

# USER MANUAL & ASSEMBLY INSTRUCTIONS FOR PROPANE FORGE



## Important Notes

Keep this Instruction Manual with you at the time of Assembly and Operation.  
This will guide you the right way.  
For the Adult use only.  
A Product by Simond Store

# INDEX

Introduction to Simond Store	1
Description	1
Where to Use	1
Warning	1
Safety Instructions	2
Forge Body and Accessories with Identification	3
Part List	4
Unboxing	5
Assembly Instructions	5
Double Burner Oval Propane Gas Forge System	8
Specifications	8
Heat Guard Application Instruction	9
Operating Instruction	10
Burner Troubleshooting Solution	10
Double Burner BTU Chart & Calculation	13

## Introduction to Simond Store

Our Store is known for its best quality products and customer service. Customer Service has always been our top priority. Simond Store deals in variety of products such like, various types of Propane gas Forge, Propane gas Furnace, Jewellery Making Tools, Blacksmith & Goldsmith products, Refractory Products and many more. We have earned customer satisfaction by providing quality product in timely manner.

## Description

Propane Forge is inevitable product for a Blacksmith, Hobbyist, Jeweler & Knife makers. It is ideal for heating and bending of metals, tempering and heat treatment of small knives & agriculture use small tools.

This Propane forge is made from Steel material and its heating zone is fully insulated with Refractory Ceramic Fiber, which can resist temperature up to 2600°F (1425°C). A rigid block of refractory fire brick placed at the bottom of the forge to resist high velocity firing.

## Where to Use

- For Outside Use Only.  
(Any outside safe area of operations)

## Warning

- Improper Installation, adjustment, alteration, service, maintenance or any mistake may result in serious accident, damages or personal injury.
- Read how to Install, Assemble & operate before installing and operating.
- Ignorance to safety instructions may cause fire or explosion that creates many kind of risks.

