

HARKEN HOISTER

LIFT. LAUNCH.



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

WARNING! Do not use this product for human suspension. Components can fail causing person to fall, possibly resulting in serious injury or death.

SAVE TIME! READ THE ENTIRE MANUAL BEFORE BEGINNING HOISTER INSTALLATION.

KIT INCLUDES

- | | |
|----------|--|
| A | 1 welded screw eye |
| B | 4 pigtail lag screws |
| C | 1 shackle |
| D | 4 pulleys |
| E | 2 webbing straps with buckles
7' (2.13 m) |
| F | 1 single black/red hoisting rope |
| G | 1 block and tackle with
cleat (G1) and rope |
| H | 4 black drop ropes: 2 long, 2 short |
| I | 4 lag bolts $\frac{1}{4}$ " x $2\frac{1}{2}$ " (6 x 63 mm) |
| J | 4 washers $\frac{1}{4}$ " (6 mm) |
| K | 2 organizer plates |
| L | 2 organizer pulleys |

PURCHASE SEPARATELY IF NEEDED

See "note" Step 1B, page 6.

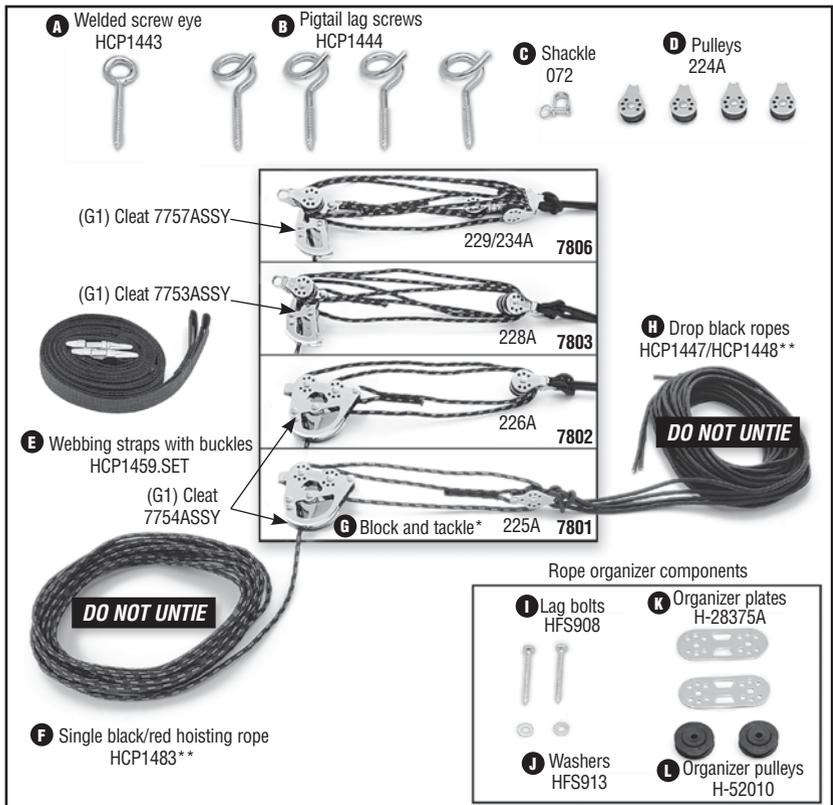
- | |
|---|
| 1 pine board (riser) (grade 2)
2" x 6" x 7' (50 mm x 152 mm
x 180 mm). Do not use for rafters
running sideways. |
| 2 pine boards (grade 2) 2" x 6" x 6'
(50 mm x 152 mm x 1.83 m) |
| 8 lag bolts and washers $\frac{5}{16}$ " x 4"
(8 x 100 mm) |

PURCHASE ADDITIONAL FOR RAFTERS RUNNING SIDEWAYS See Step 2A, page 7.

- | |
|---|
| 1 pine board (grade 2) 2" x 4" x 6'
(50 mm x 100 mm x 1.83 m) |
| 2 lag bolts and washers $\frac{5}{16}$ " x $3\frac{1}{2}$ "
(8 mm x 90 mm) |

TOOLS

- | | | |
|-------------------------------------|-------------|--|
| Drill | Plumb line | Safety glasses |
| Drill bits: $\frac{5}{32}$ " (4 mm) | Pencil | Tape measure |
| $\frac{7}{32}$ " (5.5 mm) | Stud finder | Wrench (box end or
ratcheting) $\frac{7}{16}$ " (11 mm) |
| $\frac{5}{16}$ " (8 mm) | Stepladder | |



***NOTE:** (G) Block and tackle varies by system size. Refer to Hoister part number for specific cleat style.

****NOTE:** (H) and (F) ropes in 12' (3.6 m) and 16' (4.9 m) ceiling models have different part numbers.

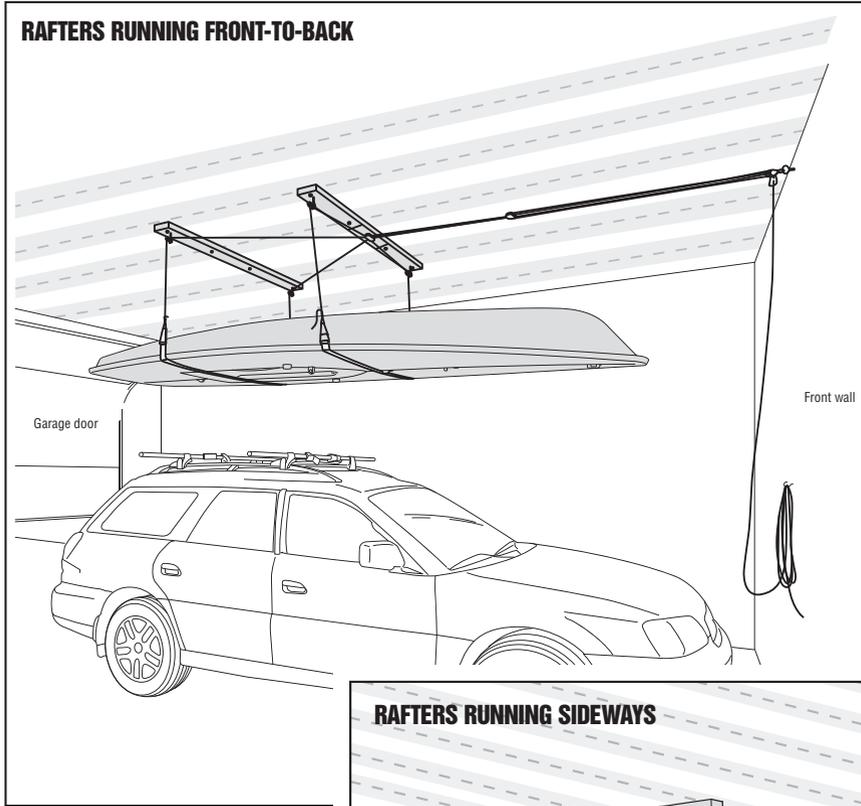
IMPORTANT SAFETY INFORMATION

- 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.

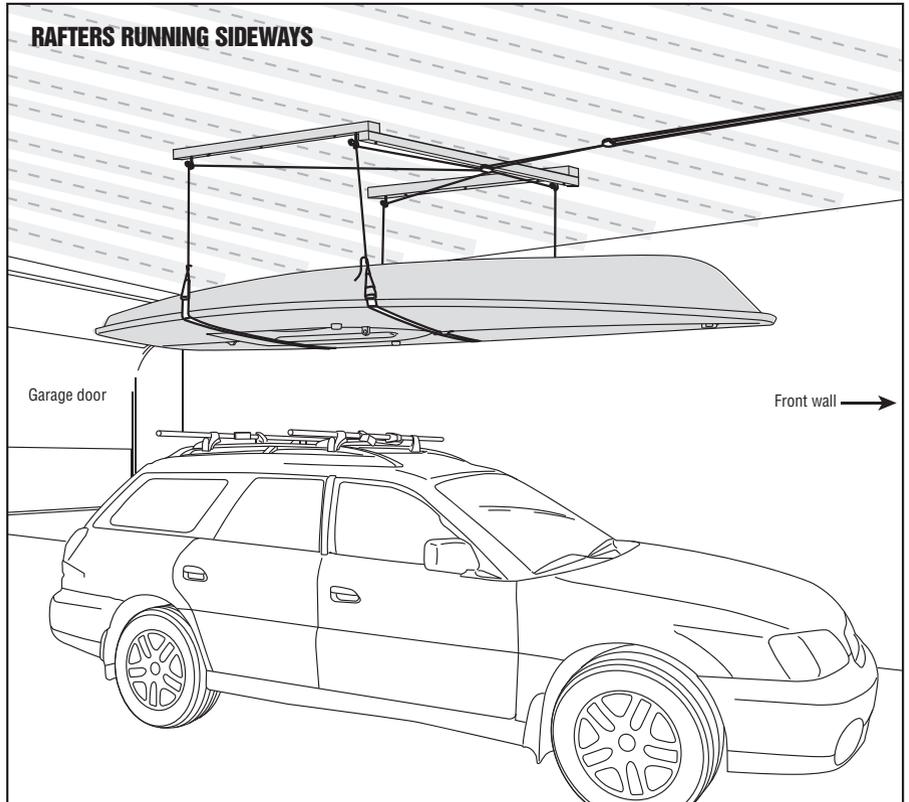
BEFORE STARTING INSTALLATION

Determine the rafter direction and follow the instructions for rafters running: **FRONT-TO-BACK** or **SIDWAYS**

