

8.7-1

615

515

650

1027  
SMFEM

260

700

500 WIDE

600

630

620

630

2.5M

60

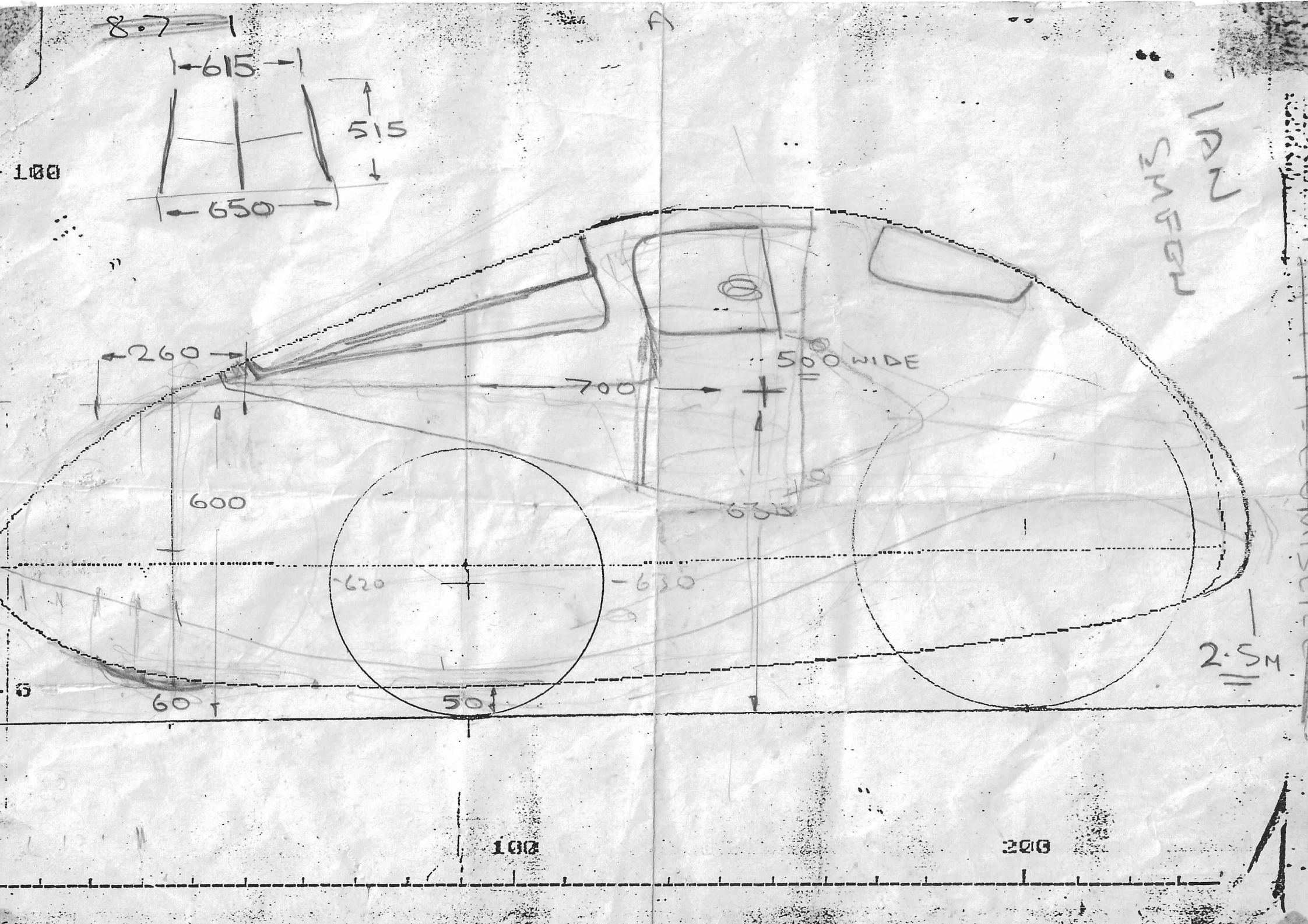
50

100

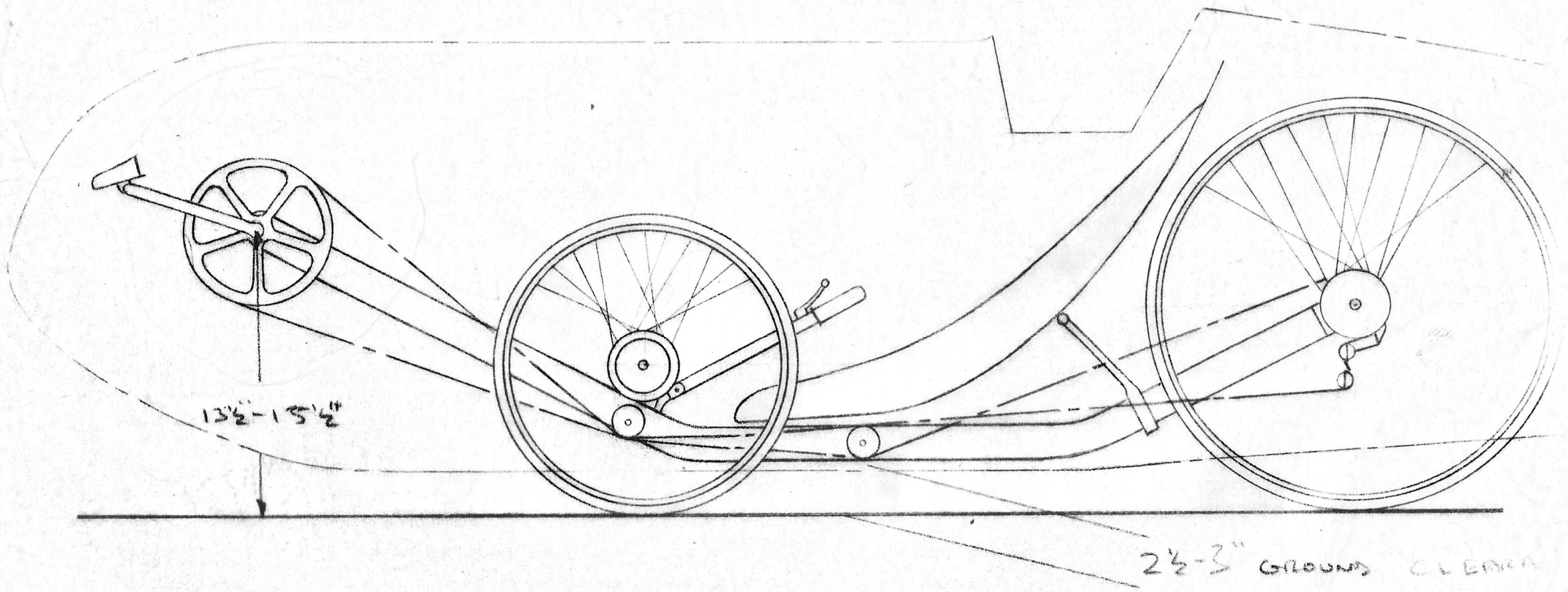
200

100

