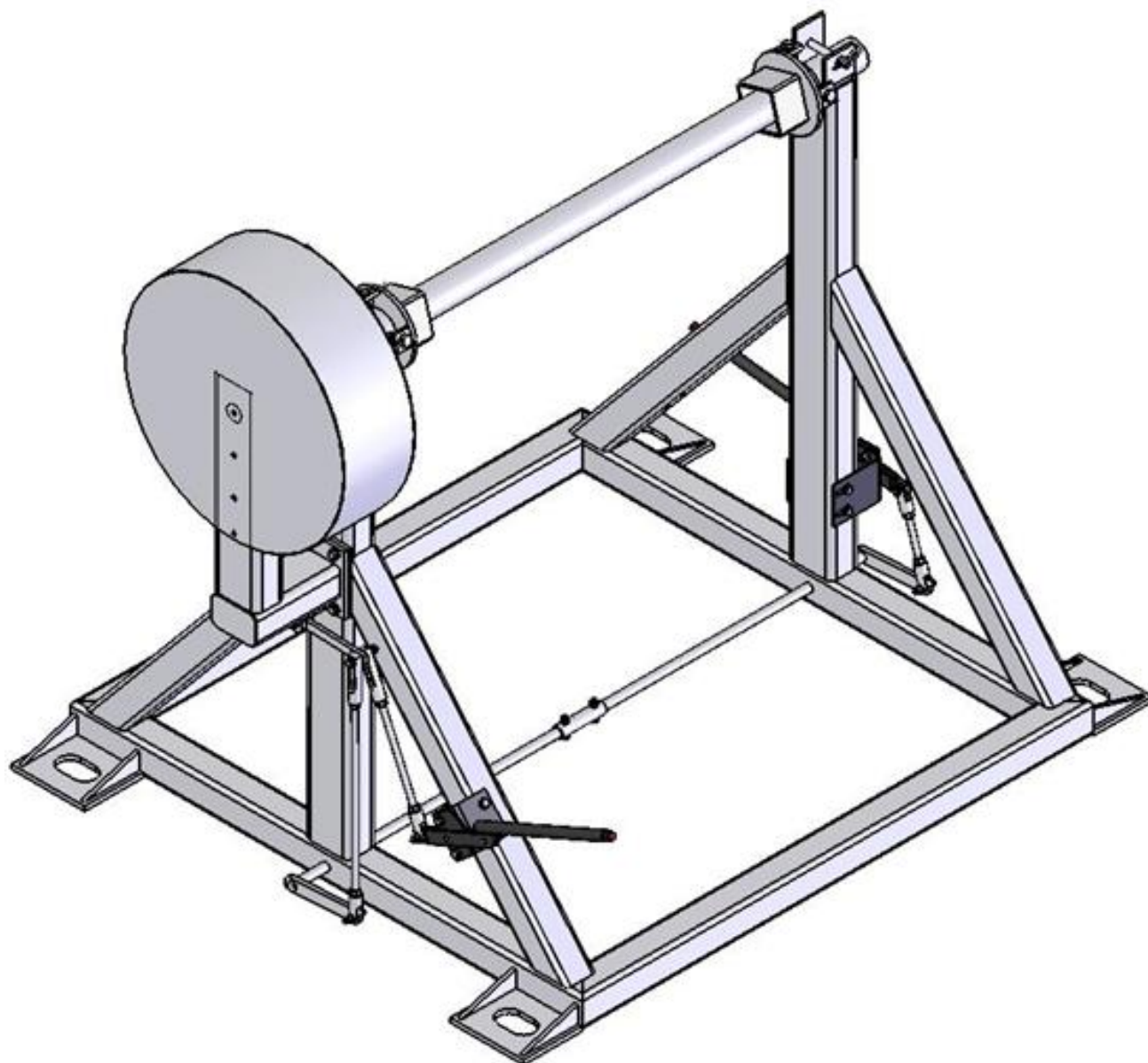


INSTRUCTIONS: CLY 640 3360

Flatbed Railway Drumstand



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Thank you for choosing a Clydesdale product.

We want you to be satisfied with your Flatbed Railway Drum Cradle. This instruction booklet has been written to help you operate and look after it safely. We ask you to read the manual thoroughly before you start using the machine so that you are aware of the safety measures you need to take when using it.

GENERAL.