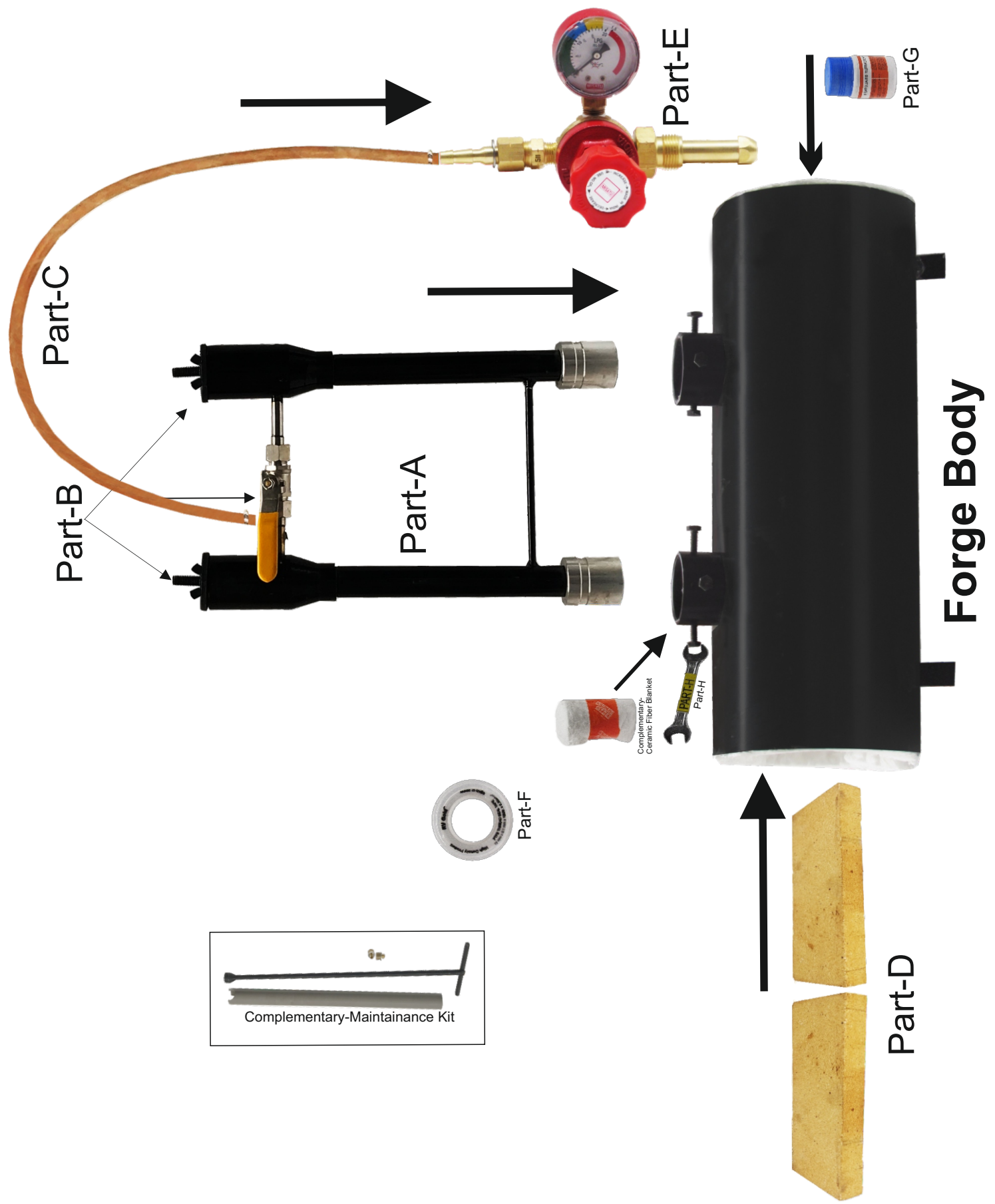
## Safety Instructions

- Safety should be always in the first priority.
- Use this Propane Forge after reading these entire instructions for the proper and safe operation.
- Always use this Propane Forge on a hard level non-combustible surface. This Propane Forge is for outdoor use only. Do not use it where any kind of damage can happen. Keep fire extinguisher nearby.
- This Propane Forge is for adult use only. Keep this away from children.
- Use fire retardant gloves & blacksmith tong for the operation with the work-piece.
- Wear appropriate clothes such as a leather apron. Wear goggles while watching fire of the forge.
- Never leave a hot forge unattended, even if the fuel is shut off and be cautious of high temperature of the forge parts immediately after forging session.
- Inspect your propane cylinder (especially the valve), your regulator (especially the connector to the cylinder and its O-ring) and your burner (especially the hose). For any signs of problems do not install or operate.
- Install the regulator by hand, without tools, until the nut (left-hand thread) is fully seated. Immediately tighten the nut with a wrench. Do not over tighten the nut, as this will only ruin the connectors.
- Always shut down the forge by turning off the fuel at the cylinder, then backing off the regulator knob (as a safety precaution.)
- Once, Forging Session is finished, Remove the Regulator from the cylinder & take the cylinder in outside area.
- Allow the forge to cool for at least half an hour before you leave the area. This is to prevent accidental fires from going undetected.













- **Simond Store will not be responsible for any damage or injury caused by use of Gas Forges.**

# Forge Body & Accessories with its Identification



## Part List

Part	Description	Picture	Qty.
Forge	Forge Body		1
Part- A & B	Double Burner Set		1
Part-C	6.5' 2 Meter Gas Hose with Clamps		1
Part-D	Refractory Fire Brick		2
Part-E	Gas Pressure Regulator with Manometer		1
Part-F	Teflon Tape		1
Part-G	Heatguard		1
Part-H	Spanner		1
Complementary Part	Filling Gap of Burner & Gas Forge		1
Complementary Part	Orifice & Maintenance Kit for Double Burner Shooting		1

## Unboxing

- Unwrap all the mentioned parts as per above list.

## Assembly Instructions

- Surface Preparation by placing Refractory Fire Brick, Castable or Concrete.



- Place Forge over the plain surface. You may prepare it by placing refractory bricks or by using castable cement which can withstand high temperatures.

