

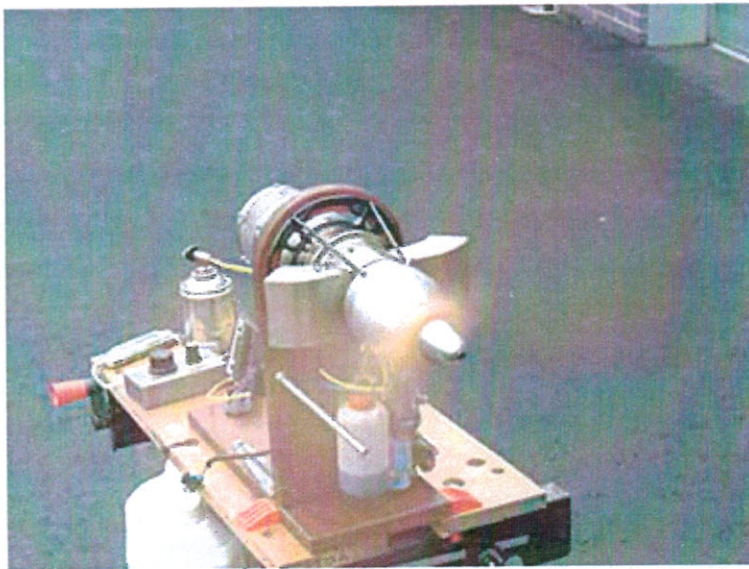
WREN



Turbines Ltd.

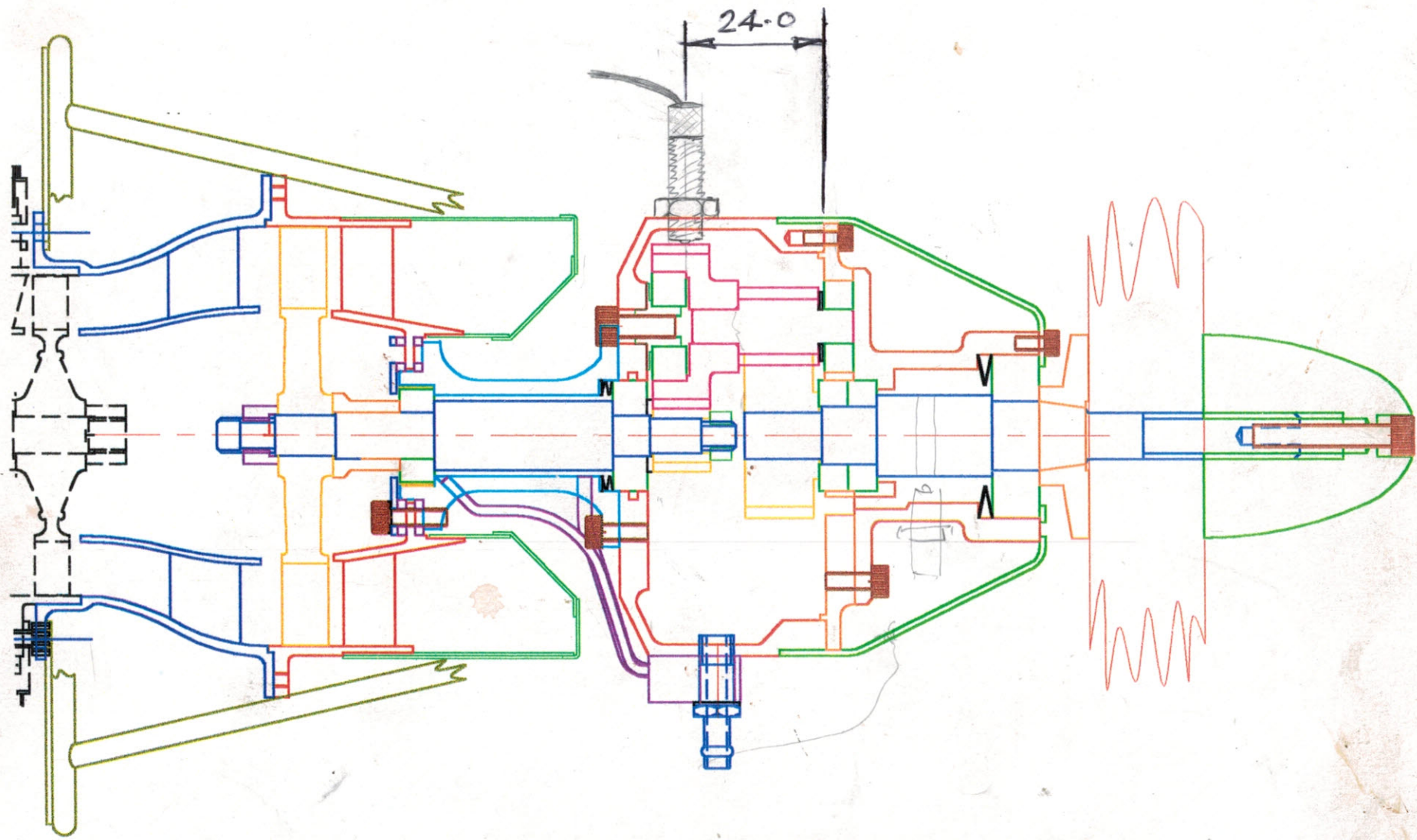
NEW

MW54 Turbo-Prop Drawing Set



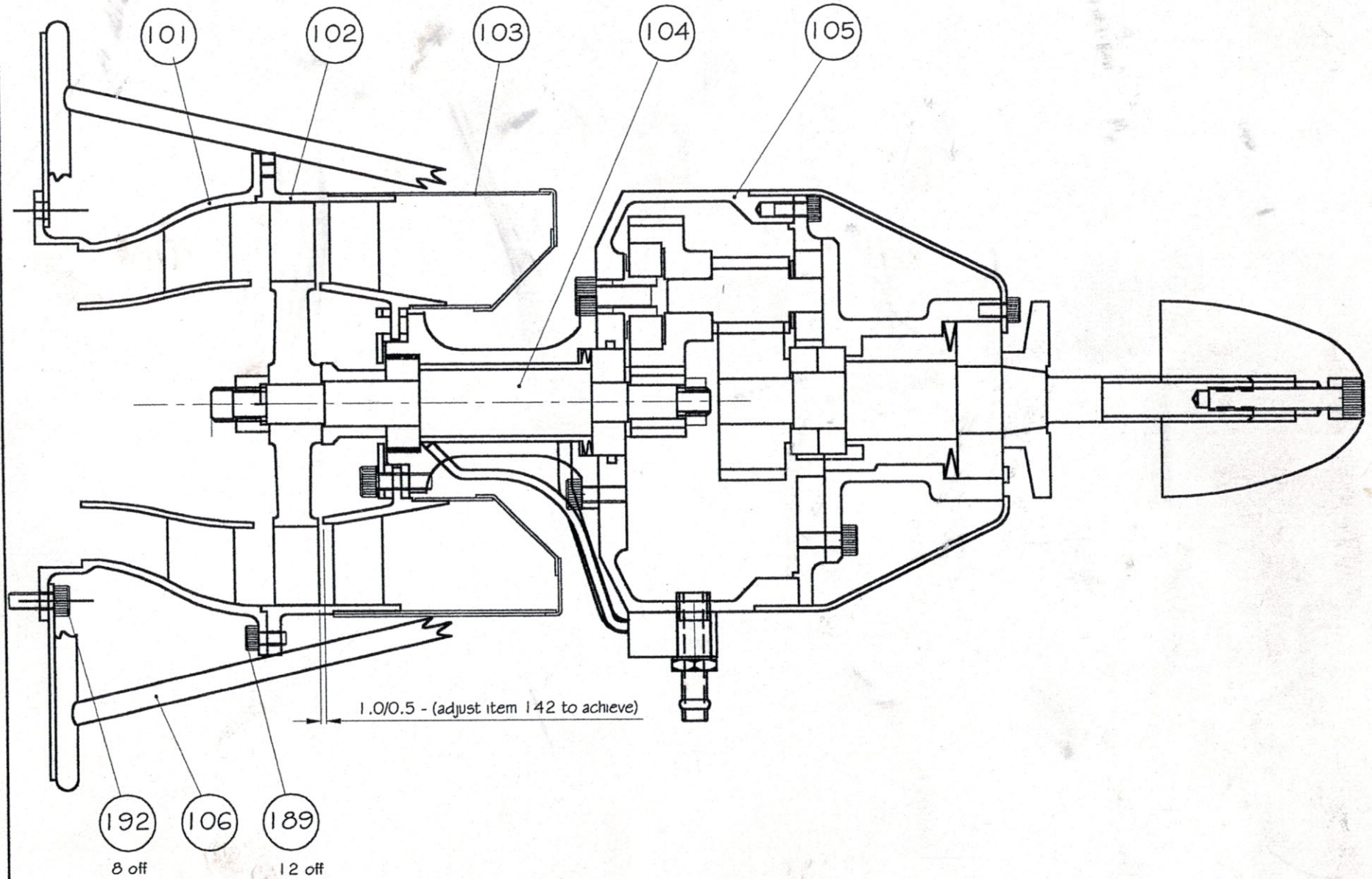
Fully Dimensioned and Detailed Plans

Item No	Description	No Off	Issue	Manufacturer	Remarks
155	Gear case	1			
156	Bearing support spigot	1			
157	Gearbox front	1			
158	Propshaft housing	1			
159	Cowl	1			
160	Prop driver	1			
161	Spinner nut	1			
162	Prop shaft sub assy	1			
163	Prop shaft	1			
164	Gear lube sub assy	1			
165	Bearing retainer	1			
166	Oil thrower	1			
167	Fibre washer - 6 dia.	1			
168	Locknut - M5	1			
169	Gear set	1			
170	Gear 1	1			
171	Gear 2	1			
172	Gear 3	1			
173	Gear 4	1			
174	Bearing ceramic 688	1			
175	Bearing - special	1			
176	Bearing	1			
177	Bearing	1			
178	Bearing	1			
179	Bearing	2			
180	Shim	1*			
181	Spring washer	1			
182	Tolerance ring	1			
				Issue: 1	Item List Turbo Prop Sht.3



MW 54 TURBOPROP

Dimensions in Millimeters



Designed by: Mike Murphy

Material: As details

Drawn: Terry Lee

Third Angle Projection

© WREN Turbines

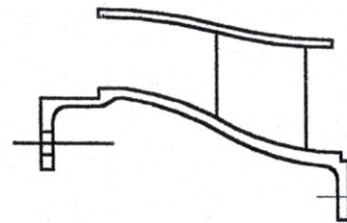
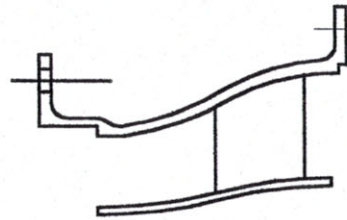
MW54 - Turboprop

Title: General Arrangement

Issue: 1

Part No. 100

Dimensions in Millimeters



Designed by: Mike Murphy

Drawn: Terry Lee

Third Angle Projection

© WREN Turbines

MW54 - Turboprop

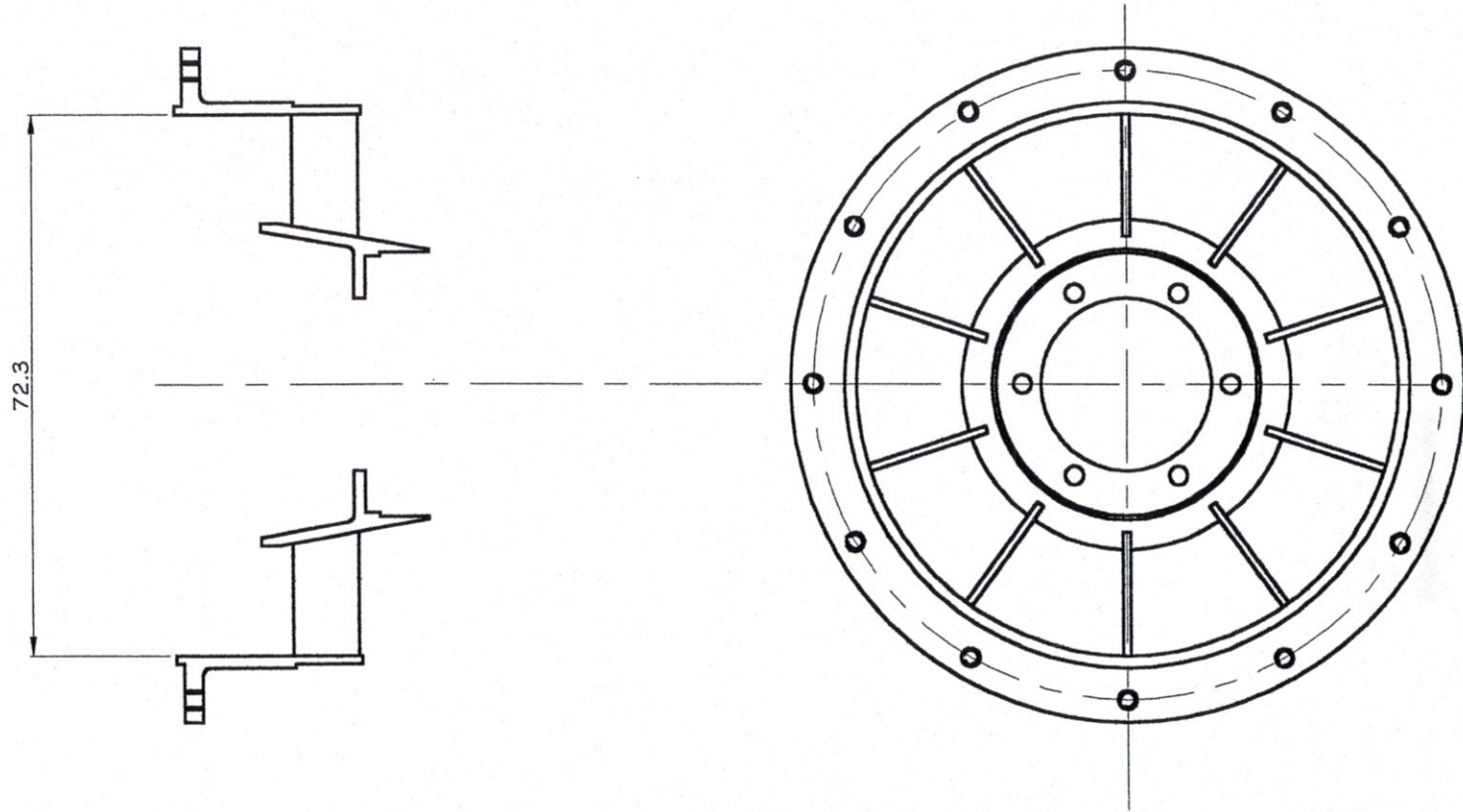
Material: High nickel steel

Title: Interstage NGV (cast)

Issue: 1

Part No. 101

Dimensions in Millimeters



Designed by: Mike Murphy

Material: As details

Drawn: Terry Lee

Third Angle Projection

© WREN Turbines

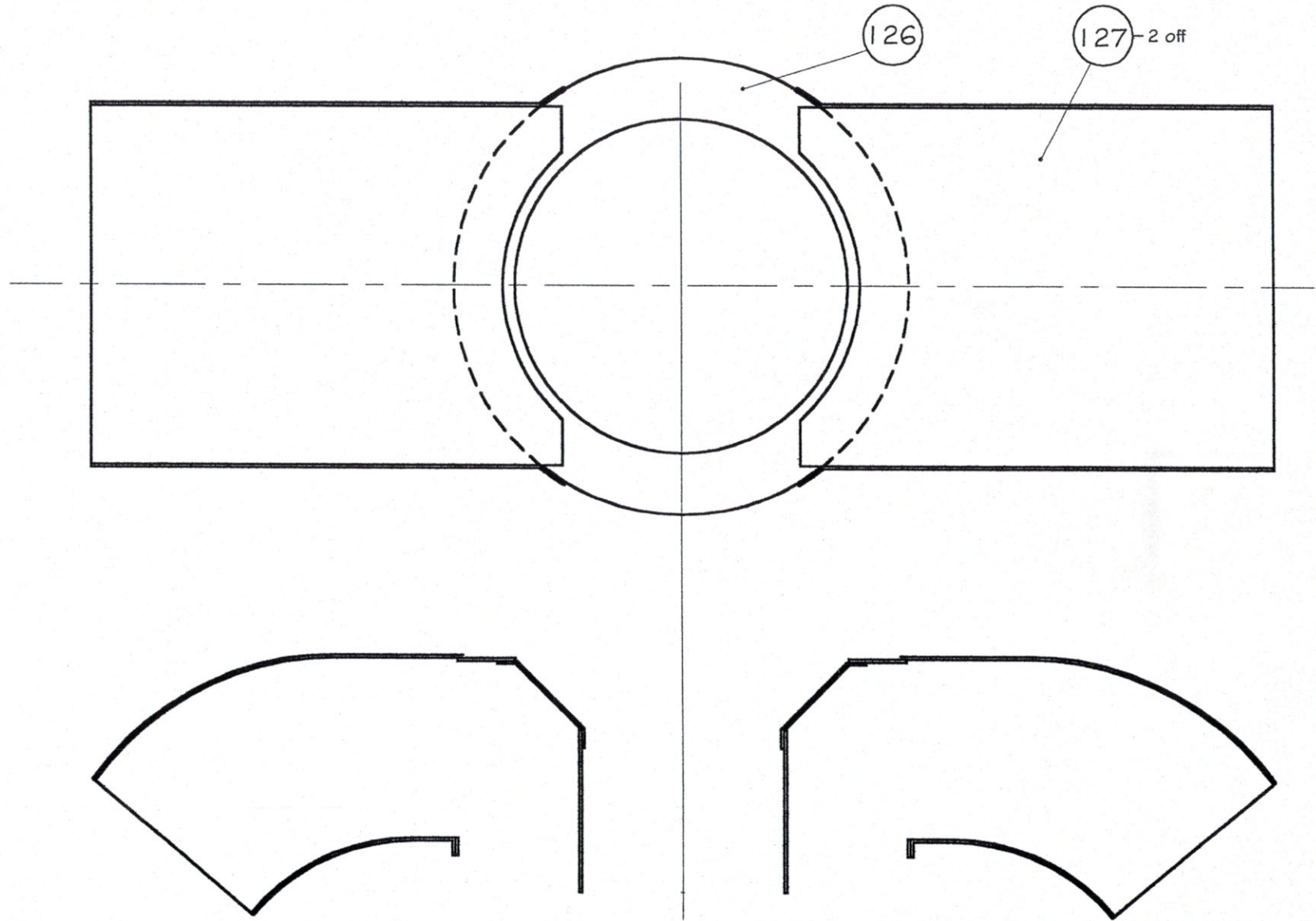
MW54 - Turboprop

Title: Spider (Outline)

