

Butyl Brute-19600-12-BB10



Rev. A 3-15-12

For parts and technical service call us!
Astro Packaging 800-642-7876

SAFETY PRECAUTIONS

GENERAL CONSIDERATIONS

1. Read and follow these instructions. Failure to do this could result in severe personal injury or death.
2. Additional safety instructions and/or symbols are located throughout this manual. They serve to warn maintenance personnel and operators about potentially hazardous situations.
3. Inspect the machine for unsafe conditions daily and replace all worn or defective parts.
4. Keep work area uncluttered and well lit.
5. All covers and guards must be in place before operating this equipment.

For precautions and definitions of safety symbols, refer to Safety Chapter of the service manual.

SERVICING EQUIPMENT

1. Only trained personnel are to operate and service equipment.
2. Never service equipment while it is in motion.
3. Shut off the equipment and lock out all input power and air supply at their sources before attempting any maintenance.
4. Follow the maintenance and service instructions in the manual.

SIGNS

1. Read and obey all of the warning labels, signs and caution statements on the equipment.
2. Do not remove or deface any of the warning labels, signs, and caution statements on the equipment.
3. Replace any warning labels, signs, and caution statements which have been removed or defaced. Replacements are available.

ADDITIONAL CONSIDERATIONS

1. To ensure proper operation of the equipment, use specified electrical and/or air supply sources.
2. Do not attempt to alter the design of the equipment unless written approval is received from our factory.
3. Keep all manuals readily accessible at all times and refer to it often for the best performance from your equipment.



TABLE OF CONTENTS

Chapter 1 Safety Precautions	Chapter - Page #
Chapter 2 Description & Specifications	
Description	2 - 1
Features	2 - 2
Specifications	2 - 2
Dimensions	2 - 3
Chapter 3 Installation	
Setup	3 - 1
Component Installation	3 - 1
Electrical Circuits & Wiring	3 - 2
Power Cord	3 - 2
Switched Handgun Pup Motor Circuit	3 - 2
Chapter 4 Operation	
Controls and Indicators	4 - 1
Start-Up Instructions	4 - 3
Adjustments	4 - 4
Chapter 5 Maintenance	
Preventative Maintenance	5 - 1
Chapter 6 Troubleshooting	6 - 1
Chapter 7 Repair & Replacement	
Hose Replacement	7 - 1
Hose Controller Replacement	7 - 3
Pump & Flow Control Replacement	7 - 4
Pump Motor Replacement	7 - 5
Tank Temperature Controller Replacement	7 - 6
Tank Heater Replacement	7 - 7

Chapter 8 Component Illustrations & Bills of Material

BB10 Assembly Drawing 8 - 2

Flow Control Valve Assembly 8 - 4

Pump Assembly 8 - 5

Motor Assembly 8 - 6

L2 Handgun Nozzles 8 - 7

Recommended Spares 8 - 8

Chapter 1

SAFETY PRECAUTIONS

All operators and service personnel must read and understand this manual before servicing equipment. All maintenance and service on this equipment must be performed by trained technicians.

Electrical



Dangerous voltages exist at several points in this equipment. To avoid personal injury, do not touch exposed connections and components while input power is on. Disconnect, lockout and tag external electrical power before removing protective panels.

A secure connection to a reliable earth ground is essential for safe operation.

A disconnection switch with lockout capability must be provided in the line ahead of the unit. Wiring used to supply electrical power should be installed by a qualified electrician.

High Temperatures



Severe burns can occur if unprotected skin comes in contact with molten adhesive or hot application system parts.

Safety glasses, gloves, and long-sleeved clothing must be worn whenever working with or around adhesive application systems.

High Pressure



To avoid personal injury, do not operate the equipment without all covers, panels, and safety guards properly installed.

To prevent serious injury from molten adhesive under pressure when servicing the equipment,

disengage the pumps and relieve the adhesive under pressure (e.g. trigger the heads, hand-held applicators, and/or other application devices into a waste container) before opening any hydraulic fittings can connections.

Protective Covers



Keep all guards in place!

To avoid personal injury, do not operate the application system without all covers, panels, and safety guards properly installed.

Eye Protection & Protective Clothing



It is very important that you PROTECT YOUR EYES when working around hot melt adhesive equipment !

Wear glasses with side shields which conform to ANSI Z87.1 or EN166

Failure to wear safety glasses could result in severe eye injury.

It is important to protect yourself from potential burns when working around hot melt adhesive equipment.

Always wear steel reinforced safety shoes.

Wear protective gloves and long-sleeved, protective clothing to prevent burns that could result from contact with hot material or hot components.

Safe Installation and Operation

To avoid possible failure of hoses, make sure all hoses are routed to avoid kinking, tight radius turns (8" or less) and abrasive contact. Hot-melt hoses should not have prolonged contact with heat-absorbing surfaces such as cold floors or metal troughs. These heat-absorbing surfaces can alter adhesive flow and cause incorrect calibration. Hoses should never be covered with materials that prevent heat dissipation, such as insulation or sheathing.

Read this manual before applying electrical power to the equipment. Equipment may be damaged by incorrect electrical connections.

Do not use adhesive that is dirty or that may be chemically contaminated. Doing so can cause system clogging and pump damage.

When adhesive hand-held applicators or other movable applicators are used, never point them at yourself or at any other person. Never leave a hand-held applicator's in use.

Do not operate the tank or other system components without adhesive for more than 15 minutes if the temperature is 150 degrees C (300 degrees F) or more. To do so will cause charring of the residual adhesive.

Never activate the heads, hand-held applicators and/or other application devices until adhesive's temperature is within the operating range. Severe damage could result to internal parts and seals.

Treatment for Burns From Hot Melt Adhesives

Burns caused by hot melt adhesives must be treated at a burn center.

Care should be used when working with hot melt adhesives in the molten state. Because they rapidly solidify, they present a unique hazards.

Even when first solidified, they are still hot and can cause severe burns. When working near a hot melt application system, always wear safety gloves, safety glasses and long-sleeved, protective clothing.

Always have first-aid information and supplies available.

Call physician and/or an emergency medical technician immediately.

Service

Refer all servicing to qualified personnel only.

Explosion/Fire Hazard

Never operate this unit in an explosive environment.

Use cleaning compounds recommended by Astro Packaging. Flash points of cleaning compounds vary according to their composition, so consult with your supplier to determine the maximum heating temperatures and safety precautions.

Lockout/Tag-out

Follow OSHA 1910.147 (Lockout/Tag-out Regulation) for equipment's lockout procedures and other important lockout/tag-out guidelines.

Be familiar with all lockout sources on the equipment.

Even after the equipment has been locked out, there may be stored energy in the application system, particularly capacitors within the panel box. To ensure that all stored energy is relieved, wait at least one minute before servicing electrical capacitors.

In This Manual

WARNINGS and CAUTIONS are found throughout the manual.

WARNINGS mean that failure to observe the specific instructions may cause injury to personnel.

CAUTIONS mean that failure to observe the specific instructions may damage the equipment.

Chapter 2

DESCRIPTION AND SPECIFICATIONS

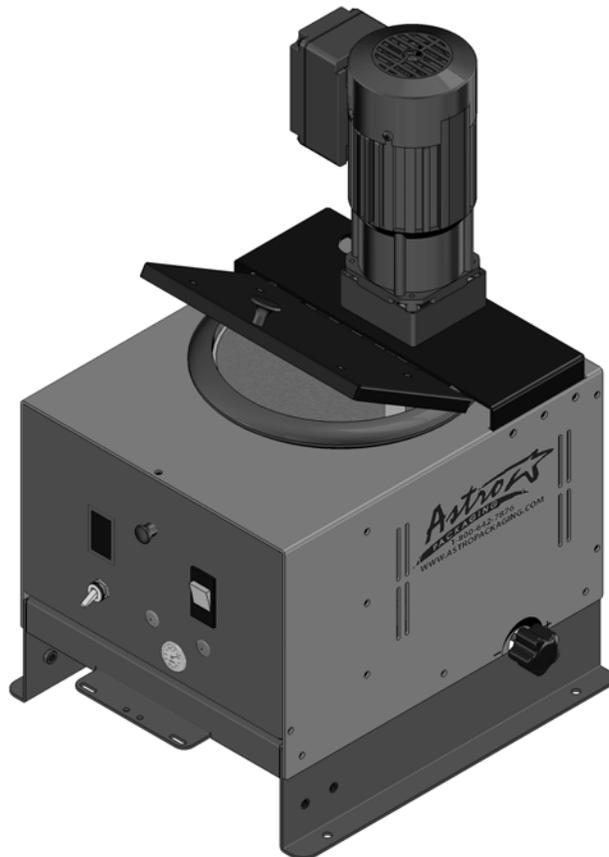
Description

The Astro Packaging BB10 Hot Melt Unit is a hot melt applicator system developed to melt and pump high viscosity butyl rubber-based sealant. The melt unit features a 15 lb. (6.8 kg) capacity tank. The cylindrical design accepts briquette form butyl sealants, which are converted to fluid state and pumped by an electric motor-driver gear pump through an L2 Handgun/hose assembly.

A rotating chain and scraper assembly in the tank propels the molten butyl sealant to the pump inlet port. A 26 RPM, 60 Hz, 1/7 HP motor and flow control valve provide output control.

Tank temperature is regulated by an adjustable bimetallic controller mounted directly on the melt unit base. Hose temperature is controlled by an adjustable thermostat with capillary bulb sensor.

The BB10 Hot Melt Unit features the proven all-electric heating and pumping system. The melt unit is housed in an industrial grade sheet metal enclosure and comes with a standard 8 ft (2.44m) handgun/hose assembly; a 12 ft (3.66m) hose assembly is optional.



Features

- All-electric systems available for 115 VAC power
- Pumps high viscosity materials up to 500,000 centipoise
- No compressed air
- Positive-displacement V4-675 gear pump
- A pump warm-up thermostat protects the pump drive mechanism by preventing operation below a safe temperature level
- Tank and hose/handgun temperatures independently controlled
- Over-temperature protection if tank thermostat fails
- Pump output adjusts by turning external flow control knob
- Switched handgun assembly decreases pump wear and increases motor service life

Specifications

Environmental:

Storage/shipping temperature..... 0°C to 60°C (32°F to 140°F)

Ambient service temperature..... 5°C to 45°C (41°F to 113°F)

Humidity 30-95 R.H. (%)

Physical:

Tank Capacity 6.8 kg/ 15 lbs.

