

OTIS - 2:1 RE-ROPING CLAMP

Part No. 60-10085882

INSTALLATION INSTRUCTIONS

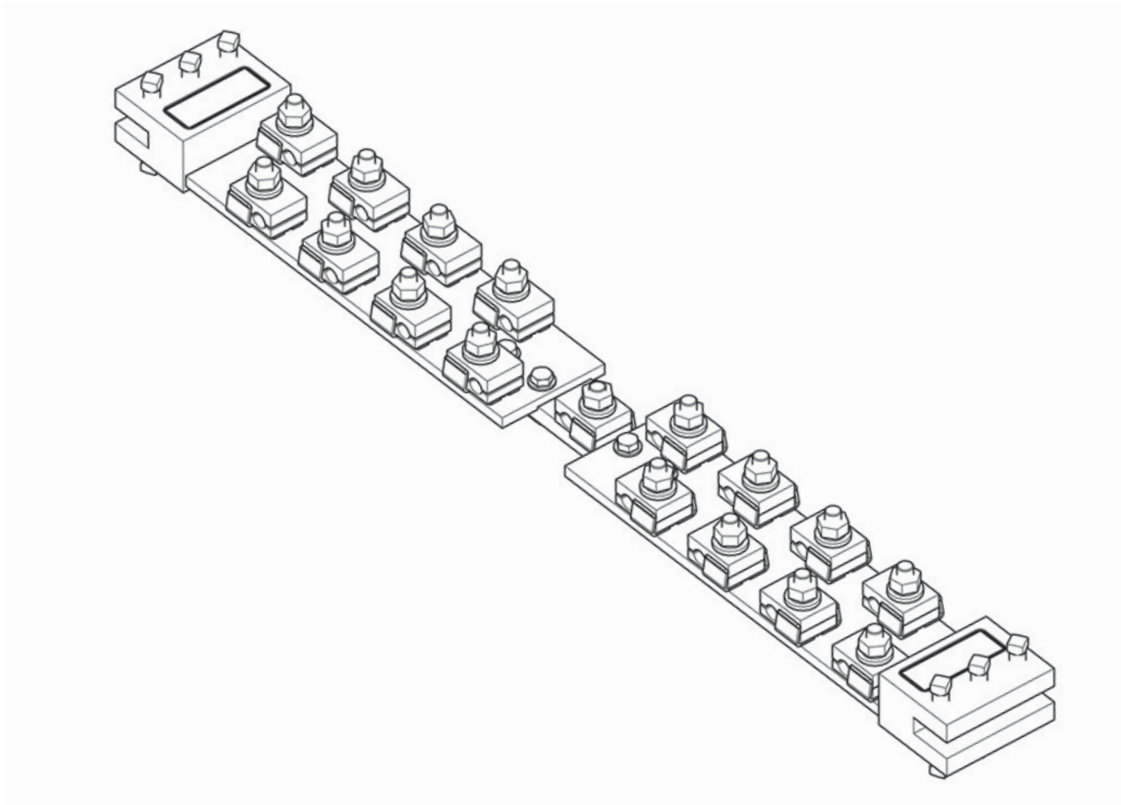


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PRODUCT INFORMATION & SAFETY WARNINGS

PRODUCT WARRANTY & INFORMATION



Scan the QR code to view detailed warranty information at wurtec.com. For questions or product support, contact Wurtec Customer Service at 1-800-837-1066. If a Declaration of Conformity is available for this product, it can be downloaded from its product page on wurtec.com.

EQUIPMENT DESCRIPTION & INTENDED USE

Wurtec's 2:1 Re-Roping Tool is purpose-built for technicians working on dual-roping (2:1) counterweighted elevator systems. Designed for direct-to-rail mounting with heavy-duty clamps, it holds up to 8 ropes per side and supports rope sizes from 5/16" to 3/4". The tool features integrated anti-rotation clips to keep wire ropes aligned and moving freely, reducing binding and improving safety. With a 750 lb capacity and compatibility with 5/8" and 3/4" rails, it easily adjusts to DBG ranges from 45.5" to 70.5", offering a smarter, more efficient solution for demanding re-roping jobs.

WARNING

FAILURE TO COMPLY WITH THE FOLLOWING GUIDELINES COULD RESULT IN DEATH OR SERIOUS INJURY

EXCLUSION OF LIABILITY

This equipment should only be installed and serviced by trained personnel. This manual is intended as a guide only and is not a substitute for formal training; it may not cover every scenario or condition of use. Wurtec reserves the right to change product design and specifications without notice. Always use standard PPE, including safety glasses, gloves, boots, a hard hat, and fall protection.

RAIL BLOCK Guidelines:

- Set Screw Torque: Torque all set screws to 70 ft-lbs. **DO NOT OVERTIGHTEN.**
- Set Screw Replacement: Wurtec recommends replacing the rail block set screws after each use. Replacement Part Number: 26159.
- Compatible Rails Only: Use the Rail Block only with 5/8" (16 mm) and 3/4" (19 mm) rails, including: T70, T89, T114, T127-1, T127-2, and T140-1.
- Proper Seating Required: Ensure the rail blocks are fully and securely seated against the rail before tightening the set screws.
- Warning Labels: If any warning labels are missing or damaged, **DO NOT USE** the tool.

CABLE CLIP Guidelines:

- Working Load Limit: Maximum load is 750 lbs (340 kg). **DO NOT OVERLOAD.**
- Rope Clamp Torque: Torque each rope clamp bolt to 120 ft-lbs. **DO NOT OVERTIGHTEN.**
- Center DBG Bolt Torque: Torque the center DBG width bolt to 70 ft-lbs. **DO NOT OVERTIGHTEN.**
- Inspect Grooves: Cable clips use a coarse, grooved surface to grip the wire ropes. Do not use clips with worn, smooth, or damaged grooves. Replace immediately. Using worn clips can lead to loss of grip and uncontrolled descent.
- Warning Labels: If any warning labels are missing or damaged, **DO NOT USE** the tool.

