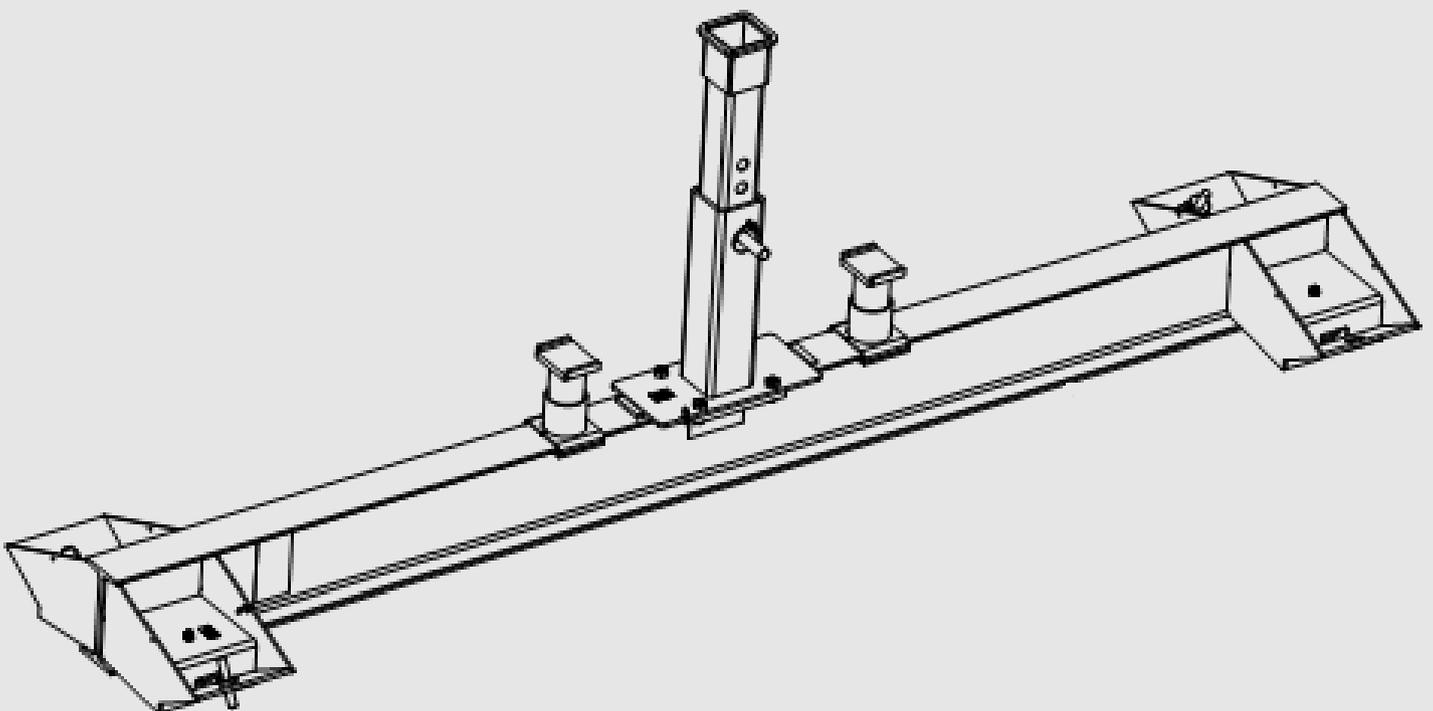


MAHLE CAD-120ML

EN

Operation Manual
CML Trailer King
Pin Adapter





**EVERY PERSON WHO OPERATES THIS
EQUIPMENT NEEDS TO KNOW AND
UNDERSTAND ALL OF THE INFORMATION IN
THIS MANUAL – FAILURE TO DO SO COULD
RESULT IN SERIOUS INJURY OR DEATH.**

**READ THIS MANUAL
CAREFULLY AND
RETAIN FOR YOUR
RECORDS**

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1. Safety Regulations

1.1 Warnings

The optional Crossbeam Adapter is designed to be used in conjunction with the manufacturer's lift system to raise a vehicle by contacting the frame.