Hose Capacity 1 no. 8 hose

Shipping Weight 29.1 kg/ 64 lbs.

Electrical:

Input Voltage 115 VAC single phase

Power Requirement Melt Unit 900 W

..... Hose, 8 ft 262 W

..... Hose, 12 ft 390 W

..... Handgun 120 W

Breaker Rating 15 A

Performance:

Warm-up time, full tank approximately 45-60 minutes

Melt Rate 3.6 kg/hr (8 lb/hr)

Viscosity Maximum 500,000 cps

Temperature range:

Melt Tank 37-232 °C (100-450 °F)

Hose 149-204 °C (350-450°F)

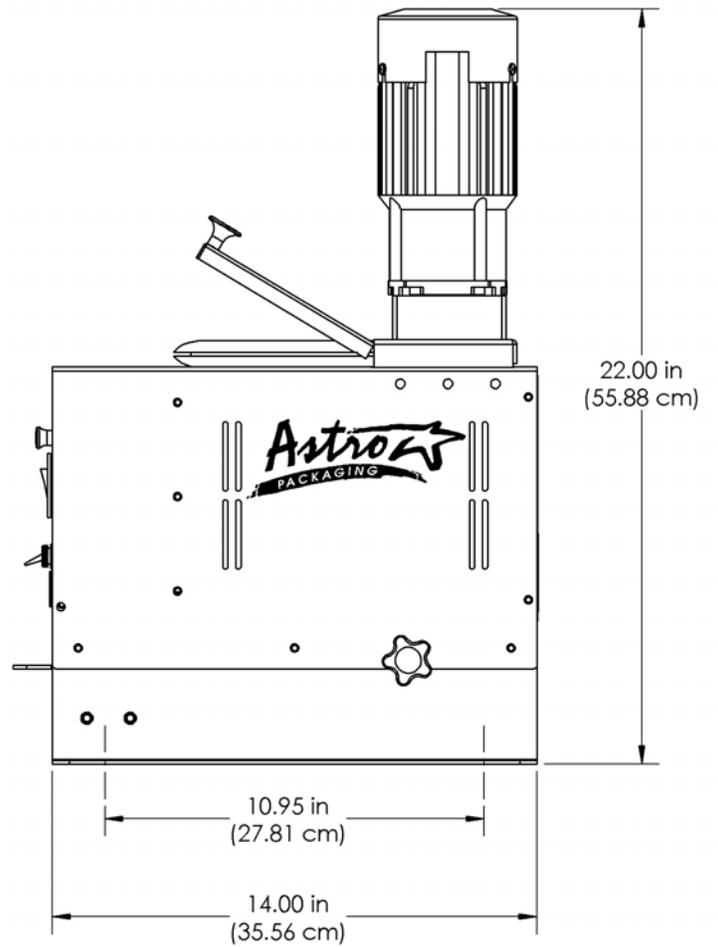
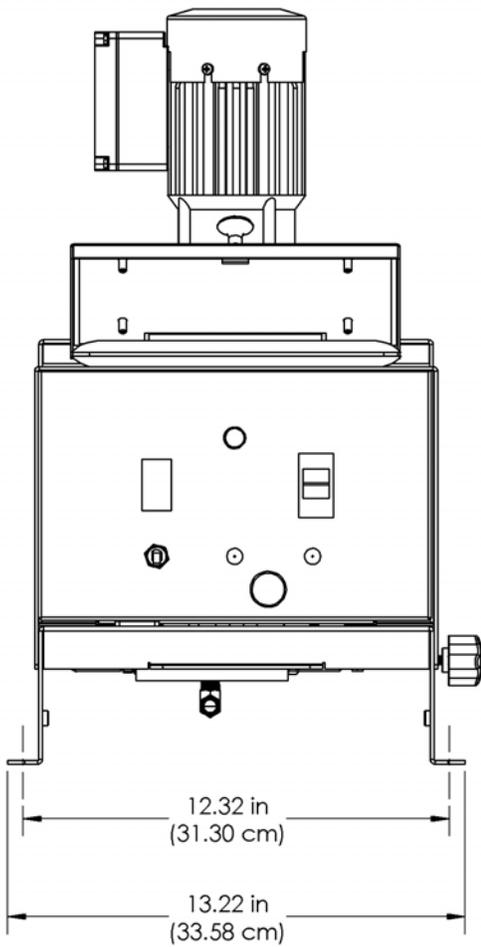
Maximum pump flow rate:

Motor rpm 26 rpm @ 60 Hz

Pump Size V4-675

Output 18.1 kg/hr (40 lb/hr)

Dimensions



Chapter 3

INSTALLATION

Set-Up

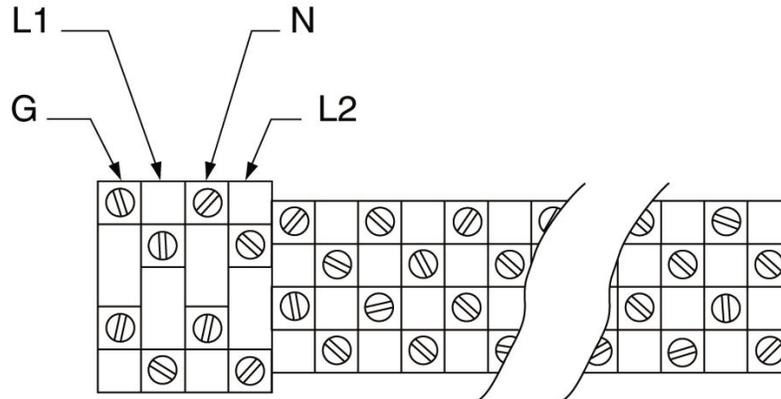
1. Remove all packaging material around melt unit.
2. Carefully lift melt unit out of box.
3. Unpack binder containing manuals and warranty information. Retain for future reference.
4. Unscrew four screws from plywood board base.
5. Carefully uncoil hose from around melt unit and remove bubble wrap from handgun.
6. Position melt unit for convenient servicing and easy access to control panel.
7. Use level mounting surface to prevent warping of melt unit and misalignment of pump and motor shaft.
8. Using the base mounting holes, bolt melt unit to a durable mounting surface in accordance with illustration on opposite page to prevent accidental upset and possible injury.
9. Assure all screws are tight before startup. If melt unit experiences excessive vibration, retighten screws.

Component Installation

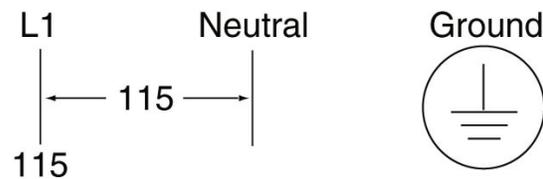
1. Manual systems are generally shipped with all standard components installed. No user installation is required.
2. In the event a melt unit is received without an attached handgun/hose assembly, refer to hose replacement in Ch. 7.

Electrical Circuits & Wiring

BB10 Melt Units use single phase 115 VAC power sources with earth ground for safety. See illustration below for terminal block location. An identification plate is attached to each melt unit on the outside rear door of the tank housing. This plate specifies the exact melt unit voltage and pump motor frequency. Pump motor voltage, frequency and current are specified on the motor data plate. For safe and proper installations, refer to the identification plate before applying electrical power to melt unit.



Block Diagram 115 VAC Single Phase:



3-16-12



CAUTION: To avoid possible system damage, always check wiring configuration in terminal blocks to verify jumpers are in their correct locations.

Power Cord

Prewired 115 VAC BB10 Melt Units are equipped with a power cord and a standard 3-prong grounding power plug. The system becomes fully operable by plugging the power cord into a grounded outlet.

Switched Handgun Pump Motor Circuit

The switched pump motor circuit allows the pump motor to be switched ON and OFF using the handgun trigger. This feature increases pump motor life and turns ON the pump motor at the time of application. This remote switch is located on switched handguns and is wired into the melt unit between terminal block locations T9 and TA-9A.

***** THIS PAGE IS INTENTIONALLY LEFT BLANK *****

Chapter 4

OPERATION

Operation

Controls and Indicators

Read this section carefully before attempting to operate his machine. See illustration on next page.

1. System Power Switch/Circuit Breaker and Indicator

A magnetic type breaker opens the circuit at currents exceeding 15A. The power switch illuminates when in the ON position.

2. Pump On/Off Breaker Switch

Allows user to switch OFF pump motor during system warmup or maintenance. It is a magnetic type circuit breaker that protects the motor during overload conditions.

3. Tank Thermometer

Indicates temperature of the material in the melt tank.

4. Tank Heating Indicator

Illuminates amber when tank heaters are powered and assists the user when making temperature adjustments to the tank temperature controller.

5. Tank Over-temperature Indicator

Indicates tank temperatures exceeding approximately 232 °C (450°F). In the event of a tank thermostat failure, power to the tank heaters is controlled by a back-up thermostat and light illuminates red indicating an over-temperature condition. Should an over-temperature condition occur, turn tank temperature control down or replace if failed. Refer to Chapter 6, Troubleshooting.

6. Applicator

Not applicable to this unit.

7. Flow Control Valve (not shown)

Control the amount of adhesive available at the applicator by a pump pressure bypass valve, or flow control valve attached to the gear pump. Adjust on the right side of the melt unit. Refer to Adhesive Flow Adjustment in Chapter 4.

