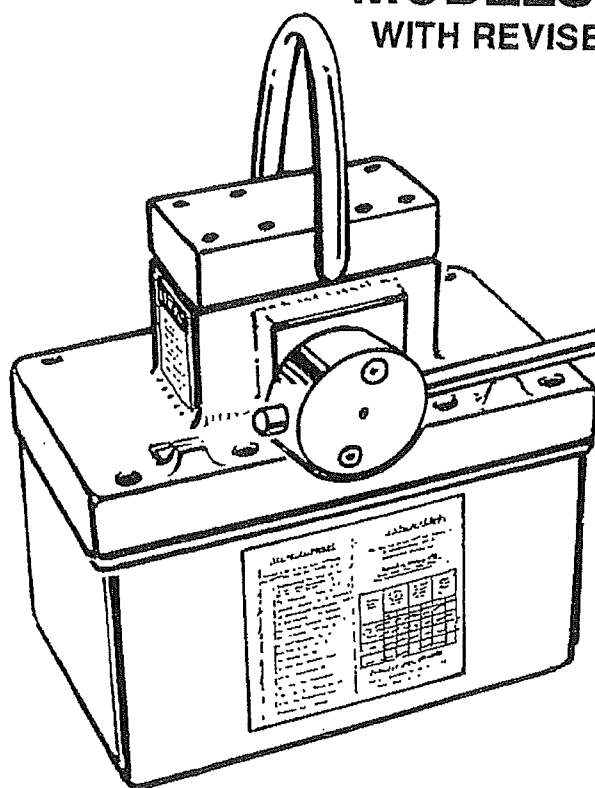


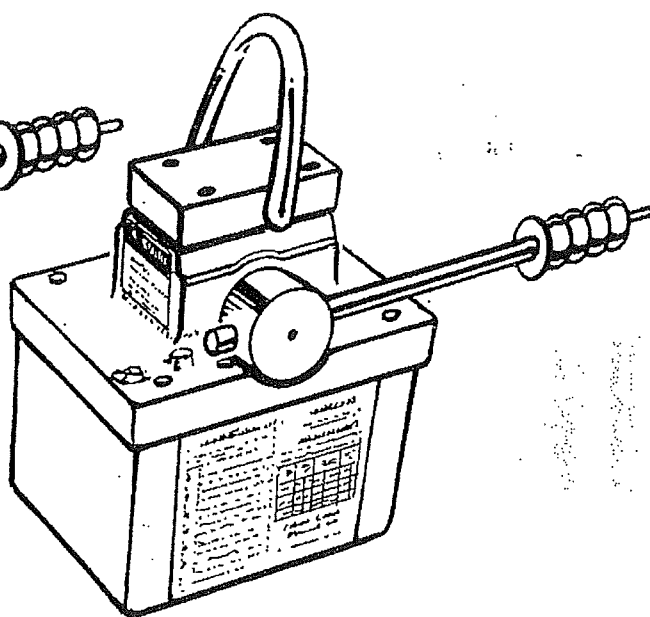
OPERATOR'S MANUAL AND SAFETY INSTRUCTIONS

WITH INSPECTION AND MAINTENANCE INSTRUCTIONS
TOTER PERMANENT LIFT MAGNETS

MODELS: CM-1, CM-3
WITH REVISED HANDLE DESIGN



CM-3



CM-1

**WALKER
MAGNETICS
GROUP**

O.S. WALKER

⚠ DANGER

Always stay clear
of the load.

- Never lift loads over
people or in close
proximity to people.

- Never attempt to operate this magnet
until you have read and understand
the Operator's Manual.

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INTRODUCTION

Thank you for purchasing this O. S. Walker Product. If used and maintained properly, it should serve you for many years. Thousands of these lift magnets are in service today doing safe, fast and efficient magnetic material handling applications. It is often the only way for one person to load, transport and unload material.

Walker products have proven to be among the best designed and safest in our industry. However, used improperly a "Toter" lifting magnet can be rendered inefficient and unsafe. Therefore, it is absolutely essential that those who use this lifting magnet and are responsible for its applications be trained on how to use it correctly.

READ THIS MANUAL CAREFULLY TO LEARN HOW TO OPERATE AND MAINTAIN YOUR MAGNET. FAILURE TO DO SO COULD RESULT IN SERIOUS INJURY OR DEATH TO YOURSELF AND PEOPLE IN THE AREA.

THIS MANUAL SHOULD BE CONSIDERED A PERMANENT PART OF YOUR MAGNET AND SHOULD BE AVAILABLE TO ALL OPERATORS AND REMAIN WITH THE MAGNET IF IT IS SOLD.

ADDITIONAL COPIES OF THIS OPERATOR'S MANUAL ARE AVAILABLE. JUST CALL 1-800-962-4638 AND REQUEST ADDITIONAL COPIES OF MANUAL #37-DD11944.

SAFETY INSTRUCTIONS

GENERAL SAFETY RULES

Danger always exists when loads are transported by lifting devices, especially when the equipment is not being used properly or is poorly maintained. Because accidents and severe bodily injury or death can result, special safety precautions apply to the operation, inspection and maintenance of the Walker Lift Magnets.

Following these simple rules can help to avoid lifting accidents:

DANGER

- Always stay clear of the load.
- Never lift loads over people or in close proximity to people.
- Never attempt to operate this magnet until you read and understand the Operator's Manual.
- Never use this magnet to lift, support or transport people.
- Never leave any lifted load unattended.
- Never lift more than one workpiece at a time with this magnet.
- Always make sure that the supporting structure and load attaching devices (i.e. crane, chains and hook) are rated to support the weight of the magnet and load.
- Always make sure that the load's weight and dimensions are within the Magnet's Lifting Guidelines. These Guidelines are located in the Operator's Manual.
- Always let those near you know that a lift is to begin.

Remember, proper lifting knowledge and techniques are the responsibility of the operator. Be sure to read and understand the instructions and safety warnings contained in this manual before using your lift magnet.

If you do not understand everything in this manual contact O. S. Walker for assistance before using the magnet.

Call 1-800-W-MAGNET

SAFETY INSTRUCTIONS

RECOGNIZE SAFETY INFORMATION



This is the safety alert symbol. When you see this symbol on your magnet or in this manual, be alert to the potential for personal injury.

Follow recommended precautions and safe operating practices at all times.