5



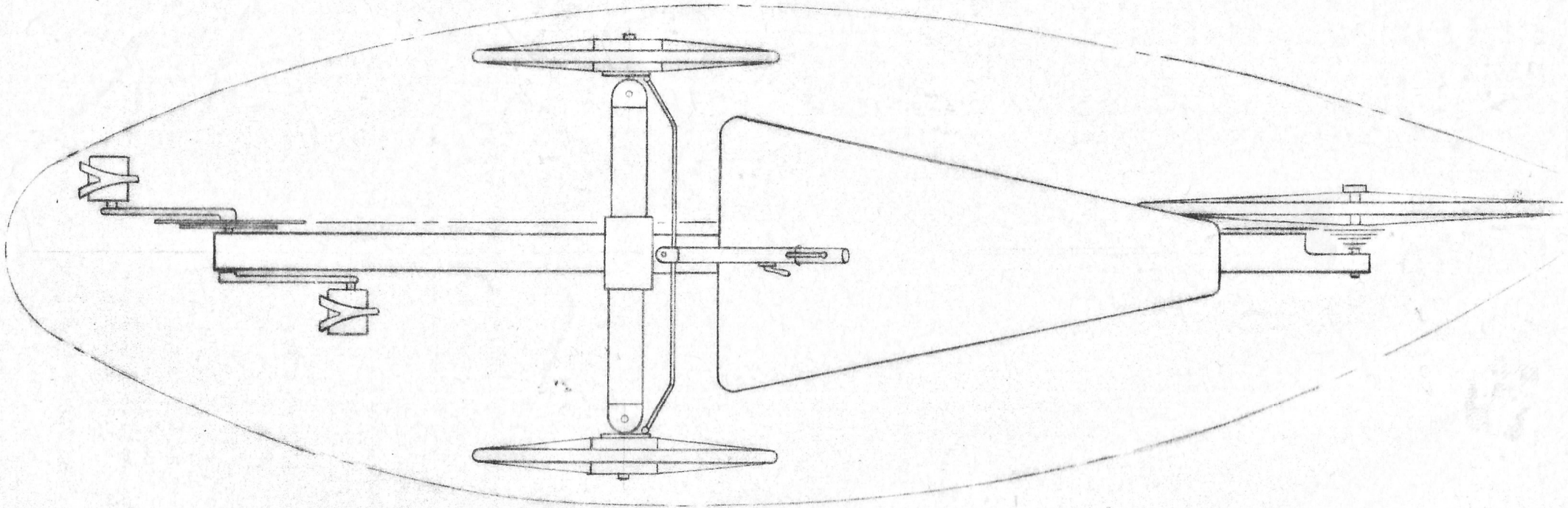
MR3 FOR REF O'

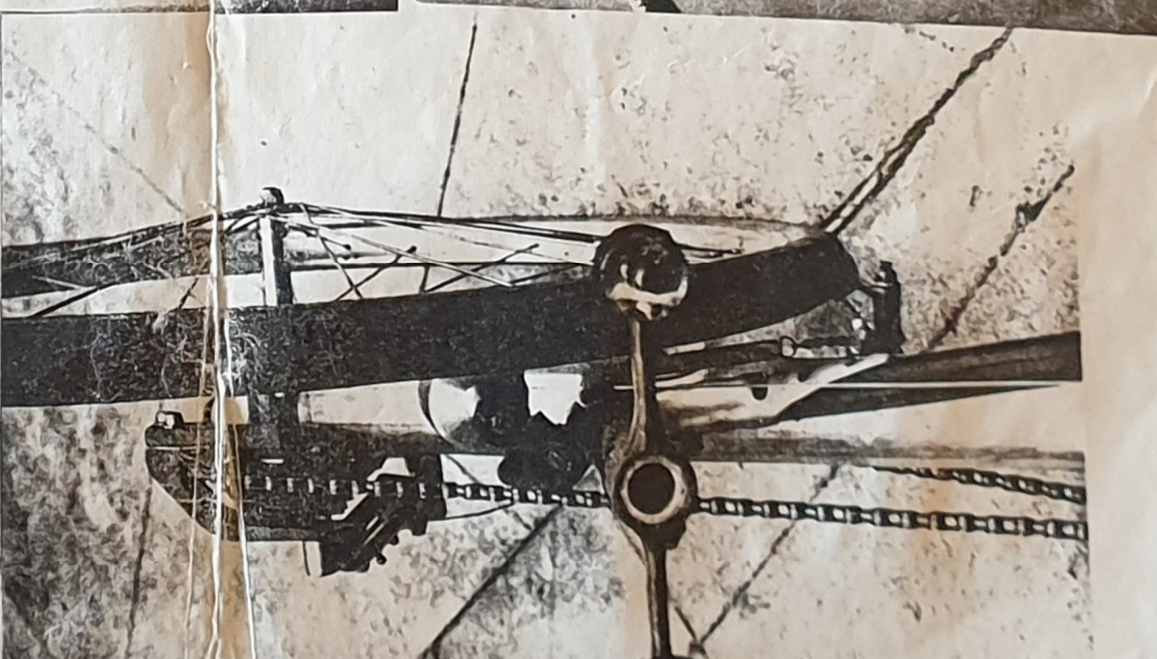
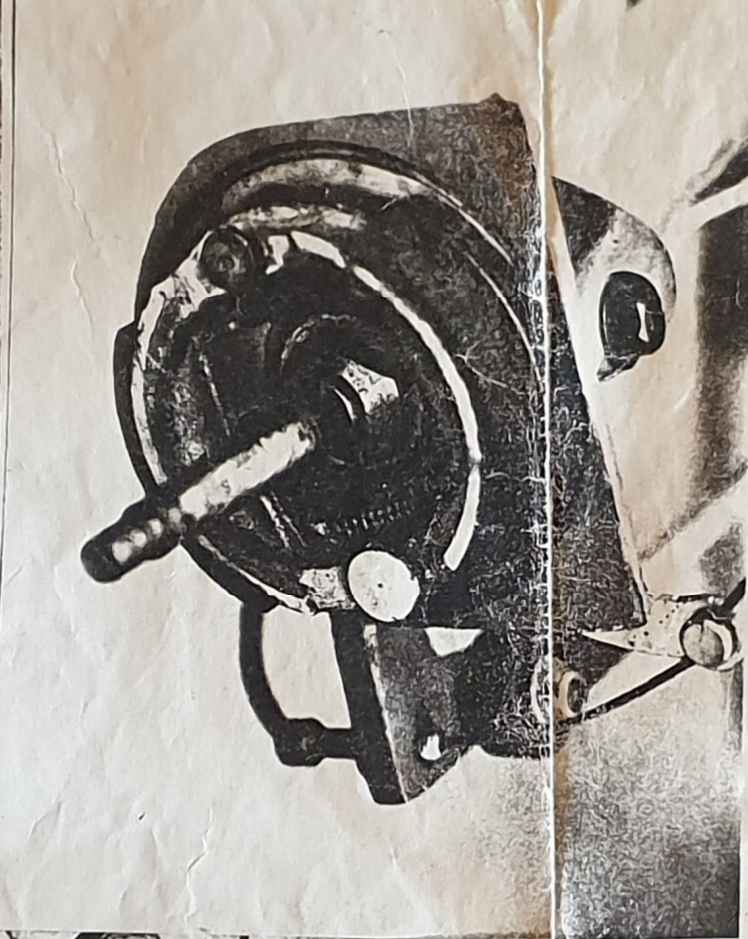
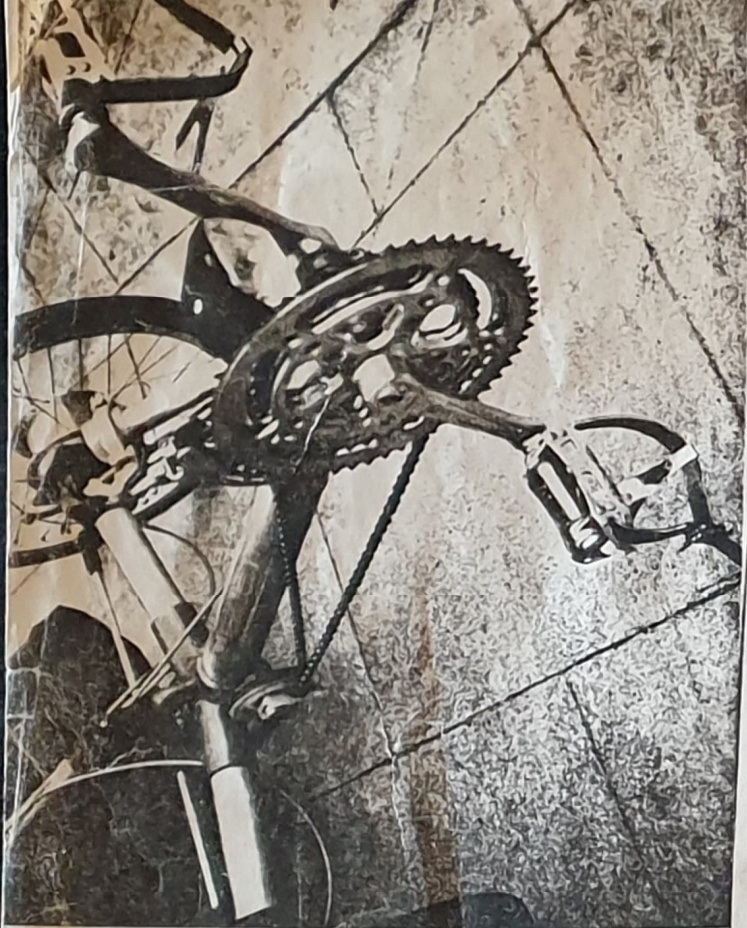


