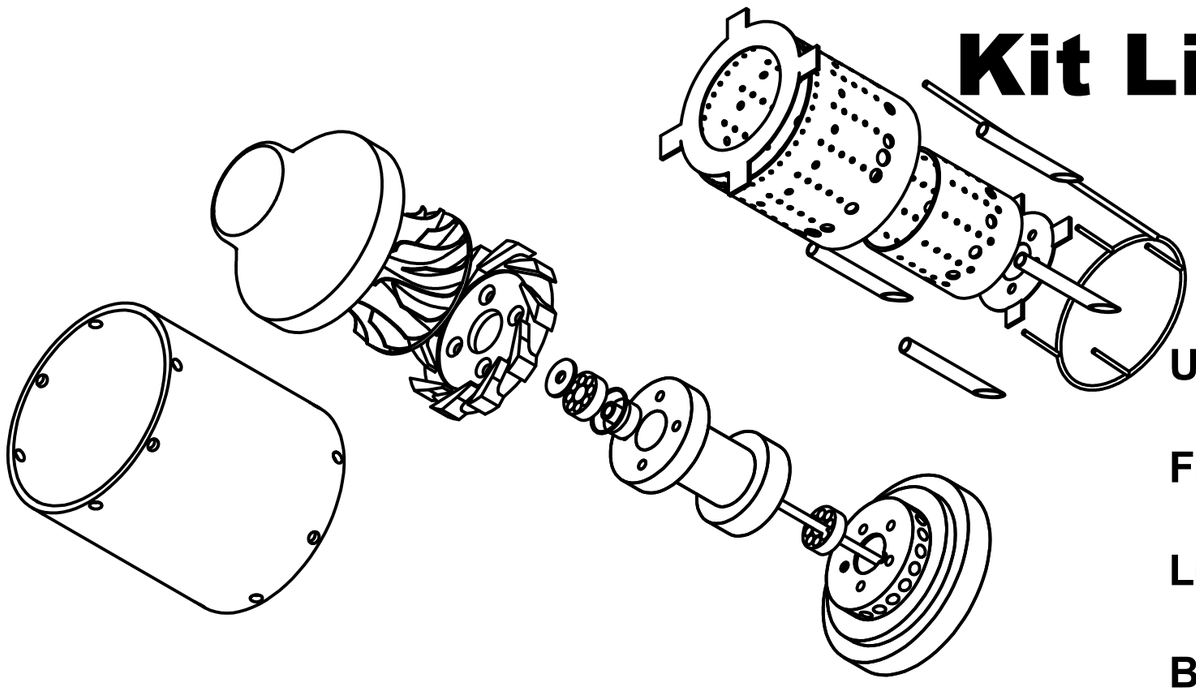
KP35 Mini Jet Engine
Kit Lil'Miss



Use compressed air and torch to start.

Fuel types: Kerosene/jet fuel/diesel/. Propane to start.

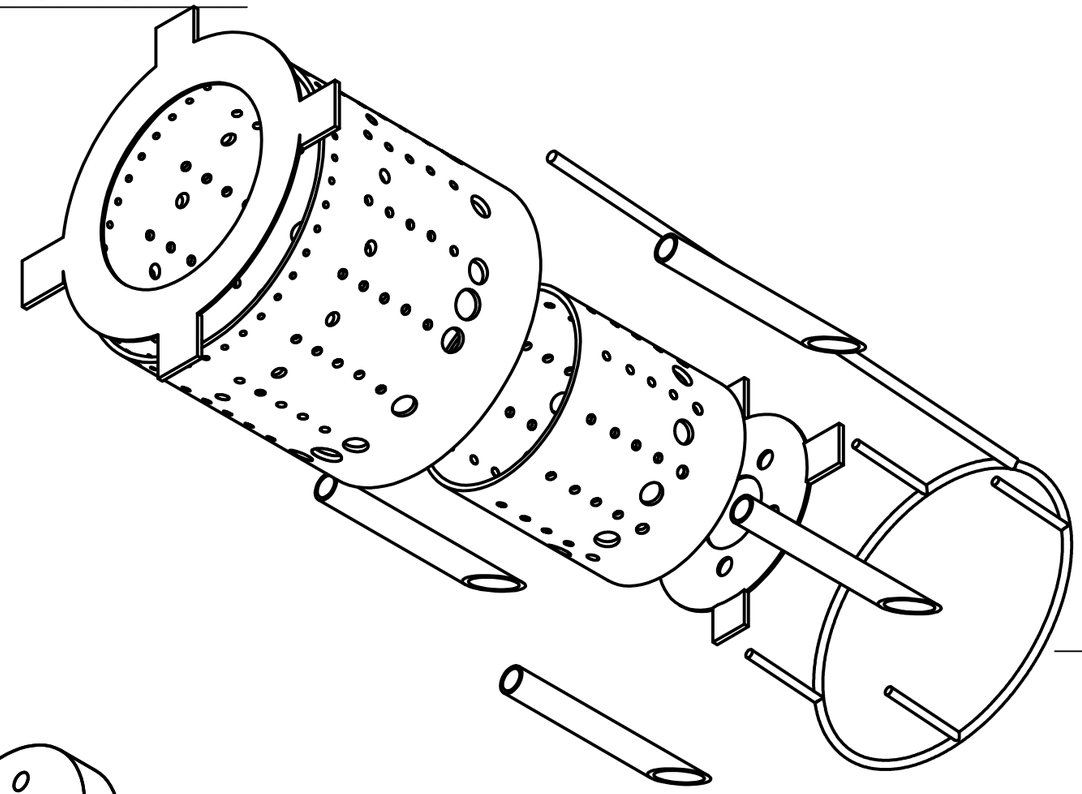
Lubrication: 8% oil/fuel mixture.

