTER ATTACHMENT POINTS

#### LOCATE CEILING RAFTERS



Pull Jeep with top on into garage. Disconnect automatic garage door.

#### MARK LOCATION POINTS

Use plumb line to locate four lifting points on mounting boards above vehicle. Note rear lifting points are closer together than forward lifting points.

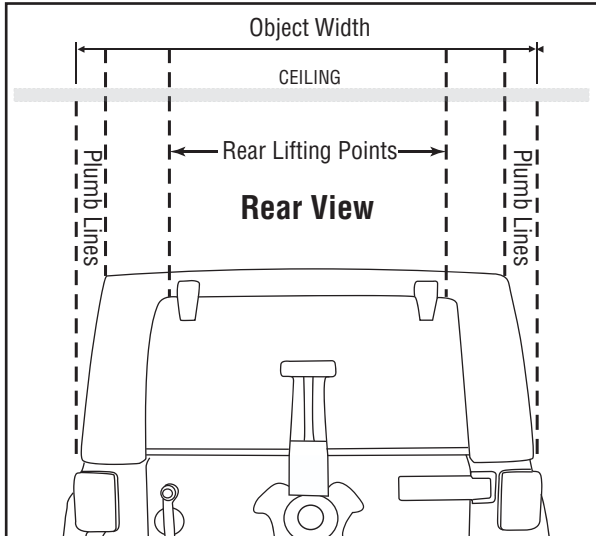


DIAGRAM 7. Mark top width on mounting boards.

#### DRILL 2 HOLES ON EACH MOUNTING BOARD

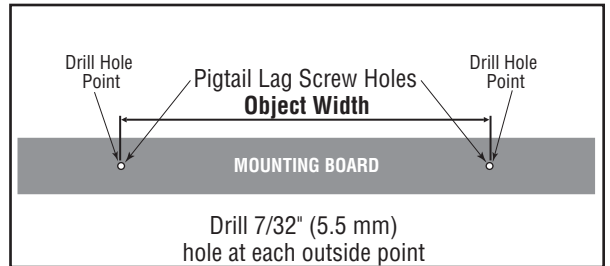


DIAGRAM 8. Drill a  $\frac{7}{32}$ " (5.5 mm) hole at each drill point on mounting boards

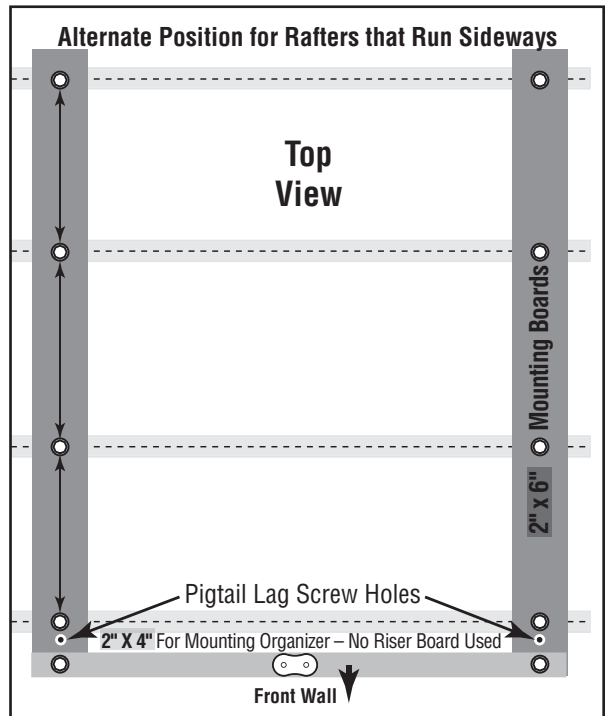


DIAGRAM 8a. If rafters run sideways, drill pigtail lag screw holes on 2" x 6" as shown.

