

OPERATOR'S MANUAL AND SAFETY INSTRUCTIONS

WITH INSPECTION AND MAINTENANCE INSTRUCTIONS
CIRCULAR ELECTRIC LIFTING MAGNETS

MODELS: CER-5, CER-7, CER-9, CER-12, CER-16, CER-20

CER-5



CER-12



CER-20



I/R CER-7



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 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 O. S. Walker 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.

O.S. Walker Products have proven to be among the best designed and safest in our industry. However, if used improperly, any **CER** 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 AND SAFETY CD 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.


**To request additional copies of this manual #37-DD10505 call 1-800-962-4638 in the USA;
In Canada: 905-643-3338; In Europe: 31-4973-83835.**

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 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 IN THE USA;
(In Canada: 905-643-3338; In Europe: 31-4973-83835.)

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.




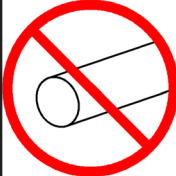
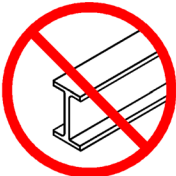

CAUTION

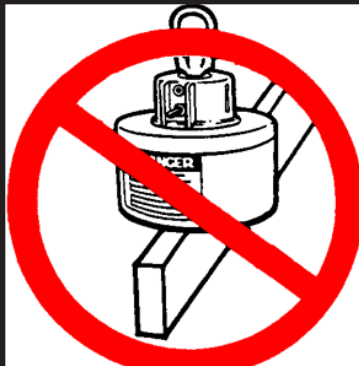
Yellow Background, Black Letters

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

*These Hazard
Signal Words
Deserve your
Full Attention*

UNSAFE LIFTING APPLICATIONS FOR YOUR MAGNET

| | | |
|---|---|--|
|  |  | <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. For Model CER type magnets see Lifting Guidelines on Page 11.</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 1.0" (24.5 mm) thick for CER-5, 1.5" (38.1 mm) for CER-7, 2" (51 mm) for models CER-9 through 12 and at least 2.5" (63 mm) for models CER-16 and 20.
- 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).
- Repair of this magnet should only be done by the O. S. Walker Co. or a Qualified Person.*
- Do not exceed the magnet duty cycle. Exceeding the duty cycle will result in reduced lifting capacity.
- 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 those shown in the LIFTING GUIDELINES.
- 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.
- If your magnet was provided with a remote control unit, NEVER place the control unit in a position where the switch could be accidentally turned to "OFF", "DROP", OR "LIFT".

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 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. 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.

2. 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.

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).

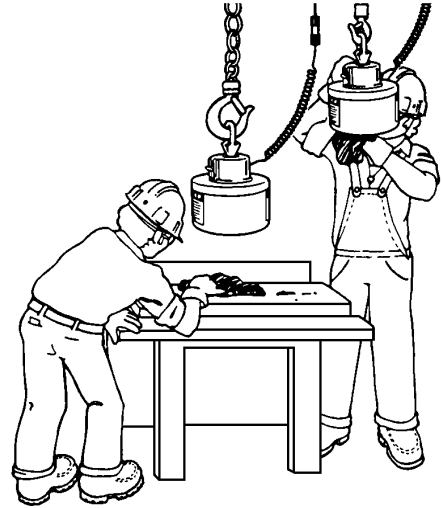
SAFETY

FOR FAST, EASY LIFTING WITH YOUR WALKER LIFT MAGNET

1 NEVER

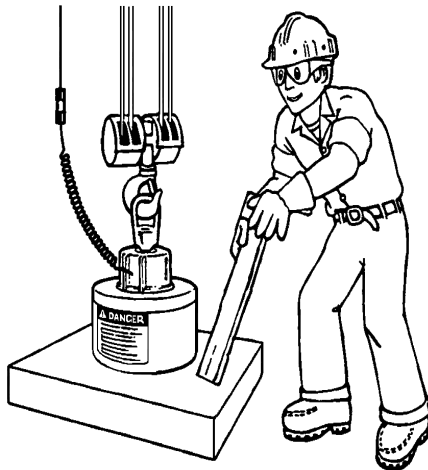
attempt to operate this lift magnet until you read and understand the **OPERATOR'S MANUAL & SAFETY INSTRUCTIONS (Manual #37-DD10505)** for CER Lifting Magnets.

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

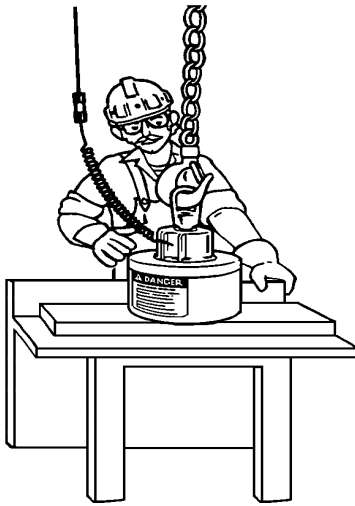
When working in an area using lifting magnets, wear safety glasses, work gloves, steel-toed shoes and a safety hat.

O.S. Walker Inc., CER Lift Magnet

RULES

MODELS: CER-5 thru CER-20 & I/R-CER-5 thru I/R-CER-12

3



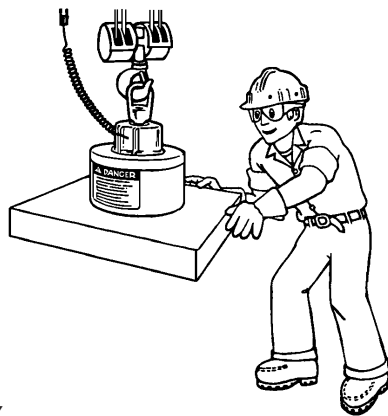
Position the magnet so the load remains level.

4



Energize the magnet by selecting the “LIFT” position. An indicator light will illuminate when electrical power is applied to the magnet. To obtain maximum lift, allow a few seconds for the magnet to reach full power before lifting load.

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 is dropped.

8



Carefully set the load down. De-energize the magnet by selecting the “DROP” position. Hold for two to three seconds, when released the magnet will return to the “OFF” position. Then 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

