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# OWNER'S MANUAL

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3000 DM  
4300 DM  
4800 DM  
5500 DM  
6500 DM

**CIRCLE THE MODEL OF YOUR COOLER AND RECORD THE SERIAL NUMBER BELOW.**

*ENCIERRE CON UN CIRCULO EL MODELO DE SU ENFRIADOR Y ESCRIBE EL NUMERO DE SERIE ABAJO.*

**SERIAL #**

NUMERO DE SERIE \_\_\_\_\_



**READ CAREFULLY ALL OF THIS MANUAL BEFORE INSTALLING THE UNIT**

*LEA CON CUIDADO TODO ESTE MANUAL ANTES DE INSTALAR LA UNIDAD*

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**READ AND SAVE THESE INSTRUCTIONS**

*VEA EL ESPAÑOL EN EL INTERIOR.*

## SAFETY RULES

1. Read instructions carefully.
2. Electrical hook up should be done by a qualified electrician, so that all electrical wiring will conform to your local standards.
3. Always turn **OFF POWER** and **UNPLUG** motor and pump inside the cooler before installing or performing any maintenance.
4. Your cooler will run on 120 volt AC., 60 Hz (cycle) current only.
5. Motor and pump have a grounded, molded plug and an automatic thermal overload switch which will shut motor off when it overheats. The motor will restart automatically when it cools down.

**⚠ WARNING:** To reduce the risk of fire or electric shock, do not use this fan with any "solid-state fan speed control device."

## EVAPORATIVE COOLING

With this unit being a fresh air system, you are not trapped with recirculating air that can become stale, laden with smoke and odors, as happens with refrigerated air conditioning systems. Instead, you are completely replacing the air every 2 to 4 minutes by either opening doors or windows or a combination of both to exhaust the air continually.

## OPERATION

To eliminate delivery of hot air when starting cooler, turn on pump only for the first few minutes, then turn on the blower motor.

These coolers may be used without water for ventilation purposes. When outside air is cool (for example, at night) or when humidity is high the water pump can be turned off.

A cooler can also be installed with a thermostat and attic exhaust dampers to provide completely automatic operation.

## OPEN WINDOWS TO EXHAUST AIR

An often misunderstood concept of evaporative cooling is the amount of air that should be exhausted. How much should you open your windows? The fact is that most people do not open their windows enough. The following two methods will help you determine the amount to open your windows.

### FIRST METHOD

You should allow an opening of at least 2 square feet (288 square inches) for each 1000 CFM rating of your unit.  
**Example:** At 3077 CFM, model 4300 DM requires 6.2 square feet (886 square inches) of opening ( $3077/1000 * 2 = 6.2$ ). Multiply the number of windows by window width in inches and divide this into the number of square inches required for your size unit. This will give you the height to open windows. In this example, four 36 inch wide windows should be opened 6.2 inches each.

### CHAMPION AIR BALANCING METHOD

1. Take a piece of tissue paper and cut it lengthwise into 3 equal strips.
2. Turn your cooler on high cool.
3. Open one window at least six inches wide in each room that you want to cool.
4. Take the piece of tissue paper and put it up against the screen of the open window furthest from the cooler discharge opening. Let go of it. It will do one of three things.

*IF* It falls down.  
*THEN* CLOSE all of the windows one inch and try step 4 again.

*IF* It plasters itself to the screen.  
*THEN* OPEN all of the windows one inch and try step 4 again.

*IF* It stays on the screen lightly.  
*THEN* PERFECT. You are done. Enjoy your cooler.

#### NOTES:

- When switching to low cool, you must rebalance your home. Repeat step 4.
- Once you balance your home you can cool some areas more than others by opening those windows more and closing the others by the same amount. Repeat step 4 to make sure your home is still air balanced.

## INSTALLATION

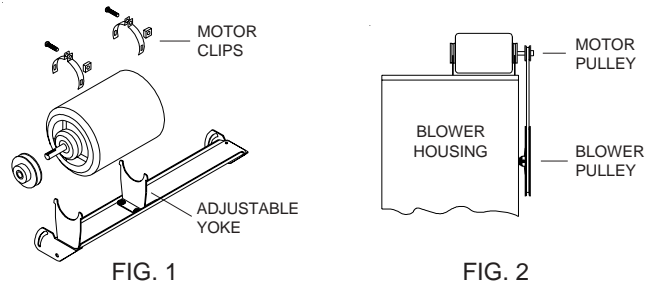
**NOTE:** The pump and float are installed in the cabinet. The belt, motor pulley, and motor cord are included in the cabinet, the motor is shipped separately.