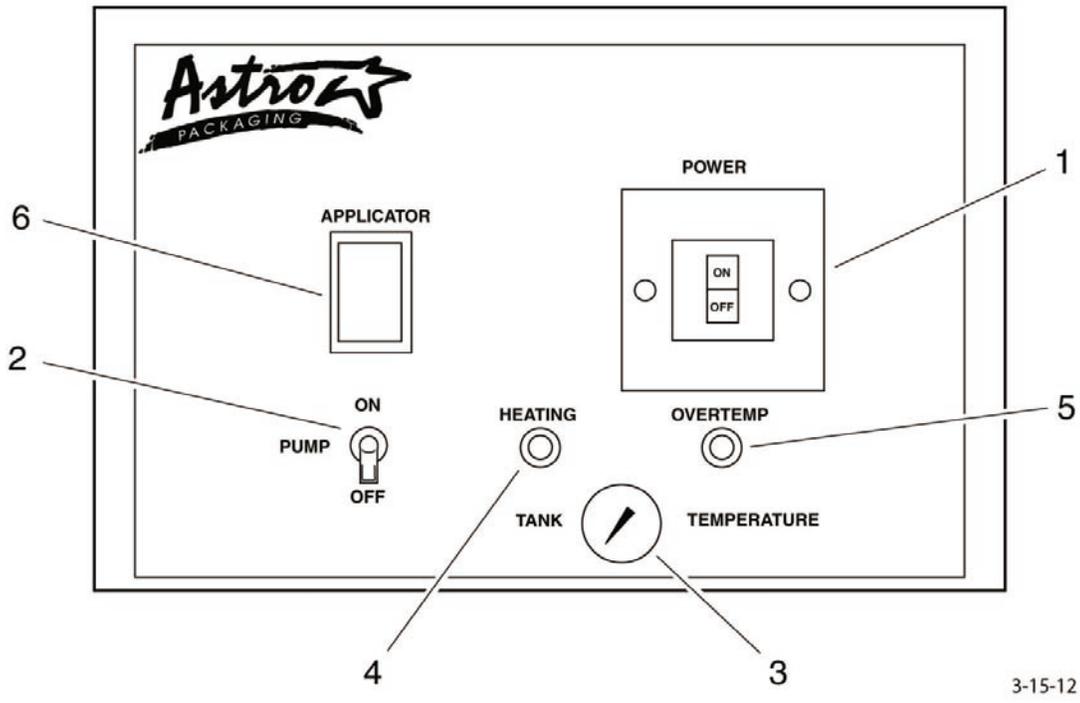
8. Tank Temperature Controller (not shown)

A full-range adjustable thermostat sets and controls tank temperature. Located on the front of the melt tank base, it is accessible at the small access panel inside the electrical enclosure. Adjustment requires a flat blade screwdriver. Refer to Tank Temperature Controller in Chapter 4.

9. Hose Temperature Controller (not shown)

An adjustable thermostat controller sets and controls hose temperature. Located on the thermal panel inside the electrical enclosure, the controller is attached to a capillary bulb sensor located in the hose. Refer to Hose Temperature Controller, Chapter 4.

See Drawing on Next Page



3-15-12

Start-Up Instructions

DANGER:

To avoid personal injury, follow all safety labels. Failure to properly operate and maintain equipment can lead to serious injury.



- Wear protective clothing, safety goggles and safety gloves. Hot melt materials can cause severe burns resulting in disfigurement or blindness.
- Use only manufacturer recommended materials in this system. Fire, explosion, personal injury, property and equipment damage can result if improper or unsafe materials are used.
- Disconnect electrical power from external source to melt unit before undertaking maintenance or troubleshooting, Failure to disconnect power can result in fatal electrical shock.
- Depressurize system before performing any maintenance to pump, pump filter, flow control valve or hose. Turn pump switch off and depress trigger on handgun until there is no flow. Air trapped in the system or in a component can form a pressure pocket. Loosen fittings cautiously. Adhesive under pressure can cause severe burns and burns.
- Always read the manufacturer's recommended use of the material.

1. Become familiar with the section on Controls and Indicators in Chapter 4.
2. Install melt unit as specified in Chapter 4, Installation.
3. Fill tan with hot material.
4. Turn melt unit on and allow sufficient warm-up time for hot melt material to thoroughly melt.
5. Align motor on receipt of a new unit or after transportation.
 - a. Loosen four screws holding motor pan to side of melt unit.
 - b. Heat melt unit and run motor. This centers the motor.
 - c. With motor running, tighten four screws in a cross-cross pattern.
6. Set hose and tank temperatures to desired settings. Lower settings increase pot life of the material. Materials degrade over time due to oxidation.
7. To prevent motor stalling, adjust flow control valve to the minimum flow requirement.

Adjustments

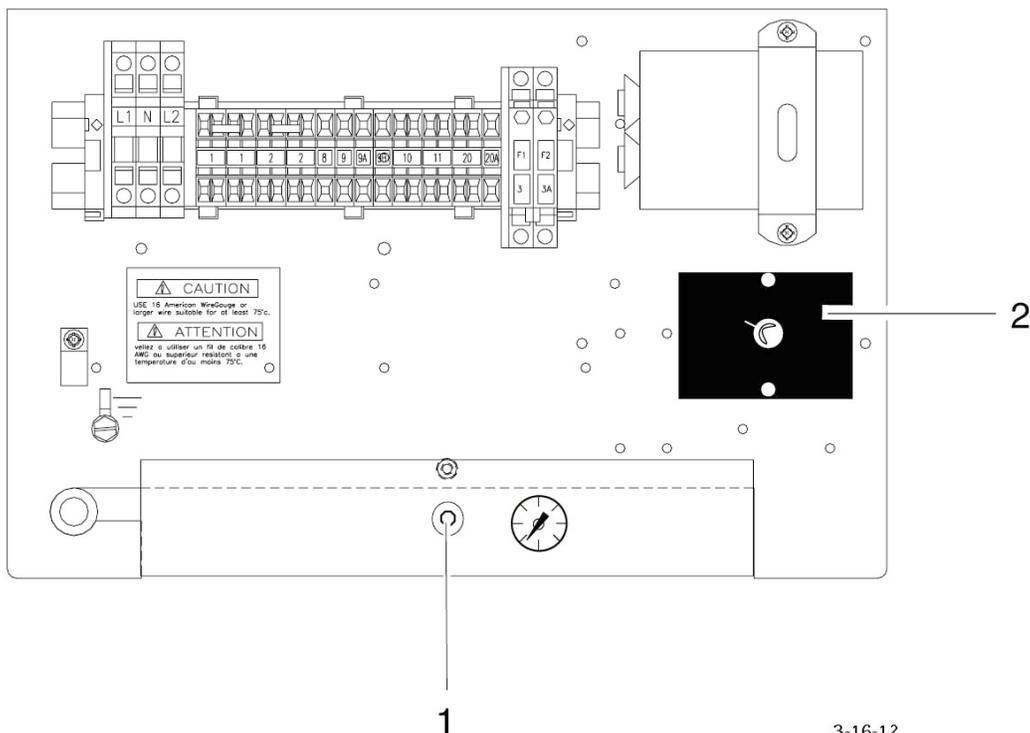
Tank Temperature Controller

1. To prevent hot melt degradation, set melt tank temperature to the minimum temperature specified by hot melt manufacturer.
2. Open front control panel.
3. To raise melt tank temperature, turn tank temperature controller adjustment shaft [1] clockwise with screwdriver. See illustration below.
4. To lower melt tank temperature, turn adjustment shaft [1] counter-clockwise with screwdriver. The melt tank temperature controller range is 260 °C (500 °F) for one 320 ° rotation of the adjustment shaft.
5. Allow melt tank temperature to stabilize 30 minutes before adjusting further.
6. Verify temperature on tank thermometer.

Hose and Handgun Temperature Controller

Temperature graduations on hose controller reflect approximate hose and handgun temperature.

1. Measure inside hose temperature with a pyrometer and bead probe. Hose and handgun temperature should be a minimum temperature required for application to prevent degradation of material in the hose and maximize hose life.
2. Open front panel.
3. To raise hose and handgun temperature, turn adjustment shaft [2] clockwise with screwdriver to desired temperature on dial. See illustration below.
4. To lower hose and handgun temperature, turn adjustment shaft [2] counterclockwise with screwdriver to desired temperature on dial.
5. Refer to Temperature Check in Maintenance section of the handgun manual.



Adhesive Flow Adjustment



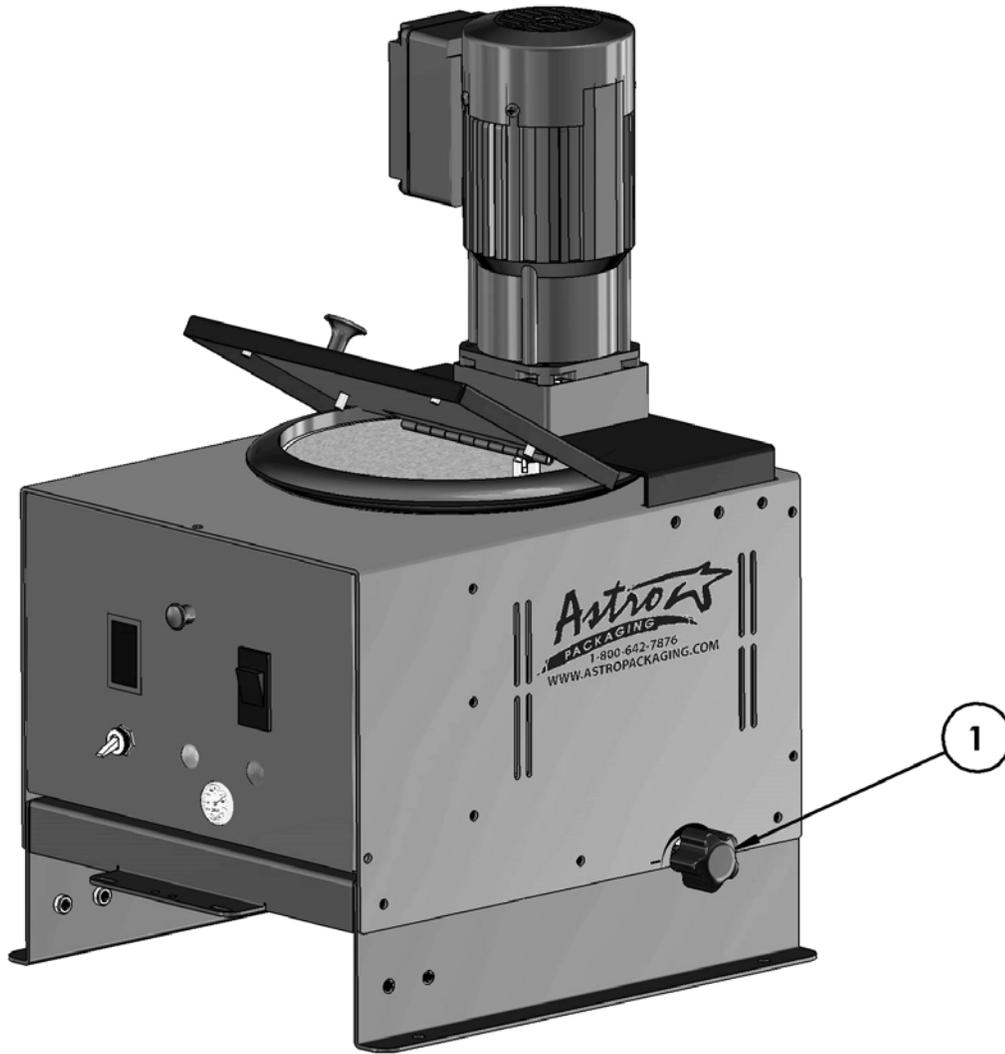
CAUTION:

For maximum performance and motor life, do not allow pump motor to stall. A prolonged stall condition will cause motor to go into thermal overload.