Issue: 1

Part No. 102

Dimensions in Millimeters



Designed by: Mike Murphy

Material: As details

Drawn: Terry Lee

Third Angle Projection

© WREN Turbines

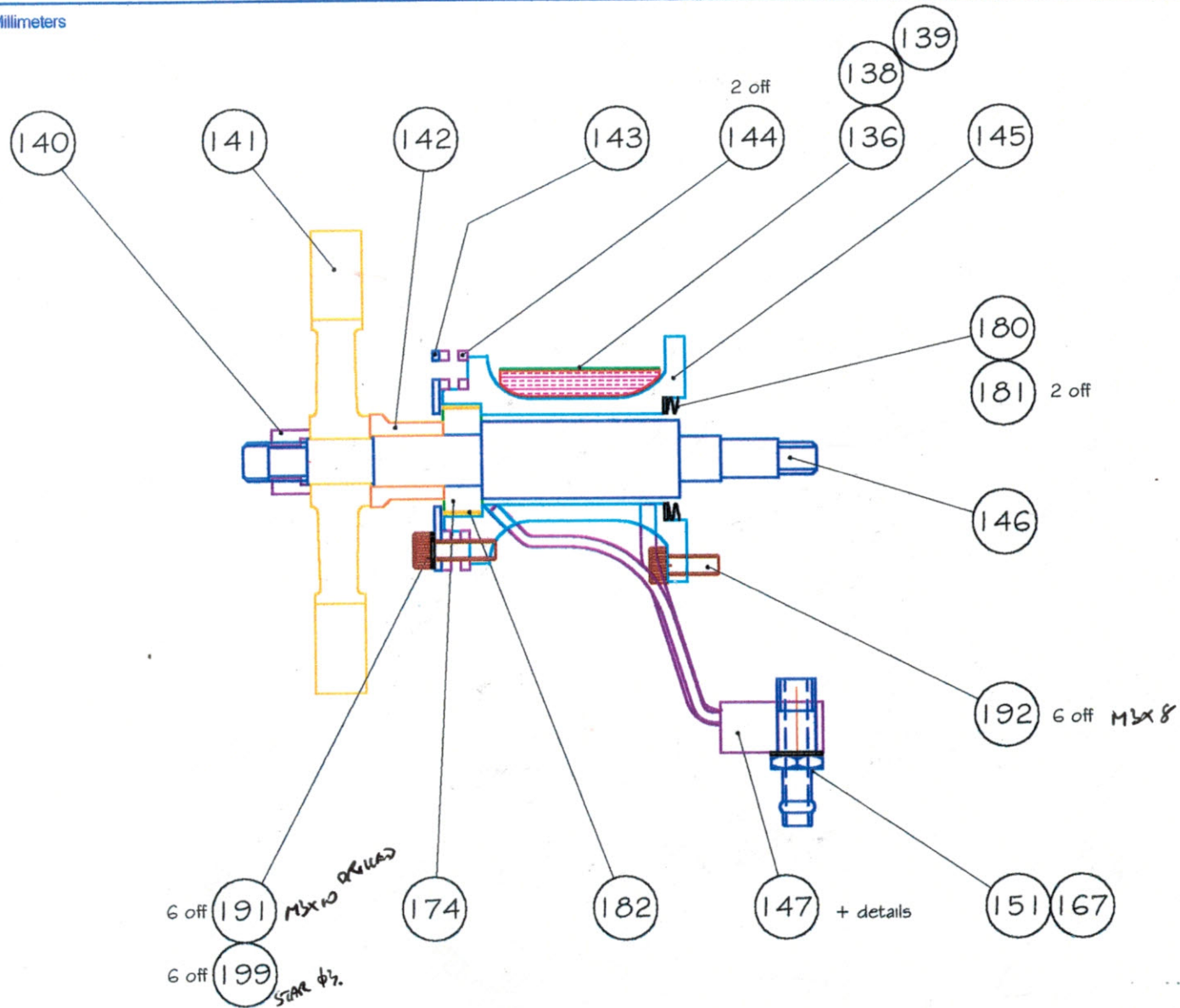
MW54 - Turboprop

Title: Exhaust Assy

Issue: 1

Part No. 103

Dimensions in Millimeters



Designed by: Mike Murphy

Drawn: Terry Lee

Third Angle Projection

© WREN Turbines

MW54 - Turboprop

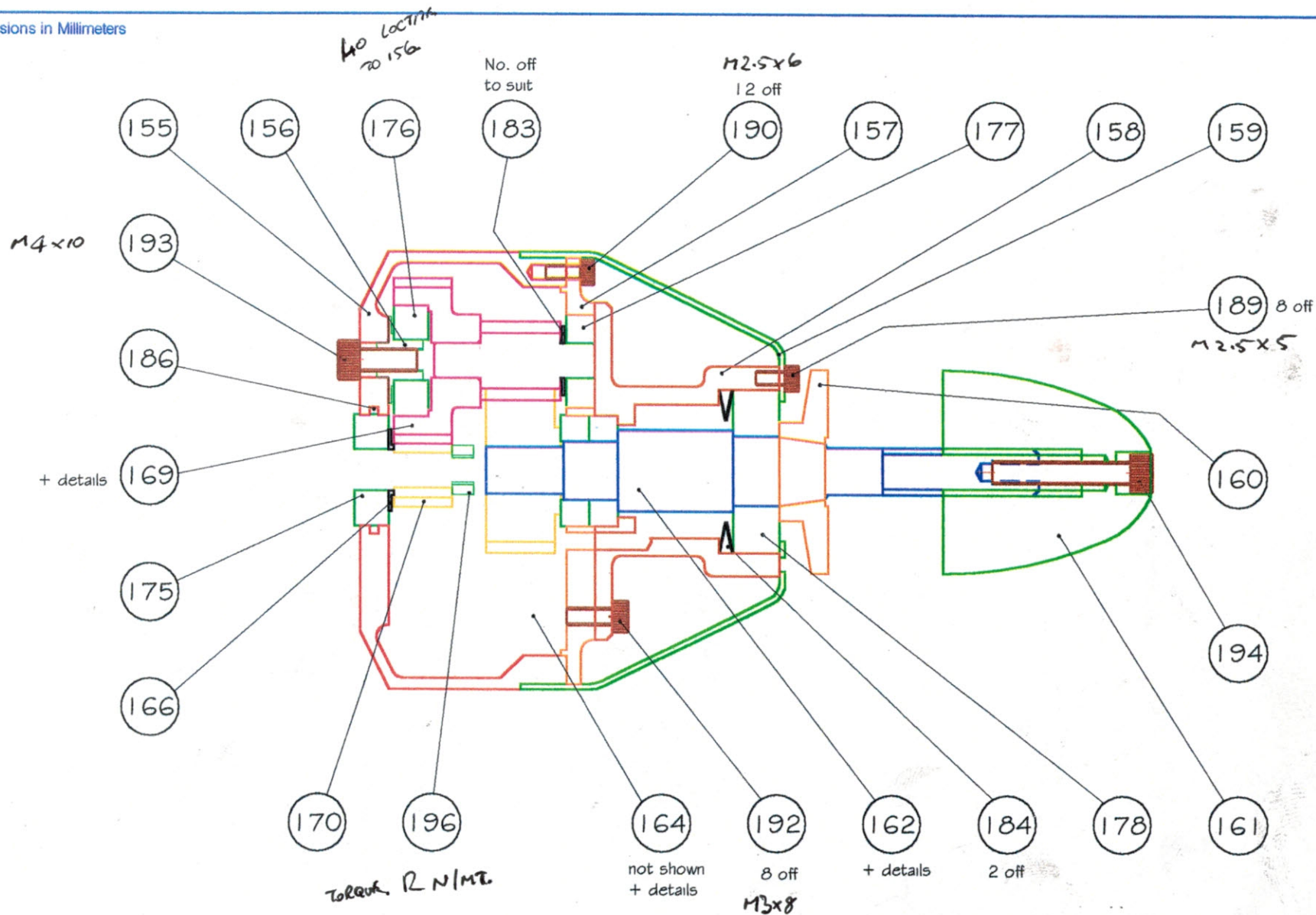
Material: As details

Title: Shaft sub assembly

Issue: 1

Part No. 104

Dimensions in Millimeters



Designed by: Mike Murphy

Material: As details

Drawn: Terry Lee

Third Angle Projection

© WREN Turbines

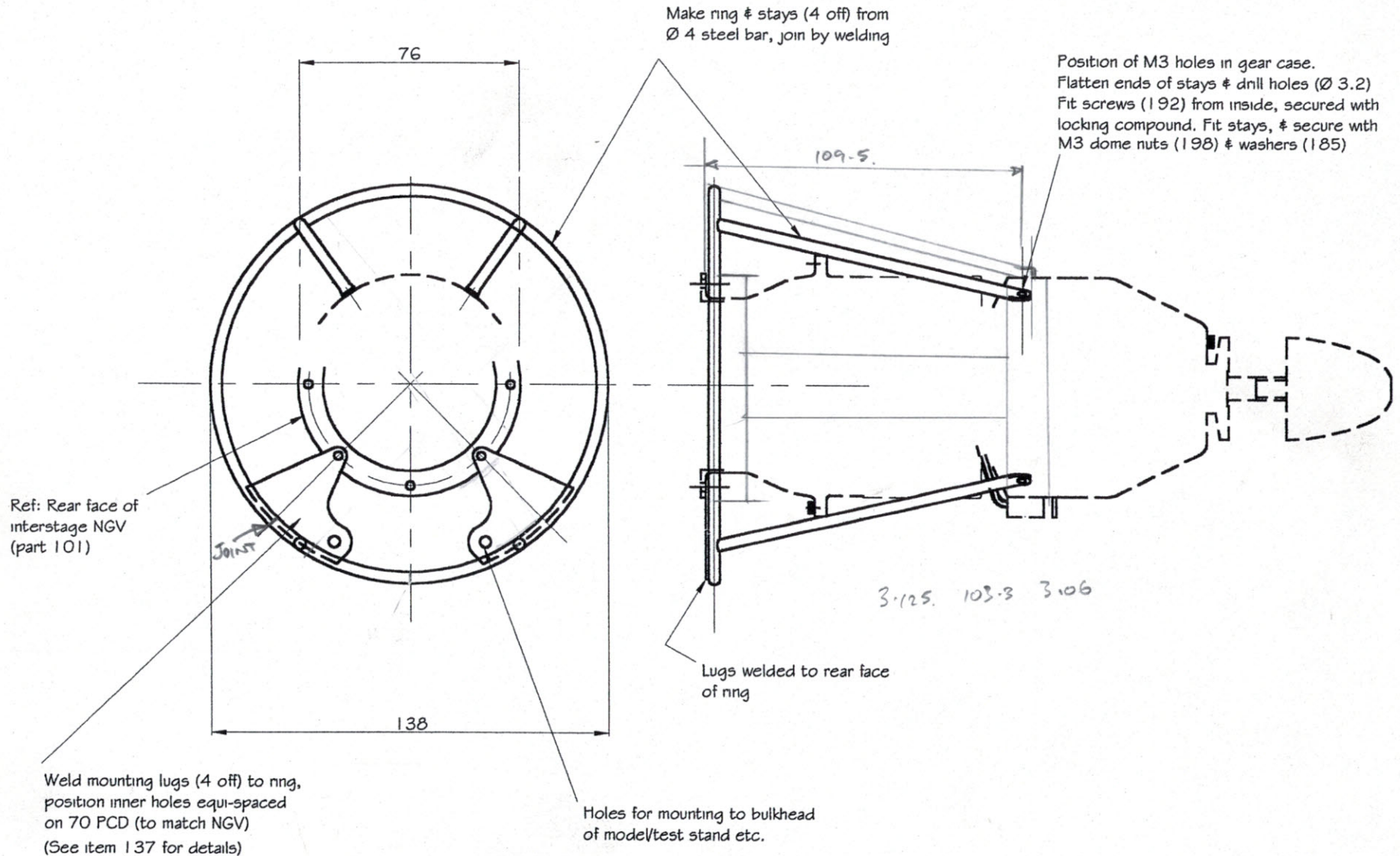
MW54 - Turboprop

Title: Gearbox Sub assy

Issue: 1

Part No. 105

Dimensions in Millimeters



Scale: Half size

Designed by: Mike Murphy

Material: As shown

Drawn: Terry Lee

Third Angle Projection

© WREN Turbines

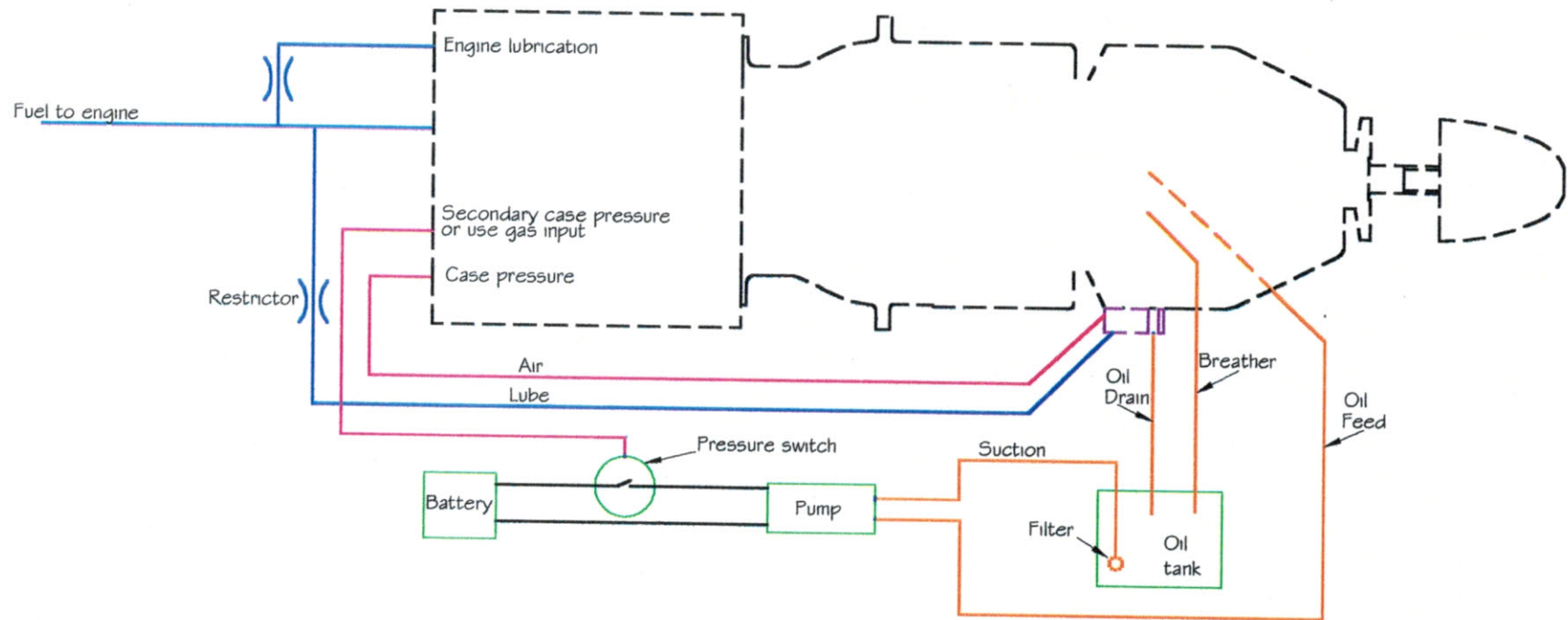
MW54 - Turboprop

Title: Engine mount - radial

Issue: 1

Part No. 106

Dimensions in Millimeters



Designed by: Mike Murphy

Drawn: Terry Lee

Third Angle Projection

© WREN Turbines

MW54 - Turboprop

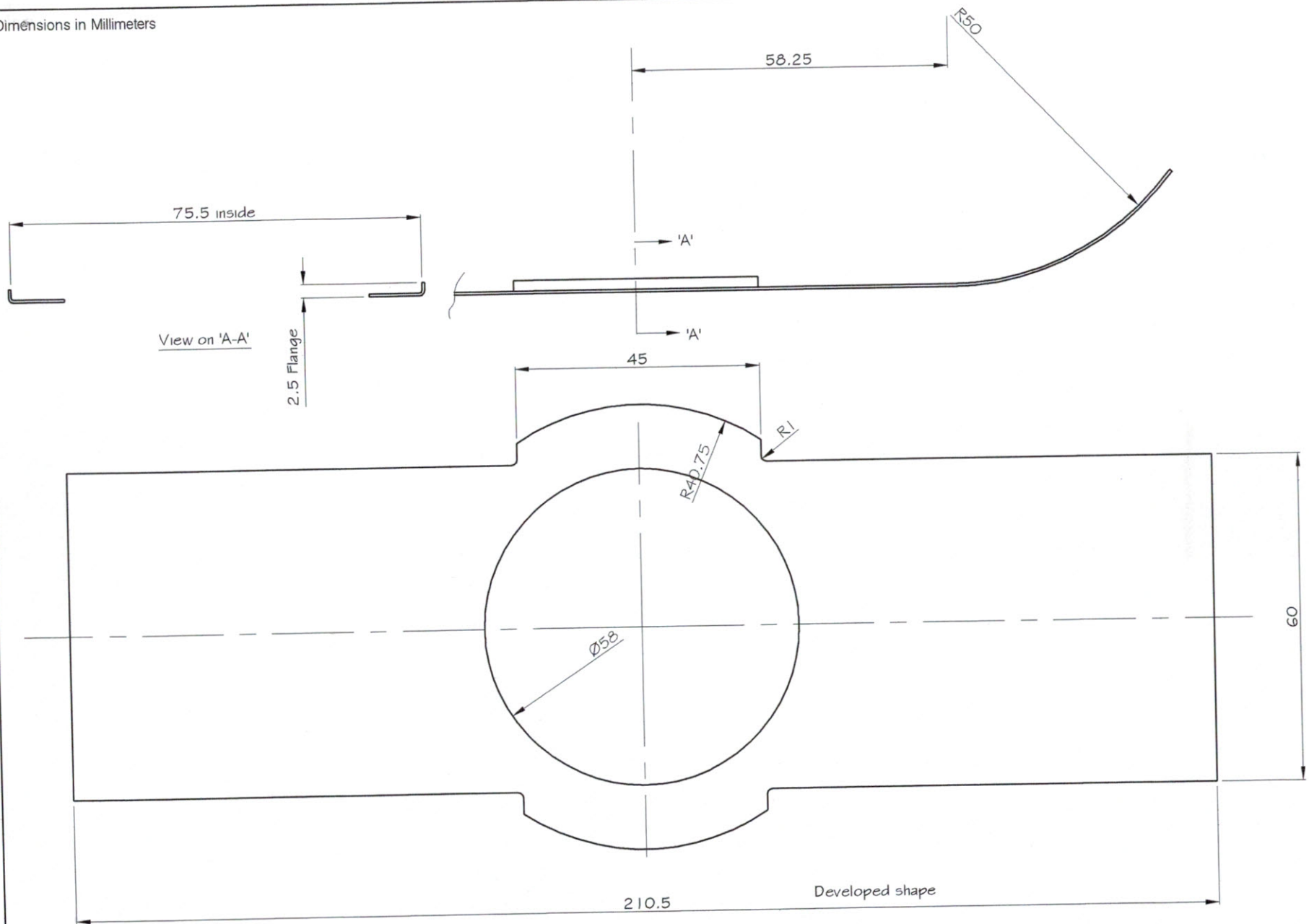
Material:

