

# THOMPSON MODEL "A" STEAMER



ASSEMBLY, OPERATING AND MAINTENANCE  
INSTRUCTIONS AND PARTS LISTING



THOMPSON MACHINE SHOP LTD.  
BURK'S FALLS, ONTARIO

705-382-3221

# THE THOMPSON MODEL “A” STEAMER

## NEW UNIT ASSEMBLY INSTRUCTIONS

Already installed on your new Steamer are the propane regulator and the propane supply hoses (2). Also included with the Steamer are 100' of steam hose, the filler plug wrench and this manual.

In order to operate this unit:

- At the propane tank platform, loosen one or both ratchet strap(s) and unhook the end(s) from the ring(s)

- Your Steamer includes a propane cylinder lifting platform. Raising the lifting jack slightly, ensure that the spring bolt safety latch is clear of the lift arm and retract the bolt. With the bolt retracted, turn 1/4 turn left or right to lock in the retracted position. Lower the platform to the ground and place one or two, 100 lb. **vapour** propane tank(s) on the mounting platform. When loading only 1 propane tank, it should be located closest to the propane regulator with the valve facing forward. When loading 2 propane tanks, rotate the tanks so that the valves are just slightly outward from facing each other. Lift the platform to the upper stop position and re-lock the spring bolt safety latch.

- Wrap the strap(s) around the tank(s) and re-hook into the ring(s). HINT: The hook on the strap can be turned to face up or down between the tank and the anchor ring then rotated through the ring to simplify re-hooking.

- Tighten the strap(s) until the tank(s) is held securely in place then fully close the ratchet buckle(s) to lock the strap in place. NOTE: The strap must have a minimum of 1 full wrap on the ratchet mandrel.

- Install the propane supply hose with the tee and ball valve into the propane tank closest to the regulator. With the handle of the ball valve horizontal, tighten the fitting using a 7/8" wrench taking care not to overtighten. Note: Thread sealant is not required at this connection.

-If 2 propane tanks are loaded, install the second supply hose into the second tank. Tighten the fitting as detailed above.

-NOTE: Care must be taken to ensure that the propane hoses are not stretched or kinked when installed. If this occurs, loosen the ratchet straps on the tanks and rotate as required to allow for easy movement of the hoses.

-If only one propane tank is loaded, install the second propane supply hose into the storage fitting located on the platform framework. This fitting is intended to store the hose end and prevent damage to the seal face. It is not intended to prevent propane leakage. **IF ONLY ONE PROPANE TANK IS LOADED, THE BALL VALVE ON THE FIRST TANK SUPPLY HOSE MUST BE CLOSED AT ALL TIMES.** It is shipped in the closed position.

-Ensure that all propane valves at the rear of the Steamer are closed.

-Open one (or both) propane tank(s). The propane regulator is factory set at 5 PSIG of pressure when both burners are operating.

-Using a soap and water solution, check for leaks at all connections that have just been assembled. Note that all factory connections have been leak tested.

-If bubbles appear, close tank, remove fitting, inspect and/or tighten until no leaks are detected.

**WARNING: IF YOU SMELL GAS SHUT OFF GAS SUPPLY TO THE APPLIANCE. EXTINGUISH ALL OPEN FLAME, AND TEST ALL JOINTS WITH A SOAP SOLUTION. IF ODOUR PERSISTS, CALL THE MANUFACTURER IMMEDIATELY.**

-Unwrap the supplied length of steam hose and thread one end of the hose into the swivel union located between the front of the reserve water tank and the propane mounting platform.

-Storage for the hose is provided by two hooks attached to the reserve water tank. In order to prevent twisting of the hose, wrap it in a loose "figure 8" pattern on the hooks. Once the hose is loaded on the storage hooks, the loose end can be slid onto either pin attached to the top of both hose hooks.

-Located above the gas valves at the rear of the Steamer on the upright frame is a horizontally mounted pin. The sewer snake reel mounts here for transport and to facilitate use. NOTE: THE SEWER SNAKE IS MADE OF SPRING STEEL AND IS HELD UNDER SOME TENSION - EXERCISE CAUTION WHEN WINDING AND UNWINDING THE SNAKE TO AVOID INJURY.

-Located just above the lighter control valve is a short round tube with a mitred end for storage of filler plug wrench. NOTE: The wrench will insert into this tube only one way to ensure that it cannot bounce out when the unit is transported.

-If your steamer is equipped with the high mounted strobe light option, it has been electrically connected to the tail light circuit in the junction box for ease of use. A water proof switch is located on the base of the light to operate the light. A dedicated wire is available (but not connected) in the trailer electrical cable to connect the strobe light to an alternate source of power, if desired.