RAFTERS RUNNING FRONT-TO-BACK



RAFTERS RUNNING SIDWAYS



INSTALLATION OVERVIEW

PART 1: ASSEMBLY FOR RAFTERS RUNNING FRONT-TO-BACK

INSTALLATION OVERVIEW

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STEP 1: Determine Hoister location

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STEP 2: Install mounting boards

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STEP 3: Install pigtail lag screws

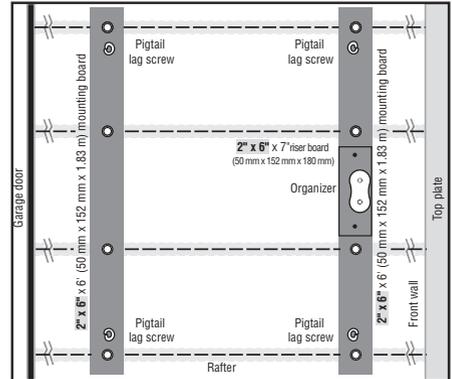
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STEP 4: Install rope organizer

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STEP 5: Assemble Hoister system

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VIEWED FROM BELOW

PART 2: ASSEMBLY FOR RAFTERS RUNNING SIDEWAYS

INSTALLATION OVERVIEW

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STEP 1: Determine Hoister location

Page 11 - 12

STEP 2: Install mounting boards

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STEP 3: Install pigtail lag screws

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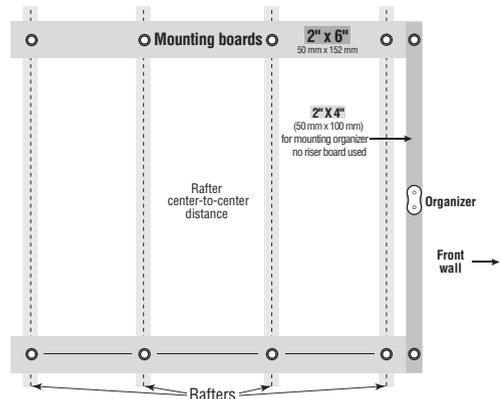
STEP 4: Install rope organizer

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STEP 5: Assemble Hoister system

Page 15

Alternate position for rafters that run sideways.



VIEWED FROM BELOW

PART 3: FOR ALL ASSEMBLIES

STEP 6: Assemble Hoister systems continued

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STEP 7: Operating Hoister systems

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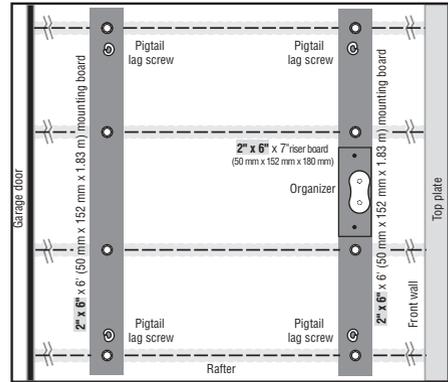
Appendix, maintenance, and warranty

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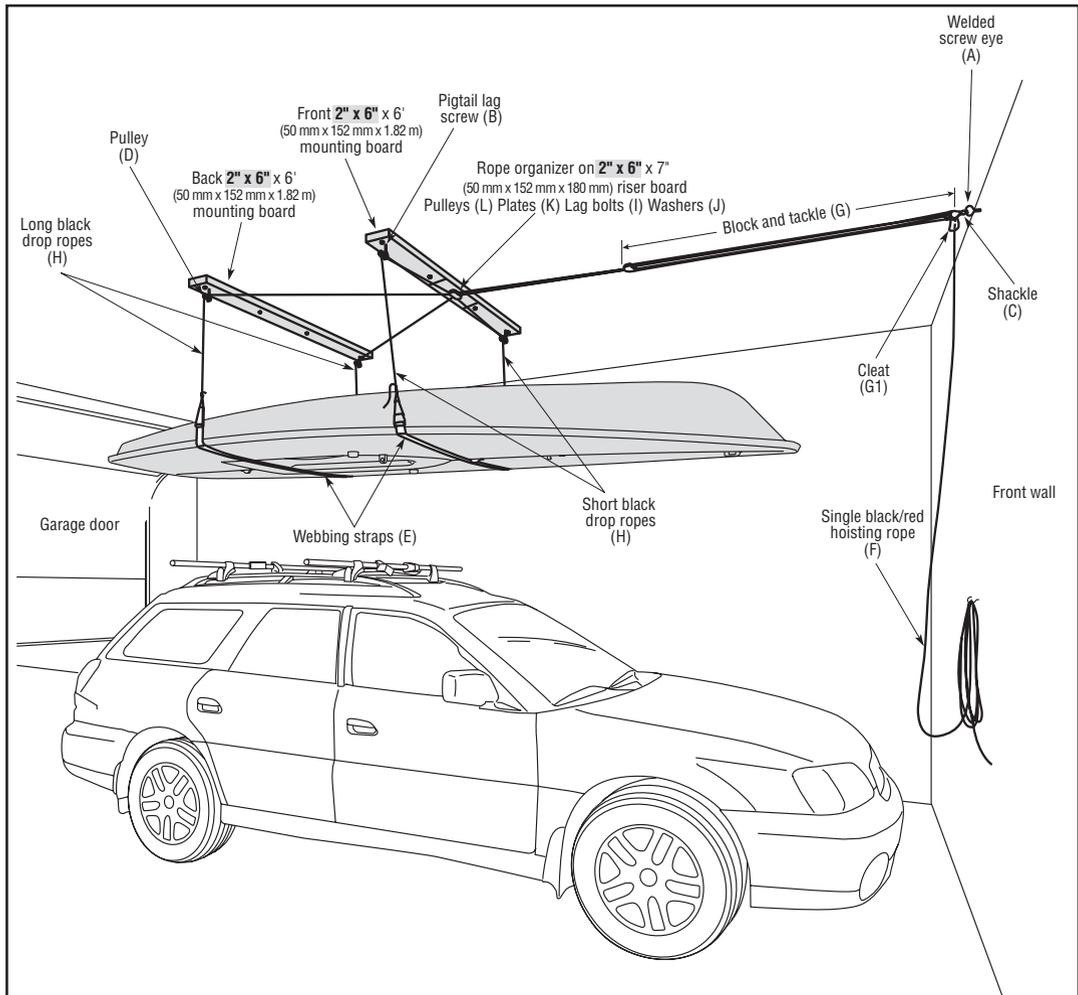
PART 1: ASSEMBLY FOR RAFTERS RUNNING FRONT-TO-BACK

INSTALLATION OVERVIEW

- STEP 1:** Determine Hoister location Page 5 - 6
- STEP 2:** Install mounting boards Page 7
- STEP 3:** Install pigtail lag screws Page 8
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- STEP 5:** Assemble Hoister system Page 9



VIEWED FROM BELOW



STEP 1: DETERMINE HOISTER LOCATION; RAFTERS RUNNING FRONT-TO-BACK

A. PLAN INSTALLATION

Pull car into garage with object on car rack.



Measure length of object. Plan to position Hoister so garage door can open with object lowered.