This equipment has been carefully designed and developed to eliminate health and safety risks

There are certain risks when working with cables and pylons and to avoid these it is important that:

- Instructions are studied and observed
- Personnel are regularly trained in maintenance and safety
- The appropriate equipment and tools are available
- The owner and work supervisors take responsibility for ensuring that an effective safety programme and regulations are drawn up and followed by all personnel.

Our instructions contain important information which all users must be aware of and understand before they use the equipment. For your sake and the sake of others please take special notice of the items/sections with the following headings.

WARNING.

Important information that warns you of the risk of serious personal injury or threat to life if instructions are not followed.

CAUTION.

Important information that describes how to prevent damage to the machine and equipment or how to avoid a situation that could cause personal injury.

NOTE.

Advice regarding operation, care and maintenance of the machine and equipment.

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SAFETY RULES.**GENERAL SAFETY PRECAUTIONS****Personnel Safety**

1. Read and remember all safety warnings, precautions and directions in the operation and maintenance instructions. Read and learn the meaning of all signs that are on and around the equipment. If you are in any doubt, make sure you get answers to all your questions before starting work.
2. Do not work with machinery or equipment if you are under the influence of alcohol, strong medication, sedatives or other drugs that could make you less alert or affect your judgement.
3. Take the necessary precautions to avoid loose hair or clothes becoming trapped in moving parts or controls.
4. Whenever possible wear safety gloves to protect your hands and fingers from cuts, grazes, burns and solvents.
5. Always wear a safety goggles whenever there is a risk of flying particles, splinters, dust or other objects that could damage your eyes, and when safety regulations demand it. Look after your eyes!
6. Always wear a safety helmet and safety shoes when work requires it.
7. Always wear hearing protection in areas with a high noise level.

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Safety in the work place

8. Keep your working area clean and uncluttered
9. Keep unauthorised personnel away from the working area. Always keep a good check on who is present.
10. Surfaces that you touch with your hands or feet must be kept clean, dry and free from oil or grease.
11. Store parts and tools in a place appointed for that purpose when they are not in use.
12. Do not stand underneath or allow anyone else to stand underneath any raised or suspended equipment.
13. Find out the weight limits of lines and lifting equipment and clearance they require when in use.

Equipment safety

14. Warning signs, prohibition signs and information signs must not be obscured, changed, damaged or removed.
15. Before setting up mobile equipment make sure that the ground is firm and level. Check that supports and securing devices are safely in place. Follow the instructions for securing and setting up the equipment where appropriate.
16. Before moving mobile equipment you must check that the brakes and road lights work satisfactorily. Make sure that supports are raised high enough above the ground to permit safe transport. Check that there are no loose parts that could fall off during transport.
17. Check the components of the equipment each time before use to make sure that no parts are damaged or suspected of being damaged. Repair or replace damaged parts or parts that are suspected of being damaged. Repair or replace damaged parts before starting or operating equipment. Use only original spare parts.
18. Before starting or operating the equipment make sure that no person, animal, tool or other foreign object is inside, on, under or near the equipment. Check that all protection and safety equipment is correctly installed and in satisfactory condition.
19. Do not let untrained personnel start or operate any equipment without supervision by a trained operator.
20. Never leave the equipment unsupervised.
21. when starting and operating the equipment watch out for defective instruments, visible defects, smells or unusual noises that could be a warning of a fault. Stop the equipment immediately if you suspect a fault.
22. Carry out all inspections, maintenance, lubrication and adjustments very carefully and in accordance with the manufacturers recommendations. Always stop the machine before carrying out maintenance.

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Safety from fire and flammable substances

23. Store highly flammable, flammable and hazardous substances in a safe place in the appropriate containers. These must be clearly marked according to the relevant regulations.
24. Do not permit smoking or naked flame in the vicinity of fuel and oil tanks or other flammable substances.
25. Switch off all engines when topping up oil or fuel. Follow the regulations and recommendations that apply to handling these substances.
26. Never start a diesel or petrol engine in a closed space unless it is properly ventilated. Harmful gases can kill.
27. Never use highly flammable and/or flammable substances such as petrol, paraffin or diesel to clean parts. Always use low flammability solvents intended for cleaning.