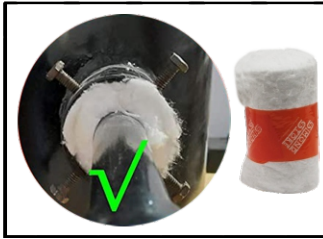


- Connect the Pre-Assembled Burner Part A & Part B with Part C (Which is Hose). Connect one end of hose with the Burner inlet pipe and other end with the Part E (Gas Pressure Regulator). Use clamps for proper tightening of hose at both end.



- At the top of the Part B you can see wing nut with washer which can be rotated clockwise and anti-clockwise direction to regulate the air flow pressure while firing.
- Connect the above system of Part A & B at the top of the Forge with the help of the coupling and adjustable screws. Please make sure that burner's nozzle at end do not cross over inside insulation of forge.
- Place Part D (Bricks) at the bottom of the Forge and over the ceramic fibre lining.





Why this gap filling is necessary?

- To Prevent the heat loss.
- Heat Loss damage this area of furnace.



Pre-Rigidized  
Ceramic Fiber  
Insulation.

- Connect Gas regulator with the propane Cylinder. Don't forget that pressure regulator has left thread. Check that there is no loose fitting of parts which may lead to gas leakage.
- Light up the forge by using lighter at the opening of the burner inside the forge body.
- Now Forge is ready for the firing.

# Double Burner Oval Propane Gas Forge System



## Specifications

<b>Forge Type</b>	:	Double Burner Oval Forge (MS)
<b>Shape</b>	:	Oval
<b>Burner</b>	:	Double Burner
<b>Inside Floor</b>	:	1" Thick Refractory Fire Brick – 2 Nos.
<b>Forge Body Construction</b>	:	16 Gauge (1.5mm) MS
<b>Forge Internal Dimensions</b>	:	3.2" (H) x 6.7" (W) x 18.8" (L)
<b>Operating Temperature</b>	:	2500°F (1370°C)
<b>Inside Insulation Material</b>	:	1" Thick Refractory Ceramic Fiber, 2600°F, 10 Pcf
<b>Burner Nozzle Material</b>	:	SS-304
<b>Rigidizer</b>	:	It is pre-rigidize

# Heat Guard Application Instruction

## **Heat Guard Refractory Coating:**

Heat guard Refractory Coating is water based refractory coatings. This coating is used for coating of ceramic fibre lining to protect them against heat, flue gases and fumes. It prevents heat loss. It reflects radiant heat to the hot zone from the insulation surface that reduces the energy needed to achieve the target temperature thus it saves fuel. Hence it considerably prolongs the life of refractory.

**Temperature Grade:** 3270°F (1800°C)

## **Mixing:**

Mix Dry Heat Guard Powder; add 50% of clean tap water to it for brushing applications.

## **Application:**

Apply 1.5mm to 2 mm thick Heat Guard coating over refractory lining with the help of Brush.

## **Precaution:**

After coating the area with Heat Guard coating, the first firing should be carried out slowly to avoid development of any surface cracks or other defects due to the moisture content in the coating material.

## **Curing:**

The applied Heat Guard coating should be air dried for minimum 24 hours and then slowly raise the temperature up to 1112°F by increasing temperature 68 to 77°F / hr. and then reach to operating temperature at around 122°F / hour. For large coating thickness adequate air drying is required to avoid cracks the Heat Guard coating.

## Operating Instructions

1. Open the wing nut slightly at the top of PART B.
2. Open the outlet valve of propane gas cylinder. So gas will be flow though Regulator.
3. Regulator has monometer which shows gas flow rate.
4. Rotate knob of gas Regulator clockwise direction to open the gas flow. Set gas flow as per desired flame.
5. For Double Burner: One burner is directly connected & another burner has a gas inlet valve. Kindly close this gas inlet valve. After ignition of first burner then open the gas inlet valve for firing of second burner (If required).
6. Light up the Forge by using Lighter at the opening of the burner inside the Forge body.
7. Now adjust the gas flow using inlet valve and air flow using the wing nut to get the complete combustion of gas and desired flame intensity.
8. Place the iron work-piece to be forged, inside the forge and under the flame using tong.
9. Remove work-piece once it is red hot and ready for shaping with the help of tong.
10. Close the gas outlet valve of the propane cylinder and wait until fire in the forge stops.
11. Remove the propane cylinder connections to the forge and place it away from forge.
12. Allow Forge to cool down to normal temperature before transferring it to other place (if required).