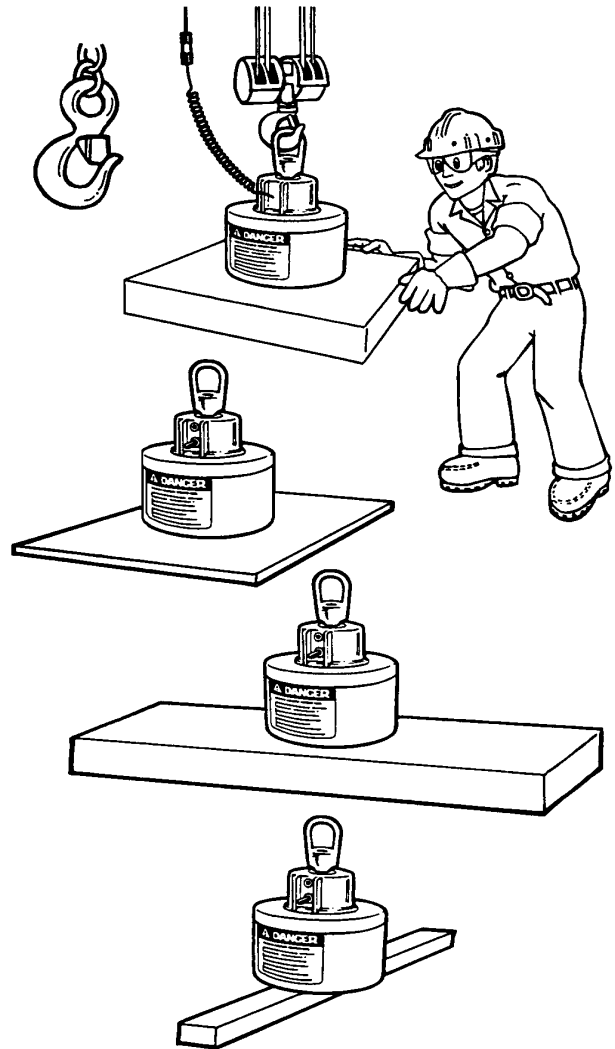
Guide the load by pushing or pulling the edges of the load.
Keep your entire body clear of the load at all times.

■ PLATE LIFTING

Position the magnet so that it is centered on the plate. Never lift any plate less than 1/4" (6mm) thick. (See Important Facts 2 & 4).

■ BAR LIFTING

When the load width is greater than the magnet diameter, position the magnet length so the entire lifting surface of the magnet is in contact with the load.
When the load width is narrower than the magnet's diameter, position the magnet so that it is centered on the width of the load.



UNSAFE LIFTING APPLICATIONS FOR YOUR CER MAGNET

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

| | |
|-------------------------|--|
| <p>⚠ WARNING</p> | <p>Never lift loads with any dimension greater than:</p> <p>5 feet (1.5 meters) with CER-5 10 feet (3.1 meters) with CER-12 6 feet (1.8 meters) with CER-7 12 feet (3.7 meters) with CER-16 8 feet (2.4 meters) with CER-9 15 feet (4.6 meters) with CER-20</p> |
| | <p>If you have any difficulty lifting a load, DON'T LIFT IT! Call Walker for advice at 1-800-962-4638</p> |

OPERATING INSTRUCTIONS

MODELS: I/R-CER-5 thru I/R-CER-12

LOCAL PUSH BUTTON OPERATION:

“LIFT MODE”

To Energize the Magnet press and hold the “LIFT” push button until the green ring of the pushbutton illuminates. The magnet is now in the full “ON” position and will remain on until a release is selected. As a safety reminder the green lift led will begin to flash after 10 minuets in the “LIFT MODE” indicating you maybe exceeding the magnets rated duty cycle.

“RELEASE MODE”

To De-Energize the magnet press and hold both of the “RELEASE” push buttons until the red rings of the pushbuttons illuminate this indicates a release pulse is being sent to the magnet. For models I/R-CER-5 and I/R-CER-7 one to three pulses will be needed to achieve a clean release of the work piece. For models I/R-CER-9 and I/R-CER-12 three to five pulses will be needed to achieve a clean release of the work piece. When the two release push buttons are released the magnet will return to the off position. There is maximum of twelve release pulses for each release cycle.

REMOTE CONTROL OPERATION:

Check the remote control to verify that the 9-volt battery has been installed. (Alkaline type)Then check by pressing the Green “LIFT” button while checking the small, Red, LED light at the top center of the remote. If battery is installed LED should flash when the button is depressed.

With the I/R-CER magnet connected to power point the remote control at the I/R lens above the local lift drop push buttons. Press and hold the remotes Green “LIFT” button and the top Red “RELEASE” button simultaneously, the Green lift LED and the 1st Red drop LED will flash hold both buttons until LED’s stop flashing. This should take about 5 seconds. The I/R remote control is now programmed and ready for use with your magnet.

Perform a trial lift / drop to verify that the remote is properly programmed. Aiming the remote toward the magnets I/R lens press and hold the Green “LIFT” button on the remote until the locals Green “LIFT” LED illuminates. This indicates the magnet is now in the full “ON” position. Press and hold the two Red “RELEASE” buttons on the remote, both of the local Red “RELEASE” LED’s will flash indicating a release pulse is being sent to the magnet. Operators can select from one to twelve pulses to achieve a clean release from work piece. When the remotes two release buttons are released the magnet will return to the off position. The remote control should operate your magnet between one and fifteen feet.

GUIDELINES FOR THE REDUCTION OF THE RATED LIFTING CAPACITY:

CAUTION: Each Walker magnet 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 | |
| Materials | REDUCTION FACTOR |
| Cast Steel | 0.90 |
| 3% Silicon Steel | 0.80 |
| SAE 1095 Steel | 0.70 |
| 416 Stainless Steel | 0.50 |
| Cast Iron (non-chilled) | 0.45 |
| Pure Nickel | 0.10 |

For Other Materials Consult O.S. Walker

Rated lift Capacity (For these materials) = **Reduction Factor** multiplied by **Maximum Load Value** (For 1020 Steel) from Lifting Guidelines (plate). See page 12.

Example: Lifting SAE 1095 STEEL, 1/2" thick, ROUGH machined flat surfaces (use .020" air gap) with a Model CER-9 lifting magnet.

Rated Lift Capacity = 0.70 multiplied by 600 = 420 pounds.

ADDITIONAL OPERATING INFORMATION

Avoid dropping, banging, or slamming the magnet into other objects.

These lifting magnets are electromagnetic devices. Therefore, do not allow water to enter the magnet body. Water is an electrical conductor and could short out the magnet.

DO NOT EXCEED THE RATED 50% DUTY CYCLE OF THESE MAGNETS. (Exceeding the duty cycle will result in reduced lifting capacity and a shorter magnet life.) (Refer to Page 14 for definition of Duty Cycle.)

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

LIFTING GUIDELINES (PLATE)

CER-5, CER-7, and CER-9 (plate)

