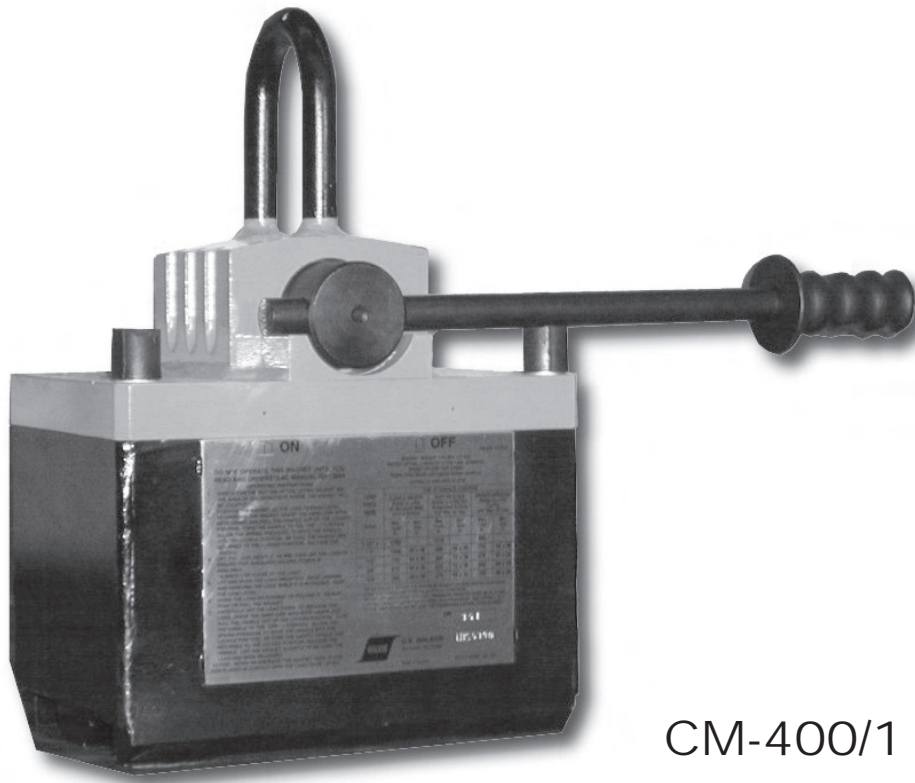


OPERATOR'S MANUAL AND SAFETY INSTRUCTIONS

WITH INSPECTION AND MAINTENANCE INSTRUCTIONS
TOTER PERMANENT LIFT MAGNETS
MODELS: CM-400/1, CM-800/1



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 either of these magnets until you have read and understand this 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, any "Toter" lifting magnet can be rendered inefficient and unsafe. Therefore, it is absolutely essential that anyone who uses this lifting magnet and is responsible for its application 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 ALWAYS BE AVAILABLE TO ALL OPERATORS AND REMAIN WITH THE MAGNET IF IT IS RE-SOLD.


additional copies of this OPERATOR'S manual ARE AVAILABLE. JUST CALL 1-800-962-4638 AND REQUEST ADDITIONAL COPIES OF MANUAL #37-DD13899.

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 work piece 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 lifter.

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

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



WARNING

Orange Background, Black Letters

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



CAUTION

Yellow Background, Black Letters

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-400/1 OR CM-800/1

		<p>⚠ DANGER</p> <ul style="list-style-type: none">■ Never lift any pipe, solid round 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>O.S. Walker can provide other type magnets for these applications.</p>		

	<p>⚠ DANGER</p> <ul style="list-style-type: none">■ Never lift a load by its narrowest dimension.
--	---



WARNING

If you have any difficulty lifting a load, **DON'T LIFT IT!**
Call Walker 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" (38mm) 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 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 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-400/1
96 inches (2.4 meters) with the CM-800/1
- 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 O.S. Walker*.

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.

*Walker replacement parts may be installed by a ****Designated Person**.

**** Designated Person** - A person selected or assigned by the employer as being competent to replace specific replacement parts listed in this manual and is able to verify the proper functioning of the specific replacement parts and the entire product after the completion of the installation.

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 minimum 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 force on a type 416 stainless steel load as it can on a SAE 1020 steel load. Also, because of the carbon content, the force developed on cast iron is less than one-half of that 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, Walker should be consulted if the load or air temperature exceeds 110° F (43° C).