Safety with hydraulic systems

28. Do not carry out maintenance on components of the hydraulic system without first depressurising the system.
29. Do not carry out any checks on the oil system without first depressurising the system. Oil under pressure can be dangerous if the pressure is released incorrectly. Oil can get very hot during operation. Wait until the system has cooled down before starting work.
30. Do not disconnect a hydraulic cylinder from its couplings until the system has been depressurised.
31. Do not operate a pressurised system with worn or damaged hoses, valves and seals. Replace damaged components before operating the system again.
32. Do not try to remove hydraulic cylinders or other hydraulic equipment unless you are trained to do such work.
33. Never adjust hydraulic system pressure settings above the recommended values.
34. Follow the manufacturers recommended inspection and maintenance instructions for pressurised systems to make sure that safe conditions exist during operation.

TECHNICAL DATA

CAPACITY

Maximum Combined Pulling Force : 3000Kg
Maximum No. of Drums: 1
Maximum Drum Diameter : 2.200 m
Maximum Drum Width : 1.100 m
Maximum Drum Weight (At max drum width) : 5000 Kg

DRUM CRADLE DIMENSIONS

Length : 1.400 m
Width : 1.720 m
Max Loaded Height: 2.340 m
Cable Drum Shaft Diameter : 70 mm
Cable Drum Shaft Brake : Two Calliper Hydraulic Disc Brake
Unladen Weight: 300 kg
Maximum Laden Weight: 5300 kg

HANDLING

The drum cradle is designed to be mounted on a suitable vehicle (such as a flatbed rail wagon) or platform for operation.

1. Lift the drum cradle onto a suitable vehicle/platform, use the four lifting lug plates shown in Fig. 1:

WARNING: NEVER stand under, around or within the drum cradle while it is being lifted. All areas around the drum cradle should be treated as Danger Zones.

CAUTION: Always ensure the lifting equipment is in good condition and suitable. Do not proceed if you are in doubt.

CAUTION: Only use the four lifting lugs to lift the drum cradle. Do not attempt to lift the drum cradle using other points or locations.

CAUTION: NEVER attempt to lift the drum cradle when it is loaded. The lifting lugs are only designed to hold the weight of the unloaded drum cradle alone.

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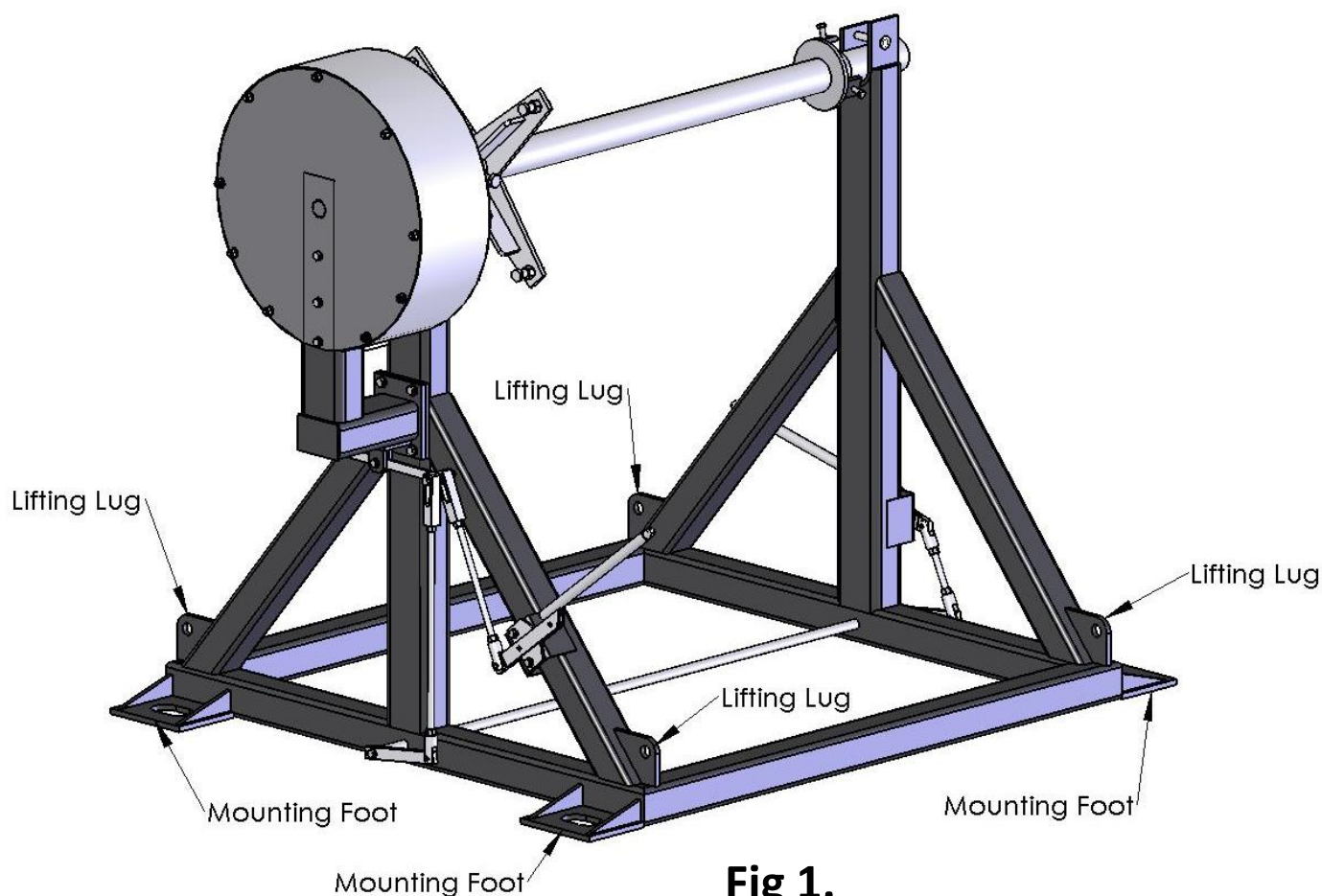


