

OCF/LOV Heated Shortening Kit

This kit adds a heated JIB platform and heat tape to provided and existing flex lines to accommodate the use of semi-solid shortening. The changes are broadly explained below. Detailed explanations are provided inside. **Details differ slightly for LOV and OCF. Fryer-specific steps are noted with bold type.**

Front of Fryer

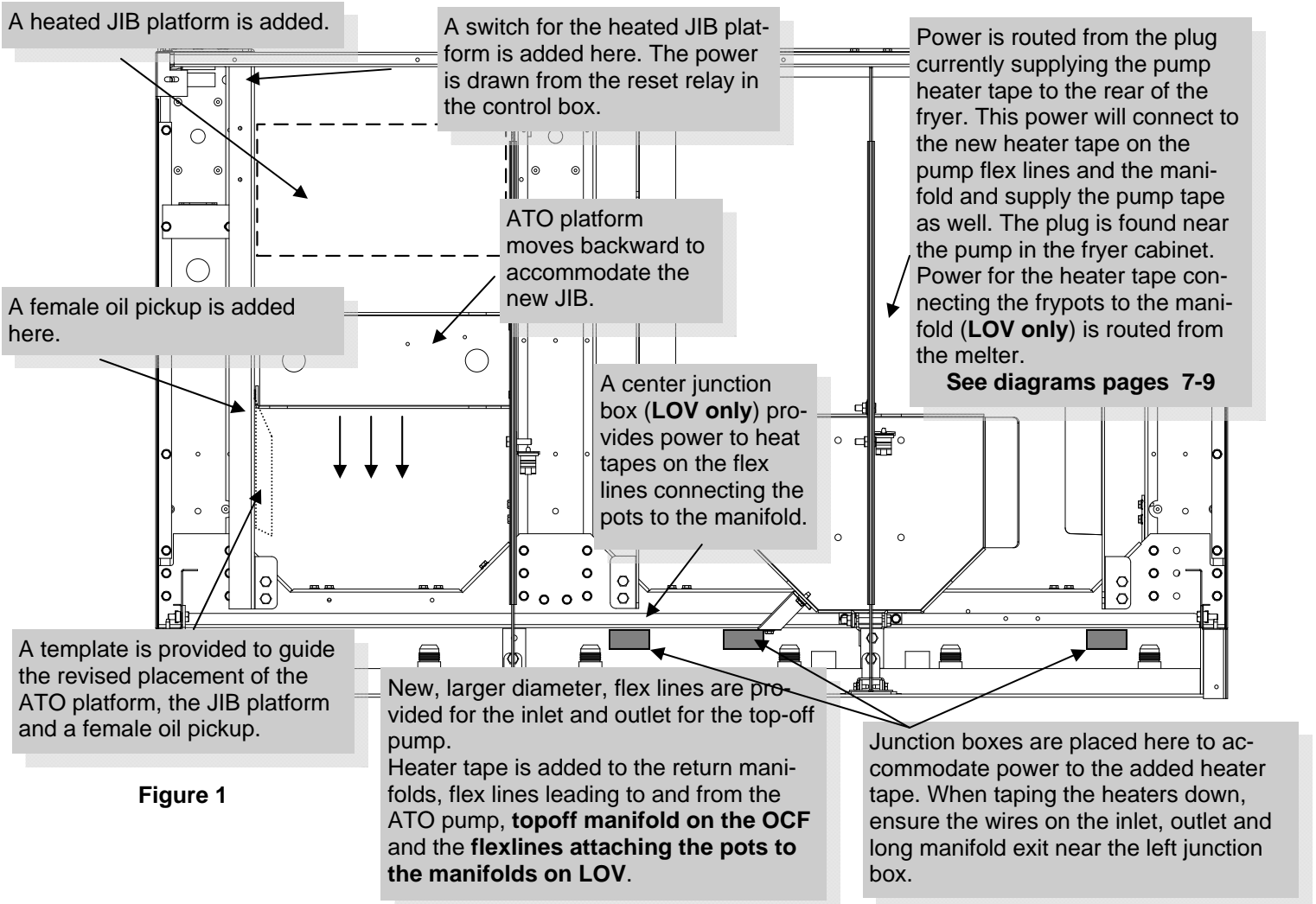


Figure 1



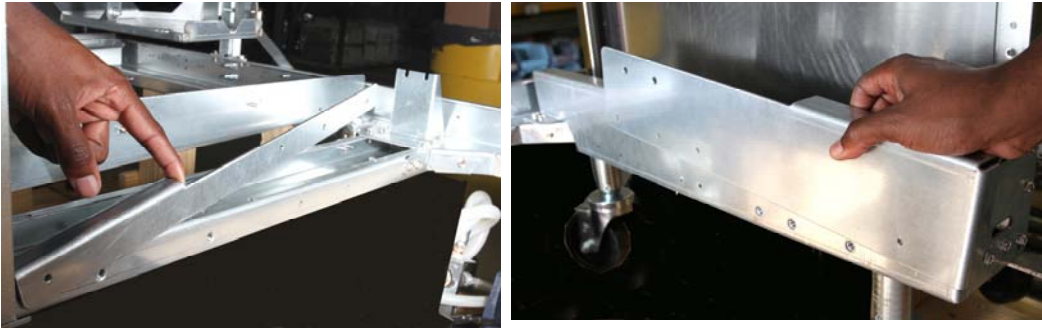
Figure 2

Large diameter return lines are provided for the top-off pump.

Heater tape is added to the return manifolds, flex lines leading to and from the ATO pump, **topoff manifold on the OCF** and the **flexlines attaching the pots to the manifolds on LOV**.

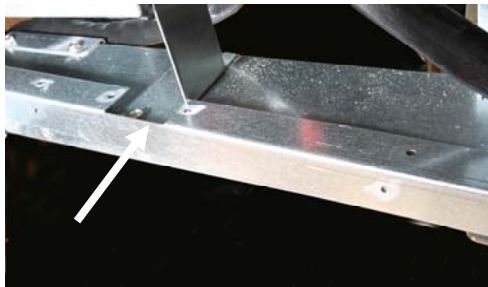
Junction boxes are installed to accommodate power routed from the pump heater and from the melter (**LOV only**). **Center box is not used on the OCF.**

Follow the instructions below to retrofit a Frymaster electric OCF/LOV fryer with a heated reservoir and heated oil lines to accommodate semi-solid shortening in the fryer's auto top-off system.



NOTE: Later model fryers are pre-drilled for the placement of solid shortening components. If the templates align with existing holes, there is no need to drill new holes.

The left side template (**Figure 3** above left) for 3 or 4-vat solid-shortening kit is shown being placed on the channel. The right side template for a 3-vat unit is shown (**Figure 4** above right). Holes in the template are used to drill the channel to establish support for the solid shortening jib holder. The right side template for a 4-vat unit (**Figure 5** below left) is notched to accommodate the contactor box mounting.