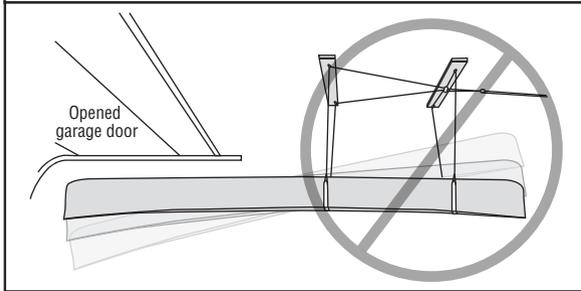
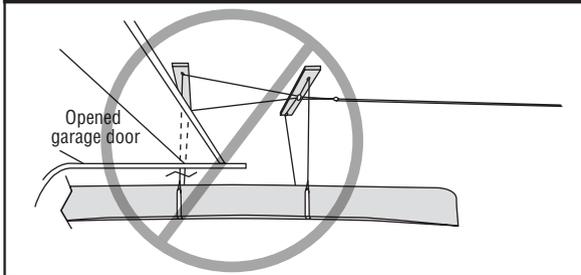
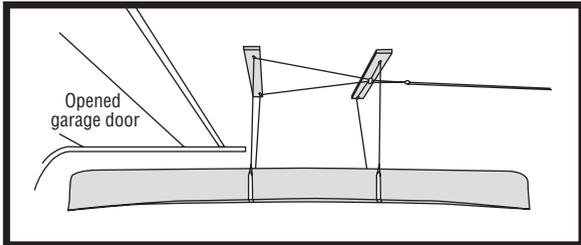


DIAGRAM 1. Plan to position object above car with clearance to open garage door. If Hoister is mounted too close to garage door, there may not be clearance to open door. Mounted too far forward, object may not balance or lower onto car.

STORAGE OPTIONS

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



OPTION 1. Above garage door: Make sure there is enough clearance to lift and store object above open garage door.



OPTION 2. Below garage door: Use if not enough clearance for above garage door storage (Option 1). Object has clearance to lift and store below open garage door.

STEP 1 CONTINUED: DETERMINE HOISTER LOCATION; RAFTERS RUNNING FRONT-TO-BACK

B. PLAN LOCATION OF MOUNTING BOARDS

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

7806 Hoister (200 lb/91 kg system) requires mounting boards to span minimum 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 and cause an accident.

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 object to be lifted. If installing without mounting boards, go to Step 3 (page 8).

DISTANCE BETWEEN MOUNTING BOARDS

Distance between mounting boards should be 35% of the object's length.

Exception: Distance between mounting boards for long, light weight canoes/sea kayaks will be less than 35% of the object's length.

Calculate distance between mounting boards using formula or chart below.

$$\text{Object length} \times .35 = \text{Mounting distance}$$

Tip: The distance does not have to be exactly 35%. Greater distance is okay and distance for long canoes and sea kayaks can be less as stated above.

LOCATE CEILING MOUNTING BOARD POSITION

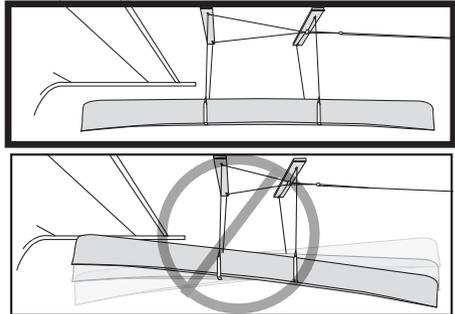


DIAGRAM 2. Center object under mounting points. Position mounting boards so lifted object is balanced.

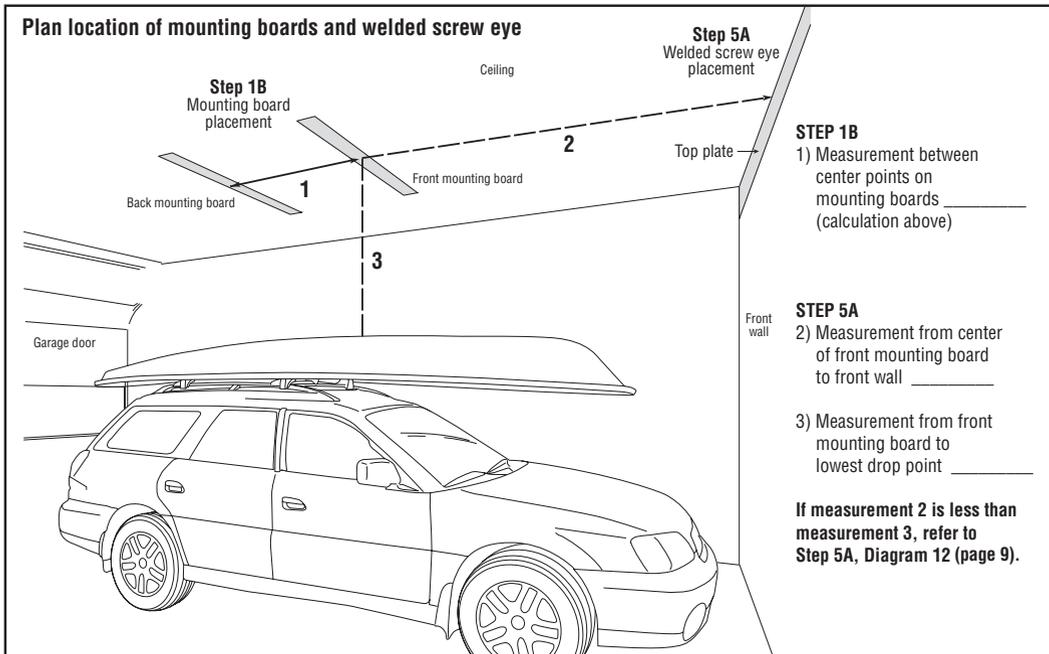


DIAGRAM 3. Distance of mounting boards from front wall is important, as it affects the position of the welded screw eye in Step 5A (page 9).

STEP 2: INSTALL MOUNTING BOARDS; RAFTERS RUNNING FRONT-TO-BACK

A. DRILL CEILING RAFTER ATTACHMENT POINTS

LOCATE CEILING RAFTERS

Mounting boards must attach to ceiling rafters (Diagram 4). 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 in a straight line square to the rafters. See Diagram 4 below.

Always wear safety glasses.

B. DRILL MOUNTING BOARD

Measure center-to-center distance between $\frac{7}{32}$ " (5.5 mm) rafter holes. Mark distance on mounting boards. Mark drill points in the center of board. Drill $\frac{5}{16}$ " (8 mm) holes completely through the mounting boards. See Diagram 4A below.

C. ATTACH MOUNTING BOARDS TO CEILING

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

Do not overtighten.

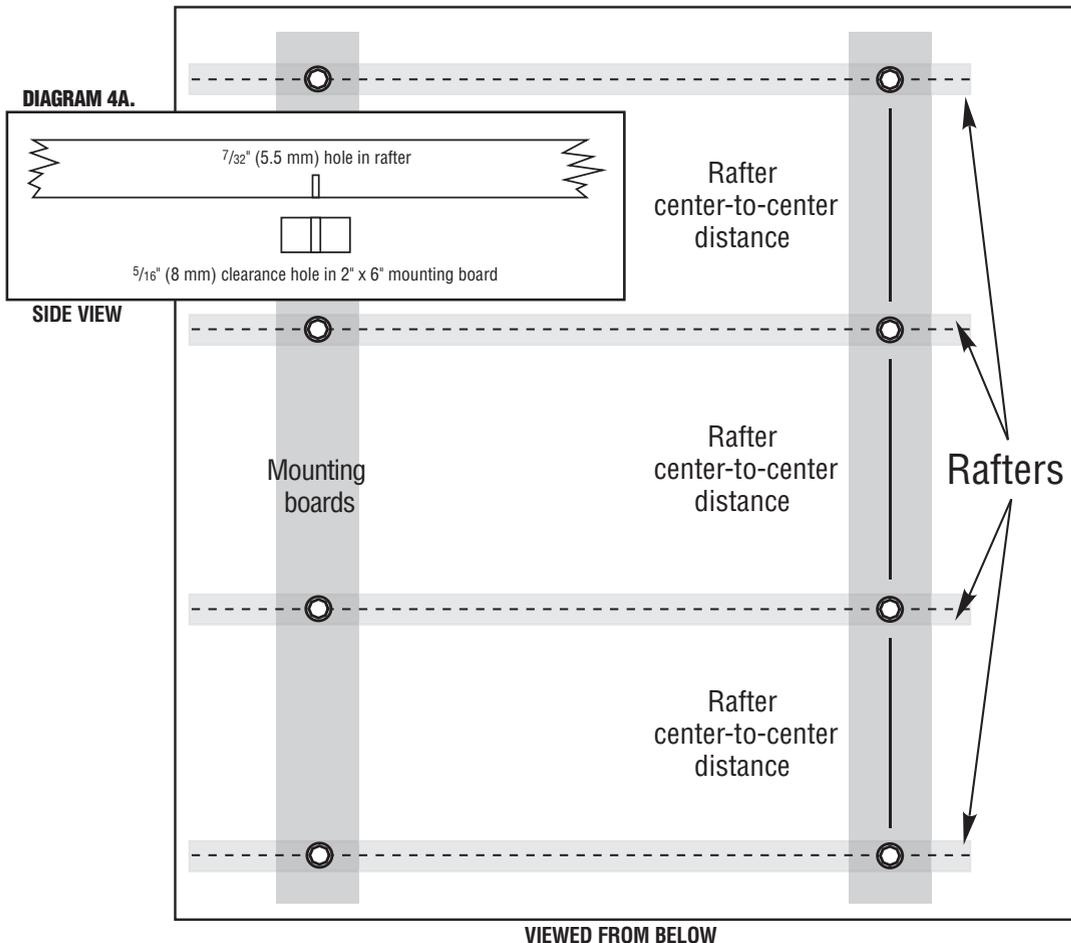


DIAGRAM 4. Mark center-to-center distance between rafters on mounting boards. Attach mounting boards to rafters.

