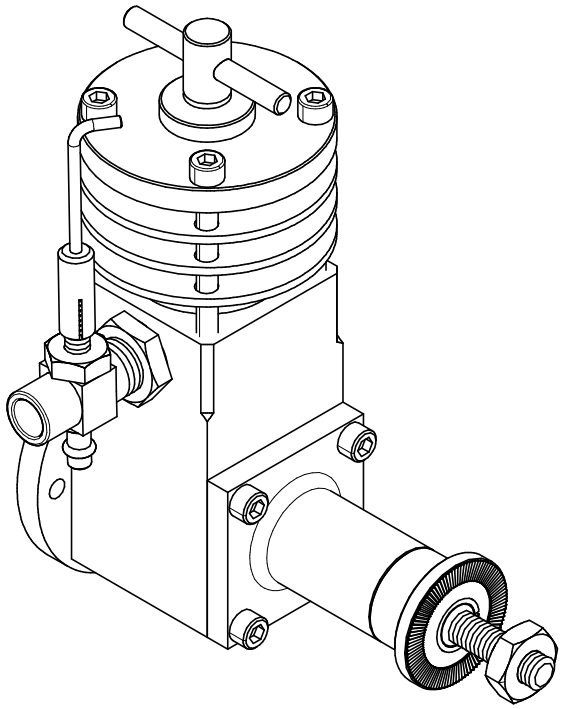
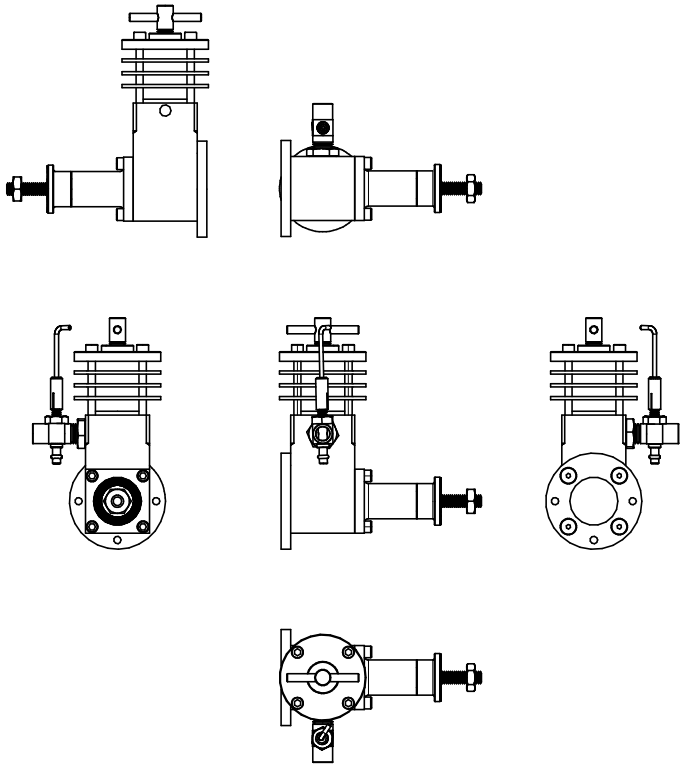
RevNo	Revision note	Date	Signature	Checked

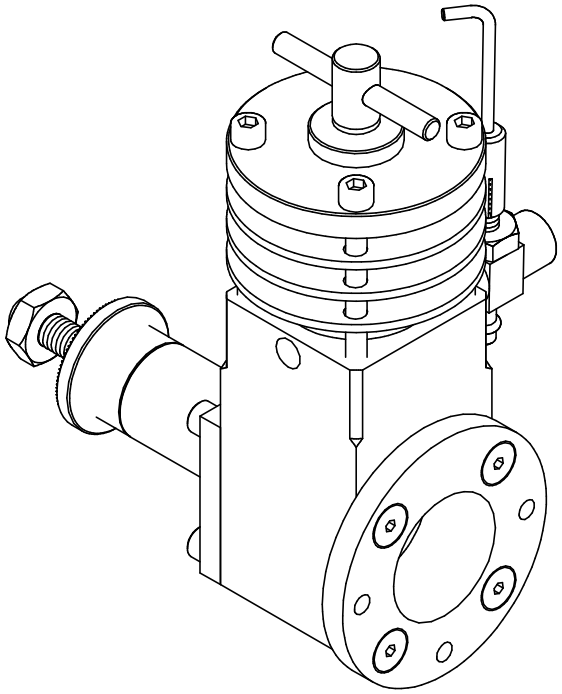


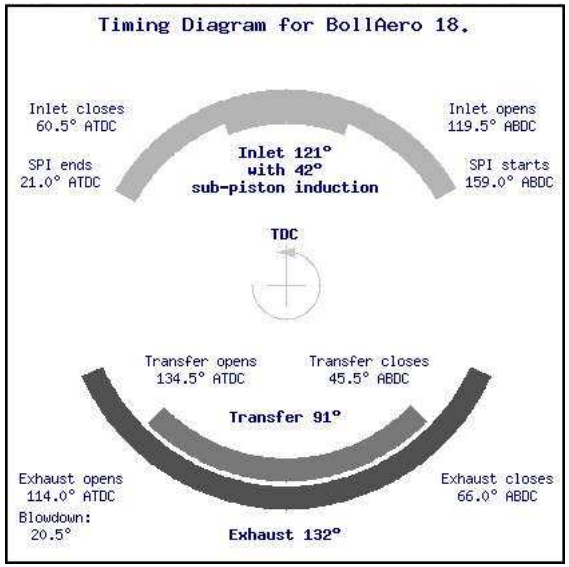
BollAero 18

Designed by Chris Boll (UK)

Bore: **0.500 (12.7 mm)**
Stroke: **0.560 (14.22 mm)**
Displacement: **0.110 cuin (1.8cc)**





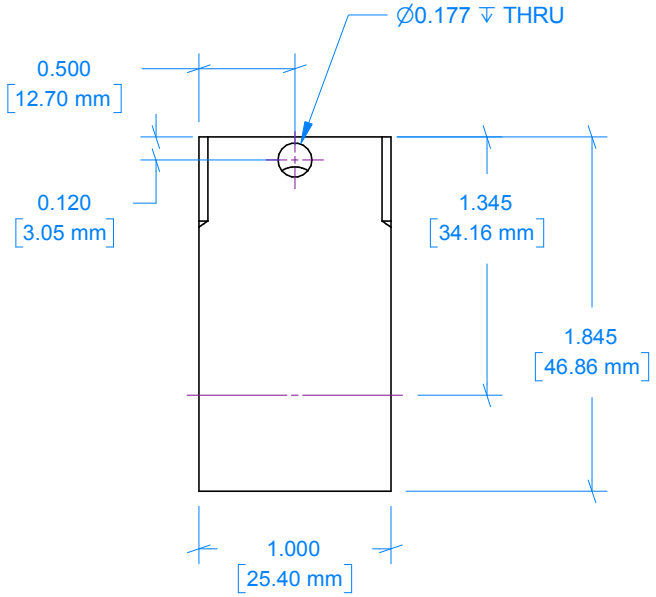


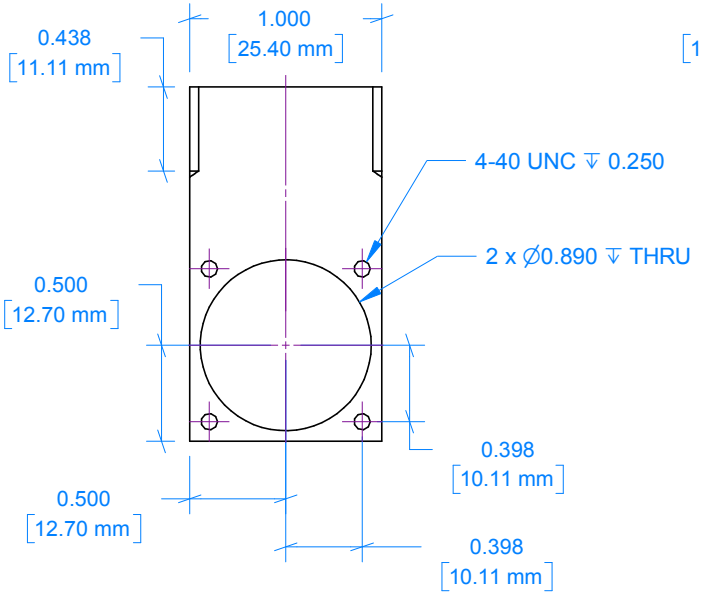
Note: The 1-1 Crankcase is symmetrical and may be reversed to place the venturi and needle valve on the side that is most convenient for the operator.