NOTE: Kits ship with templates suited to the battery size to be fitted for solid shortening. In each case, the templates locate holes to be drilled to support the solid shortening JIB and other repositioned components. Although not shown, templates for 2-vat units work the same.

Preparing the Hardware

1. Remove power from unit and remove fryer from hood to gain access to the front and back of the unit.
2. Remove the oil JIB.
3. Remove the plumbing for the flow of oil from the JIB to the top off pump.
4. Remove the shelf supporting the JIB.
5. Remove the brackets, front and rear, on the contactor box to the right of the jib (as viewed from the front).
6. Remove the cover from the rear of the ATO box.
7. Mark the back and the wires entering the back of the ATO box to ensure they are returned to the correct spot when the work is near complete.
8. Remove the wires from the ATO box and bring it forward to a secure spot.
9. Remove the bridge securing the ATO box and ATO pump.
10. Remove the JIB platform.
11. The cabinet area should be clear of all hardware except the contactor box.
12. Remove the lid from the contactor box and replace it with the provided horizontally split lid. (**Not necessary in later fryers. Split lid no longer in kit.**)
13. Position the provided metal template on the right (viewed front the front) horizontal frame member. **See Figures 3, 4, 5.**
14. Drill holes with the template attached and remove.
15. Attach the provided pump-support bracket to the ATO support bracket.
16. Attach ATO bracket with drill-point screws, using the bracket to position holes on the (front view) left side. **See Figure 6.**
17. Position the female oil pickup assembly and secure with 1/4" x 20 bolts, lifting, as necessary, the

NOTE: Steps 12 -14 are not necessary in fryers with pre-drilled frames.

