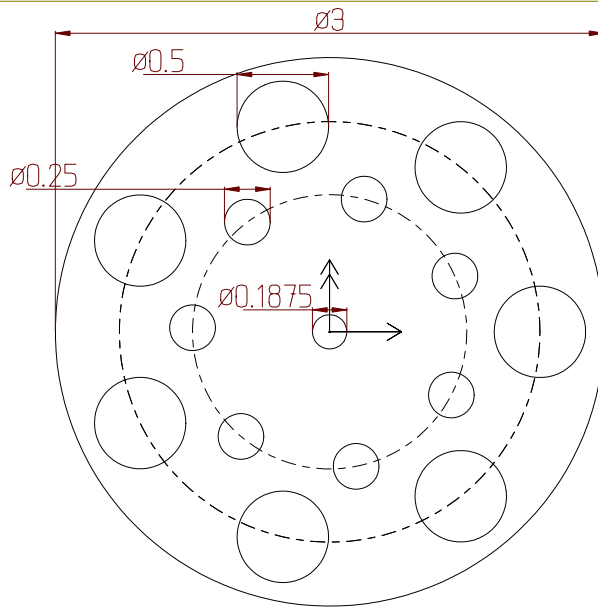
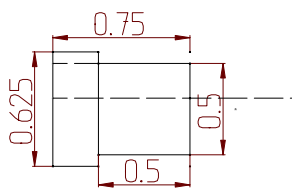
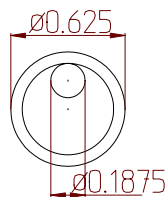
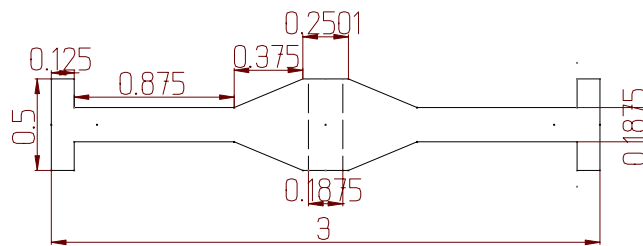


Material: 1/2" Aluminum

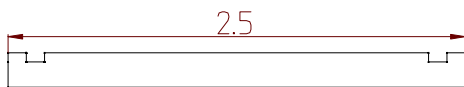
	Not to Scale	Base	<i>Scotch.Twins</i> Sheet 1 of 6	
	David Goodfellow		8/21/05	A



Flywheel
Material: Aluminum
3" dia. x 1/2" thick



Eccentric
Material: Aluminum



Crankshaft
Material: 3/16" steel rod

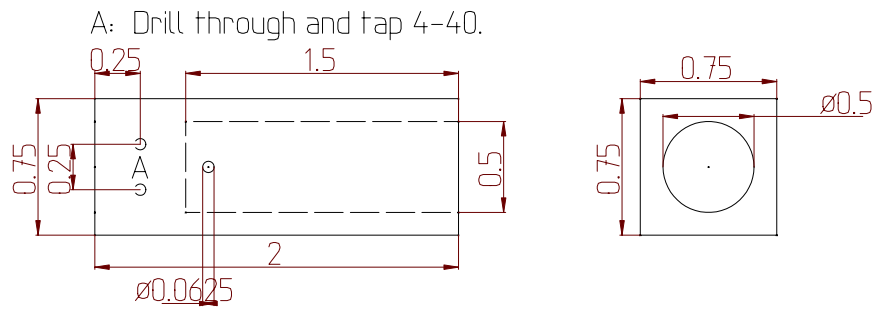
Flats "A" are for setscrews
in flywheel and crank.
Dimension as needed.



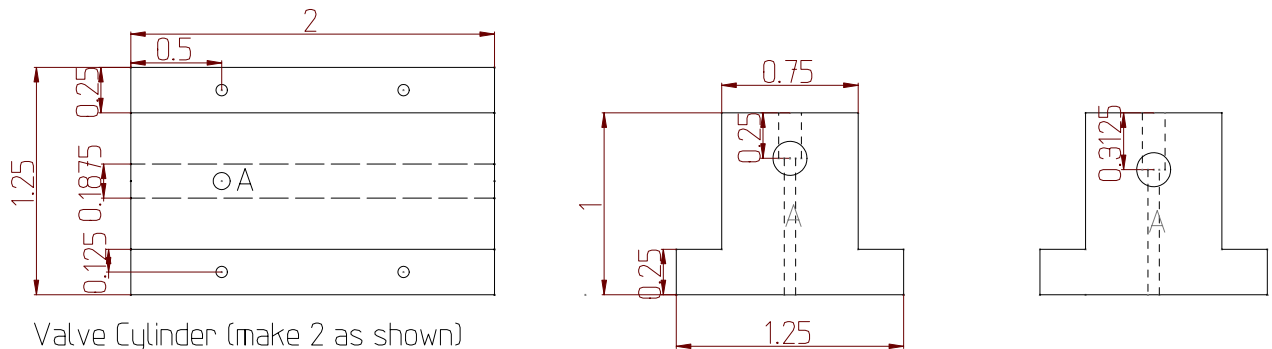
Not to Scale
Not to Scale
Not to Scale

Flywheel
Eccentric
Crankshaft

Scotch.Twins
Sheet 2 of 6

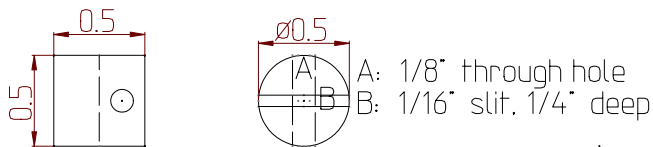


Cylinder (make 2)
Material: Aluminum



Valve Cylinder (make 2 as shown)
Note different location of 3/16" hole for valve
Material: Aluminum