⚠ DANGER
Red Background, White Letters

⚠ WARNING
Orange Background, Black Letters

⚠ CAUTION
Yellow Background, Black Letters

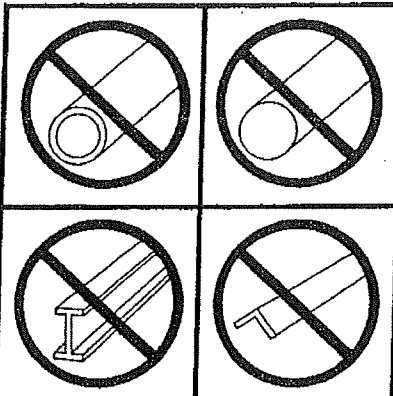
This indicates a situation in which a hazard is imminent and will result in a high probability of serious injury or death.

This indicates a potentially hazardous situation which could result in some probability of serious injury or death.

This indicates a potentially hazardous situation which could result in minor injury or moderate injury.

*These are
Hazard
Seriousness
Signal
Words*

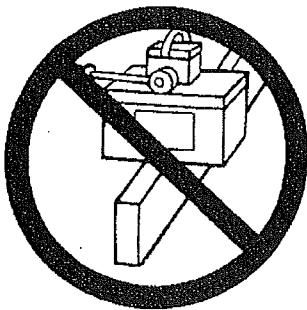
UNSAFE LIFTING APPLICATIONS FOR YOUR CM-1 OR CM-3



⚠ DANGER

- Never lift any pipe, solid rounds or structural shapes with this magnet.
- Never lift any castings that do not have a machined flat lifting surface for the magnet. The location of the lifting surface should be such to permit the load to remain level when lifted.

O.S. Walker can provide other type magnets for these applications.



⚠ DANGER

- Never lift the load by its narrowest dimension.

⚠ WARNING

If you have any difficulty lifting a load, **DON'T LIFT IT.**
Call O. S. Walker Co., Inc. for advice at 1-800-962-4638.

SAFETY INSTRUCTIONS

WAYS TO AVOID A REDUCTION OF LIFTING CAPACITY

DANGER

To Avoid any Reduction of Lifting Capacity:

- The lifting surfaces of the magnet and the area of the load where the magnet will be located must be clean, smooth, flat and free of nicks and burrs.
- The full area of the magnet's lifting surface must be in contact with the load.
- The load must be at least 1.5" (38 mm) thick.
- The load must be low carbon steel such as SAE 1020.
- The magnet's lifting surface must stay level and the contacting surface of the load must remain flat.
- The temperature of the magnet and/or the load must not be greater than 110°F (43°C).
- The control actuator must be fully in the "on" or "lift" position.
- Repair of this magnet should only be done by the O. S. Walker Co. or a Qualified Person.*
- If you have any difficulty lifting a load, DON'T LIFT IT! Call O. S. Walker Co. for advice at 1-800-962-4638.

ADDITIONAL WARNINGS

WARNING

- Never lift loads with any dimension greater than:
72 inches (1.8 meters) with the CM-1
96 inches (2.4 meters) with the CM-3
- Never operate damaged, or malfunctioning magnets.
- Never remove or damage Operating and Warning labels.
- Persons using pacemakers or other medical devices should not use this magnet until they have consulted with their physician.

WARNING

- Disassembly or repair of this magnet can result in reduced holding power and/or cause an unsafe condition. Therefore, anytime the magnet is disassembled beyond the parts list shown in this manual, the magnet must be re-tested for break-away force in accordance with the test described in ANSI/ASME B30.20.
- Modification of any operating mechanism or structure of this magnet can reduce the magnet's effectiveness and/or cause an unsafe condition.
- Repair or Modification of this magnet should only be done by the O. S. Walker Co. or a Qualified Person.*

SAFETY PERSON

O.S. Walker recommends that a person be assigned to review all magnetic handling applications for these magnets to ensure that safe practices and procedures are being followed.

*Qualified Person - A person who by extensive knowledge, training and experience, has successfully demonstrated the ability to solve or resolve problems relating to O. S. Walker close proximity magnets. This person MUST BE APPROVED by the O. S. Walker Co.

IMPORTANT FACTS FOR THE OPERATION OF LIFT MAGNETS

LOAD CHARACTERISTICS OTHER THAN JUST WEIGHT
MUST BE CONSIDERED IN ORDER TO DETERMINE
THE LOAD THAT ANY MAGNET CAN LIFT.

This statement is true for all lifting magnets because they all operate using the same fundamental laws of physics. Magnetic power is often pictured as lines of magnetic force flowing from north pole to south pole. Anything that limits the flow of these magnetic lines of force obviously reduces the magnet's lifting capacity. There are many important factors which limit the flow of these lines of force.

1. SURFACE CONDITIONS

Magnetic lines of force do not flow easily through air. They need iron in order to flow freely; therefore, anything that creates a space or an air gap between a magnet and the load limits the flow of magnetic lines of force and, thus, reduces the lifting capacity of a magnet.

■ **MAGNET'S LIFTING SURFACE CONDITION** — The lifting surfaces of a magnet must be clean, smooth, flat and free of nicks and burrs to minimize the air gap between a magnet and the load. This magnet has been designed with soft, low carbon steel lifting surfaces in order to maximize the lifting capacity; therefore, special care must be taken to protect these surfaces. Follow the Inspection Instructions in this manual. Attaching or welding other materials to the lifting surfaces in order to reduce wear should not be done with this magnet, because it will reduce the lifting capacity.

■ **LOAD SURFACE CONDITION** — Paper, dirt, rags, rust, paint and scale act the same as air. Also, a rough surface finish on the load creates an air gap between the magnet and load. Any of these conditions will reduce the magnet's lifting capacity.

2. LOAD THICKNESS

The greater the number of lines of magnetic force flowing from a magnet into the load, the greater the effectiveness of the magnet. The thicker the load, the more lines of magnetic force are able to flow. After a certain thickness of load, no additional lines of force will flow because the magnet has reached its full capacity.

■ Thin material (load) means less iron available, and thus fewer lines of magnetic force flow from the magnet into the load. Therefore, the lifting capacity of the magnet is reduced. In some cases the magnet will attract more than one thin plate of material when set on a stack of thin plates. **DO NOT LIFT** more than one plate at a time since the lower plate may not be held sufficiently

■ The lifting guidelines provide the user with what maximum thickness of load is required to reach full lifting capacity. Below such thickness of load, the user must accept the reduced lifting capacity of the magnet as shown in the guidelines.