## Burner Troubleshooting Solution

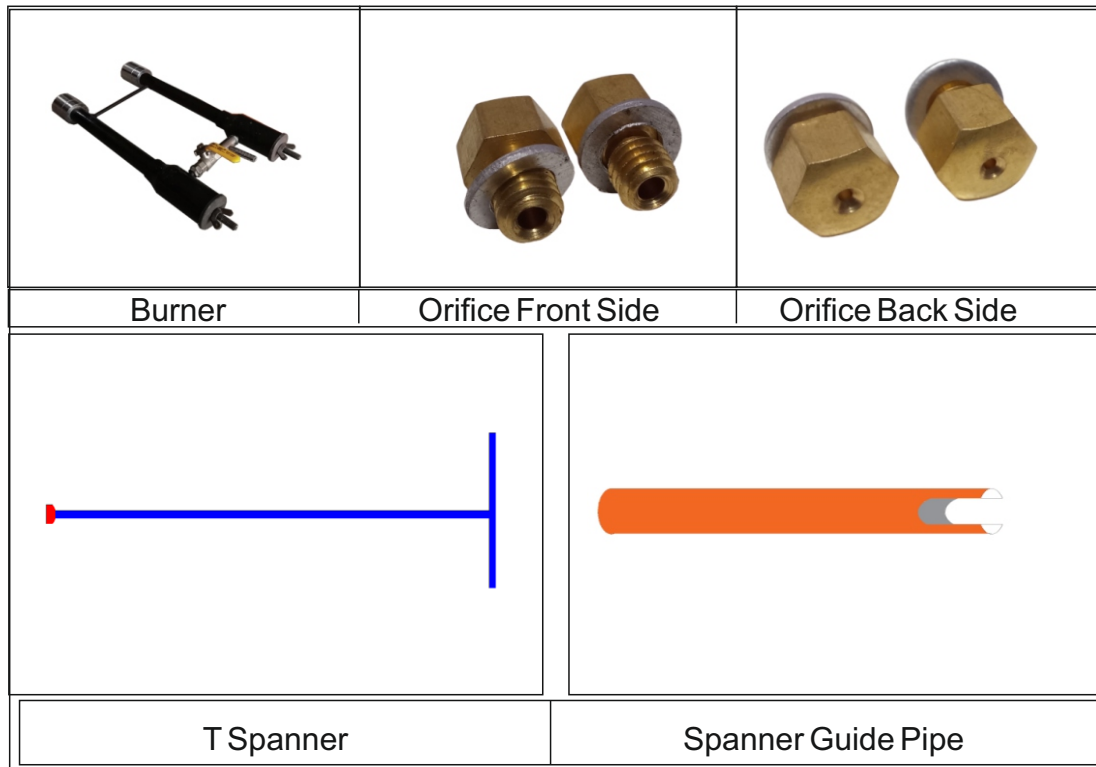
We found that many time issues occur because of burner chocking and improper flame output. These kind of issues arise due to clogging of burner orifice. We have worked on these issues and resolved it by improving design of burner. So you can clean orifice or you can replace it by new one. So you don't need to worry when you buy Forge from Simond Store.