#### INSTALL PIGTAIL LAG SCREWS

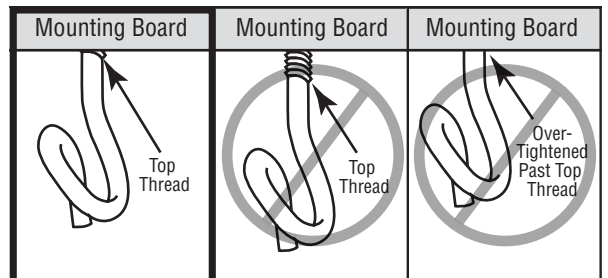


DIAGRAM 9. Install a Pigtail Lag Screw (B) in each hole. Threads should just disappear into mounting board.

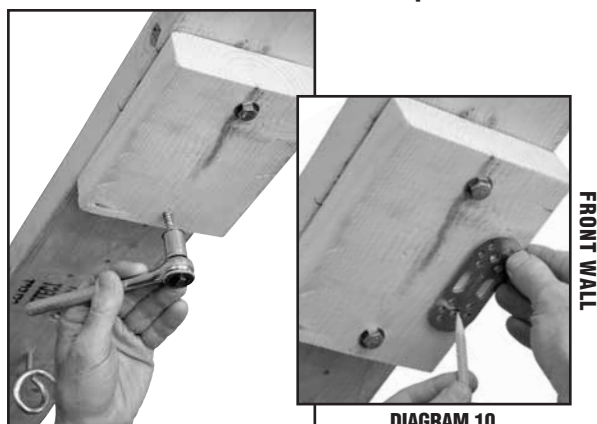


**WARNING! Do not over-tighten Pigtail Lag Screw past top thread. This can weaken fastener hold which may considerably weaken system, causing load to fall which may cause an accident, damage to property, personal injury or death.**

## STEP 4: INSTALL ROPE ORGANIZER

### A. MOUNT RISER BOARD AND DRILL HOLES

**IMPORTANT!** Use smaller drill bit in this step.

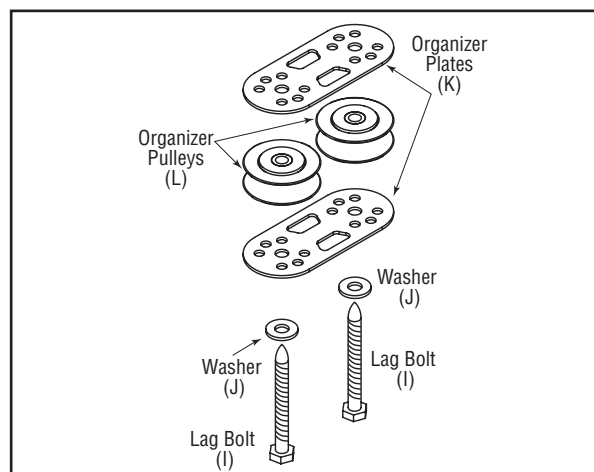


**DIAGRAM 10**

Mount **2" x 6" x 7"** riser board on front mounting board centered between the two Pigtail Lag Screws (B). Drill  $\frac{5}{32}$ " (4 mm) holes. Attach riser boards using two  $\frac{1}{4}$ " (6 mm) Lag Bolts (I) and Washers (J) (included). Do not over-tighten.

**DIAGRAM 10.** Hold Rope Organizer Plate (K) on riser board near the side towards the front wall. Use Plate as template to mark center holes. Drill two  $\frac{5}{32}$ " (4 mm) holes.

### B. ASSEMBLE ROPE ORGANIZER



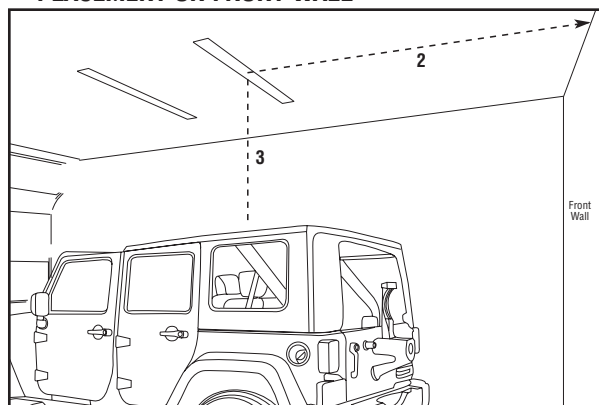
**DIAGRAM 11.** Assemble Rope Organizer using Plate (K) and Pulleys (L). Fasten to mounting board with Lag Bolts (I) and Washers (J).

