MONTANA STATE FUND

Ergonomics:
Good Handling Techniques for Lifting, Pushing and Pulling

HERE ARE SOME PRACTICAL TIPS, suitable for use in training people in safe manual handling.

GOOD HANDLING TECHNIQUE FOR LIFTING

THINK BEFORE LIFTING / handling. Plan the lift. Can handling aids be used? Where is the load going to be placed? Will help be needed with the load? Remove obstructions such as discarded wrapping materials. For a long lift, consider resting the load midway on a table or bench to change grip.

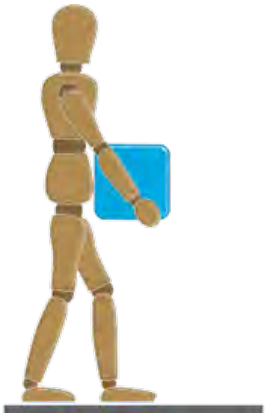
ADOPT A STABLE POSITION. The feet should be apart with one leg slightly forward to maintain balance (alongside the load, if it is on the ground). The worker should be prepared to move his/her feet during the lift to maintain stability. Avoid tight clothing or unsuitable footwear, which may make this difficult.

GET A GOOD HOLD. Where possible, the load should be hugged as close as possible to the body. This may be better than gripping it tightly with hands only.

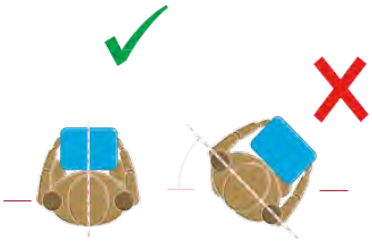
GOOD HANDLING TECHNIQUE FOR LIFTING

START IN A GOOD POSTURE. At the start of the lift, slight bending of the back, hips and knees is preferable to fully flexing the back (stooping) or fully flexing the hips and knees (squatting).

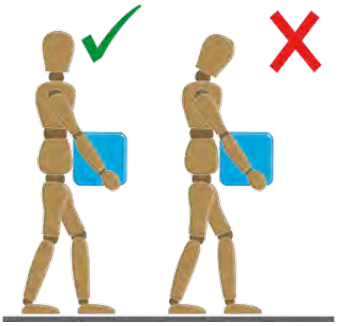
DON'T FLEX THE BACK any further while lifting. This can happen if the legs begin to straighten before starting to raise the load.



KEEP THE LOAD CLOSE to the waist. Keep the load close to the body for as long as possible while lifting. Keep the heaviest side of the load next to the body. If a close approach to the load is not possible, try to slide it toward the body before attempting to lift it.



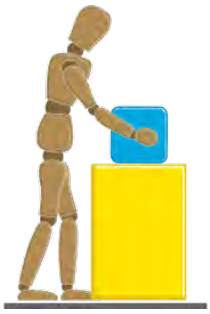
AVOID TWISTING the back or leaning sideways, especially while the back is bent. Shoulders should be kept level and facing in the same direction as the hips. Turning by moving the feet is better than twisting and lifting at the same time.



KEEP THE HEAD UP when handling. Look ahead, not down at the load, once it has been held securely.

MOVE SMOOTHLY. The load should not be jerked or snatched as this can make it harder to keep control and can increase the risk of injury.

GOOD HANDLING TECHNIQUE FOR LIFTING



DON'T LIFT OR HANDLE MORE than can be easily managed. There is a difference between what people can lift and what they can safely lift. If in doubt, seek advice or get help.

PUT DOWN, THEN ADJUST. If precise positioning of the load is necessary, put it down first, then slide it into the desired position.

GOOD HANDLING TECHNIQUE FOR PUSHING AND PULLING

Here are some practical points to remember when loads are pushed or pulled.

HANDLING DEVICES. Aids such as barrows, push carts and trolleys should have handle heights that are between the worker's shoulder and waist. Devices should be well maintained with wheels that run smoothly. The law requires that equipment is maintained. When you buy new trolleys, etc., make sure they are of good quality with large-diameter wheels made of suitable material and with casters, bearings, etc., that will last with minimum maintenance. Consulting your employees and safety representatives will help, as they know what works and what doesn't.

FORCE. As a rough guide, the amount of force that needs to be applied to move a load over a flat, level surface using a well-maintained handling aid is at least 2 percent of the load weight. For example, if the load weight is 400 kg, then the force needed to move the load is 8 kg. The force needed will be larger, perhaps a lot larger, if conditions are not perfect (e.g., wheels not in the right position or a device that is poorly maintained). The operator should try to push rather than pull when moving a load, provided he/she can see over it and control steering and stopping.

SLOPES. Employees should get help from another worker whenever necessary — especially if they have to negotiate a slope or ramp, as pushing and pulling forces can be very high. For example, if a load of 400 kg is moved up a slope of 1 in 12 (about 5°), the required force is over 30 kg even in ideal conditions — good wheels and a smooth slope. This is above the guideline weight for men and well above the guideline weight for women.

UNEVEN SURFACES. Moving an object over soft or uneven surfaces requires higher forces. On an uneven surface, the force needed to start the load moving could increase to 10 percent of the load weight, although this might be offset to some extent by using larger wheels. Soft ground may be even worse.

STANCE AND PACE. To make it easier to push or pull, employees should keep their feet well away from the load and go no faster than walking speed. This will stop them becoming too tired too quickly.