Flow Control Valve

An adjustable pressure regulating device is mounted on the pump under the melt unit chassis.

1. Adjust adhesive flow with flow control knob [1] on right side of melt unit.
2. To increase pressure and adhesive flow, turn knob [1] clockwise.
3. To decrease pressure and adhesive flow, turn knob [1] counterclockwise.
4. To achieve minimum pressure and lowest flow rate suitable for application, turn knob fully counterclockwise. Gradually turn clockwise until desired pressure flow rate is reached.



Chapter 5 Maintenance

Maintenance



WARNING:

Hot melt materials can cause severe burns resulting in disfigurement or blindness. Follow these precautions before beginning any maintenance:

- Wear protective clothing, safety goggles, and safety gloves.
- Turn pump motor switch to off position. Depressurize applicator(s) by triggering.
- Unless stated otherwise, always allow melt unit to cool before beginning any maintenance.
- Disconnect hose electrical connector when hose fittings are disconnected and power is off.



CAUTION:

To prevent damage to components (hose fittings, etc.), heat part(s) being serviced to approximately 121°C (250°F) prior to dismantling, assembling, or adjustment. Heat parts by applying power to the unit using a hand held hot air gun or placing parts on a hot plate. Failure to do this will result in stripped threads and running both parts and tools.



CAUTION:

To avoid arcing of electrical contacts and possible failure of components, do not connect electrical connectors when the hose power switch is on.

Preventative Maintenance

Monthly Inspection Procedure

1. Verify hose is properly supported so it is not over stressed during use. Minimum bend radius is 20.32 cm (8 in.) when hot.
2. Check tank and hose temperatures and adjust as explained in Chapter 4.

Procedure	Daily	Monthly	As Required*
Check for foreign material in tank.	X		
Wipe off excess sealant from cover.	X	X	X
Purge tank and hoses.		X	X
Clean applicator nozzle.		X	X
Check for leaks.	X		

* Extra maintenance required for continuous duty machines.

Chapter 6

Troubleshooting

Tank does not heat	<ol style="list-style-type: none"> 1. Turn on main power breaker switch. If switch light fails to illuminate, replace switch. 2. Inspect power-in connections for proper fit. 3. Check for faulty wires. 4. Inspect power wires or power plug at main power source. 5. Check supply voltage to melt unit with voltmeter. 6. Check incoming control voltage to terminal blocks. 7. Check tank controller for proper operation. 8. Compare wire connections to electrical schematic to ensure melt unit is properly wired. 9. If problem persists, check tank heaters as specified under Section 8.6, Tank Heater Replacement. 10. Check incoming power to ensure voltage matches rating of melt unit.
Tank heats slowly	<ol style="list-style-type: none"> 1. Check status of components with a voltmeter (system powered) or ohmmeter (system unpowered, wires disconnected). 2. Adjust tank temperature controller. 3. If problem persists, check tank heaters as specified under Section 8.6, Tank Heater Replacement.
Tank over-temperature indicator light on	<ol style="list-style-type: none"> 1. Check tank temperature when over-temp indicator is lit. If too high, turn tank controller counterclockwise to reduce temperature. If light is on at an acceptable or low tank temperature, thermostat is faulty or rated at a low temperature. Replace over-temperature thermostat.
Handgun and hose heat slowly	<ol style="list-style-type: none"> 1. Adjust hose and handgun temperature controllers. 2. Check voltage to hose controller. 3. Verify hose electrical connector is properly connected. If problem persists, refer to Section 8.2, Hose Controller Replacement. 4. Verify proper temperature range of hose controller.

Handgun and hose fail to heat	<ol style="list-style-type: none"> 1. Verify incoming hose power connector is properly installed. Connector wire pins may be misaligned or loose. 2. If no change, disconnect incoming hose power connector and check hose heater resistance with ohmmeter. If hose heater has failed, replace hose. Refer to Heated Hose Manual. 3. Determine if applicator is heating by using a pyrometer or temperature sensing device. Do not touch applicator by hand to determine temperature. Refer to handgun manual.
Adhesive output too high	<ol style="list-style-type: none"> 1. Decrease system fluid pressure with flow control valve. If no change, remove nozzle and replace with a smaller orifice nozzle. 2. Decrease hose temperature by 4–10 °C (25–50 °F). If no change, consult your hot melt material vendor regarding application. 3. Decrease tank temperature by 4 °C (25 °F).
Adhesive output too low	<ol style="list-style-type: none"> 1. Increase system fluid pressure without stalling motor by adjusting flow control valve. If no change, remove nozzle and replace with a larger orifice nozzle. 2. Clean applicator nozzle. 3. Purge system. 4. Hot melt formulations tend to be a factor in previously listed problems. Refer to Section 5.2, Startup Instructions, for cautions. 5. Increase hose temperature by 4–10 °C (25–50 °F). If no change, consult your hot melt material vendor regarding application.

If troubleshooting attempts fail, contact your Astro Packaging representative.

Chapter 7

Repair and Replacement

NOTE: Refer to Part List, in Chapter 8, for all replacement parts listed in this section.

Hose Replacement

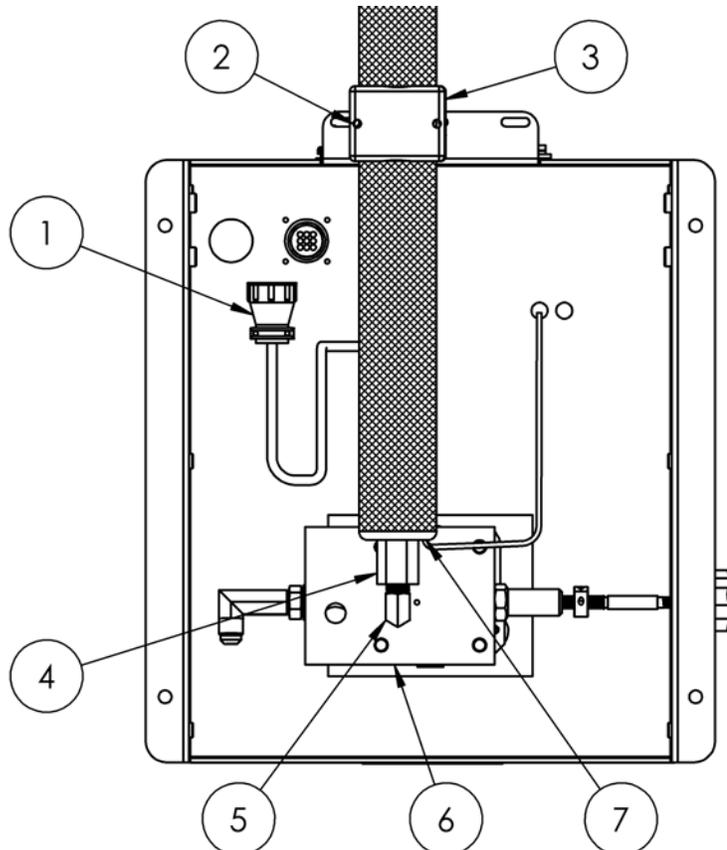


CAUTION:

For safe and proper hose replacement, verify all material in the melt tank has completely solidified.

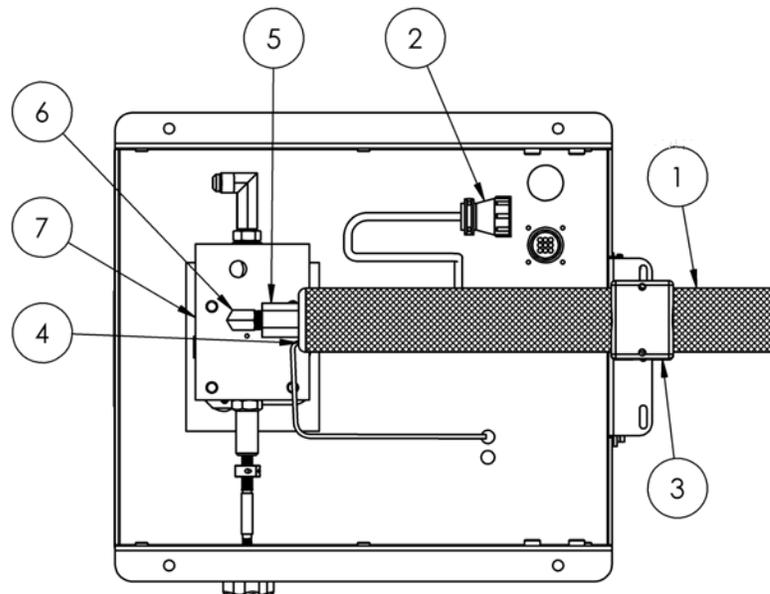
Removal of Existing Hose

- #ž Turn off system power and allow hot melt in tank to completely solidify.
- \$ž Turn system back on for 5 minutes to allow fittings to warm up or heat fitting with a hand-held hot air gun.
- %ž Turn off system power and disconnect melt unit electrical power.
- &ž Disconnect hose electrical connector [1].
- 'ž Remove screws [2] from hose mounting block [3]. See illustration below.
- (ž Tilt unit backward.
-)ž Loosen hose JIC fitting [4] and remove hose from fitting [5] on flow control block [6].
- *ž Carefully remove capillary bulb [7] from hose.



