



LAB MELTER

PART MANUAL - 26348

Rev. "C"

Modified 10/17

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SAFETY PRECAUTIONS

- High operating temperatures of Sealant and Heat Transfer oil require protective clothing and gloves be worn by operator.
- Always wear eye protection.
- Avoid the entrance of water into any part of the melter. Water will displace heat transfer oil or sealant which could be hazardous to personnel surrounding the machine.
- Avoid bodily contact with hot sealant material or heat transfer oil. Serious burns may result.
- Read Operator Manual thoroughly before operating melter.
- Make sure operator is familiar with melter operation.
- Stop mixer when adding sealant sample to sealant can.
- Keep hands, feet, and clothing away from all moving parts.
- Always keep a fire extinguisher near the unit. Maintain extinguisher properly and be familiar with its use.
- Do Not exceed 450F (235C) for heat transfer oil temperature.
- Do Not overfill heat transfer oil level. Expansion of oil during heat up could cause overflow. Use only recommended heat transfer oil and change at 500 hours of operation. Change at earlier interval if heat transfer oil becomes contaminated with sealant or shows signs of breakdown.
- Calibrate heat transfer oil reservoir thermometer prior to initial operation and at least every two weeks thereafter.
Precaution is the best insurance against accidents.
- Crafc0, Inc. assumes no Liability for an accident or injury incurred through improper use of this melter.

SPECIFICATIONS

Heat transfer oil vat capacity	Approximately 6 1/2 gallons @ 70F
Melter Can	4 1/2" Dia x 7.0" tall, 48 oz can, Model 404 x 700
Heating	Two 4700 watt, 240 volt fire rod, P/N L24A14-NX1AP (Watlow), or two 900 watt 120 volt, TMO-1091G (Chromolox) (Note: for this application, the Watlow heaters operate on 120VAC only)
Temperature Control	Thermostatic control
Agitator Mechanism	Chain driven, clockwise, 35 RPM
Gear Reducer	Right Angle, 20:1 Ratio, 5/8" Shaft
Hot Oil Mixer	Electric, 1/15 HP, 0-2000 RPM 2.5" dia. Propeller.
Melter Dimensions	40.23"L x 23.91"W x 40.37"H Weight - 300 lbs.
Operating Voltage	Heater/Agitator - 120VAC, 20AMP (NEMA - L5-20R Receptacle) Oil Mixer - 120VAC, 15AMP (NEMA - 5-15R Receptacle)

OPERATING INSTRUCTIONS

Do Not Operate Lab Melter without reading Operator Manual and being thoroughly familiar with the melting unit.

1. Be sure tank drain valve is in the closed position.
2. Heating element switch is in the Off position.
3. Add required amount of heat transfer oil to melter reservoir. Make sure heat transfer oil is above the thermometer and thermostat probe inside heat transfer oil vat.
4. Turn on the switch for heating elements and turn thermostat knob to desired temperature. (Usually 450F)
5. Monitor temperature readout . It will take approximately 1-1 1/2 hours for heat transfer oil to reach 450F.
6. When readout reads 450F, check and recalibrate temperature dial to match readout. To correct thermometer reading, on some models , there is a small screw on the back of the thermometer. You do not need to remove themometer to adjust the calibration screw.
7. If your melter is equipped with an hot oil stirrer, turn it on and set at an RPM high enough to circulate the oil, but which will not make a vortex and suck air in to hot oil.

TEMPERATURE CONTROL CALIBRATION

Check control knob calibration weekly.