$13\frac{1}{2} - 15\frac{1}{2}$

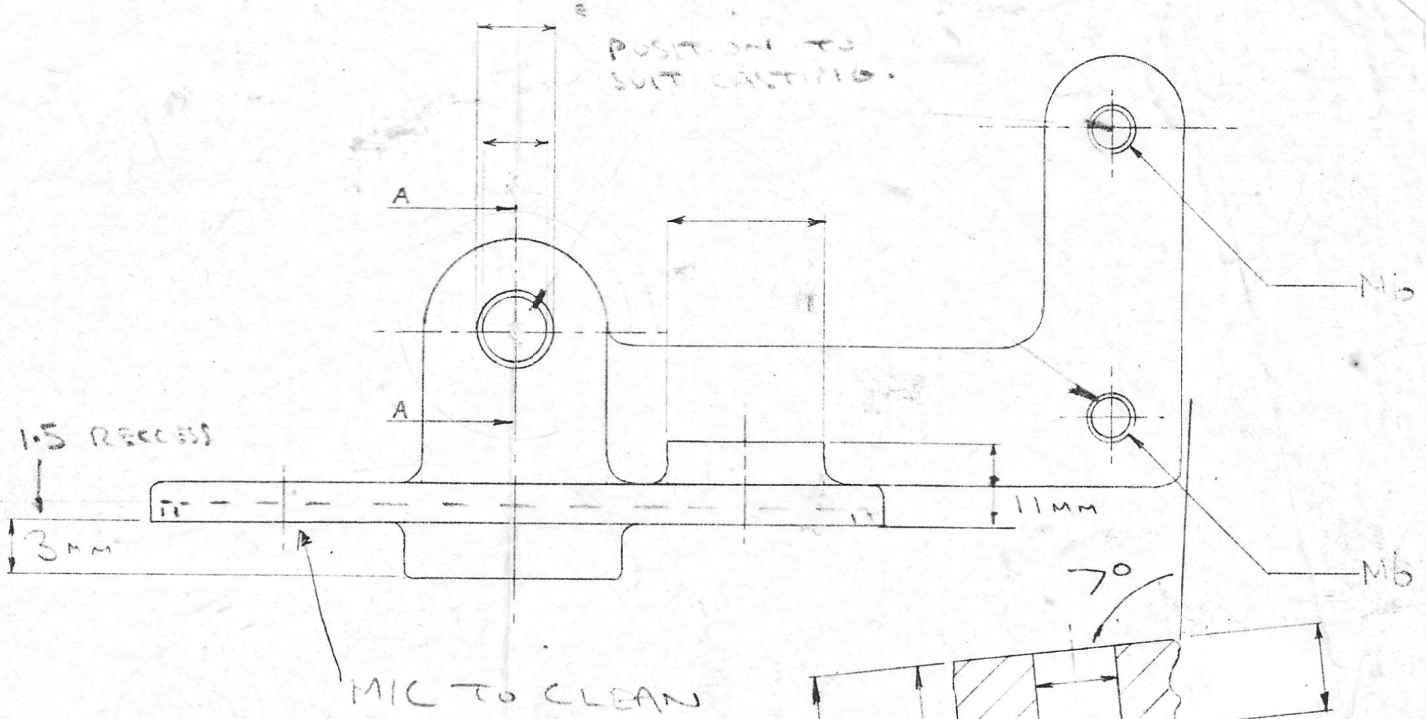
$2\frac{1}{2} - 3$  GROUND CLEARANCE

MK 3 FOR REF ONLY





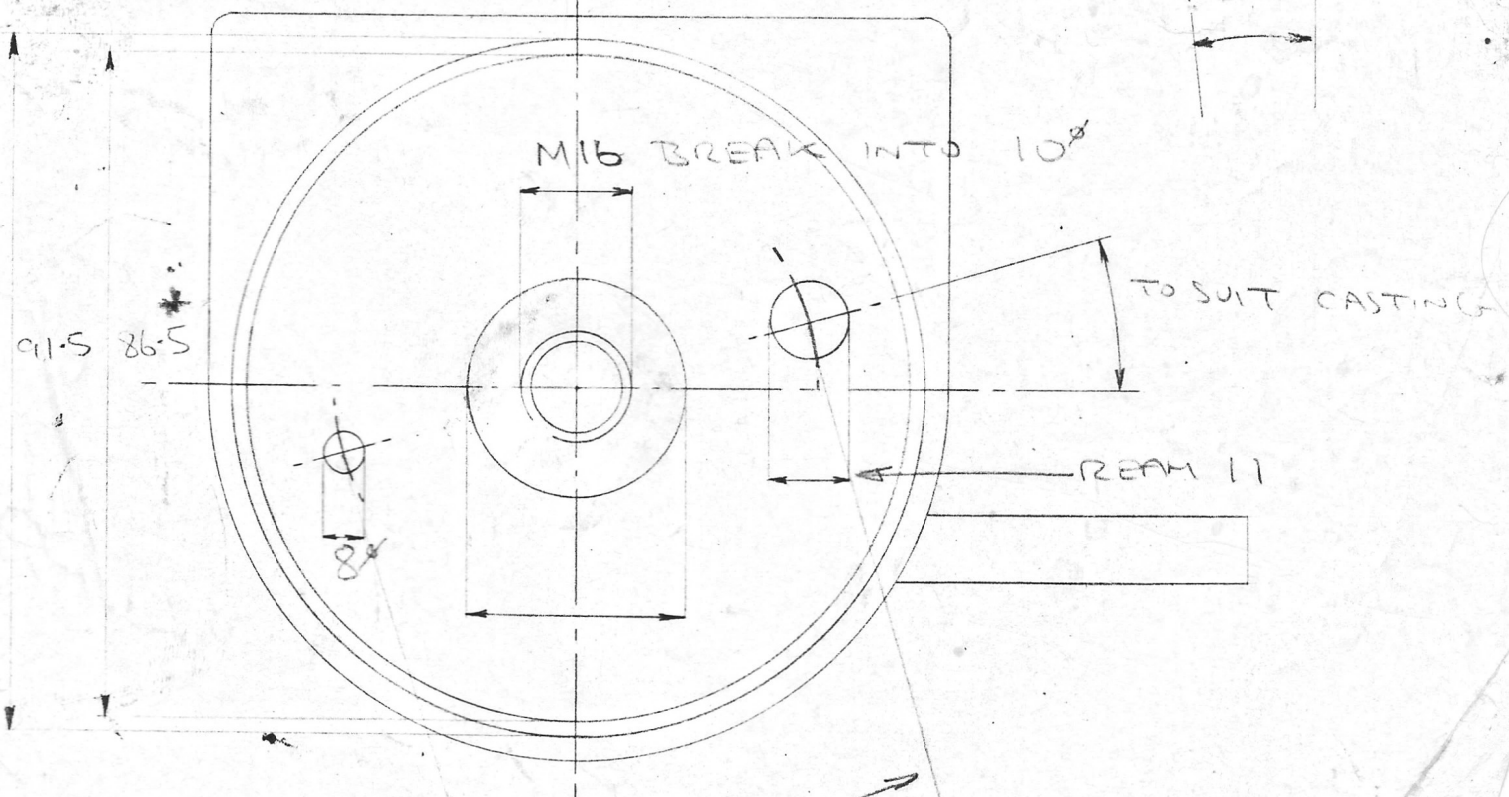
POSITION TO SUIT CASTING.