3. LOAD ALLOY

Low carbon steels, such as SAE 1020 steel, are nearly as good conductors of magnetic lines of force as pure iron. However, many other alloys contain non-magnetic materials which reduce the ability of magnetic lines of force to flow into the load. An alloy such as SAE 300 series of stainless steel is almost as poor a conductor of magnetic lines of force as air.

- Type 416 stainless steel is considered magnetic, but it contains enough chromium so that a magnet can develop only one half as much magnetic force on a type 416 stainless steel load as it can on an SAE 1020 steel load. Also, because of carbon content, the force developed on typical cast iron is less than half developed on SAE 1020 steel. (Chilled cast iron further reduces the force to less than one quarter.)

4. LOAD LENGTH OR WIDTH

As the length or width of a load increases, it ceases to remain flat when lifted and the edges begin to droop. This drooping or sagging of the load can create an air gap between the load and the magnet. This is called peel. If this occurs, the lifting capacity of the magnet is greatly reduced.

For plate lifting, where drooping often occurs, rectangular shaped magnets must be positioned so that the length of the magnet is parallel to the width of the load.



5. POSITION OF MAGNET'S LIFTING SURFACE

As the position of the magnet's lifting surface changes from horizontal to vertical, the lifting capacity of the magnet decreases. When the magnet's lifting surfaces are vertical, the lifting capacity of the magnet is minimum and dependent upon the coefficient of friction between the magnet's lifting surface and the load.

6. PORTION OF MAGNET SURFACE IN CONTACT WITH LOAD

The full surface of the magnet must contact the load if the magnet is to achieve rated lift capacity.

7. LOAD TEMPERATURE

The temperature of the load can cause damage to the magnet and, if high enough, can even change the magnetic characteristics of the load. For Standard Lift Magnets, O.S. Walker should be consulted if the load or air temperature exceeds 110°F (43°C).

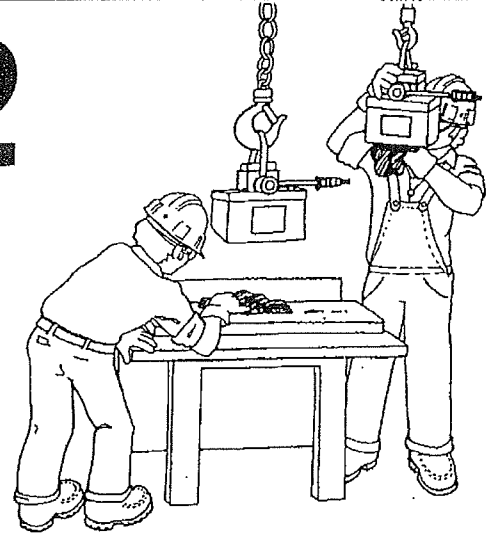
SAFETY

FOR FAST, EASY LIFTING WITH YOUR WALKER

1 NEVER

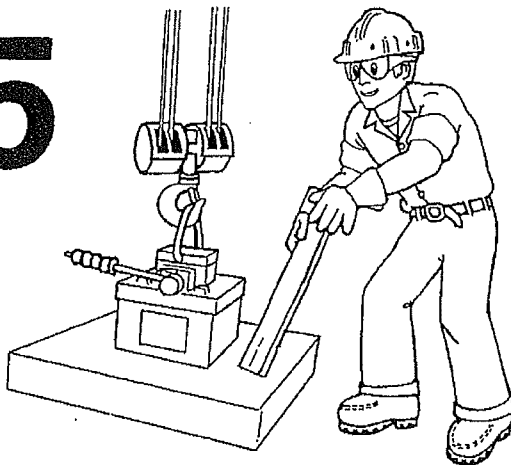
attempt to operate this lift magnet until you read and understand the **OPERATOR'S MANUAL & SAFETY INSTRUCTIONS** (MANUAL #37-D11944) for the CM-1 & CM-3

2



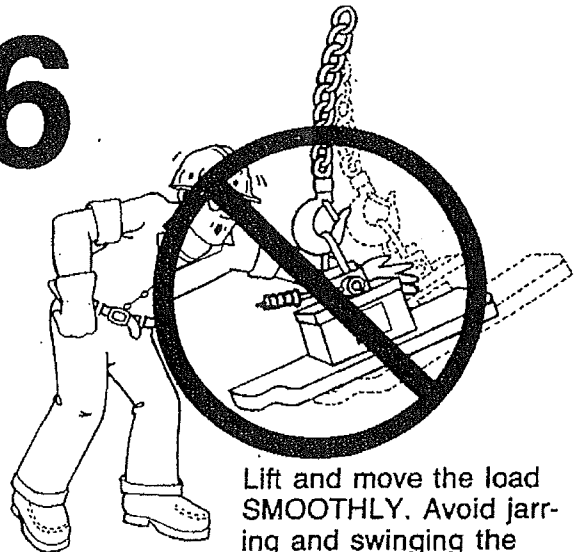
Check the condition of your magnet prior to every lift. **WIPE** clean the bottom of the magnet and the area on the load where the magnet will be located. File away burrs.

5



Check to be sure no one is near the load to be lifted. Inform others in the area that a lift is to begin. Lift the load 2 to 3 inches (50 to 75 mm) and then jar the load to ensure that adequate holding power is available. **ALWAYS STAY CLEAR OF THE LOAD.**

6



Lift and move the load **SMOOTHLY**. Avoid jarring and swinging the load. **KEEP THE LOAD LEVEL. NEVER** let the load come in contact with any obstruction.

If you have any difficulty lifting a load, **DON'T LIFT IT.** Ask your supervisor for help or call O.S. Walker Co., Inc., for advice at 1-800-W-MAGNET.

When working in an area using lifting magnets, wear safety glasses, work gloves, steel-toed shoes and a safety hat.