-If your steamer is equipped with the optional lifting lug, it is intended to safely facilitate the unloading of the steamer when delivered new and is not intended to lift the steamer filled with water. The warning decals on the lift bar shall not be removed.

# **OPERATING INSTRUCTIONS FOR THE THOMPSON MODEL “A” STEAMER**

- An operator must be in attendance at all times when the unit is activated.
- Operation of the unit is not recommended at temperatures below -30° C.
- AT ALL TIMES WHEN THE BURNERS ARE OPERATING, ENSURE THAT THE UNIT IS AS LEVEL AS POSSIBLE FROM FRONT TO BACK.
- Ensure that the boiler/tank drain valve (located beneath the reserve water tank) AND the reserve tank drain valve are both closed.
- Using the filler plug wrench, remove the filler plug located on the top of the boiler unit near the burner end.
- Fill with clean water until the level is approximately 3/4" from the top of the water level sight glass (on the side of the boiler below the filler opening).
- Replace the filler plug and tighten.
- Remove the filler plug located on the top of the reserve water tank if extended operation (more than 30 minutes) is desired.
- Open water level / vent valve on the bottom of the tank (marked “VENT”) and ensure that the drain valve on the bottom of the tank is closed.
- If the water in the tank is to be preheated, fill with clean water until it appears in the centre of the top water level sight glass.
- If the water in the tank is NOT to be preheated, the tank may be filled with clean water until it runs out the “VENT” valve. Allow all excess water to drain from this valve and then close it.
- Replace the filler plug and tighten.
- Ensure that the unit is located outdoors and that all combustible materials are located a minimum of 12" from the burners.
- Open the propane tank(s).

-Remove the lighter from the holder and **partially** open the lighter gas valve (located above the main propane valve assembly) and immediately ignite with a flint striker (not supplied).

-Rotate the left main gas valve 90° counter clockwise to the open position and while depressing the plunger on the propane safety valve, place the lighter into the ignition hole beside the copper gas line on the left burner until ignited. Remove the lighter to a safe location in preparation to light the second burner.

-Hold the plunger in for up to 1 minute after which the burner should remain lit.

-If burner goes out, wait 1 minute and repeat the above procedure.

-Once the ignition of the first burner is successful, repeat the procedure for the second burner.

-Once ignition of the second burner is successful, close the lighter valve and replace lighter in holder.

-If either burner will not remain lit, close both main gas valves and refer to the maintenance section.

-To shut burners down, rotate both main burner valves clockwise and close the valve on the propane tank. Propane safety valves will close automatically within one minute.

-With both burners operating, ensure that the propane regulator is set at 5 PSIG maximum. This pressure is factory set during testing.

-Ensure that all steam valves are closed.

-As pressure starts to build, open the steam pressure safety relief valve (located on the top of the boiler adjacent to the hose leading to the top of the reserve water tank) once or twice to vent trapped, expanding air and to ensure proper operation of the relief valve.

-NOTE: AS BOILER WARMS UP, A SMALL AMOUNT OF WATER WILL RUN OUT OF THE BOILER TUBES. THIS IS CONDENSATION FROM WITHIN THE TUBES AND WILL DISAPPEAR AS THE BOILER TEMPERATURE RISES.

-Steam pressure should reach 15 PSIG within 30 to 35 minutes. If attaining 15 PSIG requires an unusually long time or if the boiler will not maintain operating pressure, refer to the maintenance section.

-If outside temperature is below 0° C (32° F), it is recommended that the boiler pressure be built up prior to traveling with the unit to ensure that the water level sight glass on the boiler does not freeze. Also, especially in extreme cold conditions, it is recommended that the water in the reserve water supply tank be preheated.

**-NOTE: DO NOT TOW OR MOVE THE STEAMER WHILE BURNERS ARE ACTIVATED.**

-Once boiler pressure has reached approximately 15 PSIG., the steamer is ready to work. At this point, steam can be directed into the reserve water supply tank to either preheat the water, or to pressurize the tank, **or** into the discharge hose, through the steam outlet valve. NOTE: The boiler operating pressure will drop dramatically if the tank heater and steam discharge hose are used simultaneously.

To preheat the water in the reserve water tank:

-The water level prior to heating should be in the centre of the top water level sight glass. With the boiler up to operating pressure, open the valve marked "HEATER" while leaving all other steam and water control valves closed. The valve marked "VENT" **must** be opened to allow pressure to escape in order for the heater to work.

- In approximately 15 minutes the water in the tank will be extremely hot. At about the same time the water will start to run out of the "VENT" valve. At this point, close the "HEATER" valve and allow any excess water to drain from the "VENT" valve, then close the "VENT" valve. Now the tank can be left as is or it can be pressurized using the "PRESSURIZE" valve in preparation of adding water to the boiler.