REQUIRED TOOLS

The following are the minimum required tools for installation:

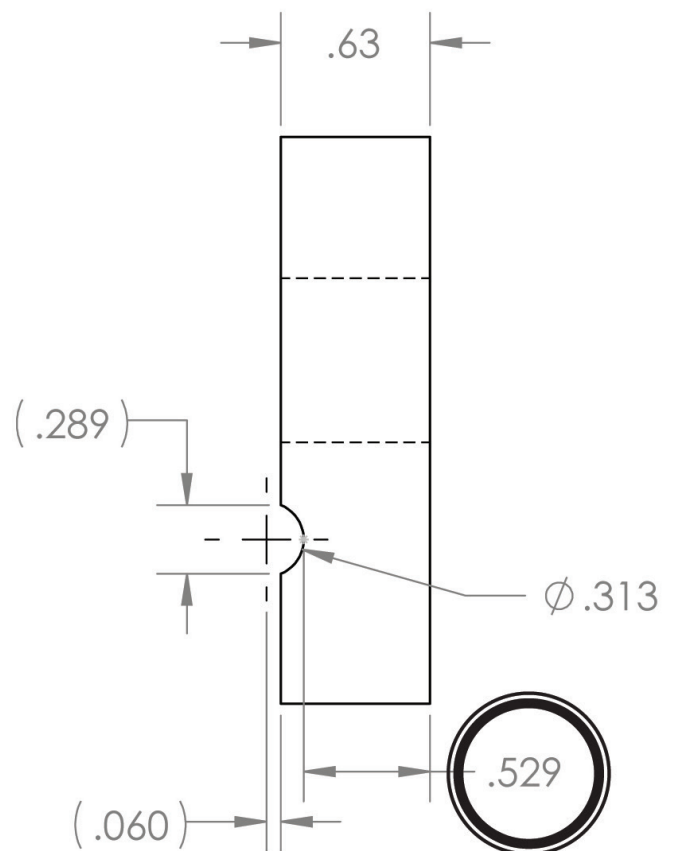
- Torque wrench
- 5/8" 12-point socket
- 1-1/16" socket
- Ratchet
- 3/4" socket

MAINTENANCE

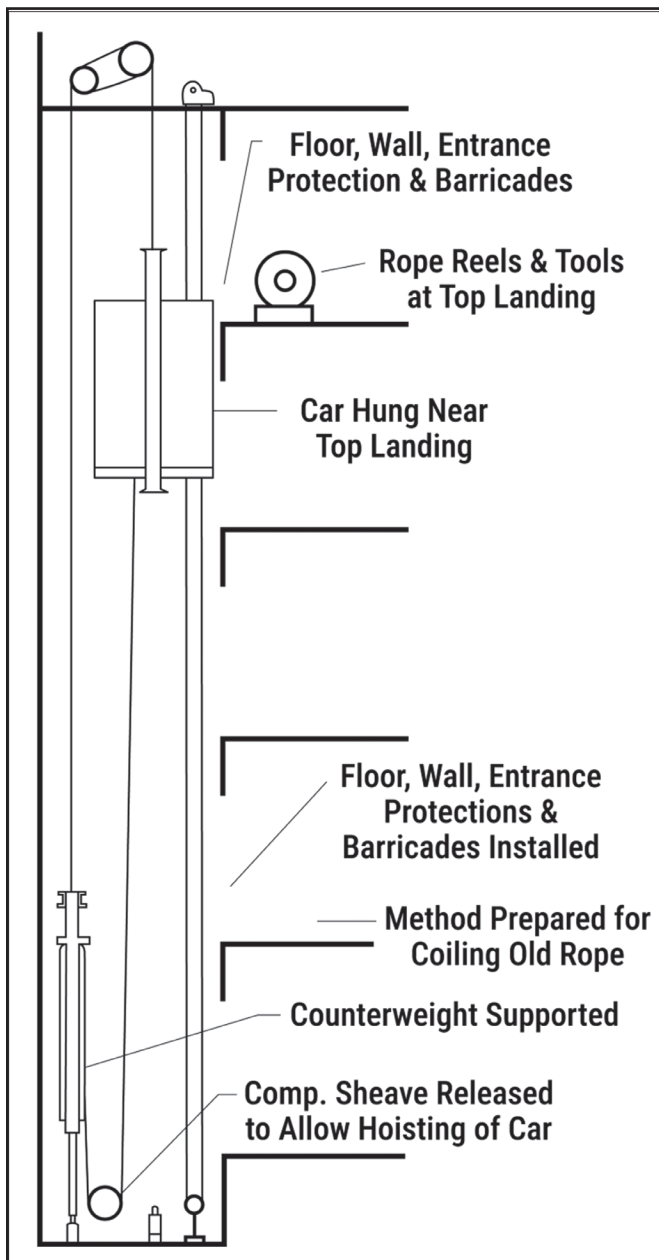
Assy	Clamps	Replace (in : mm)	
60-800-03	60-10048536	0.509	12.93
	60-10048538	0.284	7.44
60-800-04	60-10048573	0.478	12.14
	60-10048574	0.253	6.43
60-800-05	60-10048562	0.461	11.71
	60-10048563	0.236	5.99
60-800-06	60-10048533	0.430	10.92
	60-10048534	0.205	5.21
60-800-08	60-10048565	0.414	10.52
	60-10048566	0.189	4.80
60-800-09	60-10048582	0.383	9.73
	60-10048583	0.158	4.01
60-800-10	60-10048585	0.366	9.30
	60-10048586	0.141	3.58
60-800-11	60-10048605	0.335	8.51
	60-10048606	0.110	2.79

Replace the clamp halves when their measured thickness is below the value specified in the table. The circled dimension in the graphic identifies the measurement to check.

For each clamp assembly, the first clamp part number is the top half and the second clamp part number is the bottom half.



PREPARATION



Step 1: Position Car and Counterweight

- The 2:1 method is performed with the car at the top of the hoistway and the counterweight near the pit.
- Two positioning options: car top near level with the top landing or cab near level with the top landing.