RULES

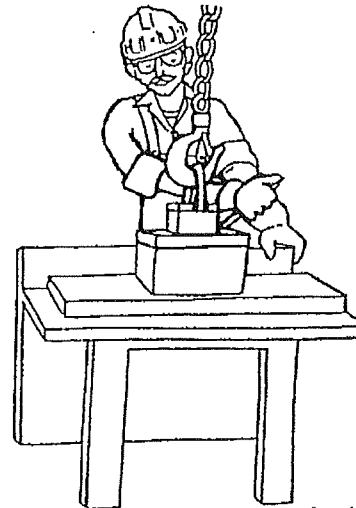
TOTER LIFT MAGNET – MODELS: CM-1, CM-3

3



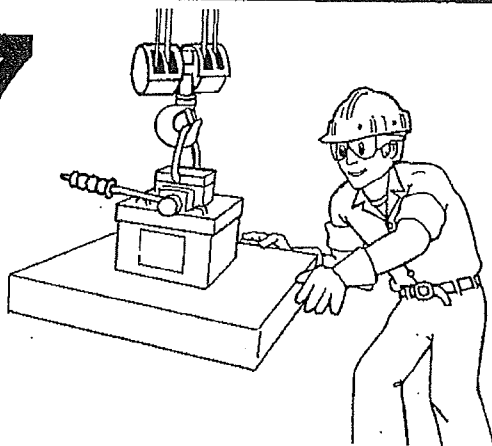
Position the magnet so the load remains level.

4



Energize the magnet by depressing the handle shaft. Grip the handle firmly as you turn to the "ON" \uparrow position. Be sure the safety handle has returned to the locked position.

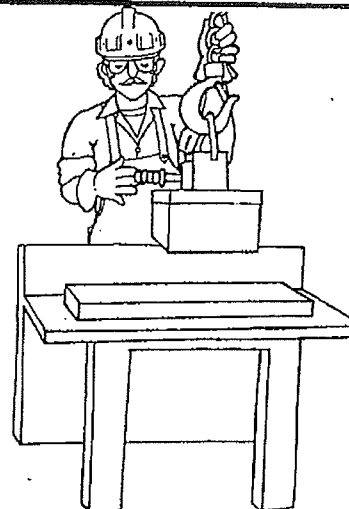
7



ALWAYS STAY CLEAR OF THE LOAD

Guide the load by pushing or pulling the edges. This keeps your entire body clear of the load at all times. DO NOT guide the load by pushing or pulling the magnet. NEVER get in a position where you could get hit with the load if it dropped.

8



Carefully set the load down. To release the load, depress the handle shaft and turn to the "OFF" \downarrow position. Lift the magnet slightly to be sure the load has been released.

CAUTION

NEVER re-energize the magnet until it has been placed in contact with the load to be lifted. Prematurely energizing the magnet could cause unwanted materials to be attracted to the magnet. PERSONAL INJURY MAY RESULT.

RECOMMENDED LIFTING PROCEDURES

■ SAFETY HOOK LATCH

Always use a safety hook latch on your crane hook to hold your magnet.

■ STAY CLEAR OF THE LOAD

Guide the load by pushing or pulling the edges of the load. Keep your entire body clear of the load at all times.

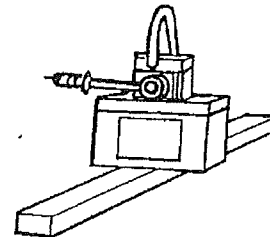
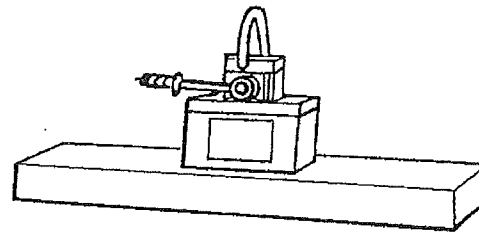
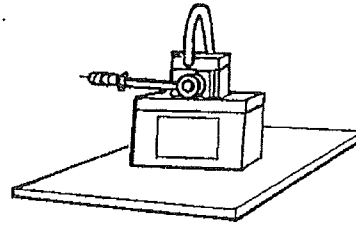
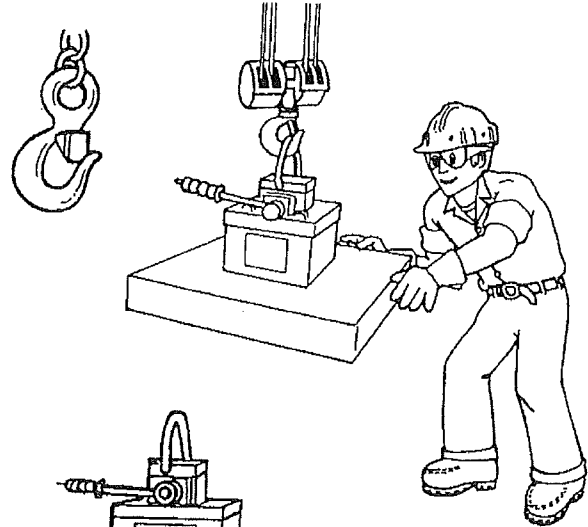
■ PLATE LIFTING

On plates less than 1 1/2" (38mm) thick, position the magnet length so that it is parallel to the width of the plate. Never lift any plate less than 1/4" (6mm) thick. (See Important Facts 2 & 4.)

■ BAR LIFTING

When the load width is less than the magnet length and wider than the magnet width, position the magnet length so that it is parallel to the length of the plate and the entire lifting surface of the magnet is in contact with the load.

When the load width is narrower than the width of the magnet, position the magnet so the length of the magnet is parallel to the width of the load.



UNSAFE LIFTING APPLICATIONS FOR YOUR CM-1 OR CM-3

		<p>▲ DANGER</p> <ul style="list-style-type: none"> ■ Never lift any pipe, solid rounds or structural shapes with this magnet. ■ Never lift any castings that do not have a machined flat lifting surface for the magnet. The location of the lifting surface should be such to permit the load to remain level when lifted. 		<p>▲ DANGER</p> <ul style="list-style-type: none"> ■ Never lift the load by its narrowest dimension.

O.S. Walker can provide other type magnets for these applications.

▲ WARNING

If you have any difficulty lifting a load, DON'T LIFT IT.
Call O.S. Walker Co., Inc., for advice at 1-800-962-4638.

Never lift loads with any dimension greater than: 72 inches (1.8 meters) with the CM-1, 96 inches (2.4 meters) with the CM-3.