Bearings:
6x16x5 Hybrid ceramic bearings. A bearing lubricaiton system can be incorporated. Lubrication causes drag, so bearing choice is important. Hybrid ceramic bearings are recommended. Ceramic type bearings require less lubrication than traditional steel bearings.

Kit contains sharp edges please be careful.
use high grit sandpaper and smooth where neccessary.
Use extreme caution when handling flammable liquids.
Always use eye protection and appopriate safety equipment.

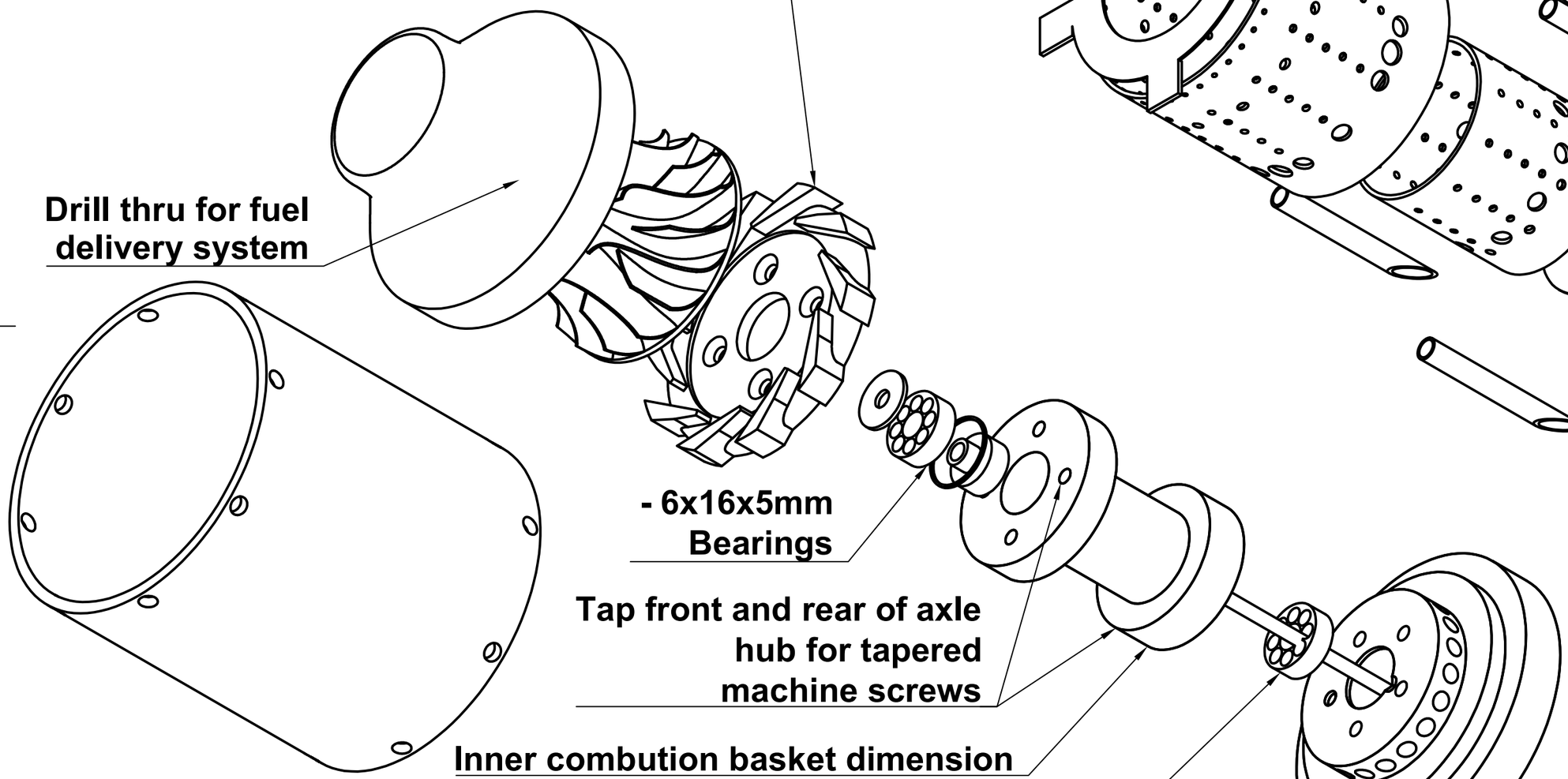
www.minijetengine.com

NOTE: ***All fitment of nozzels, diffusers, and compressor wheels are done prior to shipment. ONLY SAND IF NECCESSARY!***



