Using the Micro Hauler camming pulley system

This system gives you a 2:1 mechanical advantage

- Thread according to diagram A or B.
- Using a large steel locking carabiner, attach the top end of the Micro Hauler system to a substantial anchor (tripod, beam, etc). Lock the carabiner.
- Pull on the cord that is attached to the cam to release the cam from holding the rope. Do not remove the safety pin because that will completely open the cam and allow the rope to come out of the guide channel. Pull the cord around the frame and secure it into the dimpled retainer catch on the back of the frame. This allows the rope to move freely through the system in both directions.
- Pull down on the steel carabiner that is attached to the lower pulley until it is low enough to clip into the load (stretcher, equipment or rescuer). Holding the tail end of the rope lower the load to the bottom of the space in which you will be working.
- Re-engage the cam to the rope by pulling down firmly on the attached cord and releasing.
- After the patient or litter is attached to the lower pulley with the locking carabiner the load can be raised by pulling on the tail end of the rope.
- To make it easier to grip the rope, a CMI handled ascender can be used. Open the cam on the ascender and insert the tail end of the rope into the rope channel and re-engage the cam.
- To make raising the load even easier, attach a 5 step Etrier to the bottom of the handled ascender using a screw link or small locking carabiner. For your safety, attach the tie-in end of the etrier to the front D ring on your harness. The ascender should be attached to the second loop from the top of the etrier. Insert your foot into one of the steps of the etrier at the bottom. Push down with your foot. This will raise the load. Release the pressure on your foot and slide the handled ascender upward on the rope while raising your foot. Press down with your foot again. Repeat this action until the load has been raised to a point that you can remove it from the system
- *Note: When hauling a rescue load long distances it will be necessary to change feet to prevent over tiring of the leg muscles. This technique makes it much easier to raise the load and prevents fatiguing your arm muscles which you will need to remove the load from the system.*
- The Micro Hauler can be used on a "piggyback" haul system rather than taking time to do a complicated Z rig. To do this, select a very strong anchor. Attach the upper end of the Micro Hauler to the anchor using a large steel locking carabiner. Attach a suitable rope gripping device (prussik, rope grab, etc) to the lower pulley.
- Attach the rope gripping device to the haul line. The haul line should be over an edge roller or suitable rope protective device at the edge of the hole/roof/cliff to prevent abrasion. The haul system will be horizontal. It is necessary to use prussiks or proper rope grabs on the haul line to allow resetting and safe rope management.
- It is always necessary to have a proper belay line (safety line) attached to a separate strong anchor in case the main anchor or other part of the system fails.
- To raise the load pull the lower pulley and rope grab towards the load/edge. Allow the cam to grab the rope. Pull on the tail end of the Micro Hauler rope. This will raise the load. When the pulleys come together, set the prusiks or rope grabs on the haul line. Release the tension on the Micro Hauler. Open the Micro Hauler cam. Slide the rope grab and lower pulley back towards the rescue load. Allow the rope grab to grip the haul line. Pull again on the tail end of the Micro Hauler unit until the pulleys come together. Repeat this action until the rescue load is up to a point where it can be managed by hand. Disconnect the load, treat and transport the patient.
- ***Note:*** When a rescue load is on the haul system do not completely open the cam. Use the cord that is attached to the cam to release it from the rope. This will prevent the rope from coming out of the channel. In case of an emergency, simply let go of the cord and the cam will engage the rope and stop the downward movement of the load.