1. Calibrate by aligning the line on the control knob with the calibration line on the scale plate (See Fig. 1).

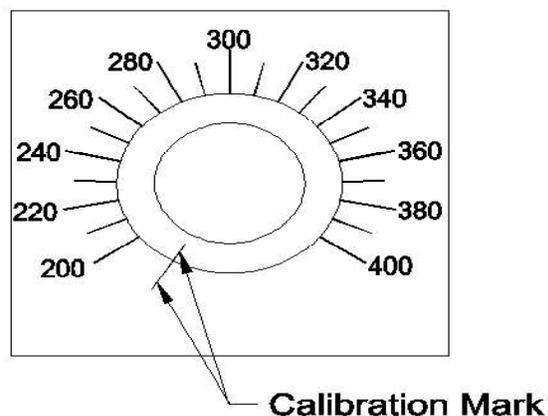


Fig. 1

LOADING SAMPLE (S) INTO LAB MELTER

1. Insert empty sample can (with stirrer paddle inside) into the melter opening. Make sure can clamp is loose. With the help of the paddle, push the can down until it rests on the can support bars on the bottom of the melter. While holding the can, position the clamp on the can, pinching it between the can lock bracket, and can lock tab, and tighten the thumb screw. Center the can with the lid hole and tighten the can lock bracket thumb screw.
2. With the can secured, the mixing paddle can be connected to mixer drive shaft. To prevent any material segregation in the melted sample, the lower edge of the paddle must be no more than 1/8"-1/4" (3-5mm) above the bottom of the can.
First, insert the coupler to paddle shaft. Then, lower paddle into can until it rests on the bottom of the can. Align paddle shaft with drive shaft and move coupler onto upper shaft approximately half way. Tighten lower set screw on flat section of paddle shaft.
Then, raise the paddle 1/8"-1/4" from bottom of can and tighten the set screw on upper part of coupler to flat part of drive shaft. If paddle is touching can, loosen the thumb screw for the can lock bracket and adjust the can clamp as necessary, and retighten thumb screw.
3. For sample preparation, sample addition, material heating, temperature monitoring and sample pouring, refer to ASTM D5167-91.

Note: Before adding any material to can, turn on the mixer switch to be sure paddle is not rubbing against the can. If paddle is rubbing the can, it will wear a hole in the can and sample may become contaminated.

If rubbing, the paddle may need to be raised or can centered under paddle by loosening the can hose clamp.

The can is now ready to be loaded with sealant sample.

SAFETY

1. When adding sample(s) to melter can, turn off the mixer switch.
2. When handling sample can containing hot material, wear leather gloves and safety glasses with side shields. Hot material or heat transfer oil can cause serious skin burns.
3. To prevent accidental test specimen contamination, wipe off outside of sample can after removal from melter.
4. Check temperature of sample when it is being heated. DO NOT heat material above the manufacturer recommended safe heating temperature.

MAINTENANCE

1. Change heat transfer oil after 500 hours of operation or sooner if contaminated. Heat transfer oil oxidizes and becomes thick, losing its heat transferring characteristics. To change heating oil, warm oil to 250F. Disconnect power from the melter. Using extreme care, open the drain valve and empty hot oil into a metal can. Dispose of old oil in accordance with state, federal and local regulations covering hazardous waste disposal.
2. Heating element durability depends on the type of heat transfer oil. Breakdown of oil causes corrosion and element failure. To replace damaged heating element, drain melter as shown above. Install new element (Crafco p/n 40434). In addition, it is recommended the electrical plugs on electrical cords be changed. Tighten element and install new heat transfer oil. Use a high quality, slow oxidizing heat transfer oil such as Mar-Temp 2525. Check for leaks.

TROUBLESHOOTING

Slow heat up of sealant

1. Low heat transfer oil level- Oil should cover the heating elements.
2. Low heat transfer oil temperature setting- Recommended- 400F-450F
3. Heat transfer oil damaged due to oxidation or contamination- See Maintenance and Troubleshooting above.
4. Inoperative heating element- Check and replace if needed.
5. Damaged thermostat- Check and replace if needed

Melter is not operating (no hot oil heating)

1. No power- Check and correct
2. Heating element switch faulty- Check and replace if needed
3. Low thermostat setting- Reset to 400F-450F
4. Faulty thermostat- Check and replace if needed. See Page 10 for electrical diagram.
5. Faulty heating element (s)- Check and replace if needed.
6. Thermostat probe not covered with heat transfer oil- Add oil if needed
7. Thermostat damaged, incorrectly calibrated, or not submerged in heat transfer oil- Check and correct. (See Fig 1 page 7)

Mixing paddle not rotating

1. Mixer switch damaged- Check and replace if needed
2. Mixer motor damaged- Check and replace if needed
3. Paddle coupling set screw(s) loose- Retighten