Remove any excess material if neccessary

Drill thru for fuel delivery system



- 6x16x5mm Bearings

Tap front and rear of axle hub for tapered machine screws

Inner combution basket dimension

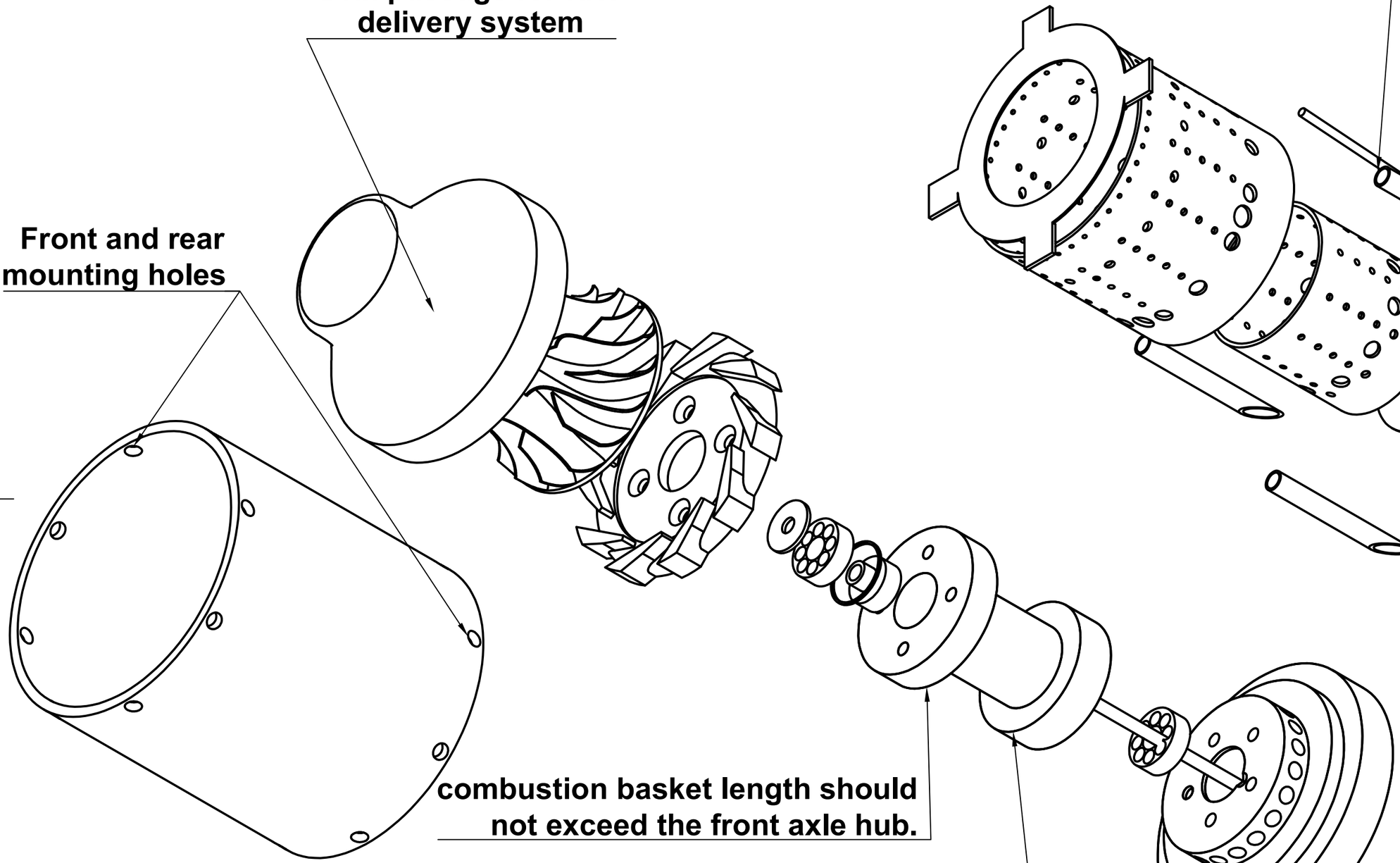
Rear bearing

Outer combustion basket dimension

Drill passage for fuel delivery system

Front and rear mounting holes

Vapor Tubes



combustion basket length should not exceed the front axle hub.

Inner combustion basket dimension should fit snug around rear axle bearing hub.

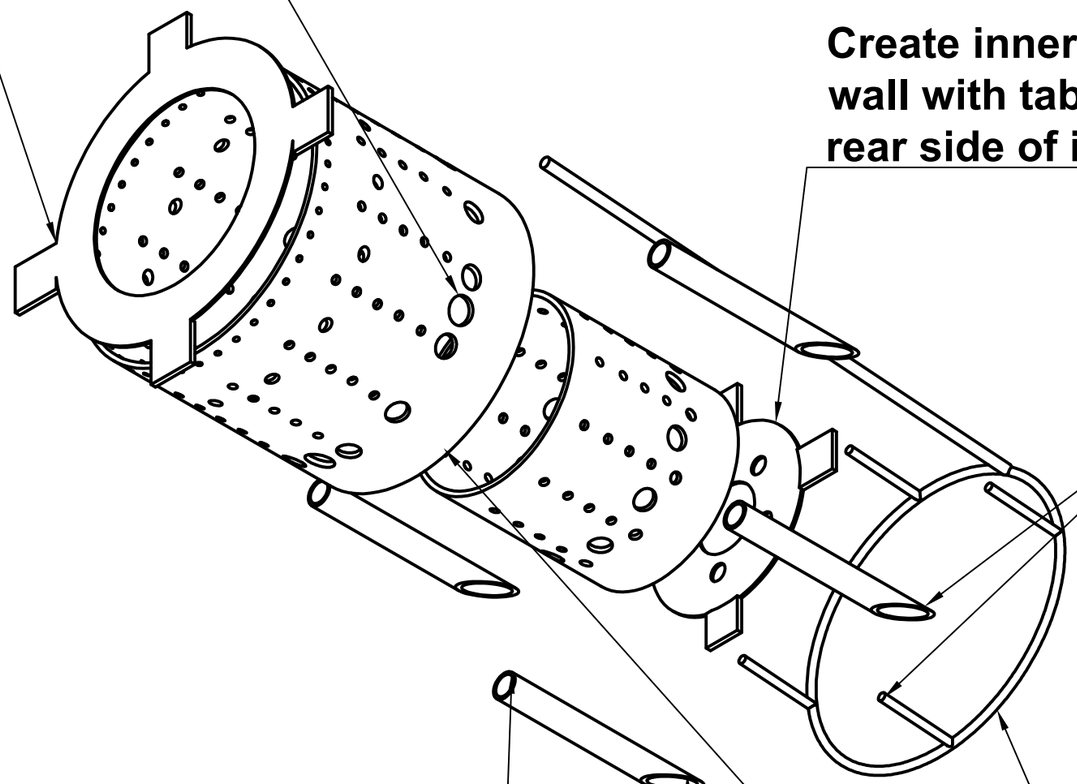
Outer combustion basket dimension should fit snug over this step

Combustion Basket

Create outer combustion basket front wall with tabs. Spot weld wall to inner and outer basket.