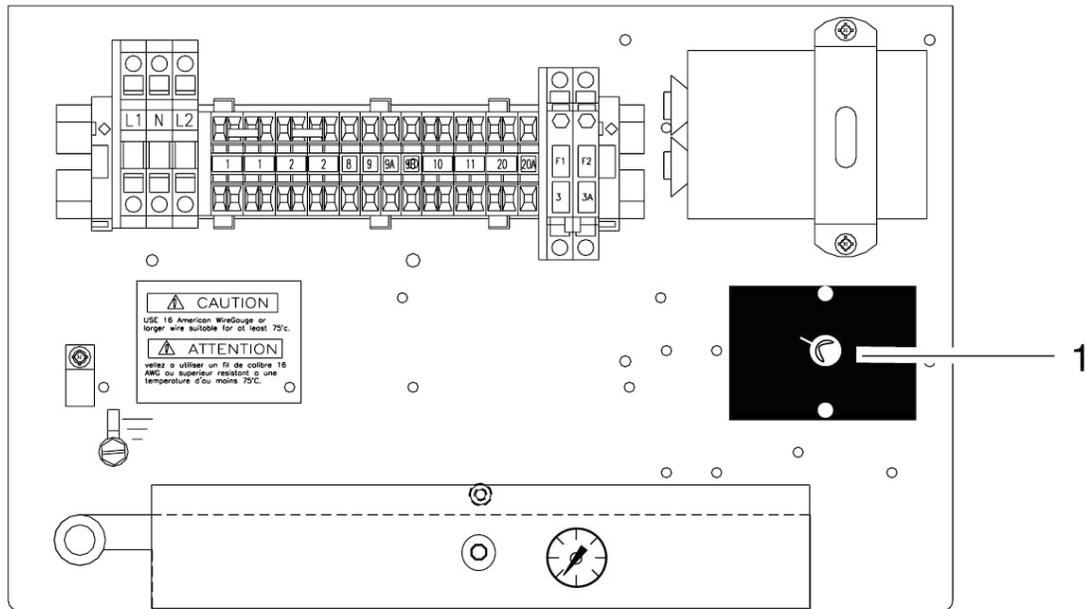
Installation of New Hose

1. Turn off system power and disconnect melt unit electrical power from external source.
2. Never flex a hose when cold. Hoses have a minimum bend radius of 20.32 cm (8 in.) when hot. Further flexing will cause permanent damage.
3. Heat hose JIC fittings [5] before adjusting or damage may result. New or clean hose fittings may not require heating.
4. Install hoses on melt unit by tilting melt unit back until underside is accessible. Support unit with block on back of housing so hot melt does not spill. Do not turn melt unit upside down.
5. Support hose to prevent excessive flexing. Do not support hose in a way which may add to its thermal insulating characteristics or overheating will result. Failure to properly support the hose will result in premature failure.
6. Hose installation. See illustration below.
 - a. Carefully insert capillary bulb [4] into brass tube in end of hose [1] and do not bend capillary tube at a sharp angle. Thermostat hoses perform best when capillary bulb is at a 3 or 9 o'clock. Before final tightening, rotate hose on JIC fitting to obtain recommended position.
 - b. Loosely connect the hose JIC swivel fitting [5] to a straight or right angle fitting [6] on the flow control block [7].
 - c. Fasten hose support block [3] to chassis.
 - d. Attach hose electrical connector [2].
 - e. Tuck capillary tubing [4] and electrical connector [2] under melt unit.
 - f. Position and support hose before using.
 - g. Tighten JIC swivel fittings [5].
 - h. Check all hydraulic fittings for tightness before pressurizing system and retighten when hot. Check all electrical connections for continuity.
 - i. Retighten hydraulic fitting after unit has reached operating temperature.



Hose Controller Replacement

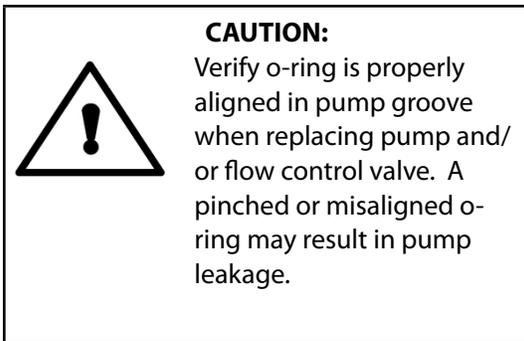
1. Turn system power OFF and allow sealant in tank to completely solidify.
2. Turn melt unit on for 5 minutes to warm fittings or heat fittings with a hand-held hot air gun.
3. Turn system power switch OFF and disconnect melt unit electrical power.
4. Remove screws from hose mounting block.
5. Tilt unit backward and disconnect hose electrical connector. Do not turn melt unit upside down.
6. Loosen hose JIC fitting.
7. Remove hose from fitting on flow control block.
8. Remove capillary sensor from hose.
9. Open front control panel, disconnect controller [1] wires and identify locations of wires.
10. Remove 2 screws fastening controller [1] to electrical mounting panel.
11. Install new controller. Insert capillary sensor into brass tube at hose end and coil capillary tube so it hangs beneath chassis.
12. Reconnect hose electrical connector.
13. Attach hose to JIC fitting as specified in illustration below on previous page.
14. Reconnect controller wires.
15. Reconnect melt unit power.
16. Turn system power switch ON.
17. Adjust controller as specified in Section 4-4, Hose and handgun Temperature Controller.
18. Calibrate actual inside temperature with thermostat setting using pyrometer and bead sensor.



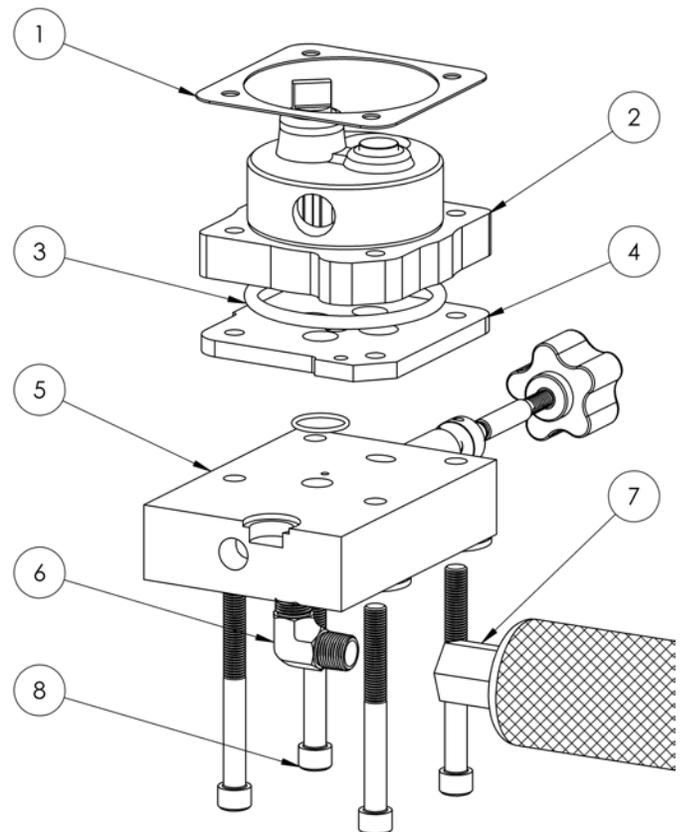
3-16-12

Pump and Flow Control Replacement

1. If possible, pump out all adhesive in melt unit and turn system power off. If not possible, turn off system power and allow hot melt in tank to solidify.
2. Turn on system power for 5 minutes to warm fittings.
3. Turn off system power and disconnect electrical power at external source.
4. Disconnect hose electrical connector and tilt melt unit backwards. Do not turn melt unit upside down.
5. Loosen JIC fittings [6] and remove hose from fittings on flow control block [5]. See illustration below.
6. Remove (4) socket head cap screws [8] attaching flow control block [5] and pump [2] to tank. See illustration below.
7. Pull pump [2] out and remove o-ring [3], and tank gasket [1]. Install new replacement seals.
8. Place o-ring [3] in pump groove after lubricating with silicon- based grease.
9. Align pump [2], pump shim [4] and flow control block [5], with o-ring in place. Verify mating surfaces of pump and flow control valve block lie flat against one another.
10. Attach flow control block [5] and pump[2], with pump gasket seated to bottom of tank using hex head cap screws and lock washers [8].
11. Before tightening bolts, check o-ring groove alignment by manually pressing flow control block [5] against pump [2].
12. Tighten all four screws[8] evenly. Torque to 8.47 N•m (75 in•lb.).

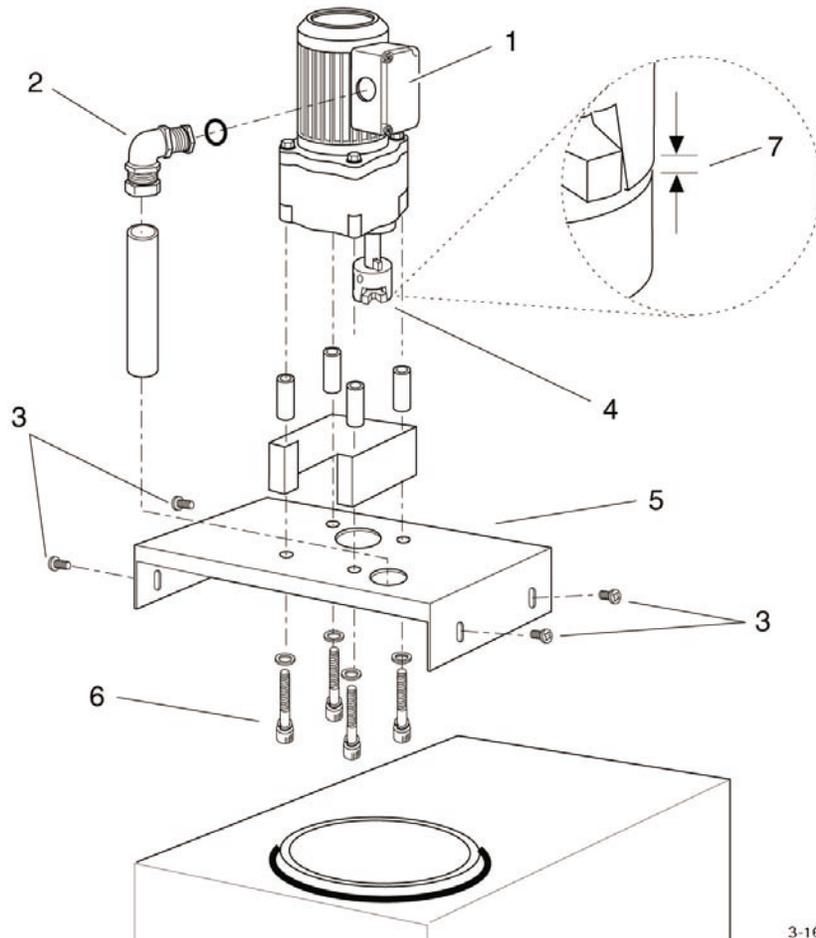


13. Reconnect hose(s) and turn melt unit power on.



Pump Motor Replacement

1. Disconnect electrical power and allow melt unit to cool to 121 °C (250 °F).
2. Open motor junction box cover [1], disconnect wiring and liquid-tite fitting [2]. See illustration below.
3. Remove screws [3] holding motor mounting plate to melt unit.
4. Lift motor mount assembly off melt unit. Ensure pump shaft remains connected to pump in tank.
5. Remove screws [6] holding pump motor to motor mounting plate [5].
6. Install new pump motor on motor mounting plate.
7. Check pump shaft alignment on pump in tank.
8. Align motor coupling [4] with pump shaft in tank and lower onto shaft.
9. Align motor mounting plate to melt unit with mounting screws [3].
10. Verify pump shaft seats properly with pump and verify sufficient coupler clearance [7] exists $0.8 \text{ mm} \pm 0.3 \text{ mm}$ ($0.030 \text{ in.} \pm 0.010 \text{ in.}$). See illustration below.
11. Replace liquid-tite fitting and wires.
12. Reconnect wires according to electrical schematic. Refer to melt unit identification plate to determine exact voltage.
13. Turn melt unit on allow melt unit to heat up to normal operating temperature, turn pump motor on.
14. Tighten screws [3] in a crisscross pattern while motor is operating to align pump shaft.