Title: Lubrication schematic

Issue: 1

Part No. 107

Dimensions in Millimeters



NOTE: This item replaces items 131 & 135

Designed by: Mike Murphy

Material: Stainless Steel Sheet - .5 thick

Drawn: Terry Lee

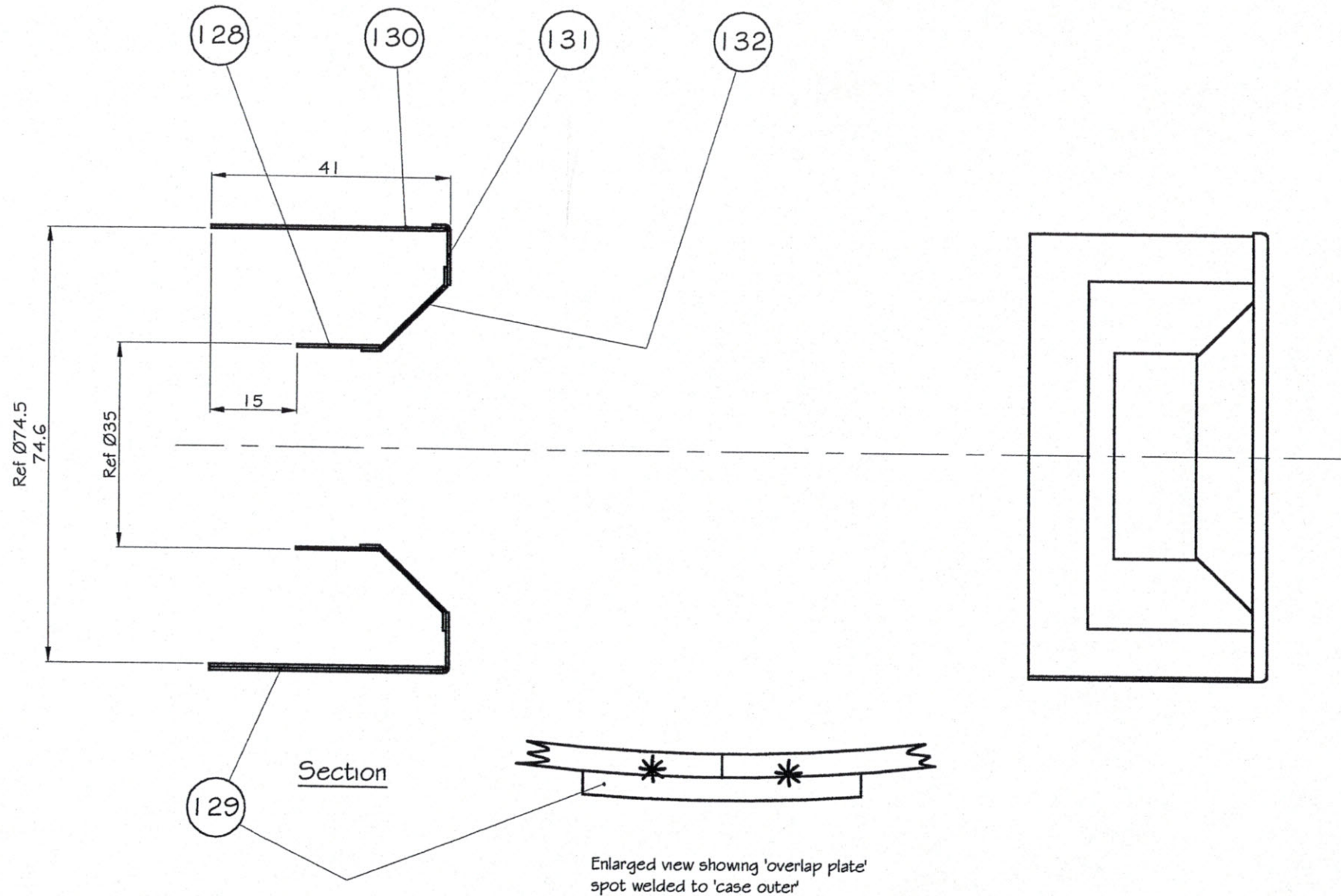
Third Angle Projection © WREN Turbines

Title: Exhaust 1 piece Front

Issue: 1

Part No. 125

Dimensions in Millimeters



Designed by: Mike Murphy

Drawn: Terry Lee

Third Angle Projection

© WREN Turbines

MW54 - Turboprop

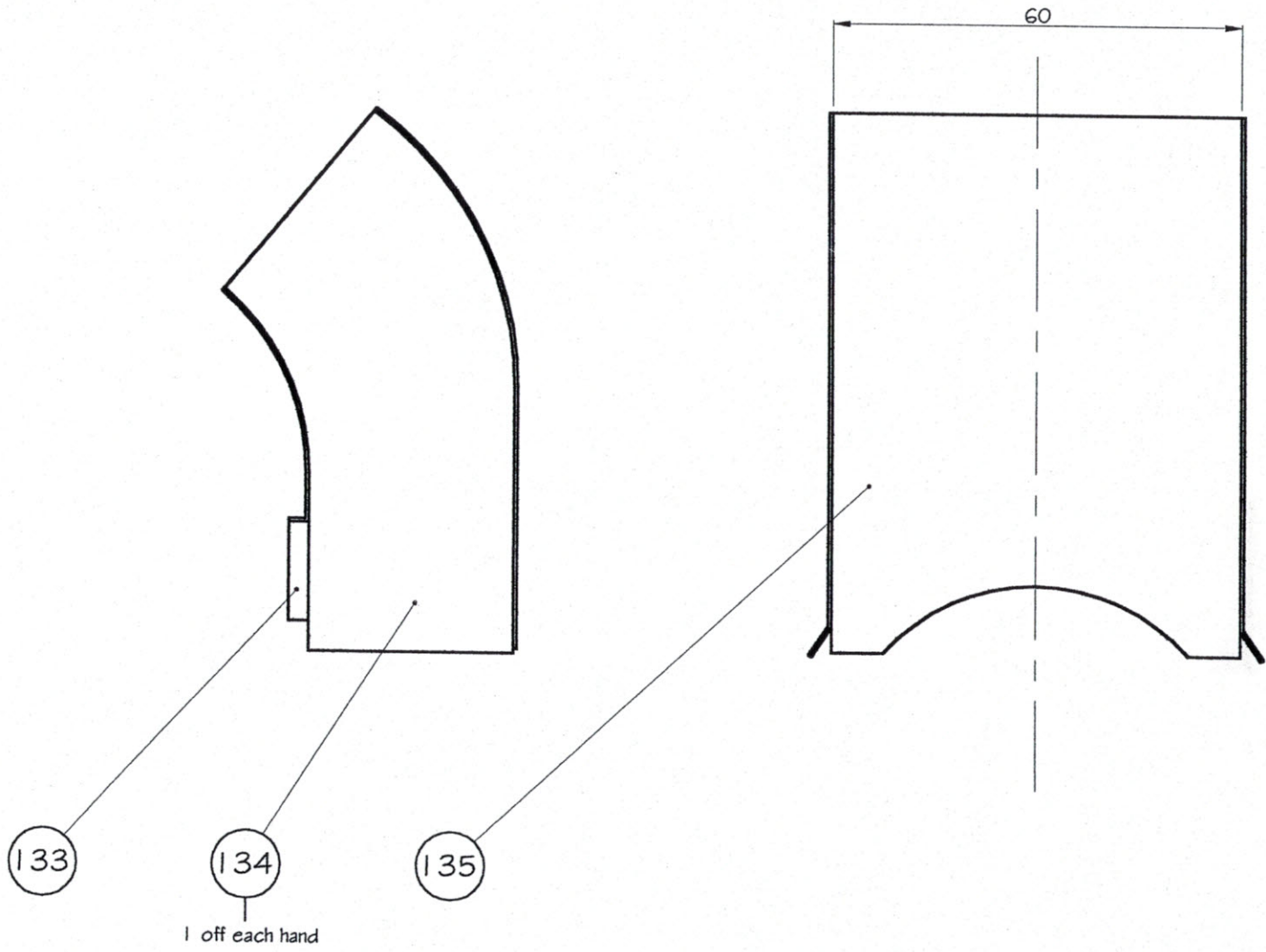
Material: As details

Title: Exhaust manifold

Issue: 1

Part No. 126

Dimensions in Millimeters



Designed by: Mike Murphy

Drawn: Terry Lee

Third Angle Projection

© WREN Turbines MW54 - Turboprop

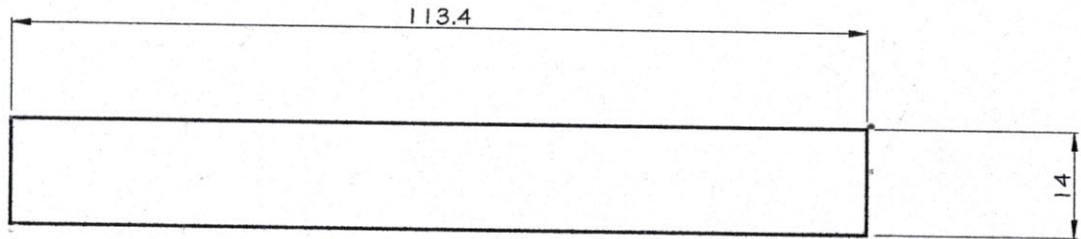
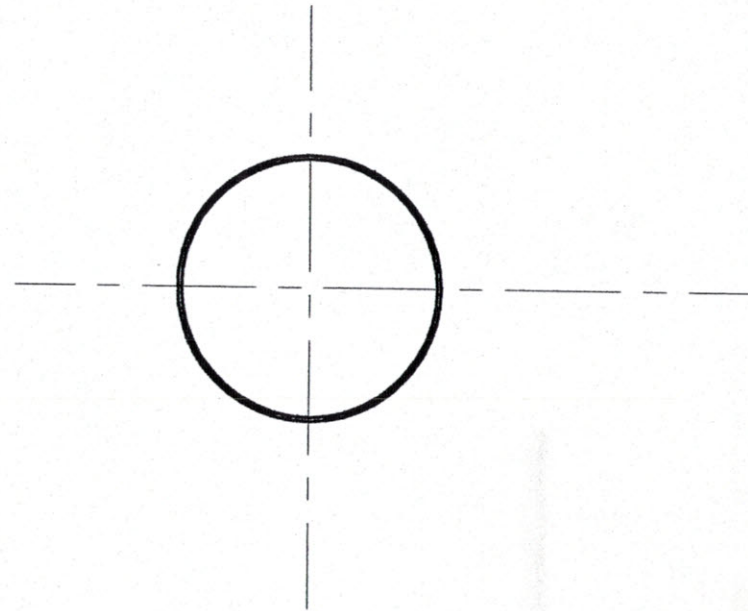
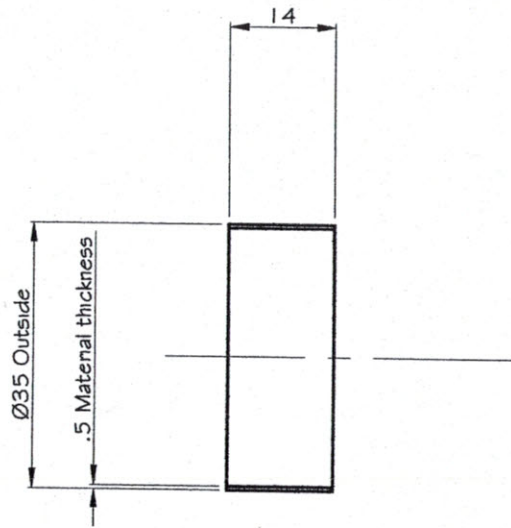
Material: As details

Title: Exhaust Stack

Issue: 1

Part No. 127

Dimensions in Millimeters



Developed shape (including 5mm overlap)

Designed by: Mike Murphy

Material: Stainless Steel Sheet

Drawn: Terry Lee

Third Angle Projection

© WREN Turbines

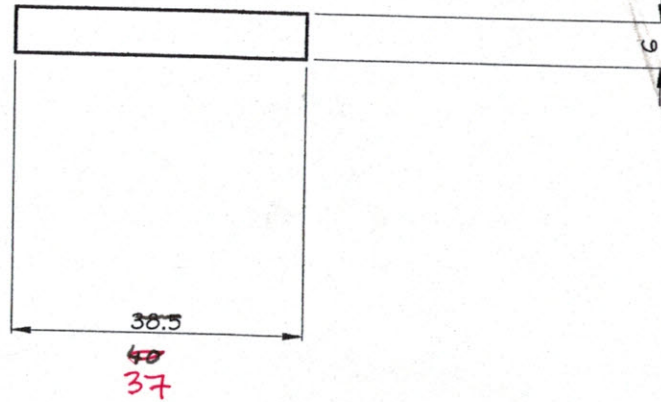
MW54 - Turboprop

Title: Exhaust Inner

Issue: 1

Part No. 128

Dimensions in Millimeters



Designed by: Mike Murphy

Drawn: Terry Lee

Third Angle Projection

© WREN Turbines

MW54 - Turboprop

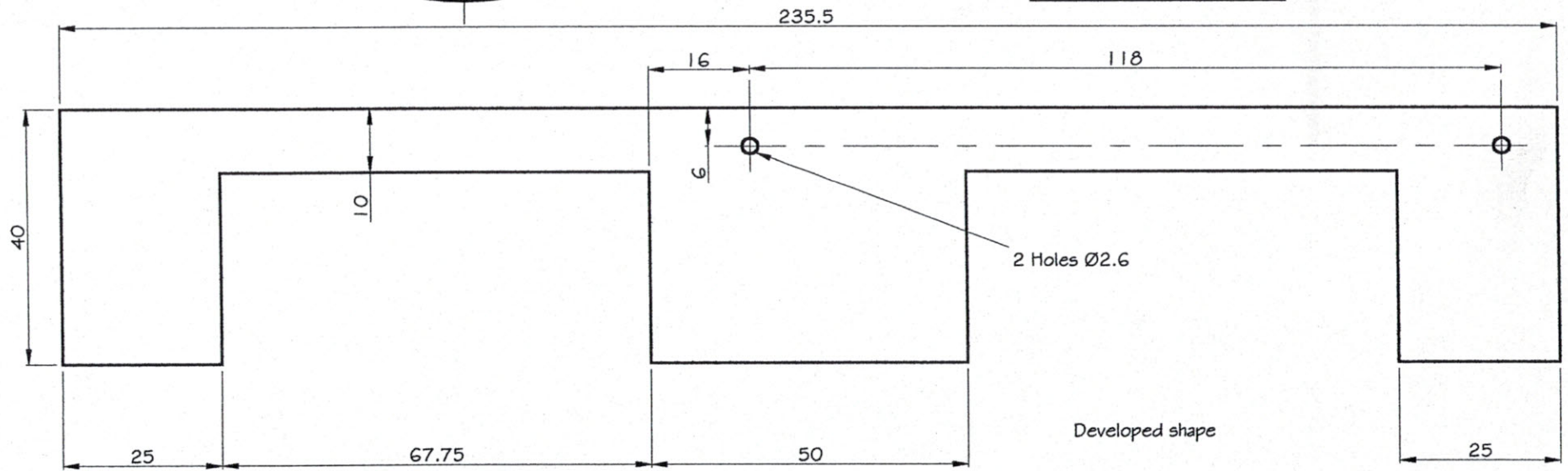
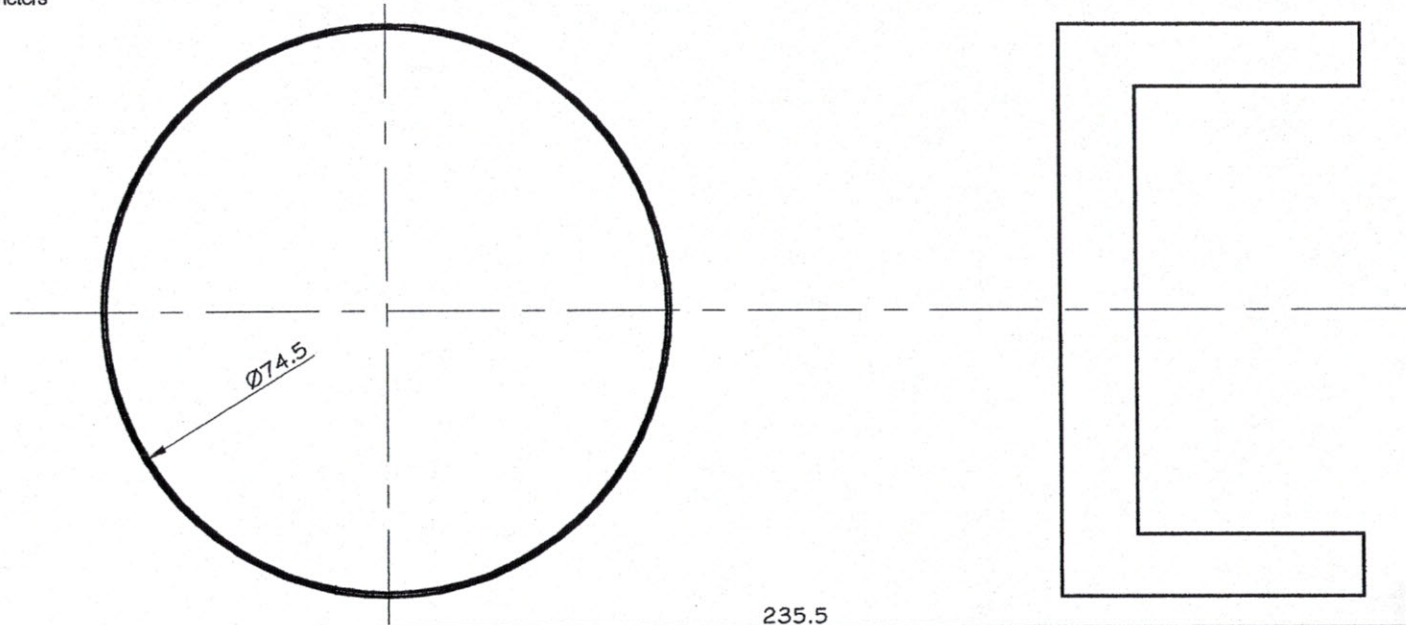
Material: Stainless Steel Sheet (316) - .5 thick

