

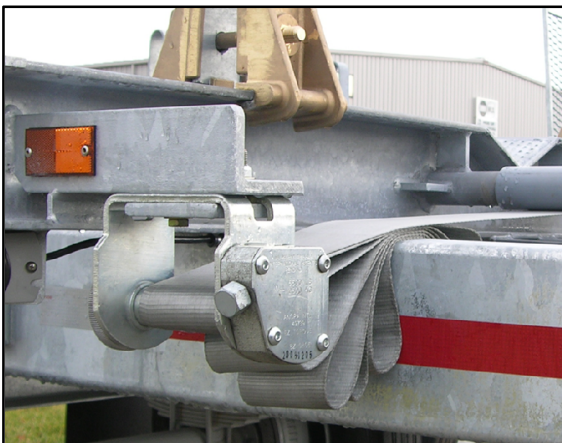
Winch Binder Care & Use

MAINTENANCE:

- The gear mechanism requires periodic lubrication to maintain proper function. It is important to use premium grade 2 lithium based bearing grease with moly disulfide.
- The grease fitting is located on the back of the gear housing and mates with a standard zerk adapter on a grease gun.
- Inject grease until it comes out either the main shaft bushing or the input hex drive shaft bushing.

OPERATION:

- Turn the input hex drive counterclockwise to disengage from the main gear. The hex drive shaft will move outward from the gear housing.
- With the gears disengaged, the main shaft can be turned by hand using the hand crank.
- Before tensioning, pull excess webbing through mandrel slot. When the tie down is fully tensioned, 2-4 wraps of webbing (2-4 complete shaft rotations) should be on the mandrel. Additional wraps can cause damage to the winch due to excessive torque, or make it difficult to apply or release tension.
- Note that in preparation for shipping, nearly the entire length of the strap is wrapped on the winch mandrel. Always adhere to the instructions above for proper load binding. Test results confirm that too few or too many wraps can result in the release of strap tension which will create a dangerous condition.
- Turn the hex drive clockwise to engage the gears and continue to turn clockwise to apply tension to the binder. Applying 40-60 ft-lbs to the hex drive will result in approximately 1500-2000 lbs. of strap tension. Our maximum recommended drive torque is 70 ft-lbs.
- When tensioning or releasing the winch in rain, snow, or other slippery conditions, carefully position your feet and body to prevent a fall.
- Never load the winch and strap in excess of 5400#.
- Use the winch in accordance with all applicable federal, state, local, and industry regulations applicable to cargo securement.
- A training program for operators is recommended for the correct and safe use of cargo securement systems.
- Never use the winch as a lifting or pulling device.
- Do not use extensions, levers, or other methods that may exceed the maximum drive torque of the winch.



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INSPECTION:

- Ensure winch and crank handle is free from damage and that winch mandrel rotates freely.
- Verify that the winch mounting is secure.
- Check binders periodically during transit and re-tighten as required due to shifting loads.
- Check for damage, deterioration or cut straps and replace as necessary. The removal criteria below was taken from the "Recommended Standard Specification For Web Tie Downs WSTDA-T-1" provided by the Web Sling & Tie Down Association.

4.4.4 **Removal Criteria** - A tie down shall be removed from service if any of the following forms of damage are visible. See figures 1-9 for illustrative examples.

- Holes, tears, cuts, snags or embedded particles which cause doubt as to the strength of the tie down. Figures 1 & 8.
- Broken or worn stitching in load bearing sew patterns. Figure 2.
- Excessive abrasive wear. Figure 3.
- If any load bearing part of the tie down has been tied into one or more knots. Figure 4.
- Melting, charring or weld spatter on any part of the tie down. Figure 5.
- Acid or alkali burns on the tie down. Figure 6.
- Signs of ultraviolet light degradation such as bleaching, increased stiffness or surface abrasion in areas not in contact with the load. See 4.7.8.2.
- Distortion, excessive pitting, corrosion or other damage to hardware.
- If either the tie down manufacturer or supplier identification is illegible or missing, or the assigned working load limit (WLL) is no longer visible.
- Any other visible damage which causes doubt as to the strength of the tie down. Figures 7, 8 and 9.