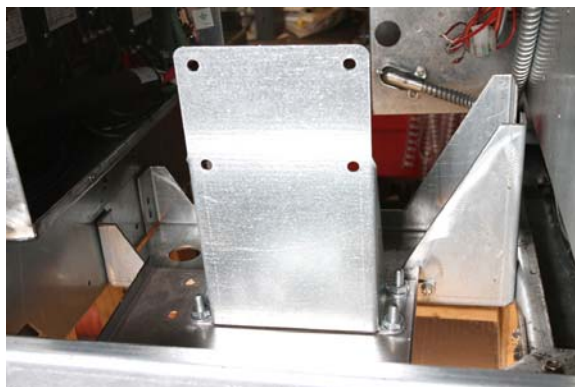


Figure 6: ATO bridge (left) and pump bracket, with pump attachment installed, shown from rear. Pump attachment can go on later to accommodate access to the ATO wiring.



Figure 7: Positioning female oil pickup on fryer channel. It will be necessary to lift the contactor box to position nuts on the 1/4 x 20 bolts securing the pickup. **May not be necessary in newer fryers.**

contactor box to secure nuts on the bolts. See **Figure 7.**

18. Return the ATO box to its position on the ATO bracket, carefully reattaching the wires. Reposition the cover over the ATO wiring. See **figure 8.**
19. Position the JIB platform, using the hole drilled on the right (front view) and the platform to position a supporting screw on the left (front view).
20. Attach the vertical bracket for the pump, if necessary, to the bracket behind the ATO box.
21. Position the pump vertically, with the head down on the vertical bracket attached to the horizontal bracket behind the ATO box. See **figure 9.**

Prepare Wiring for Heated JIB Platform

1. Remove the bezel surrounding the computers by removing the screws accessible inside the cabinet.
2. Remove the screws supporting the computer above the JIB cavity.
3. Locate the relay in the top left corner. See **Figure 10.**
4. Six inches from the relay terminals, cut the orange wire and a white wire.
5. Strip the white wire and attach both ends to a three position Wago. See **using Wago Connectors on page 6.**
6. Strip the orange wire and attach both ends to another three-position Wago.
7. Remove an outlet plug in the control box and replace with a provided grommet. See **figure 11.**
8. Route the heater harness, which will provide power to the heated platform for the new JIB, to the control box.



Figure 8: Reposition the ATO box on the ATO bracket.



Figure 9: Position the pump on the provided bracket.