Title: Overlap plate

Issue: 1

Part No. 129

Dimensions in Millimeters



Designed by: Mike Murphy

Material: Stainless Steel Sheet (316) - .5 thick

Drawn: Terry Lee

Third Angle Projection

© WREN Turbines

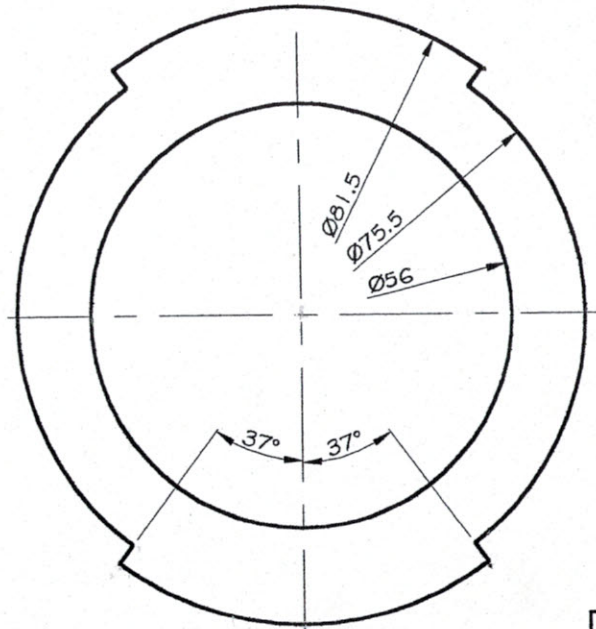
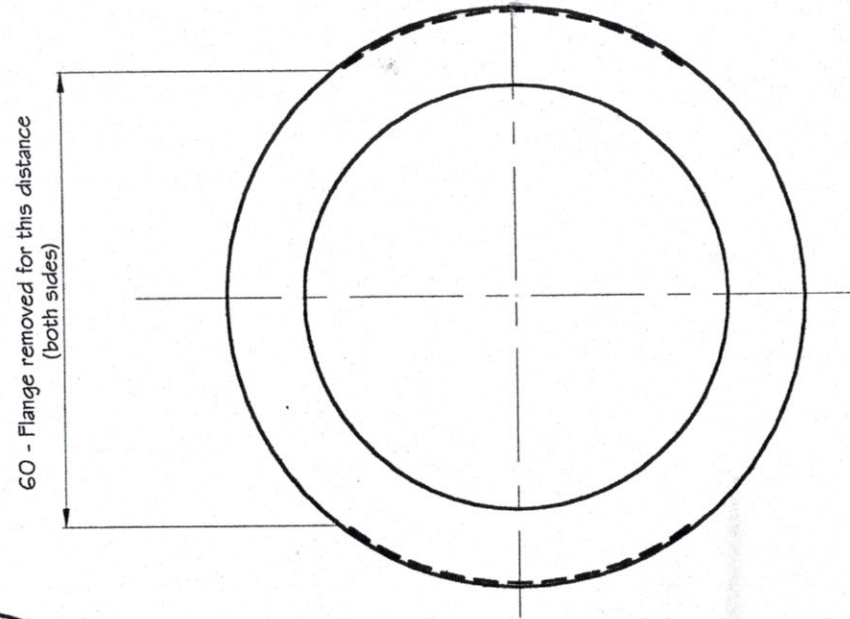
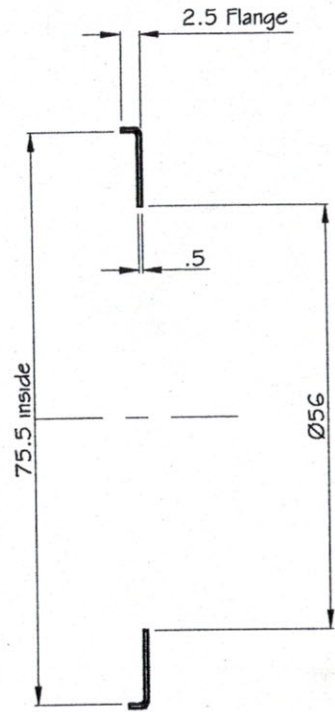
MW54 - Turboprop

Title: Exhaust Outer

Issue: 1

Part No. 130

Dimensions in Millimeters



Developed shape

Designed by: Mike Murphy

Drawn: Terry Lee

Third Angle Projection

© WREN Turbines

MW54 - Turboprop

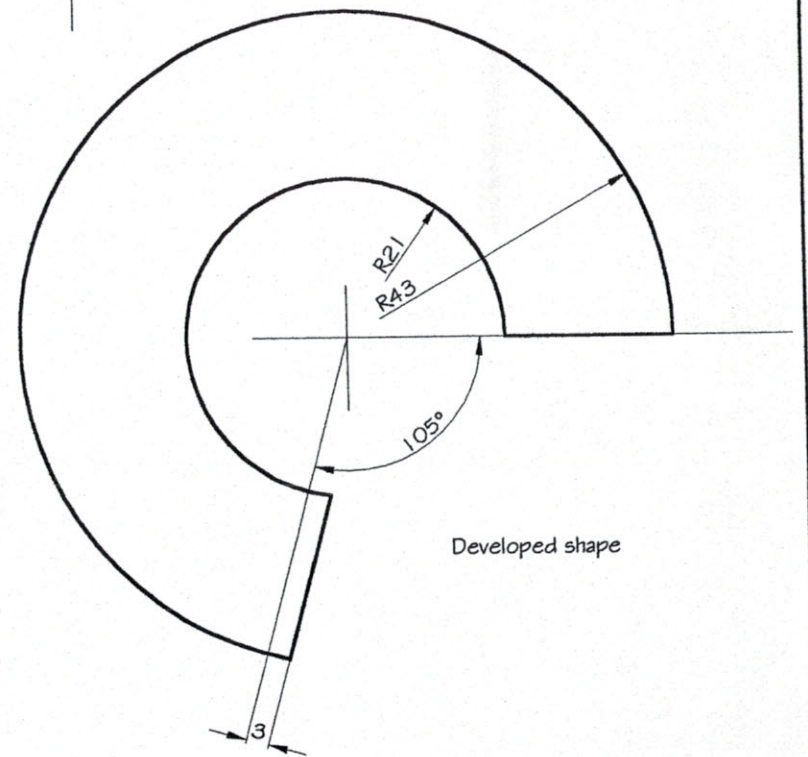
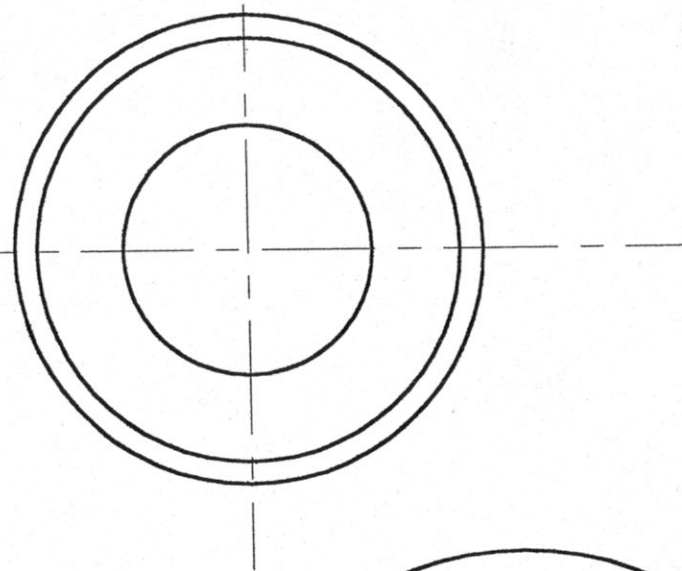
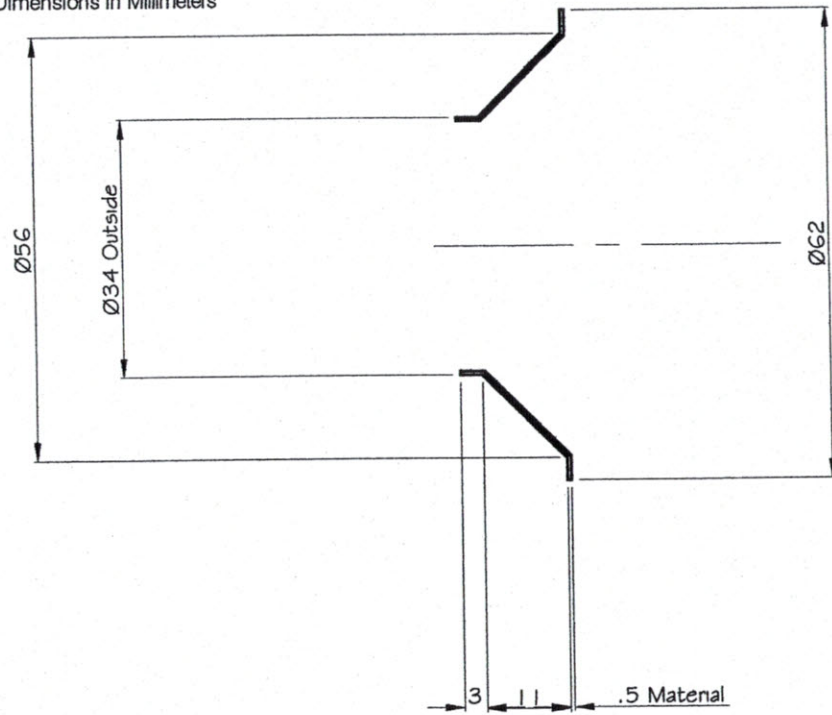
Material: Stainless Steel Sheet - .5 thick

Title: Exhaust Front

Issue: 1

Part No. 131

Dimensions in Millimeters



Designed by: Mike Murphy

Material: Stainless Steel Sheet

Drawn: Terry Lee

Third Angle Projection

© WREN Turbines

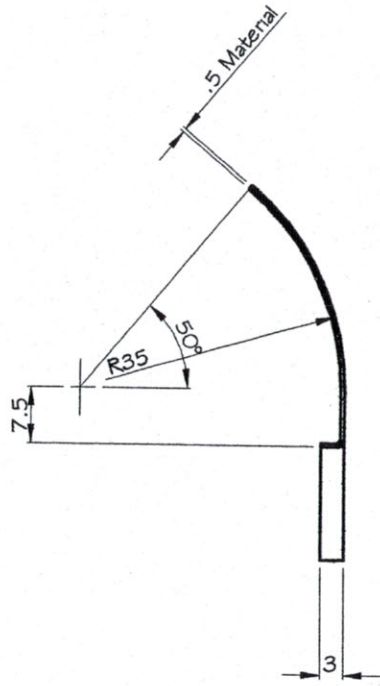
MW54 - Turboprop

Title: Exhaust Cone

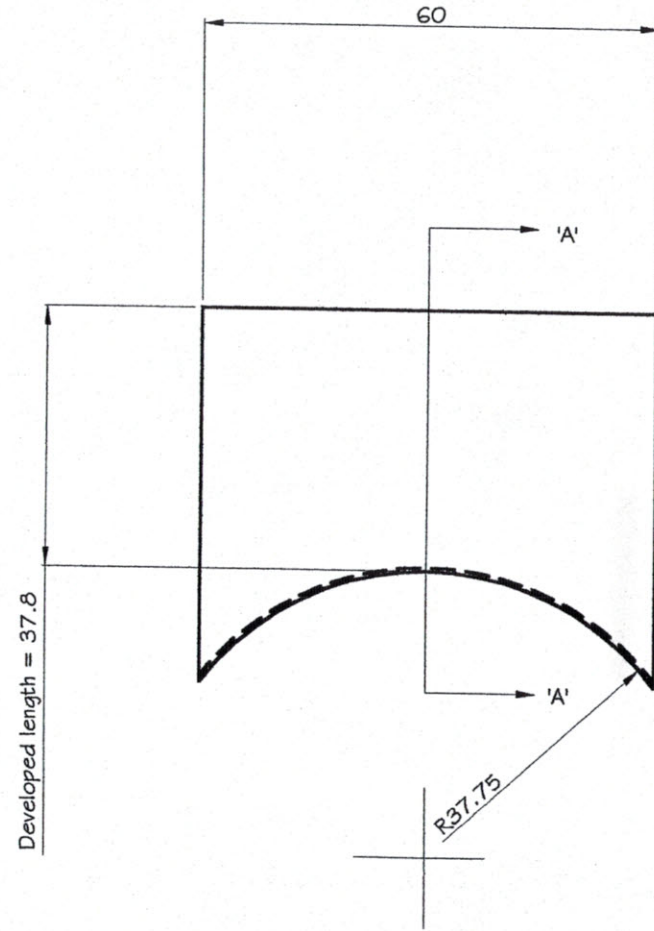
Issue: 1

Part No. 132

Dimensions in Millimeters



Section 'A-A'



Designed by: Mike Murphy

Drawn: Terry Lee

Third Angle Projection

© WREN Turbines MW54 - Turboprop

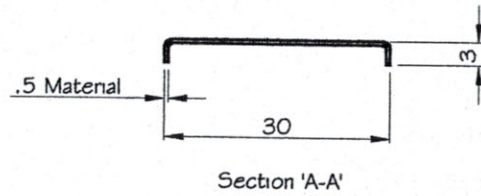
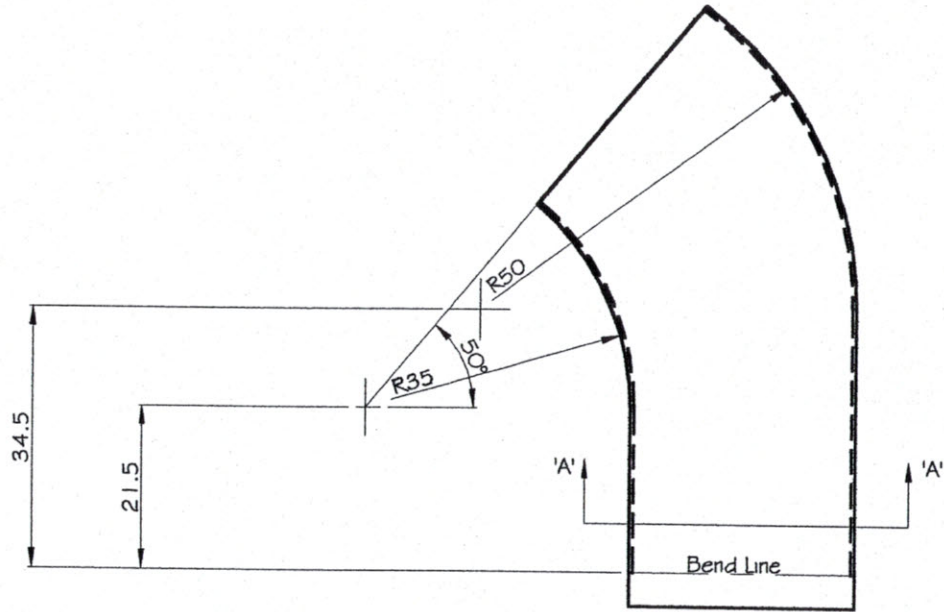
Material: Stainless Steel Sheet