| MAGNET MODELS | LOAD THICKNESS | 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 (ft.) | Max. Load (lbs.) | Max. Size (ft.) | Max. Load (lbs.) | Max. Size (ft.) |
| CER-5 | NEVER LIFT ANY LOAD WITH ANY DIMENSION GREATER THAN 5 FEET | | | | | | |
| | Over 1" | 600 | - | 400 | - | 370 | - |
| | * 1" | 600 | 3 x 4 | 400 | 3 x 3 | 370 | 3 x 3 |
| | *3/4" | 530 | 4 x 4 | 375 | 3 x 4 | 350 | 3 x 3 |
| | *1/2" | 480 | 4 x 5 | 350 | 4 x 4 | 330 | 4 x 4 |
| | *3/8" | 400 | 5 x 5 | 275 | 4 x 4 | 200 | 3 x 4 |
| | *1/4" | 180 | 4 x 4 | 150 | 3 x 4 | 125 | 3 x 4 |
| CER-7 | NEVER LIFT ANY LOADS WITH ANY DIMENSION GREATER THAN 6 FEET | | | | | | |
| | Over 1-1/2" | 1200 | - | 1100 | - | 900 | - |
| | *1-1/2" | 1200 | 4 x 4 | 1100 | 4 x 4 | 900 | 3 x 4 |
| | *1" | 1000 | 4 x 5 | 950 | 4 x 5 | 900 | 4 x 5 |
| | *3/4" | 850 | 5 x 5 | 775 | 5 x 5 | 700 | 4 x 5 |
| | *1/2" | 700 | 5 x 6 | 650 | 5 x 6 | 550 | 5 x 5 |
| | *3/8" | 450 | 5 x 5 | 420 | 5 x 5 | 400 | 5 x 5 |
| *1/4" | 200 | 4 x 4 | 190 | 4 x 4 | 180 | 4 x 4 | |
| CER-9 | NEVER LIFT ANY LOADS WITH ANY DIMENSION GREATER THAN 8 FEET | | | | | | |
| | Over 2" | 2400 | - | 2300 | - | 2000 | - |
| | *2" | 2400 | 5 x 5 | 2300 | 5 x 5 | 2000 | 4 x 5 |
| | *1-1/2" | 2200 | 6 x 6 | 2100 | 5 x 6 | 1800 | 5 x 5 |
| | *1" | 1700 | 6 x 6 | 1550 | 6 x 6 | 1400 | 5 x 6 |
| | *3/4" | 1400 | 6 x 7 | 1300 | 6 x 7 | 1250 | 6 x 6 |
| | *1/2" | 700 | 5 x 6 | 650 | 5 x 6 | 600 | 5 x 5 |
| | *3/8" | 525 | 5 x 6 | 480 | 5 x 6 | 450 | 5 x 5 |
| *1/4" | 250 | 4 x 5 | 220 | 4 x 5 | 200 | 4 x 4 | |

* LIFTING CAPACITY AFFECTED BY PEEL AND THICKNESS. SEE NOTES 1 & 4 OF THE "IMPORTANT FACTS" (PAGE 6 & 7) IN THIS INSTRUCTION MANUAL.

† SEE NOTE 6 OF THE "IMPORTANT FACTS" (PAGE 7) IN THIS INSTRUCTION MANUAL. ALSO READ RECOMMENDED LIFTING PROCEDURES (PAGE 10).

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

Values are based upon SAE 1020.

Higher alloy steels and other magnetic materials will require further reductions of these rated capacities.

(See Guidelines for the Reduction of Rated Lifting Capacity page 11.)

LIFTING GUIDELINES (PLATE)

CER-12, CER-16, and CER-20 (plate)

| MAGNET MODELS | LOAD THICKNESS | 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 (ft.) | Max. Load (lbs.) | Max. Size (ft.) | Max. Load (lbs.) | Max. Size (ft.) |
| CER-12 | NEVER LIFT ANY LOADS WITH ANY DIMENSION GREATER THAN 10 FEET | | | | | | |
| | Over 2" | 4000 | - | 3850 | - | 3475 | - |
| | *2" | 4000 | 7 x 7 | 3850 | 6 x 7 | 3475 | 6 x 7 |
| | *1-1/2" | 3500 | 7 x 8 | 3250 | 7 x 7 | 3000 | 7 x 7 |
| | *1" | 2800 | 8 x 8 | 2600 | 7 x 8 | 2300 | 7 x 8 |
| | *3/4" | 2100 | 8 x 8 | 2000 | 8 x 8 | 1900 | 7 x 8 |
| | *1/2" | 1100 | 7 x 7 | 1050 | 7 x 7 | 1000 | 7 x 7 |
| | *3/8" | 600 | 6 x 6 | 550 | 6 x 6 | 500 | 5 x 6 |
| | *1/4" | 300 | 5 x 5 | 250 | 4 x 5 | 200 | 4 x 4 |
| CER-16 | NEVER LIFT ANY LOADS WITH ANY DIMENSION GREATER THAN 12 FEET | | | | | | |
| | Over 2-1/2" | 7250 | - | 6750 | - | 6250 | - |
| | *2-1/2" | 7250 | 8 x 8 | 6750 | 8 x 8 | 6250 | 7 x 8 |
| | *2" | 6000 | 8 x 9 | 5500 | 8 x 8 | 5000 | 7 x 8 |
| | *1-1/2" | 5000 | 9 x 9 | 4600 | 8 x 9 | 4300 | 8 x 8 |
| | *1" | 4000 | 9 x 10 | 3750 | 9 x 10 | 3500 | 8 x 9 |
| | *3/4" | 2500 | 9 x 9 | 2300 | 8 x 9 | 2200 | 8 x 8 |
| | *1/2" | 1300 | 7 x 8 | 1200 | 7 x 8 | 1100 | 7 x 7 |
| | *3/8" | 750 | 7 x 7 | 700 | 6 x 7 | 600 | 6 x 6 |
| *1/4" | 350 | 5 x 6 | 300 | 5 x 5 | 250 | 4 x 5 | |
| CER-20 | NEVER LIFT ANY LOADS WITH ANY DIMENSION GREATER THAN 15 FEET | | | | | | |
| | Over 2-1/2" | 10500 | - | 9800 | - | 9200 | - |
| | *2-1/2" | 10500 | 10 x 11 | 9800 | 10 x 10 | 9200 | 10 x 10 |
| | *2" | 10000 | 11 x 11 | 9500 | 10 x 11 | 9000 | 10 x 11 |
| | *1-1/2" | 8000 | 11 x 12 | 7600 | 11 x 11 | 7200 | 10 x 11 |
| | *1" | 5500 | 11 x 12 | 5200 | 11 x 11 | 5000 | 10 x 11 |
| | *3/4" | 3000 | 10 x 10 | 2800 | 9 x 10 | 2600 | 9 x 9 |
| | *1/2" | 1500 | 8 x 9 | 1400 | 8 x 8 | 1300 | 7 x 8 |

* LIFTING CAPACITY AFFECTED BY PEEL AND THICKNESS. SEE NOTES 1 & 4 OF THE "IMPORTANT FACTS" (PAGE 6 & 7) IN THIS INSTRUCTION MANUAL.

† SEE NOTE 6 OF THE "IMPORTANT FACTS" (PAGE 7) IN THIS INSTRUCTION MANUAL. ALSO READ RECOMMENDED LIFTING PROCEDURES (PAGE 10).

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

Values are based upon SAE 1020.