**IMPORTANT!** Do not over-tighten bolts. This can keep Rope Organizer Pulleys (L) from turning properly.

## STEP 5: ASSEMBLE HOISTER SYSTEM

### A. INSTALL WELDED SCREW EYE (A)

#### PLACEMENT ON FRONT WALL



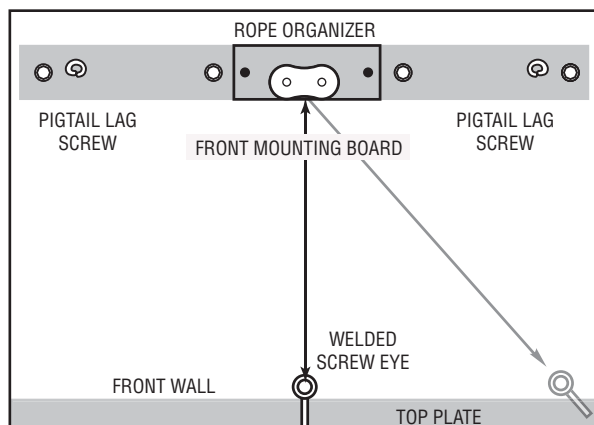
**DIAGRAM 12.** Distance 2 must be equal or somewhat greater than distance 3 and not more than 10' (3 m). See chart below. For a larger view, see Diagram 3.

#### MAXIMIZING LOWERING TOP

You may want to lower top to floor or sawhorses. If distance 2 is much greater than 3, the amount top can be lowered will be limited by length of supplied line.

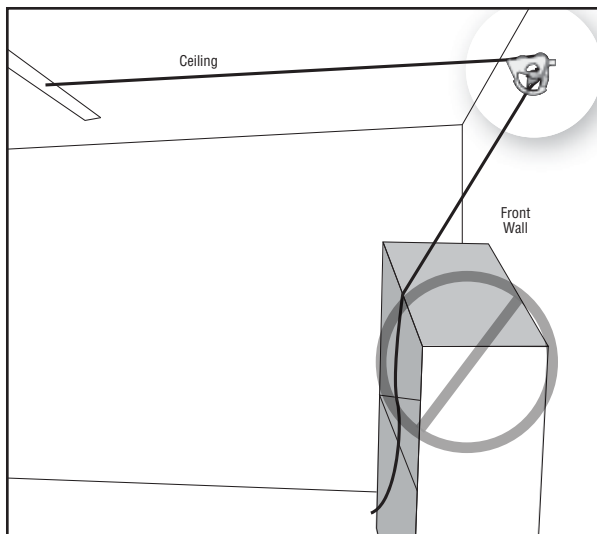
If Distance 2 is	Distance 3 will be	If Distance 2 is	Distance 3 will be
10	10	14	6
11	9	15	5
12	8	16	4
13	7	17	3

When distance 2 is much greater than 3, purchase longer line for drop ropes (H) to maximize distance top can be lowered.



**DIAGRAM 13.** If distance to front wall is less than distance needed to lift top, move the Welded Screw Eye (A) along the front wall until distance 2 is equal to distance 3 (see Diagram 12).

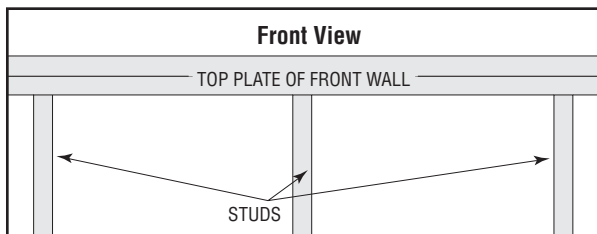
## STEP 5 CONTINUED: ASSEMBLE HOISTER SYSTEM



**DIAGRAM 14.** Avoid installing Welded Screw Eye above tall shelves. Rope must point down to lock.

### INSTALL WELDED SCREW EYE (A) ON FRONT WALL

Use stud finder to locate solid wood of top plate. Drill 7/32" (5.5 mm) hole. Screw Welded Screw Eye (A) into top plate of front wall (near top of ceiling).