A: Drill through 1/16". Enlarge top of hole and tap 10-32.



Piston (make 2)
Material: Brass

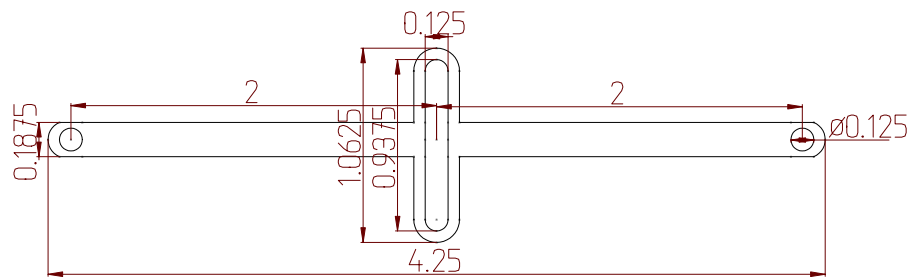
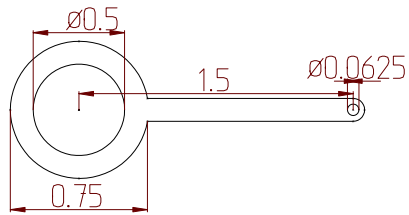


Valve Piston (make 2)
Material: 3/16" Brass Round

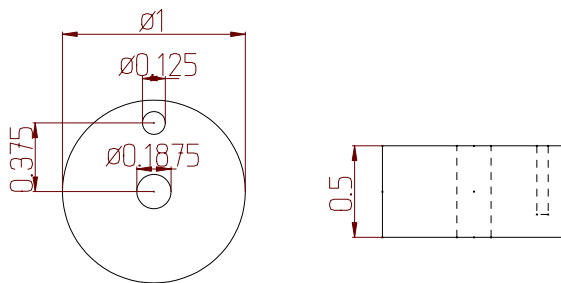
A: Through hole, tap 2-56
B: Groove, all around, 3/32" wide by 1/32" deep
C: Flat, 9/16" wide by 1/16" deep

	Not to Scale	Cylinder	<i>Scotch.Twins</i> Sheet 3 of 6
	Not to Scale	Valve Cylinder	
	Not to Scale	Pistons	
	David Goodfellow		8/26/05 A

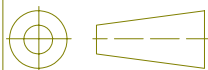
Valve Linkage (make 2)
 Material: 1/16" Brass Plate



Piston Rod (Scotch Yoke)
 Material: 1/16" Brass Plate



Crank
 Material: 1" Aluminum Round



Not to Scale
 Not to Scale
 Not to Scale

Valve Linkage
 Piston Rod (Scotch Yoke)
 Crank

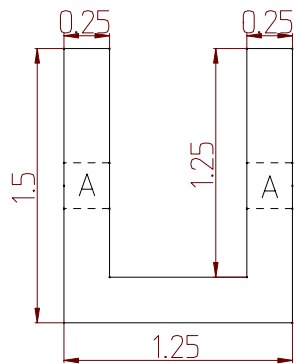
Scotch Twins
 Sheet 4 of 6

TinkerTime

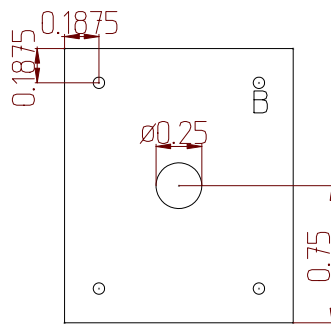
David Goodfellow

8/26/05

A



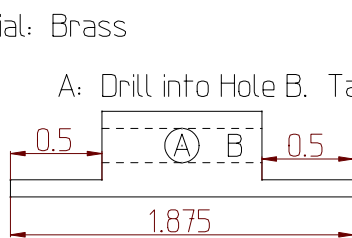
A: 2 places. Drill through $1/4"$ and install $3/16"$ bearings.



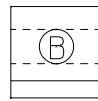
B: 4 places. Drill one side $3/8"$ deep. Tap 4-40.

Bearing Block
Material: Aluminum

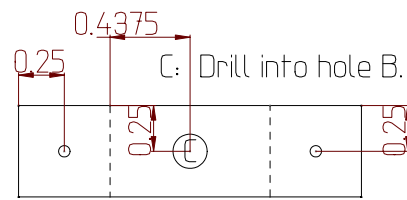
Manifold
Material: Brass



A: Drill into Hole B. Tap 10-32.