STEP 3: INSTALL PIGTAIL LAG SCREWS; RAFTERS RUNNING FRONT-TO-BACK

A. DETERMINE PIGTAIL LAG SCREW (B) LOCATION

PULL VEHICLE INTO GARAGE



Pull vehicle into garage with object on car rack.
Disconnect automatic garage door.

MARK LOCATION POINTS

Use plumb line to locate four lifting points on mounting boards above vehicle.

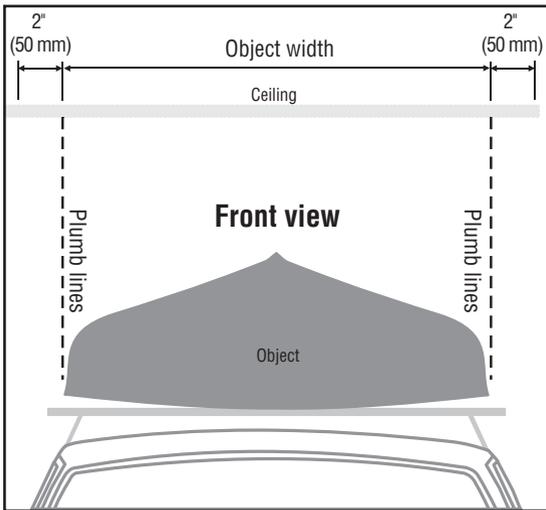
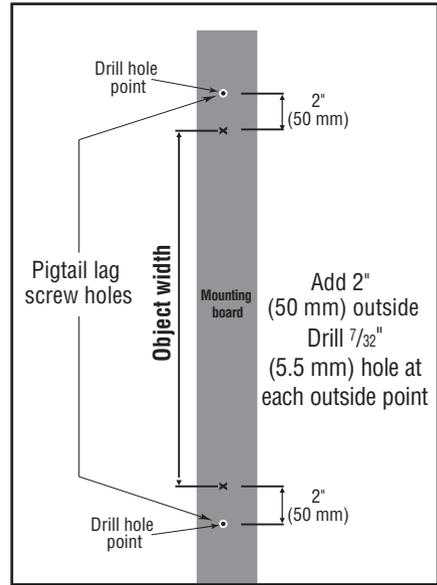


DIAGRAM 5. Mark object width on mounting boards.

DRILL 2 HOLES ON EACH MOUNTING BOARD



VIEWED FROM BELOW

DIAGRAM 6. Add 2" (50 mm) outside each mark. Drill a $7/32$ " (5.5 mm) hole at each drill point on mounting boards. **Always wear safety glasses.**

INSTALL PIGTAIL LAG SCREWS

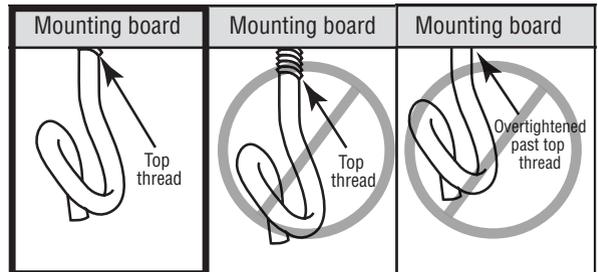


DIAGRAM 7. Install a pigtail lag screw (B) in each hole. Threads should disappear into mounting board.

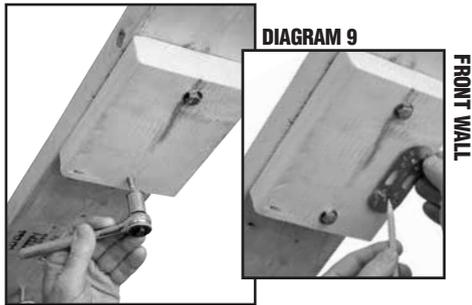


WARNING! Do not overtighten pigtail lag screw past top thread. This can weaken fastener hold which can considerably weaken system, causing load to fall and cause an accident.

STEP 4: INSTALL ROPE ORGANIZER; RAFTERS RUNNING FRONT-TO-BACK

A. MOUNT RISER BOARD AND DRILL HOLES

IMPORTANT! Use smaller drill bit in this step.



Mount **2" x 6" x 7"** (50 mm x 152 mm x 180 mm) riser board on front mounting board centered between the two pigtail lag screws (B). Drill $\frac{5}{32}$ " (4 mm) holes.

Always wear safety glasses. Attach riser boards using two $\frac{1}{4}$ " (6 mm) lag bolts (I) and washers (J) (included). Do not overtighten.

DIAGRAM 8. Hold rope organizer plate (K) on riser board near the side toward the front wall. Use plate as template to mark center holes. Drill two $\frac{5}{32}$ " (4 mm) holes.

B. ASSEMBLE ROPE ORGANIZER

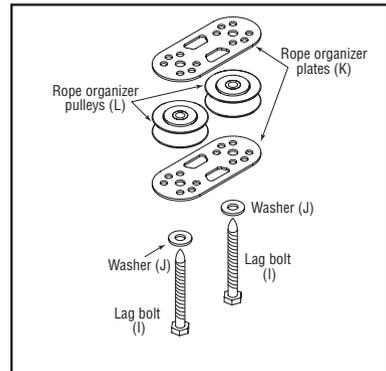


DIAGRAM 10. Assemble rope organizer using plate (K) and pulleys (L). Fasten to mounting board with lag bolts (I) and washers (J).

IMPORTANT! Do not overtighten bolts. This can keep rope organizer pulleys (L) from turning properly.

STEP 5: ASSEMBLE HOISTER SYSTEM; RAFTERS RUNNING FRONT-TO-BACK

A. INSTALL WELDED SCREW EYE (A)

PLACEMENT ON FRONT WALL

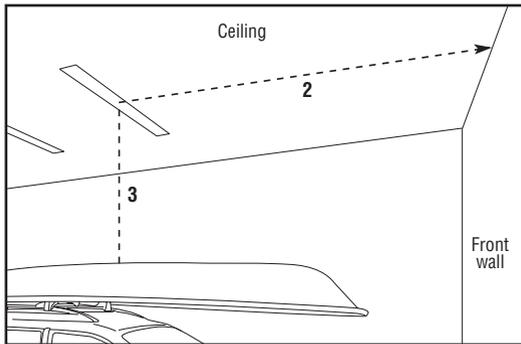


DIAGRAM 11. Distance 2 must be equal or somewhat greater than distance 3. See chart below. For a larger view, see Diagram 3 (page 6).

MAXIMIZING LOWERING OF OBJECT

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

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 rope for drop ropes (H) to maximize distance object can be lowered.

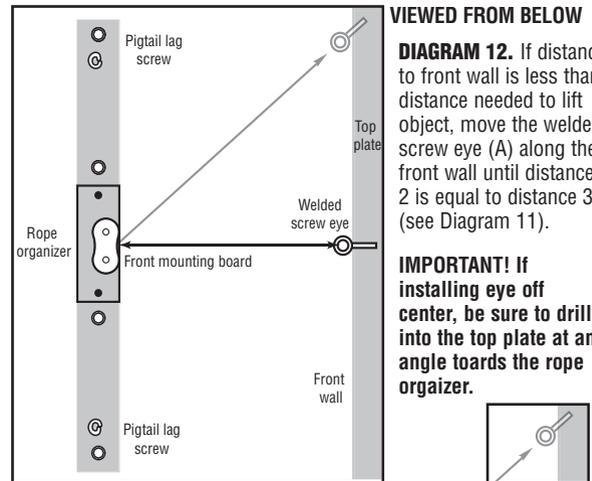


DIAGRAM 12. If distance to front wall is less than distance needed to lift object, move the welded screw eye (A) along the front wall until distance 2 is equal to distance 3 (see Diagram 11).