Maintenence of the Micro Hauler 2:1 System

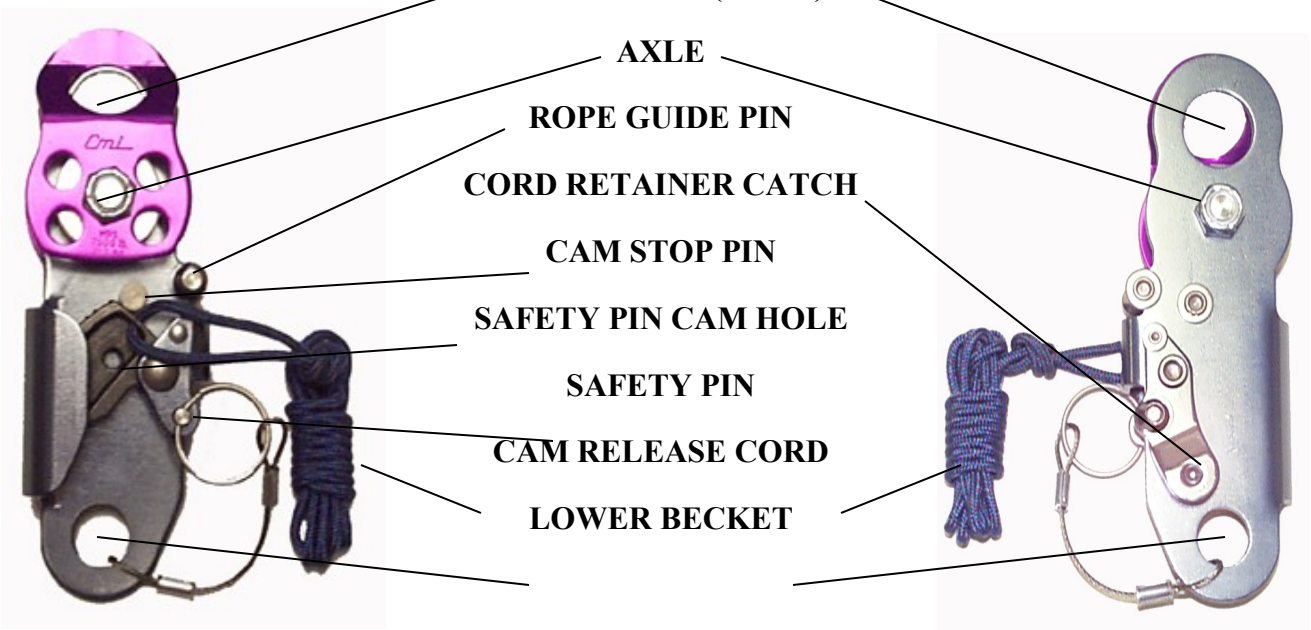
- When the Micro Hauler or Companion Pulley becomes muddy, wash it with mild soap and water. Flush all soap and other residue with clean water and dry completely. Apply a small amount of oil to the pulley axles. Wipe away all excess oil. For greasy substances, clean with kerosene. Wipe away all excess before using.

Attaching Cam Release Cord To Cam

- The end of the cam release cord must be tapered in order to get it through the cam. The easiest way to do this is to heat the end of the cord with a lighter and then taper the end with a gloved hand using your fingers. (Be cautious as the end of the cord will be hot when heated.) It may be necessary to pull the cord through with a pair of pliers. Tie the cord to the cam using an overhand trace knot. Leave about a two inch loop in the cord as shown below. Tying the knot tight against the cam will interfere with the operation of the micro hauler.

Getting Familiar with the CMI Single Micro Hauler

FRONT **BACK**



! FOR YOUR OWN SAFETY, PLEASE READ !

- **Any person using CMI equipment in any manner is personally responsible for learning the proper techniques through personal instruction by an instructor competent in all safety techniques and backup systems.**
- **There are no warranties which extend beyond the description on the face hereof. This product is sold "as is" without implied warranties of fitness or merchantability.**
- **CMI cannot be responsible in any way for the misuse of the equipment described herein.**

Never Forget! Your life may depend upon your equipment. Inspect all equipment before every use!

!CAUTION!

- Always know the maintenance and use history of your equipment
- The use of second hand equipment is STRONGLY discouraged
- You are responsible for your own actions and decisions

! WARNING!

- Failure to follow these warnings increases the risk of injury or death
- Special training & knowledge are required to use this product
- Rock & ice climbing, caving and technical rescue are potentially hazardous by their very nature

Rigging the CMI Single Micro Hauler

A.

B.

2:1 Hauling System

A. This shows the regular method of threading the Micro Hauler 2:1 hauling system; Thread according to the diagram at left for normal usage.

B. This method of threading provides an extra few inches of lift when the situation is critical; Thread according to the diagram at right when extra lift is required.

Note: The Micro Hauler will work with 3/8" to 1/2" rope. It is ideally suited for 7/16" rope.

CMI Corp
338 Mill Road, PO Box 535
Franklin, WV 26807
800-247-5901
www.cmigearusa.com

SINGLE MICRO HAULER