Title: Exhaust Stack Rear

Issue: 1

Part No. 133

Dimensions in Millimeters



Note: Top L.H. & bottom R.H. as drawn
Bottom L.H. & top R.H. opposite

Designed by: Mike Murphy

Drawn: Terry Lee

Third Angle Projection

© WREN Turbines

MW54 - Turboprop

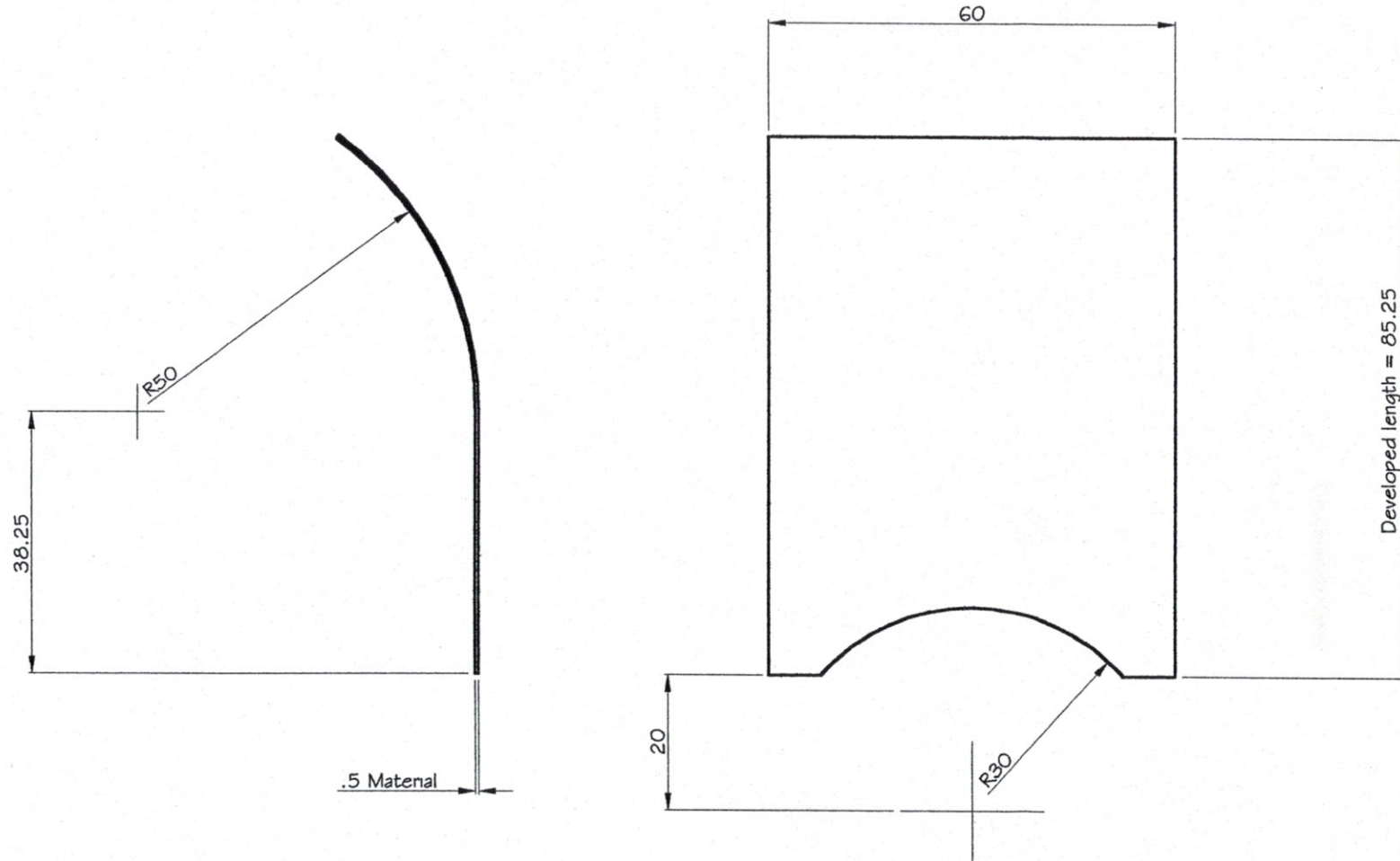
Material: Stainless Steel Sheet

Title: Exhaust Stack Top/bottom

Issue: 1

Part No. 134

Dimensions in Millimeters



Designed by: Mike Murphy

Material: Stainless Steel Sheet

Drawn: Terry Lee

Third Angle Projection

© WREN Turbines

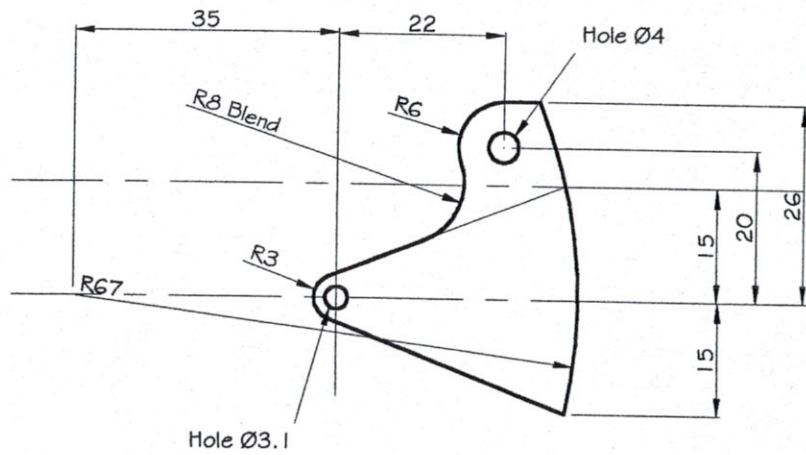
MW54 - Turboprop

Title: Exhaust Stack Front

Issue: 1

Part No. 135

Dimensions in Millimeters



Designed by: Mike Murphy

Drawn: Terry Lee

Third Angle Projection

© WREN Turbines

MW54 - Turboprop

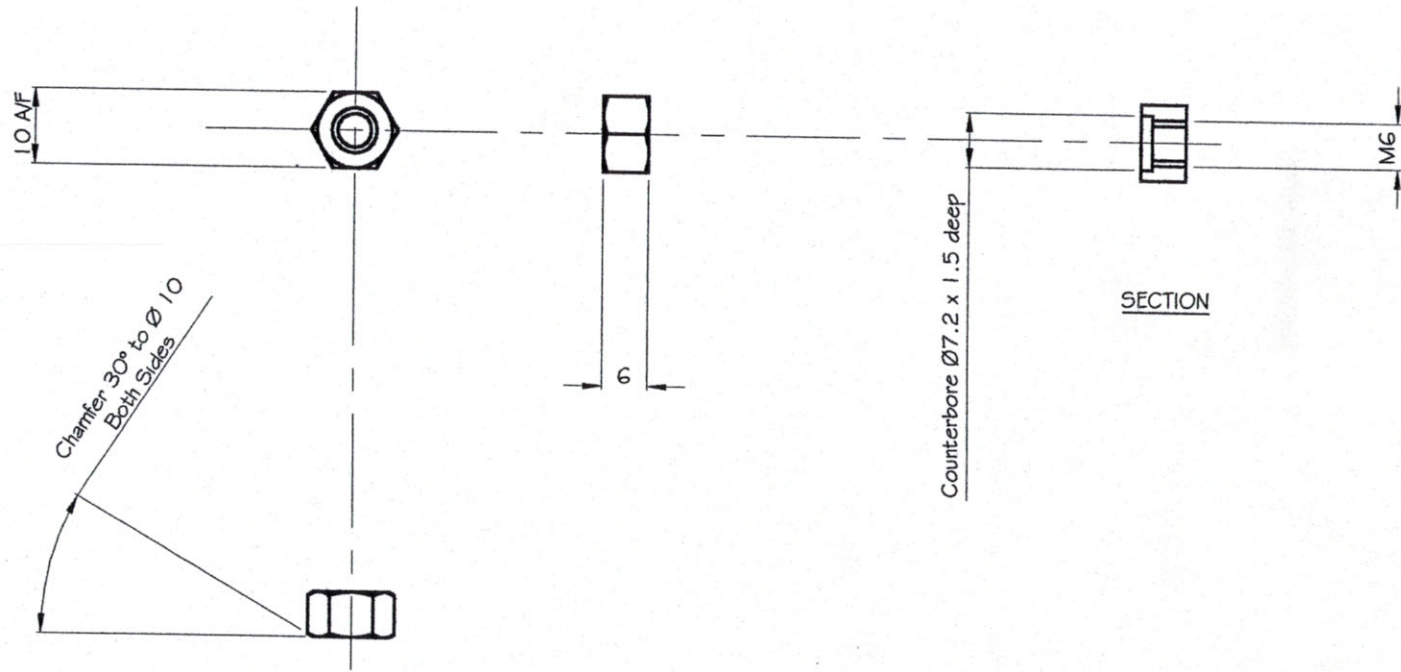
Material: Mild steel - 1 mm thick

Title: Mounting lug

Issue: 1

Part No. 137

Dimensions in Millimeters



Designed by: Mike Murphy

Drawn: Terry Lee

Third Angle Projection

© WREN Turbines MW54 - Turboprop

Material: Stainless Steel

Title: Turbine Nut

Issue: 1

Part No. 140

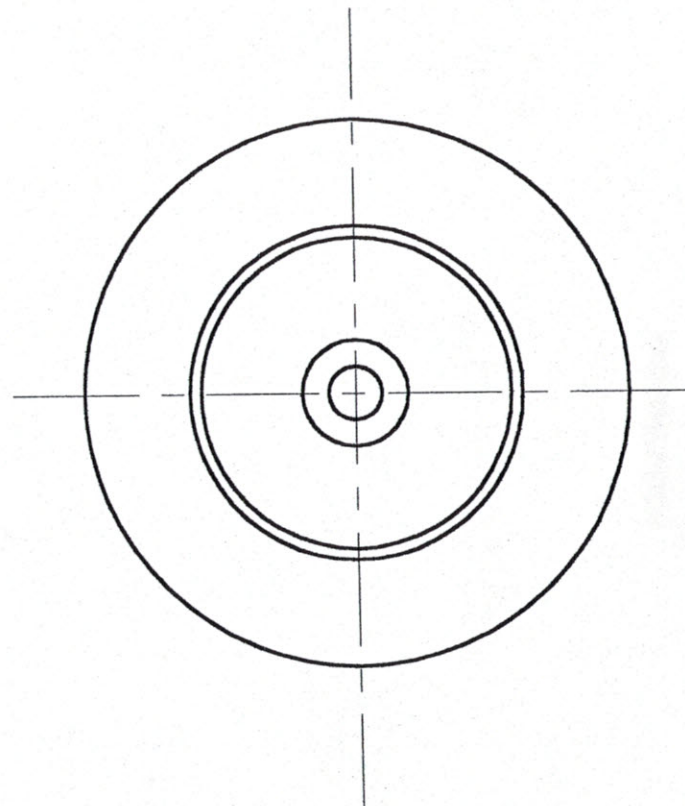
Dimensions in Millimeters

Leading edge face

Ø6.35 to suit shaft

9.474

10.7



Designed by: Mike Murphy

Drawn: Terry Lee

Third Angle Projection

© WREN Turbines

MW54 - Turboprop

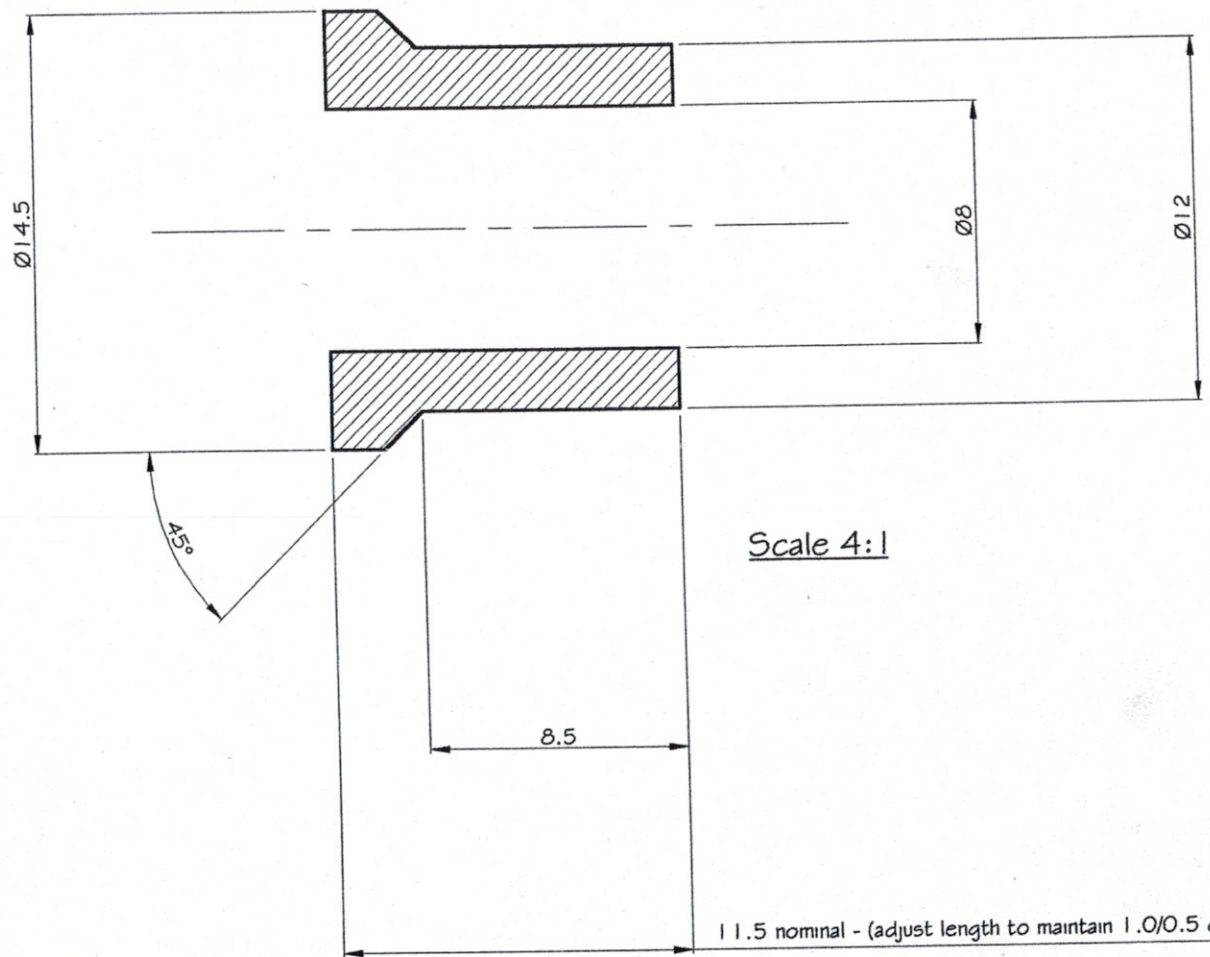
Material: Inconel

Title: Power Turbine

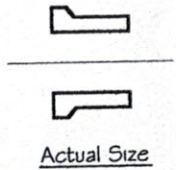
Issue: 1

Part No. 141

Dimensions in Millimeters



Scale 4:1



Designed by: Mike Murphy

Material: Steel - En24

Drawn: Terry Lee

Third Angle Projection

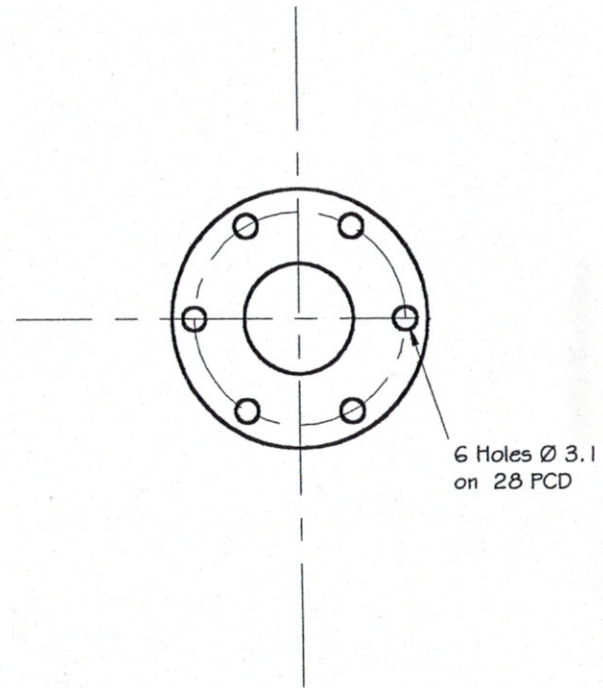
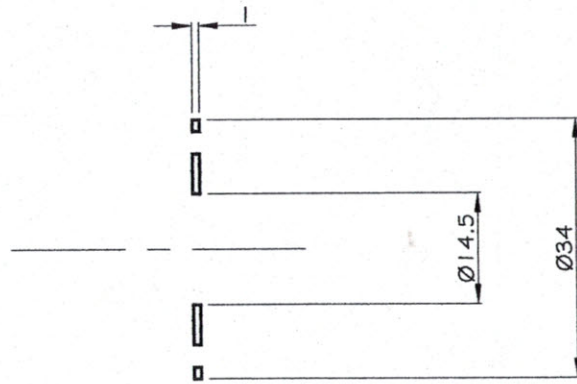
© WREN Turbines MW54 - Turboprop

Title: Collar

Issue: 1

Part No. 142

Dimensions in Millimeters



Designed by: Mike Murphy

Material: Stainless steel

Drawn: Terry Lee

Third Angle Projection

© WREN Turbines

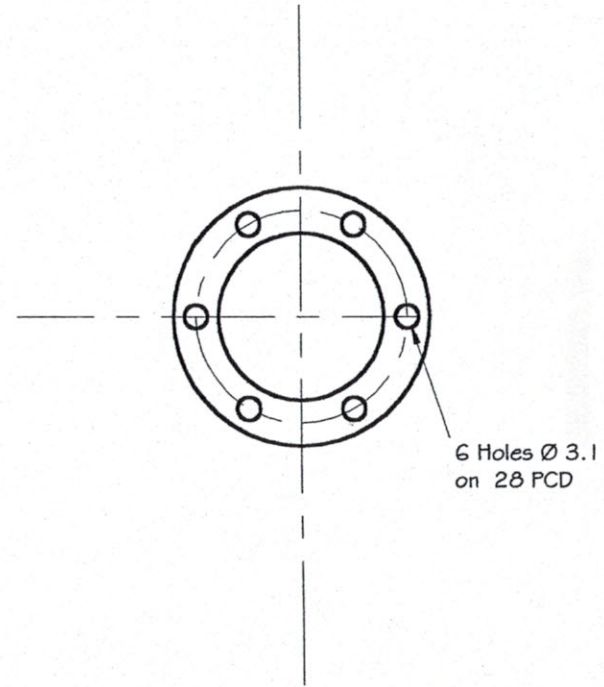
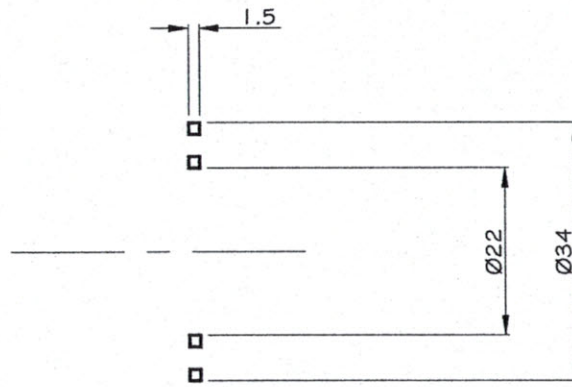
MW54 - Turboprop