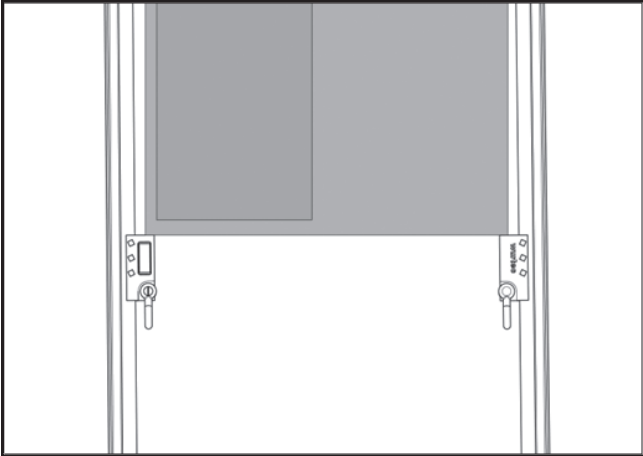
Step 2: Calculate Rope Stretch and Prepare for Hoisting

- Perform rope stretch calculations.
- If there is rope compensation, release the compensation shippers wheel to allow lifting of the car.

Step 3: Install Protection, Lock Out Power, and Prepare Lubrication Device

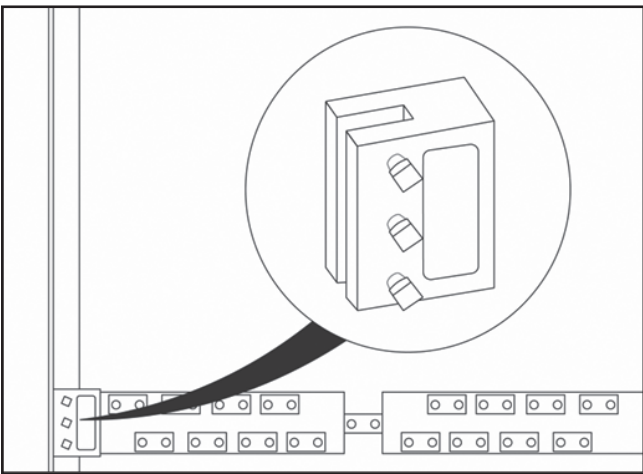
- Install floor, wall, and entrance protections at counterweight level as necessary.
- Lock out and tag the main line switch.
- If a lubrication device is installed, adjust or move it to provide clearance for ropes during re-ropeing.
- If none is present, have one available for installation after re-ropeing.

INSTALLATION



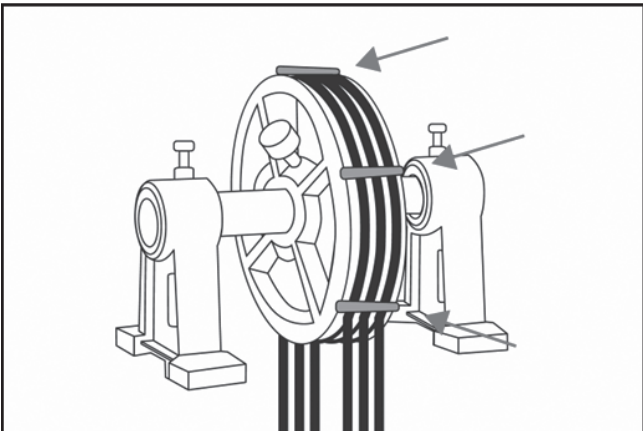
Step 4: Mark Rails and Secure Car

- Mark car rails for calculated stretch allowance.
- Hang the car using rigging supports.
- Set the safeties in addition to rigging supports (for all safeties except wedge clamp type).



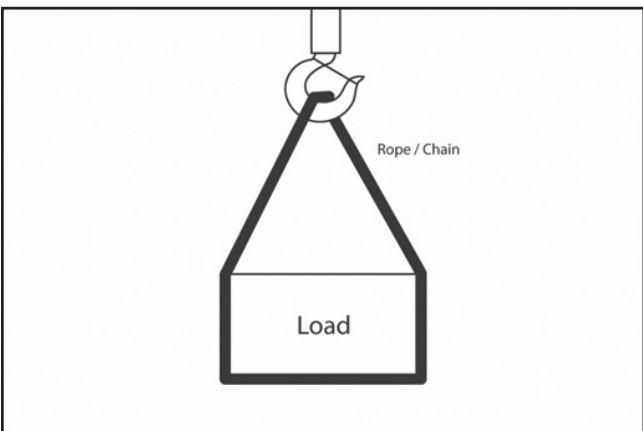
Step 5: Attach 2:1 Roping Tool and Shippers Wheel

- From the shippers wheel, install the 2:1 rope holdback (p/n 60-10085882) on the counterweight rails.
- Loosen all bolts, seat the first rail block on the rail, and torque set screws to 70 ft-lbs.
- Extend the clamp to the opposite rail, align rope clips with the ropes, and seat the second rail block.
- NOTE: Spreader bar should be centered between the rails.
- Torque all bolts to 70 ft-lbs.
- Install the shippers wheel on the counterweight rails as shown in the product diagram.