- ⚠ USE ONLY one crossbeam adapter in conjunction with a set of (4) lift units.** The crossbeam adapter must be positioned directly behind the rear axle and centered side-to-side with clear access to the vehicle's frame. Use of multiple crossbeam adapters on a single vehicle can cause instability of the vehicle, difficulty maintaining the vehicle level, and unexpected slippage of the vehicle.
- ⚠ The crossbeam adapter shall NEVER be used in any configuration other than a set of (4) lift units with (2) lift units cradling the wheels on the front axle and (2) lift units engaging the crossbeam adapter.**
- ⚠ DO NOT exceed the rated capacity.**
- ⚠ USE ONLY on a hard level surface** capable of sustaining the load.
- ⚠ DO NOT use attachments or cribbing devices to increase the start height** unless they are supplied by the manufacturer of this device.
- ⚠ NO alterations shall be made to this device.**
- ⚠ ONLY use this adapter with a lift system for which it is intended.** It is designed specifically for use with the lift system supplied by the manufacturer.
- ⚠ ALWAYS follow the owner's manual supplied with the lift system when operating the lift system.** If you need a copy of the owner's manual as supplied with the lift system, contact the manufacturer of the lift system.

Failure to heed these warnings can result in personal injury and/or property damage.

2. Foreword

2.1 From the manufacturer

Thank you for your purchase. To complement the offering of A/C, fluid and nitrogen service equipment, MAHLE Service Solutions has partnered with Gray Manufacturing to provide the highest quality hydraulic and pneumatic equipment available for the professional service technician. This equipment adheres to high standards promised in the MAHLE guarantee including the assurance of innovation and reliability that comes with the Gray Manufacturing name. Please contact MAHLE Service Solutions' customer service at (800) 468-2321 or tech.mss@us.mahle.com with any comments or questions.

3. Symbols Use

3.1 Signal words

Signal words call attention to a safety message or messages, or a property damage message or messages, and designate a degree or level of hazard seriousness. Signal words used in this manual include:

Keyword	Probability of occurrence	Severity of danger if instructions not observed
DANGER	Immediate impending danger	Death or severe injury.
WARNING	Possible impending danger	Death or severe injury
CAUTION	Possible dangerous situation	Minor injury
NOTICE	Possible damage to property	Possible property damage

4. Responsibilities

4.1 Receiving inspection

Before attempting to operate this equipment, thoroughly read and understand this manual. Completely remove all tape and packaging. Inspect the equipment immediately upon delivery. If shipping damage is evident, inform the delivering carrier immediately and contact the manufacturer using the contact information on the back cover of this manual.

4.2 Owner and/or operator responsibilities

The owner of this equipment must read these instructions and maintain them for future reference and for instructing any other users of the equipment. The owner is responsible for keeping all warning labels and instruction manuals legible and intact. Replacement labels and literature are available from the manufacturer. The owner must never authorize or allow anyone to use this equipment until the operator has read and understood the information in this manual and on the accompanying labeling on the equipment itself.