SAFETY

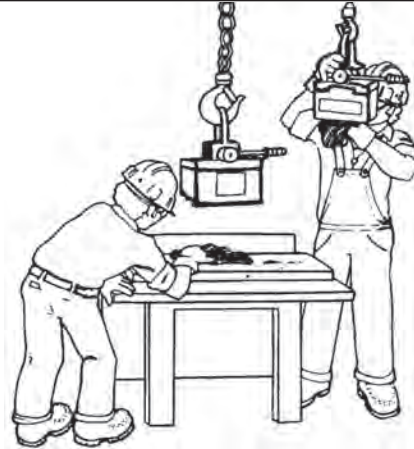
FOR FAST, EASY LIFTING WITH YOUR WALKER

NEVER attempt to turn the magnet on or off in the “Lifting Guidelines” section of this on loads that are too thin will result in the

1 NEVER

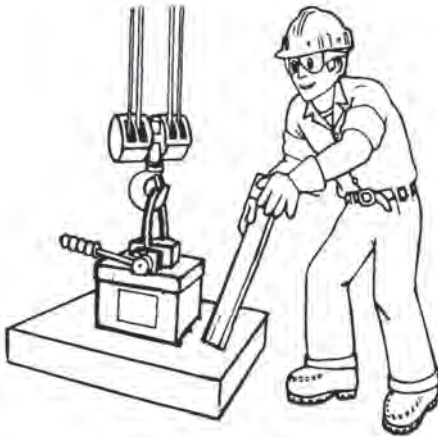
attempt to operate this lift magnet until you read and understand the OPERATOR’S MANUAL & SAFETY INSTRUCTIONS (Manual #37-DD13899) for the CM-400/1 & CM-800/1.

2



Check the condition of the 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 insure 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 while it is in transit. 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

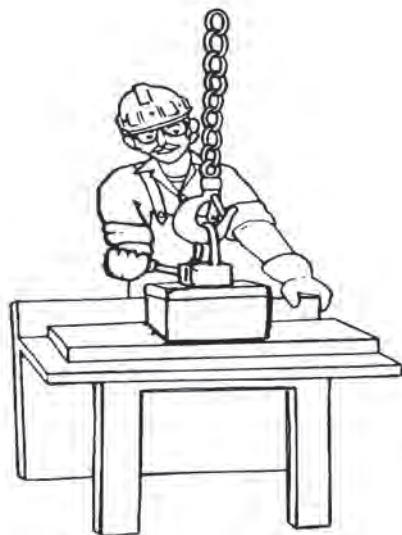
When working in an area using lifting magnets, wear safety glasses, work gloves, steel-toed shoes and a safety hat.

RULES

TOTER LIFT MAGNET – MODELS: CM-400/1, CM-800/1

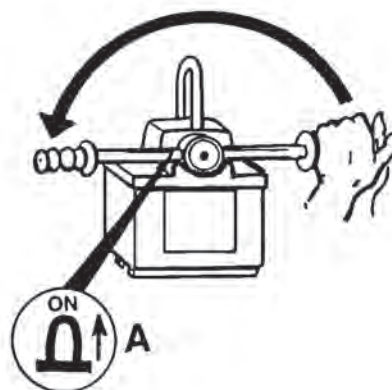
unless the magnet is in contact with a load of a thickness equal to those listed manual. Attempting to energize or de-energize this magnet without a load or high probability of personal injury due to handle spring back.


3



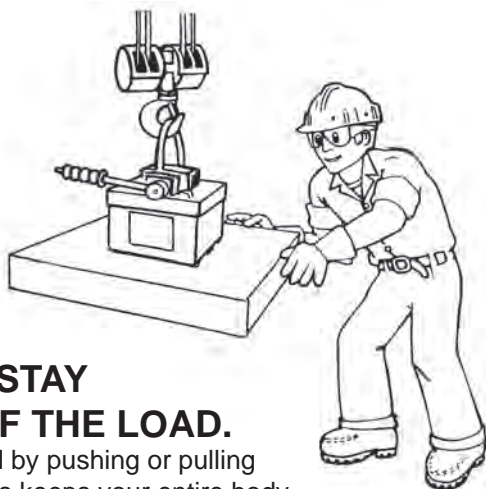
Position the magnet so the load remains level.