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

LOAD WEIGHT GUIDELINE

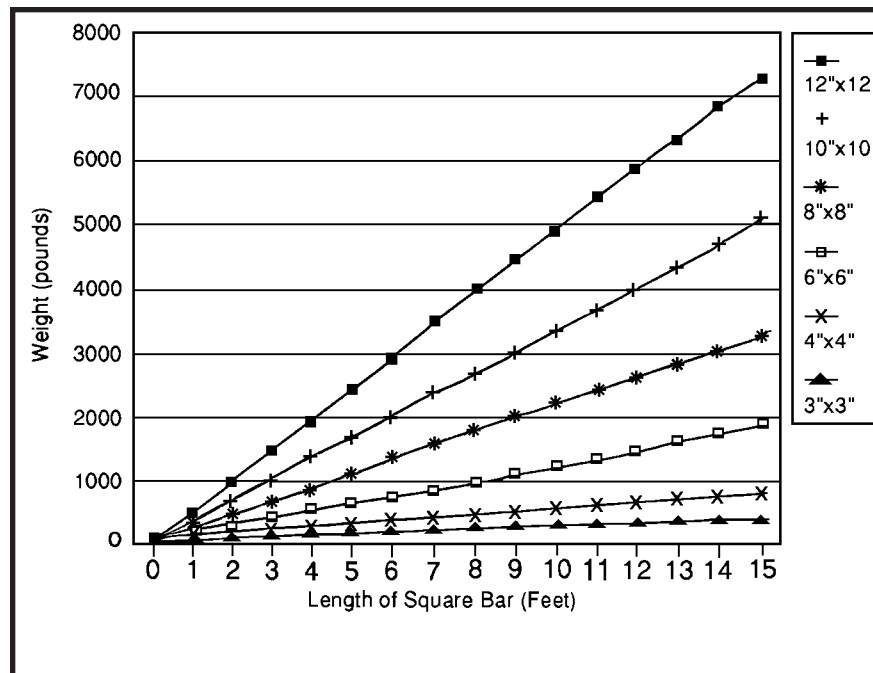
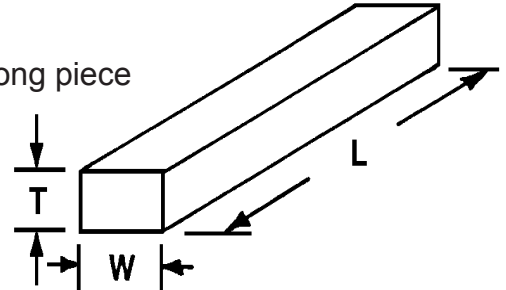
To estimate the weight of a steel work piece, first determine the volume of the Load in cubic inches. Then multiply the volume (cubic inches) by the density of steel (.283) pounds per cubic inch.

$$\text{Load Weight (steel)} = (\text{volume}) \text{ multiplied by (density)}$$

$$= (W \times T \times L) \times (.283)$$

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

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



DUTY CYCLE

DO NOT EXCEED THE RATED 50% DUTY CYCLE OF THESE MAGNETS. (Exceeding the duty cycle will result in reduced lifting capacity, and a shorter magnet life.)

Duty cycle rating (D.C.%) is defined as:

(Time On x 100) / (Time Off + Time On) = D.C. % and is expressed as a Percent (with a maximum of 10 minutes Time On).

Therefore, to maximize the effectiveness of your magnet, keep the power off when the magnet is not in use.

EXAMPLES:

3 MINUTES ON, 1 MINUTE OFF EQUALS: $(3 \times 100) / (3 + 1) = 75\%$

5 MINUTES ON, 5 MINUTES OFF EQUALS: $(5 \times 100) / (5 + 5) = 50\%$

| | |
|--|---|
| <b style="font-size: 1.5em;">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 to assure indicator light has illuminated after selecting the “lift “when the switch is turned to the “LIFT” position.

DAILY

- Check the entire magnet’s case, lifting surfaces, bail or eyebolts, and welds for cracks or other defects. If present, DO NOT USE THE MAGNET - Contact a Qualified Person or O.S. Walker.
- Check the eyebolt or lift bail for wear. If the eyebolt or lift bail is worn to 80% of its original dimension, it should be replaced. Retighten the eyebolt if loose.
- Check physical condition of power cord, lamp, and switch. Repair or replace any suspicious components. Also, check that the twist lock type electric connector is securely attached to the electrical receptacle.
- Check the condition of the Operating Instruction label and Product Safety signs. Your magnet was supplied with one (1) Lifting Guidelines/Operating Instruction label and one (1) Product Safety sign. If these labels and signs are missing or damaged, they should be replaced.

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.*
- Check the rigid epoxy of the encapsulated coil. Contact O.S. Walker or a Qualified Person for repair instructions.

*Regrinding the lifting surfaces.

If regrinding is necessary, all the lifting surfaces must remain flat and in the same plane.

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

| SPECIFICATIONS | | | | | | | | | | |
|----------------------|-------|--------|--------|--------|--------|--------|-----------|-----------|-----------|------------|
| Model No. | CER-5 | CER-7 | CER-9 | CER-12 | CER-16 | CER-20 | I/R-CER-5 | I/R-CER-7 | I/R-CER-9 | I/R-CER-12 |
| Power (Watts) | 58 | 80 | 135 | 340 | 545 | 1050 | 58 | 80 | 135 | 340 |
| Net Wt. (LBS) | 23 | 43 | 94 | 142 | 320 | 560 | 30 | 50 | 101 | 142 |
| H2 | 9.75" | 11.25" | 11.75" | 13.63" | 14.5" | 15" | 10.25" | 11.75" | 12.25" | 13.63" |
| Diameter "A" | 5.12" | 6.75" | 9" | 12" | 16" | 20" | 5.12" | 6.75" | 9" | 12" |
| Figure No. | 1 | 1 | 1 | 2 | 3 | 3 | 4 | 4 | 4 | 4 |

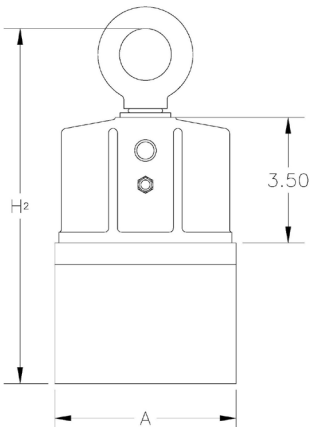


FIGURE 1

| PERFORMANCE RATING ON SAE 1020 STEEL | |
|--------------------------------------|--------------------------|
| CER-5 | 0-600 lbs. Rated Lift |
| CER-7 | 0-1,200 lbs. Rated Lift |
| CER-9 | 0-2,400 lbs. Rated Lift |
| CER-12 | 0-4,000 lbs. Rated Lift |
| CER-16 | 0-7,250 lbs. Rated Lift |
| CER-20 | 0-10,500 lbs. Rated Lift |

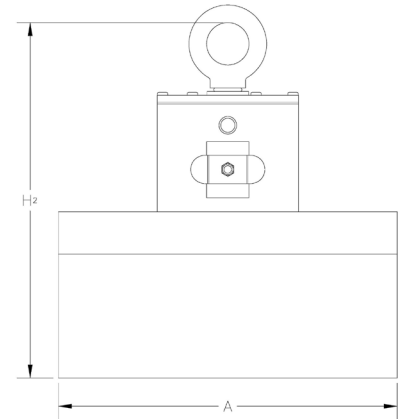


FIGURE 2

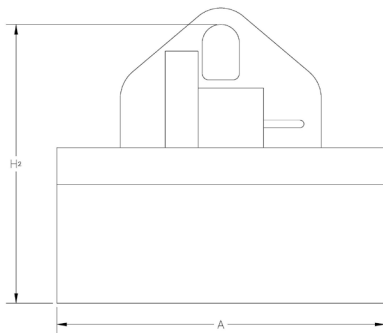


FIGURE 3

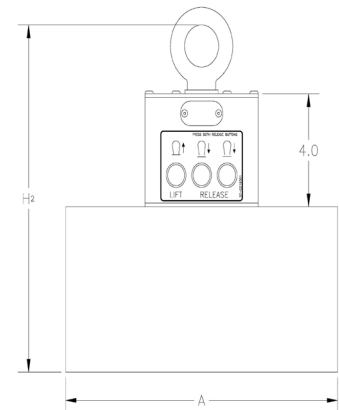


FIGURE 4

| REPLACEMENT PARTS DIAGRAMS & LISTS | |
|------------------------------------|-------------|
| CER-5 | See Page 19 |
| CER-7 | See Page 19 |
| CER-9 | See Page 19 |
| CER-12 | See Page 20 |
| CER-12 with PC Board | See Page 21 |
| I/R CER-5 THRU 12 | See Page 22 |
| CER-16 | See Page 23 |
| CER-20 | See Page 23 |

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.