IMPORTANT! If installing eye off center, be sure to drill into the top plate at an angle towards the rope organizer.

Drill a $\frac{7}{32}$ " (5.5 mm) hole into top plate of garage for mounting welded screw eye. **Always wear safety glasses.** Screw welded screw eye into top plate until threads just disappear into top plate, further for angled location. Do not overtighten. **See procedure and warnings for Install Pigtail Lag Screws.**

LEADING BLOCK AND TACKLE TO SIDE WALL

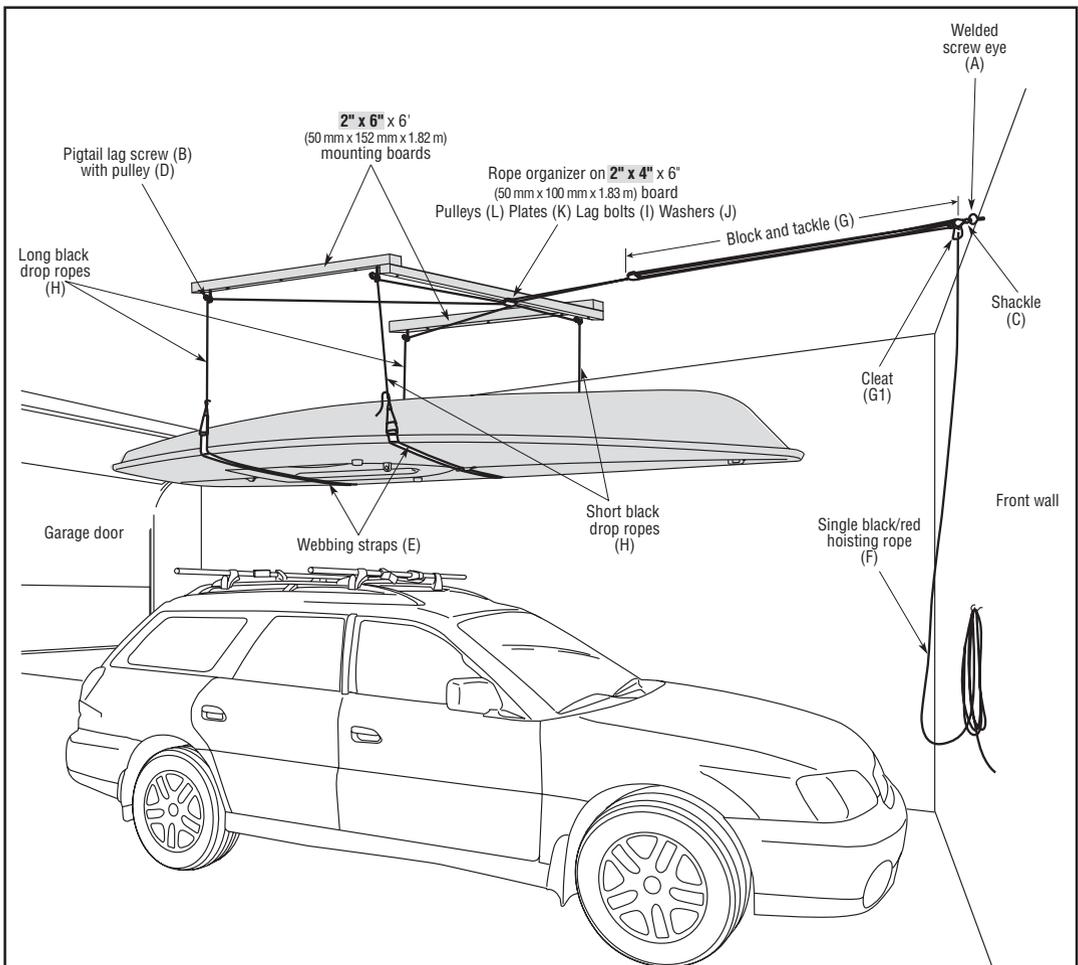
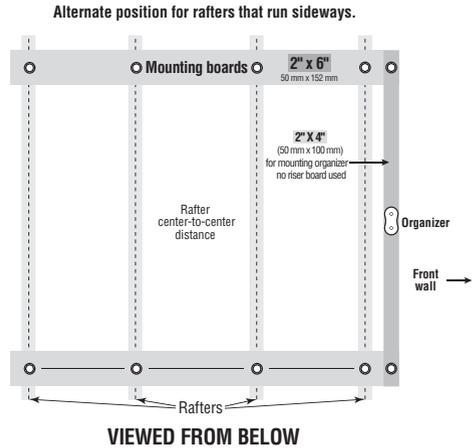
If distance to front wall is still too short, consider running block and tackle to the side of to the object instead of lengthwise.

SEE APPENDIX — PAGE 19.

PART 2: ASSEMBLY FOR RAFTERS RUNNING SIDWAYS

INSTALLATION OVERVIEW

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- STEP 2:** Install mounting boards Page 13
- STEP 3:** Install pigtail lag screws Page 13 - 14
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- STEP 5:** Assemble Hoister system Page 15



STEP 1: DETERMINE HOISTER LOCATION; RAFTERS RUNNING SIDEWAYS

A. PLAN INSTALLATION

Pull car into garage with object on car rack.



Measure length of object. Plan to position Hoister so garage door can open with object lowered.

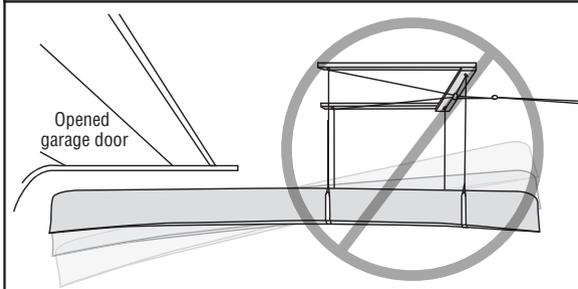
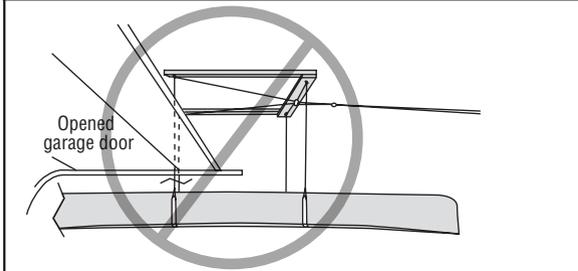
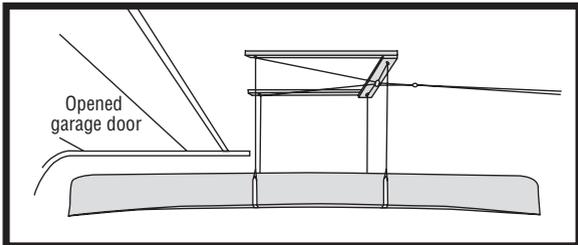


DIAGRAM 13. Plan to position object above car with clearance to open garage door. If Hoister is mounted too close to garage door, there may not be clearance to open door. Mounted too far forward, object may not balance or lower onto car.

STORAGE OPTIONS

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



OPTION 1. Above garage door: Make sure there is enough clearance to lift and store object above open garage door.



OPTION 2. Below garage door: Use if not enough clearance for above garage door storage (Option 1). Object has clearance to lift and store below open garage door.

STEP 1 CONTINUED: DETERMINE HOISTER LOCATION; RAFTERS RUNNING SIDWAYS

B. PLAN LOCATION OF MOUNTING BOARDS

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

7806 Hoister (200 lb/91 kg system) requires mounting boards to span minimum 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 and cause an accident.

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 object to be lifted. If installing without mounting boards, go to Step 3 (page 13).

LENGTH OF 2" X 6" MOUNTING BOARDS

Length of mounting boards should be at least 35% of the object's length.

Exception: Length of mounting boards for long, lightweight canoes/sea kayaks will be less than 35% of the object's length.

Calculate length of mounting boards using formula or chart below.

$$\text{_____} \times .35 = \text{_____} + 8" (200 \text{ mm})$$

Object length 35% Length of mounting board

Tip: The distance does not have to be exactly 35%. Greater distance is okay and distance for long canoes and sea kayaks can be less as stated above.