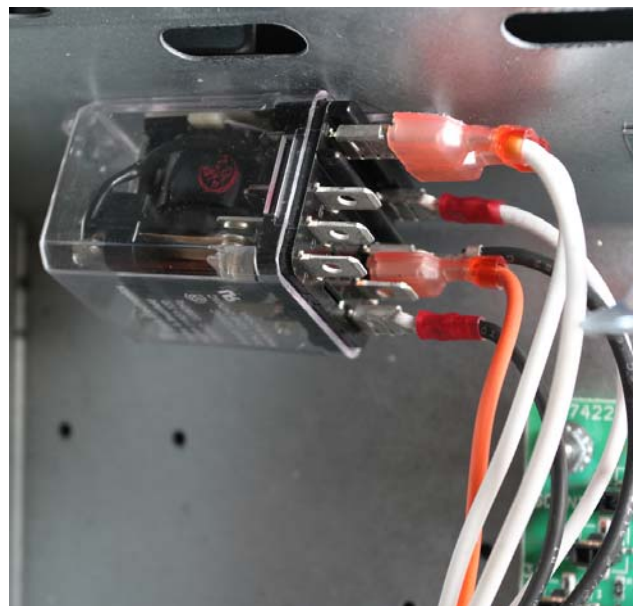


Figure 10: The reset relay, source of power for the heated JIB platform

9. Attach the heater harness white wire to the white-wire Wago. See **Figure 12**.
10. Attach the heater harness orange wire to the orange-wire Wago. See **Figure 12**.
11. Attach the black lead from the control box to a terminal on the provided switch. See **Figure 13**.
12. Attach the black lead from heater terminal wiring to the switch.
13. Position the switch in the cabinet door frame with one mounting hole over an existing hole. Attach with a drill-point screw. See **Figure 14**.
14. Square the switch and drive in a second drill-point screw to secure the switch.
15. Route the wiring harness to the rear of the JIB platform.
20. Position the provided heated JIB platform in the JIB cabinet. It must enter the cabinet at a steep angle. See **Figure 15**.
21. Mount the thermostat box to the bottom of the ATO pump bracket. See **figure 16**.
22. Connect the power cord from the heated JIB platform to the front-facing plug on the thermostat box.
23. Route wiring from the rear of the thermostat box over the pump.
24. Mount the protective cover for the thermostat housing, drilling holes in the cabinet channel to position the cover. See **figure 18**.

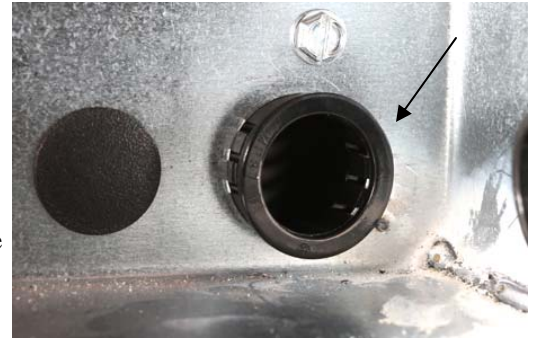


Figure 11: A plug is removed from this position and replaced with a grommet.

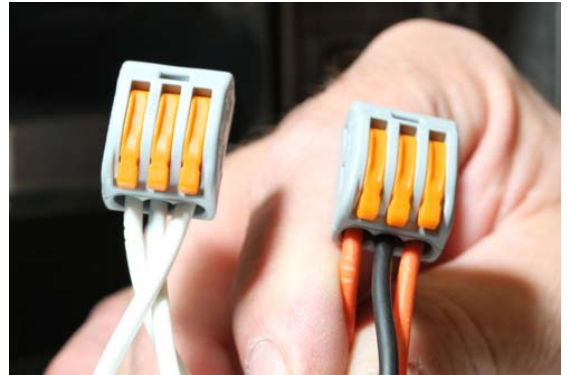


Figure 12: Wago splices are shown routing power for the heated JIB platform.

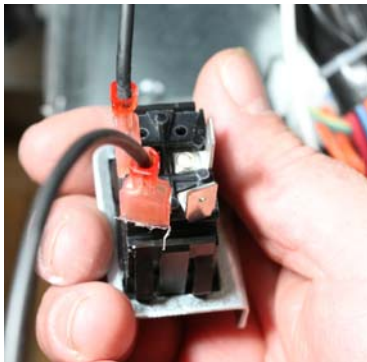


Figure 13: Black wires attached to the switch for the heated JIB..



Figure 14: Switch being positioned on JIB cabinet right interior (front view).



Figure 15: The heated JIB platform must enter the JIB cabinet at a steep angle.



Figure 16: Mount the thermostat housing under the ATO pump bracket.



Figure 17: Route the heater controller wire over the pump and to the right.



Figure 18: Position the thermostat protective cover over the thermostat and mount with drill-point screws.

Prepare Wiring for Heat Tapes, Routing Inlet and Outlet Oil Pump Lines

1. Locate the plug carrying line voltage to the existing heater tape on the pump. **See Figure 19. Also see wiring diagram on page 8.**
2. With a pin pusher, push out the wires carrying power to the solenoid heater tape.
3. Insert the pins of the provided harness and route to the rear of the fryer.
4. Route the wires to the pump to the rear of the fryer. They will be reattached to power later when the new heater tape is attached.
5. At the rear of the fryer, remove the protective shields under the element wires. **Don't remove center shield on OCF.** These shields will be replaced with junction boxes for routing the heater tapes. **See figure 20.**
6. Route the wiring harness previously attached to the pump wiring harness to the left outlet box (viewed from rear). **See drawing on page 10.**
7. **LOV ONLY step:** Route the power harness from the melter. (See Melter Wiring Detail on page 10.) to the center junction box. This will be used to power the heat strips connecting the frypots to the manifold. (See drawing on page 10.)
8. A new, larger diameter, flex line is provided for the oil line leading from the female pickup to the inlet side of the pump. **See figure 21.**
9. A new, larger diameter, flex line is also provided for the outlet side of the pump to the return manifold. Identify these hoses and wrap each with a short heater tape. Ensure the wires from the heater tape exit near the left junction box. **See Figure 22.**
10. Ensure the wire connections are positioned to exit the wrapping near the left junction box. See drawing on page 9.
11. **LOV ONLY Step.** Similarly, attach short heater tapes to the flex lines attaching the oil-return manifold to the frypots. Again, ensure the exposed wiring exits the tape wrapping near the left junction box.
12. Use the long heater tapes to run along the bottom of the horizontal oil-return manifold and the ATO manifold (**OCF only**) in the fryer framework. Ensure the wire leads exit near the junction box on the left side.