Drill 4 (four) holes for vapor tubes

Create inner combustion basket rear wall with tabs, fold tabs and Spot weld to rear side of inner burn basket



Insert 1.5mm fuel lines into vapor tubes

combustion basket length should not exceed the the axle hub. Air should be allowed to pass between the face of the axle hub and into the lower inner burn basket area.

Inserted part of vapor tube facing forward

Weld tapered end of vapor tube to basket

Fuel Delivery System.
Brass included in the kit.

Leave @10mm without holes for fuel delivery system.

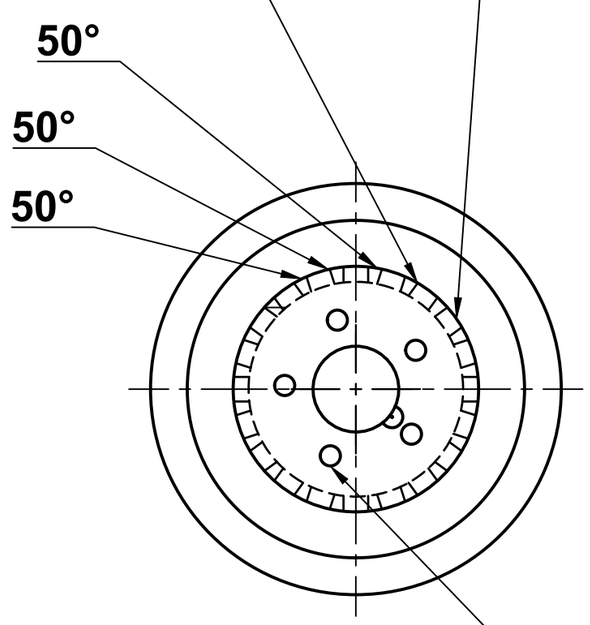
Vapor tubes are to be inserted Between the inner and outer baskets with inserted end facing forward and tacked/welded at insertion point to basket. Insert 1.5mm fuel line (small tubing) into vapor tubes half the length of the vapor tube.

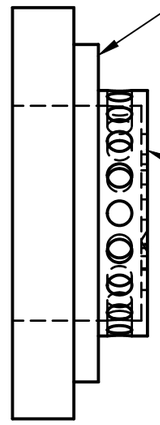
Nozzle guide vanes

Drill exhaust guide vanes at aprox 50 degree angle off center line.

Exhaust should exit turbine nozzle guide vanes in a clockwise direction

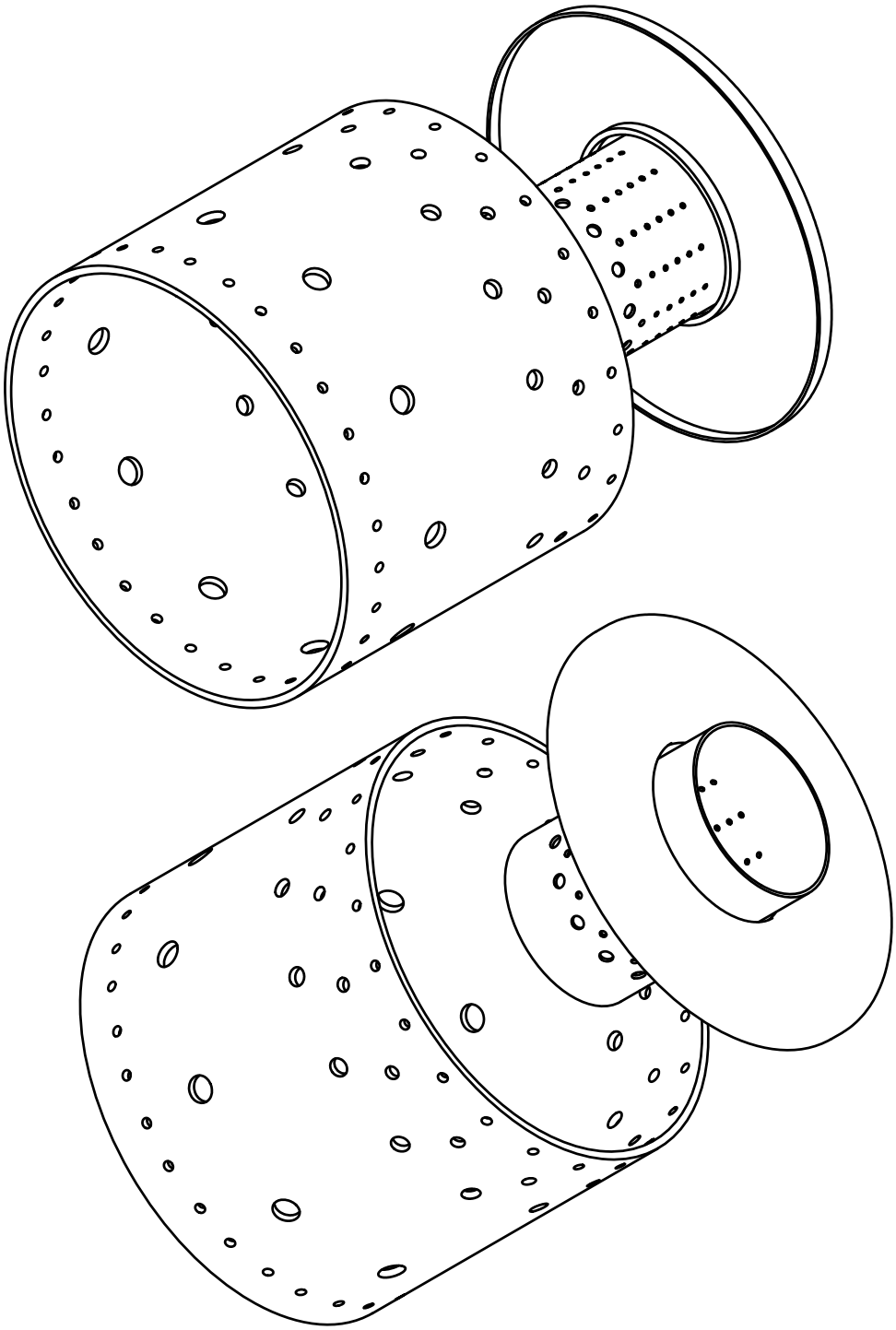
Fit rear portion of outer burnbasket over this step