GUIDELINES FOR THE REDUCTION OF THE RATED LIFTING CAPACITIES:

⚠ CAUTION

: Each Walker magnet model is rated for a different weight limit, and the load characteristics will affect the lifting capacity of the magnets. The lifting guidelines for the various model series are shown on the following pages.

■ The Lifting Guidelines charts show the effect of air gap, load thickness, load length and load width on lifting capacity. As the thickness of the load decreases, so does the rated lifting capacity of the magnet. The tables show the maximum weight or load size which can be lifted for each thickness under varying air gap conditions. **DO NOT EXCEED EITHER THE MAXIMUM WEIGHT OR SIZE FOR EACH THICKNESS.**

■ Each value shown on the Lifting Guidelines charts is for SAE 1020 steel, and any increase in alloy content will result in further reduction of the lifting capacity of the magnet.

THIS TABLE PROVIDES SOME REDUCTION FACTORS FOR MATERIAL OTHER THAN SAE 1020 STEEL			
Reduction Factors for Materials Other than SAE 1020 Steel		CM-1	CM-3
Materials	REDUCTION FACTOR	Maximum Rated Capacity	Maximum Rated Capacity
Cast Steel	0.90	900 lbs (408 kg)	1800 lbs (816 kg)
3% Silicon Steel	0.80	800 lbs (363 kg)	1600 lbs (726 kg)
SAE 1095 Steel	0.70	700 lbs (317 kg)	1400 lbs (634 kg)
416 Stainless Steel	0.66	660 lbs (300 kg)	1320 lbs (600 kg)
Cast Iron (Grade 30)	0.22	220 lbs (100 kg)	440 lbs (200 kg)
Pure Nickel	0.10	100 lbs (45 kg)	200 lbs (90 kg)
For Other Materials Consult O.S. Walker			

PLATE **Rated lifting Capacity** (For these materials) = **Reduction Factor** multiplied by **Maximum Load Value** (For 1020 Steel) from Lifting Guidelines (plate). See pages 12 or 14.

Example: Lifting CAST STEEL, ½" thick, ROUGH machined flat surfaces (use .020" air gap) with a Model CM-1 magnet.

RATED LIFTING CAPACITY = 0.90 multiplied by 200 = 180 pounds.

SQUARE BAR **Rated lifting Capacity** (For these materials) = **Reduction Factor** multiplied by **Maximum Length Value** (For 1020 Steel) from Lifting Guidelines (square bar). See pages 13 or 15.

Example: Lifting CAST IRON, 8" × 8" square bar, CLEAN & SMOOTH GROUND surface (use 0" air gap) with a Model CM-3 magnet.

RATED LIFTING CAPACITY = 0.22 multiplied by 82" = 18".

⚠ WARNING

If you have any difficulty lifting a load, **DON'T LIFT IT.**
Call O.S. Walker Co., Inc., for advice at 1-800-962-4638.

CM-1 LIFTING GUIDELINES (PLATE)

Values shown are for maximum rated capacities when operating instructions and warnings are followed.

VALUES ARE BASED UPON SAE 1020 STEEL

Higher alloy steels and other magnetic materials will require further reductions of these rated capacities. (See page 11 for the Guidelines for the reduction of the Rated Lifting Capacities.)

NEVER EXCEED EITHER THE MAXIMUM WEIGHT OR SIZE SHOWN FOR EACH LOAD THICKNESS AND TYPE OF SURFACE CONDITION

LOAD THICKNESS Inches	TYPE OF SURFACE CONDITION					
	CLEAN & SMOOTH Similar to a Flat (32 micro-inches RMS) Ground Surface .000" Max. Air Gap †		RUST OR SCALE Similar to a Flat Hot Rolled Steel Surface .010" Max. Air Gap † (.254mm)		IRREGULAR OR ROUGH Similar to a Flat Smooth Cut File .020" Max. Air Gap † (.508mm)	
	Max. Load lb.	Max. Size In.	Max. Load lb.	Max. Size In.	Max. Load lb.	Max. Size In.
1½" & above (38mm & above)	1000 (454kg)	—	500 (227kg)	—	300 (136kg)	—
* 1" (25.4mm)	725 (329kg)	48 x 48 (1.2 x 1.2m)	450 (204kg)	36 x 42 (.9 x 1.1m)	275 (125kg)	24 x 36 (.6 x .9m)
* ½" (12.7mm)	675 (306kg)	48 x 72 (1.2 x 1.8m)	340 (154kg)	48 x 48 (1.2 x 1.2m)	200 (91kg)	24 x 36 (.6 x .9m)
* ⅜" (9.5mm)	450 (204kg)	48 x 60 (1.2 x 1.5m)	200 (91kg)	36 x 48 (.9 x 1.2m)	150 (68kg)	24 x 36 (.6 x .9m)
* ¼" (6.4mm)	325 (148kg)	60 x 72 (1.5 x 1.8m)	125 (57kg)	36 x 48 (.9 x 1.2m)	100 (45kg)	24 x 36 (.6 x .9m)

**NEVER LIFT LOADS WITH ANY DIMENSION
GREATER THAN 72 IN. (1.8m)**

† Air Gap = nonmagnetic separation between magnet's lifting surface and load.

* Lifting capacity affected by peel and thickness. See Notes 2 & 4 in the "Important Facts" and "Recommended Lifting Procedures." (See pages 6, 7 and 10.)

CM-1 LIFTING GUIDELINES (SQUARE BARS)

Values shown are for maximum rated capacities when operating instructions and warnings are followed.

VALUES ARE BASED UPON SAE 1020 STEEL

Higher alloy steels and other magnetic materials will require further reductions of these rated capacities. (See page 11 for the Guidelines for the reduction of Rated Lifting Capacities.)