FIGURES - DAMAGED WEB TIE DOWNS

Figure 1
Holes, Tears
Cuts, Snags.

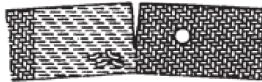


Figure 2
Broken or Worn Stitching
in Load Bearing Sew
Patterns.

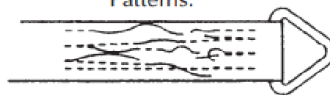


Figure 3
Excessive
Abrasive Wear.

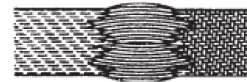


Figure 4
Knots in the
Tie Down.



Figure 5
Melting, Charring or
Weld Spatter on Any
Part of the Tie Down.

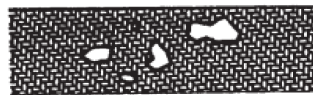


Figure 6
Acid or Alkali burns
on the Tie Down.



Figure 7
Damaged Loop,
Eye Hook too
Small or too Rough.



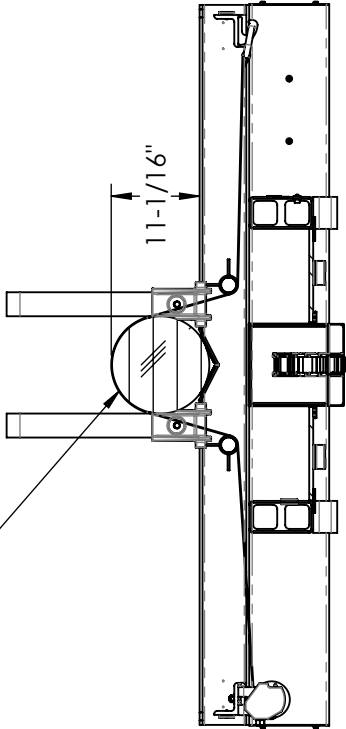
Figure 8
Tear in Webbing
at the Fitting.



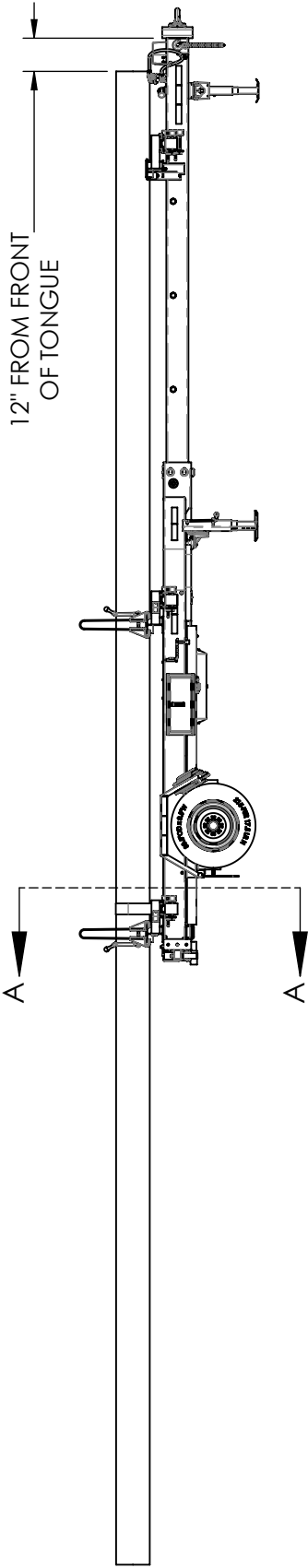
Figure 9
Other Visible Damage Which
Causes Doubt as to the Strength
of the Tie Down, such as
Crushed Webbing, Embedded
Materials, etc.