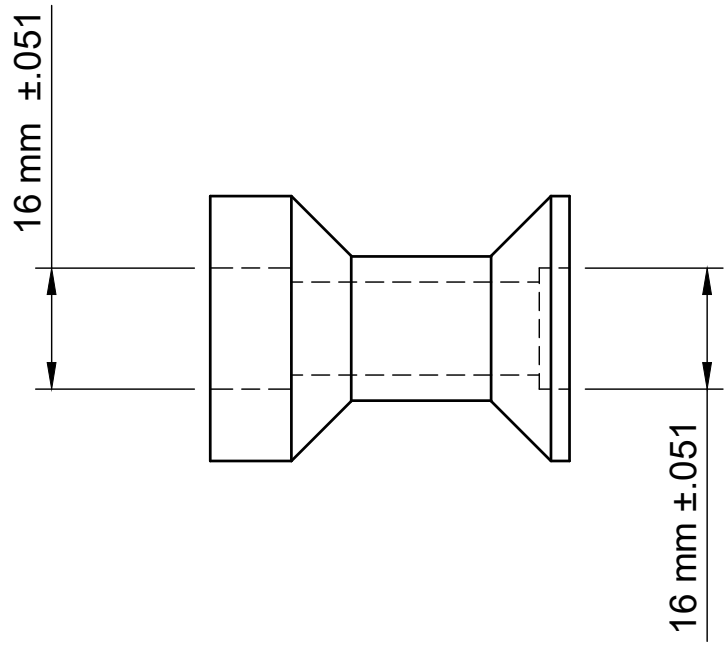
Drill evenly spaced 4mm exhaust guide vanes at aprox 50 degree clockwise angle.

Drill and countersink for five tapered machine screws



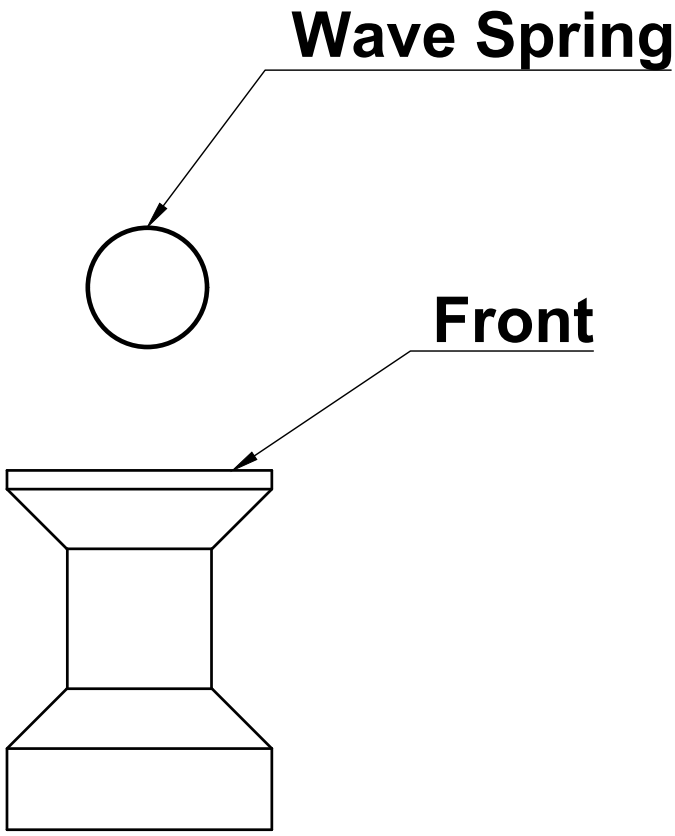
Dept.	Technical reference	Created by	Approved by
		CP 3/6/2023	
		Document type	Document status
		Title	DWG No.
		kp35 combustor build	
		Rev. / Date of issue	Sheet
			1/1