**CAUTION:** Make sure that the mounting surface is strong enough to support the operating weight of the cooler when in use. (For operating weight, see Specification Table.)

**CAUTION:** Never plug in cooler until installation is complete and unit has been tested for rigidity.

### MOTOR INSTALLATION

- **Install motor cord.** Connect motor cord to motor using the following color code: Black - Hi, Red - Low, White - Com., Green - Ground.



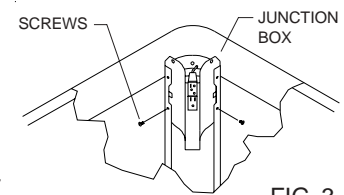
- **Mount motor.** Install blower motor in the motor mount yokes, adjusting the yoke if necessary. Fasten with the provided mounting clips (see Fig. 1).
- **Install pulley.** Install the adjustable motor pulley so that it aligns with the blower drive pulley (see Fig. 2) and tighten set screw.

### ELECTRICAL INSTALLATION

**WARNING:** Disconnect all electrical service that will be used for this unit before you begin the installation.

- **Remove junction box.**

The electrical junction box is located in the upper inside corner of the cooler cabinet. Remove the two screws and slide cover down for access to plug wiring (Fig. 3).



- **Hook up electrical.** Electrical hook up should be done by a qualified electrician, so that all electrical wiring will conform to your local standards. See Fig. 4 for the wiring diagram. **IMPORTANT:** When a single speed motor is used, do not use the red lead on the receptacle and motor plug wiring. Tape off end of both of the red leads.

**WARNING:** Make sure that cooler cabinet is properly grounded to a suitable ground connection for maximum safety.

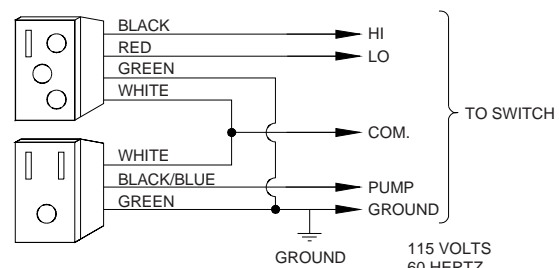


FIG. 4

### WATER CONNECTION

- **Install overflow assembly.** Remove nut and place nipple through the hole in the pan, with the rubber washer between the pan and the head of the drain nipple (Fig. 5). Screw on nut and draw up tight against bottom of pan. Insert overflow pipe in nipple to retain water. Overflow pipe may be removed to drain pan when necessary. A garden hose may be screwed on the drain nipple to drain water away from your unit.

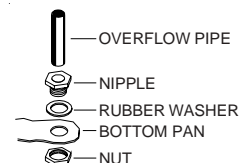


FIG. 5

- **Connect water supply line.**

Find the closest supply of water. Use a saddle valve (Fig. 6) to connect 1/4" tubing to the cold water supply or use a Sillcock and water valve connected to an outside faucet (Fig. 7). Place the nut and ferrule on the tubing and tighten the nut until water tight. **IMPORTANT:** Do not connect the water supply to any soft water applications. Soft water will cause corrosion and decrease the life of the cooler.

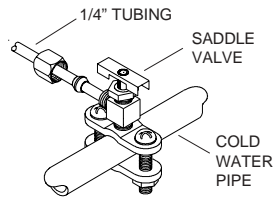


FIG. 6

- **Attach water line to float.**

Attach the water supply line to the float in the same manner as above. The float may be installed in either the corner post or bracket (Fig. 8).

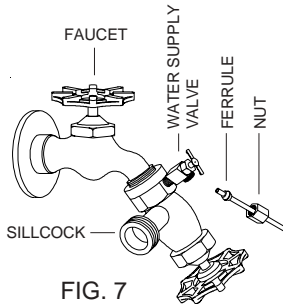


FIG. 7

- **Fill pan.** Allow water to fill to within 1" of top of pan and adjust float to maintain this water level. This can be accomplished by bending the float rod.