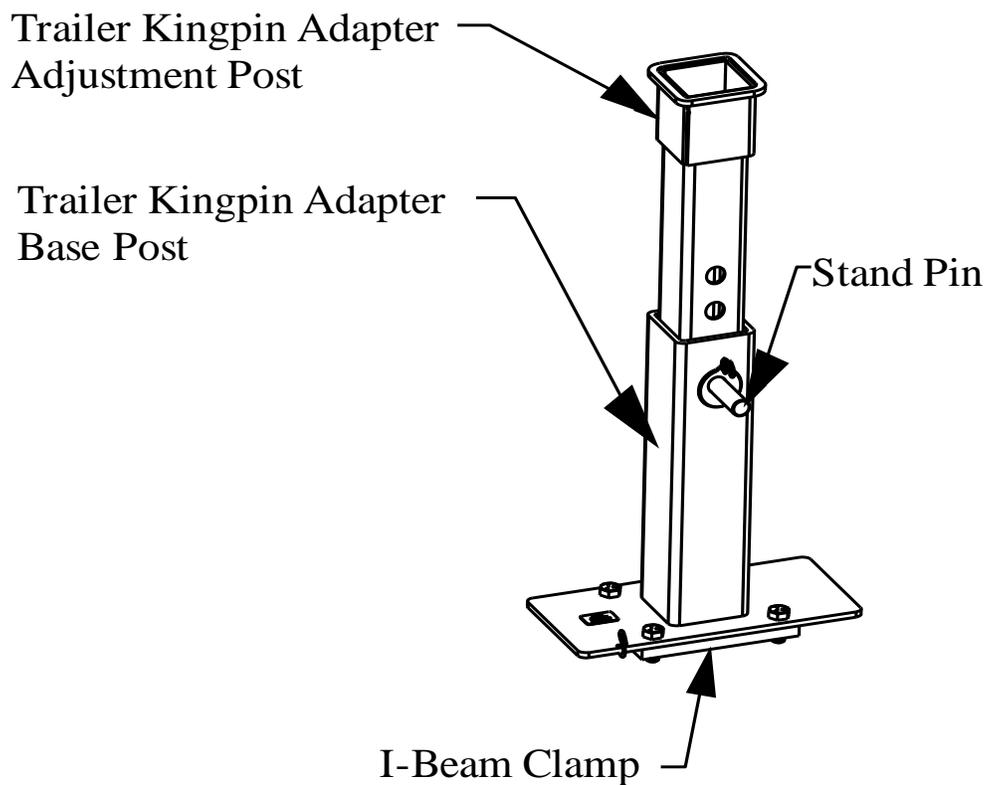
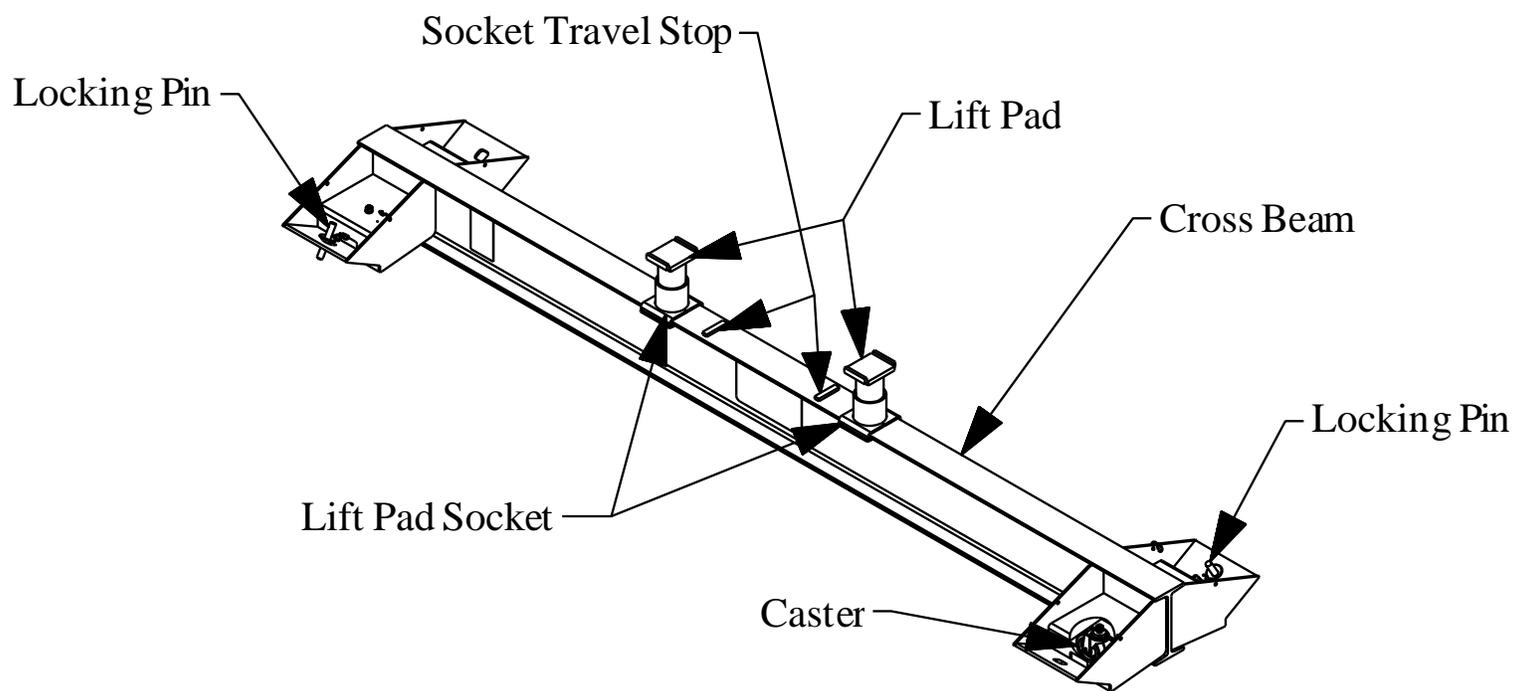
If this equipment is being used in an occupational setting (or workplace), the employer should ensure that all personnel working with and around the equipment know of the risks associated with its use. Personnel involved in the use and operation of this equipment shall be careful, competent, trained, and qualified in the safe operation of the equipment and its proper use when servicing motor vehicles and their components. Safety information provided with this equipment should be emphasized by the employer and understood by each employee. The employer must make this manual available to all personnel using this equipment and all personnel must read and understand the contents of this manual. If the operator is not fluent in English, the manufacturer's instructions and warnings shall be read to and discussed with the operator in the operator's native language by the employer, making sure that the operator comprehends its contents and observes the proper procedures for use of this equipment.