Fig 1.

2. If the drum cradle is to be mounted on a vehicle, ensure the vehicle will remain stationary during mounting with the use of a suitable braking method.

3. Fix drum cradle to the vehicle/platform securely by locking the mounting feet (Fig. 1) to a suitable locking mechanism on the vehicle/platform

NOTE: The correct mounting position of the drum cradle is with the shaft perpendicular to the direction the cable is to be pulled. It is irrelevant which orientation – the machine will dispense cable in either direction.

4. Dismounting the drum cradle is the opposite of mounting.

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OPERATING INSTRUCTIONS

WARNING: If the drum cradle is mounted on a vehicle, the vehicle braking system must be applied or the vehicle should be attached to a firm anchor point for all operations ie. loading drums, dispensing cable and unloading drums. This is necessary to provide stability and a safe working condition.

WARNING: The CLY 640 3000, Flatbed Railway Drumstand is designed for one man operation.

WARNING: All areas around the drumstand should be treated as Danger Zones.

WARNING: This equipment should not be used when there is a possibility of lightning.

LOADING DRUMS ONTO DRUM CRADLE

Refer to Figure 2 and 3 for item names and locations.

1. Ensure the drum cradle is securely fixed to the vehicle/platform.
2. Remove the disc brake drive retaining pin and slide shaft out just enough to clear the brake drive.
3. Remove shaft retaining pins and lift shaft from cradle.

CAUTION: If lifting equipment is being used for this step, ensure it is in good condition and suitable for the load of the drum. Do not stand under or around any loads being lifted. Ensure the shaft is secured safely to the lifting equipment.

4. Remove star drive and or locking collar(s) by loosening lock bolts.
5. Fit the shaft through the cable drum.
6. Ensure that all the spike bolts are fully retracted if a star drive mechanism is used. Refit the star drive or square locking collar on the shaft making sure one of the lock bolts engages in the correct hole on the shaft. If a square locking collar is used, it should engage fully with the square spindle hole of the drum