Title: Clamp ring

Issue: 1

Part No. 143

Dimensions in Millimeters



Designed by: Mike Murphy

Material: High temperature gasket material

Drawn: Terry Lee

Third Angle Projection

© WREN Turbines

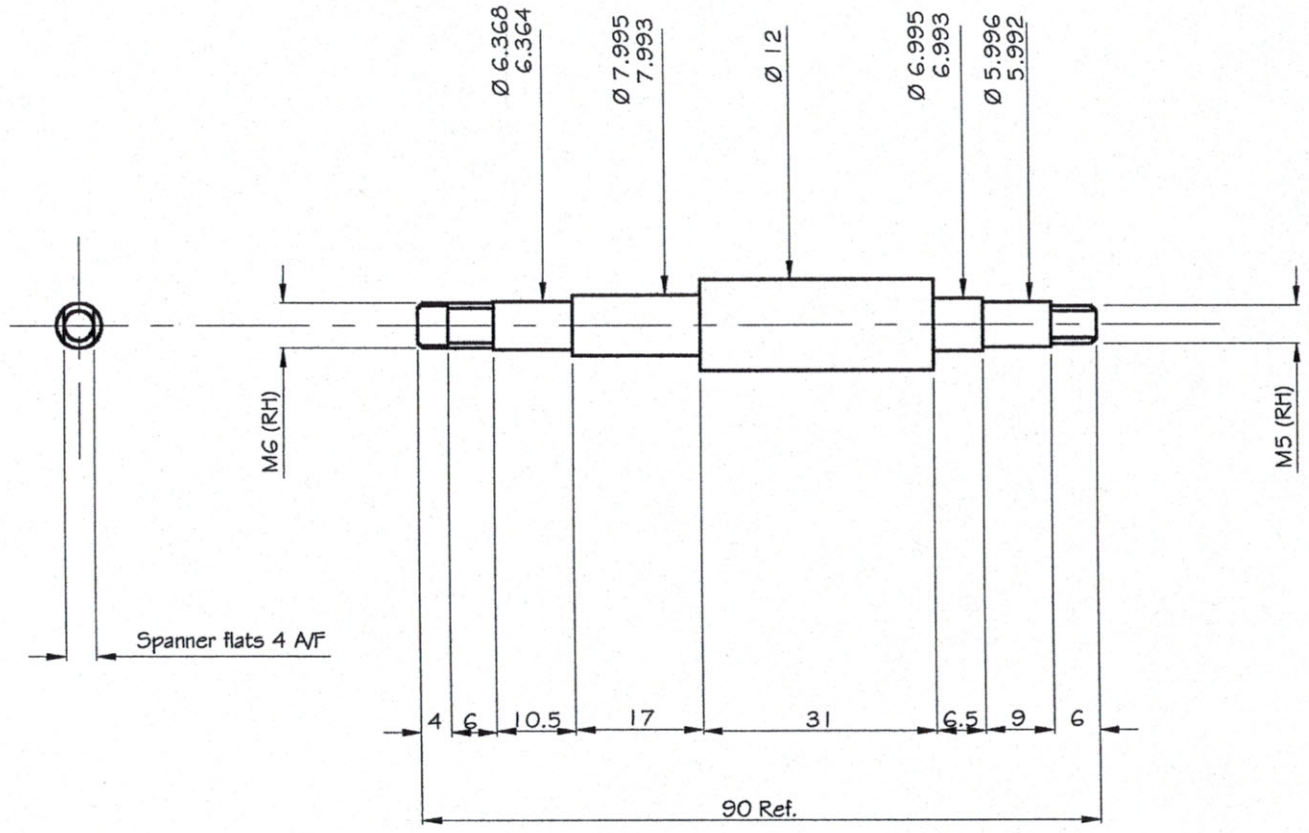
MW54 - Turboprop

Title: Gasket

Issue: 1

Part No. 144

Dimensions in Millimeters



Designed by: Mike Murphy

Material: Steel - En24

Drawn: Terry Lee

Third Angle Projection

© WREN Turbines

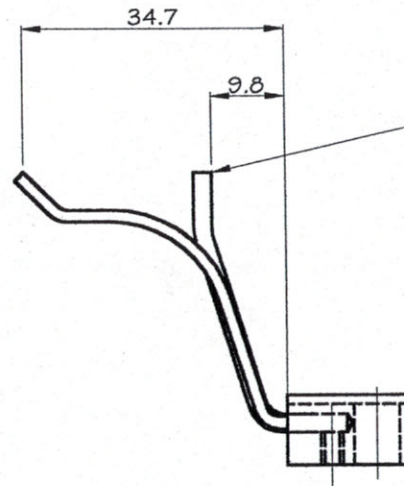
MW54 - Turboprop

Title: Turbine shaft

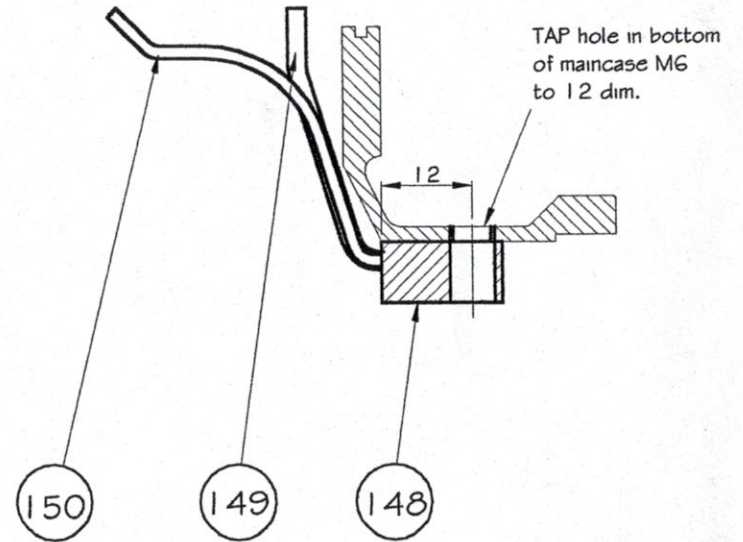
Issue: 1

Part No. 146

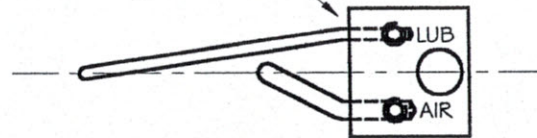
Dimensions in Millimeters



Position of pipe ends may be adjusted to suit tunnel by slight bending on assy.



Silver solder pipes into manifold



Designed by: Mike Murphy

Material: As details

Drawn: Terry Lee

Third Angle Projection

© WREN Turbines

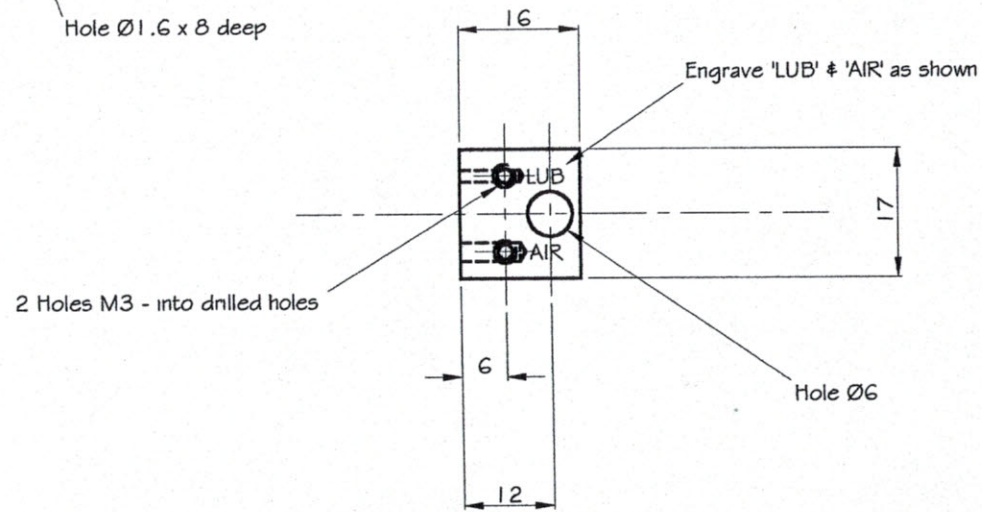
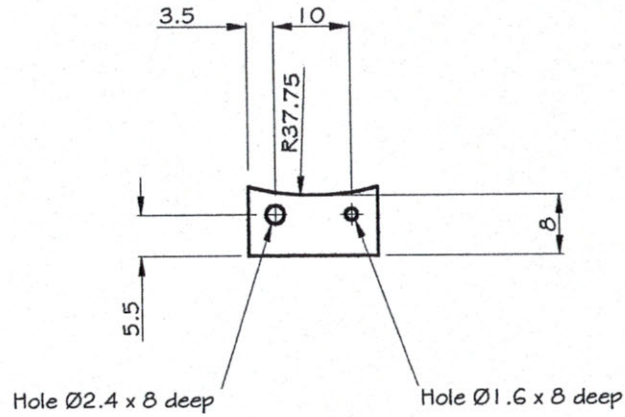
MW54 - Turboprop

Title: Shaft lube Sub Assy

Issue: 1

Part No. 147

Dimensions in Millimeters



Designed by: Mike Murphy

Material: Brass

Drawn: Terry Lee

Third Angle Projection

© WREN Turbines

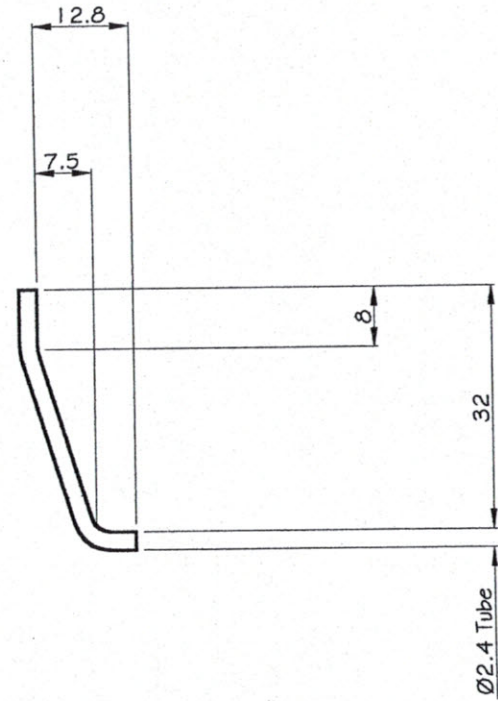
MW54 - Turboprop

Title: Manifold

Issue: 1

Part No. 148

Dimensions in Millimeters



Designed by: Mike Murphy

Material: Brass tube

Drawn: Terry Lee

Third Angle Projection

© WREN Turbines

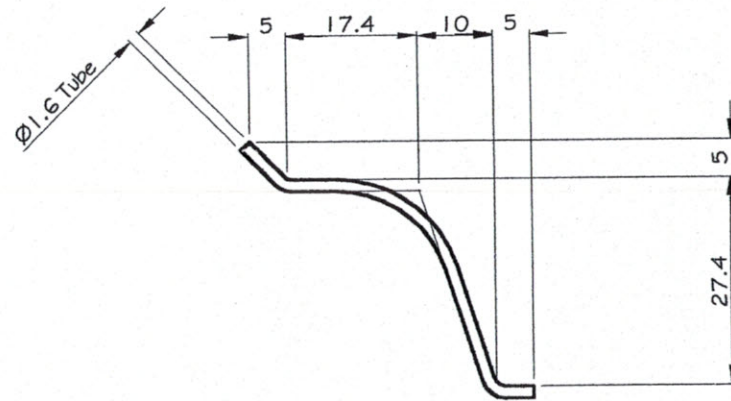
MW54 - Turboprop

Title: Air Pipe

Issue: 1

Part No. 149

Dimensions in Millimeters



Designed by: Mike Murphy

Drawn: Terry Lee

Third Angle Projection

© WREN Turbines

MW54 - Turboprop

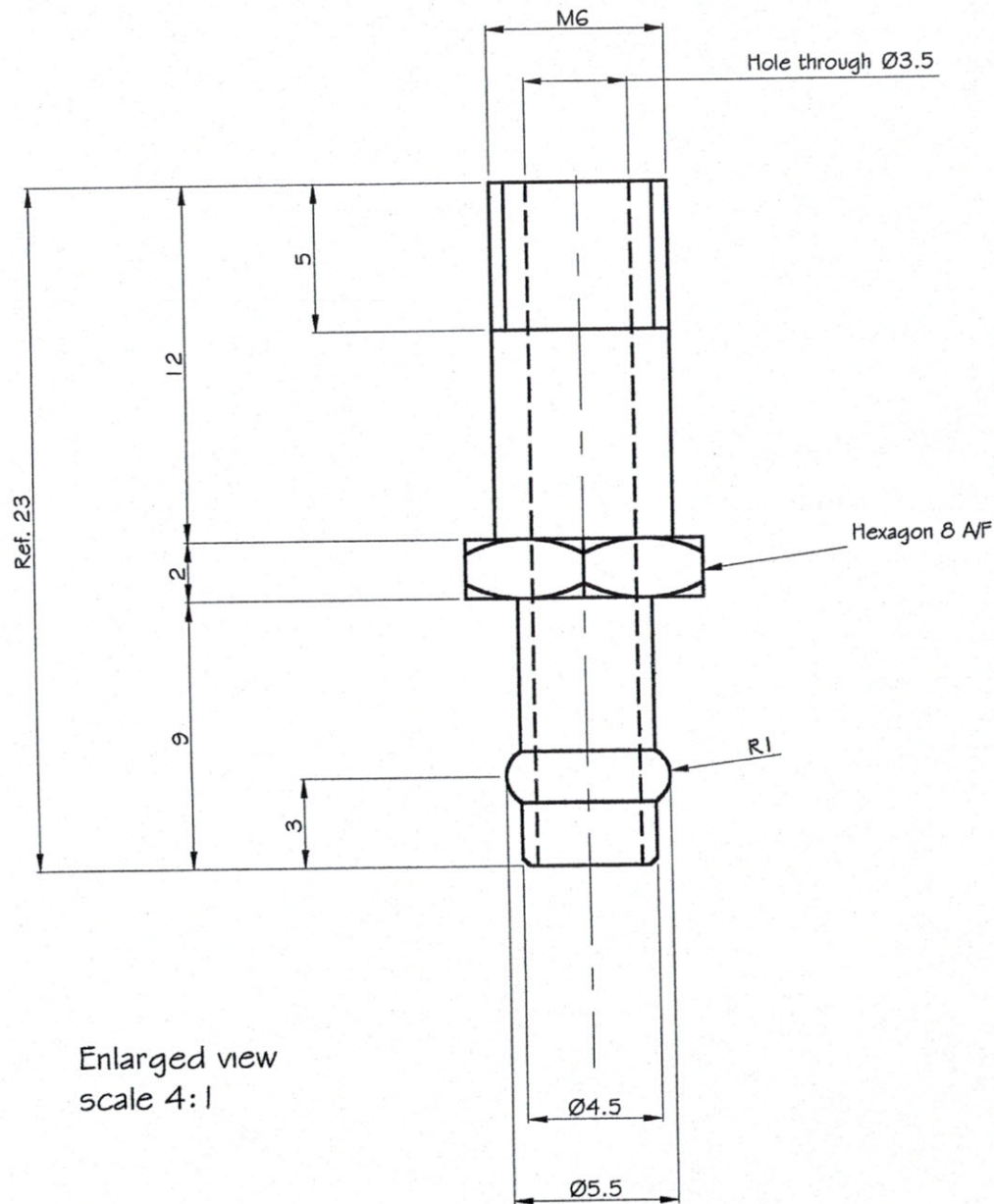
Material: Brass tube

Title: Lube Pipe

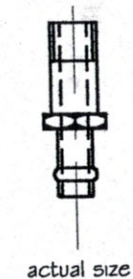
Issue: 1

Part No. 150

Dimensions in Millimeters



Enlarged view
scale 4:1



Designed by: Mike Murphy

Drawn: Terry Lee

Third Angle Projection

© WREN Turbines

MW54 - Turboprop

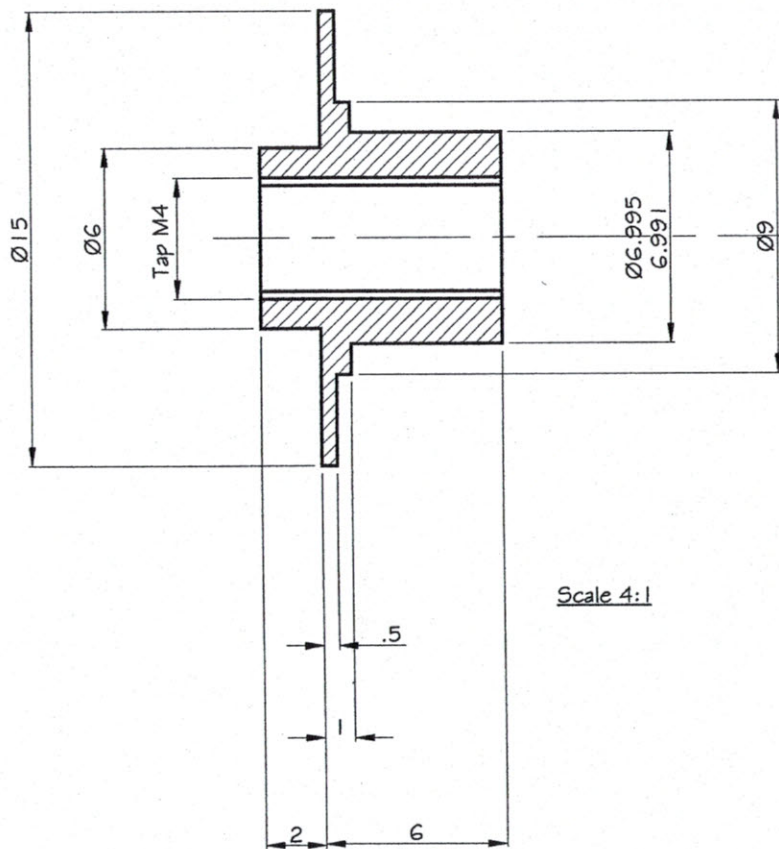
Material: Steel

Title: Oil drain fitting

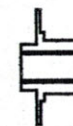
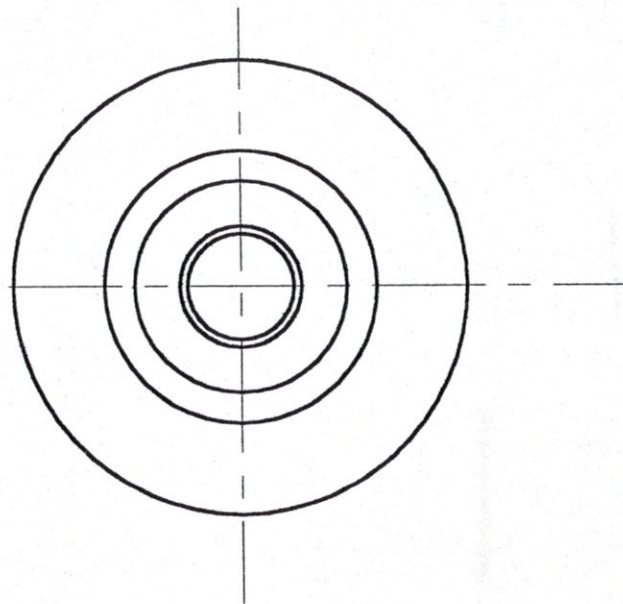
Issue: 1