5. Specifications

5.1 CAD-120ML

Model CAD-120ML	US units	Metric units
Maximum capacity	32,000 lb.	14,515 kg.
Overall length	137 in	348 cm
Overall Width	31.5 in	80 cm
Minimum Starting Height	19 in	48.3 cm
Height from Top Beam to Lift Pad	8.1 in	20.6 cm
Lift Pad Size	4.0 in X 4.5 in	10.1 cm X 11.4 cm
Lift Pad Rotation	360°	360°
Minimum Lift Pad Spread-Center to Center	25 in	63.5 cm
Maximum Lift Pad Spread-Center to Center	109.5 in	278.3 cm
Ground Clearance	0.9 in	2.3 cm
Caster Diameter	4 in	10.1 cm
Weight	560 lb.	254 kg.

6. Component Identification



7. Operating Instructions

1. Begin by rolling the crossbeam adapter into position behind the rear axle of the vehicle, ensuring that the crossbeam adapter is centered side-to-side and that there is clear access to the vehicle's frame. The crossbeam adapter is equipped with 4 swivel casters for portability. **WARNING!** ALWAYS place the crossbeam adapter behind the rear axle across the vehicle's chassis, parallel to the axis of the axle. NEVER attempt to use the crossbeam adapter on only one side of the vehicle, perpendicular to the axis of the axle.
2. Place the lift pads into position for frame contact. Rotate the lift pads so the vehicle frame contacts the wide flat top of the lift pad and not the raised "ear" portion. A long-handled tool can be used to assist in positioning the lift pads. **WARNING!** The lift pads must be positioned so both pads properly engage the vehicle frame, or a vehicle manufacturer approved lifting point. Failure to lift by the frame or a vehicle manufacturer approved lifting point could result in loss of load and damage to the vehicle. Contacting the vehicle with any part of the crossbeam adapter other than the lift pads could result in loss of load and vehicle damage.
3. Position a lift unit at each end of the crossbeam adapter. Roll the lifts into place under the crossbeam adapter so the adapter fully engages the lift unit's forks. Then, secure the crossbeam adapter to the lift unit's forks using the provided locking pins. The locking pin must pass through the hole in the crossbeam adapter and a hole in the lift unit fork to be properly secured. **WARNING!** ALWAYS ensure that the crossbeam adapter is fully engaged into the lift unit's forks and secured using the provided locking pins. NEVER attempt to use the crossbeam adapter without the forks fully engaged and the crossbeam adapter properly secured.
4. Position the remaining 2 lift units to each cradle a wheel on the front axle of the vehicle. Refer to the owner's manual supplied with the lift system.
5. Turn the main power switch of all 4 lifts to the "Off" position at this time.
6. Release the vehicle's parking brake and place the transmission in neutral at this time.
7. Note: Some models of lift system may have a different setup procedure than is outlined below.
 - See the owner's manual that was supplied with the lift system for more information.
8. Turn on the first lift unit as the master unit and start setting up the lift by opening the lift program and choosing the channel and frequency.
9. Choose 4 as the number of lifts and then choose the Crossbeam Adapter Mode from the operating mode options.
10. Once the first lift unit is setup, turn on the rest of the lift units and finish setting up the lift system. Be sure to accurately pick each lift unit's position relative to the vehicle for proper setup and function. **WARNING!** If the lift unit positions are picked incorrectly, the lift system may raise in an unexpected manner creating an unsafe situation that could lead to serious personal injury and/or property damage. It is critical that the positions are picked correctly so that the lift units holding the crossbeam are the lift units that go through the adapter setup.
11. On one of the lift units holding the crossbeam adapter, push the Adapter Setup button and raise the lifts until they contact the vehicle. Watch the lift units to verify that the lift units holding the crossbeam are the lift units that raise to allow the crossbeam adapter to contact the vehicle. Note: After contacting the vehicle, the lifts should not raise any farther.
12. Ensure that the lift pads straddle and secure the vehicle's frame or lifting point.
13. Raise the vehicle to the desired work height. Pay close attention to how the vehicle reacts when it is lifted off of the ground. If the vehicle shifts, tilts, or rocks, lower the vehicle and reposition the crossbeam adapter lift pads as necessary. If vehicle support stands are to be used, ensure they are intended to be used to fully support the vehicle and follow the operating procedure established in the stands' owner's manual and lower onto the stands.
14. Before lowering the vehicle to the ground, ensure that all obstructions, including tools, equipment, and personnel, are clear of the vehicle. Lower the vehicle using the procedure outlined in the owner's manual supplied with the lift system.
15. Once the vehicle is on the ground the lift system will stop lowering and need to exit the adapter mode before continuing operation. Press the exit