Step 6: Remove Rope Guards

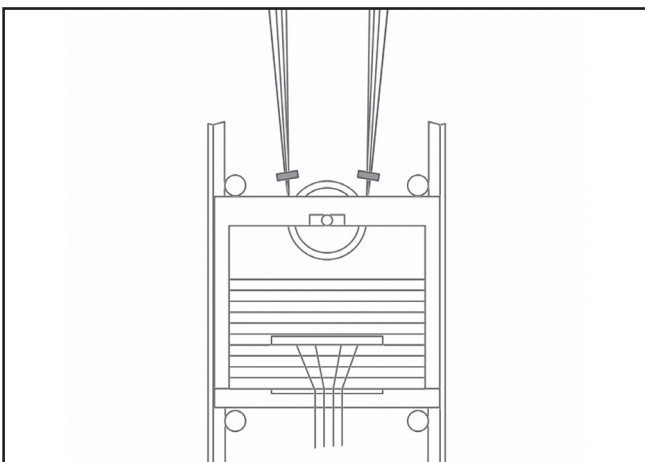
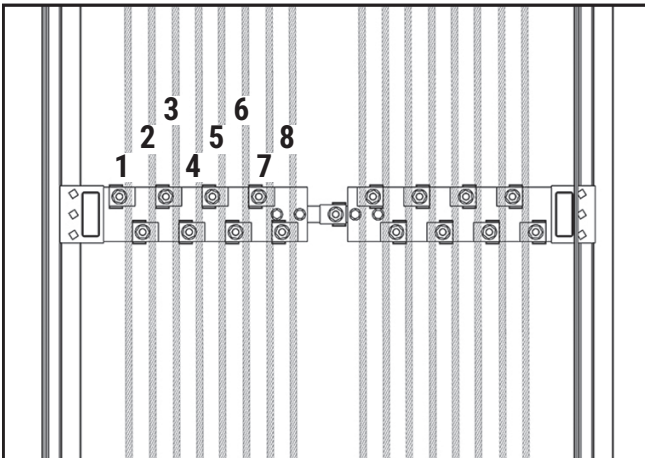
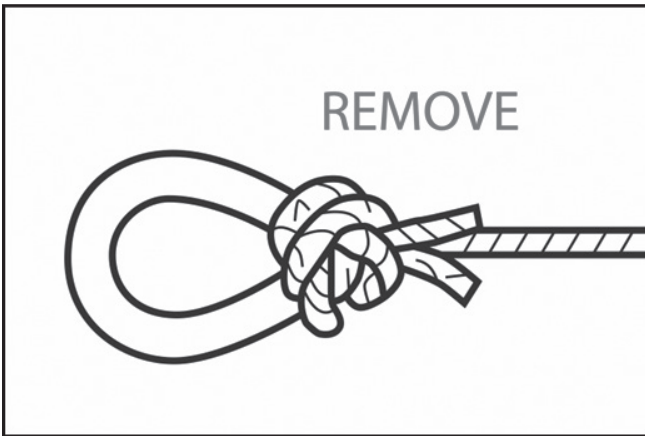
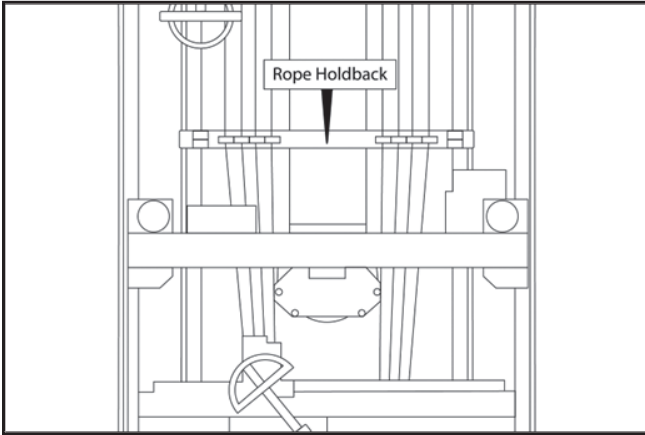
- Remove rope guards from the machine sheave, top of car sheave, and counterweight shippers wheel (if applicable).



Step 7: Check Compensation Readiness

- Confirm that chain or rope compensation has been prepared for car hoisting.

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Step 8: Clamp Counterweight Ropes in 2:1 Holdback

- Lift the car just enough to slacken ropes slightly.
- Clamp the counterweight ropes in the 2:1 holdback clamps so only rope weight is carried by the holdback.
- NOTE: This tool is designed to lift only 1 rope at a time. Exceeding this capacity may cause the tool to fail under excessive load.

Step 9: Remove Shackle Lacing

- Remove shackle lacing from both dead-end hitches.
- If a ladder is required, secure it properly and use fall protection.

NOTICE

Stand clear of lines and people. Untie or cut lacing carefully – ropes under tension can spin, snap, or whip when released.

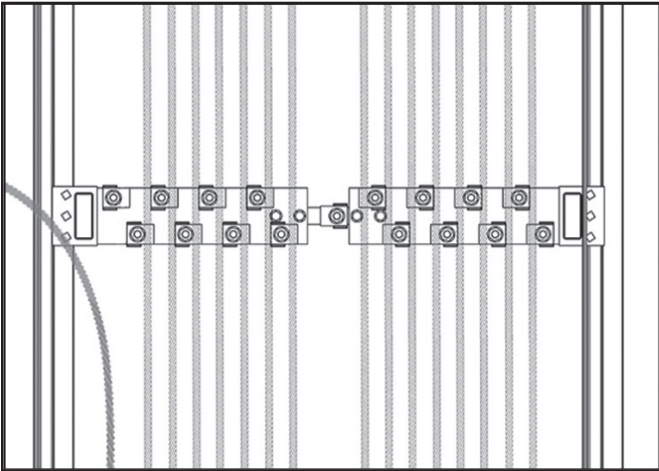
Step 10: Number and Verify Rope Order

- Assign a number to each rope clamped in one side of the 2:1 fixture.
- Mark rope numbers near ropes using a paint pen or equal.
- With a helper at machine room level and a mechanic on the car top, tap ropes to confirm position and ensure none are crossed.
- Mark both dead-end hitch plates, the car crosshead, and 2:1 clamp fixture with rope numbers.
- Also mark the hoistway wall for rope reference when looking up to the hitch plate.