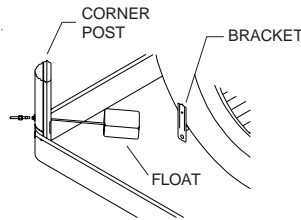


FIG. 8

- **Adjust water amount.** Your cooler is equipped with a unique water metering valve (Fig. 9). The amount of water delivered to the pads may be decreased by pressing the plastic valve as the arrows indicate. If water is splashing out of water troughs, you may need to decrease the amount of water delivery. Check to see that all pads are saturated with water and that there are no dry spots or openings in the pads.

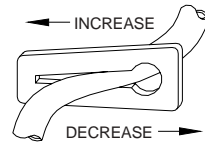


FIG. 9

## AMPERAGE DRAW AND BELT TENSION

This unit is equipped with an adjustable motor drive sheave for adjusting the blower wheel speed to the proper loading on different duct systems. It is important that the motor drive pulley is adjusted to correct size to assure maximum air delivery without damage to the motor. Be sure to follow these instructions carefully.

- **Adjust drive pulley.** After the unit is completely installed, adjust the drive pulley to the least diameter and adjust belt tension. See the maintenance section for adjusting belt tension.
- **Start cooler.** Install all pad frames, start pump, and allow to operate until pads are wet.
- **Check amperage.** With pads wet and unit started, check amperage draw with an amperage meter.
- **Adjust pulley if necessary.** If amperage draw is less than motor rating, turn off electrical power and remove pad frame. Unplug motor inside cooler, this will protect you from someone turning on unit while you are working inside. This should

be done for your safety. Adjust pulley to a larger diameter and readjust belt tension, plug motor in, install pad frame, and retest amperage draw. Repeat this process until correct amperage draw is attained. Increasing motor pulley diameter increases amperage draw. Decreasing motor pulley diameter decreases amperage draw (see Fig. 10).

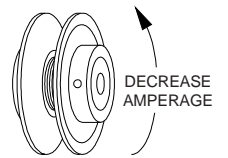


FIG. 10

**CAUTION:** Do not operate cooler with larger amperage draw than specified on motor plate.

**NOTE:** No attempt should be made to completely install this unit without the aid of an electrician or someone familiar with testing amperage draw. Failure to comply with these instructions may void your warranty.

## MAINTENANCE

**WARNING:** Before doing any maintenance be sure power is off. At the time you remove a pad frame be sure to unplug motor and pump. This is for your safety.

### SPRING START-UP

- **Oil bearings.** The blower bearings and cooler motor in this unit should be oiled with a few drops of non-detergent 20/30 weight oil once each year. The motor does not need oil if it has no oil lines for oiling. Motors that have no lines are lifetime oiled at the factory and require no further oiling for the life of the unit.
- **CAUTION:** Do not over oil. Over oiling can cause motor burn out, due to excessive oil getting into motor winding.
- **Check belt tension.** A 3 lb. force should deflect the belt 3/4 inches (see Fig. 11). Readjust belt if needed.

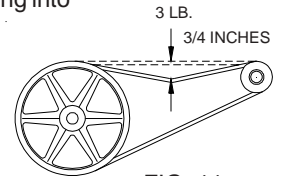


FIG. 11

- **Change Pads.** The pads should be replaced once or twice a season, depending upon the length of the season. At the beginning and at mid season a clean pad is more absorbent and efficient and will deliver substantially more cool air.

- **Clean pump.** Cleaning the pump is necessary once a year at start-up. For your safety, turn unit off and unplug motor and pump. Remove the pump from the mount slot. Remove the base of the pump as shown in Fig. 12. Clean the pump and turn the impeller to ensure free operation. Remove the pump spout and check for any blockage. After cleaning, reinstall the base onto the pump. Reattach the pump to the mount in the cooler using the plastic retainer to ensure that the pump will not overturn. Do not forget to replace the spout and water delivery tube onto the pump outlet. The pump has automatic reset thermal protection.

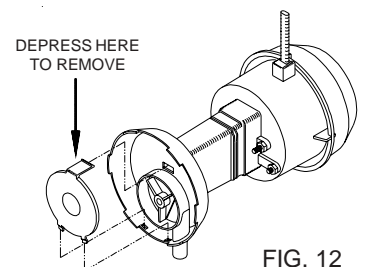


FIG. 12

## WINTER SHUT DOWN

- **Drain water.** Always drain all of the water out of the cooler and water supply line when not in use for prolonged periods, and particularly at the end of the season. Keep the water line disconnected from both the unit and water supply so that it does not freeze.
- **Unplug motor and pump.** When cooler is not used for extended periods, unplug the motor and pump from inside cooler.