4



To energize magnet, grasp the hand grip with both hands and pull the handle out of the locked position. Turn the handle to the "ON"  Position (A). Allow the spring pressure to move the handle into the locked position. Be sure the handle has returned to the locked position. Release the handle.

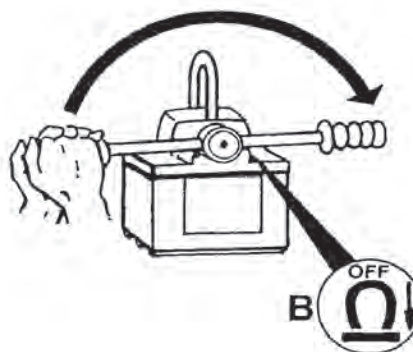
7




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 load if it dropped.

8



Carefully set the load down. To release the load, grasp the hand grip with both hands and pull the handle out of the locked position. Turn the handle to the "OFF"  Position (B). Allow the spring pressure to move the handle into the locked position. Be sure the safety handle has returned to the locked position. Release the handle. 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 magnets.

■ STAY CLEAR OF THE LOAD

Guide the load by pushing or pulling the edges of the load.

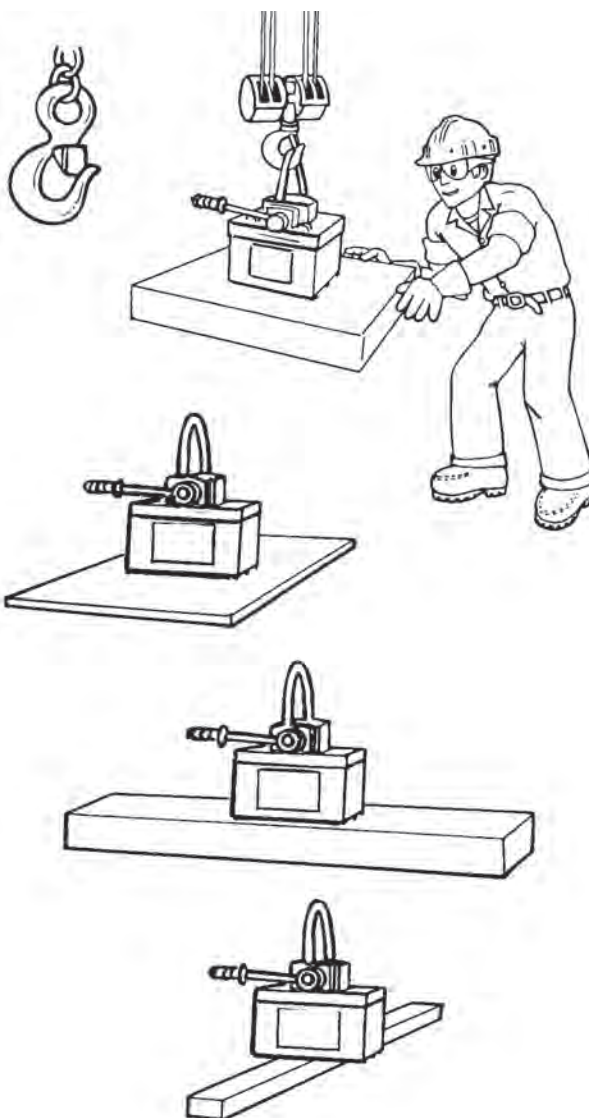
Keep your entire body clear of the load at all times.

■ 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-400/1 OR CM-800/1

		⚠ DANGER <ul style="list-style-type: none"> • Never lift any pipe, solid round 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 <ul style="list-style-type: none"> • Never lift a load by its narrowest dimension.
--	--

⚠ WARNING	If you have any difficulty lifting a load, DON'T LIFT IT! Call Walker for advice at 1-800-962-4638
------------------	--

Never lift loads with any dimension greater than: 72 inches (1.8 meters) with the **CM-400/1**, 96 inches (2.4 meters) with the **CM-800/1**.

GUIDELINES FOR THE REDUCTION OF THE RATED LIFTING CAPACITY:



CAUTION

Each Walker lifter model is rated for a different weight limit. Load characteristics will affect the lifting capacity of the magnets.