-Open the steam outlet valve allowing steam to flow into the discharge hose.

-CAUTION: STEAM IS HOT AND CAN BURN. Ensure that steam exits the hose in a safe location.

-WARNING: RISK OF INJECTION OR SEVERE INJURY. KEEP CLEAR OF NOZZLE. DO NOT DIRECT DISCHARGE STEAM AT PERSONS. THIS EQUIPMENT IS TO BE USED ONLY BY TRAINED OPERATORS.

-AVERTISSEMENT: RISQUE D'INJECTION ET DE BLESSURES GRAVES. SE TENIR A L'ECART DU JET. NE PAS DIRIGER LE JET DE SORTIE VERS D'AUTRES PERSONNES. CONFIER L'UTILISATION DE CE MATERIEL A UN OPERATEUR QUALIFIE.

-With the steam outlet valve fully open, 100' of discharge hose connected and both burners activated at 5 PSIG of propane pressure, the steamer should operate at approximately 12 PSIG.

-If during operation, the steam pressure safety relief valve continually opens, the propane supply pressure should be reduced by rotating the knob on the propane regulator counter clockwise until 12 - 15 PSIG of steam pressure is maintained. Excessive steam pressure relief valve operation dramatically increases water consumption.

**-Attention must be given to the water level in the boiler unit at all times.** When the water level in the boiler is approximately 3/4" from the bottom of the water level sight glass, water **MUST** be added for continued operation.

SHOULD THE WATER DISAPPEAR FROM THE WATER GLASS, THE BURNERS **MUST BE SHUT DOWN** TO PREVENT POSSIBLE DAMAGE TO THE BOILER.

-If the "PRESSURIZE" valve on the reserve water supply tank has not already been opened, open now to equalize the pressure between the tank and the boiler.

-Open the valve on the bottom rear of the reserve water supply tank to add water to the boiler. The water level in the boiler water level sight glass should slowly rise.

-When the water reaches 3/4" from the top of the boiler water level sight glass, close the valve at the bottom of the reserve water supply tank. The "PRESSURIZE" valve may be closed or left open to help maintain water temperature.



-As the water entering the boiler from the reserve water tank may be significantly cooler than that in the boiler, a drop in pressure may be experienced when adding water. To minimize this effect, partially or totally close the steam outlet valve to maintain boiler pressure until the water temperature is stabilized.

-The “operating” water in the boiler and the 50 gallons in the reserve water supply tank is sufficient for approximately 5 hours of continuous operation. If additional water is required, close the “HEATER”, “PRESSURIZE”, and tank drain valves and open the “VENT” valve. Once the pressure is released, the water filler plug may be removed and the tank refilled with clean water.

-CAUTION: **DO NOT REMOVE THE WATER FILLER PLUGS WHEN THE TANK OR THE BOILER MAY BE PRESSURIZED.**

-CAUTION: WHEN THE BOILER IS HOT, **DO NOT ADD WATER DIRECTLY TO THE BOILER UNIT VIA THE FILLER PLUG AS BOILER DAMAGE MAY OCCUR. FILL THE BOILER FROM THE RESERVE WATER TANK ONLY.**

-When completing an operation with the steamer in temperatures below freezing, shut down the burners and close the steam outlet valve on the steamer, allowing the hose to cool. Remove all steam hose from the steamer and re-wrap it onto the storage pins in a loose figure 8 pattern allowing any water to exit the hose as it is stored. This will prevent the water from freezing in the hose.

-If the boiler or reserve water tank are allowed to cool with the steam control valves closed, ensure that the valves are opened prior to either reaching 0 PSIG. Significant levels of vacuum will be produced as they cool, which may damage some components.

-When the steamer is not in use, it is recommended that the boiler and tank be drained of all water and that all valves be left open. All ball valves should be slightly closed to allow the water in the case (surrounding the ball) to drain. If the steamer is left containing water, ensure that it cannot freeze.

## MAINTENANCE INFORMATION

As the steamer is of a simple design with very few moving parts, maintenance requirements are minimal. However, through time some maintenance may be required.

If the steamer is unable to maintain operating pressure and/or requires an unusually long period of time to reach operating pressure, or if a burner will not remain lit, one or both burner orifices may be partially plugged. Should this occur:

- Ensure that the propane tank valve is closed, remove the wing bolts that secure the plates at the rear of the burners, remove the copper gas lines and the elbows inside the burners.

- Using compressed air, blow through all lines, fittings and through the orifices in the burners. Then using a small wire (.045" or less in diameter), ensure that the orifice opening is clear. Visually inspect the interior of the orifice to ensure that no foreign material remains.