\* TO SUIT DRUMS.

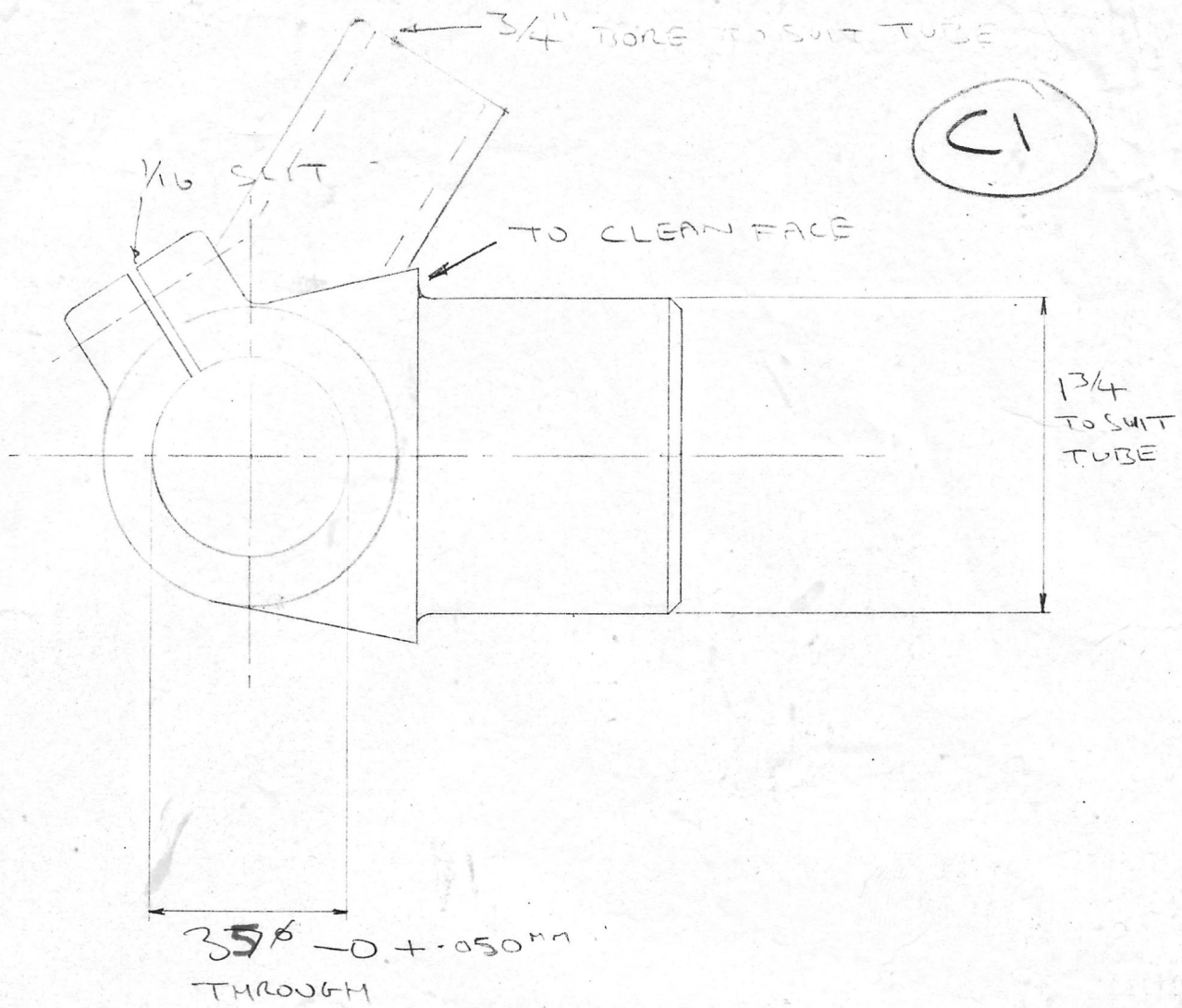
SECTION A-A

REAM 10 $\phi$  THROUGH

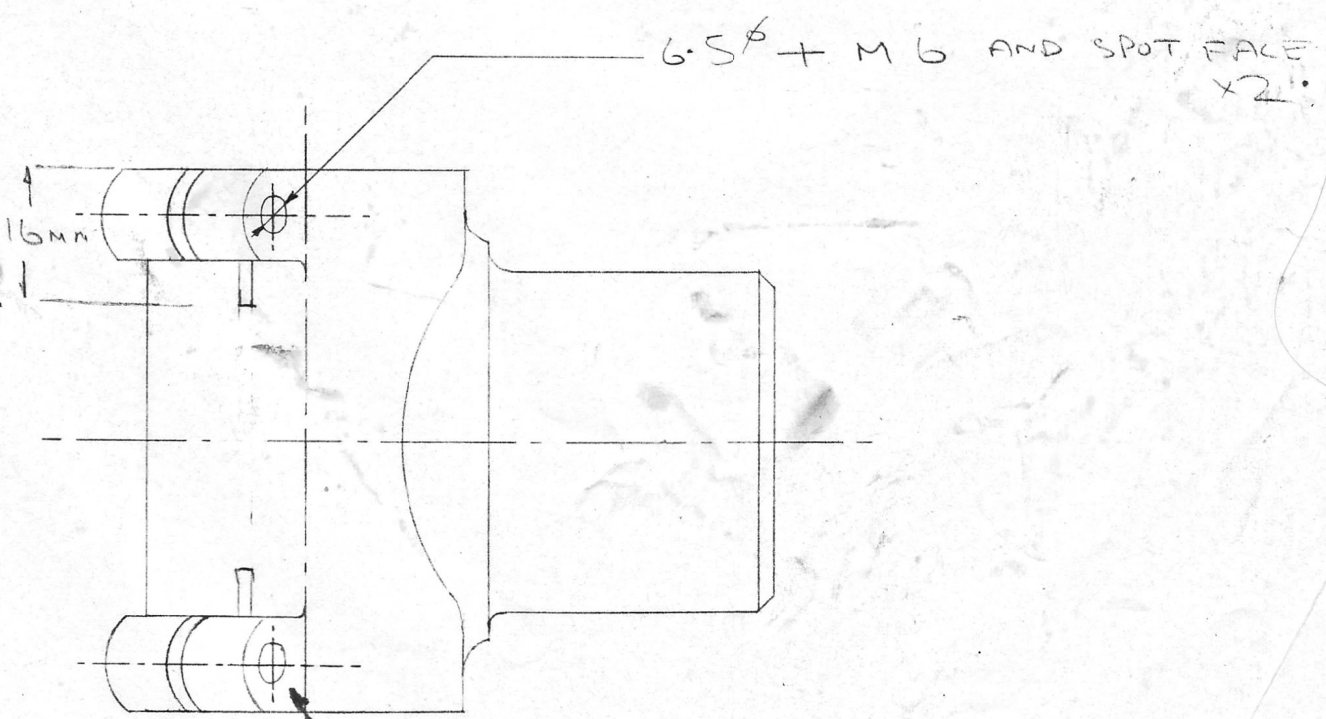


2 1/2 f

HUBS  
1 GA LMG



(C1)