Axle Hub



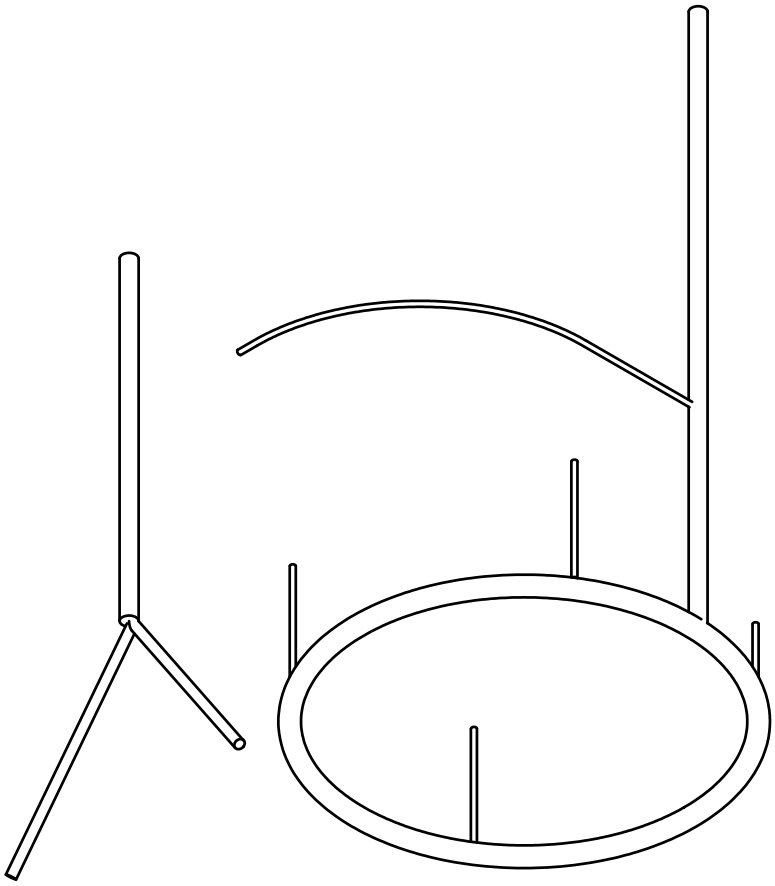
Dept.	Technical reference	Created by CP 1/7/2023	Approved by
		Document type	Document status
		Title: Axle hub16mm Bearing	DWG No.
			Rev. / Date of issue / Sheet 1/1

Wave spring goes between bearing and front of axle hub.



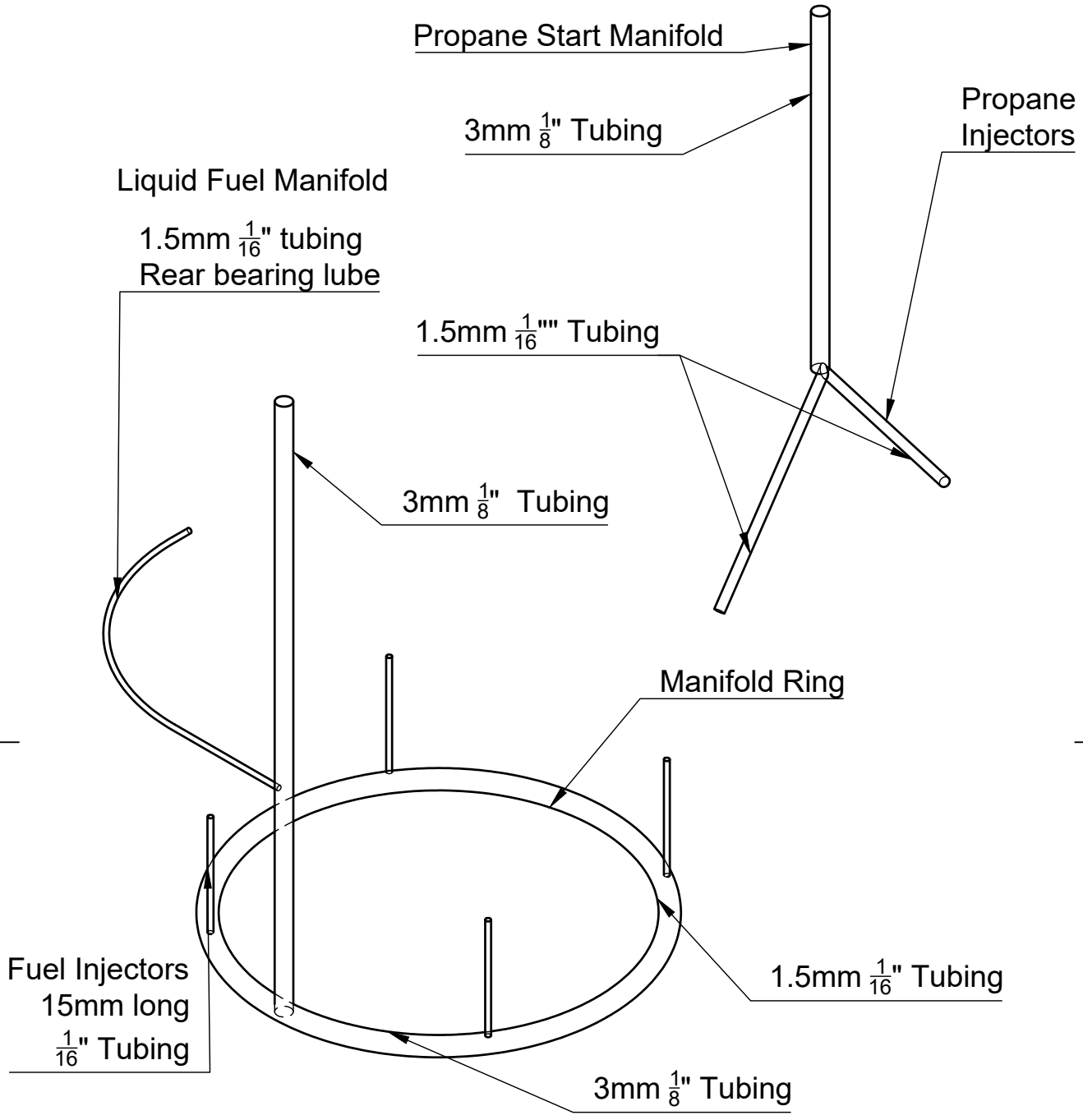
Dept.	Technical reference	Created by CP 3/1/2023	Approved by
		Document type	Document status
		Title: Axle hub16mm Bearing	DWG No.
			Rev. / Date of issue / Sheet 1/1