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.*

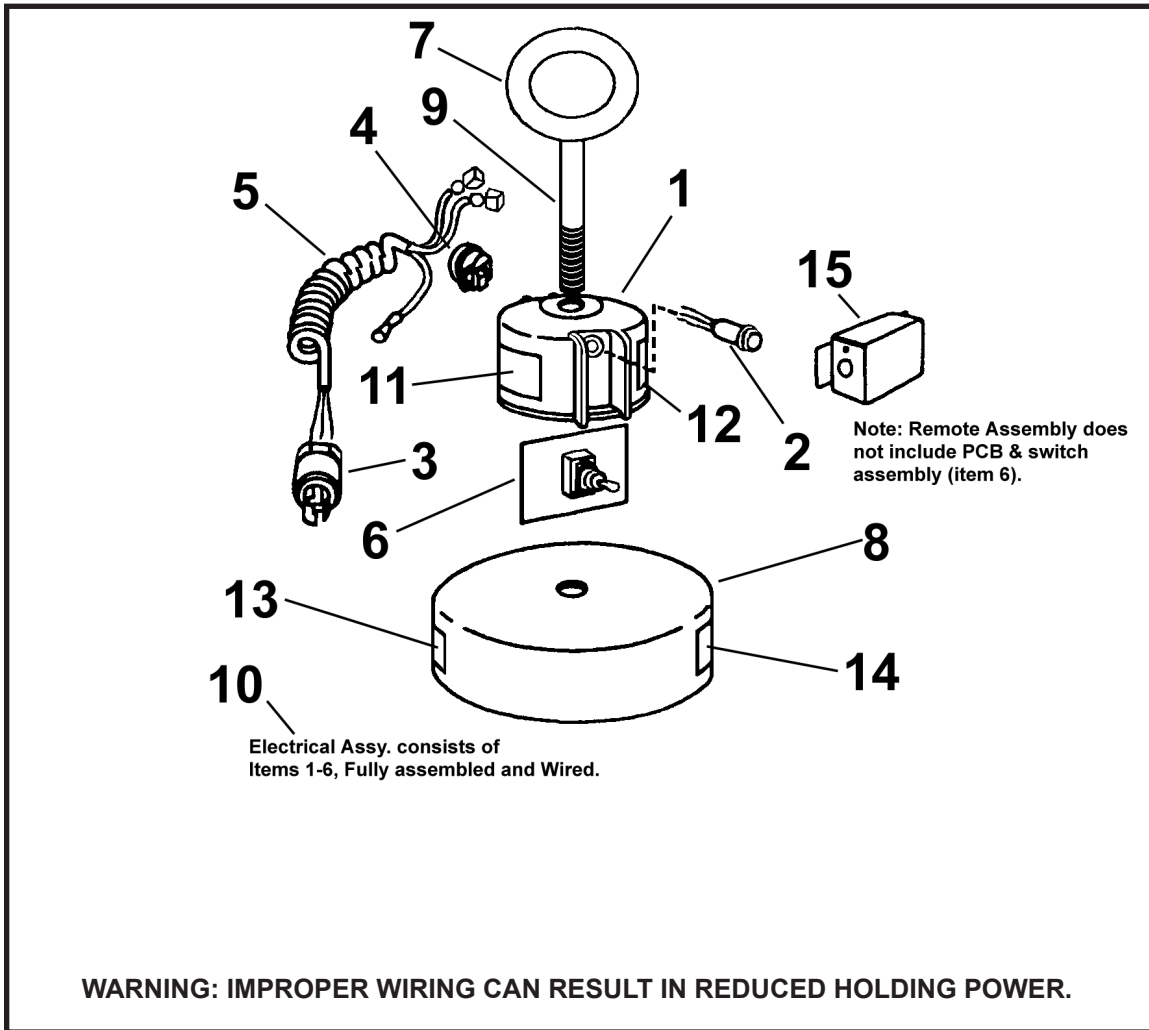
*Walker replacement parts may be installed by a **Designated Person.

** 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.

This product is manufactured in accordance with ANSI/ASME B30.20

For further information, refer to Chapter 20-3 Close Proximity Operated Lifting Magnets.