### What problems you may face in “PROPANE GAS BURNER?”

- No Flame or Low Flame
- Low temperature

**Our Burner includes following kit:**

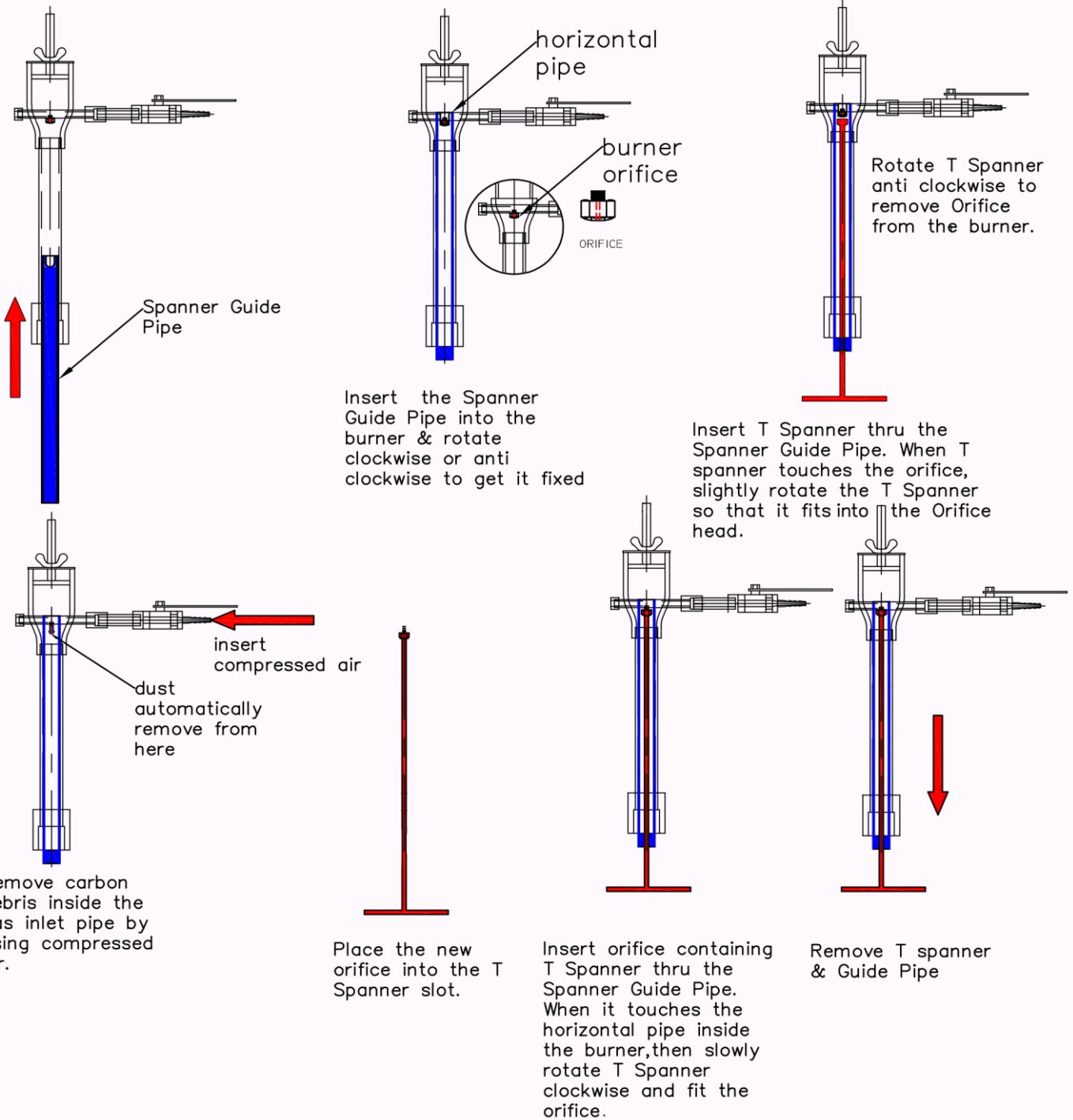
1. Burner set
2. Orifice : One attached with each individual burners& two extra Orifice with the burner set.
3. T Spanner : It is a tool for fittings of orifice.
4. Spanner Guide Pipe : It is an orifice mounting guide pipe thru which the T Spanner can reach to the proper position to replace orifice very easily.