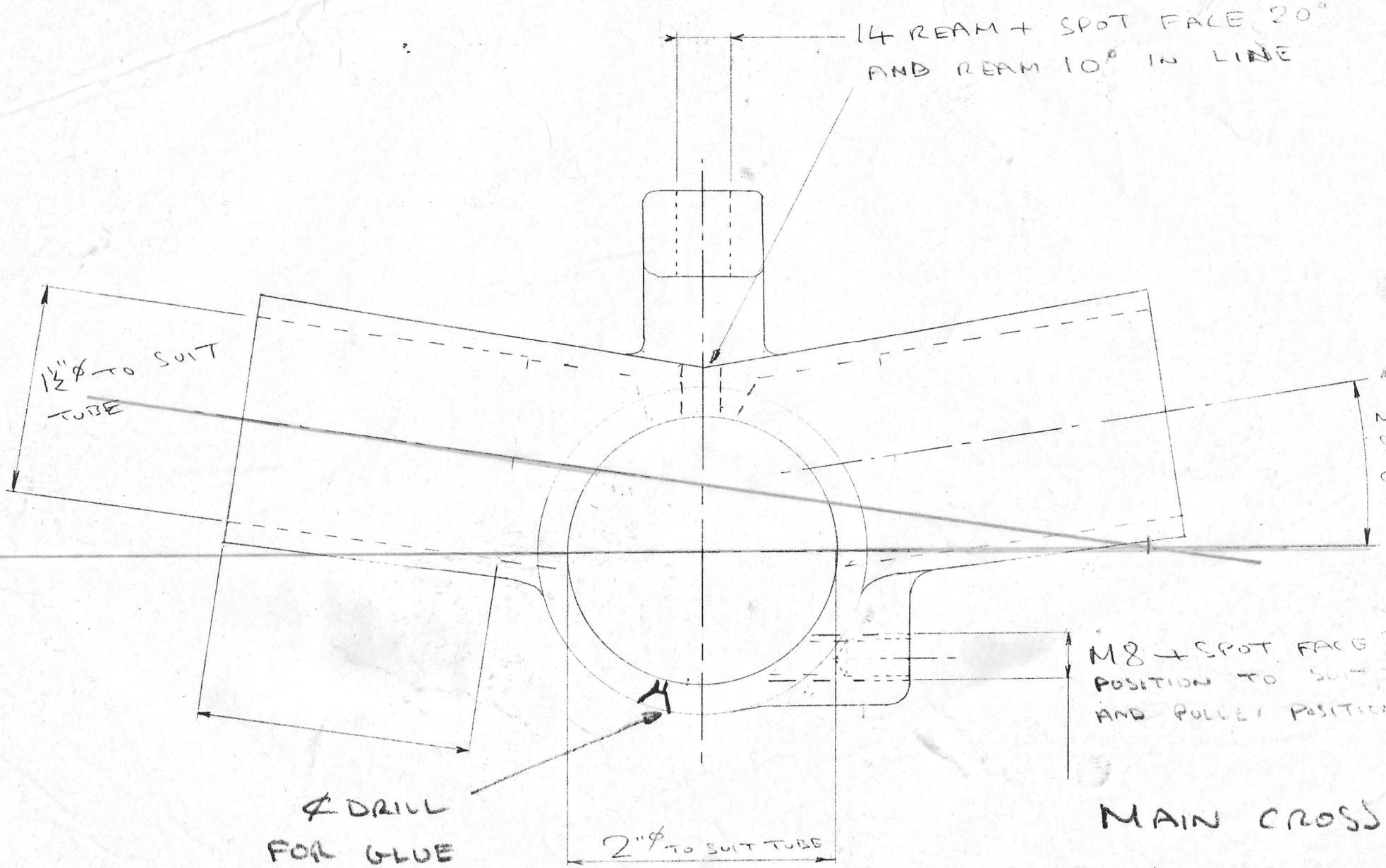


ATTOM BRACKET? FIT M6 STUDS TO CLAMP

LM6

C2

1/4 REAM + SPOT FACE 20°  
AND REAM 10° IN LINE



M/C -  
SUIT  
CAST

M8 + SPOT FACE 20°  
POSITION TO SUIT CAST  
AND PULLER POSITION

Ø DRILL  
FOR GLUE

MAIN CROSS

1 LMG

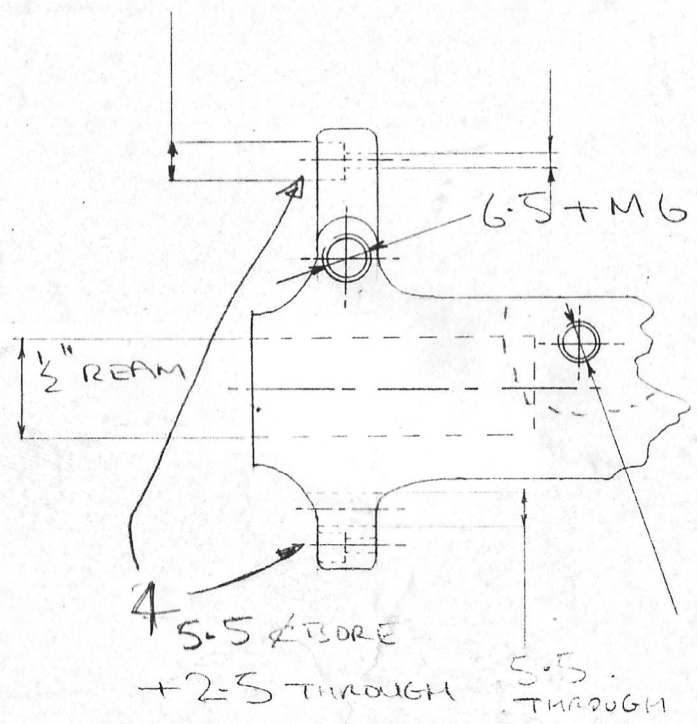
C3

TO SUIT BRAKE LEVER

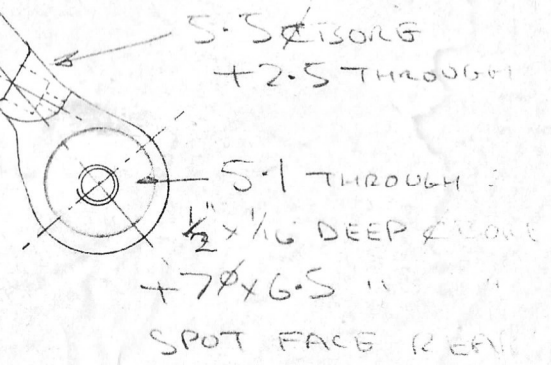
1/16" SLIT