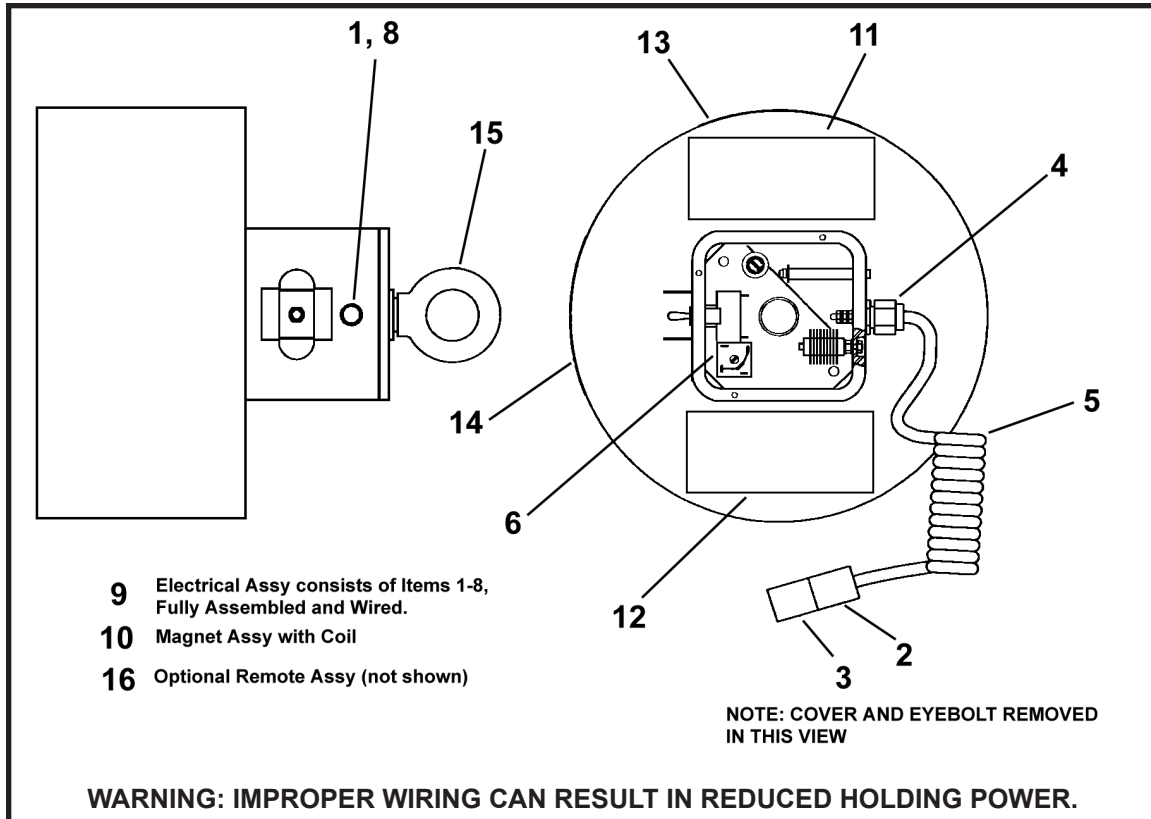
SPECIFICATION & PARTS LIST



CER-5, 7 & 9 Replacement Parts List

| ITEM NO. | PART DESCRIPTION | PART NO. | | |
|----------|-------------------------|--------------|--------------|-------------|
| | | CER-5 | CER-7 | CER-9 |
| 1 | HOUSING | 44-BB9185 | 44-BB9185 | 44-BB9185 |
| 2 | INDICATOR ASSY | 54-DD14747 | 54-DD14747 | 54-DD14747 |
| 3 | PLUG, TWIST LOCK | 11-2001 | 11-2001 | 11-2001 |
| 3a | RECEPTACLE, TWIST LOCK | 11-2010 | 11-2010 | 11-2010 |
| 4 | CORD STRAIN RELIEF | 14-1101 | 14-1101 | 14-1101 |
| 5 | AC CORD ASSY | 56-DD14748 | 56-DD14748 | 56-DD14748 |
| 6 | PCB ASSY | 56-BXM4351-1 | 56-BXM4351-2 | 56-BXM43513 |
| 7 | EYEBOLT ASSY | 54-DD14437 | 54-DD14437 | 54-DD14437 |
| 8 | MAGNET ASSY | 54-BB12693 | 54-BB12694 | 54-BB12695 |
| 9 | THREAD LOCKING ADHESIVE | 36-4015 | 36-4015 | 36-4015 |
| 10 | ELECTRICAL ASSY | 54-AA8893-1 | 54-AA8893-2 | 54-AA8893-3 |
| 11 | OPERATING INSTRUCTIONS | 37-DD12082 | 37-DD12082 | 37-DD12082 |
| 12 | LIFTING GUIDELINES | 37-DD12083 | 37-DD12084 | 37-DD12085 |
| 13 | DANGER TAG | 37-DD11636 | 37-DD10666 | 37-DD10963 |
| 14 | DANGER TAG | 37-DD11637 | 37-DD10667 | 37-DD10667 |
| 15 | REMOTE ASSY | 54-BXM4408 | 54-BXM4408 | 54-BXM4408 |
| 16 | RIGID EPOXY PATCH KIT | 06-DD14974 | 06-DD14974 | 06-DD14974 |

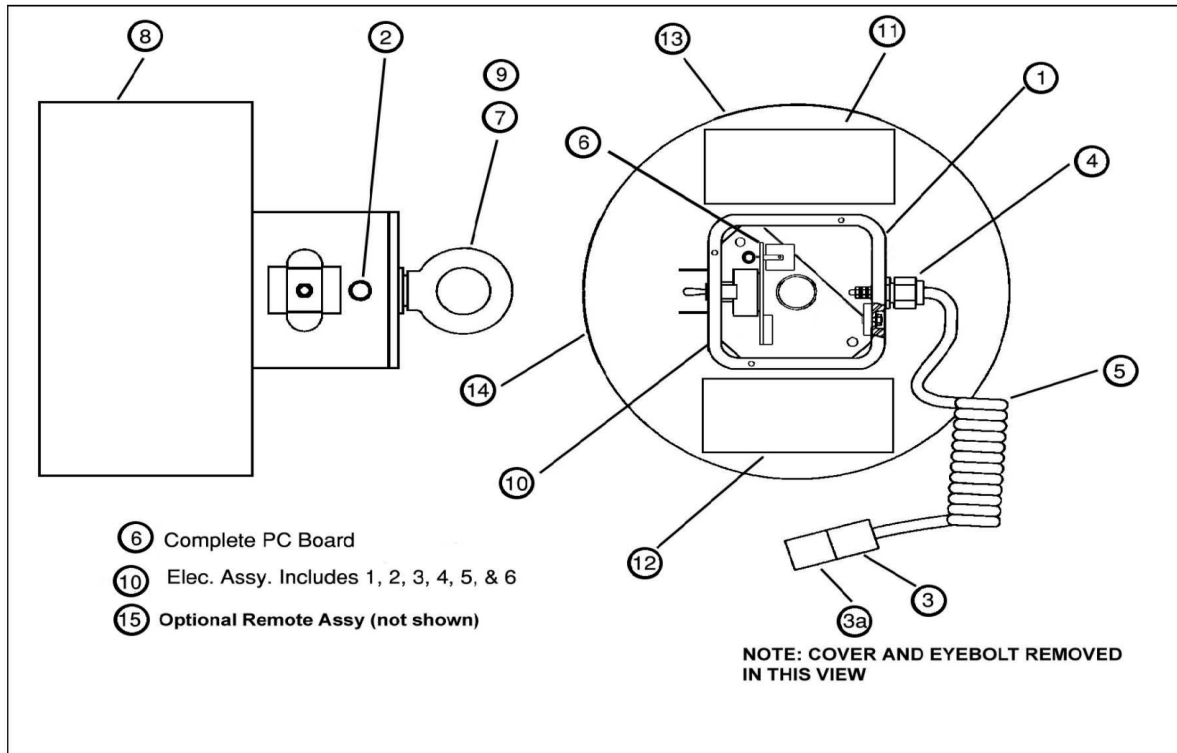
SPECIFICATION & PARTS LIST



CER-12 Replacement Parts List

| ITEM NO. | PART DESCRIPTION | PART NO. |
|----------|---------------------------------|---------------|
| 1 | INDICATOR ASSY | 56-DD14747 |
| 2 | PLUG, TWIST LOCK | 11-0201 |
| 3 | RECEPTACLE, TWIST LOCK | 11-2010 |
| 4 | CORD STRAIN RELIEF | 17-0014 |
| 5 | AC CORD ASSY | 54-DD14856 |
| 6 | RECTIFIER ASSY | 54-DD11298A |
| 7 | TOGGLE SWITCH | 15-1010 |
| 8 | TINNERMAN CLIP | 18-4026 |
| 9 | ELECTRICAL ASSY | 54-AA9227 |
| 10 | MAGNET ASSY W/COIL | 54-AA8075 |
| 11 | OPERATING INSTRUCTIONS | 37-DD12082 |
| 12 | LIFTING GUIDELINES | 37-DD12086 |
| 13 | DANGER TAG | 37-DD10963 |
| 14 | DANGER TAG | 37-DD10667 |
| 15 | EYEBOLT ASSY | 54-DD14437 |
| 16 | REMOTE ASSY | 54-BXM2999-10 |
| 17 | RESISTOR REPAIR KIT | 54-DD14929 |
| 18 | SUPPRESSION RESISTOR REPAIR KIT | 54-DD14930 |
| 19 | SUPPRESSOR REPAIR KIT | 54-DD14931 |
| 20 | RIGID EPOXY PATCH KIT | 06-DD14974 |

