

SPECIFIC RETUBE INSTRUCTIONS
70 TO 150 H.P. PARKER INDUSTRIAL HORIZONTAL DRUM STEAM BOILER

BEFORE RETUBING THE BOILER, THOROUGHLY READ THESE SPECIFIC RETUBE INSTRUCTIONS, THE **GENERAL RETUBE INSTRUCTION BULLETIN GRI 101-5**, AND CAREFULLY REVIEW THE RETUBE INSTRUCTION AND BAFFLE PLACEMENT DRAWING.

I. GENERAL INFORMATION:

1. It is not necessary to remove the cabinet for retubing as the tubes can be replaced through the cabinet doors.
2. The boiler has multiple tube sets and each set consists of 2 tube sections. All tube sections are identical and can be interchanged.
3. Each section is attached by 2 union connections. Tubes can be removed in sections by removing tube baffles, tube braces, and disconnecting these 2 unions. The tube sections can be pulled through the cabinet door. If a fork lift truck or hoist is available, this is ideal for supporting the weight and making it easier to remove the tubes.
4. Before disconnecting the unions to remove the tubes, place adequate bracing such as 2x4's across the tube headers so that the tubes will slip out easier and will not be allowed to drop down causing damage. Pipe rollers can be placed on top of the 2x4's making it possible to roll the tube sections through the cabinet door.
5. When installing tube sections in the front of the boiler, always install with the short length tube on the top. When installing tube sections in the rear of the boiler, always install with the short length tube on the bottom.
6. Since all tube sections are identical, any individual tube set consisting of 2 sections can be reversed or turned upside down by turning end over end but it is necessary to pull the sections apart and move over one tube for proper fitting.

II. RETUBE INSTRUCTIONS:

1. Remove the cabinet doors and door baffles. On larger models with 5 tube sets or more, there are 2 doors on each side with a sectional brace between the doors. On these larger models, unbolt this brace and remove.
2. On gas fired models, remove burners under the tube sections, which are to be replaced.

When Removed by Individual Sections:

- (a) Remove the 3 tube baffles in each set to be replaced. When tube baffles are tack welded in place, it will be necessary to use a sharp chisel to loosen before removing.
- (b) Remove the tube braces by using a heavy hammer and rod driving the braces parallel with the tubes. When all tube braces have been driven to a parallel position, they will slip out of the way.
- (c) Loosen the 2 union connections.
- (d) Pull out the tube section through the cabinet door.

When Removed in Sets of 2 Sections:

If the tube set is badly burned or warped, it may be impossible to split tube sections apart. In this case remove the entire set without splitting.

- (a) It is not necessary to remove the tube braces or individual tube baffles.
- (b) Loosen the 4 union connections (2 on each side of cabinet).
- (c) Be sure that the weight is properly supported, as the tube set is very heavy and could cause damage if it should slip down.
- (d) The two outside sets can be removed by forcing the tubes to the outside toward the downcomer leg when slipping them out. To remove an inside set it may be necessary to disconnect the unions on an outside set and push over to the outside so that the inside set will come out.

3. Removal of Tubes: Be sure to place bracing under tubes, see above Item 4.
4. If all tube sections are not replaced, the other sections should be inspected and thoroughly cleaned.
5. The water feed piping should be removed and thoroughly cleaned or replaced as necessary. On newer models there is an internal fitting extending into the drum, which should be completely cleaned.
6. It is very important that the (2) tube headers connected to the lower unions of the tube sections be carefully inspected and thoroughly cleaned or replaced as necessary. On a complete retube job, these should be disconnected, inspected and cleaned.
7. The blowdown piping and inspection nipples from the downcomer leg should be removed. The drum inspection openings on the head of the drum should be removed. The drum and downcomer leg should be washed out and cleaned thoroughly. It is possible to run a hose down into the downcomer leg through the drum inspection opening to assist in washing out the downcomer leg. All piping and fittings should be cleaned and replaced as necessary. Replace gasket when installing drum inspection opening.
8. All piping to and including the water level control should be removed and cleaned or replaced as necessary.
9. The tube sections removed should be replaced following the same procedure as used in removing the old tubes.
10. Re-install the baffles exactly as shown on the drawing. Baffles incorrectly installed may be hazardous.
11. Tube braces provide support to the tube sections and must be correctly installed. Drive tube braces into proper position with hammer. Refer to drawing for correct placement.
12. Hydrostatically test the boiler and tighten any loose connections.
13. Be certain that all work is performed in a good workmanship and code manner. Carefully review the General Retube Instruction Bulletin 101-5 to be certain that all instructions are carefully followed.

NOTE:
All pipe fittings should be fitted with teflon tape and properly lubricated with steam pipe dope to assure a satisfactory installation.

Upper fittings connecting the tube sections to the drum should be thoroughly inspected and cleaned or replaced as necessary.