The lifting guidelines for the various models 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-400 Maximum Rated Capacity	CM-800 Maximum Rated Capacity
Materials	REDUCTION FACTOR		
Cast Steel	0.90	790 lbs (359 kg)	1580 lbs (718 kg)
3% Silicon Steel	0.80	700 lbs (317 kg)	1400 lbs (636 kg)
SAE 1095 Steel	0.70	615 lbs (280 kg)	1230 lbs (560 kg)
416 Stainless Steel	0.50	440 lbs (200 kg)	880 lbs (400 kg)
Cast Iron (non-chilled)	0.45	395 lbs (180 kg)	790 lbs (360 kg)
Pure Nickel	0.10	85 lbs (39 kg)	170 lbs (77 kg)
For Other Materials Consult O.S. Walker			

PLATE

Rated lift 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 SAE 1095 STEEL, ½" thick, ROUGH machined flat surfaces (use .020" air gap) with a Model CM-400/1 magnet.

Rated Lift Capacity = 0.70 multiplied by 330 = 230 pounds.

SQUARE BAR

Rated lift 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, (non-chilled), 8"x8" square bar, CLEAN AND SMOOTH GROUND surfaces (use 0" air gap) with a Model CM-800/1 magnet.

Rated Lift Capacity = 0.45 multiplied by 82" = 36".



WARNING

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

CM-400/1 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 OF 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-inch 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 (lbs.)	Max. Size (in.)	Max. Load (lbs.)	Max. Size (in.)	Max. Load (lbs.)	Max. Size (in.)
1-1/2" & above (38 mm & above)	880 (400kg)	-	615 (280kg)	-	440 (200kg)	-
* 1" (25.4mm)	880 (400kg)	48 x 48 (1.2 x 1.2m)	615 (280kg)	48 x 36 (1.2 x .9m)	440 (200kg)	36 x 24 (.9 x .6m)
* 1/2" (12.7mm)	680 (310 kg)	72 x 48 (1.8 x 1.2m)	480 (220kg)	60 x 48 (1.5 x 1.2m)	330 (150kg)	36 x 24 (.9 x .6m)
* 3/8" (9.5mm)	525 (240 kg)	60 x 48 (1.5 x 1.2m)	370 (170kg)	60 x 48 (1.5 x 1.2m)	275 (125kg)	36 x 24 (.9 x .6m)
* 1/4" (6.4mm)	275 (125kg)	60 x 48 (1.5 x 1.2m)	175 (80kg)	48 x 48 (1.2 x 1.2m)	130 (60kg)	6 x 24 (.9 x .6m)

**NEVER LIFT ANY LOADS WITH ANY DIMENSION
GREATER THAN 72 INCHES (1.8 METERS)**

† 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-400/1 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 the Rated Lifting Capacities.)

NEVER EXCEED EITHER 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-inch 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)	20" (500mm)	12" (304mm)	7" (177mm)
10 x 10 (254 x 254mm)	30" (760mm)	17" (431mm)	10" (254mm)
8 x 8 (203 x 203mm)	45" (1140mm)	26" (660mm)	15" (381mm)
* 6 x 6 (152 x 152mm)	72" (1828mm)	36" (914mm)	21" (533mm)
* 4 x 4 (101 x 101mm)	72" (1828mm)	54" (1371mm)	32" (812mm)
* 3 x 3 (76 x 76mm)	72" (1828mm)	72" (1828mm)	42" (1066mm)

NEVER LIFT ANY LOADS WITH ANY DIMENSION GREATER THAN 72 INCHES (1.8 METERS)

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

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

CM-800/1 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 OF 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-inch 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 (lbs.)	Max. Size (in.)	Max. Load (lbs.)	Max. Size (in.)	Max. Load (lbs.)	Max. Size (in.)
1-1/2" & above (38 mm & above)	1760 (800kg)	-	1210 (550kg)	-	880 (400kg)	-
* 1" (25.4mm)	1540 (700kg)	84 x 48 (2.0 x 1.3m)	990 (450kg)	66 x 48 (1.7 x 1.2m)	770 (350kg)	48 x 36 (1.2 x .9m)
* 1/2" (12.7mm)	770 (350kg)	84 x 36 (1.9 x 1.0m)	660 (300kg)	72 x 36 (1.6 x 1.0)	370 (170kg)	60 x 36 (1.4 x 1.0m)
* 3/8" (9.5mm)	615 (280 kg)	84 x 36 (1.8 x 1.0m)	525 (240kg)	72 x 36 (1.5 x 1.0m)	300 (140kg)	60 x 36 (1.3 x 1.0m)
* 1/4" (6.4mm)	350 (160kg)	72 x 48 (1.8 x 1.2m)	275 (125kg)	54 x 36 (1.3 x 1.0m)	195 (90kg)	48 x 36 (1.2 x 1.0m)