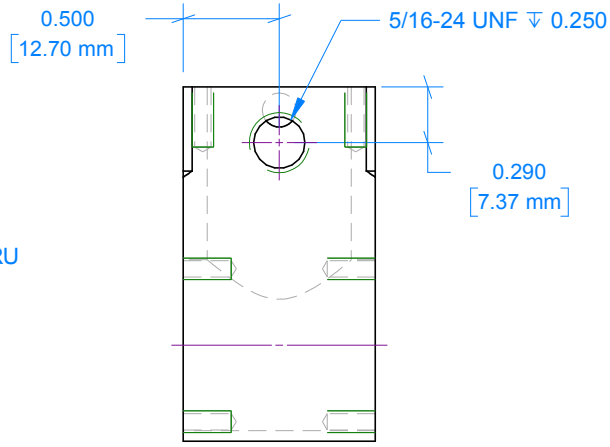
BollAero 18 - 3 Views

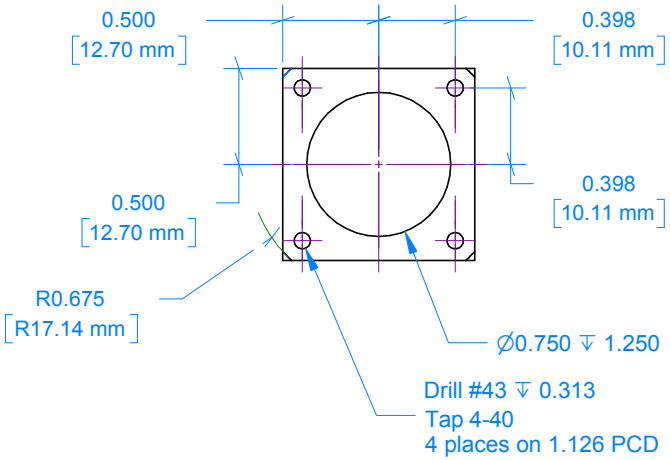
Drawn by	CAD by		Edition	Sheet
Chris Boll	Ron Chernich 2009-10-27		1	9

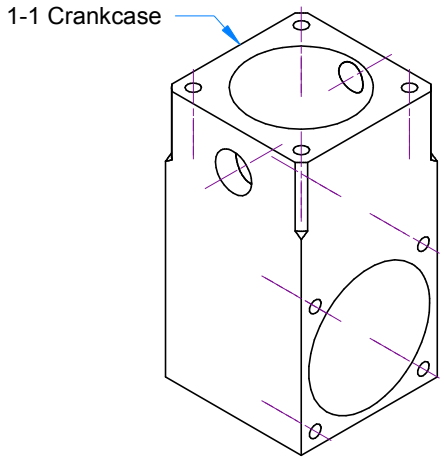
RevNo	Revision note	Date	Signature	Checked
2	Add deck height dimension	2009-10-27	RC	











Fastner options

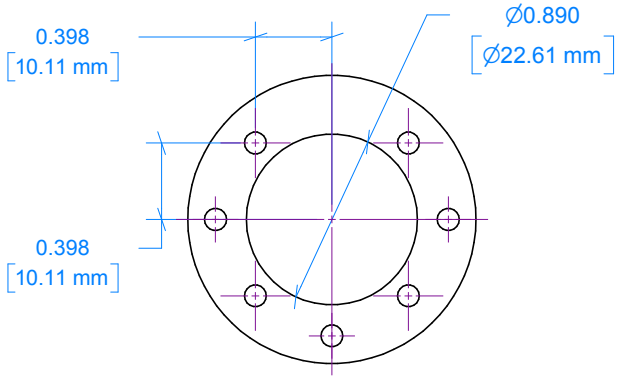
6BA: Drill #42 to tap, #33 to clear.
4-40: Drill #43 to tap, #33 to clear
3.0Mx0.5: Drill 2.5mm tap, 3 mm to clear.

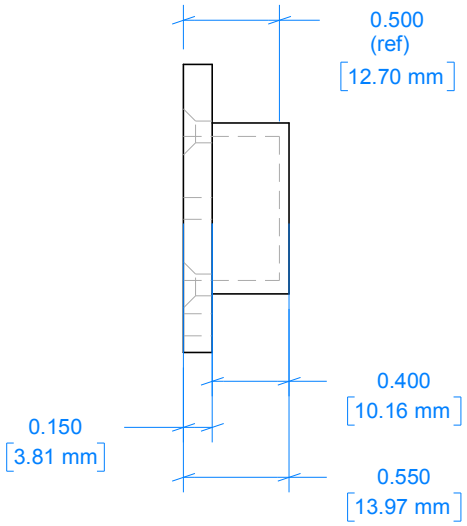
1-1 Crankcase
1.0 sq aluminium bar

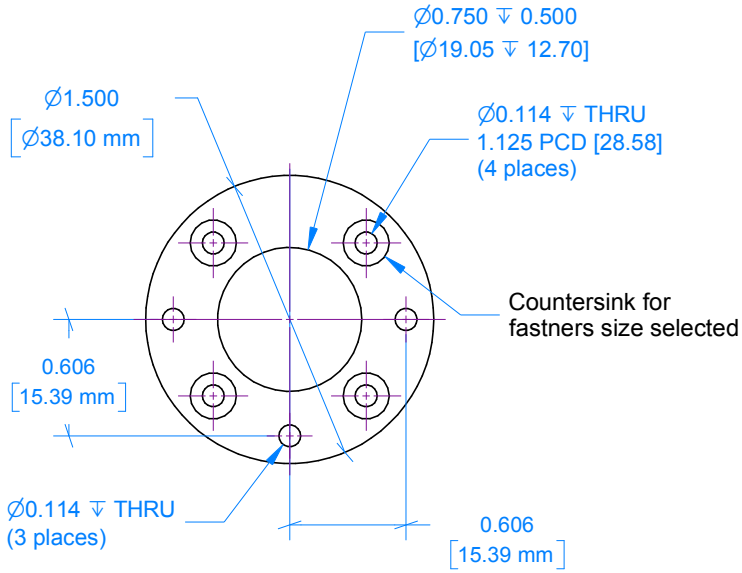
BOLL-AERO 18 - Crankcase

Drawn by	CAD by		Edition	Sheet
Chris Boll	Ron Chernich 2009-08-17		2	1

RevNo	Revision note	Date	Signature	Checked
2	Correct Attachment hole spacing and reposition hole callout.	2009-10-19	Ron C.	