KP35 Fuel Manifold



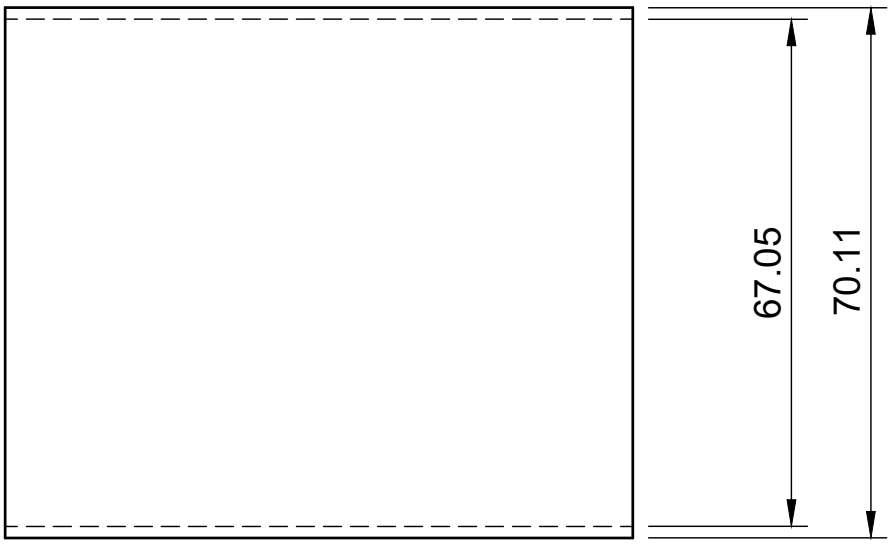
Dept.	Technical reference	Created by Carlos Perez 3/3/2023	Approved by
		Document type	Document status
		Title Fuel Manifold revised	DWG No.
			Rev. / Date of issue / Sheet 1/1

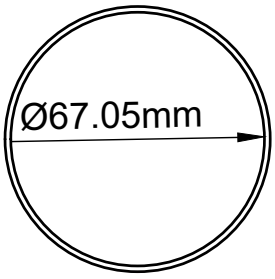
KP35 Fuel Manifold sheet



Dept.	Technical reference	Created by		Approved by	
Design	Jm50Combustor	Minijets	2021	CP	03/21
		Document type		Document status	
		Public		Active	
		Title		DWG No.	
		Fuel Manifold Specsheet		21010	
				Rev.	Date of issue / Sheet
					1/1

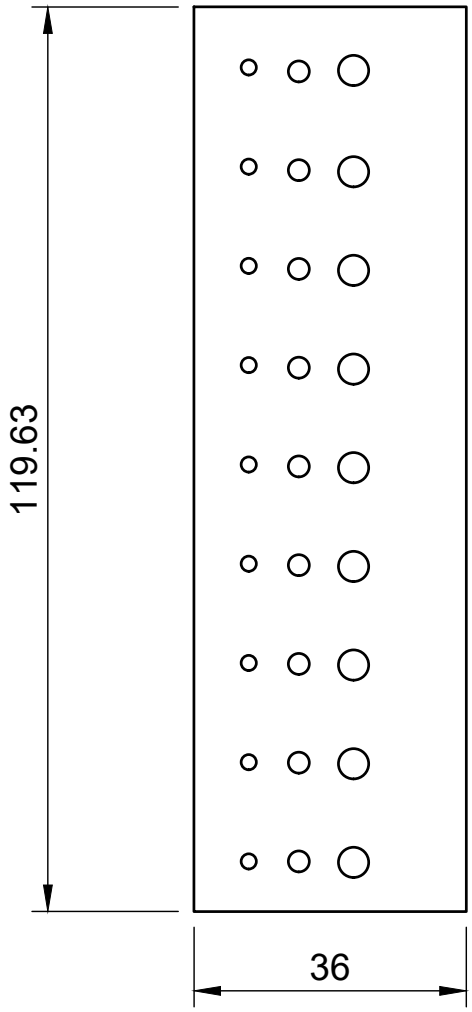
Outer Shell





Dept.	Technical reference	Created by CP 1/8/2023	Approved by
		Document type	Document status
		Title: casing	DWG No.
			Rev. / Date of issue / Sheet 1/1