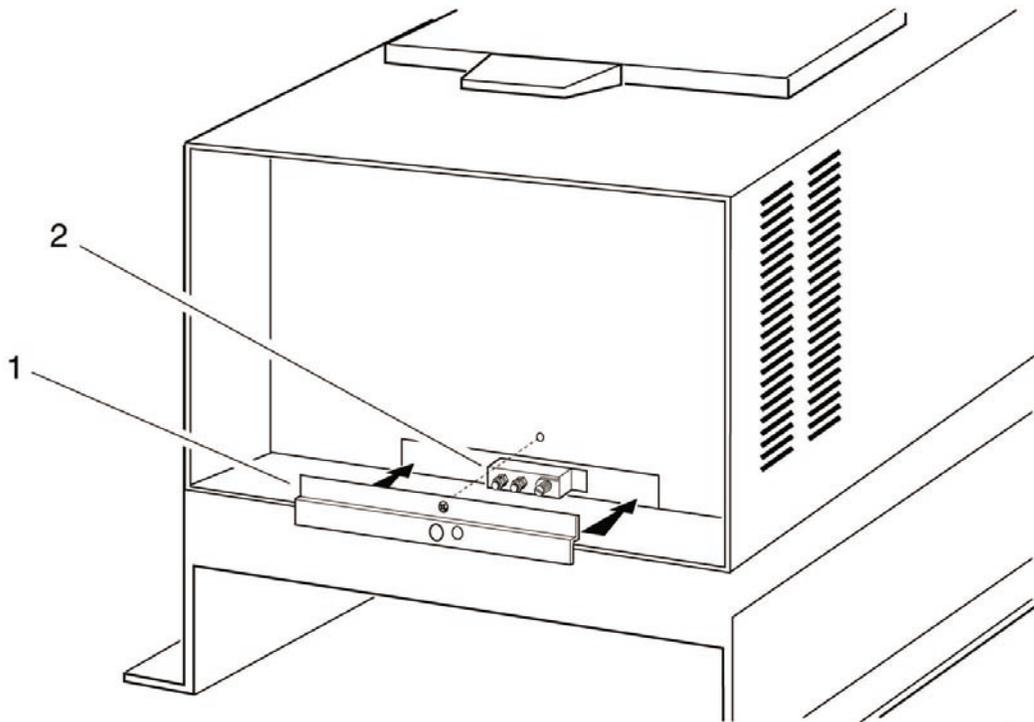
3-16-12

Tank Temperature Controller Replacement

1. Switch system power off and disconnect melt unit electrical power from external source.
2. Open front control panel.
3. Remove tank access panel [1]. See illustration below.
4. Remove wires connected to tank temperature controller [2].
5. Remove temperature controller [2] by unscrewing 2 screws holding tank controller to tank base.
6. Attach new temperature controller [2] to tank base using 2 screws and reconnect wires.
7. Replace tank access panel [1].
8. Adjust controller as specified in section 4-4, Tank Temperature Controller.

	<p>WARNING: Failure to replace access panel will result in an electrical hazard and possible heat damage to electrical components.</p>
---	---

9. Close front control panel.



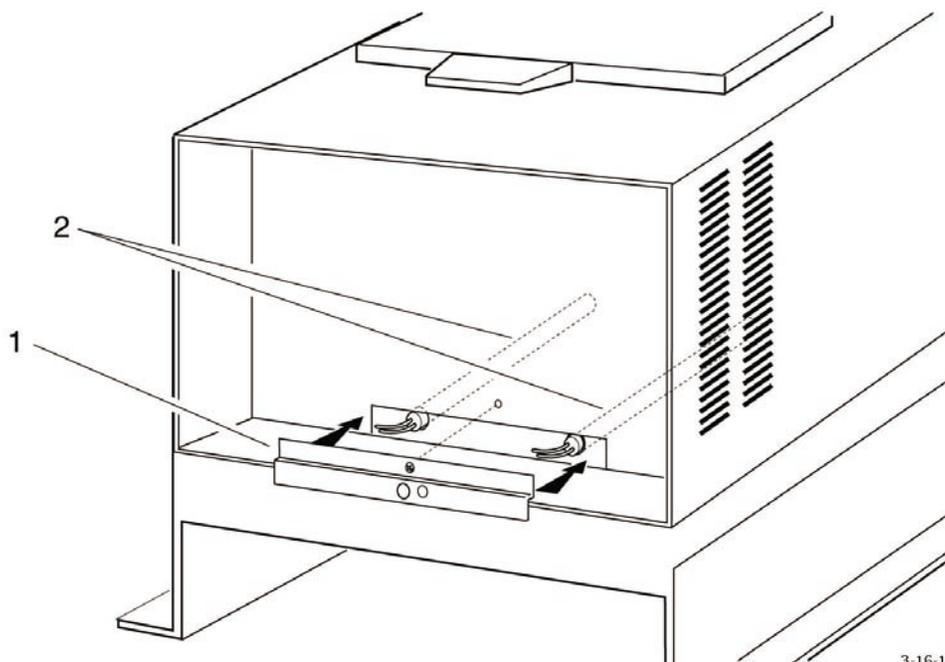
3-16-12

Tank Heater Replacement

1. Before considering replacement, check heaters with amp probe (system power on) or ohmmeter (system power off, wires disconnected). Determine resistance of each individual heater. Refer to electrical schematic.
2. Switch system power off and disconnect electrical power from external source.
3. Open control panel and remove tank access panel [1]. See illustration below.
4. Determine resistance of each individual heater [2].
5. Disconnect wires on defective heater.
6. Pull heater out of bore using pliers. If heater does not come out easily, drive out using a 6.35 mm (0.25 in.) diameter rod inserted in knockout holes in back of tank base.
7. Apply a coating of heat release and transfer agent to new heater and slide it into tank heater bore from the front.
8. Route heater lead wires through electrical panel and reconnect heater wires in original locations. Refer to electrical schematic included with melt unit.
9. Replace tank access panel [1].
10. Close and fasten control panel.



WARNING:
The over-temperature thermostat is a necessary safety device for preventing runaway heating on all melt units. Under no circumstances bypass this protection. Runaway heating of tank can cause hot melt materials to burst into flames.