**DIAGRAM 15.** Top plate of front wall.

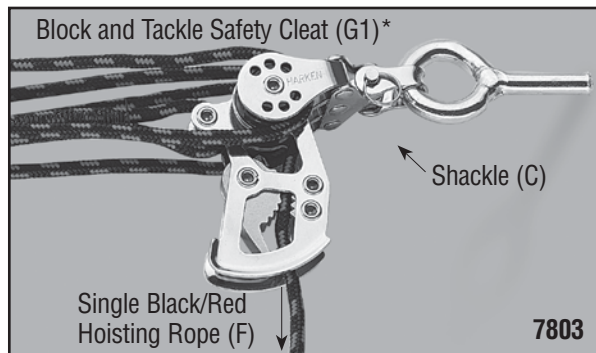
### B. ATTACH PULLEYS

Place one Pulley (D) on each Pigtail Lag Screw (B).



### ATTACH BLOCK AND TACKLE (G)

Attach Block and Tackle system (G) to welded Screw Eye (A) with Shackle (C). Remove ring from shackle like a key ring. Put pin through top of Safety Cleat (G1). Put ring back on to secure Shackle (C).

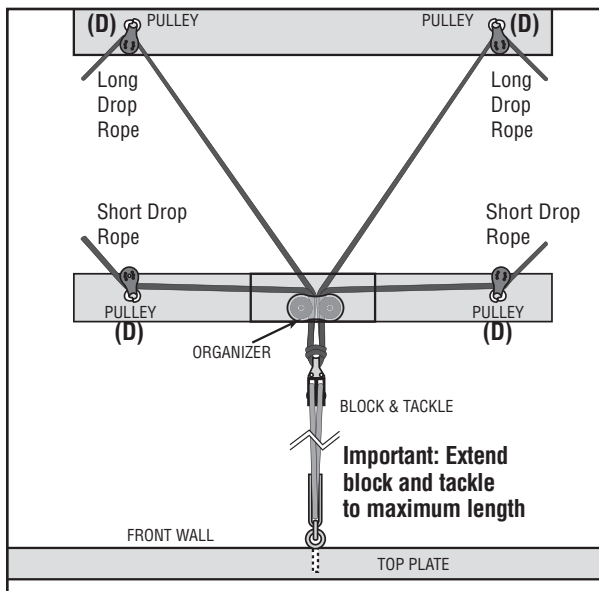


**DIAGRAM 16.** Single black/red hoisting rope must face down.



## STEP 5 CONTINUED: ASSEMBLE HOISTER SYSTEM

### C. INSTALL ROPE



**DIAGRAM 17.** Put all four Black Drop Ropes through Organizer.

Put two shorter Black Drop Ropes through Pulleys (D) on mounting board with Rope Organizer.

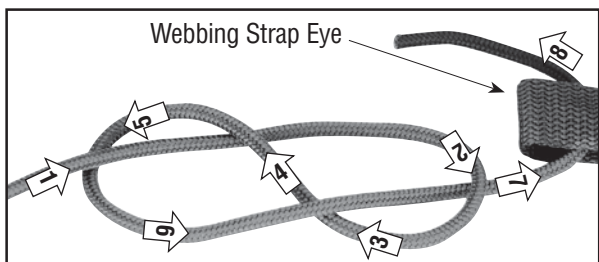
Put two longer Black Drop Ropes through Pulleys (D) on remaining mounting board.

**IMPORTANT!** Extend block and tackle to maximum length.

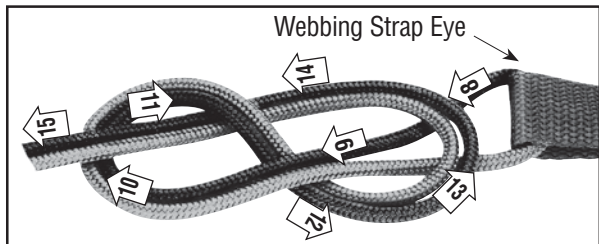
### D. ATTACH STRAPS TO ROPE

#### TIE ROPE TO WEBBING STRAPS

Keep knot as close to Webbing Strap (E) eye as possible.