- **Cover unit.** To protect the life of the finish, a cover for the unit is suggested in extended periods of non use.

By following the operating, installation, and maintenance suggestions as outlined, you can get many years of efficient and satisfactory service from your cooler. In the event additional information is desired, your dealer will be more than glad to assist you in every possible way.

## TROUBLESHOOTING

<u>PROBLEM</u>	<u>POSSIBLE CAUSE</u>	<u>REMEDY</u>
Failure to start or no air delivery	<ol style="list-style-type: none"> <li>1. No electrical power to unit <ul style="list-style-type: none"> <li>• Fuse blown</li> <li>• Circuit breaker tripped</li> <li>• Electric cord unplugged or damaged</li> </ul> </li> <li>2. Belt too loose or tight</li> <li>3. Motor overheated <ul style="list-style-type: none"> <li>• Belt too tight</li> <li>• Blower bearings dry</li> <li>• Motor pulley diameter too large</li> </ul> </li> <li>4. Motor locked</li> </ol>	<ol style="list-style-type: none"> <li>1. Check power <ul style="list-style-type: none"> <li>• Replace fuse</li> <li>• Reset breaker</li> <li>• Plug in cords or replace if damaged</li> </ul> </li> <li>2. Adjust belt tension</li> <li>3. Determine cause of overheating <ul style="list-style-type: none"> <li>• Adjust belt tension</li> <li>• Oil blower bearings</li> <li>• Adjust pulley to correct diameter</li> </ul> </li> <li>4. Replace motor</li> </ol>
Inadequate air delivery with cooler running	<ol style="list-style-type: none"> <li>1. Insufficient air exhaust</li> <li>2. Belt too loose</li> <li>3. Pads plugged</li> <li>4. Motor underloaded</li> </ol>	<ol style="list-style-type: none"> <li>1. Open windows or doors to increase air flow</li> <li>2. Adjust belt tension or replace if needed</li> <li>3. Replace pads</li> <li>4. Adjust pulley to full load ampere rating of motor</li> </ol>
Inadequate cooling	<ol style="list-style-type: none"> <li>1. Inadequate exhaust in house</li> <li>2. Pads not wet <ul style="list-style-type: none"> <li>• Pads plugged</li> <li>• Open spots in pads</li> <li>• Trough holes clogged</li> <li>• Pump not working properly</li> </ul> </li> </ol>	<ol style="list-style-type: none"> <li>1. Open windows or doors to increase air flow</li> <li>2. Check water distribution system <ul style="list-style-type: none"> <li>• Replace pads</li> <li>• Repack pads</li> <li>• Clean trough and unplug holes</li> <li>• Replace or clean pump (Unplug unit)</li> </ul> </li> </ol>
Motor cycles on and off	<ol style="list-style-type: none"> <li>1. Low voltage</li> <li>2. Excessive belt tension</li> <li>3. Blower shaft tight or locked</li> <li>4. Bearings dry</li> <li>5. Motor pulley diameter too large causing motor overload</li> </ol>	<ol style="list-style-type: none"> <li>1. Check voltage</li> <li>2. Adjust belt tension</li> <li>3. Oil or replace bearings (Unplug unit)</li> <li>4. Oil bearings</li> <li>5. Adjust pulley so full load ampere rating of motor is not exceeded</li> </ol>
Noisy	<ol style="list-style-type: none"> <li>1. Bearings dry</li> <li>2. Wheel rubbing blower housing</li> <li>3. Loose parts</li> </ol>	<ol style="list-style-type: none"> <li>1. Oil bearings</li> <li>2. Inspect and realign (Unplug unit)</li> <li>3. Tighten loose parts</li> </ol>
Excessive humidity in house	<ol style="list-style-type: none"> <li>1. Inadequate exhaust</li> </ol>	<ol style="list-style-type: none"> <li>1. Open doors or windows</li> </ol>
Musty or unpleasant odor	<ol style="list-style-type: none"> <li>1. Stale or stagnate water in cooler</li> <li>2. Pads mildewed or clogged</li> <li>3. Pads not wetting properly <ul style="list-style-type: none"> <li>• Trough holes clogged</li> <li>• Pump not working properly</li> </ul> </li> </ol>	<ol style="list-style-type: none"> <li>1. Drain pan and clean pads</li> <li>2. Replace pads</li> <li>3. Check water distribution system <ul style="list-style-type: none"> <li>• Clean</li> <li>• Replace or clean pump (Unplug unit)</li> </ul> </li> </ol>
Water draining onto roof	<ol style="list-style-type: none"> <li>1. Float arm not adjusted properly</li> <li>2. Overflow assembly leaking</li> </ol>	<ol style="list-style-type: none"> <li>1. Adjust float</li> <li>2. Tighten nut and overflow pipe.</li> </ol>

## LIMITED WARRANTY

This warranty is extended to the original purchaser of an evaporative cooler installed and used under normal conditions. It does not cover damages incurred through accident, neglect, or abuse by the owner. We do not authorize any person or representative to assume for us any other or different liability in connection with this product.