button and continue lowering until the lift units' carriages are fully lowered.

16. Apply the parking brake and place the transmission in gear.
17. Disengage the crossbeam adapter from the lift units by removing the locking pins and remove the lift system and adapter from the vehicle.

8. King Pin Adapter

8.1 Warnings

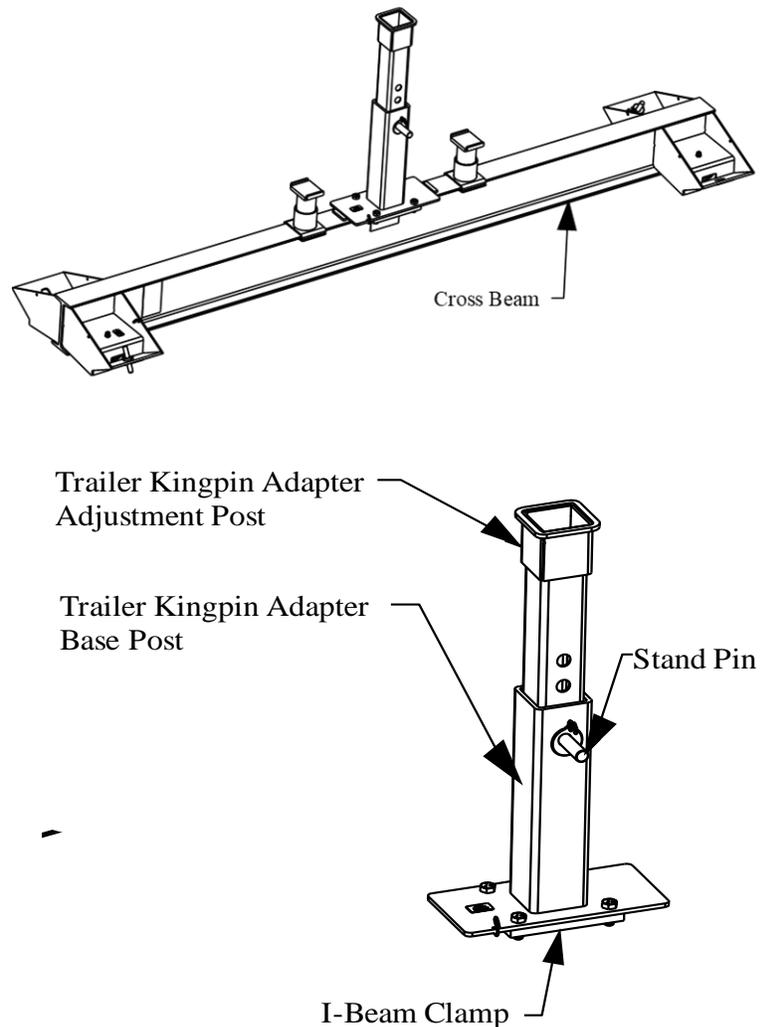
- ⚠ **DO NOT** exceed the rated capacity.
- ⚠ **USE ONLY** on a hard level surface capable of sustaining the load.
- ⚠ **DO NOT** use attachments or cribbing devices to increase the start height unless they are supplied by the manufacturer of this device.
- ⚠ **NO** alterations shall be made to this device.
- ⚠ **ALWAYS** ensure the adapter is fully engaged onto the host device and secured using the provided bolts and I-beam clamps. NEVER attempt to use the adapter without the bolts and I-beam clamps fully tightened.
- ⚠ **USE ONLY** on trailer kingpins for trailers.
- ⚠ **DO NOT** use this adapter to lift and/or support only one end of a trailer. This adapter is intended to be used on a Cross Beam Adapter, in conjunction with a second set of column lifts to raise the trailer in synchronized operation.
- ⚠ **ALWAYS** ensure that all obstructions have been removed from underneath the trailer prior to lowering.
- ⚠ **ALWAYS** follow the owner's manual supplied with the lift system when operating the lift system. If you need a copy of the owner's manual as supplied with the lift system, contact the manufacturer of the lift system.