Step 11: Install Rope Spreaders

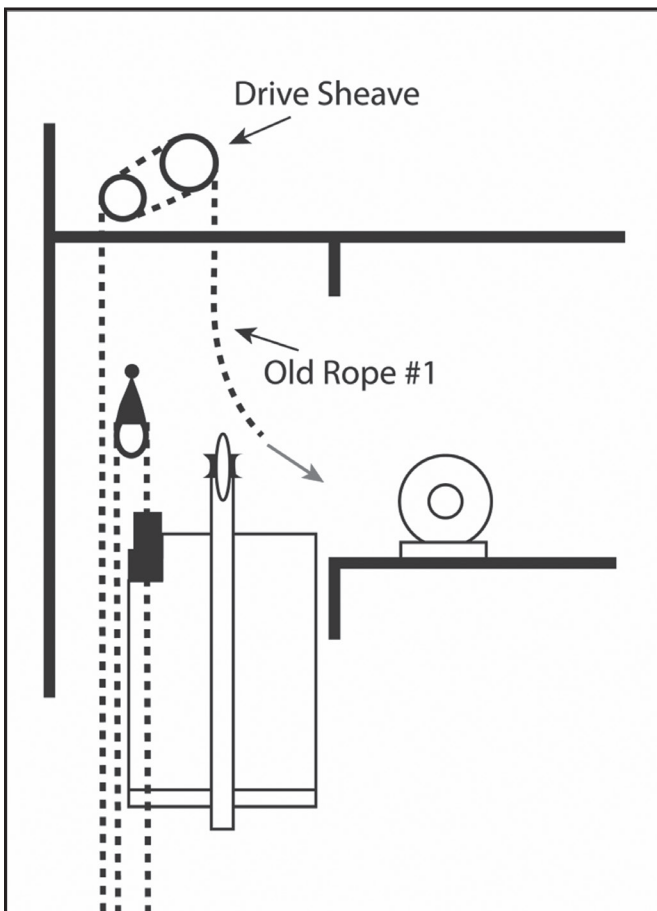
- Access the counterweight shippers wheel and install rope spreaders as necessary, leading in and out of the counterweight shippers wheel rope guards to allow clearance for rope marriages.

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Step 12: Remove Rope Shackle

- Remove rope #1 shackle from both dead-end hitches and lower to the car top.
- NOTE: Only loosen one rope at a time
- If overhead access is limited, use leader rope methods to lower shackles to the car top.
- Wrap the rope with fiber tape or equal and cut at the shackle.



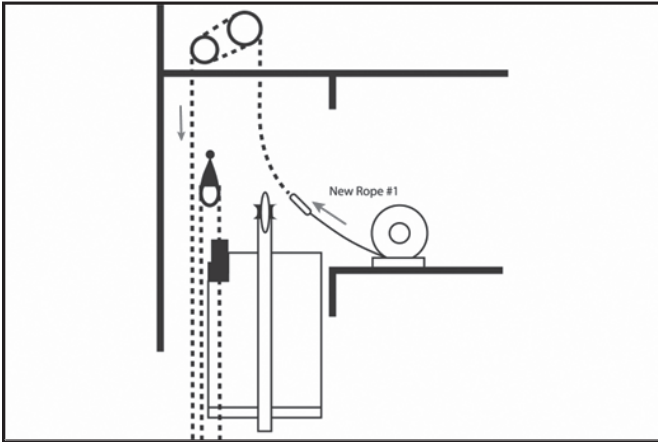
Step 13: Prepare Rope #1 for Marriage

- Pull old rope #1 out of the drive shippers wheel groove and lay it between two other ropes on the shippers wheel.
- Marry the car dead-end hitch side of old rope #1 to new rope #1 on the reel.
- On the counterweight dead-end hitch side of old rope #1, run over the shippers wheel and attach a weight (approx. 25-100 lbs., depending on rise and rope diameter) or use a manila rope guide.

Step 14: Prepare Rope Coiling Area

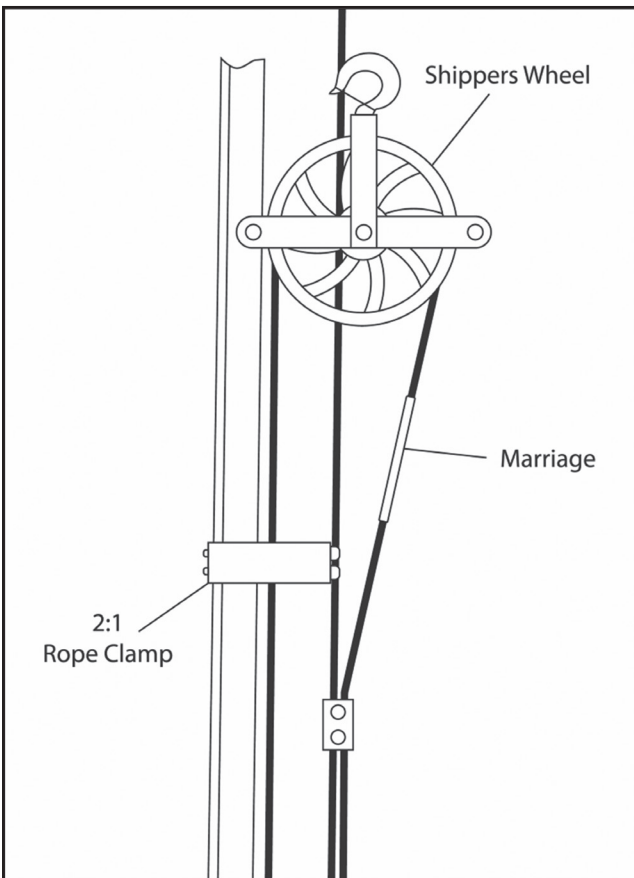
- Prepare a method for coiling old rope at the counterweight level.