### TERMS AND CONDITIONS OF WARRANTY

For Eight Years from date of installation, we will replace the original base assembly if water leakage should occur due to rust out.

For One Year from date of installation, we will replace any original component provided by Champion Cooler Corporation which fails due to any defect in material or factory workmanship only.

### EXCLUSIONS FROM THE WARRANTY

We are not responsible for replacement of cooler pads. These are disposable components and should be replaced periodically. We are not responsible for any incidental or consequential damage resulting from any malfunction.

We are not responsible for any damage received from the use of water softeners, chemicals, descale material, plastic wrap, or if a motor of a higher horsepower than what is shown on the serial plate is used in the unit.

We are not responsible for the cost of service calls to diagnose cause of trouble, or labor charge to repair and/or the replacement of parts.

### HOW TO OBTAIN SERVICE UNDER THIS WARRANTY

Contact the Dealer where you purchased the evaporative cooler. If for any reason you are not satisfied with the response from the dealer, contact the Customer Service Department: Champion Cooler Corporation, 5800 Murray Street, Little Rock, Arkansas 72209. 1-800-643-8341. E-mail: info@championcooler.com.

THIS LIMITED WARRANTY APPLIES TO ORIGINAL PURCHASER ONLY

## GENERAL SPECIFICATIONS / ESPECIFICACIONES GENERALES

Model No. <i>Modelo</i>	Weight (lbs.) <i>Peso (libras)</i>		Cabinet Dimensions (in.) <i>Dimensiones De La Caja (pulgadas)</i>			Duct Opening (in.) <i>Abertura De Ducto (pulgadas)</i>	
	Dry <i>Seco</i>	Operating <i>Lleno</i>	Height <i>Altura</i>	Width <i>Anchura</i>	Depth <i>Profundidad</i>	Width <i>Anchura</i>	Height <i>Altura</i>
3000 DM	120	186	33 7/16	28 1/8	28 1/8	13 5/8	13 5/8
4300 DM	164	247	39 13/16	34 1/8	34 1/8	17 3/4	17 3/4
4800 DM	164	248	39 13/16	34 1/8	34 1/8	17 3/4	17 3/4
5500 DM	215	315	42 7/16	39	39	19 3/4	19 3/4
6500 DM	215	319	42 7/16	39	39	19 3/4	19 3/4

## MOTOR SPECIFICATIONS / ESPECIFICACIONES DEL MOTOR

Model No. <i>Modelo</i>	Motor Part # <i>Motor - N°</i>	HP <i>HP</i>	Speed <i>Velocidad</i>	Volts <i>Voltios</i>	*Motor Pulley Part # <i>Polea Del Motor - N°</i>	Electrical Cord Part # <i>Cable Eléctrico - N°</i>	Drive Belt Part # <i>Banda - N°</i>
3000 DM	110444-002 110445-002	1/3	1 2	115	110277	110364	110211 (4L-450)
4300 DM	110444-002 110445-002	1/3	1 2	115	110278	110364	110215 (4L-560)
4800 DM	110446-002 110447-002	1/2	1 2	115	110278	110364	110215 (4L-560)
5500 DM	110446-002 110447-002	1/2	1 2	115	110278	110364	110214 (4L-690)
6500 DM	110448-002 110449-002	3/4	1 2	115	110278	110364	110214 (4L-690)

\*1/2" Bore x Adjustable O.D. / Taladro de 1/2 pulgadas x Diámetro Externo Ajustable.

## REPLACEMENT PARTS LIST / LISTA DE PIEZAS DE REPUESTO

All parts may be ordered from your dealer, but not directly from the factory. Be sure that you furnish the following information on all orders. /

Todas las partes pueden ser pedidas con su concesionario, pero no directamente a la fábrica. Incluya toda la información siguiente con su pedido:

1. Cooler serial number / Número de serie de la unidad
2. Description and part number / Descripción y número de parte
3. Cooler size / Tamaño de la unidad
4. Date of purchase / Fecha de compra

Failure to supply all of this information will delay your order. / El no proporcionar toda esta información resultará en una demora.