Inner Liner



Holes front to rear
1.5mm
2.75mm
4mm

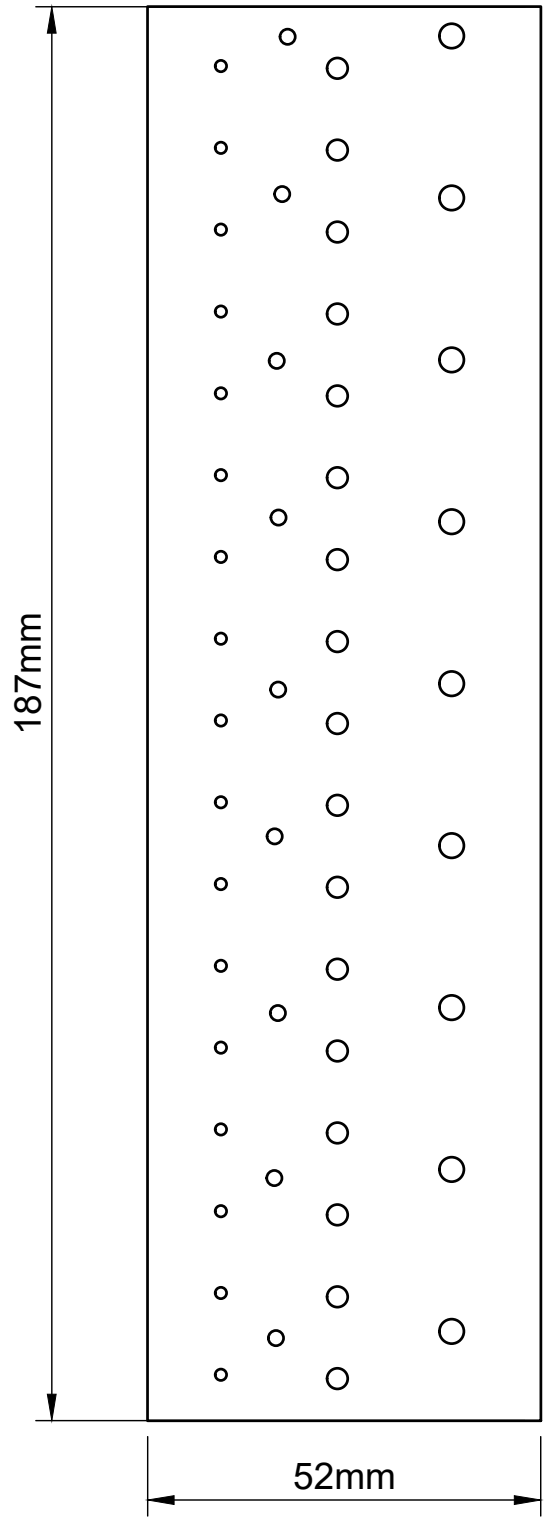
Make sure to leave sheet metal overlap for tacking liner end to end.

Front/Intake

REAR/Exhaust

Dept.	Technical reference	Created by CP 3/6/2023	Approved by
		Document type	Document status
		Title: KP35 Inner combustor liner	DWG No.
			Rev. / Date of issue / Sheet 1/1

Outer Liner



Holes Front to rear
1.5mm
2mm
2.75mm
4mm

Make sure to leave sheet metal overlap for tacking combustor together.

Front/Intake

Rear/Exhaust

Dept.	Technical reference	Created by CP 3/3/2023	Approved by
		Document type	Document status
		Title: KP35 outer combustion basket	DWG No.
			Rev. / Date of issue / Sheet 1/1

Thank you for purchasing the KP35 Mini jet engine kit.

Combustor Assembly:

Using the templates provided cut inner liner and outer liners to specefied width and length leaving approximately 10-12mm or around 3/8” of extra length to allow for tacking combustor liners in a circular diameter.

It is recommended that you use hose clamps to get each piece to the appropriate diameter. This will hold the circumference while you work with them.
Be sure to create a snug fit on outer liner and rear 58mm NGV step.

When cutting inner liner it is recommended that you leave excess length on the forward portion of liner for easier tacking. Remove excess material when completed.

This will help prevent the possibility of cutting the inner liner too short and making it difficult to tack to the front end cap. Make sure to mock up the liners together while utilizing the NGV, to help set appropriate lengths.

Although you can use an electric spot welder on the forward portion of the combustor to tack together, another easier method would be to use high temp (1200F) silver solder.
An electric spot welder is ideal on the erear end cap and inner liner, although if the cap fits well around rear of inner liner no tacking is necessary and it would be held in place by the rear NGV and axle hub using screw that hold the NGV in place. Just insert inner liner into cap when assembling.

Assembling outer liner to size and drilling is best done by utilizing

NGV to help prevent distorting liner with the pressure from drilling. Make sure to drill both inner and outer liner hole prior to assembling together,

Remove any chads or sharp edges using a dremel.

Fuel Manifold:

When assembling fuel manifold ring, make sure to create a diameter that fits snug over the outer rear of the outer liner while attached to the NGV. This assures fitment of outer shell over the entire assembly.
Any bulges of high spots can be tapped down making sure not over flatten the fuel manifold ring if you do this.

The 6” 1/16” line coming from the fuel feed line is for rear bearing lubrication. Drill a 1/16” hole near the rear bearing in the axle hub to allow insertion of oil lube line.

Use the supplied brass fittings for coupling both the fuel manifold ring and also for coupling 2 1/16” lines into the 1/8” brass tubing as shown in the print. This is your propane start fuel line, and is used to transfer the flame to the liquid fuel for starting the ignition process

End Caps:

When cutting end caps it is best to drill 16mm center hole in rear cap prior to cutting out of form.

This will help prevent distortion.

Use a dremel with a flat blade to remove inner hole in front end cap where the inner liner will set.

Make sure to leave the flange on inner end cap hole rto help with tacking together. This will give you material to tack to.

Mounting outer shell:

You can drill and tap 8 holes equally placed on the circumference of bothe fron and rea sections to hold to shell in place and to creat a tight seal. Another way is to usee 3” hose clamps to hold the shell in place. This is a simple but effective method and gives you something to hold onto if you are using a vice for example.