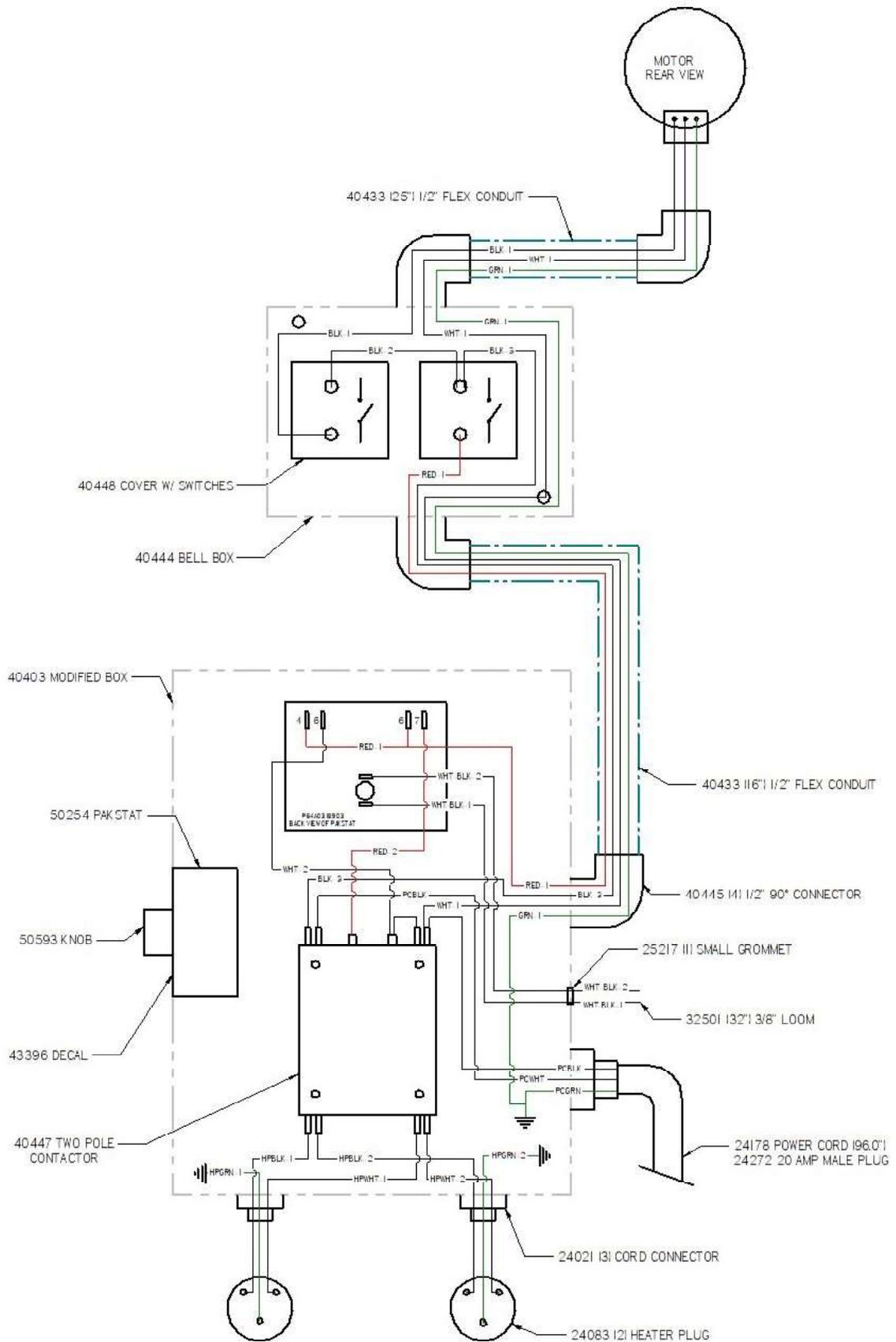
Heating oil contamination in sample can

1. Paddle touching sample can and rubs hole in can- See page 7- Item 2

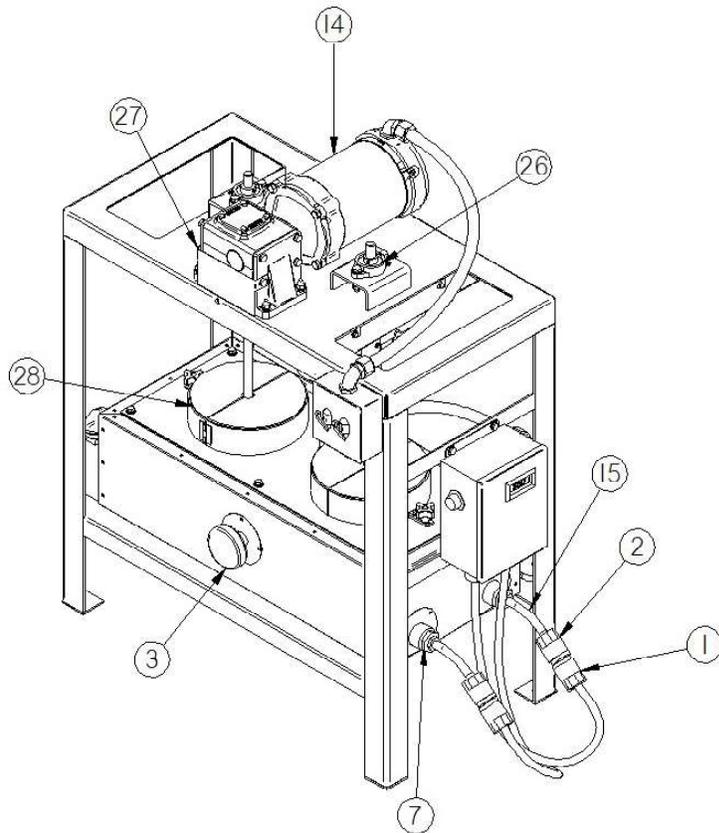
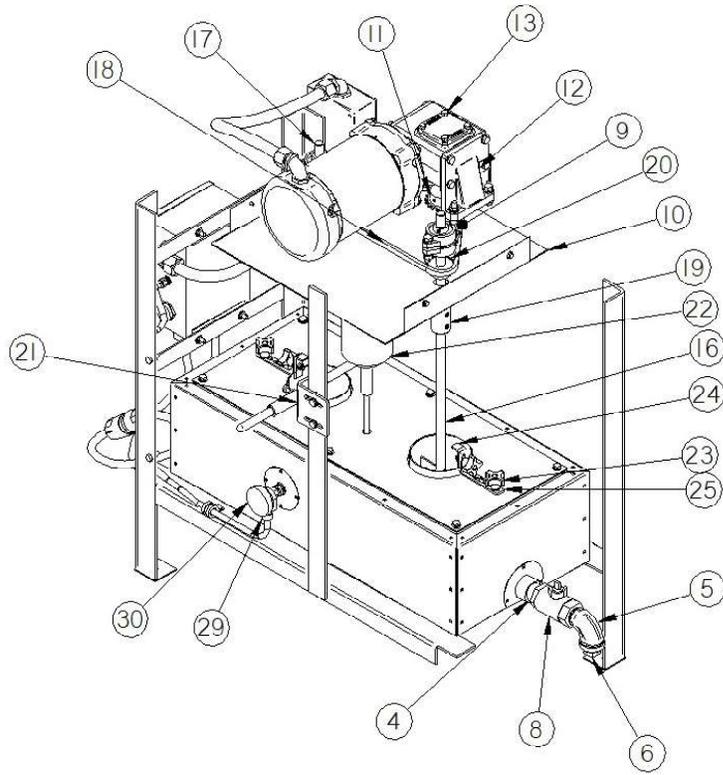
Sealant temperature is higher or lower than desired temperature