Part No. 151

Dimensions in Millimeters



Scale 4:1



Actual Size

Designed by: Mike Murphy

Material: Steel - En24

Drawn: Terry Lee

Third Angle Projection

© WREN Turbines

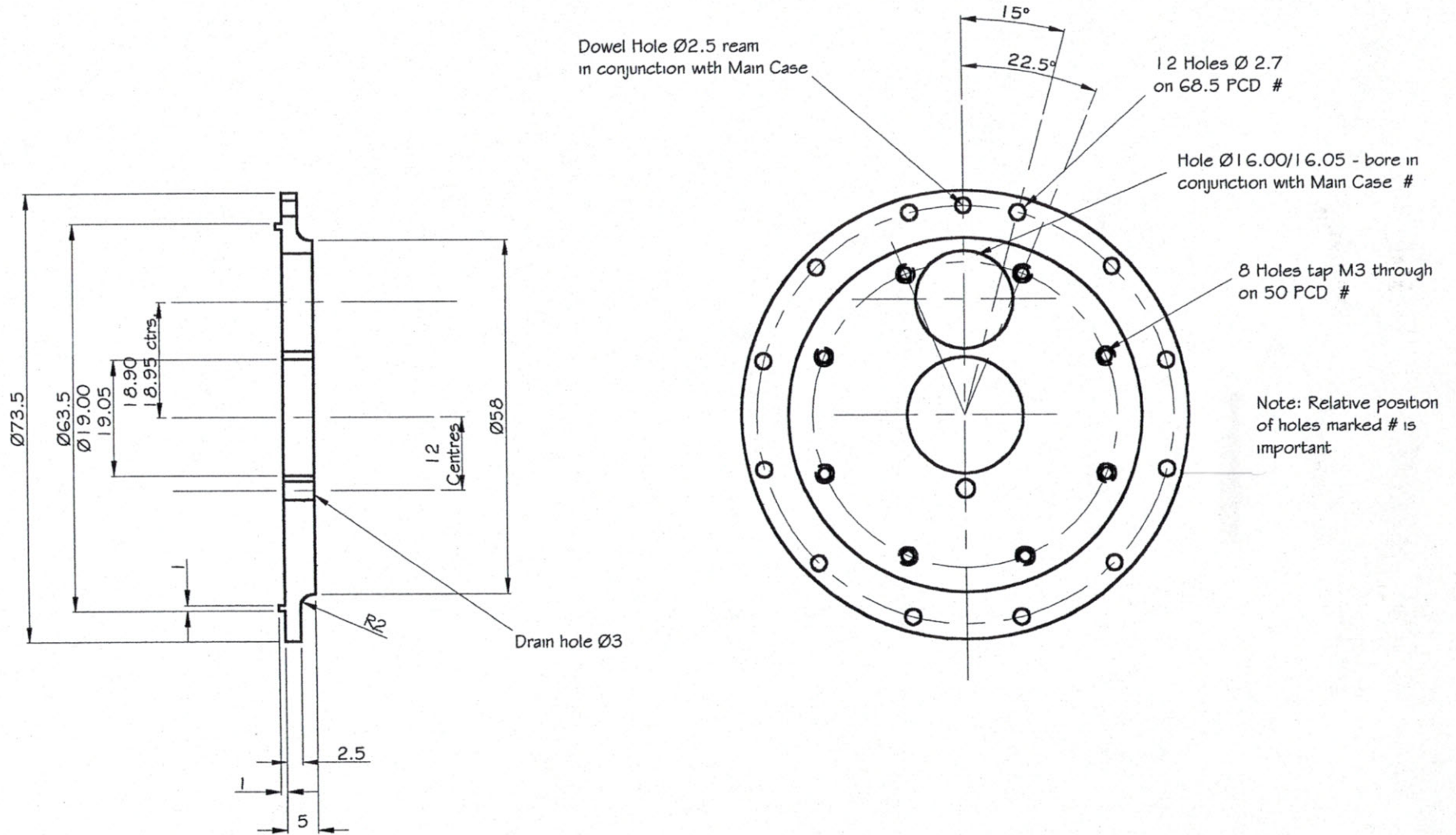
MW54 - Turboprop

Title: Bearing Support spigot

Issue: 1

Part No. 156

Dimensions in Millimeters



Designed by: Mike Murphy

Material: Aluminium alloy

Drawn: Terry Lee

Third Angle Projection

© WREN Turbines

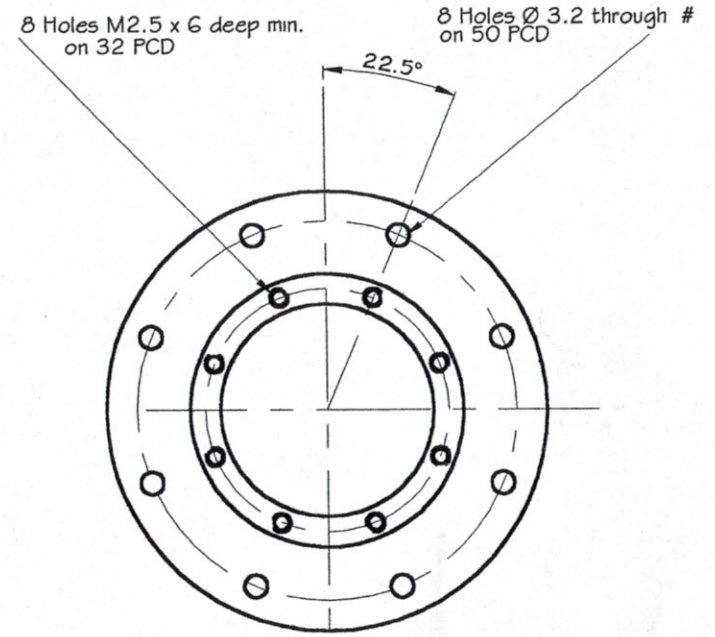
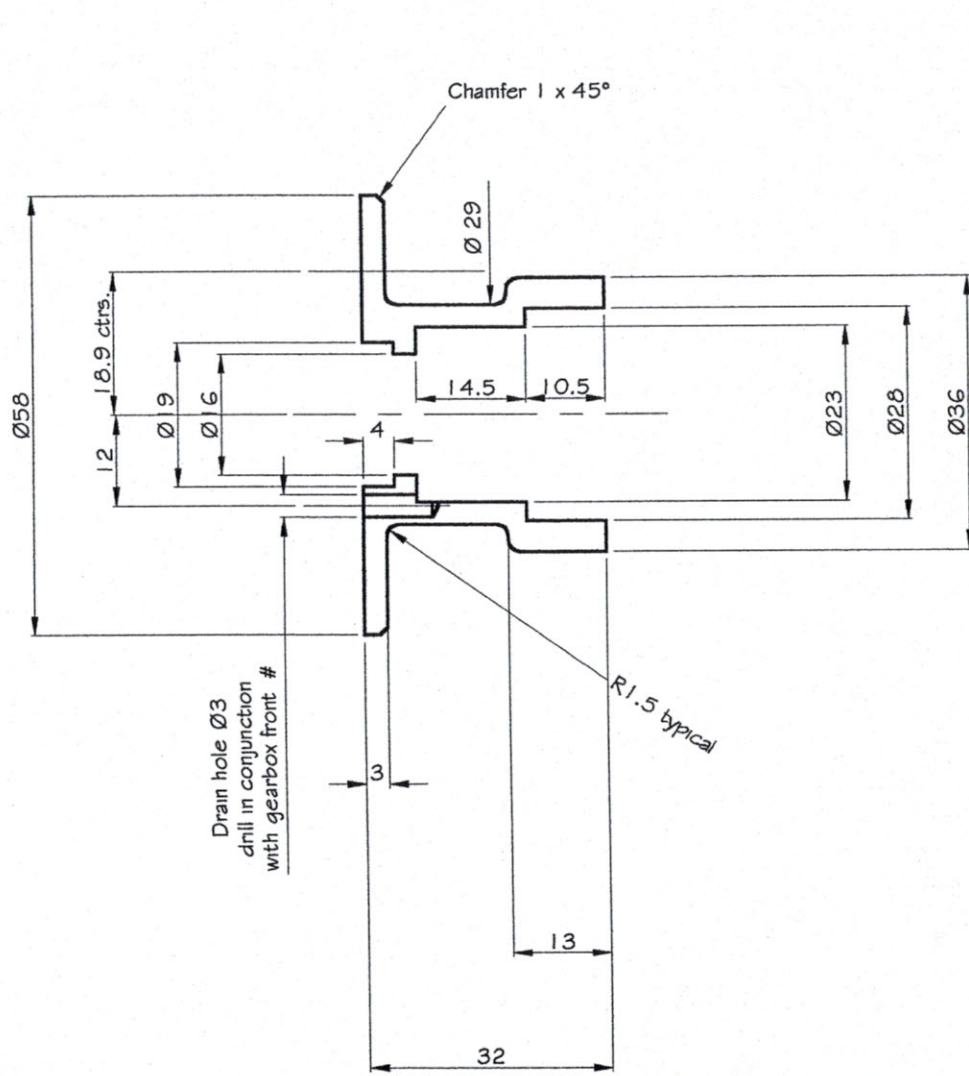
MW54 - Turboprop

Title: Gearbox front

Issue: 1

Part No. 157

Dimensions in Millimeters



Designed by: Mike Murphy

Material: Aluminium

Drawn: Terry Lee

Third Angle Projection

© WREN Turbines

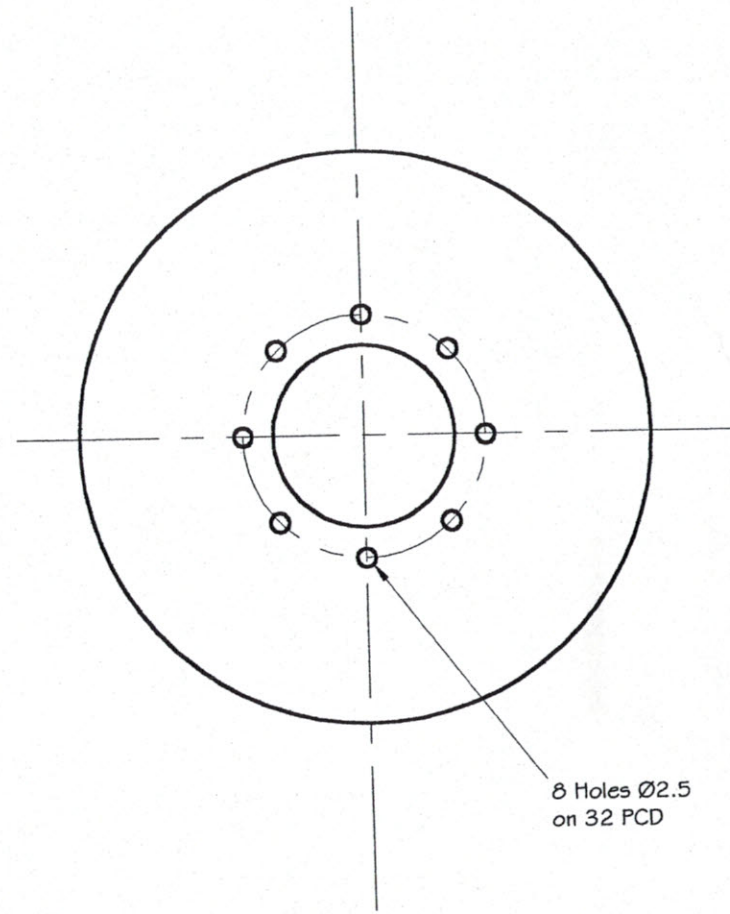
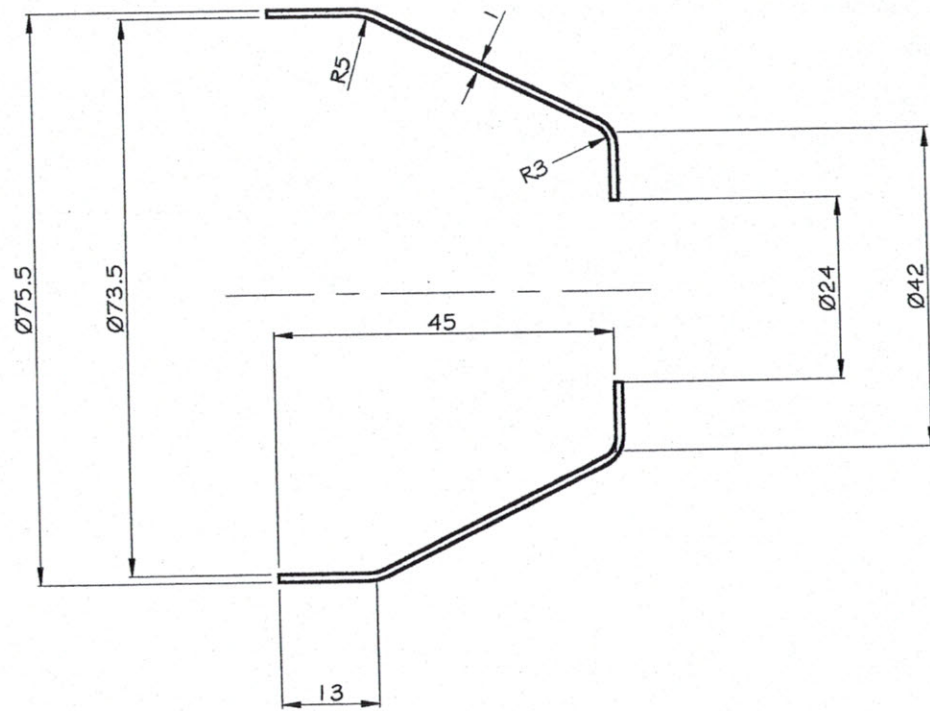
MW54 - Turboprop

Title: Prop shaft Housing

Issue: 1

Part No. 158

Dimensions in Millimeters



8 Holes $\varnothing 2.5$
on 32 PCD

NOTE

This item is for decorative purposes only.
Method of manufacture to suit builder:
i.e spun, machined from solid etc.
Shape may be modified if required.