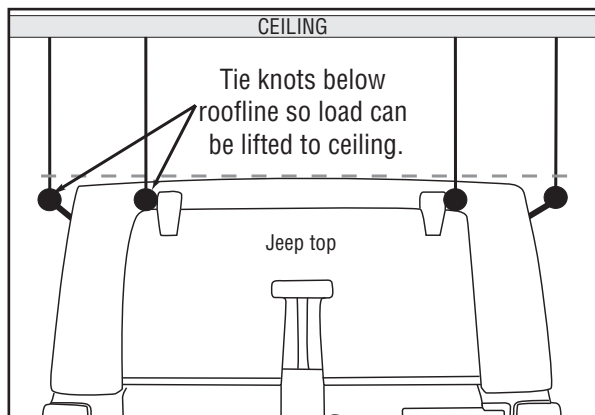
**DIAGRAM 18.** Tie a Black Drop Rope to each Webbing Strap (E) using a figure-eight knot. Pass free end of rope through the sewn Webbing Strap eye.



**DIAGRAM 19.** Using free end of rope from Webbing Strap eye, retrace original figure-eight knot in reverse. Tightly cinch all four strands of rope exiting the knot. **Tighten knots.** See [www.harken.com/knots](http://www.harken.com/knots) for further knot tying resources.

### POSITION WEBBING STRAPS

Place top in position under system. Place Webbing Straps (E) under top to be lifted. Push buckles together to lock.



**DIAGRAM 20.** Tie knots below top of object so object can be lifted to ceiling. Adjust strap length in buckle as needed.



**DIAGRAM 21.** Run straps lengthwise from front door to rear tailgate between top and rollbar.

### E. ADJUSTING LIFTING SYSTEM

#### ALIGN SCREW EYES



**DIAGRAM 22.** Align Pigtail Lag Screws in direction of rope running through Pulley.

#### LEVEL TOP

All webbing straps and ropes must have equal tension to keep top level. Check by slowly pulling the Black/Red Hoisting Rope (F).

To level top, adjust tension by moving knot or adjusting webbing strap at buckle.

## STEP 6: OPERATING HOISTER SYSTEM



**WARNING!** Disable garage door opener when installing, raising, or lowering the Hoister. Do not raise or lower with anyone standing under object. Keep area below Hoister clear. If the load falls it may cause an accident, damage to property, personal injury or death.

### A. RAISE TOP

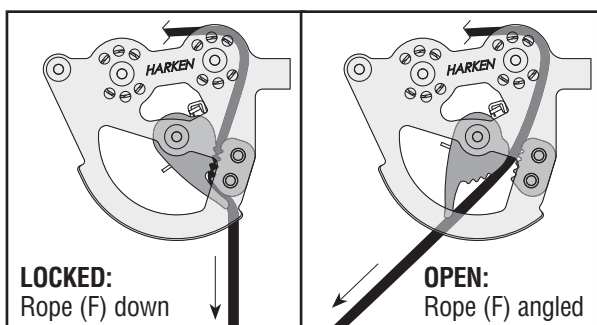
Hoist in a series of pulls. Pull Single Black/Red Hoisting Rope (F) straight down.



**WARNING!** This product is not to be used for human suspension. Components may fail causing person to fall, possibly resulting in serious injury or death.



With rope pointed down the cleat will lock the rope and you can release it. Repeat until top is at desired height.



**DIAGRAM 23** Locked (left): Single Black/Red Hoisting Rope (F) pointed straight down locks cleat. Open (right): Angled rope opens cleat.



**WARNING!** Stop pulling as soon as top contacts ceiling or webbing strap knots stop at pulley (D). Damage or injury may result from forcing the system. If in doubt, stop hoisting, allow cleat to lock by angling rope down. Stand back to see if top is raised to the maximum or if something is jamming rope or top.

### B. STORE TOP

With top in raised position make sure Single Black/Red Hoisting Rope (F) is securely locked in cleat with rope pointed down (see Diagram 23). Coil loose rope end. Hang coiled rope for storage when system is not in use.



**WARNING!** Hang coiled rope where it will not accidentally snag on persons or vehicle. Keep coiled rope out of reach of children. Damage or injury may result if rope is angled away from wall with some tension; the top can come down very quickly which may cause an accident, damage to property, personal injury or death.