See diagram on page 8, drawing on page 9.



Figure 22: Wrap the provided, larger diameter, inlet and outlet flex lines with heater tape. Ensure the wire leads exit near the junction box position.

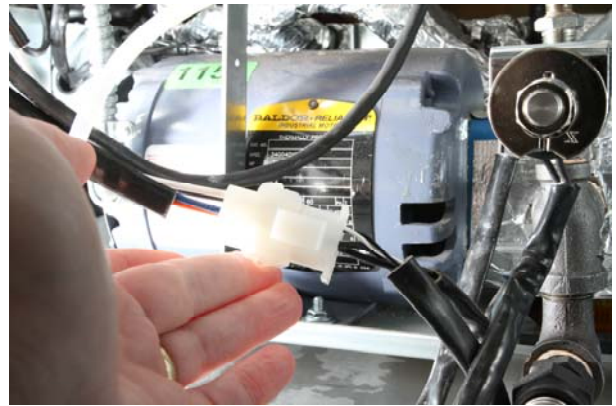


Figure 19: Locate the plug on the pump head heater tape.



Figure 20: Remove element wire protective shields..



Figure 21: Route the wrapped flex line to the pump inlet side.

Routing Power to Junction Boxes

1. Install the junction boxes, positioned as shown in Figure 2 on page 1. Two boxes are used for OCF fryers. Three are used for LOV fryers.
2. Route power harness previously removed from pump heater tape to the left junction box. **See simplified wire routing drawing on page 9.**
3. **LOV only step.** Route the power harness from the melter to the center junction box.
4. Connect the heater tape leads from the top-off pump inlet and outlet heater tapes, the long manifold heater tapes and the pump heater tape and the ATO manifold heater tape (**OCF only**) to the left junction box.
5. **LOV only step.** Daisy chain the power from the melter harness to all the junction boxes using the provided five-position Wego connectors.
6. **LOV only step.** Attach the heater tapes connecting the frypots to the manifold to the power from the melter harness.
7. Position fryer near hood, apply power and test.
8. Replace backs on fryer.
9. Position provided metal JIB, ensuring the male fitting fits tightly and smoothly into the female connection. **See Figure 25.**



Figure 23: Wago connectors shown in junction box.



Figure 24: Outlet boxes shown in place on a LOV fryer with power and heater tapes connected. OCF fryers don't use the center junction box.



Figure 25: The heated JIB platform is shown in place with the metal JIB.

NOTE: Later model fryers will look different than model shown.