**Troubleshooting:**

- Step-1:** Insert Spanner Guide Pipe into the burner & rotate clockwise or anti-clockwise to get it fixed as shown in below diagram.
- Step-2:** Insert T Spanner thru the Spanner Guide Pipe. When T spanner touches the orifice, slightly rotate the T Spanner so that it fits into the Orifice head.
- Step 3:** Rotate T Spanner anti-clockwise to remove Orifice from the burner.
- Step 4:** Remove carbon debris inside the gas inlet pipe by using compressed air.
- Step 5:** Check orifice hole, if choked try to clean it by compressed air or replace it by new orifice.
- Step 6:** Installing new orifice into the burner
- a) Follow Step 1 as above instruction.
  - b) Place the new orifice into the T Spanner slot.
  - c) Insert orifice containing T Spanner thru the Spanner Guide Pipe. When it touches the horizontal pipe inside the burner, then slowly rotate T Spanner clockwise and fit the orifice.

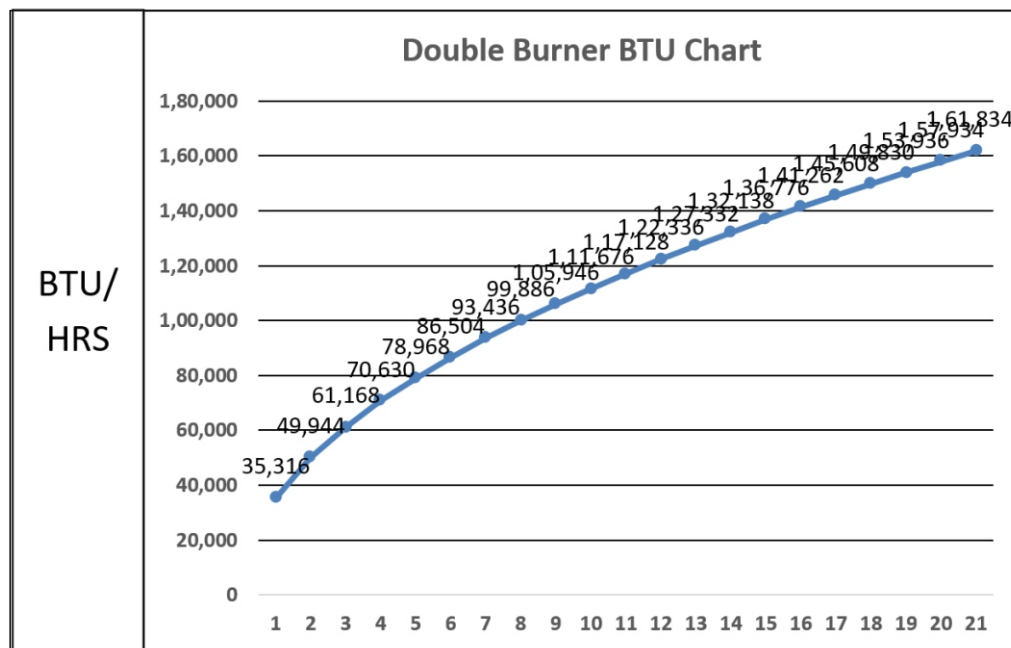
Now burner is ready for firing.



- Keep & Store this user manual for future reference.