**Tip:** For additional security, use two safety 5/16" (8 mm) polyester ropes. Securely tie ends to pigtail lag screws under object, parallel with Webbing Straps (E). Remove safety ropes before lowering object.

### C. LOWER TOP

Securely grip rope, apply tension and angle it away from front wall. Bring arm up to let rope out and then back towards the wall to lock the rope. Repeat until top is at desired height.



**WARNING!** When operating system, make sure area below top is clear of persons. If object comes down too quickly this may cause an accident, damage to property, personal injury or death.

**Tip:** Use gloves to protect hands.



**CAUTION!** Avoid injury, do not let rope slip through hands. Angle line to wall to lock rope.

## MAINTENANCE

### MAINTENANCE

Inspect rope (H and F), knots and straps (E) regularly for signs of chafe, wearing or UV damage. Replace immediately. Inspect knots for signs of slipping. When attaching top, inspect webbing strap buckles (E) to make sure spring clip functions properly. Replace rope and hardware with Harken parts only.

## WARRANTY

### WARRANTY

**What Is Covered** – This warranty covers defects in materials or workmanship.

**Who Is Covered** – The original purchaser.

**For How Long** – Harken® products are warranted for five (5) years from the date of purchase:

After the end of any specific warranty period noted above, HARKEN® MAKES NO EXPRESS OR IMPLIED WARRANTIES OF ANY KIND WITH RESPECT TO THE PRODUCTS, INCLUDING ANY WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. Some states, or if you live outside the U.S., some countries, do not allow limitations on how long an implied warranty lasts, so the above limitation may not apply to you.

**What Is Not Covered** – This warranty does not cover any product that was: improperly installed; inadequately inspected after installation; improperly maintained; used in any application for which it was not intended; used under load conditions exceeding the rating or other recommendation published in the Harken® catalog; or subject to misuse, negligence, accident, or unauthorized modification or repair. Ropes, buckles and webbing are also not covered. Labor charges are also not covered. Separate warranty provisions may be available from vendors on some of the above products. Contact Harken® for this warranty information.

CONSEQUENTIAL AND INCIDENTAL DAMAGES ARE NOT RECOVERABLE UNDER THIS WARRANTY. Some states do not allow the exclusion or limitation of incidental damages, so the above limitation or exclusion may not apply to you.

**How To Get Service** – If something goes wrong, contact Harken® directly or your local Harken® dealer to arrange for warranty assistance. Your dealer has Harken® Warranty Return Guidelines that provide you with exact return procedures depending on the product involved. We will need, in writing, your name, address, phone number, date of purchase, product involved, application, an explanation of the defect and conditions under which the product was used. We are fair and we do care when Harken® products do not perform.

# 3 Easy Steps

## 3 Store



## 2 Lift



## 1 Secure



### CEILING LEVEL STORAGE

Each Hoister kit is complete and simple to install.

Easy one-person operation with a single control rope.

Self-locking safety cleat grips instantly if accidentally released.

Part No.	Description	Mechanical advantage	Lifting Weight			
			Min lb	Min kg	Max lb	Max kg
7803	145 lb Storage System	6:1	45	20	145	66

**Tools:** Drill, Drill Bits: 5/32 in (4 mm), 7/32 in (6 mm), 5/16 in (8 mm), Plumb Line, Pencil, Stud Finder, Stepladder, Safety Glasses, Tape Measure, Wrench: 7/16 in (11 mm) Box End or Ratcheting.

#### Optional Supplies

Qty	Description	Size	Length
2	Pine Boards (Grade 2)	2 x 6 (50 mm x 152 mm)	6 ft (1.83 m)
1	Pine Boards (Grade 2)	2 x 6 (50 mm x 152 mm)	7 in (180 mm)
8	Lag Bolts/Washers	5/16 in (8 mm)	4 in (100 mm)
<b>Rafters Running Sideways (Purchase Above Plus Following)</b>			
1	Pine Boards (Grade 2)	2 x 4 (50 mm x 100 mm)	6 ft (1.83 m)
2	Lag Bolts/Washers	5/16 in (8 mm)	3 1/2 in (90 mm)