LOCATE CEILING MOUNTING BOARD POSITION

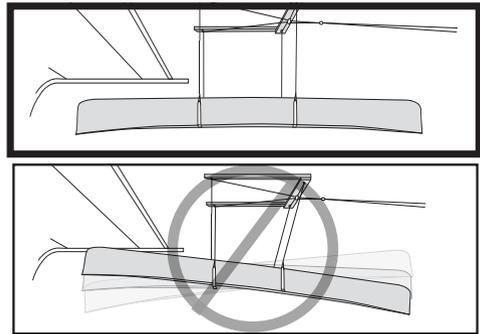


DIAGRAM 14. Center object under mounting points. Position mounting boards so lifted object is balanced.

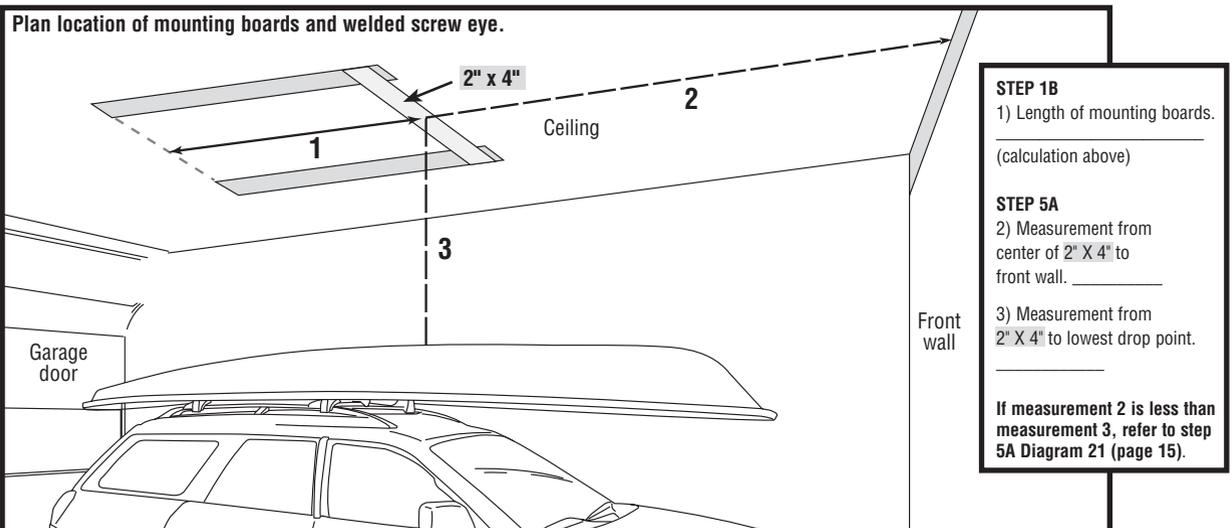


DIAGRAM 15. Check to make sure 2" x 6" boards are long enough. Distance of 2" X 4" from front wall is important, as it affects the position of the welded screw eye in Step 5A (page 15).

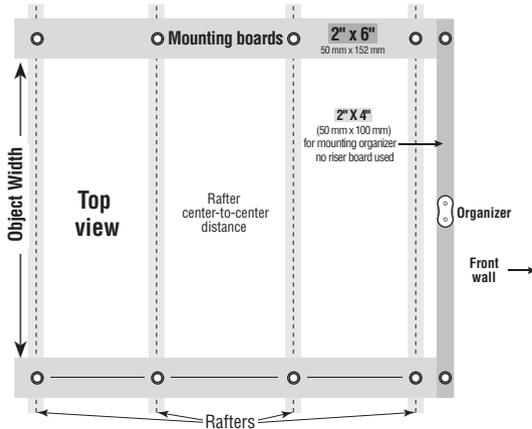
STEP 2: INSTALL MOUNTING BOARDS; RAFTERS RUNNING SIDWAYS

A. DRILL CEILING RAFTER ATTACHMENT POINTS

LOCATE AND DRILL CEILING RAFTERS

Mounting boards must attach to ceiling rafters (see Diagram 16). 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 in a straight line square to the rafters. **Always wear safety glasses.** See Diagram 4 below.

Note: Mount boards so that object width is at or about $\frac{3}{4}$ " from inside edge.

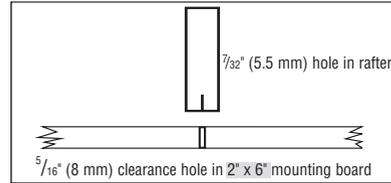


VIEWED FROM BELOW

DIAGRAM 16. 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.

B. DRILL MOUNTING BOARD

Measure center-to-center distance between $\frac{7}{32}$ " (5.5 mm) rafter holes. Mark distance on mounting boards. Mark drill points in the center of board. Drill $\frac{5}{16}$ " (8 mm) holes completely through the mounting boards.



SIDE VIEW

C. ATTACH MOUNTING BOARDS TO CEILING

Attach mounting boards using $\frac{5}{16}$ " x 4" (8 mm x 10 mm) lag bolts and washers (not included). Do not overtighten.

D. ATTACH 2" X 4" TO MOUNTING BOARDS

Hold 2" x 4" up to ends of mounting boards and mark screw location on each side. Lower and drill $\frac{5}{16}$ " (8 mm) holes. Hold 2" x 4" in place and mark holes in ends of mounting boards. Leave room for pigtail lag screws shown in Diagram 17. Drill a $\frac{7}{32}$ " (5.5 mm) hole in the end of each mounting board. Attach 2" x 4" mounting boards using $\frac{5}{16}$ " x $3\frac{1}{2}$ " (8 mm x 90 mm) lag bolts and washers (not included). Do not overtighten.

STEP 3: INSTALL PIGTAIL LAG SCREWS; RAFTERS RUNNING SIDWAYS

A. DETERMINE PIGTAIL LAG SCREW (B) LOCATION

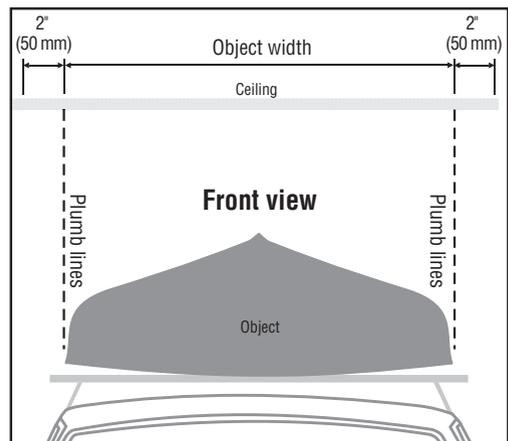
PULL VEHICLE INTO GARAGE



Pull vehicle into garage with object on car rack. Disconnect automatic garage door.

MARK LOCATION POINTS

Use plumb line to locate four lifting points on mounting boards above vehicle.



STEP 3 CONTINUED: INSTALL PIGTAIL LAG SCREWS; RAFTERS RUNNING SIDEWAYS

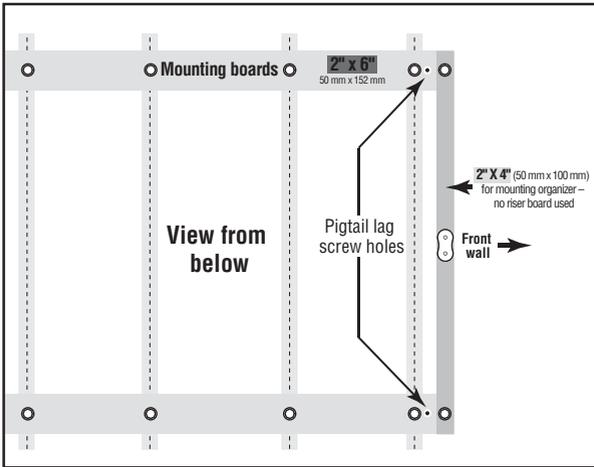


DIAGRAM 17. Drill pigtail lag screw holes on 2" x 6" (50 mm x 152 mm) as shown.

INSTALL PIGTAIL LAG SCREWS

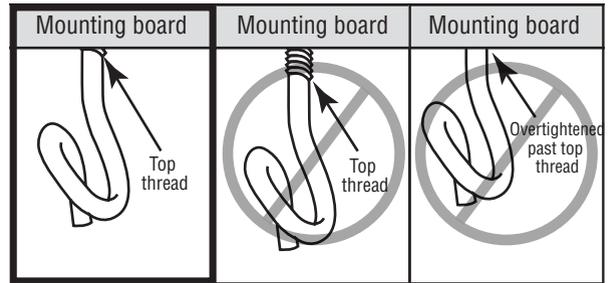


DIAGRAM 18. Install a pigtail lag screw (B) in each hole. Threads should disappear into mounting board.



WARNING! Do not overtighten pigtail lag screw past top thread. This can weaken fastener hold which can considerably weaken system, causing load to fall and cause an accident.