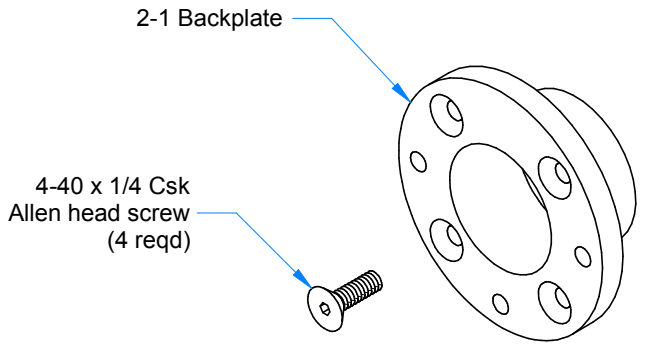






2-1 Backplate

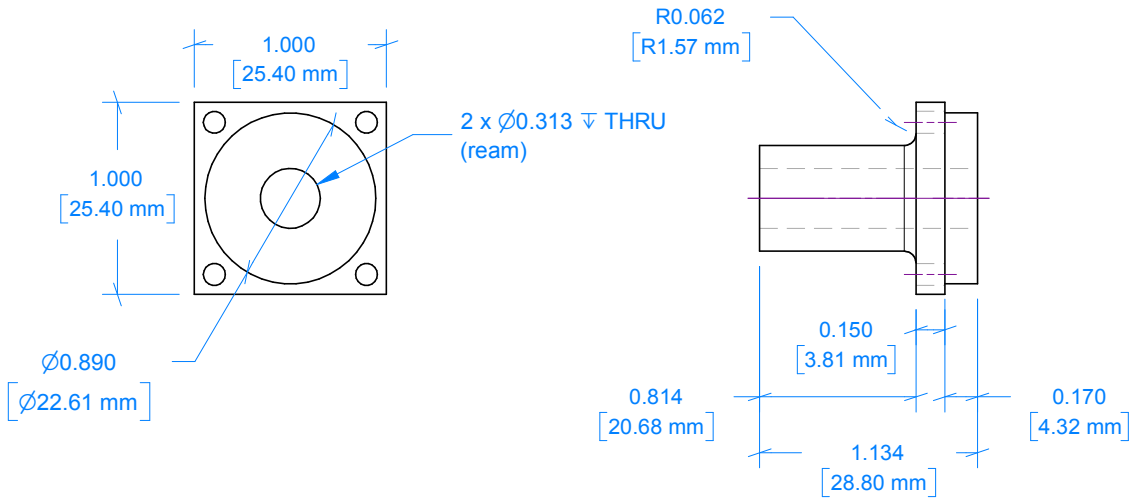
Ø1-1/2 aluminium bar



BOLL-AERO 18 - Backplate

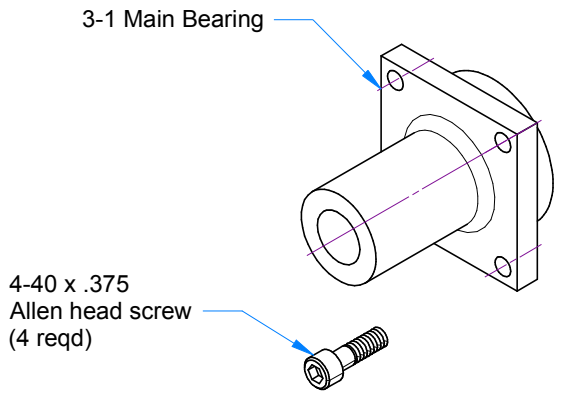
Drawn by	CAD by		Edition	Sheet
Chris Boll	Ron Chernich 2009-08-17		2	2

RevNo	Revision note	Date	Signature	Checked
2	Add suggested radius dimension for turnmed journal to flange transition.	2009-10-19	Ron C	



3-1 Main Bearing Housing

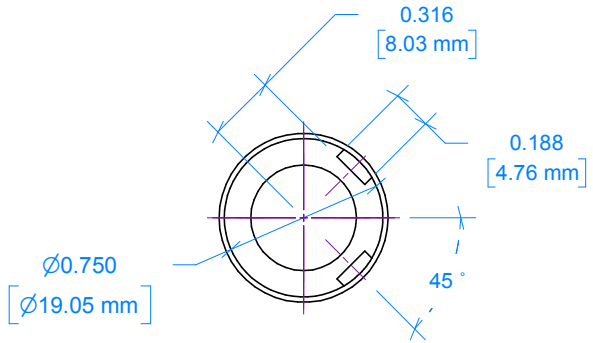
1.0 sq aluminium bar



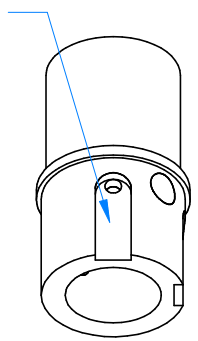
BOLL-AERO 18 - Main Bearing

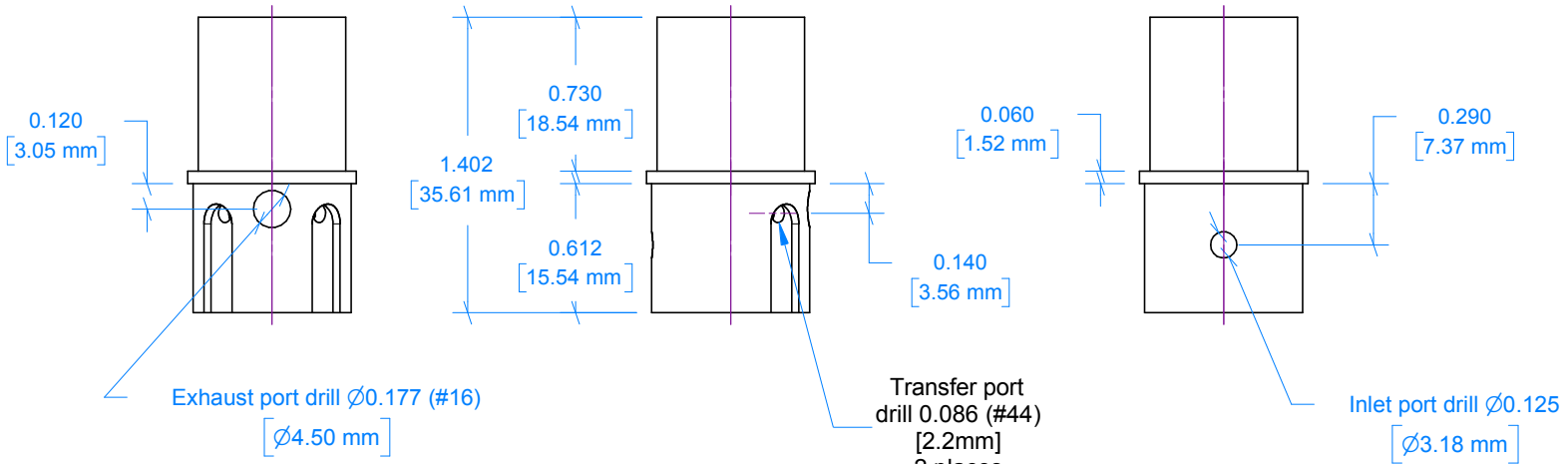
Drawn by	CAD by		Edition	Sheet
Chris Boll	Ron Chernich 2009-08-17		2	3

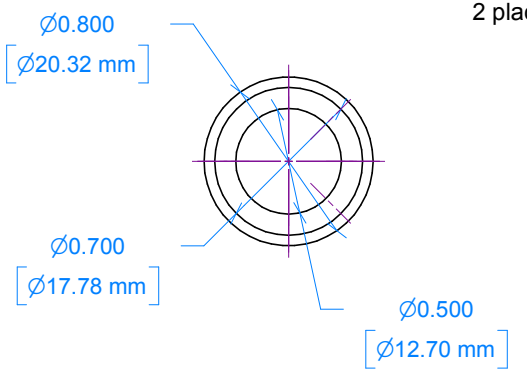
RevNo	Revision note	Date	Signature	Checked
2	Correct the note regarding milling depth of transfer passage.	2009-10-19	Ron C	



Mill Transfer passages 0.059" deep [1.5mm] using a Ø3/16" slot-drill [5 mm] so top of port reaches the top of the transfer port.