1. Thermostat setting incorrect- Calibrate if needed
2. Thermostat sensor not covered with heat transfer oil- Add oil if needed
3. Temperature gauge incorrectly calibrated, faulty, or not covered by heat transfer oil- Check and correct problem

ELECTRICAL SCHEMATIC- LAB MELTER



PARTS LIST - LAB MELTER



PARTS LIST - LAB MELTER

Item	Part Number	Description	Quantity
1	24082	ELECTRICAL CONNECTOR, MALE	2
2	24083	ELECTRICAL CONNECTOR, FEMALE	2
3	25050	TEMPERATURE GAUGE, 2 1/2" BOTTOM MOUNT	1
4	28005	1" CLOSE NIPPLE	1
5	28240	1" 90° STREET ELBOW	1
6	28285	1" SQ. HD. PIPE PLUG	1
7	28350	1" X 1/2" NPT REDUCING BUSHING	2
8	29240	1" NPT BALL VALVE	1
9	40402	#35 CHAIN SINGLE STRAND CONNECTING LINK	1
10	40412	CHAIN COVER	1
11	40415	21 TOOTH SPROCKET	1
12	40416	GEAR REDUCER MOUNT	2
13	40417	GEAR REDUCER	1
14	40418	1/6 HP ELECTRIC MOTOR	1
15	40434	FIREROD HEATER	2
16	40435	PADDLE ASSEMBLY	2
17	40438	SHAFT, UPPER	2
18	40443	#35 ROLLER CHAIN	3 FT
19	40470	5/8" X 2" LONG SHAFT COUPLING	2
20	40475	16 TOOTH SPROCKET	2
21	40539	MIXER MOUNTING BRACKET	1
22	40546	LAB MIXER, ELECTRIC	1
23	40548	THUMB SCREW, CAN CLAMP	4
24	40594	TAB, CAN LOCKING BRACKET	2
25	40595	BRACKET CAN LOCK	2
26	40596	2 BOLT FLANGE BEARING	4
27	40597	GUARD, CHAIN SPROCKET	1
28	40599	8" CAN COVER ASSEMBLY	2
29	51065	CORD GRIP	1
30	55120	RTD SENSOR	1

SUPPLIER LIST

Sample can suppliers (48oz tall can 404 x 700)

<u>Supplier</u>	<u>Phone</u>
Paramount Can Co.	(714) 562-8410
Ribelin Can Co.	(602) 894-9716
Freund Can Co.	(312) 224-4230

Heat transfer oil- Martemp 2525- Crafc0 P/N 40905

<u>Supplier</u>	<u>Phone</u>
Houghton International	(610) 666-4000

All heat transfer oils subjected to high temperatures and air deteriorate with time and lose many of their characteristics.

For best results and safety, the heat transfer oil in this melter must be drained and replaced with new heat transfer oil every 500 hours of operation. Earlier change intervals may be needed if oil becomes contaminated with sealant material.

Crafco has determined that Martemp 2525 has exceptional heat transfer characteristics for use in this melter.

Any other brands should be approved through Crafc0, Inc. customer service

Crafco, Inc. assumes no Liability for an accident or injury incurred through improper use of the melter.

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