STEP 4: INSTALL ROPE ORGANIZER

A. DRILL HOLES FOR ORGANIZER

IMPORTANT! Use smaller drill bit in this step.

Use rope organizer plate (K) as a template to mark holes on 2" x 4". See Diagram 17. Drill $\frac{5}{32}$ " (4 mm) holes. **Always wear safety glasses.**

B. ASSEMBLE ROPE ORGANIZER

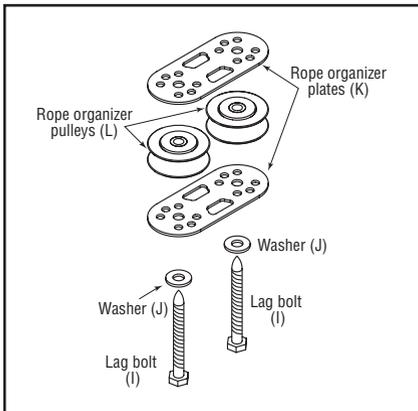


DIAGRAM 19. Assemble rope organizer as shown in Diagram 17 using plate (K) and pulleys (L). Fasten to 2" x 4" (50 mm x 100 mm) with lag bolts (I) and washers (J).

Do not use riser board.

IMPORTANT! Do not overtighten bolts. This can keep rope organizer pulleys (L) from turning properly.

STEP 5: ASSEMBLE HOISTER SYSTEM; RAFTERS RUNNING SIDWAYS

A. INSTALL WELDED SCREW EYE (A) PLACEMENT ON FRONT WALL

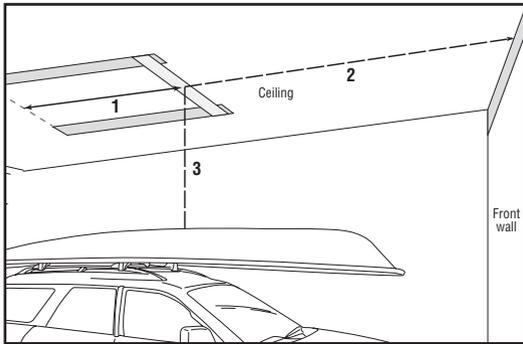


DIAGRAM 20. Distance 2 must be equal or somewhat greater than distance 3. See chart below. For a larger view, see Diagram 15 (page 12).

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 rope for drop ropes (H) to maximize distance object can be lowered.

MAXIMIZING LOWERING OF OBJECT

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

VIEWED FROM BELOW

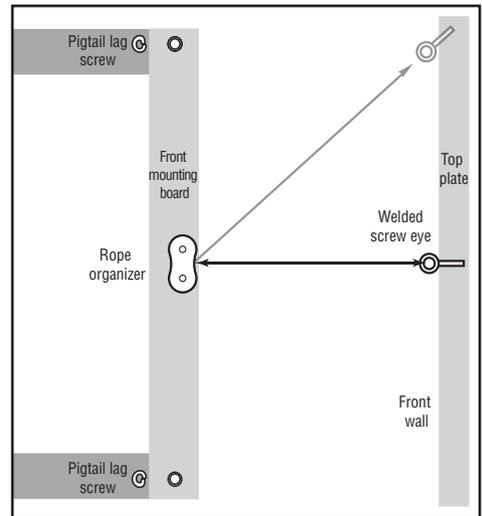
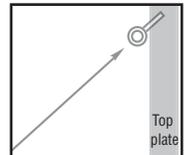


DIAGRAM 21. If distance to front wall is less than distance needed to lift object, move the welded screw eye (A) along the front wall until distance 2 is equal to distance 3 (see Diagram 20).

Drill a $\frac{7}{32}$ " (5.5 mm) hole into top plate of garage for mounting welded screw eye. **Always wear safety glasses.** Screw welded screw eye into top plate until threads just disappear into top plate. Do not overtighten. **See procedure and warnings for Install Pigtail Lag Screws.**

IMPORTANT! If installing welded screw eye off center, be sure to drill into the top plate at an angle that is towards the rope orgaizer. Screw into top plate a littly further to account for angle.



LEADING BLOCK AND TACKLE TO SIDE WALL

If distance to front wall is still too short, consider running block and tackle to the side of the object instead of lengthwise.

SEE APPENDIX—PAGE 19.

PART 3: FOR ALL ASSEMBLIES

STEP 6: ASSEMBLE HOISTER SYSTEM FOR ALL ASSEMBLIES

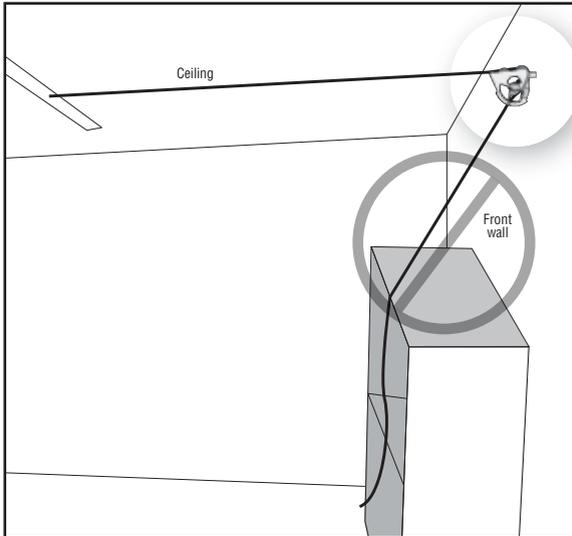


DIAGRAM 22. Avoid installing welded screw eye above tall shelves. Rope must point down to lock.

INSTALL WELDED SCREW EYE (A) ON FRONT WALL

Use stud finder to locate solid wood of top plate. Drill $\frac{7}{32}$ " (5.5 mm) hole. Screw welded screw eye (A) into top plate of front wall (near top of ceiling).

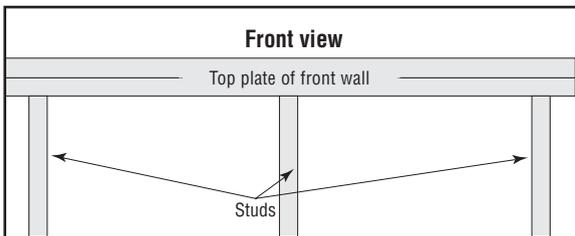


DIAGRAM 23. Top plate of front wall.

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 cleat (G1). Put ring back on to secure shackle (C).

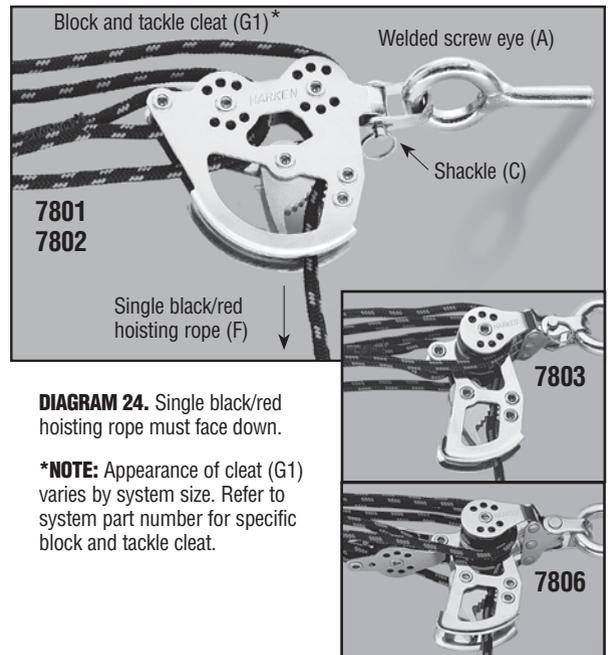


DIAGRAM 24. Single black/red hoisting rope must face down.

***NOTE:** Appearance of cleat (G1) varies by system size. Refer to system part number for specific block and tackle cleat.

STEP 6 CONTINUED: ASSEMBLE HOISTER SYSTEM FOR ALL ASSEMBLIES

C. INSTALL ROPE

VIEWED FROM BELOW

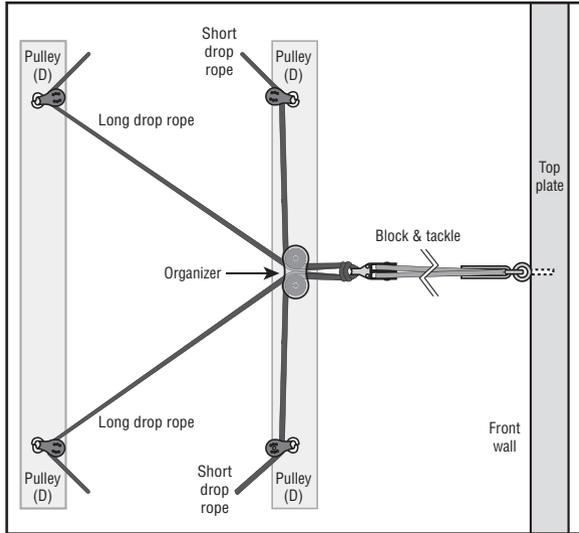


DIAGRAM 25. Put all four black drop ropes through organizer.