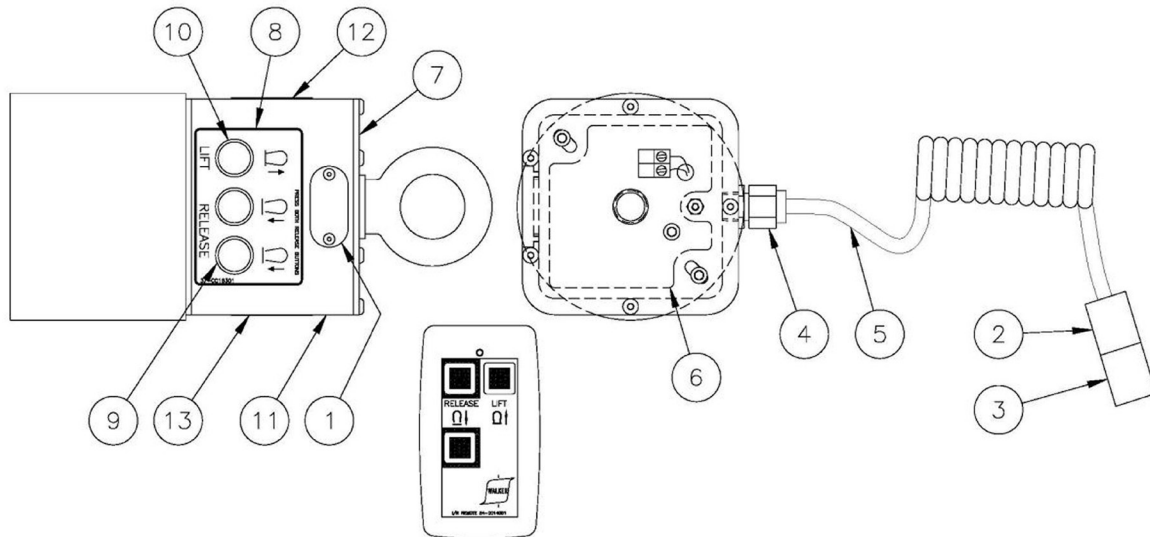
SPECIFICATION & PARTS LIST



WARNING: IMPROPER WIRING CAN RESULT IN REDUCED HOLDING POWER.

CER-12 with PC Board Replacement Parts List

| ITEM NO. | PART DESCRIPTION | PART NO. |
|----------|----------------------------------|----------------|
| 1 | HOUSING | 44-CC9887 |
| 2 | INDICATOR ASSY | 56-DD14747 |
| 3 | PLUG, TWIST LOCK | 11-0201 |
| 3A | RECEPTACLE, TWIST LOCK | 11-2010 |
| 4 | CORD STRAIN RELIEF, AC | 17-0014 |
| 5 | AC CORD ASSY | 54-DD14856 |
| 6 | PCB ASSEMBLY COMPLETE | 56-BXM4872 |
| 7 | EYEBOLT ASSEMBLY | 54-DD14437 |
| 8 | MAGNET ASSEMBLY W/COIL | 54-AA8075 |
| 9 | THREAD LOCKING ADHEASIVE | 36-4015 |
| 10 | ELECTRICAL ASSEMBLY | 54-AA13486 |
| 11 | OPERATING INSTRUCTIONS | 37-DD12082 |
| 12 | LIFTING GUIDELINES | 37-DD12086 |
| 13 | DANGER TAG | 37-DD10963 |
| 14 | DANGER TAG | 37-DD10667 |
| 15 | REMOTE ASSY | 54-BXM-2999-10 |
| 16 | RIGID EPOXY PATCH KIT | 06-DD14974 |
| 17 | DROP RESISTOR REPAIR KIT | 22-9178 |
| 18 | CERAMIC LIFT RESISTOR REPAIR KIT | 22-4360 |
| 19 | SUPPRESSOR REPAIR KIT | 23-6085 |

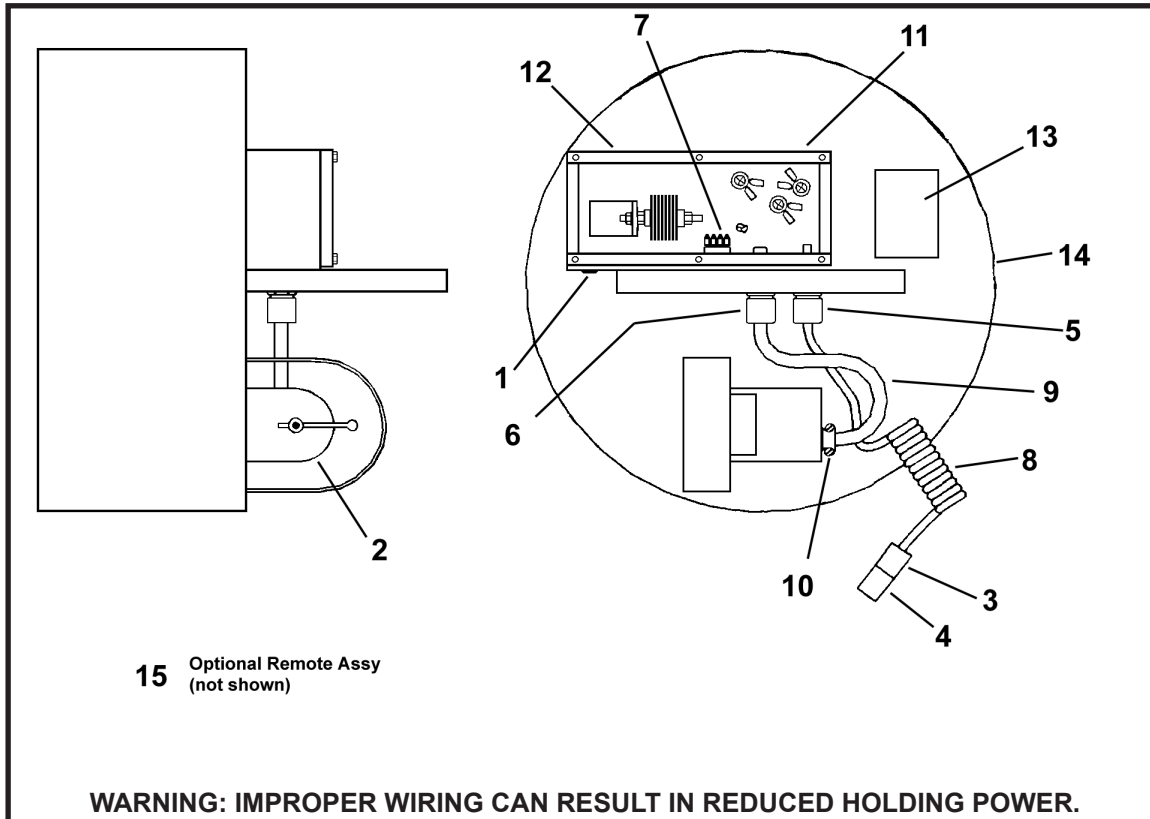


WARNING: IMPROPER WIRING CAN RESULT IN REDUCED HOLDING POWER.