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Step 15: Feed and Pull Rope #1

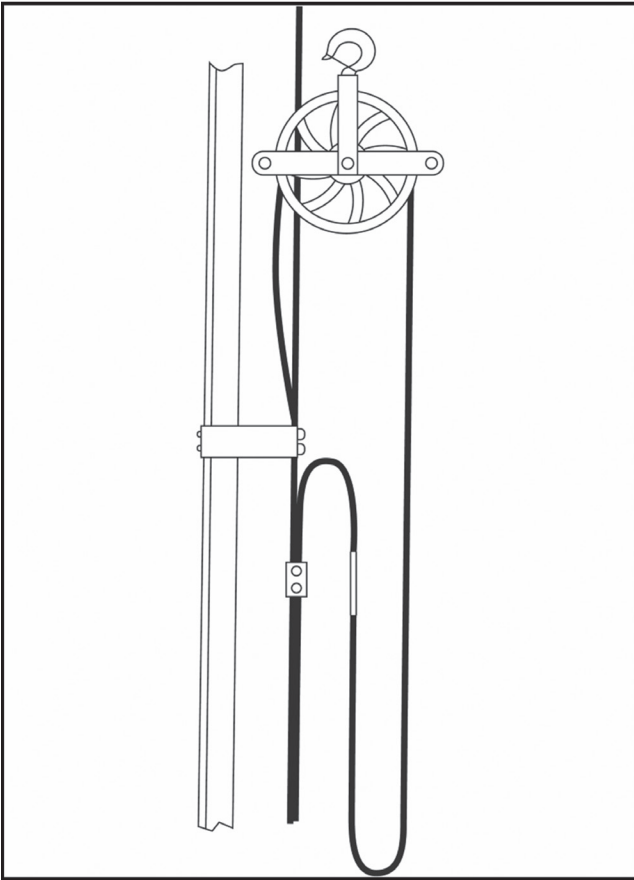
- With one person at the new rope spool, one at the shippers wheel, and one at counterweight level, release old rope #1 from the 2:1 clamp.
- Pull the weighted end down to the counterweight while feeding in new rope #1 from the bottom of the spool.
- Ensure rope does not travel behind hoistway equipment.
- NOTE: Always check rope tension before unclamping. Never release rope unless its weight is supported by hand.



Step 16: Disconnect Weight and Continue Feed

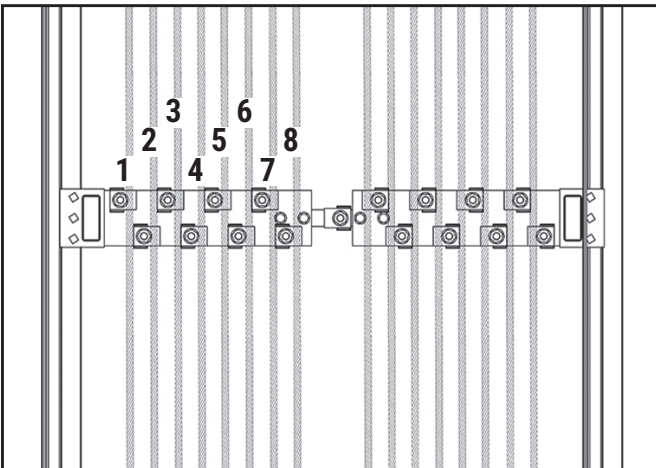
- When rope reaches the counterweight, disconnect the weight and coil the old rope.
- Continue feeding until the marriage passes over the shippers wheel.
- Clamp old rope #1 below the marriage to the old rope #2 leading down the hoistway.

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Step 17: Clamp and Cut Rope #1

- Pull enough extra rope over the shippers wheel to reach up to the counterweight dead-end hitch plate and back to the top of the car.
- Clamp new rope #1 in the 2:1 clamp.
- Once rope #1 is fully reconnected, disconnect the marriage and cut new rope #1 at the reel with enough slack to reach the car dead-end hitch and back to the top of the car.



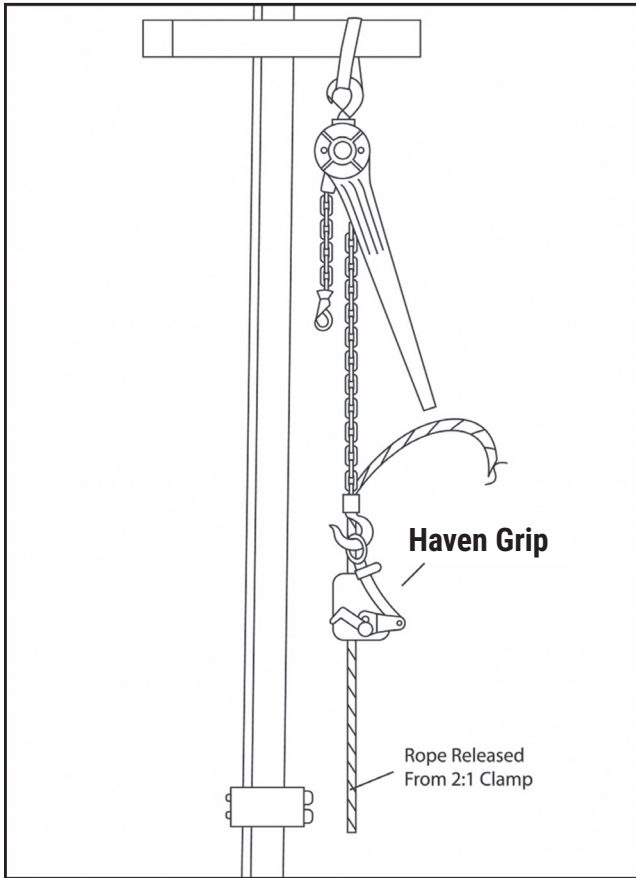
Step 18: Install New Ropes in Car Dead-End Hitch Plate

- Install new ropes according to earlier rope numbers.
- Remove slack and install all hardware, including cotter pins.
- Torque double nuts to 100–125 ft-lbs.