Failure to heed these warnings can result in personal injury and/or property damage.

8.2 King Pin Adapter Specifications

Model CAD-120ML	US units	Metric units
Maximum capacity	12,000 lb.	5,444 kg
Weight	87 lb.	39.5 kg
Minimum Start Height (On Crossbeam Adapter)	40.75 in	103.5 cm
Maximum Start Height (On Crossbeam Adapter)	47.75 in	121.3 cm

8.3 Component Identification



8.4 Operation Instructions

1. Securely attach Trailer Kingpin Adapter between the Socket Travel Stops on the Crossbeam Adapter, using provided bolts and I-beam clamps.
2. Refer to Cross Beam Operation Instructions for correct positioning and operating procedures of adapter and lift units.

8.5 Maintenance Instructions

1. The following list describes the maintenance that should be performed on the crossbeam adapter at least monthly.
2. Check that all placards are clean and legible. Use a mild soap and water solution to clean the placards if dirty. Replace any missing or damaged placards by contacting the manufacturer.
3. Lightly oil the locking pins to prevent corrosion and aid in installation.
4. Clean the top of the crossbeam to allow the lift pad sockets to slide freely along the length of the crossbeam.
5. Check the casters for any damage and replace if necessary.

8.6 Structural Inspection

WARNING

Equipment must be removed from service and inspected for damage immediately if subjected to an abnormal shock or load. Failure to heed this warning may result in personal injury and / or property damage. It is critical that the crossbeam adapter and all optional adapters are inspected regularly for any signs of wear or damage that might affect its ability to perform lifts safely. If the crossbeam adapter and optional adapters appear to be damaged in any way, are found to be badly worn, or operate abnormally, it must be removed from service until necessary repairs are made. Contact the manufacturer if you need to have a crossbeam adapter or optional adapters serviced, or if you have any questions about how to address any wear or damage observed on a crossbeam adapter or optional adapter.

The employer, owner, and/or manager is responsible for maintaining the crossbeam adapter in good, serviceable condition. Employees must be trained on how to inspect the crossbeam adapter. Before each use of a crossbeam adapter, the operator must visually inspect the crossbeam adapter for any abnormal conditions. The employer, owner, and/or manager must inspect (or appoint a knowledgeable person to inspect) the crossbeam adapter regularly. Regular inspections should be made weekly (if the crossbeam adapter is used daily) or monthly (if the crossbeam adapter is used only intermittently). Regular inspections should include the following:

1. Check for any visual cracks, chips, or other signs of excessive wear on any part of the crossbeam adapter.
2. Slide the lift pad sockets in and out through their entire range of travel and check for any binding or catching. The lift pad sockets must move freely to ensure they are properly positioned under the vehicle lifting point.
3. Turn the lift pads within the lift pad sockets and make sure the lift pads rotate freely through the full range of motion.
4. Check the locking pins for signs of damage such as chipping, gouging, or deformation. The pins must be straight and free of corrosion.
5. Check that all fasteners are tight.

If you are not sure whether any identified wear or damage is “serious,” DO NOT use the crossbeam adapter. The time it takes to determine whether or not the problem is “serious” or to repair the problem is small compared to the time it will take to deal with the consequences of a lost load (which could include severe injury or death to personnel).

9. Notes

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