I/R-CER-5 THRU 12 Replacement Parts List

| ITEM NO. | PART DESCRIPTION | PART NO. | | | |
|----------|-----------------------------|------------|------------|------------|------------|
| | | I/R-CER-5 | I/R-CER-7 | I/R-CER-9 | I/R-CER-12 |
| 1 | I/R LENSE | 39-DD16797 | 39-DD16797 | 39-DD16797 | 39-DD16797 |
| 2 | PLUG, TWIST LOCK | 11-2001 | 11-2001 | 11-2001 | 11-2001 |
| 3 | RECEPTACLE, TWIST LOCK | 11-2010 | 11-2010 | 11-2010 | 11-2010 |
| 4 | CORD GRIP | 17-0014 | 17-0014 | 17-0014 | 17-0014 |
| 5 | COIL CORD | 10-5052 | 10-5052 | 10-5052 | 10-5052 |
| 6 | PCB ASSEMBLY | 56-BXM4940 | 56-BXM4940 | 56-BXM4940 | 56-BXM4940 |
| 7 | TOP COVER | 39-CC16255 | 39-CC16255 | 39-CC16255 | 39-CC16255 |
| 8 | OVERLAY | 37-CC16301 | 37-CC16301 | 37-CC16301 | 37-CC16301 |
| 9 | PUSHBUTTON (RED) | 15-0127 | 15-0127 | 15-0127 | 15-0127 |
| 10 | PUSHBUTTON (GREEN) | 15-0128 | 15-0128 | 15-0128 | 15-0128 |
| 11 | RECTIFIER ASSEMBLY COMPLETE | 54-AA13988 | 54-AA13988 | 54-AA13988 | 54-AA13988 |
| 12 | OPERATING INSTRUCTIONS | 37-DD12082 | 37-DD12082 | 37-DD12082 | 37-DD12082 |
| 13 | LIFTING GUIDELINES | 37-DD12083 | 37-DD12084 | 37-DD12085 | 37-DD12086 |
| 14 | DANGER TAG | 37-DD11636 | 37-DD11666 | 37-DD11663 | 37-DD11663 |
| 15 | DANGER TAG | 37-DD11637 | 37-DD11667 | 37-DD11667 | 37-DD11667 |
| 16 | REMOTE CONTROL | 39-DD14069 | 39-DD14069 | 39-DD14069 | 39-DD14069 |
| 17 | RIGID EPOXY PATCH KIT | 06-DD14974 | 06-DD14974 | 06-DD14974 | 06-DD14974 |

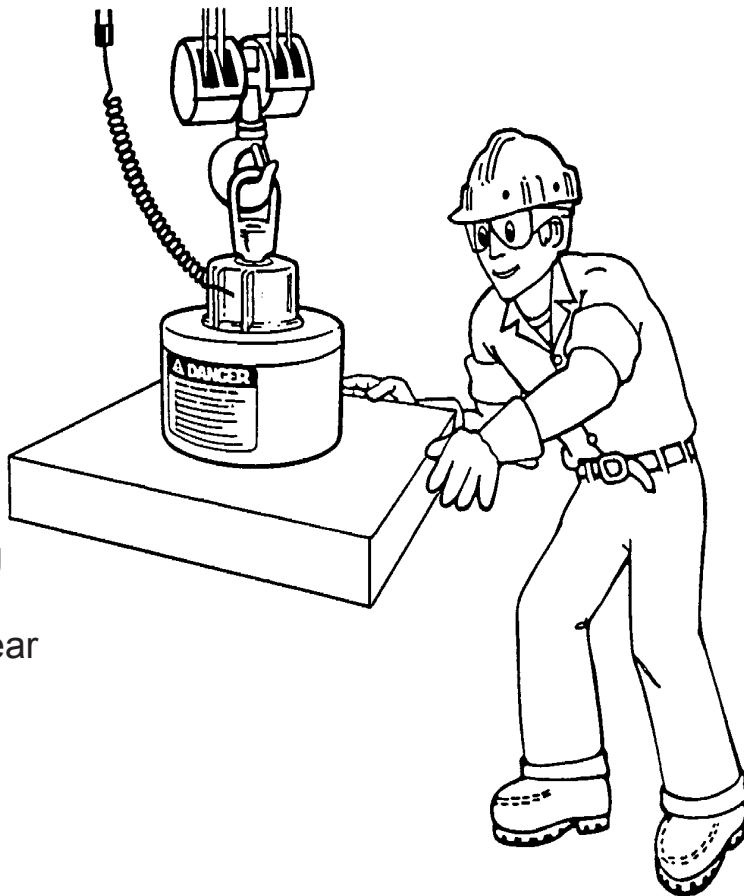
SPECIFICATION & PARTS LIST



CER-16 & 20 Replacement Parts List

| ITEM NO. | PART DESCRIPTION | PART NO. |
|----------|--------------------------------------|-------------|
| 1 | INDICATOR (PILOT LIGHT) | 18-0201 |
| 2 | DRUM SWITCH | 54-BXM3638 |
| 3 | PLUG, TWIST LOCK | 11-2001 |
| 4 | RECEPTACLE, TWIST LOCK | 11-2010 |
| 5 | CORD STRAIN RELIEF, AC | 17-0014 |
| 6 | CORD STRAIN RELIEF, SWITCH | 17-0027 |
| 7 | RECTIFIER ASSY | 54-DD11298A |
| 8 | AC CORD ASSY | 54-DD14857 |
| 9 | SWITCH CORD ASSY | 54-DD14858 |
| 10 | CABLE CLAMP | 14-1415 |
| 11 | OPERATING INSTRUCTIONS | 37-DD12082 |
| 12 | LIFTING GUIDELINES | 37-DD12088 |
| 13 | DANGER TAG | 37-DD11001 |
| 14 | DANGER TAG | 37-DD10963 |
| 15 | REMOTE ASSY | 54-BB7866-1 |
| 16 | SUPPRESSOR REPAIR KIT CER-16 | 54-DD14926 |
| 17 | RESISTOR REPAIR KIT (7.5 OHM) CER-16 | 54-DD14927 |
| 18 | RESISTOR REPAIR KIT (15 OHM) CER-16 | 54-DD14928 |
| 19 | SUPPRESSOR REPAIR KIT CER-20 | 54-DD14904 |
| 20 | RESISTOR REPAIR KIT (10 OHM) CER-20 | 54-DD14905 |
| 21 | RESISTOR REPAIR KIT (5 OHM) CER-20 | 54-DD14906 |
| 22 | RIGID EPOXY PATCH KIT | 06-DD14974 |

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



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

(905)643-3338

In Canada: 1-800-267-4678 FAX (905) 643-6111

www.walkermagnet.com

e-mail: info@walkermagnet.com