NEVER LIFT ANY LOADS WITH ANY DIMENSION GREATER THAN 96 INCHES (2.4 METERS)

† 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-800/1 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 the Rated Lifting Capacities.)

NEVER EXCEED EITHER 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-inch 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)	40" (1016mm)	26" (660mm)	16" (406mm)
* 10 x 10 (254 x 254mm)	54" (1370mm)	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 LOADS WITH ANY DIMENSION GREATER THAN 72 INCHES (1.8 METERS)

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

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

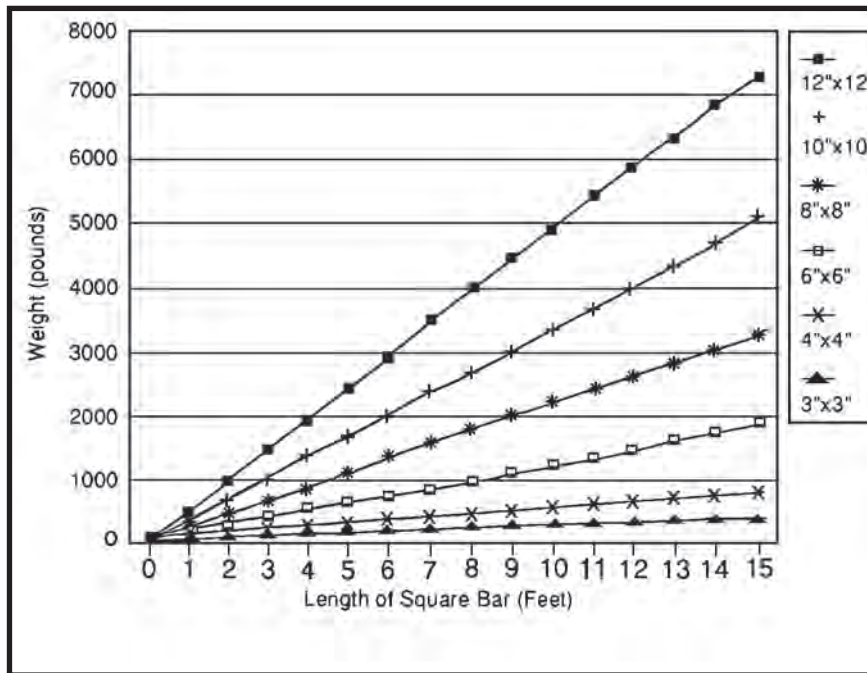
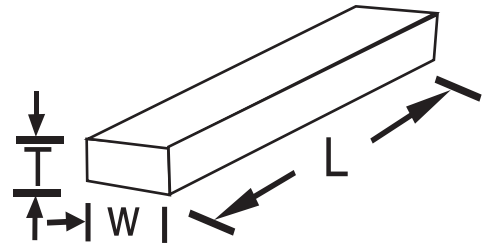
LOAD WEIGHT GUIDELINE

To estimate the weight of a steel work piece, first determine the volume of the Load in cubic inches. Then multiply the volume (cubic inches) by the density of steel (.283) pounds per cubic inch.

$$\text{Load Weight (steel)} = (\text{volume}) \text{ multiplied by (density)} \\ = (W \times T \times L) \times (.283)$$

Example: What is the weight of a 10" wide x 5" thick x 96" long piece of steel?

$$\text{Load Weight} = (10 \times 5 \times 96) \times (.283) = 1358 \text{ lbs.}$$



WARNING

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

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 pulled out from the locked position and it should promptly release. If the handle binds and remains away from the locked position, **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 ring, 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 ring for wear or deformation (see Fig. 2). If the hoist ring diameter is deformed and/or worn to less than .4" (10.2mm) for the CM-400/1 or .5" (12.7mm) for the CM-800/1, 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 one (1) Product Safety sign. If these 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 until the lifting surfaces are reground.*
- The CM-400/1 and CM-800/1 magnets have specially shaped poles shoes in order to ensure that the full magnetic intensity is directed into the load.