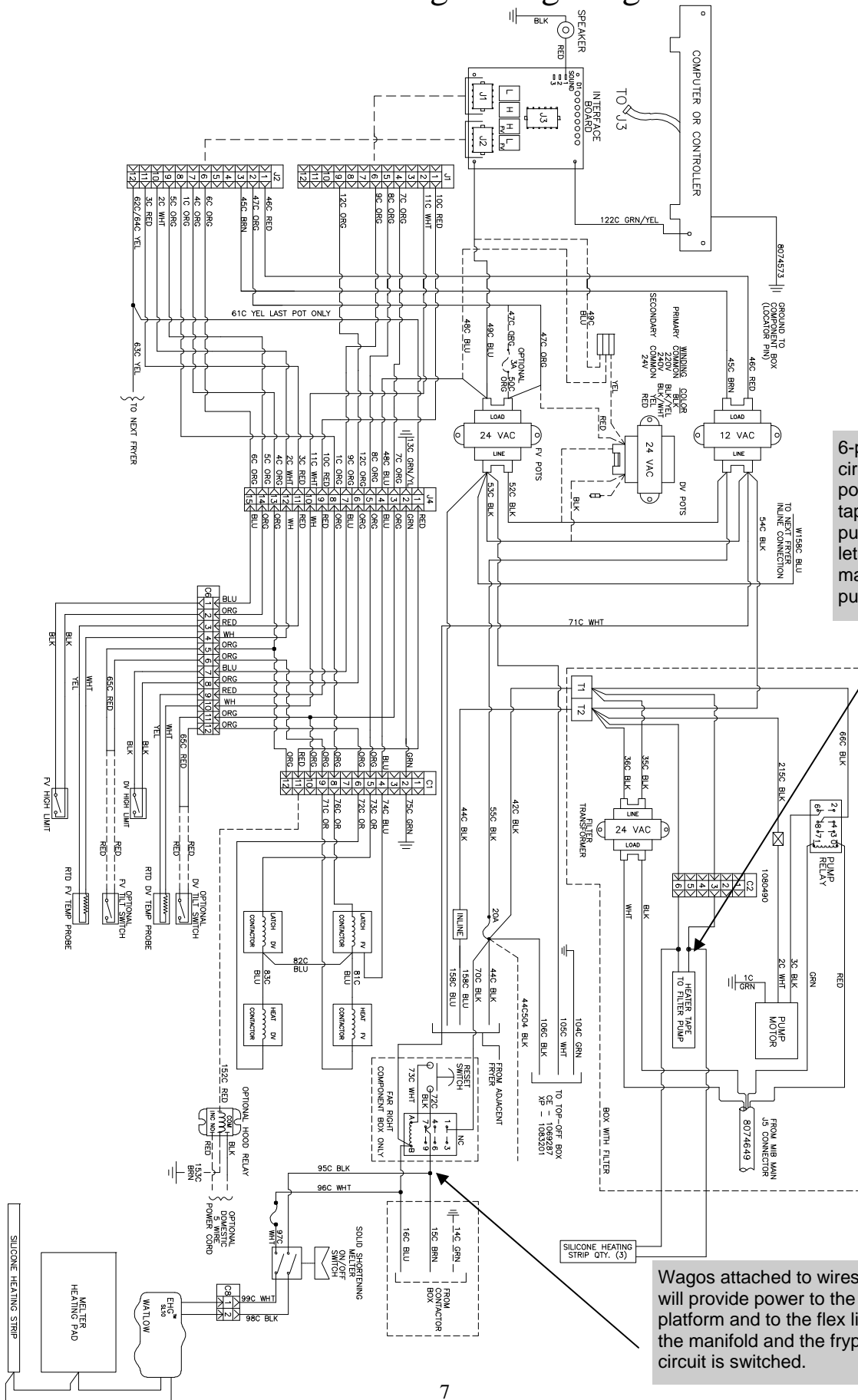
Using Wago Connectors

Wago connectors allow stripped wires (3mm) to be cleanly connected. They are easy to use:

1. Lift completely the orange lever. It will stay upright.
2. Insert stripped wires.
3. Close orange levers.



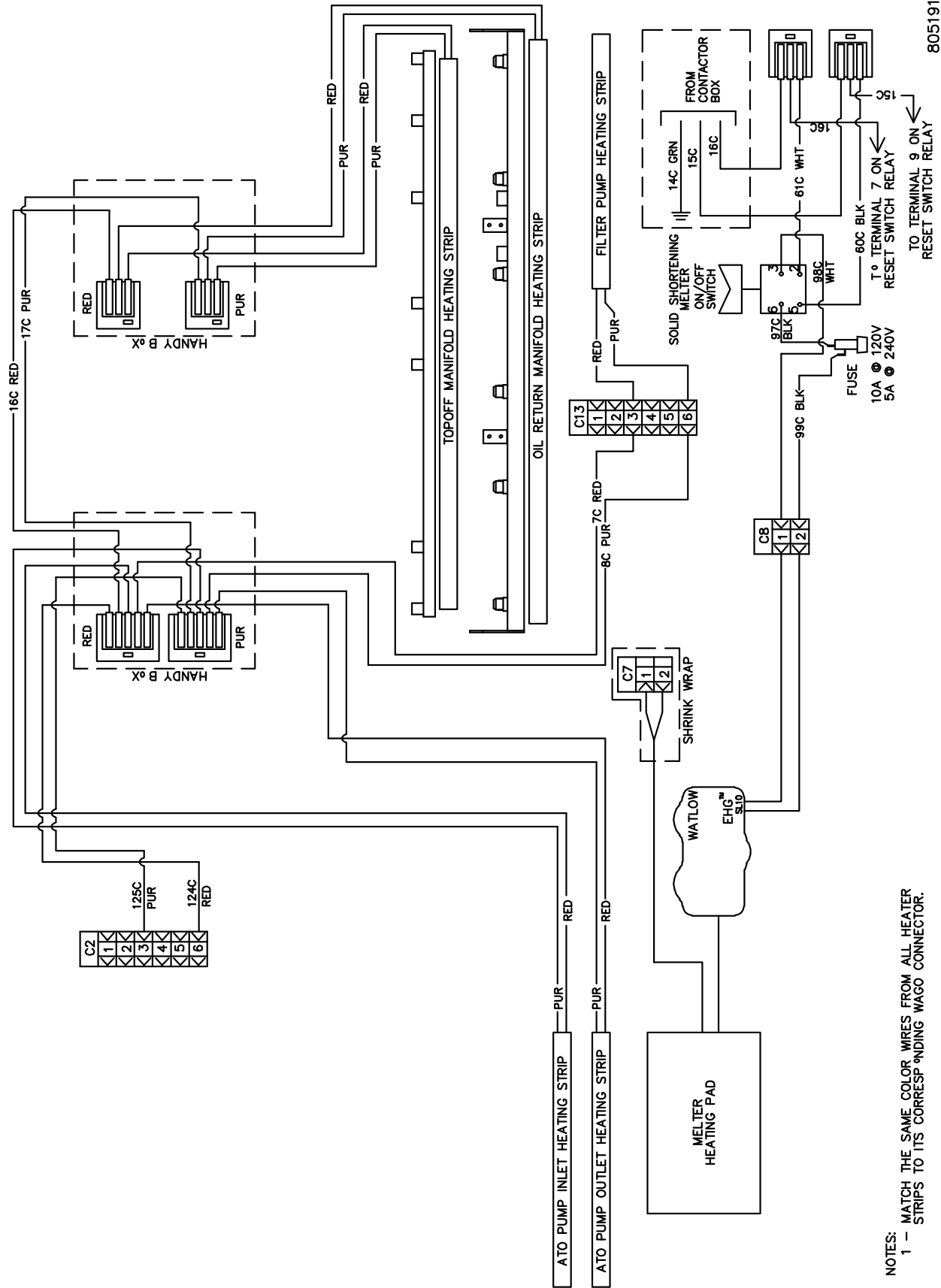
LOV Solid Shortening Wiring Diagram



6-pin plug in this circuit will provide power to the heater tape on the top-off pump inlet and outlets, the rear oil manifold and the pump.

Wagos attached to wires on this relay will provide power to the heated JIB platform and to the flex lines between the manifold and the frypots. This new circuit is switched.