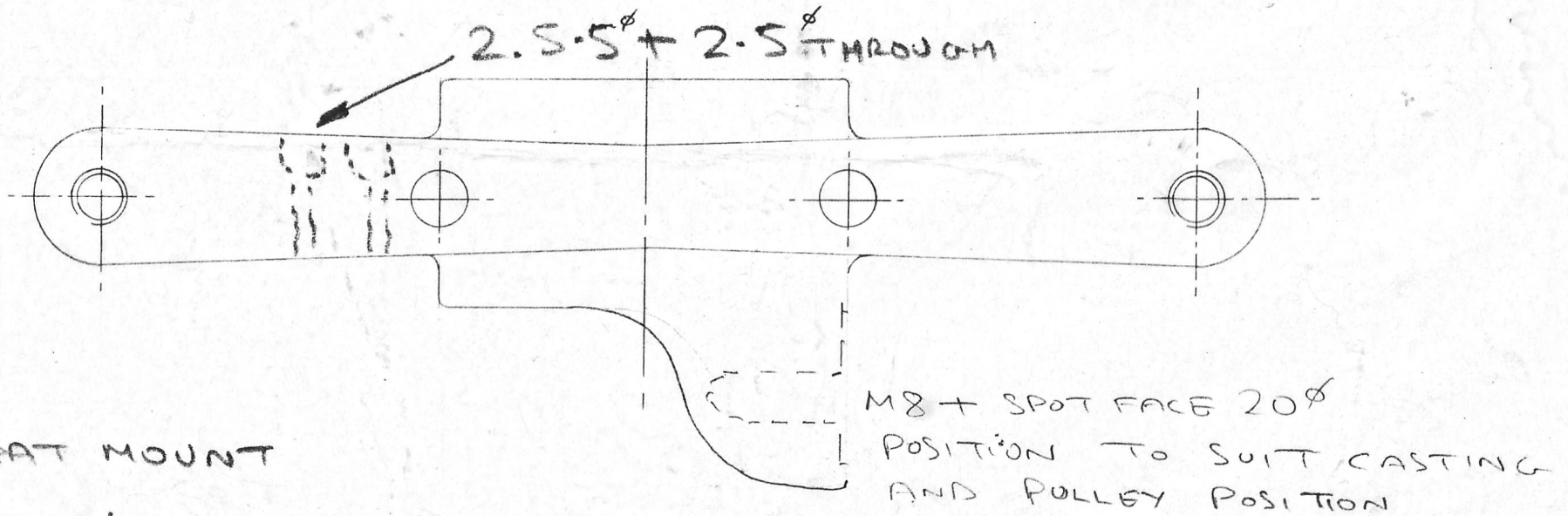
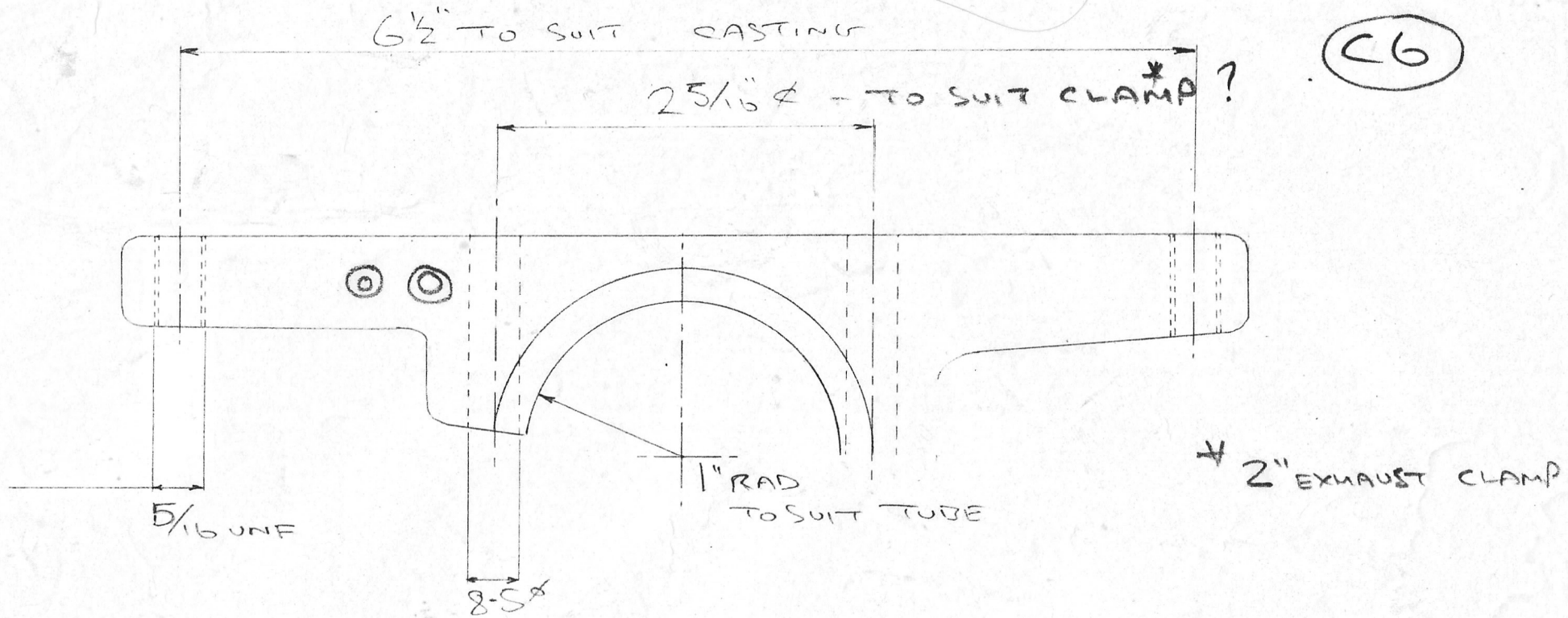
FIT MS STUD AND NYLOCK NUT TO RETAIN LEVER

STEERING HANDLE  
1 LMB



MS POSITION TO SUIT BRAKE LEVER





FRONT SEAT MOUNT

1 LMB

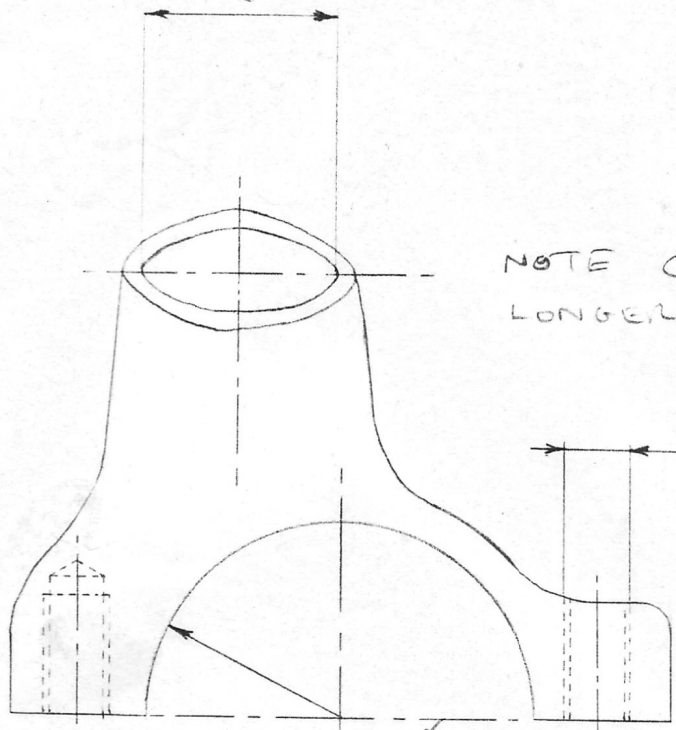
C7

1"  $\phi$  TO SUIT TUBE

$$30 = 12$$

$$\frac{30}{12} \times 4$$

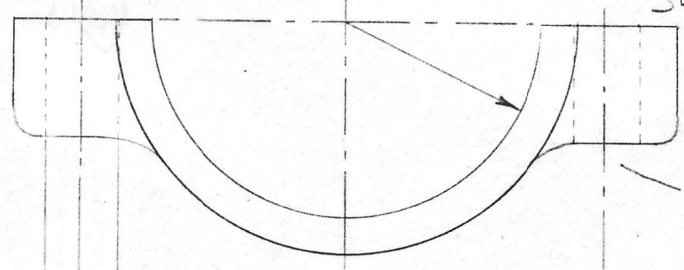
NOTE CASTING IS NO LONGER OFFSET.