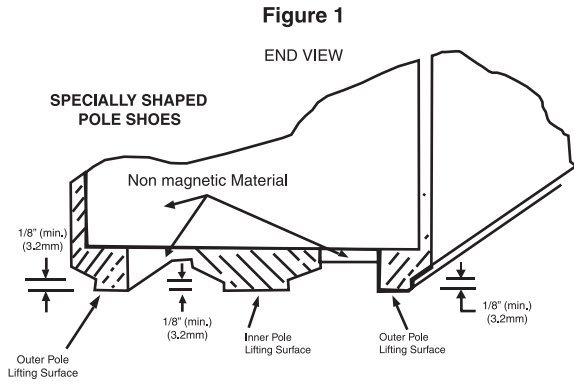
On all CM-400/1 and CM-800/1 magnets, the longer outer magnet case walls have relief steps machined the length of the magnet to form the outer lifting surfaces of the magnet pole. The center lifting surface (pole) has relief steps on both sides of its entire length (see Fig. 1). This is by design and 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 breakaway force in accordance with the test described in ANSI/ASME B30.20.

O.S. Walker recommends that your lifting magnet be re-tested for breakaway force each year.

SPECIFICATION & PARTS LIST



REPAIRS

For repair of your lift magnet, contact O.S. Walker for you're 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 the factory, are to be paid by the magnet owner.

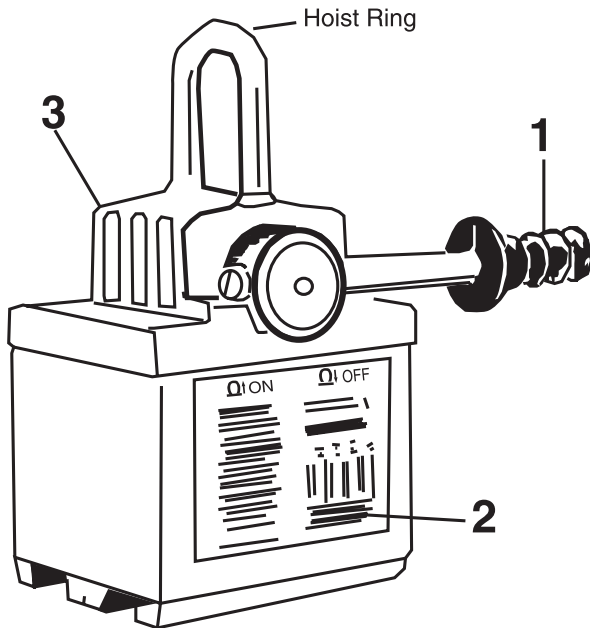


Figure 2

NOTE: Consult factory for replacement parts.

SPECIFICATIONS

Model	CM-400/1	CM-800/1
Length	7.64" (194mm)	10.95" (278mm)
Width	5.67" (144mm)	7.56" (192mm)
Height to crane hook	12.4" (315mm)	15.55" (395mm)
Net weight	72.6 lbs (33kgf)	169.4 lbs (77kgf)
Performance Rating on SAE 1020 Steel (Rated Lift)	0 - 880 lbs: (0 - 400kgf)	0 - 1760 lbs: (0 - 800 kgf)

PARTS LIST

Index No.	Description Of Parts	CM-400/1		CM-800/1	
		Part No.	Qty.	Part No.	Qty.
1	Handle Assembly	CC-14921	1	CC-14833	1
2	Operating Instruction Tag	CC12466	1	CC12467	1
3	Danger Tag (Product Safety Signs)	DD13898	1	DD13898	1
	Safety Manual	DD13899	1	DD13899	1
	Safety Video	DD13901	1	DD13901	1
	Safety Poster	DD13900	1	DD13900	1



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 breakaway 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 unsafe conditions.
- Repair or modification of this magnet should only be done by O.S. Walker.*

*Walker replacement parts may be installed by a **Designated Person.

** Designated Person - A person selected or assigned by the employer as being competent to replace specific replacement parts listed in this manual and is able to verify the proper functioning of the specific replacement parts and the entire product after the completion of the installation.