OCF Solid Shortening Wiring Diagram



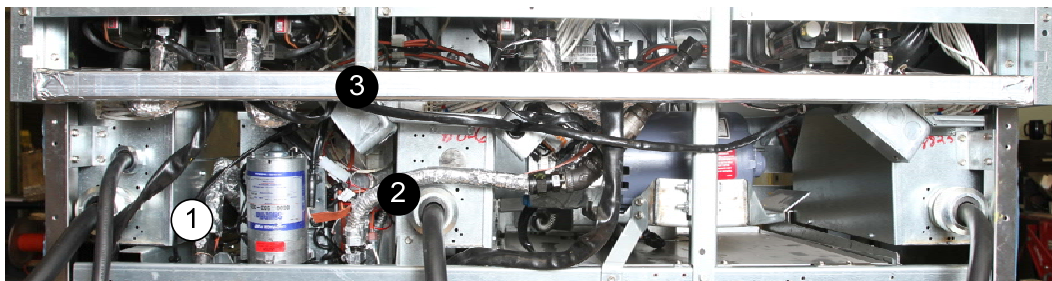
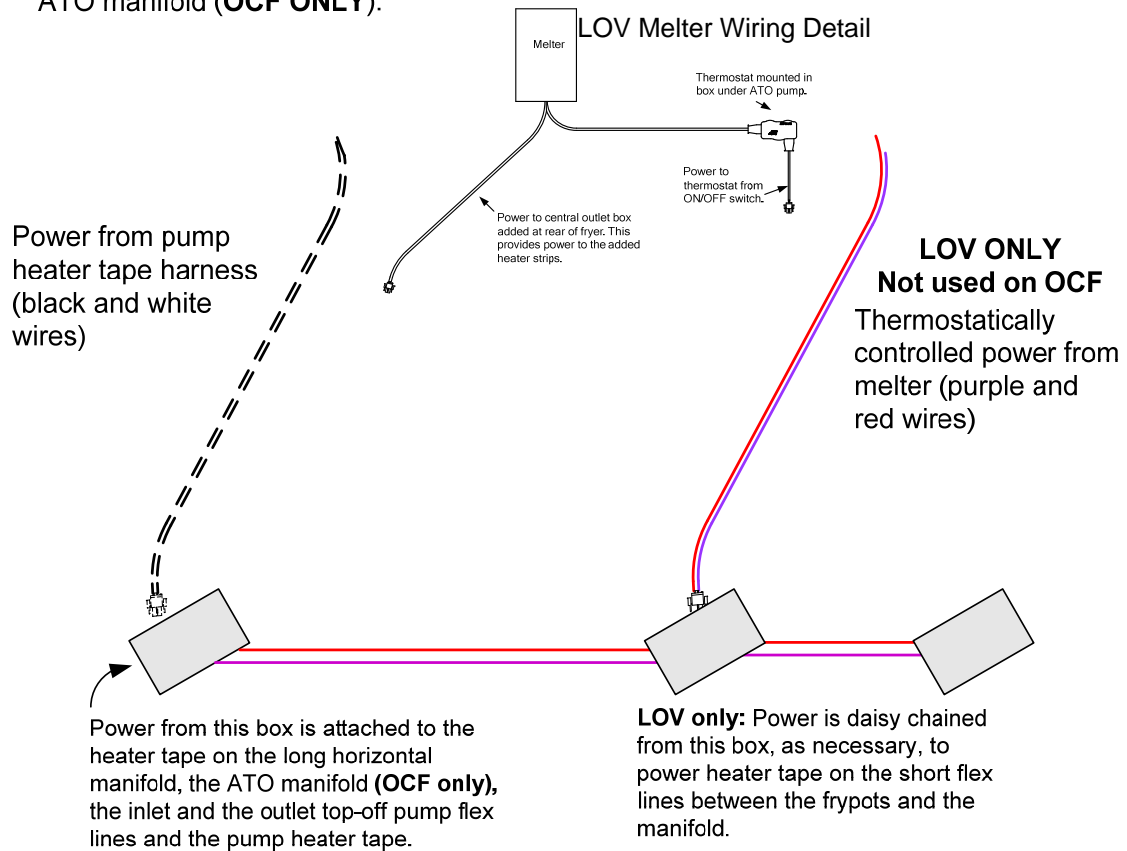
NOTES:
 1 - MATCH THE SAME COLOR WIRES FROM ALL HEATER STRIPS TO ITS CORRESPONDING WAGO CONNECTOR.

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LOV fryers use two power sources and require three junction boxes at the rear of the fryer.

OCF fryers use one power source and require two junction boxes at the rear of the fryer.

- **LOV ONLY:** Use the power from the melter harness exclusively for the heater tapes between the manifold and the frypots.
- Use the power from the pump heater tape harness exclusively for the top-off pump inlet and outlet heater tapes and the long horizontal manifold heater tape and ATO manifold (**OCF ONLY**).



Heat-tape positions 1,2 and 3 above and the filter pump heat tape and the ATO manifold on the OCF (not shown) are powered with continuous power routed from the left junction box.

LOV ONLY: The flex lines attaching the frypots to the manifold are powered with power from the melter circuit. Power for the heat tapes is acquired by plugging the provided harness into the melter plug (see arrow at right) routing to the two-pin connector at the center junction box (far right).