3-16-12

***** THIS PAGE IS INTENTIONALLY LEFT BLANK *****

Chapter 8

COMPONENT ILLUSTRATIONS & BILL OF MATERIAL



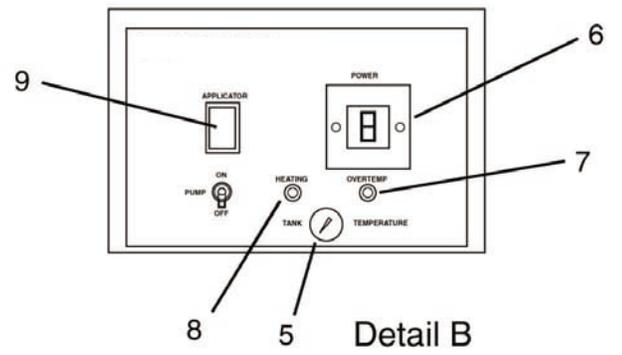
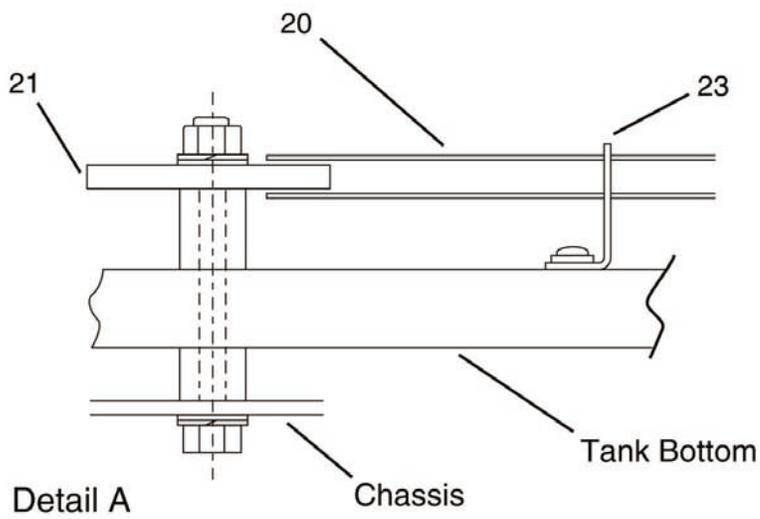
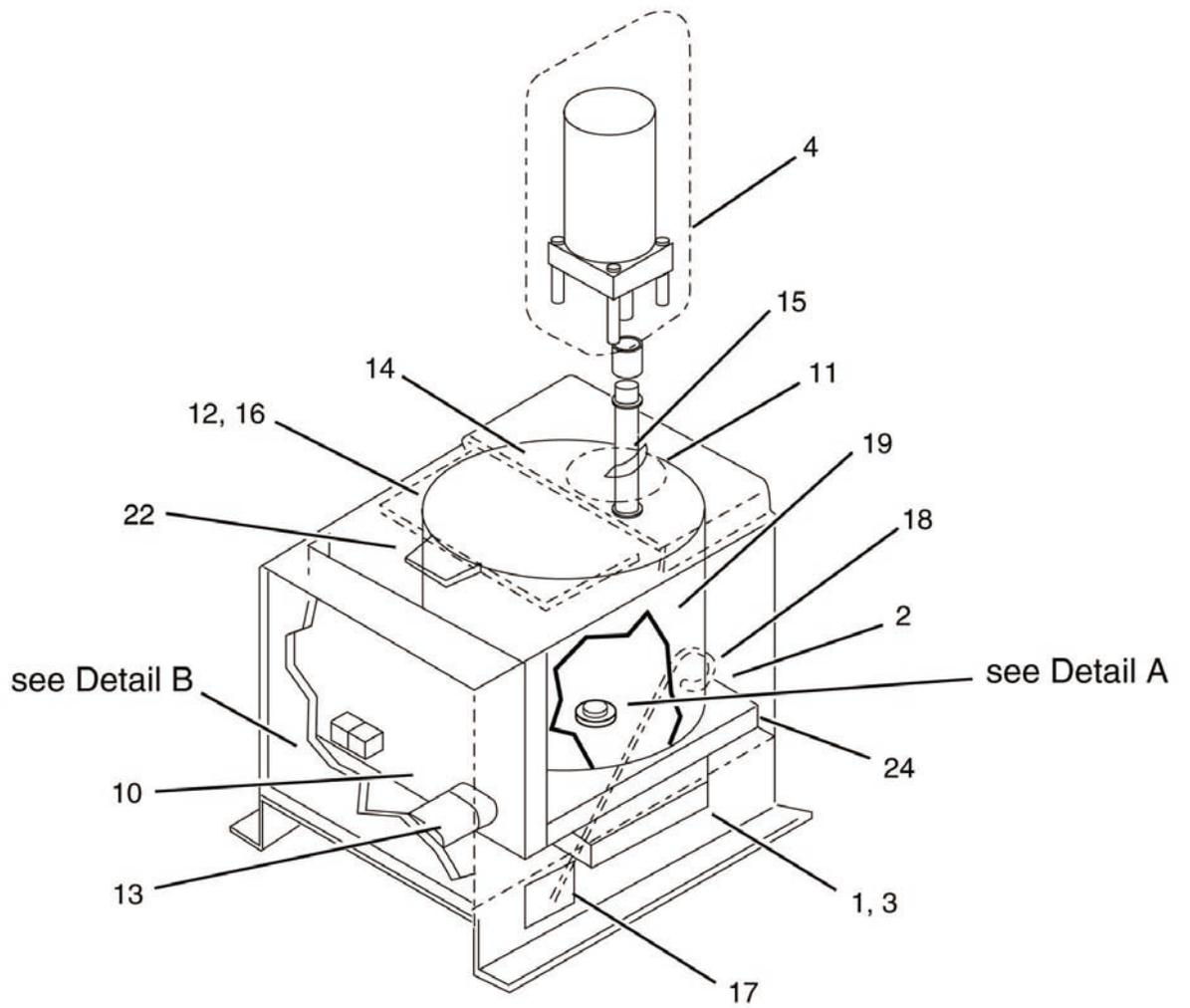
WARNING

All parts must be periodically inspected and replaced if worn or broken. Failure to do this can affect equipment's operation and can result in personal injury.

This chapter contains the component illustrations (exploded-view drawings) for each assembly of the BB10 Hot Melt Unit. These drawings are useful for finding part numbers as well as for use when maintaining or repairing the unit.

BB10 Assembly Drawing

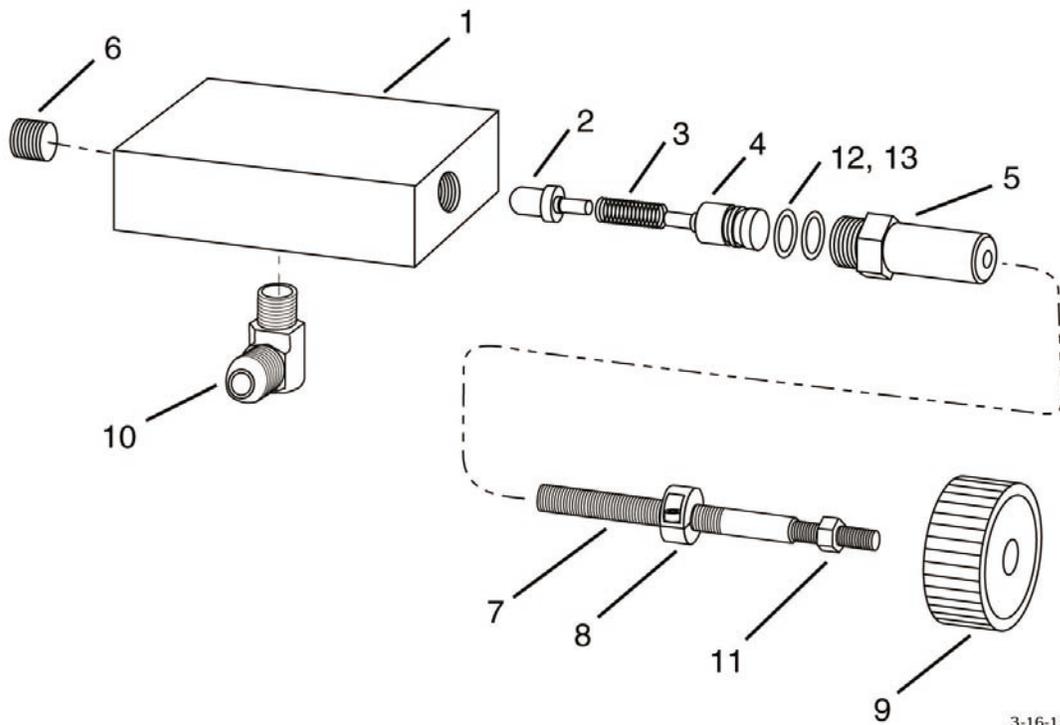
Item	Description (Quantity)	Part Number
1	Flow control valve assembly	73169-01
2	Kit, Over-temperature thermostat 232°C (450°F)	79126-450
3	Pump assembly, group	79290-2
4	Motor group	18419-3
5	Kit, Thermometer	79014
6	Switch, circuit breaker, 11 VAC	12015-1
7	Indicator Light, red	12030-1
8	Indicator Light, amber	12030-10
9	Blank, switch cover	12011-3
10	Kit, tank controller	13011-4
11	Washer, pump shaft	14528-4
12	Seal, tank	70020-29
13	Capacitor, 10 f, 370 VAC	18416-26
14	Motor pan	70458-2
15	Shaft, Pump	70461-101-B
16	Lid Assembly	73526-4
17	Gun Hanger	70117
18	Kit, Tank heater 115 VAC	79005
19	Deflector	70213
20	Chain drive assembly	73164
21	Kit, Idler gear	79094
22	Knob	14517-14
23	Scraper, chain	70213-2
24	Kit, pump warmup thermostat	79068-265
25	Cable, 16 AWG, 3 cond. 20.32 cm (8in.) with plug, 115 VAC only (not illustrated)	73712-12



3-16-12

Flow Control Valve Assembly

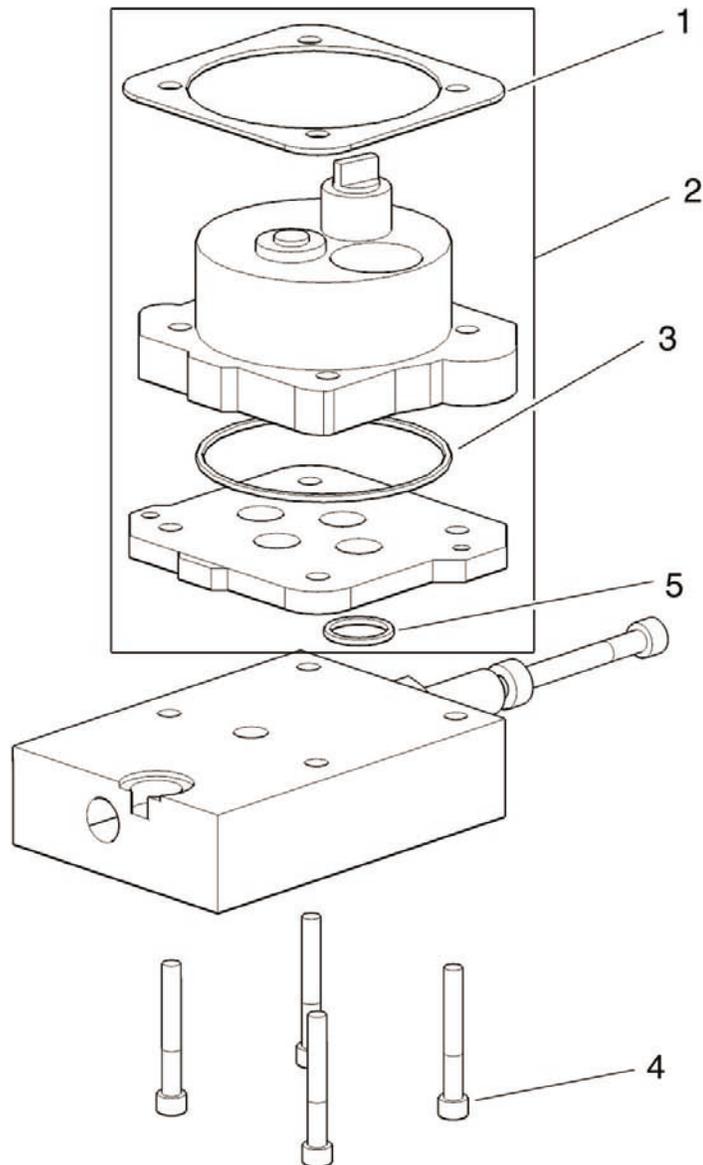
Item	Description (Quantity)	Part Number
	Flow control valve assembly	73169-01
1	Block, flow control valve	70123-14
2	Guide seat, flow control valve	70038-2
3	Spring, flow control valve	14490-5
4	Piston, flow control valve	70037-4
5	Bonnet, flow control valve	18508-1
6	Plug, 1/4 NPT (2)	11603-4A
7	Shaft, adjust. flow control valve	70038-3
8	Collar, Threaded, Locking, 5/16-24	14445-01
9	Knob, 1-7/8", Black Plastic, 1/4-20	14517-13
10	Fitting, 90°, 1/4 NPT to No. 8 JIC	11409-84A
11	O-ring, flow control valve piston (2)	10412
12	High Temp Lube, Clear, 5.3 oz	11208
	Tape, Teflon Sealant; 1/2" x .0035"	15015-2



V4 Pump Assembly

Item	Description (Quantity)	Part Number
1	Gasket, V4 Pump	70118
2*	Kit, Pump, V4	79290-2
3	O-Ring, Pump, Teflon	10493-145
4	Kit, Hardware pump, V4	79042
5	O-ring, Teflon	10493-015

* Note: 79290-2 Kit comes with Viton O-rings. Teflon O-rings are recommended for Butyl. They must be ordered separately from the Pump Kit.