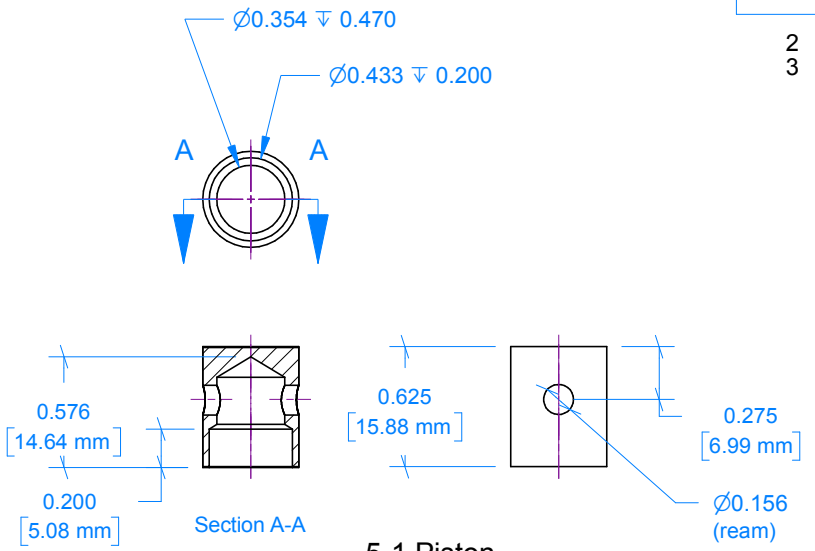


4-1 Cylinder
Ø7/8 12L14 Steel

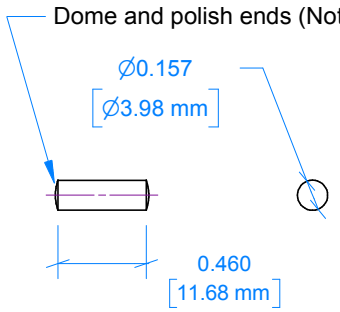
BOLL-AERO 18 - Cylinder

Drawn by	CAD by		Edition	Sheet
Chris Boll	Ron Chernich 2009-10-01		2	4

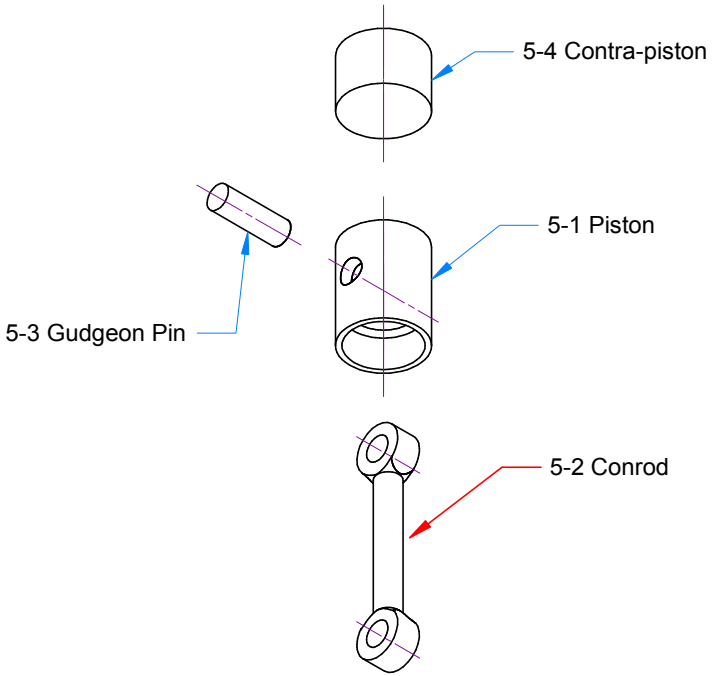
RevNo	Revision note	Date	Signature	Checked
2	Add Note 1.	2009-10-19	Ron C.	
3	Revise conrod cross section to circular.	2009-10-26	Ron C.	

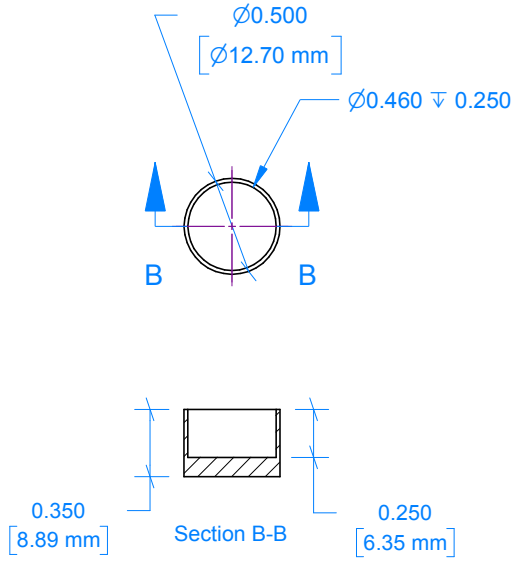


5-1 Piston
Cast Iron

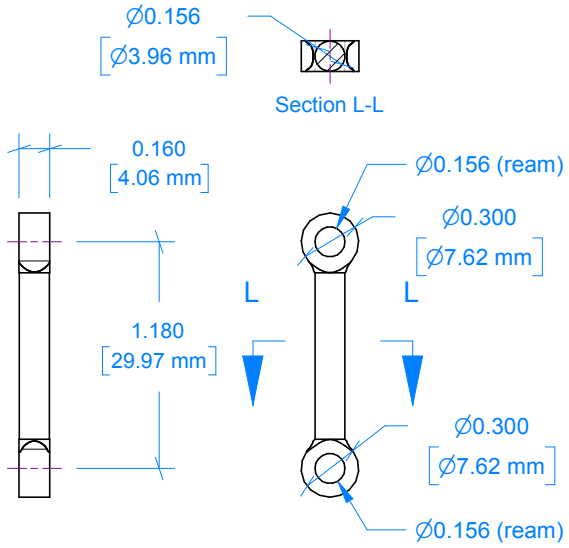


5-3 Gudgeon Pin
Ø5/32" Drill Rod





5-4 Contra-piston
Cast Iron



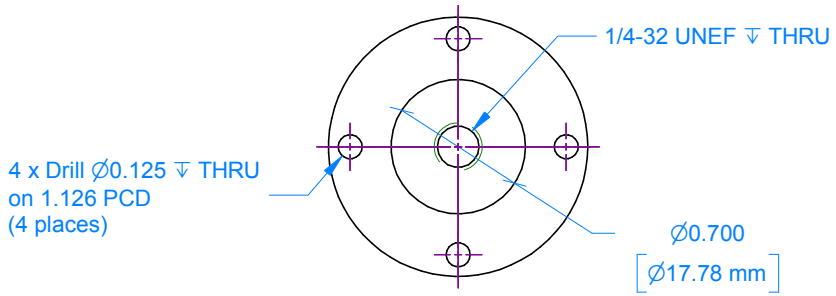
5-2 Conrod
2024 T3 Aluminium

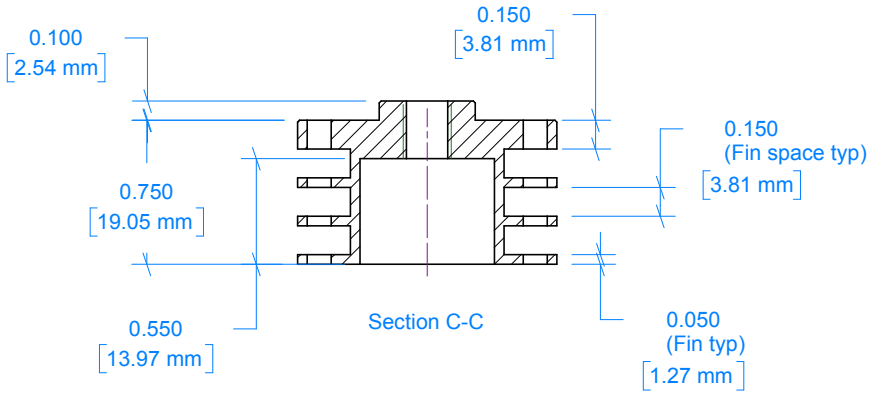
Note 1. The -3 Gudgeon pin is a fully floating fit in the -1 Piston and -2 Conrod. Dome and polish the ends to prevent scoring of the 4-1 Cylinder Liner.