No. N°	Description / Descripción	3000 DM	4300 DM 4800 DM	5500 DM 6500 DM
1.	Top Pan / Tapa	222903-003	220901-002	220903-002
2.	Bottom Pan / Base De La Caja	322907-001	320905-001	320906-001
3.	Louvered Side / Reja Lateral	324006-103	324007-103	324008-103
4.	Aspen Pads / Filtros De Paja	110091	110090	110092
5.	Pad Retainers / Soporte Para El Filtro	3PW-4	3PW-5	3PW-6
6.	Corner Post, With Float Hole / Poste De Esquina, Con Agujero Para Flotador	224003-008	224003-009	224003-010
7.	Corner Post, No Float Hole / Poste De Esquina, Sin Agujero Para Flotador	224003-008	224003-009	224003-010
8.	Cut-Off Plate / Placa Externa	224002-001	224004-002	224004-003
9.	Blower Housing / Caja De La Rueda	324106-202	324113-001	324111-001
10.	Blower Wheel / Rueda	12BW	16BW	20BW
11.	Shaft, Blower Wheel / Eje De La Rueda	110182	110183	110183
12.	Bearings, Blower Wheel Shaft / Cojinetes Del Eje De La Rueda	110351	110351	110351
13.	Pulley, Blower Wheel / Polea De La Rueda	110274	110275	110276
14.	Drive Belt / Banda De Transmisión	110211	110215	110214
15.	Motor / Motor	*	*	*
16.	Pulley, Motor / Polea Del Motor	110277	110278	110278
17.	Motor Mount / Montura Del Motor	314003-002	314003-004	314003-008
18.	Motor Mount Clips / Seguros Para Montar Motor	314005-001	314005-001	314005-001
19.	Electrical Cord, Motor / Cable Eléctrico Del Motor	110364	110364	110364
20.	Float Valve / Válvula Del Flotador	FL-C	FL-C	FL-C
21.	Pump Mount / Montura De La Bomba	216003-001	216003-001	216003-001
22.	Pump Screen / Malla Para La Bomba	281001-001	281001-001	281001-001
23.	Pump Assembly / Bomba	NOR-120P	NOR-120P	NOR-120P
24.	Pump Retainer / Sujetador De La Bomba	110866B	110866B	110866B
25.	Connector, Pump Mount / Unión Para La Montura De La Bomba	3PM-1	3PM-1	3PM-1
26.	Float Bracket / Soporte Del Flotador	216001-003	216001-003	216001-003
27.	Tube, Water Delivery / Tubo De Agua	310716	310716	310716
28.	Water Flow Control Valve / Válvula Reguladora Del Flujo De Agua	281013-001	281013-001	281013-001
29.	Over Flow Assembly / Montaje De Desagüe	3OA-1	3OA-1	3OA-1
30.	Water Distributor Assembly / Sistema Del Distribuidor De Agua	3D-4	3D-5	3D-6
31.	Holder, Water Distributor / Soporte Para El Distribuidor De Agua	110574	110574	110574
32.	Electrical Junction Box / Caja De Empalme	320106-001	320106-001	320106-001
33.	Receptacle, Motor / Tomacorriente Del Motor	110369	110369	110369
34.	Receptacle, Pump / Tomacorriente De La Bomba	110370	110370	110370
35.	Bearing Mount, Right / Montura Del Cojinete, Derecha	-	-	214114-001
36.	Bearing Mount, Left / Montura Del Cojinete, Izquierda	-	-	214114-001
37.	Motor Mount Support, Right / Soporte Para El Montura Del Motor, Derecho	-	-	214114-002
38.	Motor Mount Support, Left / Soporte Para El Montura Del Motor, Izquierdo	-	-	214114-002
39.	Channel Retainer Support / Soporte Para El Retenedor De Canal	-	-	218114-001

\* See motor specification table. / Vea la tabla de especificaciones del motor.

NOTE: Standard hardware items may be purchased from your local hardware store.

NOTA: Artículos de uso corriente pueden comprarse en la ferretería de su localidad.

# REPLACEMENT PARTS / PIEZAS DE REPUESTO