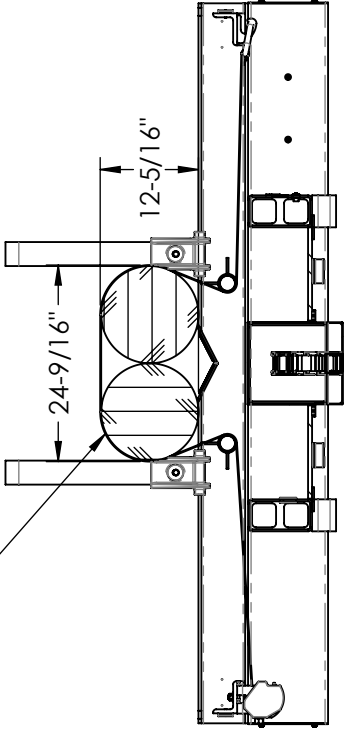
1X 45' LG
CLASS 1 POLES



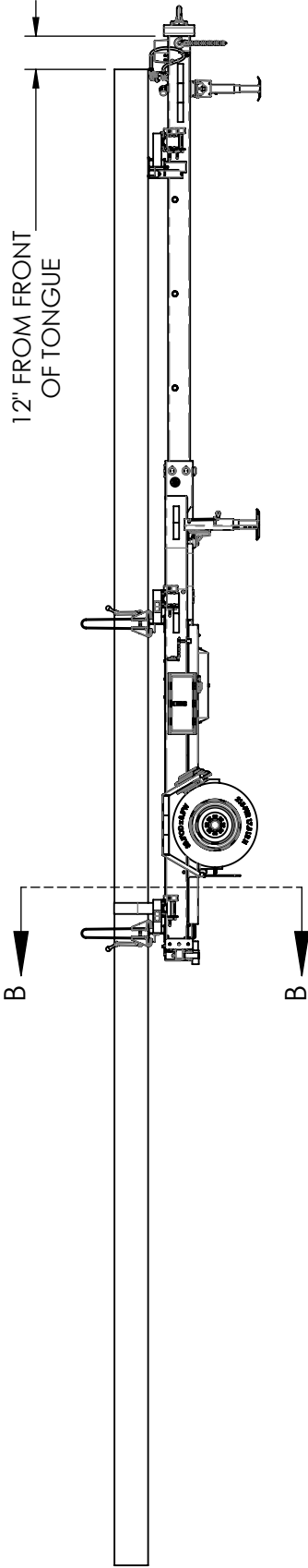
SECTION A-A
SCALE 1 : 24



2X 45' LG
CLASS 1 POLES



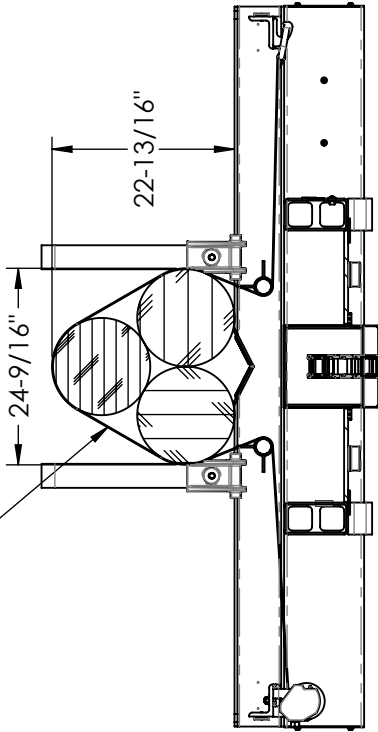
SECTION B-B
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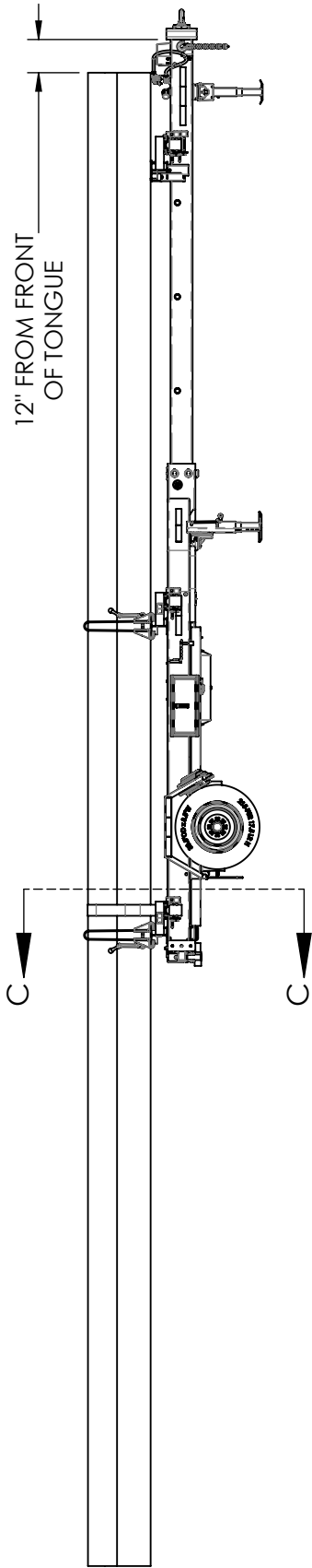
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| SAUBER MFG. CO. | SAUBER MFG. CO. |
| SAUBER MANUFACTURING CO. 10 NORTH SAUBER ROAD VIRGIL, IL 60151-1000 (630) 365-6600 | |