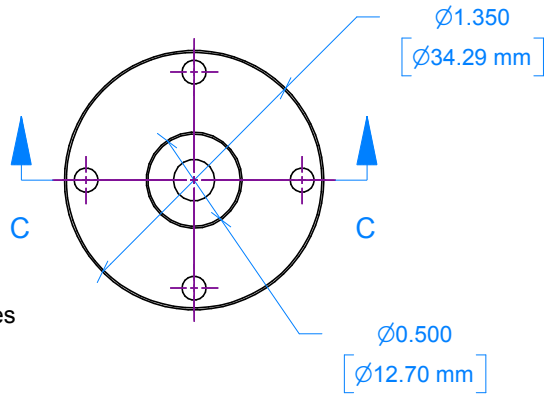
BOLL AERO 18 - Pistons and Rod

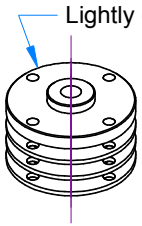
Drawn by	CAD by		Edition	Sheet
Chris Boll	Ron Chernich 2009-10-01		3	5

RevNo	Revision note	Date	Signature	Checked
2	Add Thread callout to -2 Compression Screw.	2009-10-19	Ron C.	
3	Correct the PCD note.	2009-10-27	Ron C.	

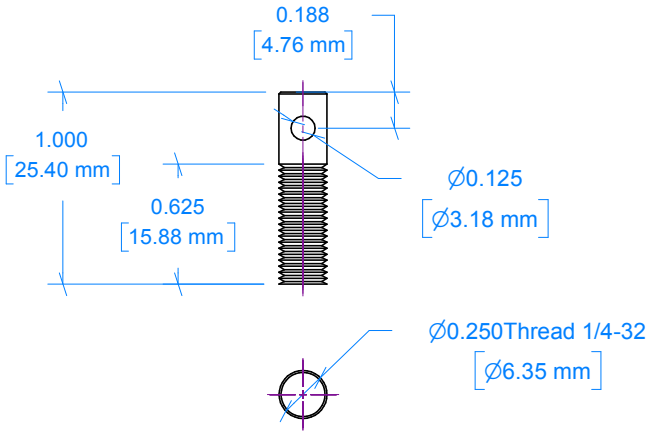




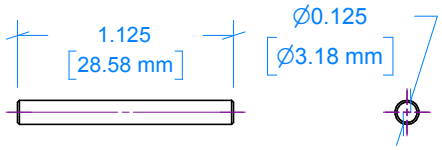




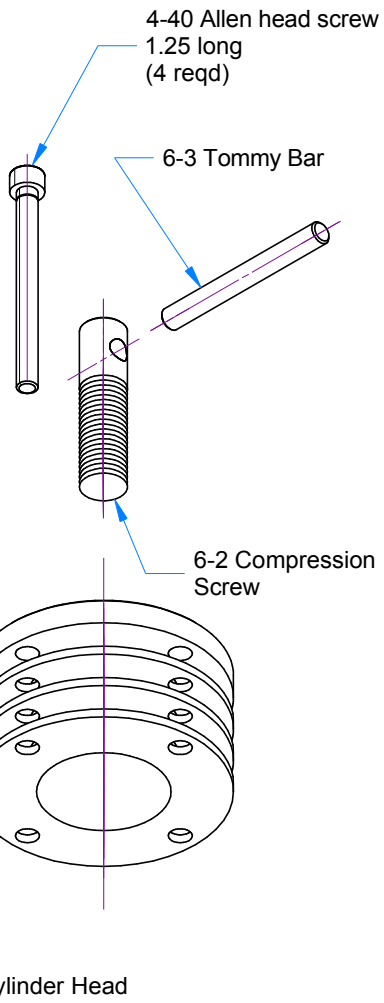
6-1 Cylinder Head
∅1-3/8 aluminium bar



6-2 Compression Screw
∅1/4 Steel



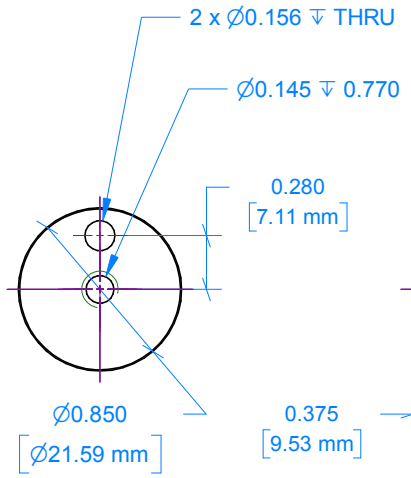
6-3 Tommy Bar
∅1/8 Music Wire

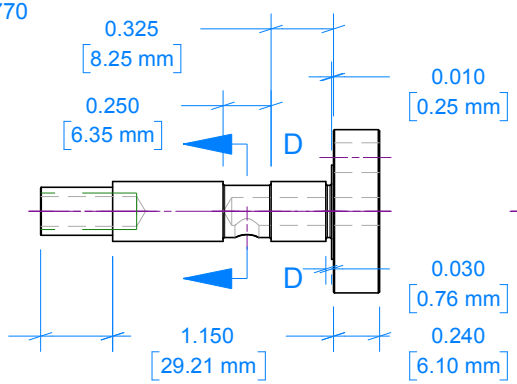


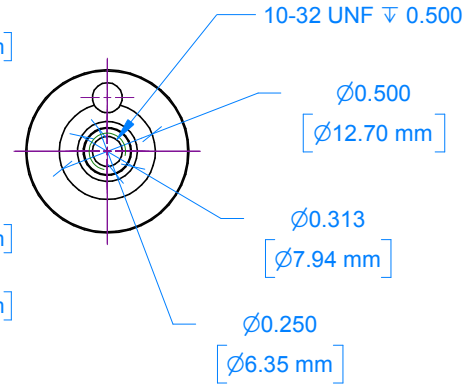
BOLL AERO - Cylinder Muff

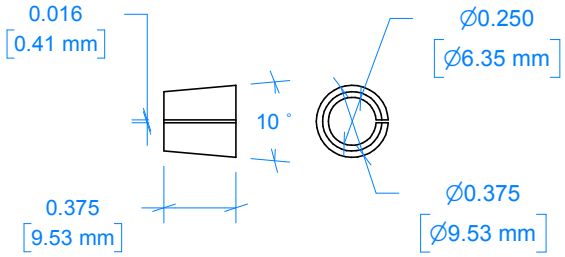
Drawn by	CAD by		Edition	Sheet
Chris Boll	Ron Chernich 2009-10-01		3	6

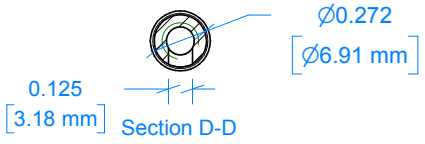
RevNo	Revision note	Date	Signature	Checked
2	Insert Centers.	2009-10-20	Ron C	