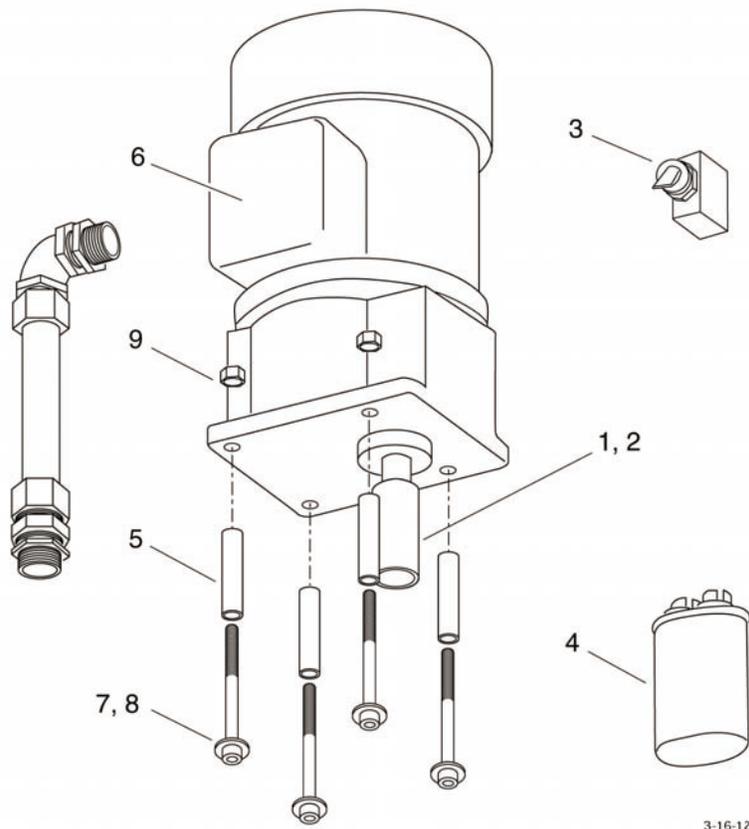


3-20-12

Motor Assembly

Item	Description (Quantity)	Part Number
*	Motor group, 26 rpm, 115 VAC, 60Hz	18419-3
1	Coupling, 15.88mm (0.625in.) shaft x 5.08cm (2in.)	70460-4
2	Key, 4.76mm (0.1875in.) square x 5.08cm (2in.) Lg.	14475-7
3	Breaker, 2.9 Amp Fast Trip	12055B-25
4	Capacitor, 10 µf 370 VAC	18416-26
5	Spacer	1447175
6	Wire Nuts	12277-1
7	Screw, Shc; 1/4-20 x 3 Lg (4)	14431-GDT
8	Washer, split lock, 6.35mm (0.25in.) (4)	14451-GA
9	Nut, 1/4-20 hex (4)	14441-GA

* **Note:** does not include pump On/Off switch/circuit breaker or capacitor.



L2 Handgun Nozzles

Item	Description (Quantity)	Part Number
	L2 Nozzle, 3/16" spacing	70218-3
	L2 Nozzle, 1/4" spacing	70218-4
	L2 Nozzle, 5/16" spacing	70218-5
	L2 Nozzle, 3/8" spacing	70218-6
	L2 Nozzle, 7/16" spacing	70218-7
	L2 Nozzle, 1/2" spacing	70218-8
	L2 Nozzle, 9/16" spacing	70218-9
	L2 Nozzle, 5/8" spacing	70218-10
	L2 Nozzle, 11/16" spacing	70218-11
	L2 Nozzle, 3/4" spacing	70218-12
	L2 Nozzle, Extended General Purpose, 1 orifice	70234-1

Note: The L2 nozzle spacing dimension equals the space between the two panes of glass in a finished insulated window.

Recommended Spares

Item	Description (Quantity)	Part Number
	Heaters	
	Kit, Tank heater, 115 VAC, 400 W	79005
	Standard Melt Unit Switches	
	Kit, Tank controller, 38-232°C (100-450°F)	13011-4
	Kit, Hose controller	13026-3
	Kit, Tank over-temperature thermostat, 232°C (450°F)	79126-450
	Circuit breaker, 115 VAC, 15 A	12015-1
	Pump motor ON/OFF switch, 115 VAC, 2 A	12055B-25
	Pump warmup thermostat 121°C (250°F)	CRA-250-LEP3
	Kit, tank thermometer	79014
	Pump	
	Kit, pump, V4	79290-2
	Motor	
	Motor group, 26 rpm, 115 VAC, 60 Hz	18419-3
	Capacitor, 10 µf, 370 VAC	18416-26
	Coupler, pump shaft-motor	70460-4
	Key, machine 4.76mm (0.1875in.) square x 5.08cm (2in.) long	14475-7
	Pump shaft assembly	70461-101-B
	Kit, Idler gear, BB10	79094
	Chain Assembly, BB10	73164
	Wire nuts, medium low temperature	12277-1
	L2 Standard Handgun/Hose Assemblies - Capillary Control	
	L2 Handgun/hose, 2.44m (8ft), 232°C (450°F), 115 VAC	75086-000

Recommended Spares Continued

Item	Description (Quantity)	Part Number
	Heated Supply Hoses	
	Hose, L2, capillary, 2.44m (8ft), 232°C (450°F), 115 VAC	26269-08-N
	Hose, L2, capillary, 3.66m (12ft), 232°C (450°F), 115 VAC	26269-12-N
	L2 standard handgun spare, 115 VAC	75085-000
	Kit, L2 heater, 115 VAC	79075-1
	Kit, microswitch for L2 handgun	79095
	Constant tension balancer	RF-8
	Hose hammock	99786-C
	Swivel subassembly	73161
	Needle packing washer	16528-18
	Teflon needle seal	16528-17
	Fiber washers	16528-25
	Teflon seat plate	16528-22
	Screw, seat plate	16528-23



Warranty

- A. Astro Packaging warrants its products, when operated and maintained in accordance with Astro Packaging recommended procedures, are free of defects in material and workmanship during the periods indicated below commencing with the date the product is placed in service.

Product	Warranty Period
1. Tank heater (including entire tank when heater is cast into tank)	5 years or 10,000 hours of use, whichever occurs first
2. Melt unit (unless specified below); pattern controller; head driver	1 year or 2000 hours of use whichever comes first
3. Stationary hose; automatic electric head; standard pail unloaded; standard pail unloader; standard accessory purchased with a system	1 year or 2000 hours of use whichever comes first
4. Manual hose; handgun; Astromini; any butyl system; any PUR system (including hose, gun, or head used with PUR); any spare or replacement components; industrial heated hose; nozzle; nozzle bar	6 months of 1,000 hours of use, whichever comes first
5. Rebuilt equipment	90 days or 500 hours of use, whichever comes first

- B. The sole liability of Astro Packaging and exclusive remedy extended to any Astro Packaging customer shall be limited to replacing or repairing, at the option of Astro Packaging, any product returned under the terms of this warranty. Labor and related expenses incurred to install replacement or repaired parts are not covered by this warranty.
- C. Astro Packaging is not responsible for repair or replacement of any product that has been subject to abuse, misuse, alteration, accident, or negligent use, nor for repairs made by an unauthorized person or with parts other than those provided by Astro Packaging.
- D. Astro Packaging assumes no responsibility for the performance of adhesives or other materials used with its products.
- E. The warranty for a product repaired or replaced under this warranty shall continue in effect for the remainder of the original warranty period, or for ninety (90) days following the day of shipment by Astro Packaging of the repaired or replaced product, whichever period is longer.
- F. No warranty is made with respect to custom products or products developed, designed and manufactured to customer specifications, except as specifically stated in writing by Astro Packaging.
- G. Astro Packaging is responsible only for payment of shipping charges for delivery of repaired or replaced product, via the least expensive means of transport, to customer or an authorized Sales and Service Center in the Continental United States only. Payment for shipment to Astro Packaging or an authorized Sales or Service Center for evaluation, repair or replacement is the responsibility of the customer.
- H. For service under this warranty, contact Astro Packaging or the Authorized Representative which the product was purchased.

THIS WARRANTY IS IN LIEU OF ANY OTHER WARRANTY EXPRESSED OR IMPLIED, INCLUDING THE WARRANTY OF MERCHANTABILITY AND FITNESS FOR THE PARTICULAR PURPOSE



Equipment Record

Record the information below on all equipment received and retain for your records.
(Systems, melt unit, hose, guns, heads, pattern controllers, drivers, etc)

Products were purchased from: _____
Astro Packaging Authorized Sales and Service Center

Product Model/Description _____ Serial No. _____
Product Part Number _____ Order No. _____
Date Received _____ Start-Up Date _____ Invoice No. _____

Product Model/Description _____ Serial No. _____
Product Part Number _____ Order No. _____
Date Received _____ Start-Up Date _____ Invoice No. _____

Product Model/Description _____ Serial No. _____
Product Part Number _____ Order No. _____
Date Received _____ Start-Up Date _____ Invoice No. _____

Product Model/Description _____ Serial No. _____
Product Part Number _____ Order No. _____
Date Received _____ Start-Up Date _____ Invoice No. _____

Product Model/Description _____ Serial No. _____
Product Part Number _____ Order No. _____
Date Received _____ Start-Up Date _____ Invoice No. _____

Product Model/Description _____ Serial No. _____
Product Part Number _____ Order No. _____
Date Received _____ Start-Up Date _____ Invoice No. _____