NEVER EXCEED THE MAXIMUM LENGTH SHOWN FOR EACH LOAD WIDTH & HEIGHT AND TYPE OF SURFACE CONDITION

LOAD WIDTH & HEIGHT Inches W × H	TYPE OF SURFACE CONDITION		
	CLEAN & SMOOTH Similar to a Flat (32 micro-inches RMS) Ground Surface .000" Max. Air Gap †	RUST OR SCALE Similar to a Flat Hot Rolled Steel Surface .010" Max. Air Gap † (.254mm)	IRREGULAR OR ROUGH Similar to a Flat Smooth Cut File .020" Max. Air Gap † (.508mm)
	Maximum Length Inches	Maximum Length Inches	Maximum Length Inches
12 × 12 (304 × 304mm)	24" (609mm)	12" (304mm)	7" (177mm)
10 × 10 (254 × 254mm)	34" (863mm)	17" (431mm)	10" (254mm)
8 × 8 (203 × 203mm)	52" (1320mm)	26" (660mm)	15" (381mm)
* 6 × 6 (152 × 152mm)	72" (1828mm)	36" (914mm)	21" (533mm)
* 4 × 4 (101 × 101mm)	72" (1828mm)	54" (1371mm)	32" (812mm)
* 3 × 3 (76 × 76mm)	72" (1828mm)	72" (1828mm)	42" (1066mm)

NEVER LIFT ANY LOAD WITH ANY DIMENSION GREATER THAN 72 IN. (1.8m)

† Air Gap = nonmagnetic separation between magnet's lifting surface and load.

* See Recommended Lifting Procedures. (See page 10.)

CM-3 LIFTING GUIDELINES (PLATE)

Values shown are for maximum rated capacities when operating instructions and warnings are followed.

VALUES ARE BASED UPON SAE 1020 STEEL

Higher alloy steels and other magnetic materials will require further reductions of these rated capacities. (See page 11 for the Guidelines for the reduction of the Rated Lifting Capacities.)

NEVER EXCEED EITHER THE MAXIMUM WEIGHT OR SIZE SHOWN FOR EACH LOAD THICKNESS AND TYPE OF SURFACE CONDITION

LOAD THICKNESS Inches	TYPE OF SURFACE CONDITION					
	CLEAN & SMOOTH Similar to a Flat (32 micro-inches RMS) Ground Surface .000" Max. Air Gap †		RUST OR SCALE Similar to a Flat Hot Rolled Steel Surface .010" Max. Air Gap † (.254mm)		IRREGULAR OR ROUGH Similar to a Flat Smooth Cut File .020" Max. Air Gap † (.508mm)	
	Max. Load lb.	Max. Size In.	Max. Load lb.	Max. Size In.	Max. Load lb.	Max. Size In.
1½" & above (38mm & above)	2000 (908kg)	—	1100 (499kg)	—	700 (318kg)	—
* 1" (25.4mm)	1500 (681kg)	72 × 72 (1.8 × 1.8m)	925 (420kg)	54 × 60 (1.3 × 1.5m)	550 (250kg)	36 × 48 (.9 × 1.2m)
* ½" (12.7mm)	1100 (499kg)	84 × 84 (2.1 × 2.1m)	685 (311kg)	60 × 72 (1.5 × 1.8m)	495 (225kg)	48 × 60 (1.2 × 1.5m)
* ⅜" (9.5mm)	635 (288kg)	72 × 72 (1.8 × 1.8m)	400 (182kg)	60 × 60 (1.5 × 1.5m)	285 (129kg)	48 × 48 (1.2 × 1.2m)
* ¼" (6.4mm)	350 (159kg)	60 × 72 (1.5 × 1.8m)	250 (113kg)	60 × 60 (1.5 × 1.5m)	150 (68kg)	42 × 48 (1.0 × 1.2m)

**NEVER LIFT LOADS WITH ANY DIMENSION
GREATER THAN 96 IN. (2.4m)**

† Air Gap = nonmagnetic separation between magnet's lifting surface and load.

* Lifting capacity affected by peel and thickness. See Notes 2 & 4 in the "Important Facts" and "Recommended Lifting Procedures." (See pages 6, 7 and 10.)

CM-3 LIFTING GUIDELINES (SQUARE BARS)

Values shown are for maximum rated capacities when operating instructions and warnings are followed.

VALUES ARE BASED UPON SAE 1020 STEEL

Higher alloy steels and other magnetic materials will require further reductions of these rated capacities. (See page 11 for the Guidelines for the Reduction of Rated Lifting Capacities.)

NEVER EXCEED THE MAXIMUM LENGTH SHOWN FOR EACH LOAD WIDTH & HEIGHT AND TYPE OF SURFACE CONDITION

LOAD WIDTH & HEIGHT Inches W x H	TYPE OF SURFACE CONDITION		
	CLEAN & SMOOTH Similar to a Flat (32 micro-Inches RMS) Ground Surface .000" Max. Air Gap †	RUST OR SCALE Similar to a Flat Hot Rolled Steel Surface .010" Max. Air Gap † (.254mm)	IRREGULAR OR ROUGH Similar to a Flat Smooth Cut File .020" Max. Air Gap † (.508mm)
	Maximum Length Inches	Maximum Length Inches	Maximum Length Inches
12 x 12 (304 x 304mm)	48" (1218mm)	26" (660mm)	16" (406mm)
* 10 x 10 (254 x 254mm)	66" (1676mm)	36" (914mm)	22" (558mm)
* 8 x 8 (203 x 203mm)	82" (2082mm)	45" (1143mm)	27" (685mm)
* 6 x 6 (152 x 152mm)	96" (2438mm)	60" (1524mm)	36" (914mm)
* 4 x 4 (101 x 101mm)	96" (2438mm)	90" (2286mm)	54" (1371mm)
* 3 x 3 (76 x 76mm)	96" (2438mm)	96" (2438mm)	72" (1828mm)

NEVER LIFT ANY LOAD WITH ANY DIMENSION GREATER THAN 96 IN. (2.4m)

† Air Gap = nonmagnetic separation between magnet's lifting surface and load.

* See Recommended Lifting Procedures. (See page 10.)

INSPECTION AND MAINTENANCE INSTRUCTIONS

EVERY LIFT

- Keep the lifting surfaces of the magnet CLEAN, SMOOTH, FLAT, FREE OF RUST and any FOREIGN MATERIALS. Nicks and burrs on the lifting surfaces will reduce the lifting capacity. If burrs occur, they can be removed by filing them away. However, care must be taken to protect the neighboring lifting surfaces.

Deep nicks may require regrinding of the entire lifting surfaces. (See Weekly Inspection Instructions.)

- Check the operation of the handle. The handle should move freely when depressed and return promptly upon release. If the handle binds and remains depressed, **DO NOT CONTINUE TO USE THE MAGNET**. The handle is the safety feature to prevent accidental release of the load.