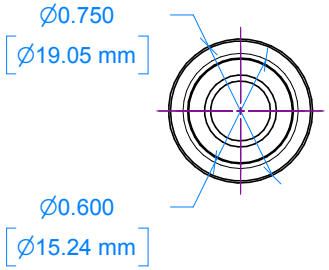


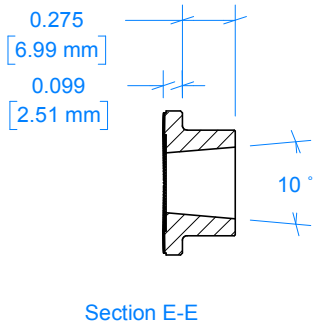
7-1 Crankshaft

Ø7/8 stressproof steel, or HT bolt

7-5 Collet

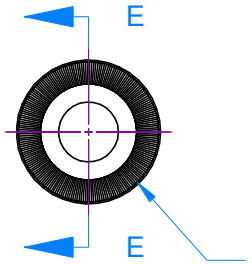
Ø3/8 Brass





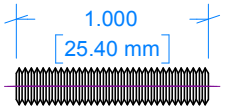
7-4 Prop Driver

Ø3/4 aluminium bar



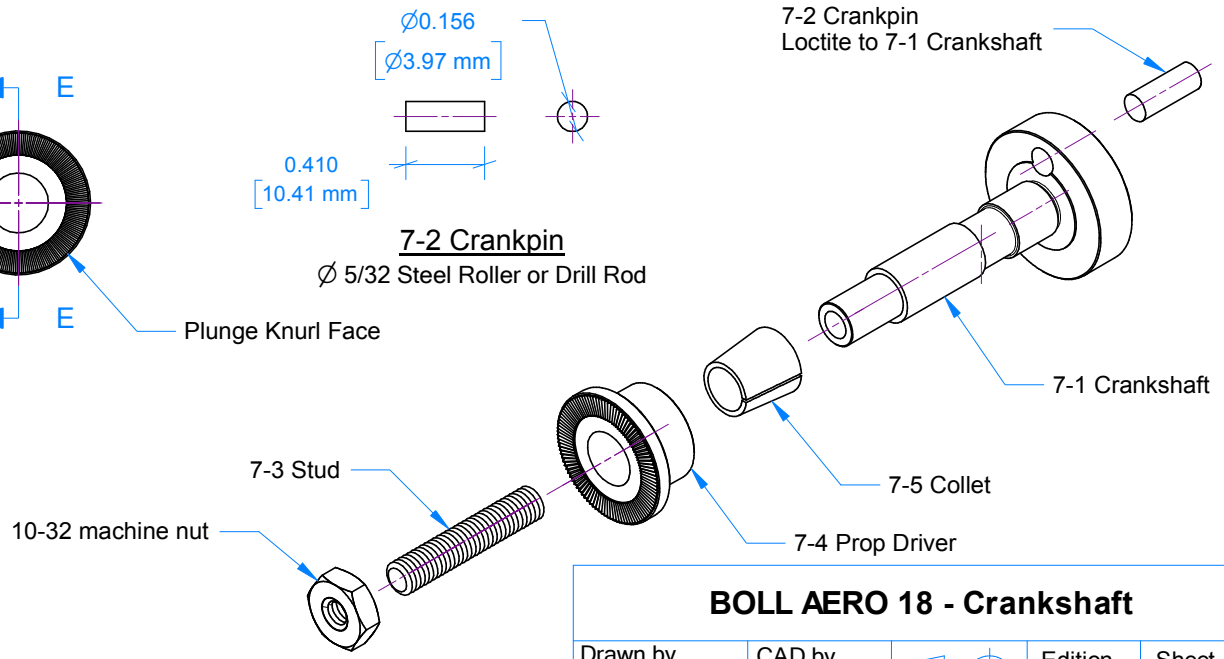
7-2 Crankpin

Ø 5/32 Steel Roller or Drill Rod



7-3 Stud

Cut from 10-32 machine screw



Alternate Threads:

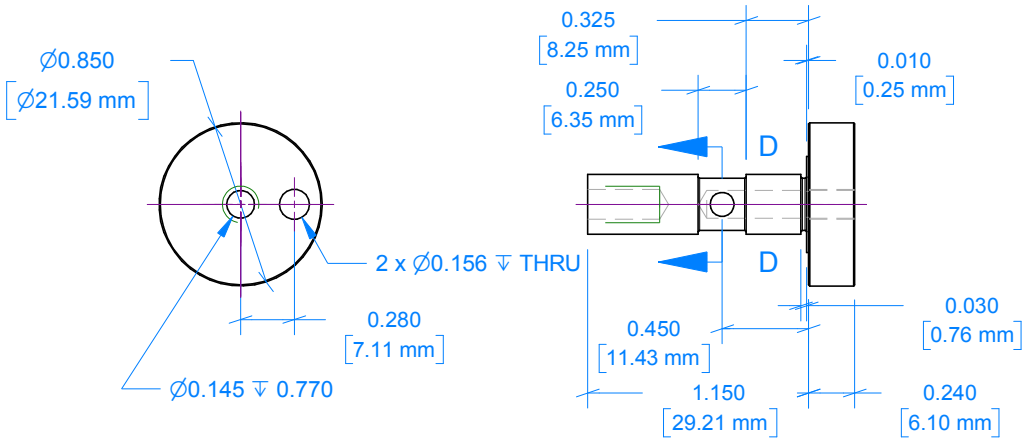
2BA or 3/16 Whitworth
UNF 10-32
4Mx0.7

BOLL AERO 18 - Crankshaft

Drawn by	CAD by		Edition	Sheet
	Ron Chernich 2009-10-01		2	7

RevNo	Revision note	Date	Signature	Checked

Note 1: This sheet depicts the original crankshaft and Prop Driver design. The method of fixing the -4 Prop Driver is simpler than that shown on Sheet 7, but may result in a thrown prop.