BORE 2"  $\phi$  TO SUIT TUBE BEFORE SLITTING

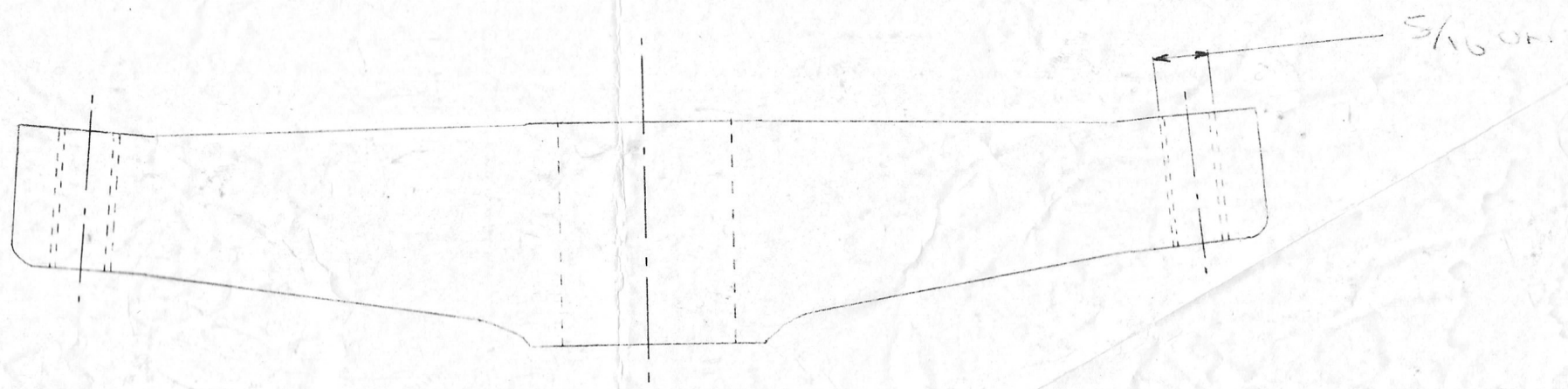
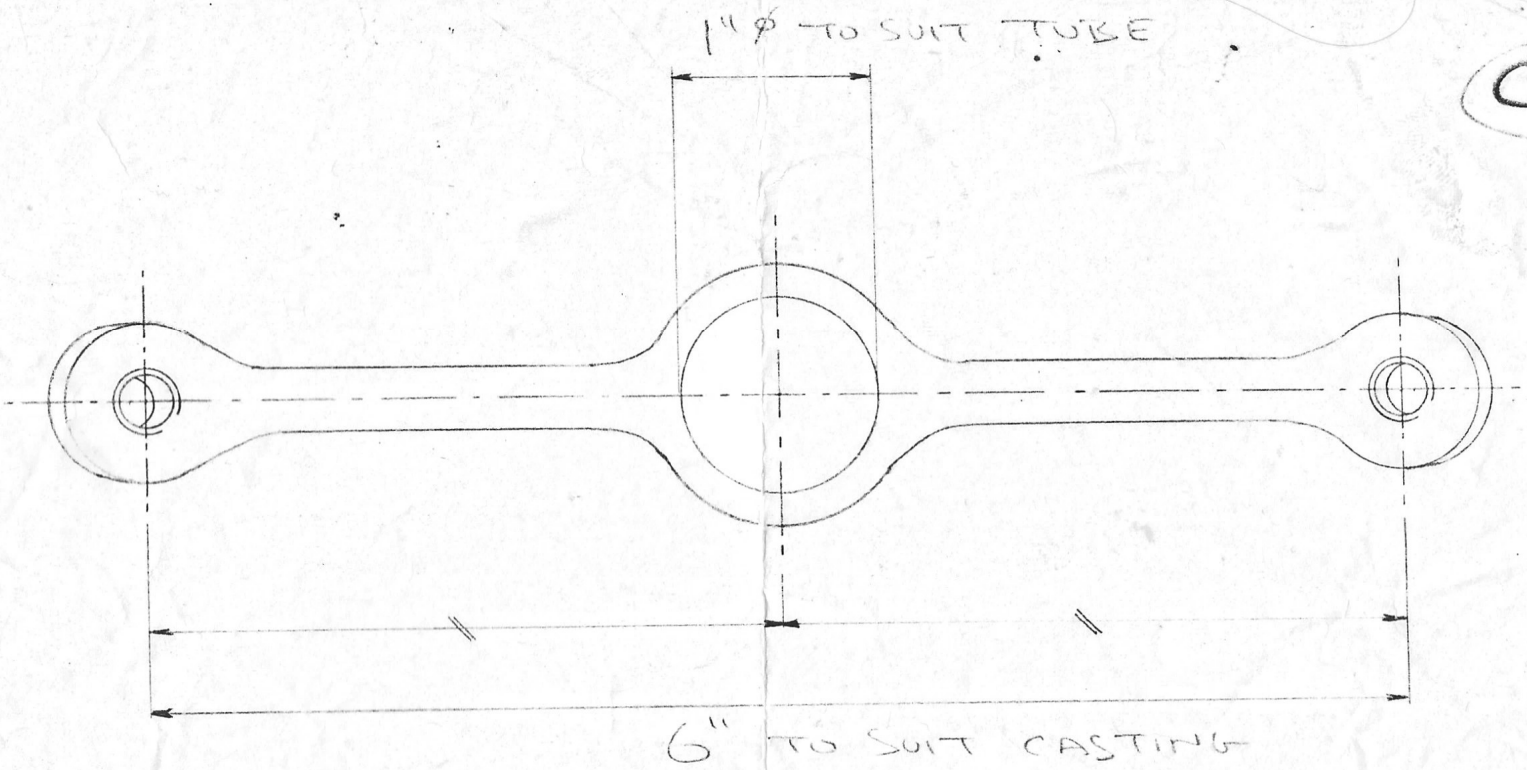
SLIT WITH 1/8" SAW