Designed by: Mike Murphy

Drawn: Terry Lee

Third Angle Projection

© WREN Turbines

MW54 - Turboprop

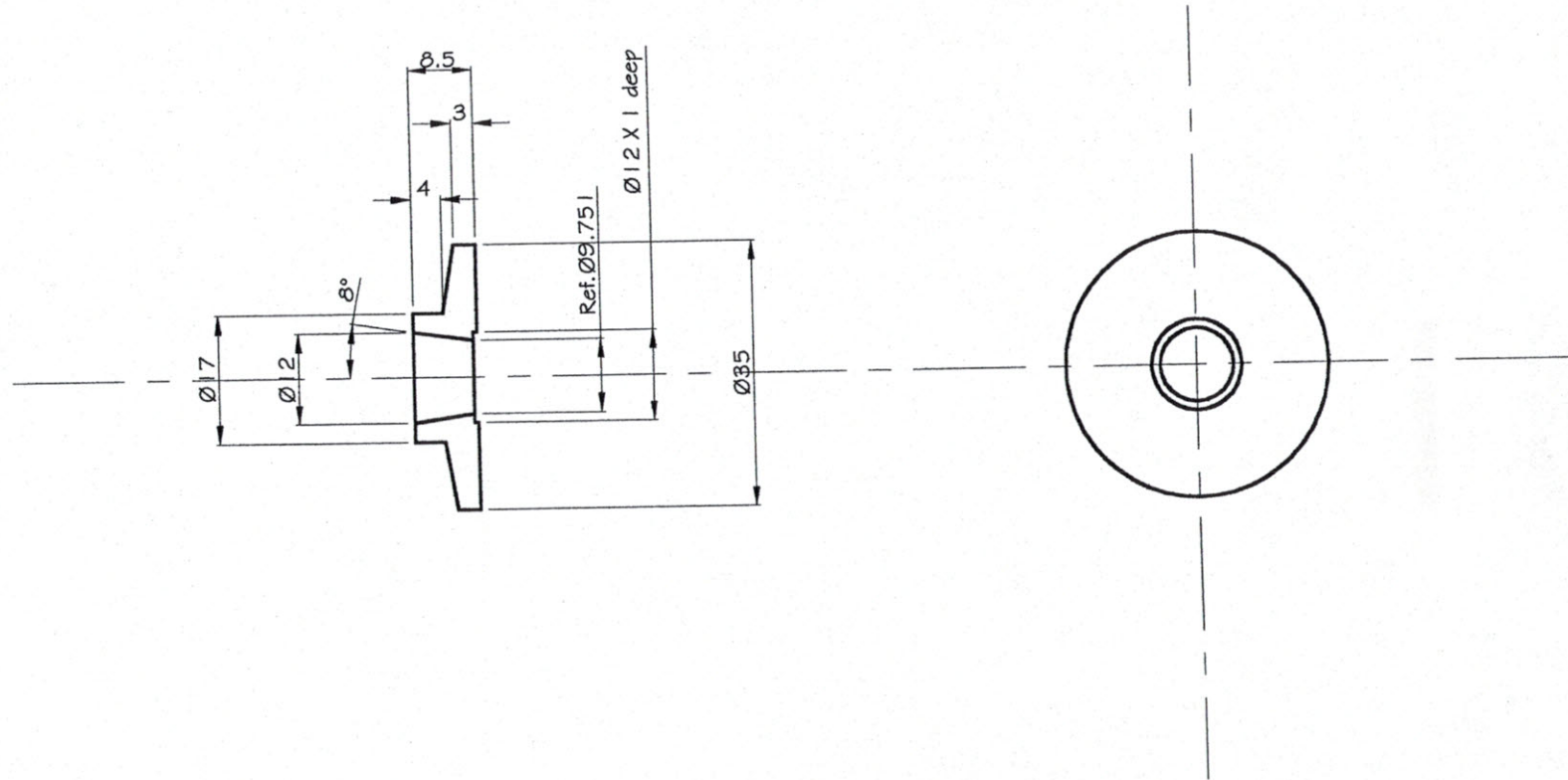
Material: Aluminium Alloy

Title: Cowl

Issue: 1

Part No. 159

Dimensions in Millimeters



Designed by: Mike Murphy

Drawn: Terry Lee

Third Angle Projection

© WREN Turbines MW54 - Turboprop

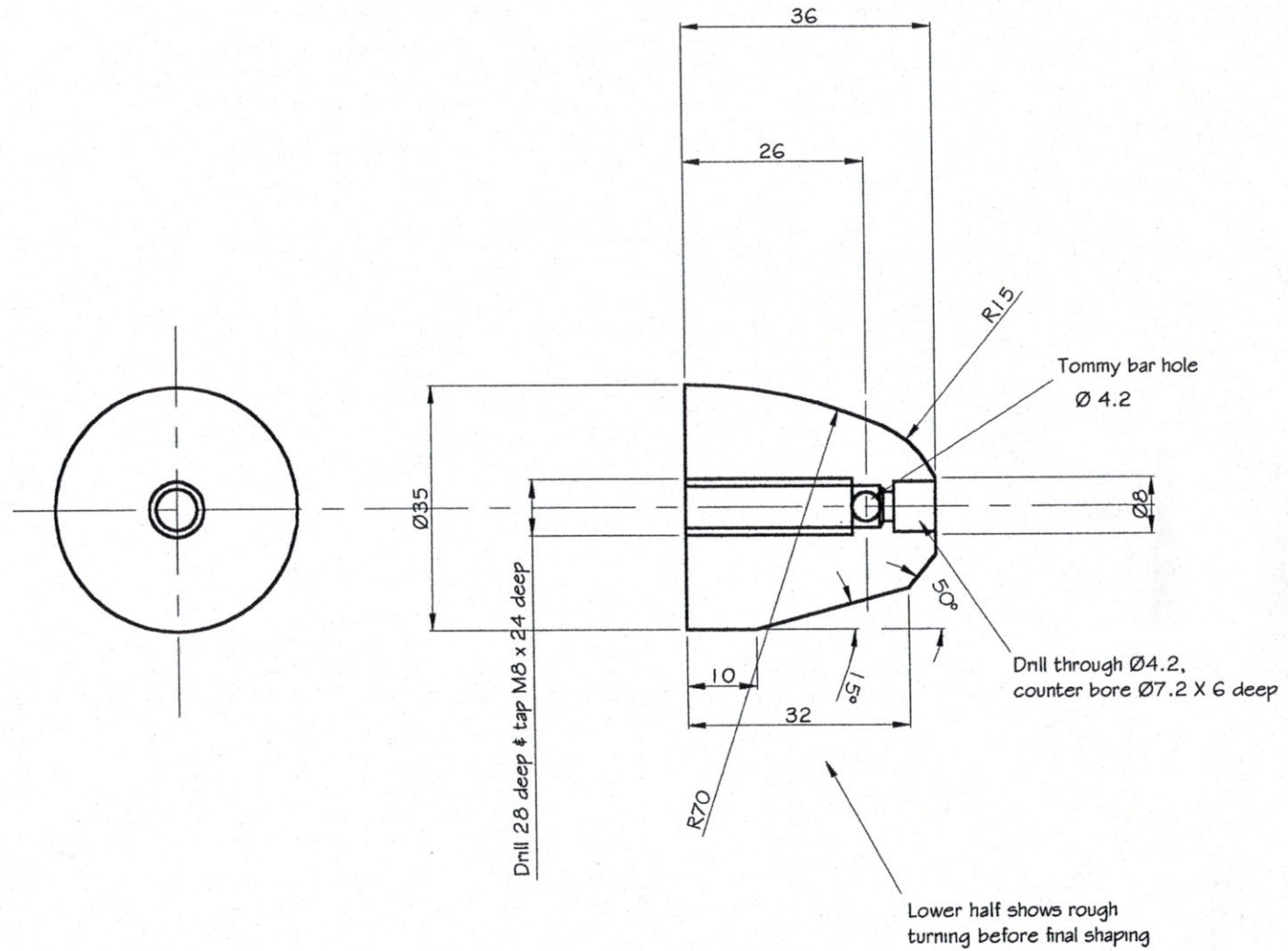
Material: Steel

Title: Prop Driver

Issue: 1

Part No. 160

Dimensions in Millimeters



Designed by: Mike Murphy

Material: Aluminium alloy

Drawn: Terry Lee

Third Angle Projection

© WREN Turbines

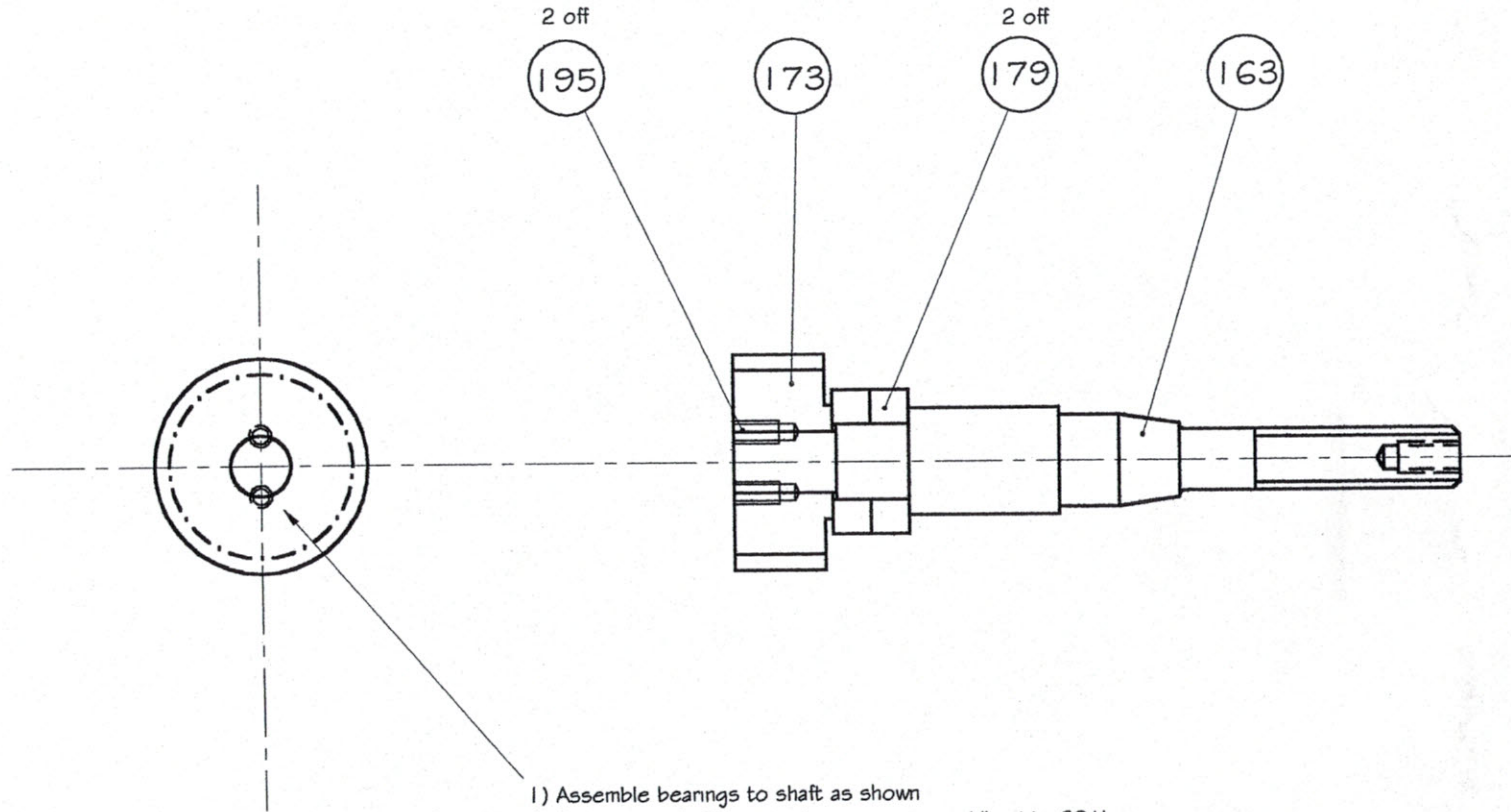
MW54 - Turboprop

Title: Spinner nut

Issue: 1

Part No. 161

Dimensions in Millimeters



- 1) Assemble bearings to shaft as shown
- 2) Fit gear to shaft using retaining compound 'Loctite 601'
- 3) Drill 8 deep & tap M3 X 6 deep (on joint between shaft & gear)
- 4) Fit 2 grub screws M3 X 6 long until they 'bottom'

Designed by: Mike Murphy

Material: As details

Drawn: Terry Lee

Third Angle Projection

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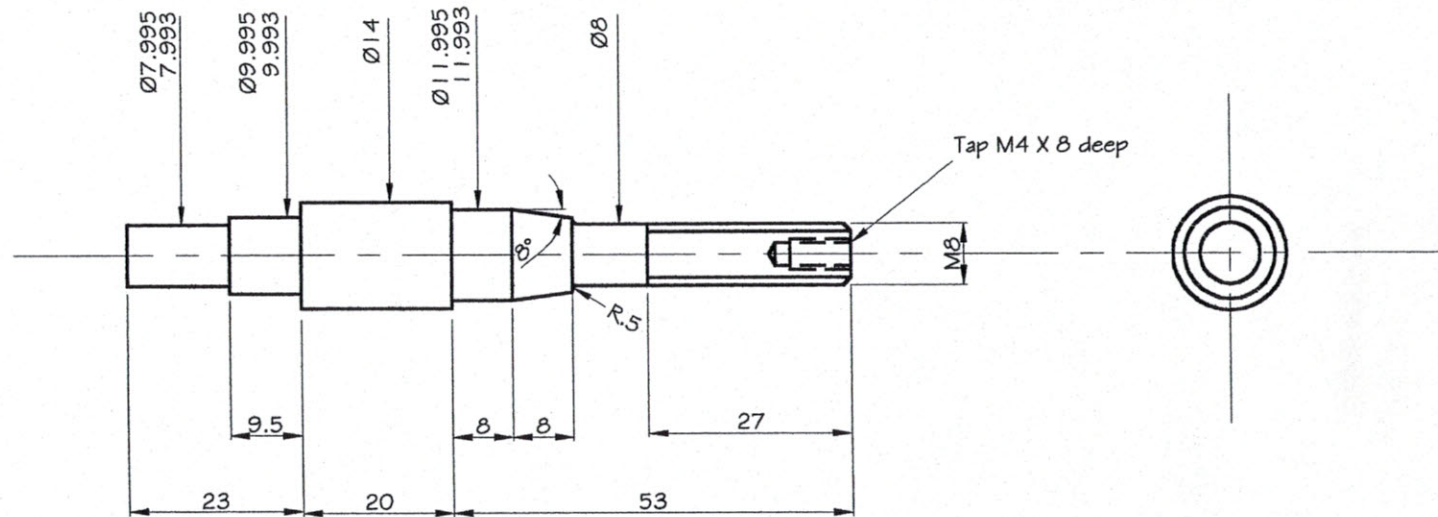
MW54 - Turboprop

Title: Prop shaft sub assy

Issue: 1

Part No. 162

Dimensions in Millimeters



Designed by: Mike Murphy

Material: Steel - En24

Drawn: Terry Lee

Third Angle Projection

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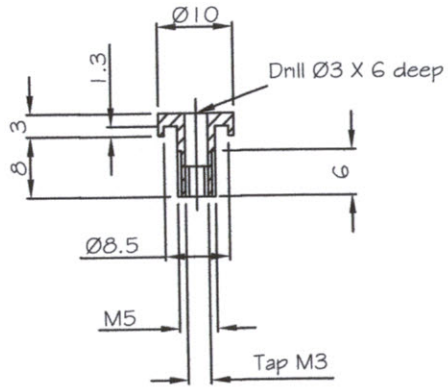
MW54 - Turboprop

Title: Prop Shaft

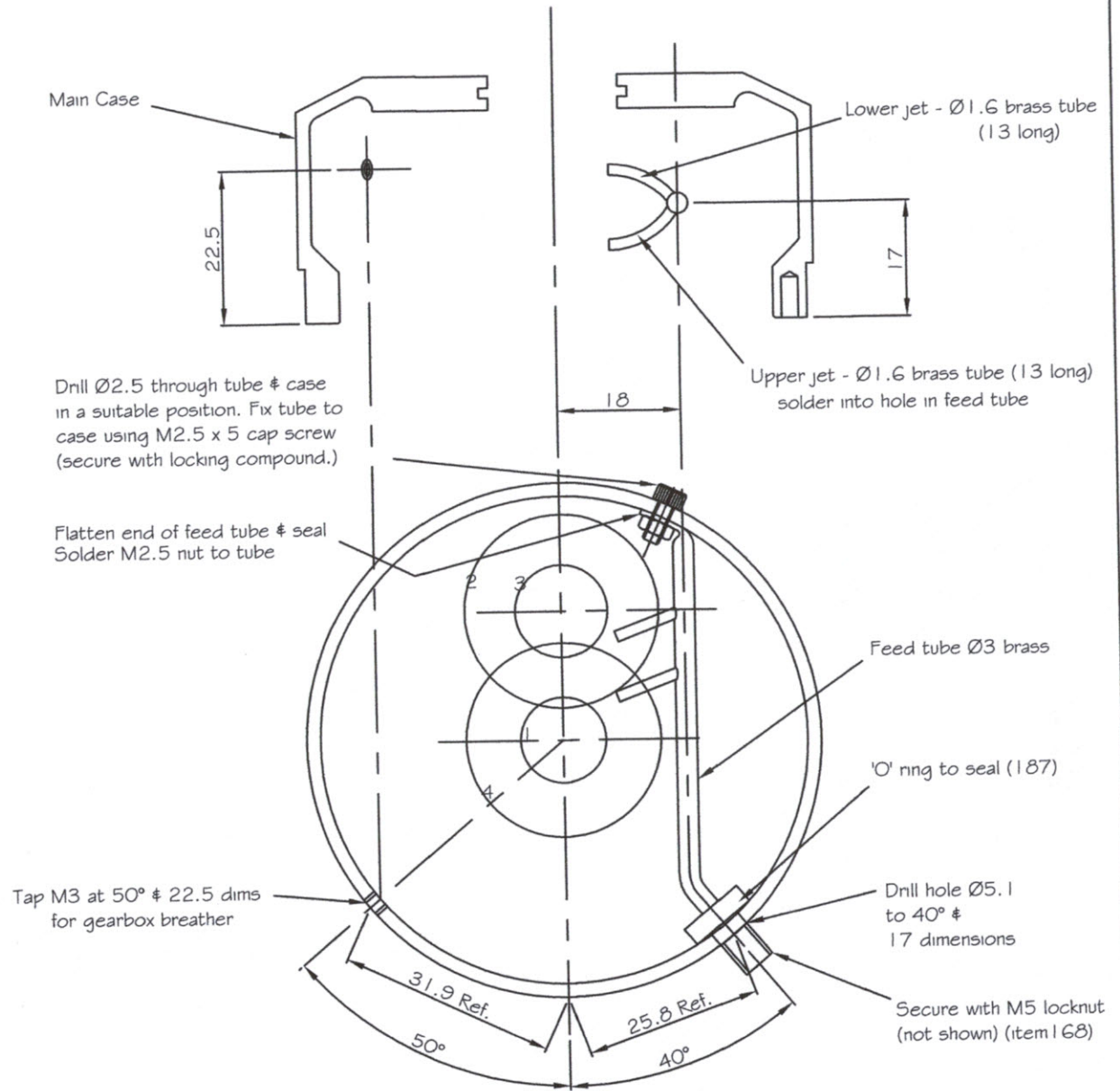
Issue: 1

Part No. 163

Dimensions in Millimeters



Pipe end fitting - Mtl: brass



Designed by: Mike Murphy

Drawn: Terry Lee

Third Angle Projection

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MW54 - Turboprop

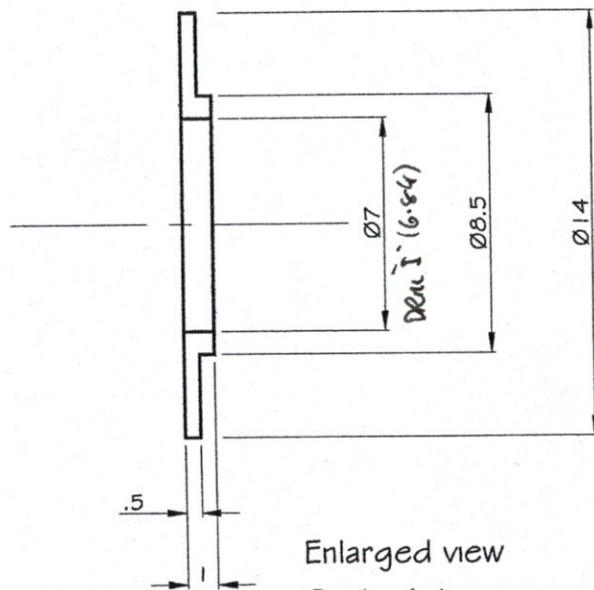
Material: As details

Title: Gear lubrication system

Issue: 1

Part No. 164

Dimensions in Millimeters

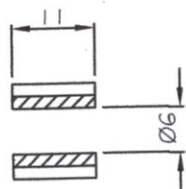


Enlarged view
Scale 4:1

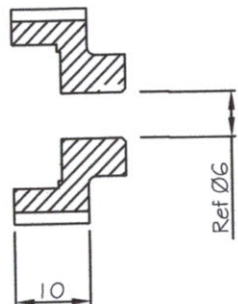


Designed by: Mike Murphy	Material: Steel					
Drawn: Terry Lee	Third Angle Projection	© WREN Turbines	MW54 - Turboprop	Title: Oil Thrower	Issue: 1	Part No. 166

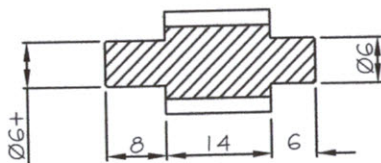
Dimensions in Millimeters



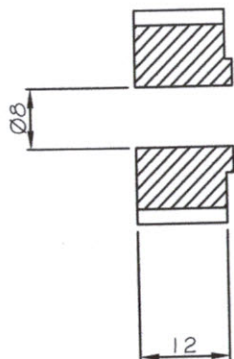
Gear 1
13 teeth
Item 170 - (Part No PHS 0.8-13 RH)



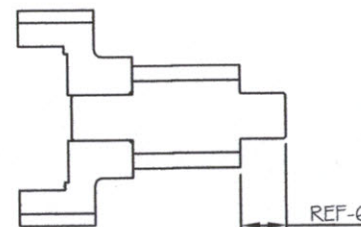
Gear 2
32 teeth
Item 171 (Make from Part No SH 0.8-32 LH)



Gear 3
11 teeth
Item 172 - (Special gear, but can be made from Part No SH 1-11 LH)



Gear 4
25 teeth
Item 173 (Part No SH 1-25 RH)



Gear 3 pressed into gear 2

Designed by: Mike Murphy

Material: As details

Drawn: Terry Lee

Third Angle Projection

© WREN Turbines

MW54 - Turboprop

Title: Gear set

Issue: 1

Part No. 169