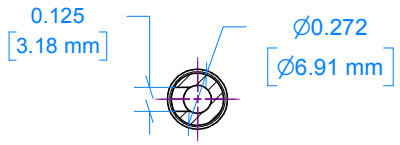


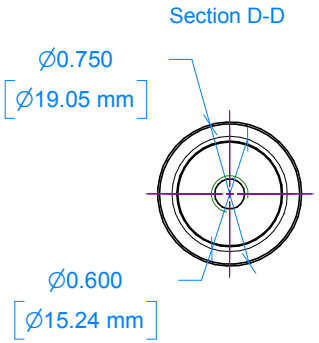
7a-1 Crankshaft

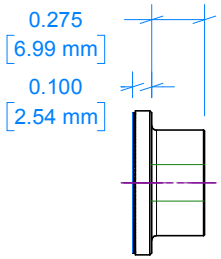
Ø7/8 stressproof steel, or HT bolt

7a-2 Crankpin

Ø 5/32 Steel Roller or Drill Rod

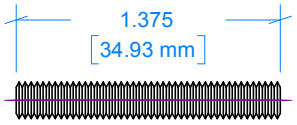






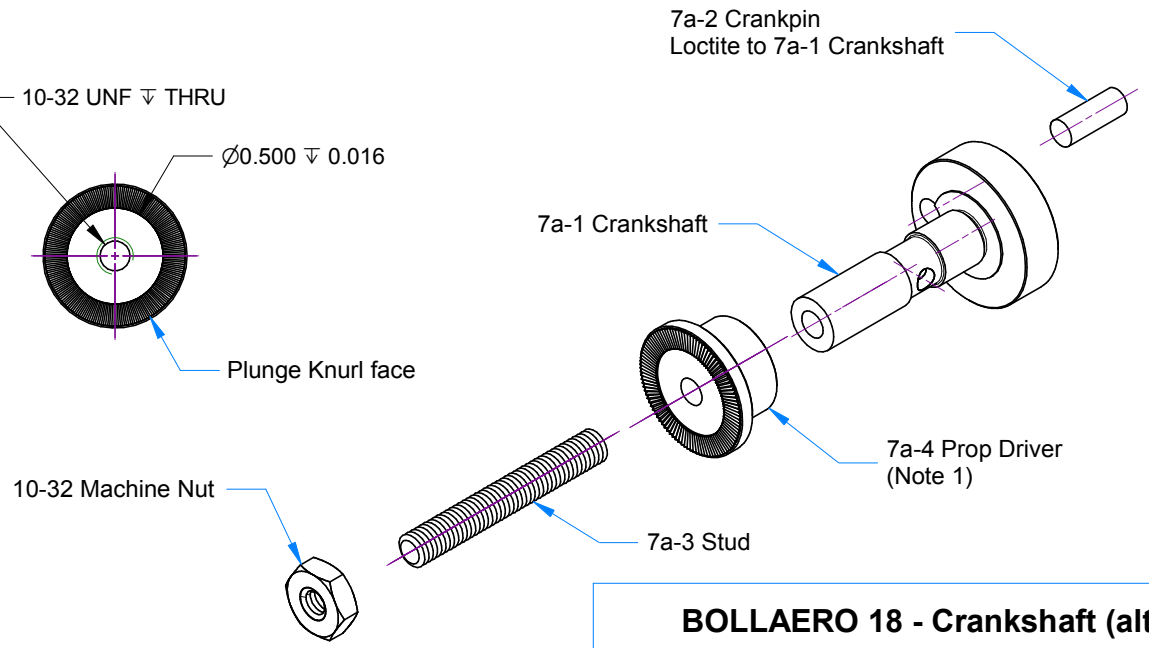
7a-4 Prop Driver

Ø3/4 aluminium bar



7a-3 Stud

Cut from 10-32 machine screw



Alternate Threads:

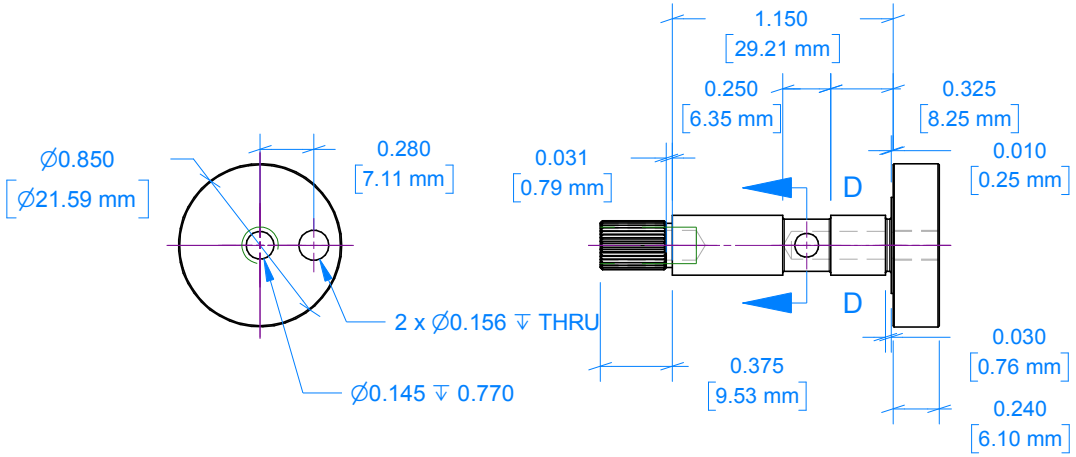
2BA, or 3/16 Whitworth
UNF 10-32
4Mx0.7

BOLLAERO 18 - Crankshaft (alt 1)

Drawn by	CAD by		Edition	Sheet
Chris Boll	Ron Chernich 2009-10-20		1	7a

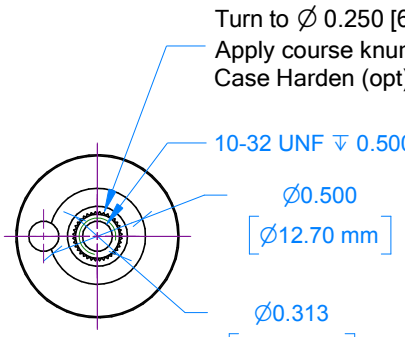
Note 1: Drill -4 Prop Driver 0.240 (Letter "C") for a force-fit on knurled section of -1 Crankshaft.

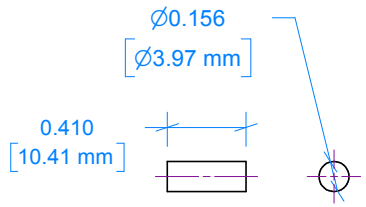
RevNo	Revision note	Date	Signature	Checked



7b-1 Crankshaft

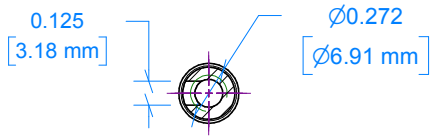
Ø7/8 stressproof steel, or HT bolt



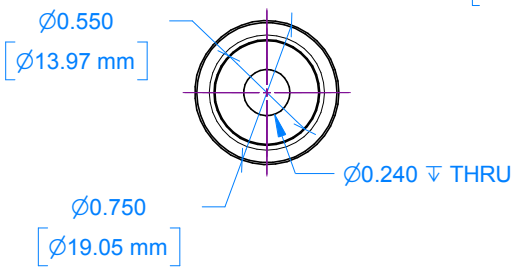


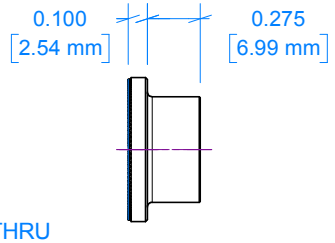
7b-2 Crankpin

Ø 5/32 Steel Roller or Drill Rod



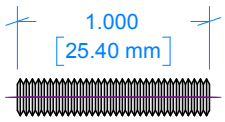
Section D-D





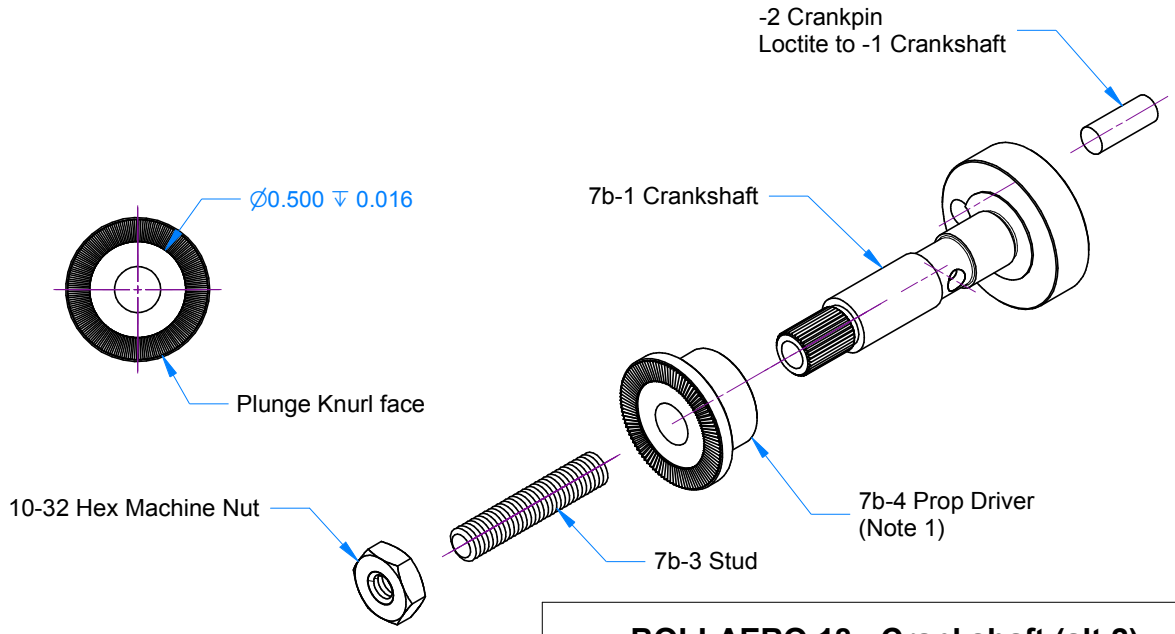
7b-4 Prop Driver

Ø3/4 aluminium bar



7b-3 Stud

Cut from 10-32 machine screw



Alternate Threads:

2BA or 3/16 Whitworth
UNF 10-32
4Mx0.7

BOLLAERO 18 - Crankshaft (alt 2)

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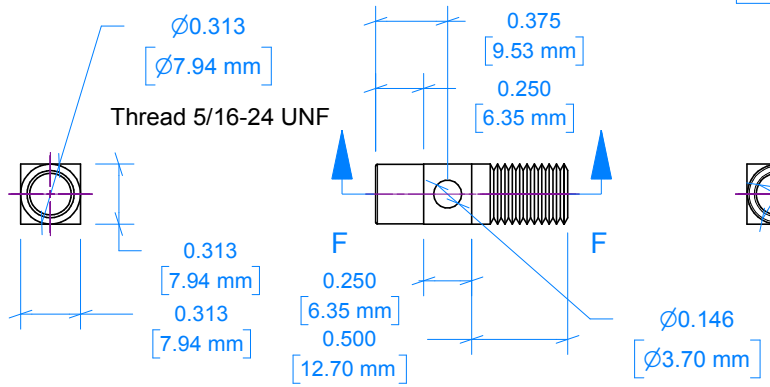
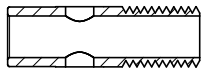
	Ron Chernich 2009-10-20		1	7b

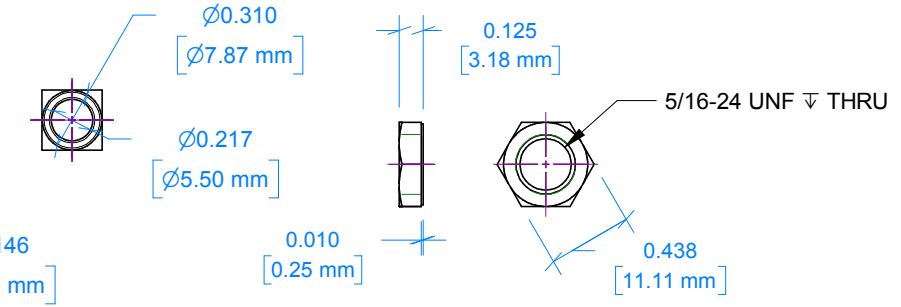
RevNo	Revision note	Date	Signature	Checked
2	Add thread callout to 8-1 Venturi.	2009-11-04	Ron C	



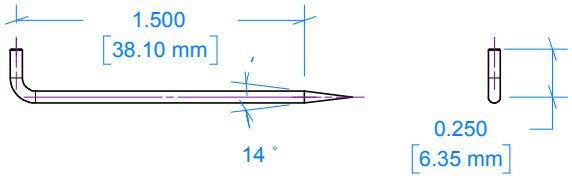
8-1 Venturi
5/16 sq Aluminium



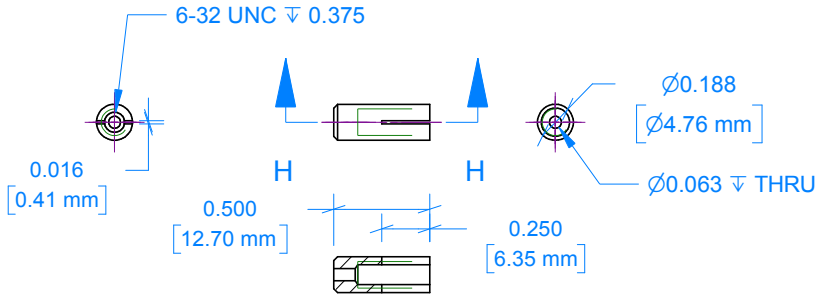
Section F-F



8-2 Jam Nut
7/16 AF Hex Brass

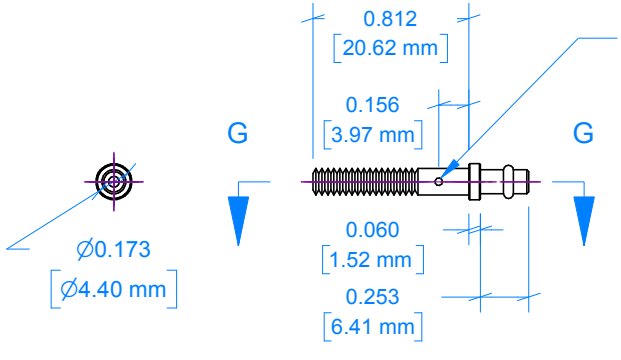


8-4 Needle
Ø1/16 Music Wire

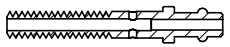


Section H-H

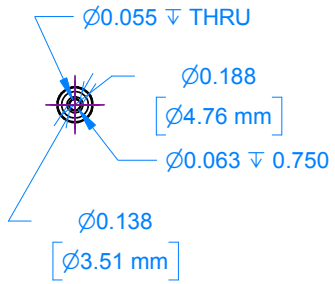
8-5 Needle Thimble
Ø3/16 Brass

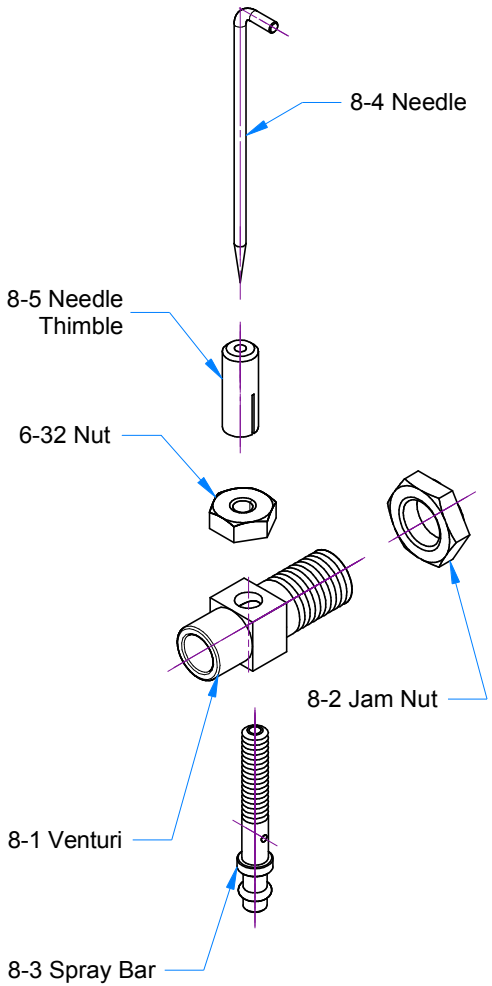


8-3 Spray Bar
Ø3/16 Brass



Section G-G





Alternate Threads

Spraybar and Thimble: 6BA, 6-32 UNC. 3.5Mx0.6

Venturi and Jam Nut: 5/16-32 ME, 5/16-24 UNF, 8Mx1.25

BOLL AERO 18 - Fuel System

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Chris Boll	Ron Chernich 2009-10-01		2	8