DAILY

- Check the entire magnet's case, lifting surfaces, hoist bail block, bail, and welds for cracks or other defects. If present, **DO NOT USE THE MAGNET** — Contact a Qualified Person or O. S. Walker.
- Inspect the hoist bail block (8) and bail (9) for wear or deformation (see Fig. 2). If the thickness of the hoist bail block between the top of the bail groove and top of the bail block is less than 3/16" (4.8mm), it needs to be replaced. If the bail diameter is deformed and/or worn to less than .4" (10.2mm) for the CM-1 or .5" (12.7mm) for the CM-3, it should be replaced.
- Check the condition of the Operating Instruction label and Product Safety signs. Your magnet was supplied with one (1) Specification/Operating Instruction label and two (2) Product Safety signs. If this label and these signs are missing or damaged, they should be replaced.
- Inspect all socket head cap screws. Retighten and/or replace if necessary.

WEEKLY

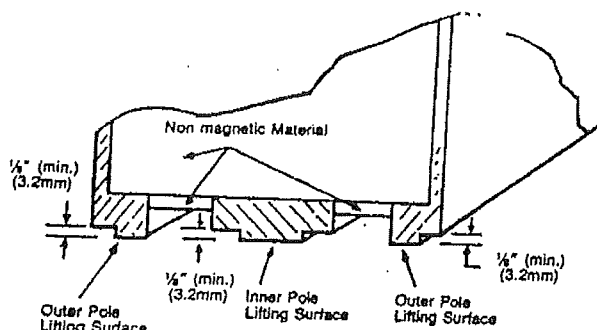
- The lifting surfaces of the magnet should be checked for flatness and wear. Uneven wear and out of flatness can greatly reduce the lifting capacity because it will cause a non-magnetic separation (air gap) between the magnet and the flat surface of the load. Some nicks and burrs will occur on the lifting surfaces due to normal usage. However when the flat contact area of the entire magnet's lifting surfaces becomes less than 90% of the original total lifting surface, it should be taken out of service and the lifting surfaces reground.*
- The CM-1 and CM-3 magnets have specially shaped pole shoes in order to ensure that the full magnetic intensity is directed into the load.
On all CM-1 & CM-3 magnets, the longer outer magnet case walls have relief steps machined the length of the magnet to form the outer lifting surfaces of the magnet pole. The center lifting surface (pole) has relief steps on both sides of its entire length (see Fig. 1). This is by design and is necessary to assure maximum intensity of the magnetic lines of force at the lifting surfaces. With continued use of the magnet, the height of the step will gradually be reduced. This step height should always be greater than 1/8" (3.2mm). Check this height. If it is less than 1/8" (3.2mm), the magnet should be returned for service.*

* Regrinding the lifting surfaces.

If regrinding is necessary, all the lifting surfaces (see Fig. 1) must remain flat and in the same plane. The relief step on the inner and outer poles must not be less than 1/8" (3.2mm). After regrinding, the magnet must be re-tested for break-away force in accordance with the test described in ANSI/ASME B30.20.

SPECIFICATIONS & PARTS LIST

Figure 1



CM-1 / CM-3 END VIEW
SPECIALLY SHAPED POLE SHOES

REPAIRS

For repair of your lift magnet, contact O. S. Walker for your nearest Authorized Service Center TOLL FREE at 1-800-W-MAGNET. A return material authorization number will be issued along with the address of the nearest Authorized Service Center. Your magnet, after receipt by the Service Center will be inspected and a free estimate of repair charges will be provided. Authorization for repairs from magnet owners must be given to the O. S. Walker Service Center before repairs are made. Transportation charges, both to and from factory, are to be paid by the magnet owner.

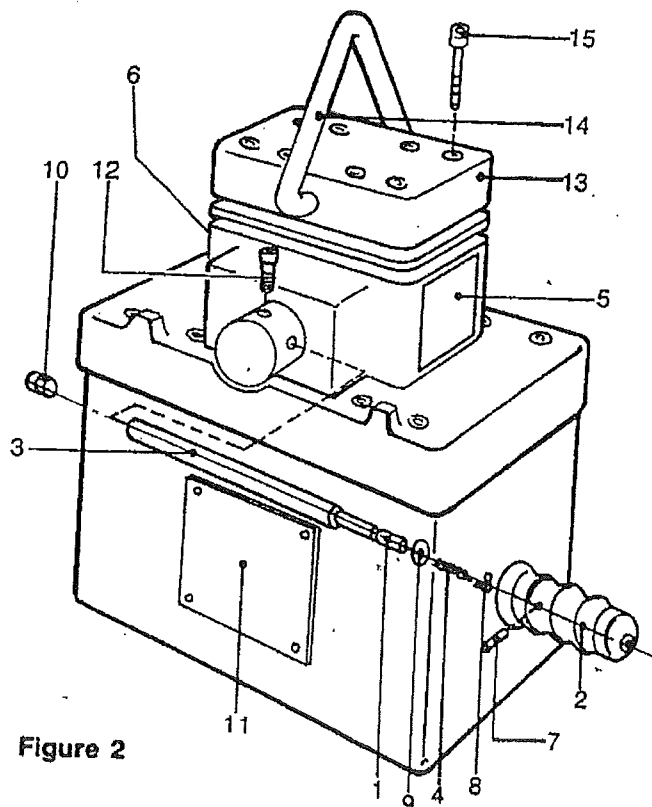


Figure 2

NOTE: Consult factory for replacement of parts.

SPECIFICATIONS

■ Model #	CM-1	CM-3
■ Length	8" (203 mm)	12" (304 mm)
■ Width	6" (152 mm)	7" (177 mm)
■ Height to crane hook	12.5" (317 mm)	15.25" (387 mm)
■ Net weight	62 lbs (28 kg)	150 lbs (68 kg)
■ PERFORMANCE		
RATING on	0-1000 lbs	0-2000 lbs SAE
SAE 1020 steel	(0-454 kg)	(0-908 kg)
(Rated Lift)		

This product is manufactured in accordance with ANSI/ASME B30.20-1985. For further information refer to Chapter 20-3 Close Proximity Operated Magnets.