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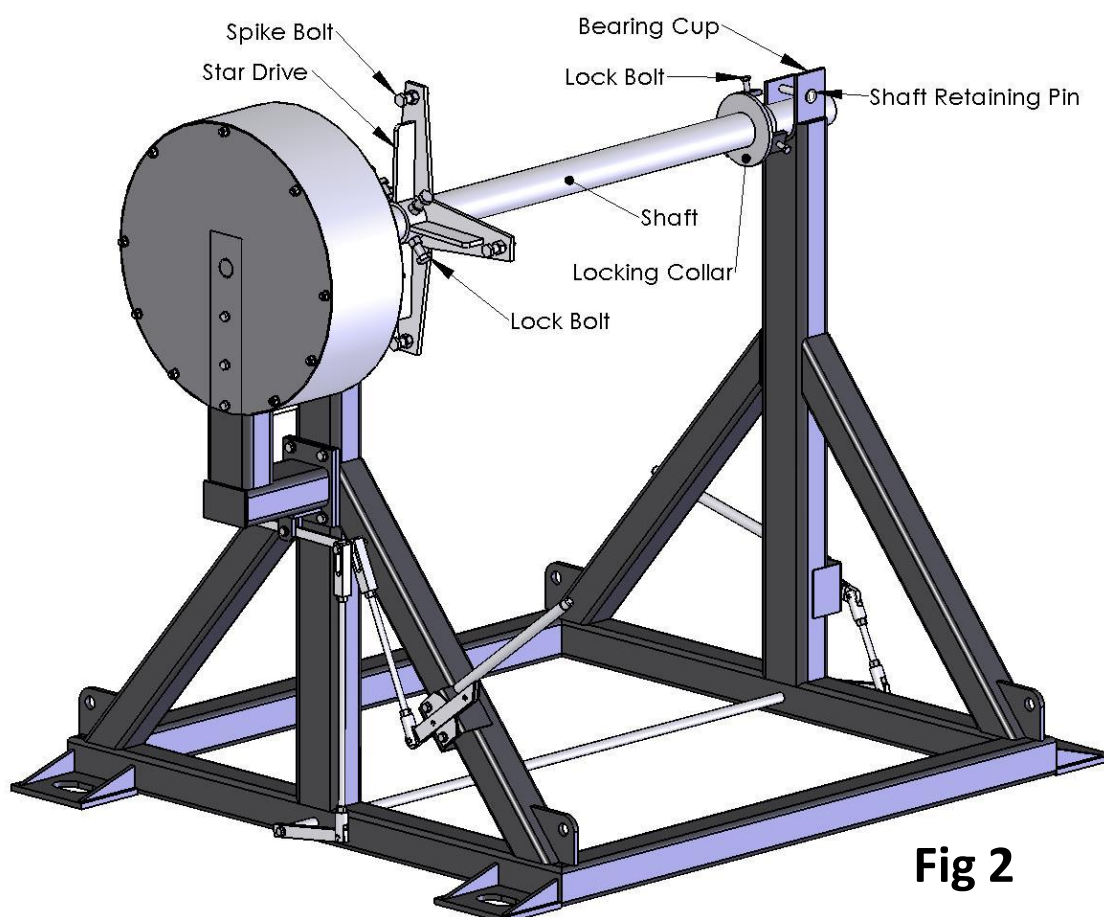