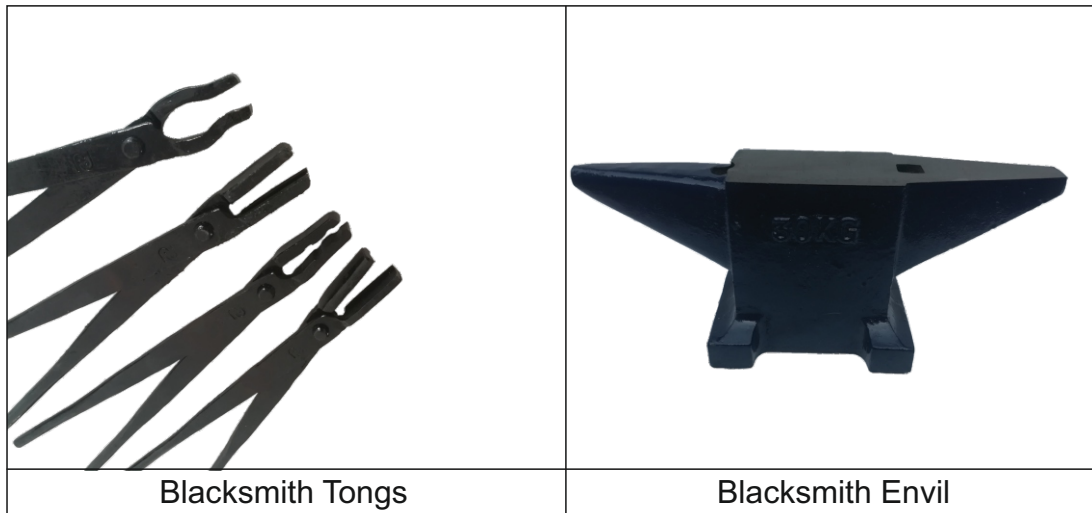
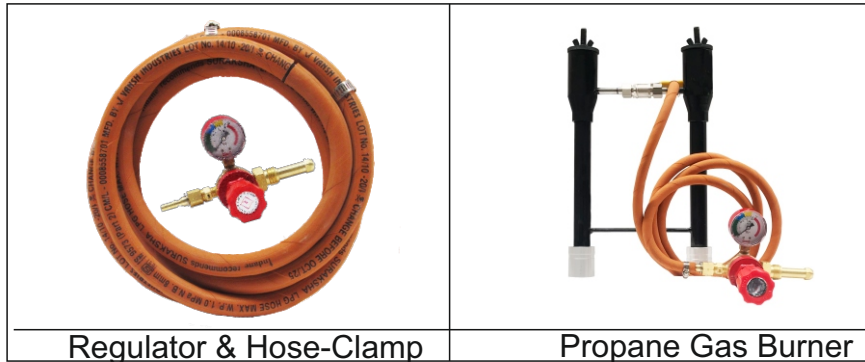
## Double Burner Btu Calculation

PSI	BTU/Hrs.	20 lbs capacity (Hrs)	30 lbs capacity (Hrs)	40 lbs capacity (Hrs)	50 lbs capacity (Hrs)	60 lbs capacity (Hrs)	100 lbs capacity (Hrs)
1	35,316	12.23	18.34	24.455	30.57	36.685	61.14
2	49,944	8.645	12.97	17.29	21.615	25.94	43.23
3	61,168	7.06	10.59	14.12	17.65	21.18	35.3
4	70,630	6.115	9.17	12.23	15.285	18.34	30.57
5	78,968	5.47	8.205	10.935	13.67	16.405	27.34
6	86,504	4.99	7.49	9.985	12.48	14.975	24.96
7	93,436	4.62	6.93	9.245	11.555	13.865	23.11
8	99,886	4.325	6.485	8.645	10.81	12.97	21.615
9	1,05,946	4.075	6.115	8.15	10.19	12.23	20.38
10	1,11,676	3.865	5.8	7.735	9.665	11.6	19.335
11	1,17,128	3.685	5.53	7.375	9.215	11.06	18.435
12	1,22,336	3.53	5.295	7.06	8.825	10.59	17.65
13	1,27,332	3.39	5.085	6.785	8.48	10.175	16.955
14	1,32,138	3.27	4.9	6.535	8.17	9.805	16.34
15	1,36,776	3.155	4.735	6.315	7.895	9.47	15.785
16	1,41,262	3.055	4.585	6.115	7.64	9.17	15.285
17	1,45,608	2.965	4.45	5.93	7.415	8.895	14.83
18	1,49,830	2.88	4.325	5.765	7.205	8.645	14.41
19	1,53,936	2.805	4.21	5.61	7.015	8.415	14.025
20	1,57,934	2.735	4.1	5.47	6.835	8.205	13.67
21	1,61,834	2.67	4	5.335	6.67	8.005	13.34



### Propane Pressure (PSI):

This data are collected based on theoretical calculation it may be vary by product design but specification & application remain same.



## Additional Information

All the refractory materials are easy to replace and available to buy at our store.

Please Visit  
[www.simondstore.com](http://www.simondstore.com)