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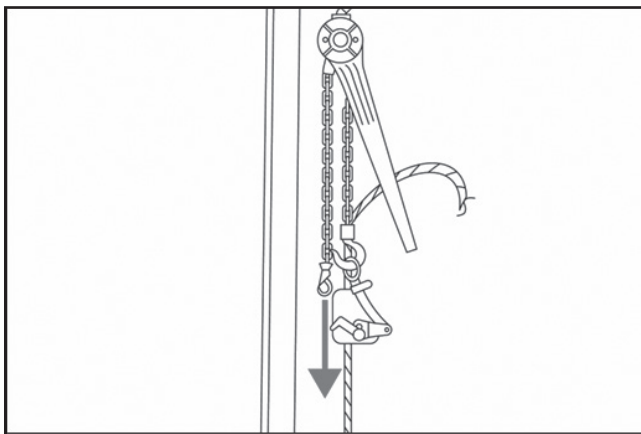
Step 19: Use Haven Grip Clamp and Chain Hoist

- Set up Haven's Grip Clamp and $\frac{3}{4}$ -ton chain hoist to pull counterweight dead-end side rope up.
- Clamp rope #1 in the Haven's Grip and release from 2:1 clamp.
- NOTE: Clean rope before clamping and test grip before release.



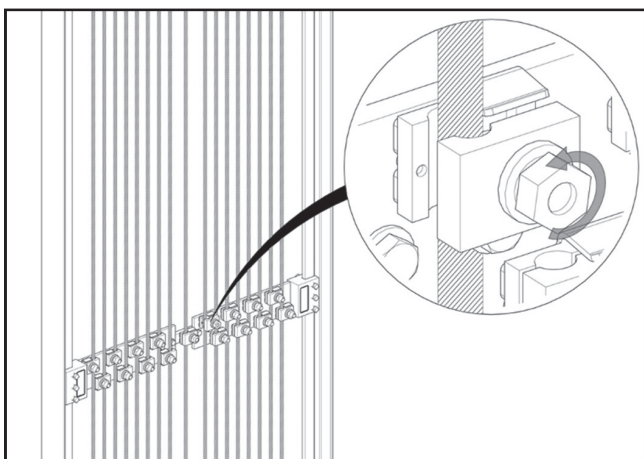
Step 20: Measure and Cut Rope for Counterweight Shackle

- Use chain hoist to remove slack and ensure rope is seated in shippers wheel grooves.
- Measure rope length from 2:1 clamp to counterweight hitch plate, marking with tape.
- Cut rope at the reel with extra length beyond tape mark.
- Install rope in the shackle so the tape mark aligns with the proper position.

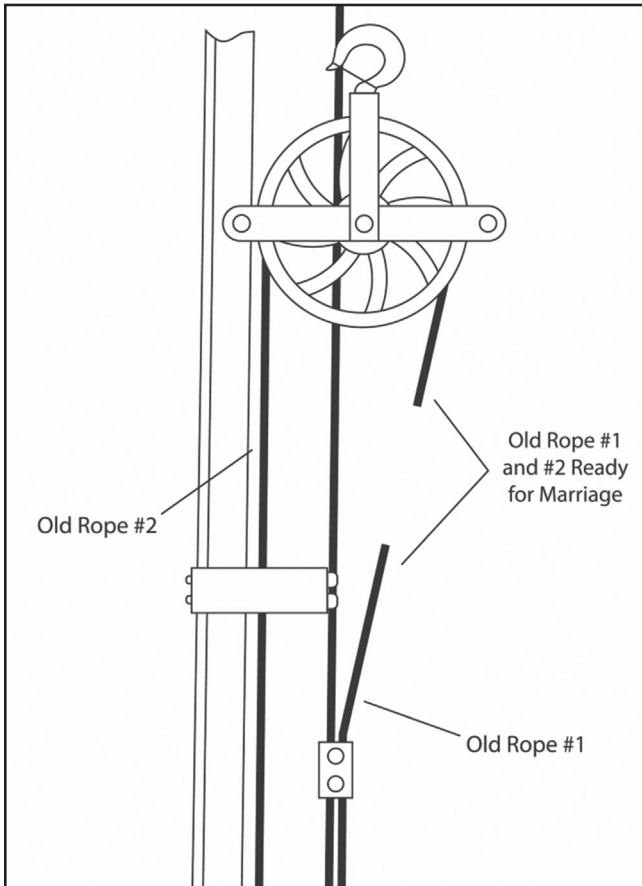


Step 21: Install Ropes in Counterweight Hitch Plate

- Install rope #1 and shackle in the counterweight dead-end hitch plate according to rope numbers.
- Remove slack, lock double nuts, and install cotter pins.
- Torque to 100–125 ft-lbs.
- Verify double nuts are torqued and cotter pins installed before moving the car.

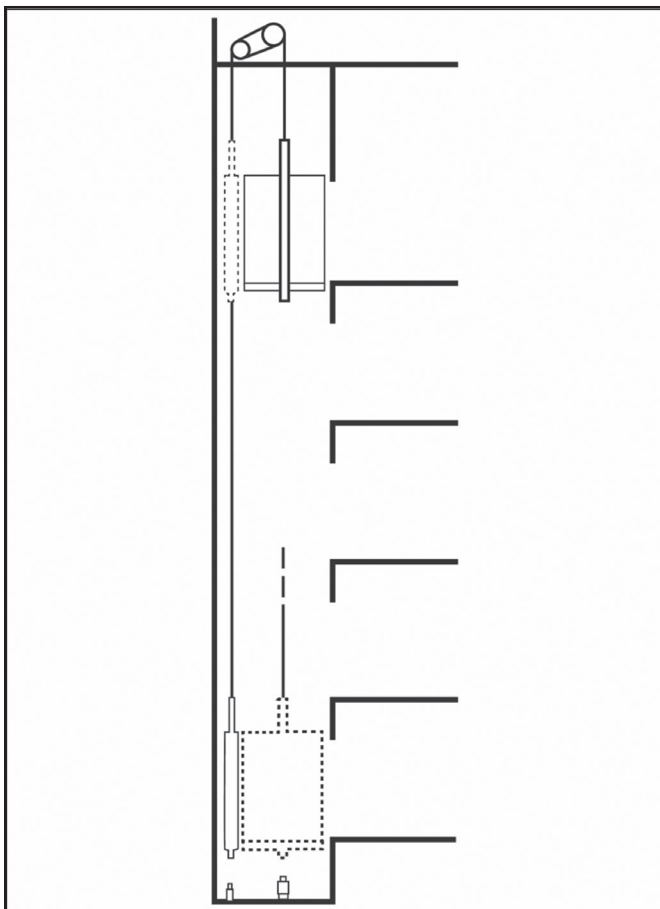


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Step 22: Rope Replacement Sequence

- Remove rope #2 from the dead end hitches.
- Loop the counterweight dead-end side of old rope #2 over the shippers wheel and marry it to the car dead-end side of old rope #1.
- Marry new rope #2 to the car dead-end side of old rope #2.
- Release old rope #2 from the 2:1 clamp and old rope #1 from old rope #2.
- Pull old rope #2 and the remainder of old rope #1 to counterweight level.
- Repeat steps 13-21 one rope at a time until all ropes are replaced.