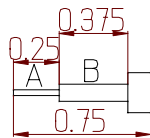


B: Drill through, tap 10-32 $1/4"$ each end.

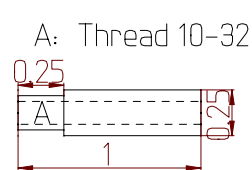


C: Drill into hole B. Tap 10-32.

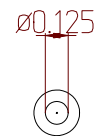
A: Thread 4-40
B: Turn for sliding fit in $1/8"$ slot in Scotch Yoke.



Crank Pin
Material: $1/4"$ Steel Rod



A: Thread 10-32



Nipple (make 5)
Material: $1/4"$ Brass Rod



TinkerTime

Not to Scale
Not to Scale
Not to Scale

Bearing Block
Manifold
Crank Pin, Nipple

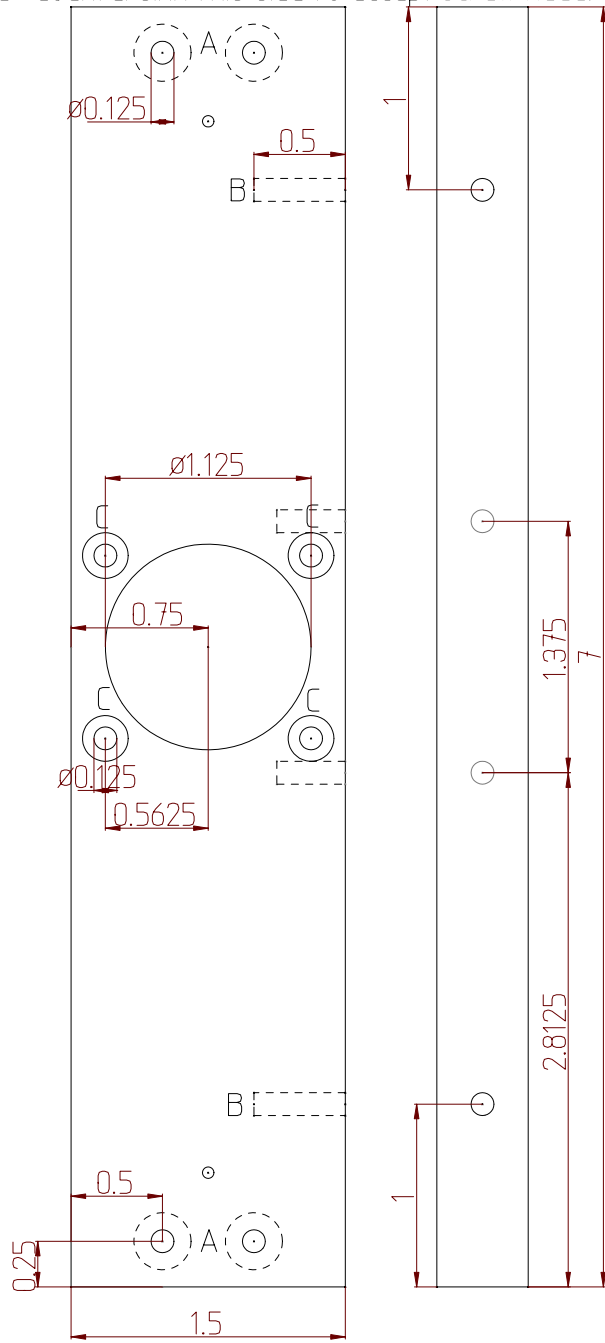
David Goodfellow

Scotch Twins
Sheet 5 of 6

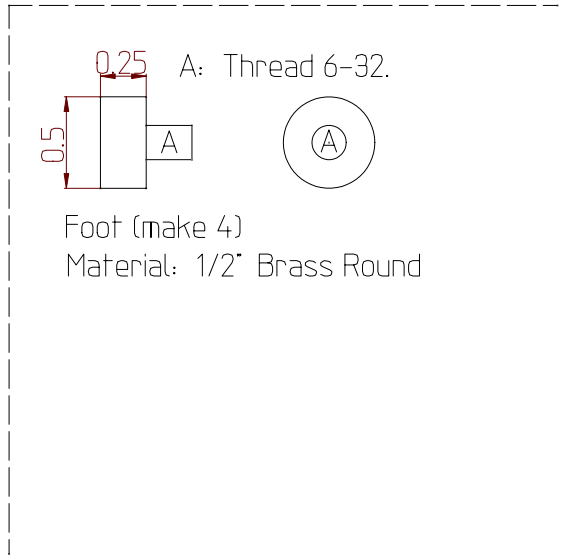
8/26/05

A

- A: Countersink back side to accept screw head
- B: Tap 6-32.
- C: Countersink this side to accept screw head.



Note: Make this part last. Verify hole locations with parts to be mounted. See assembly photos on following pages.



A: Thread 6-32.
 Foot (make 4)
 Material: 1/2" Brass Round

	Not to Scale	Frame	<i>Scotch.Twins</i> Sheet 6 of 6
	Not to Scale	Foot	
	David Goodfellow		8/27/2005 A