- Using a small amount of suitable thread sealant, reinstall the elbow. Be certain not to allow thread sealant to enter the burner as it can plug the orifice. **Considerable care must be taken to ensure that the orifice mounting tube is not moved during the removal and reinstallation of the brass elbow(s).** Movement to the tube may adversely affect propane safety valve operation and boiler performance.

- Reinstall the copper lines and prior to reinstalling burner plates, ignite both burners (be sure to have sufficient water in the boiler) and test all connections for leaks with a soap and water solution. Reinstall the plates and wing bolts. Once the burners are both ignited, you should notice that the sound from the flames is less "muffled" in quality.

Through a long service life, scale may build up inside the boiler and water tank. Periodic flushing is recommended.

If, when attempting to add water to the boiler during operation, the water will not flow from the reserve water tank into the boiler, the tank fitting or hose could be obstructed. Close the "PRESSURIZE" valve on the top of the reserve water tank **and** the drain valve at the bottom of the tank. Open the "VENT" valve to vent pressure from the tank and then momentarily reopen the tank drain valve. The pressure in the boiler will force water from the

boiler into the tank, thereby clearing any obstruction. The temperature of the water in the tank may increase dramatically as this reverse flow takes place. Re-pressurize the tank and reopen the tank drain valve allowing water to flow into the boiler. NOTE: If the water level in the boiler goes lower than 3/4" from the bottom of the water level sight glass, shut down the burners until the level can be raised from the water tank or until the boiler cools - NEVER ADD WATER DIRECTLY TO THE BOILER WHEN HOT!!

- Periodically inspect the condition of the wheel bearings and service as necessary.

- If any difficulties arise when servicing the steamer, please don't hesitate calling the manufacturer for assistance at 1-705-382-3221 or 1-800-367-5451.

- All piping and valves should be available from a local plumbing supplier. All other parts are stocked by the manufacturer or distributor.

- Not all parts have not been catalogued as only one model of steamer is manufactured.

## PARTS LIST

<u>PART NAME</u>	<u>PART NUMBER (if applicable)</u>
Propane regulator	597 FA
Propane pressure gauge (0-15 PSIG)	
Regulator inlet fitting (POL fitting)	FF2002
Propane hose assembly - 24" POL x 1/4" NPT 16" POL x 1/4" NPT	
2" propane tank ratchet strap	
Burner (complete with fittings and door)	
Burner orifice	
Burner retaining screws 3/8" NC x 3/4" Sq. Head	
Copper gas lines 3/8" x 22 1/2" (right) or 24 1/2" (left)	
1/4" pipe thd. to 3/8" flare 90° - gas line elbow	49-6B
Lighter and main gas valves - 1/4" ball valve	Kitz 58
Propane safety valve	H19TA-3
1/4" brass hex nipple for gas valves	121-B
Thermocoupling	K16BA-T36
Lighter assembly (complete with hose and fitting)	
All gas piping - 1/4" malleable black iron	
2" ball coupler 5000 lb.	
2" ball coupler 10,000 lb. Capacity, adjustable height	
3" drawbar, adjustable height	RTB18628
Trailer tongue jack - top wind	TJP 5002-B
Propane lift platform jack - side wind	D1401080303
Fender	K6404

Front and rear spring hanger kit	
Slipper spring	TP230
U-bolt	
U-bolt tie plate	
3500 lb. axle assembly	
Wheel hub - 1750 Lb. idler	
Wheel nut	
Replacement bearings/seal kit	
15" 5-bolt wheel	
Tail light	Grote 52772
Trailer light connector	Grote 67000
Tail light mounting bracket	Grote 43572
Tail light mounting grommet	Grote 91950
Electrical junction box	667-7040
7 Pin RV trailer plug	9482 - BP
Boiler hood	
Boiler hood end	
Steamer identification plate - Manufacturer installed only	
Filler plug wrench	
Sewer snake and reel	
Filler plug	
Filler plug gasket	
Water level sight glass valves	20-101-03

Water level sight glass	
Water level sight glass gaskets	
Water glass guard and clamps	
Safety pressure relief valve - 15 PSIG set	13-211-B15
Pressure relief pipe U-bolt	
Steam pressure gauge 0-30 PSIG	
Steam valves - 3/4" globe valve	Kitz 01
Steam and water valves - 3/4" ball valve	Kitz 58
Reserve tank vent valve - 1/2"	Kitz 58
All steam and water piping - 3/4" malleable black iron	
Steam discharge supply hose assembly	
Reserve tank steam supply hose assembly	
Reserve tank drain hose assembly 1"	
Hose connection swivels (hydraulic swivels)	
100' 3/4" steam hose with fittings	
Strobe light	200S
Strobe light switch	5582-10-BX
Strobe light switch boot	81264-05-BX
Reserve water tank complete with fittings	
2" water level sight glass	
Reserve water supply tank marking decal set	
Boiler marking decal set	