Fig 2

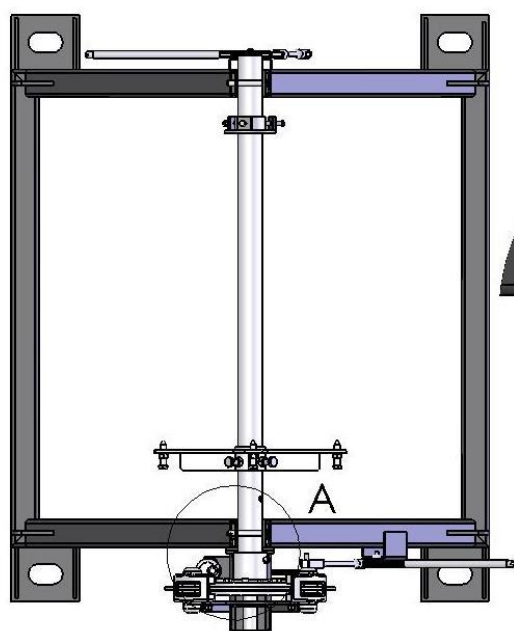


Fig 3

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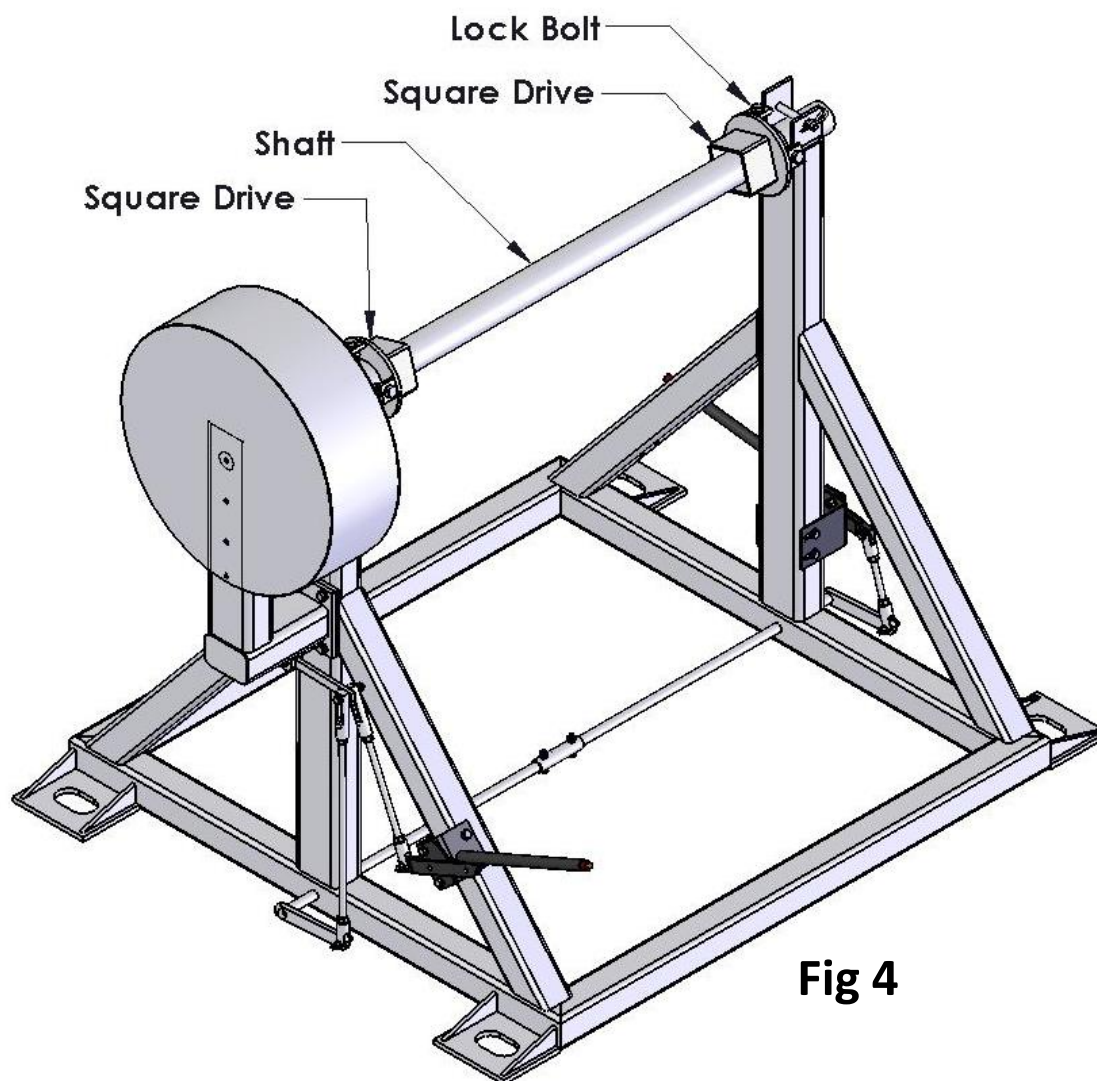


Fig 4

7. Refit the locking collar on to the shaft. When a square locking collar is used, make sure it is fully engaged with the square spindle hole of the drum. Secure with lock bolts as tightly as possible.