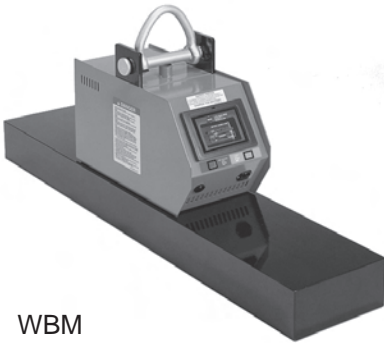
OTHER WALKER LIFT MAGNETS

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.



CER
CIRCULAR LIFT
MAGNET

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	



WBM
BATTERY LIFT MAGNET

WALKER WBM Models Battery Lift Magnets	
Models	Rated lift in lbs.
WBM-13 (built in charger)	0 - 3,000
WBM-25 (built in charger)	0 - 5,500
WBM-36 (built in charger)	0 - 8,000
WBM-50 (built in charger)	0 - 11,000
All units are available with remote control.	

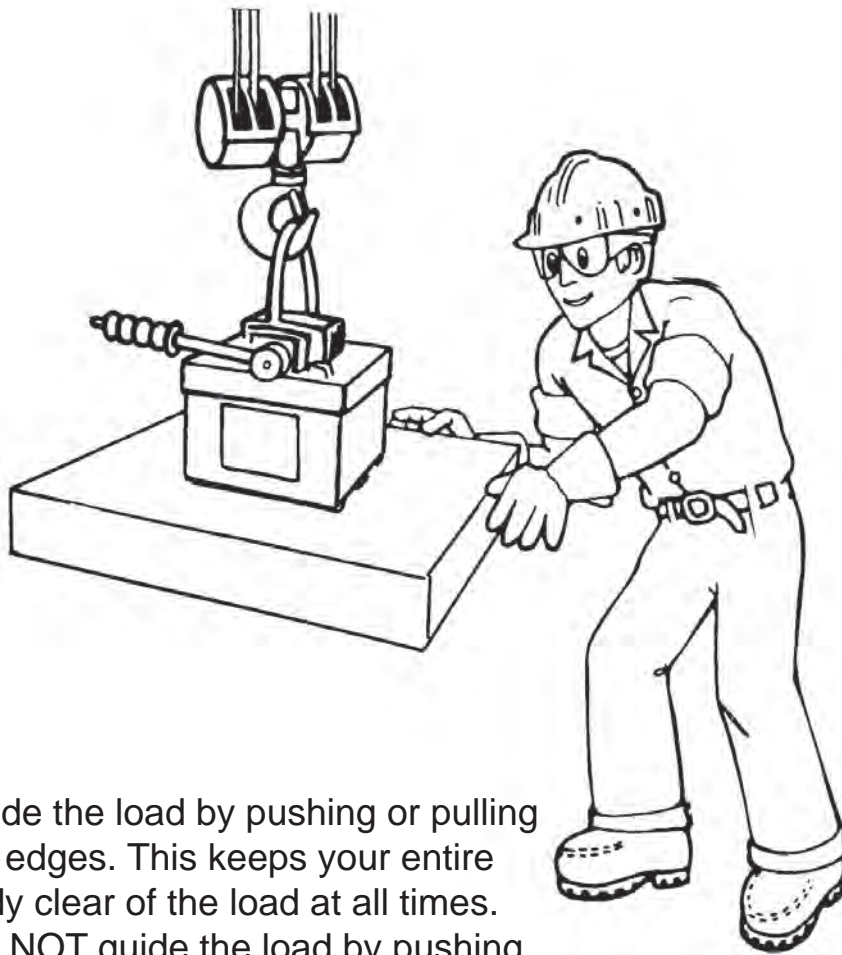


WBP
BI-POLAR LIFT
MAGNET

Walker WBP Models Battery Bi-Polar Lift Magnets	
Models	Rated lift in lbs.
WBP-7 (built in charger)	0 - 1,666
WBP-15 (built in charger)	0 - 3,330
All units are available with remote control.	

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

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

The Walker logo consists of a dark, stylized shape resembling a magnet or a piece of equipment, with the word "WALKER" in white capital letters inside it.

WALKER

O.S. WALKER

Rockdale Street, 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

901 Arvin Avenue, Stoney Creek, Ontario, L8E5N9 Canada

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