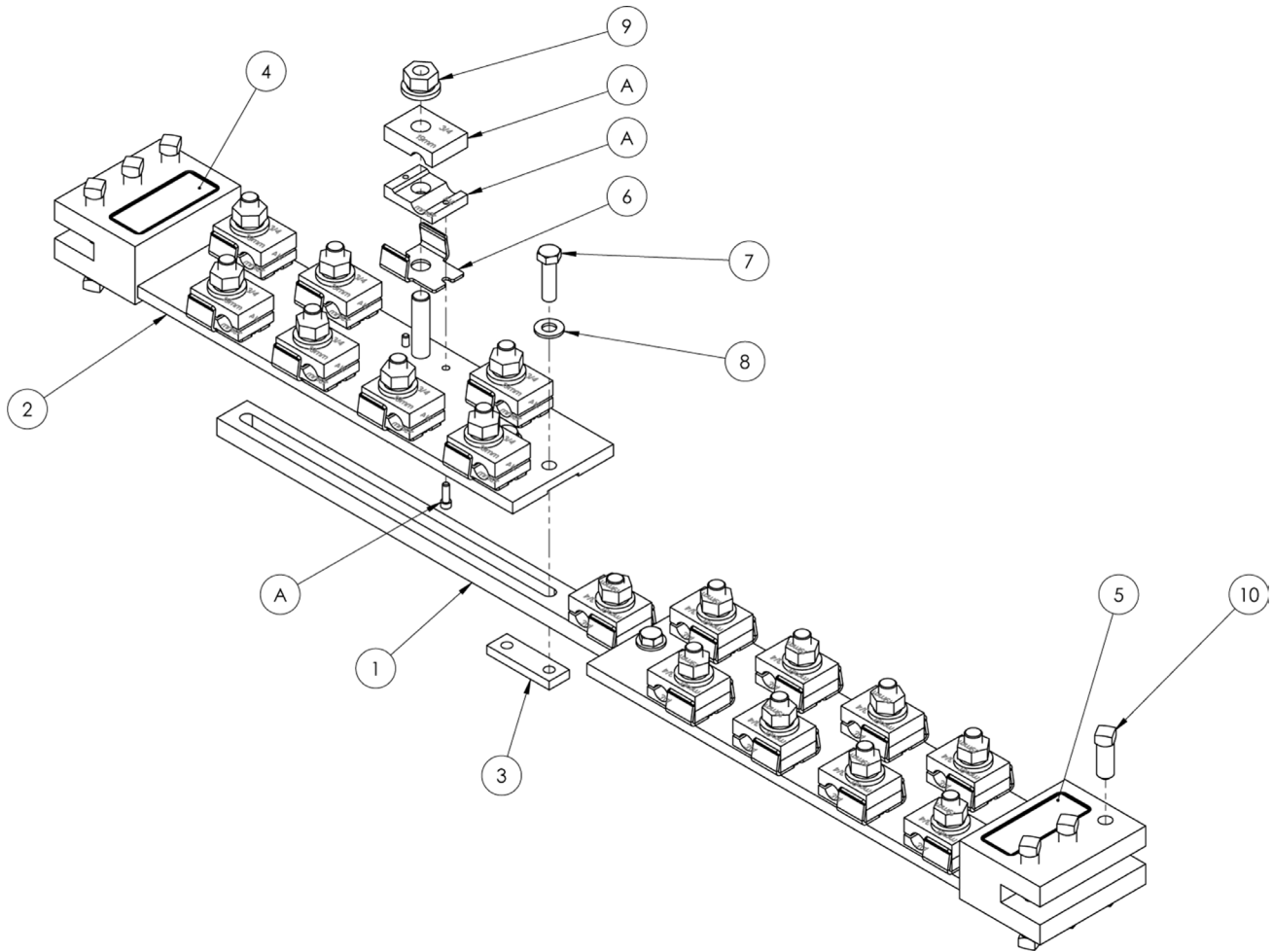
Step 23: Remove Clamps, Verify Position, and Reset Safety

- Remove all clamps and rigging from the hoistway.
- Check that all ropes are correctly positioned on shippers wheels.
- Reset the governor and safety.

Step 24: Lower Car and Remove Counterweight Blocking

- Lower the car back onto the ropes.
- Run the car down slightly and remove blocking from the counterweight at pit level.

BILL OF MATERIALS



Item	Qty	Part No.	Description	Size	Length
1	1	60-10085879	SPANNER PLATE ASSY	-	-
2	2	60-10073120	2:1 EXTENSION	-	-
3	2	60-10085880	SLIDER TAPPED PLATE	-	-
4	1	60-10075543	SLIDING REROPING TOOL CLAMP TORQUE	-	-
5	1	60-10075540	SLIDING REROPING TOOL RAIL SIZE TAG	-	-
6	17	60-10082298	CLIP, ANTI-ROTATION	-	-
7	4	10064951-894	HEX HEAD CAP SCREW	1/2-13	1 3/4 In
8	4	33086	FLATWASHER	1/2"	-
9	17	10066931	5/8-11 X 1-3/8 BLACK OXIDE, UNC FLANGE NUT, 12L14	5/8-11	-
10	12	26159	SQUARE HEAD SET SCREW	5/8-11	1 1/2 In