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.

D. ATTACH STRAPS TO ROPE

TIE ROPE TO WEBBING STRAPS

Keep knot as close to webbing strap (E) eye as possible.

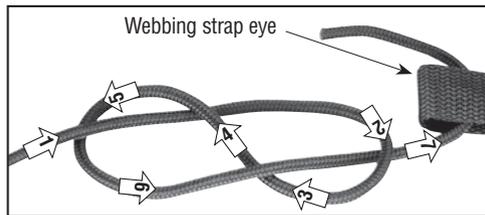


DIAGRAM 27. Tie a black drop rope to each webbing strap (E) using a figure-eight knot. Pass free end of rope through the sewn webbing strap eye.

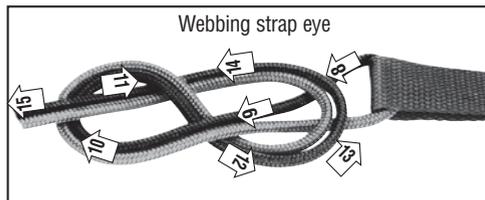


DIAGRAM 28. Using free end of rope from webbing strap eye, retrace original figure-eight knot in reverse. Tightly cinch all four strands of rope exiting the knot.

Tighten knots. See www.harken.com/Knots for further knot-tying resources.

POSITION WEBBING STRAPS

Place object in position under system. Place webbing straps (E) under object to be lifted. Push buckles together to lock.

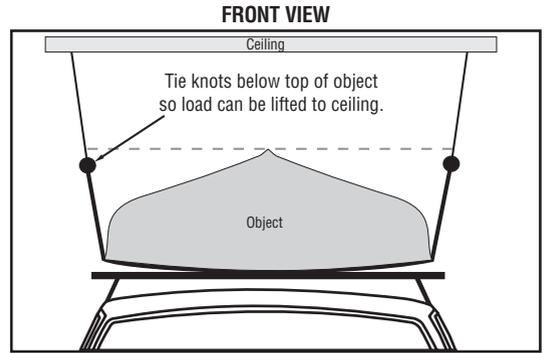


DIAGRAM 26. Tie knots below top of object so object can be lifted to ceiling. Adjust strap length in buckle as needed.

E. ADJUSTING LIFTING SYSTEM

ALIGN SCREW EYES



DIAGRAM 29. Align pigtail lag screws in direction of rope running through pulley.

LEVEL OBJECT

All webbing straps and ropes must have equal tension to keep object level. Check by slowly pulling the black/red hoisting rope (F).

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

STEP 7: OPERATING HOISTER SYSTEM FOR ALL ASSEMBLIES



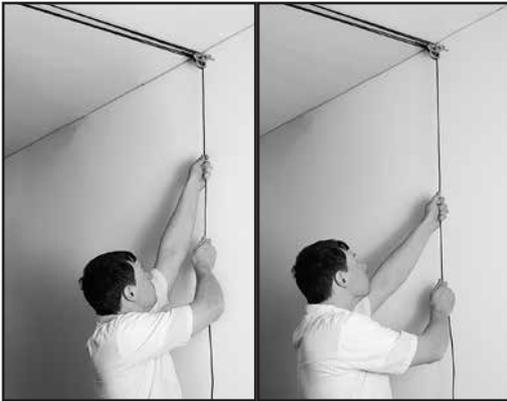
WARNING! Disable garage door opener when installing, raising, or lowering the Hoister. Do not raise or lower with anyone standing under object. Keep area below Hoister clear. If the load falls it can cause an accident.

A. RAISE OBJECT

Hoist in a series of pulls. Pull single black/red hoisting rope (F) straight down.



WARNING! Do not use this product for human suspension. Components can fail causing person to fall, possibly resulting in serious injury or death.



With rope pointed down, the cleat will lock the rope. Angle to release. Repeat until object is at desired height.

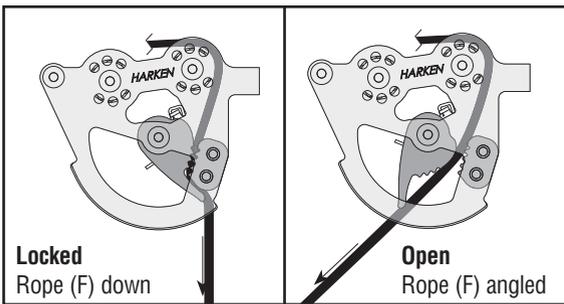


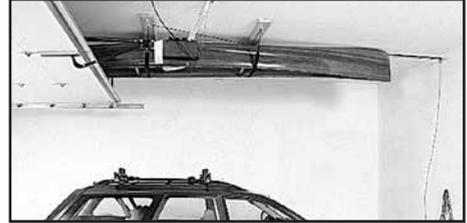
DIAGRAM 30. Locked (left): Single black/red hoisting rope (F) pointed straight down locks cleat. Open (right): Angled rope opens cleat.



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

B. STORE OBJECT

With object in raised position, make sure single black/red hoisting rope (F) is securely locked in cleat with rope pointed down (Diagram 21). Coil loose rope end.

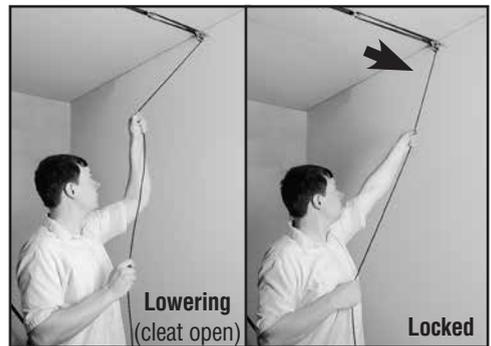


WARNING! Hang coiled rope where it will not accidentally snag on persons or vehicle. Keep coiled rope out of reach of children. Damage or injury can result if rope is angled away from wall with some tension; the object can come down very quickly and cause an accident.

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

C. LOWER OBJECT

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



WARNING! When operating system, make sure area below object is clear of persons. If object comes down too quickly, this can cause an accident.

Tip: Use gloves to protect hands.



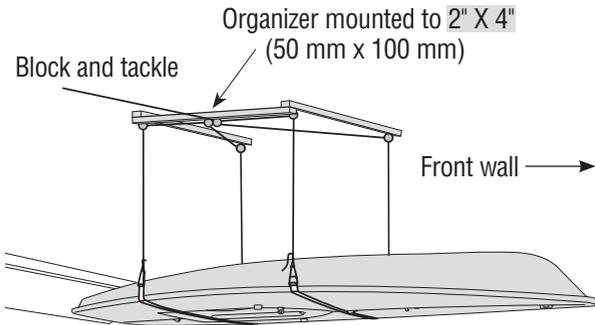
CAUTION! Avoid injury, do not let rope slip through hands. Angle rope to wall to lock rope.

APPENDIX

BLOCK AND TACKLE RUNNING TO SIDE WALL

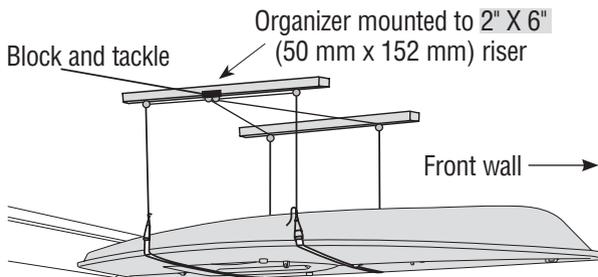
Rafters running front-to-back

Lead block and tackle at 90 degrees to a conventional direction.



Mount pigtail lag screws to 2" X 6" (50 mm x 152 mm) mounting boards similar to Diagram 16 (page 13), except block and tackle goes to side wall of garage. Use a 2" X 4" (50 mm x 100 mm) as shown to mount the organizer.

Rafters running sideways



Use 2" X 6" (50 mm x 152 mm) mounting boards. Mount the organizer on a 2" X 6" X 7" (50 mm x 152 mm x 180 mm) riser board.

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 recommendations 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 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.