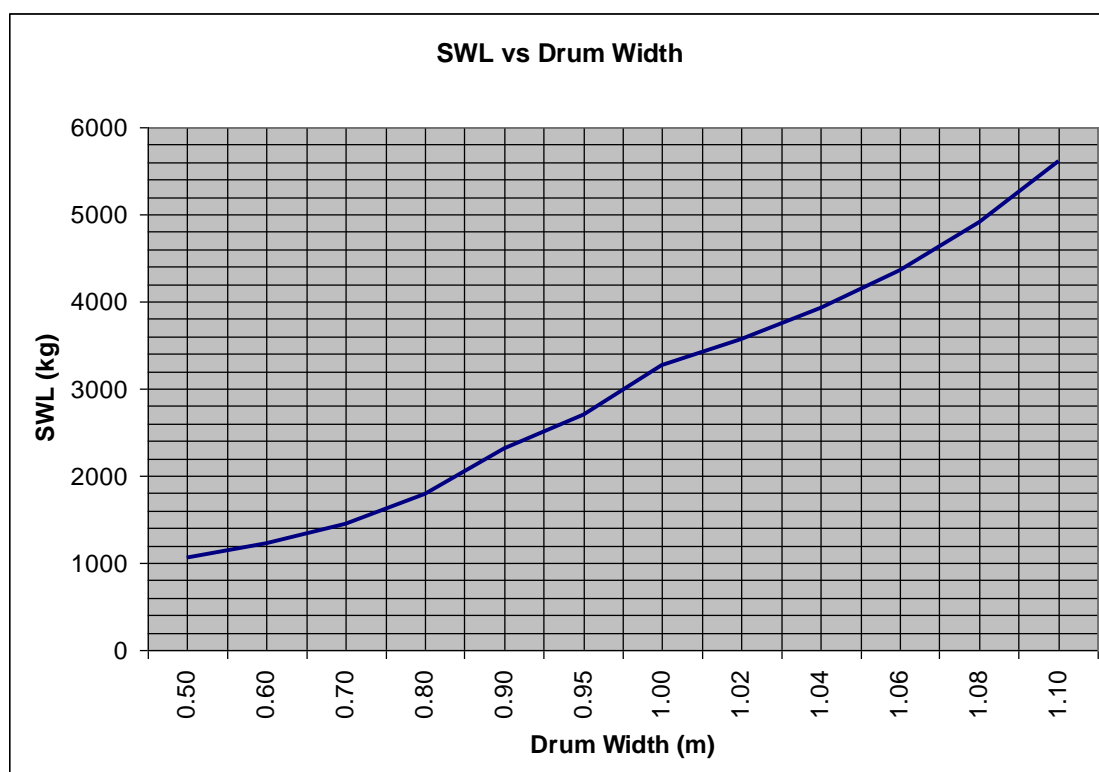
8. If using the star drive mechanism, tighten the spike bolts in to the side of the drum.

NOTE: The disc brake mechanism is only as effective as the connection between drum, locking collar and star drive.

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NOTE: The shaft has been designed for a safe working load of 5000kg only with a maximum cable drum width of 1.1m. Using narrower cable drums will increase the bending stress in the shaft and diminish the safe working load. ENSURE THE DRUM BEING LIFTED IS SUITABLE ACCORDING TO THE FOLLOWING GRAPH:



9. Load the shaft/cable drum assembly on to the bearing cups. While the load is still being supported, push the assembly towards the disc brake to engage the disc brake drive.

CAUTION: Ensure lifting equipment used for this step is in good condition. Do not stand under or around any loads being lifted. Ensure the shaft is secured safely to the lifting equipment. It is recommended that where possible, the drum should be lifted by a forklift acting on the bottom edges of the drum. If lifting straps are to be used, these should be placed as close to the sides of the drum as possible.

10. Rotate the break disc to align the retaining hole. Replace the disc brake retaining pin and shaft retaining pins.

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DISPENSING CABLE

1. Release brake as shown in Figure 4.

CAUTION: Both handbrakes must be released at the start of dispensing. Failure to do this may end up causing damage to the drum cradle or cable.