PARTS LIST

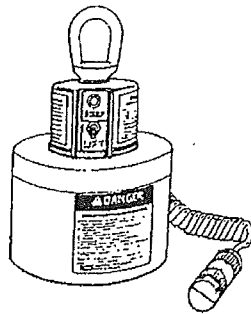
INDEX NO.	DESCRIPTION OF PART	CM-1		CM-3	
		PART NO.	QTY.	PART NO.	QTY.
1	Actuating Pin	12001	1	14001	1
2	Handle	12002	1	14002	1
3	Handle Shaft	12003	1	14003	1
4	Spring	12004	1	14004	1
5	Warning Sign	12008	1	14009	1
6	Warning Sign	12009	1	14010	1
7	Set Screw M6x8	12010	1	14011	1
8	Retainer Ring	12011	1	14012	1
9	Washer	12012	1	14013	1
10	Plug	12013	1	14015	1
11	Operating Inst.	12017	1	14020	1
12	Screw	12016	1	14019	1
13	Hoist Bail Block	-----	---	-----	---
14	Hoist Bail	-----	---	-----	---
15	Soc. HD. Screw	-----	---	-----	---

WARNING

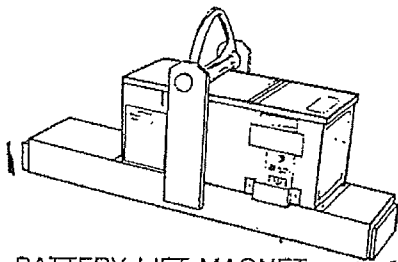
- Disassembly or repair of this magnet can result in reduced holding power and/or cause an unsafe condition. Therefore anytime the magnet is disassembled beyond the parts list shown in this manual, the magnet must be re-tested for break-away force in accordance with the test described in ANSI/ASME B30.20.
- Modification of any operating mechanism or structure of this magnet can reduce the magnet's effectiveness and/or cause an unsafe condition.
- Repair or Modification of this magnet should only be done by the O. S. Walker Co. or a Qualified Person.*

* Qualified Person - A person who by extensive knowledge, training and experience, has successfully demonstrated the ability to solve or resolve problems relating to O. S. Walker close proximity magnets. This person MUST BE APPROVED by the O. S. Walker Co.

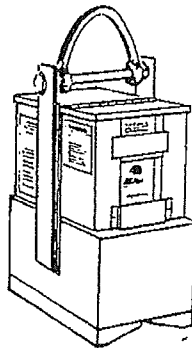
OTHER WALKER LIFT MAGNETS



CER
CIRCULAR LIFT
MAGNET



BATTERY LIFT MAGNET



BPS
BI-POLAR LIFT
MAGNET

O.S. Walker offers a wide range of lift magnets for machine loading and material handling, including permanent and battery-operated lift magnets; small, high-powered circular lift magnets with holding power up to 11,000 pounds; and rectangular lift magnets for handling plates or layered materials, rounds & structural shapes.

WALKER CER Models Circular Electric Lift Magnets

Model	Rated Lift in Lbs.
CER-5	0-600
CER-7	0-1,200
CER-9	0-2,400
CER-12	0-4,000
CER-16	0-7,250
CER-20	0-10,500

All units are available with remote control

WALKER BM Models Battery Lift Magnets

Model	Rated Lift in Lbs.
BM-30C (built-in charger)	0-3,000
BM-55C (built-in charger)	0-5,500
BM-80C (built-in charger)	0-8,000
BM-110C (built-in charger)	0-11,000

All units are available with remote control

WALKER BPS Models Battery Bi-Polar Lift Magnets

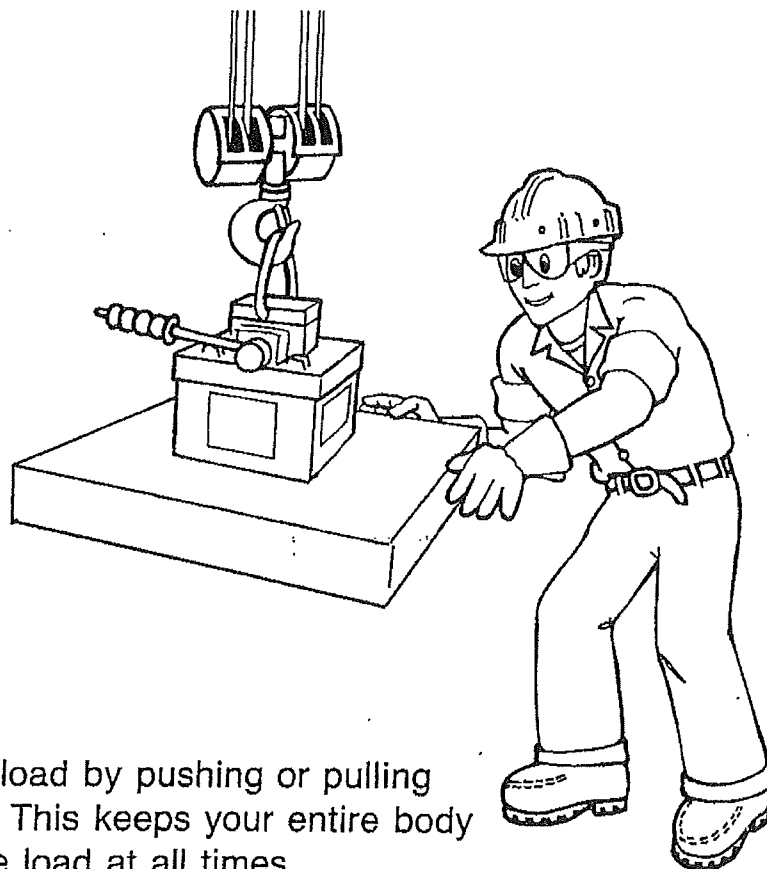
Model	Rated Lift in Lbs.
BPS-25C (built-in charger)	2,500
BPS-50C (built-in charger)	5,000

All units are available with remote control

WALKER
MAGNETICS
GROUP

O.S. WALKER

ALWAYS STAY CLEAR OF THE LOAD



Guide the load by pushing or pulling the edges. This keeps your entire body clear of the load at all times.

DO NOT guide the load by pushing or pulling the magnet. NEVER get in a position where you could get hit with the load if it is dropped.

FOR FAST RESPONSE, CALL 1-800-W-MAGNET

**WALKER
MAGNETICS
GROUP**

O.S. WALKER

Rockdale St., Worcester, MA 01606
(508)853-3232 FAX(508)852-8649
1-800-W-MAGNET

3508 Glenridge Drive, Chino Hills, CA 91709
(909)597-4785 FAX(909)597-0581