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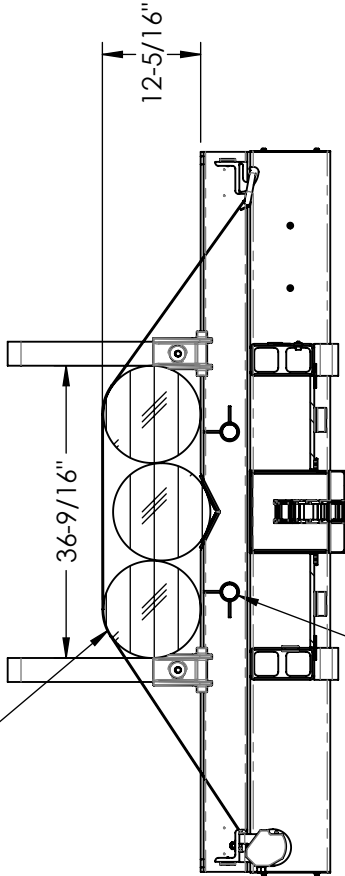
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CLASS 1 POLES



SECTION C-C
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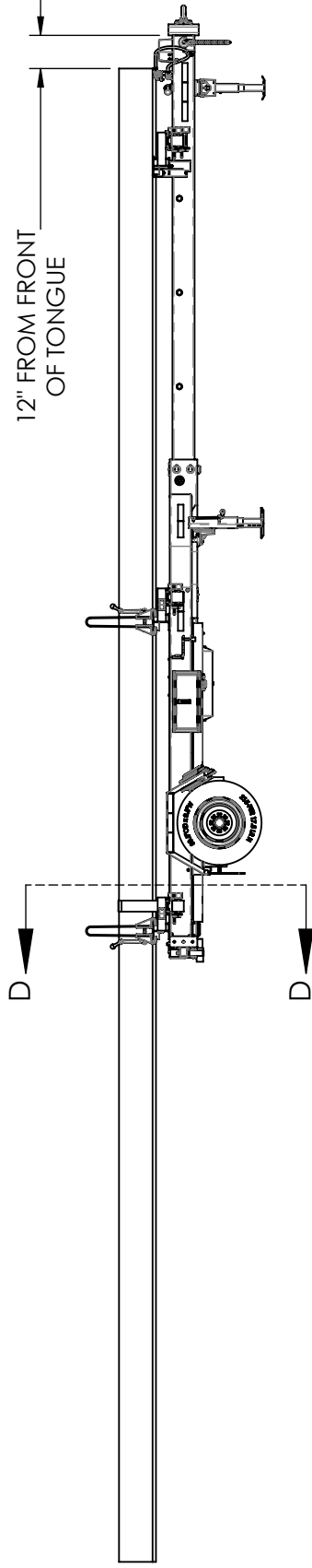


3X 45' LG
CLASS 1 POLES



SECTION D-D
SCALE 1 : 24

NOT RECOMMENDED TO
USE POLE HUBS WITH
LAYOUT SIMILAR TO THIS



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