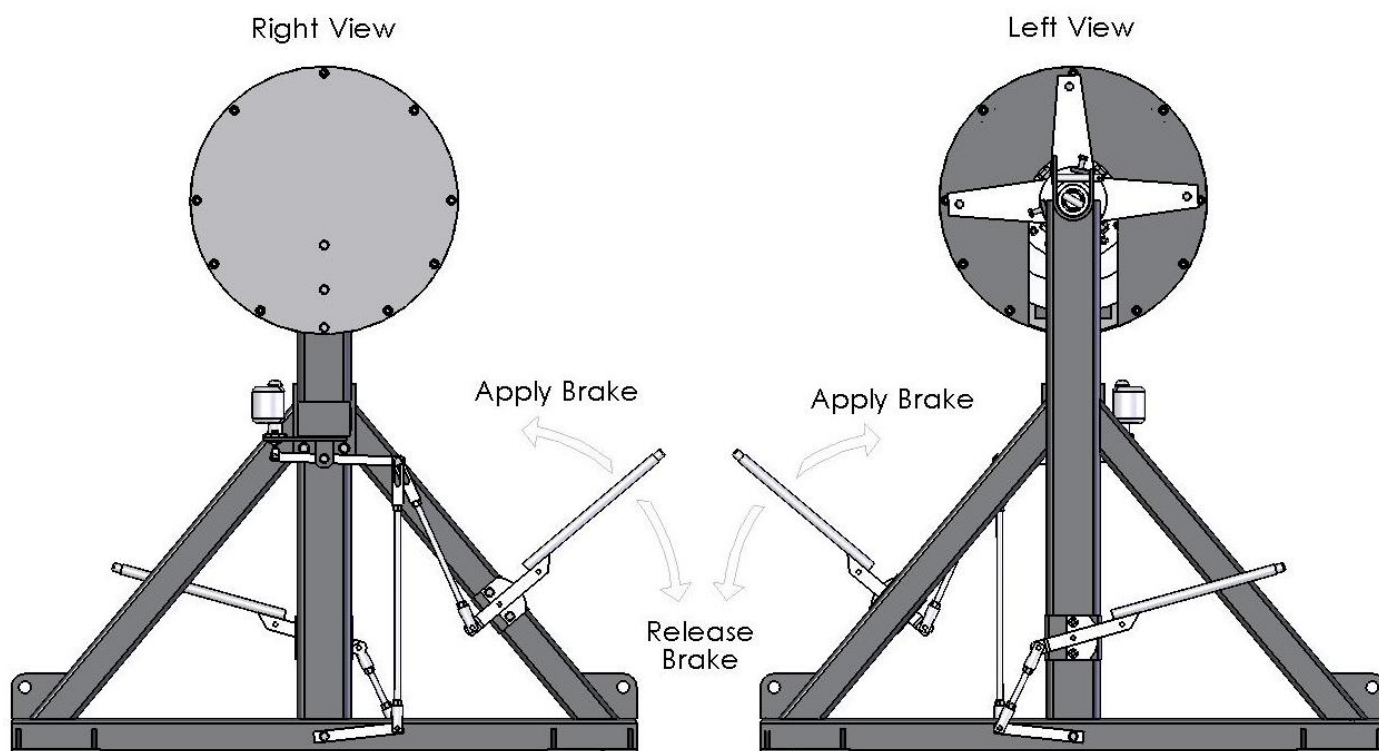


Fig 5

2. As pull commences, apply brake as necessary according to direction indicated above in Figure 4.

NOTE: It is recommended that only one handbrake is used for the duration of dispensing the cable. Should control need to be switched from one side of the drum cradle to the other, always ensure that the non-active handbrake is fully released to switch full control to the active handbrake.

MAINTENANCE

It is essential that your machine receives regular attention to ensure that it remains in peak condition.

Full details of the minimum servicing requirements are given on the following overall maintenance schedule.

All maintenance should be carried out by skilled and competent personnel.

DAILY CHECKS - OPERATOR

1. Inspect the drum cradle for any signs of damage. Check for any missing or loose bolts and replace or tighten as necessary. Report any problem including any damage and in extreme cases take drum cradle out of service.
2. Retaining pins should be checked for damage and that spring clips are present and in working order.
3. Star drive and locking collar should be checked for good order and easy operation of the screw studs and clamping bolts are present.
4. Drum shaft bearing cups should be greased.
5. Ensure all brake linkage locking nuts are tight. Retighten any as necessary and check operation to ensure correct linkage lengths. Adjust as necessary.
6. Check operation of handbrakes. Ensure ratchet teeth are not worn and spring mechanism is operating properly.

MONTHLY CHECKS - OPERATOR

1. Check the disc brake callipers, hoses and master cylinder for external leaks and damage. Check the level of hydraulic oil in the master cylinder reservoir. Use only recommended brake fluid.
2. Lubricate brake linkage system pivot points with multi-purpose oil.

SIX MONTHLY CHECKS - WORKSHOP

1. Visually inspect all fixings for signs of looseness and rectify.
2. Check the thickness and condition of the disc brake pads on the cable drum cradle. Replace as necessary.

RECOMMENDED LUBRICANTS

Disc braking system - Lockheed Dot 4 Brake Fluid