8.5  $\phi$  + SPOT FACE 20  $\phi$



TO SUIT CASTING

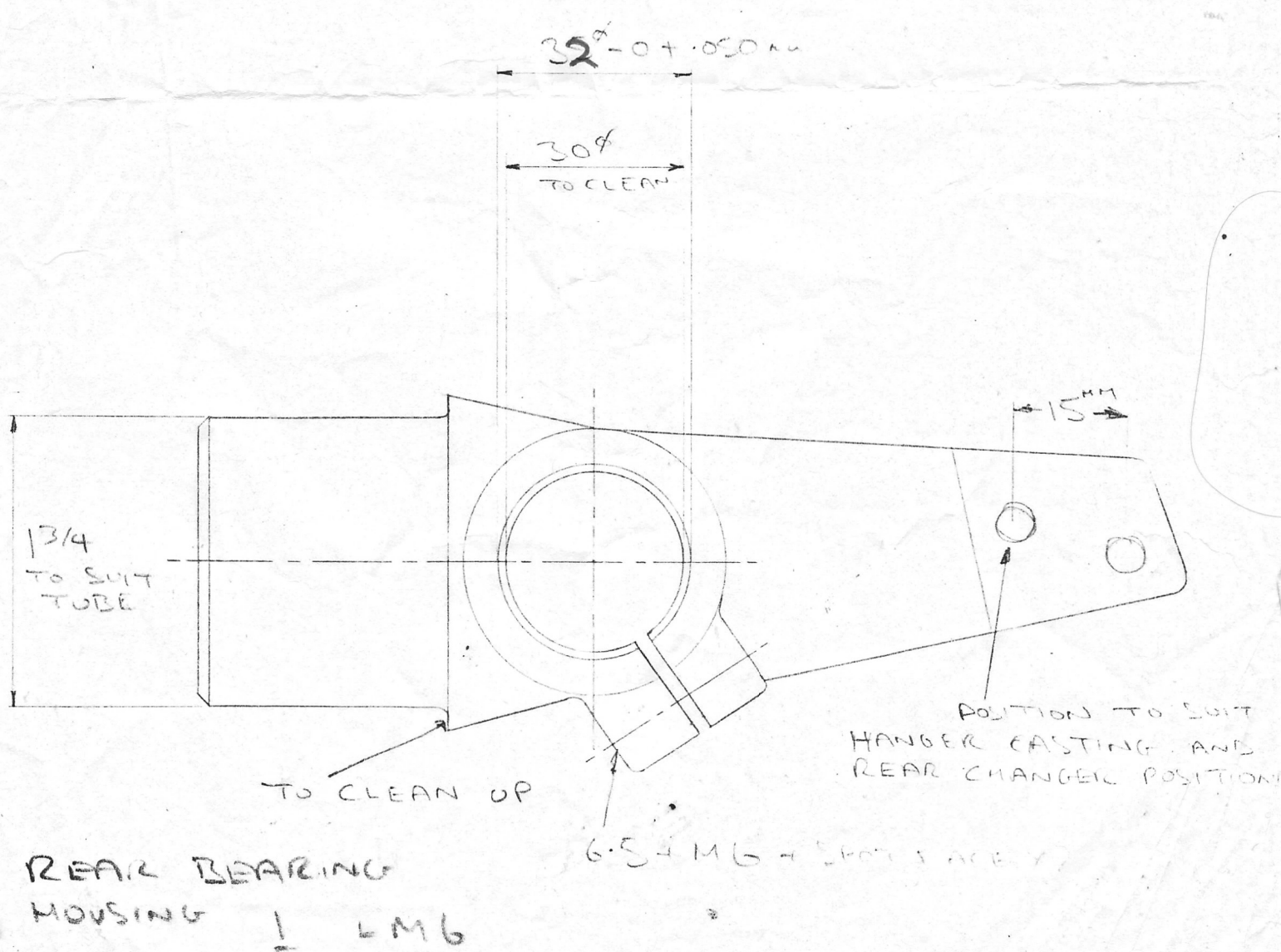
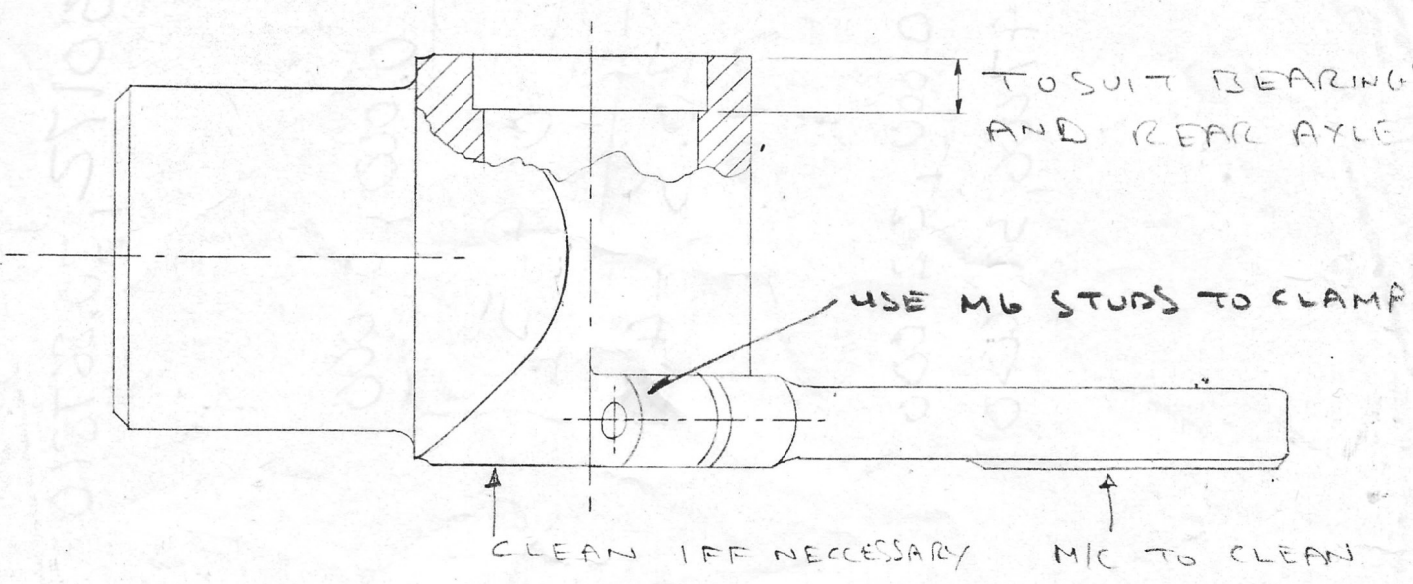
C8

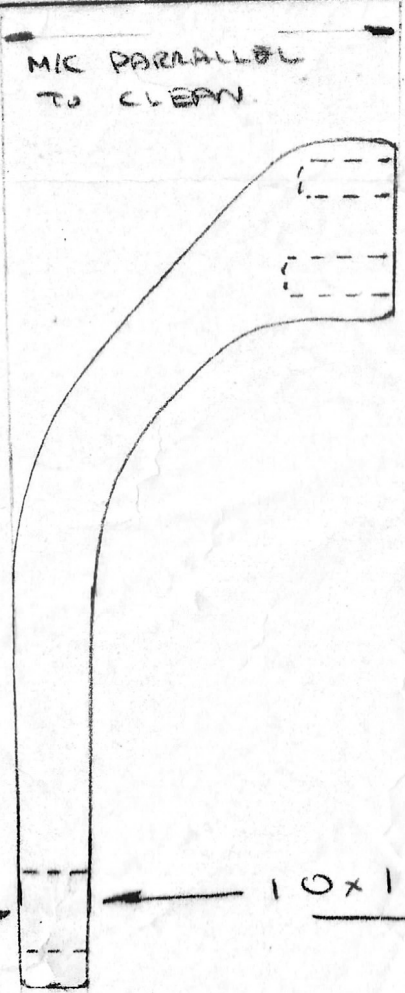


REAR SEAT MOUNT UPPER

1 LMG

C9A





MIC PARALLEL  
TO CLEAN.

USE M6 STUDS TO FIX

2 M6 POSITION  
TO MATCH REAR  
CASTING

POSITION  
TO  
CASTING

10x1 PITCH

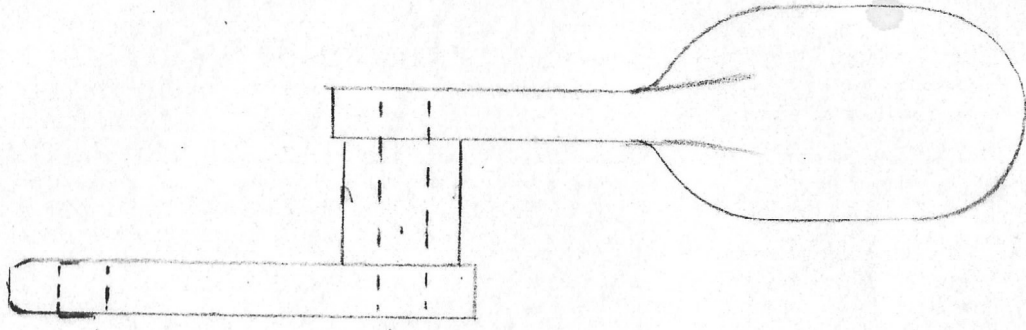
OR REPLACE  
PIVOT BOLT ON  
REAR MECH WITH  
M8 CAP SCREW

1	LMB	
No.	DESCRIPTION	DATE
REVISIONS		

REAR MANGLET

DRAWN	TRACED	CHECKED	APPROVED	DATE	SCALE
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DRAWING No. **C93**



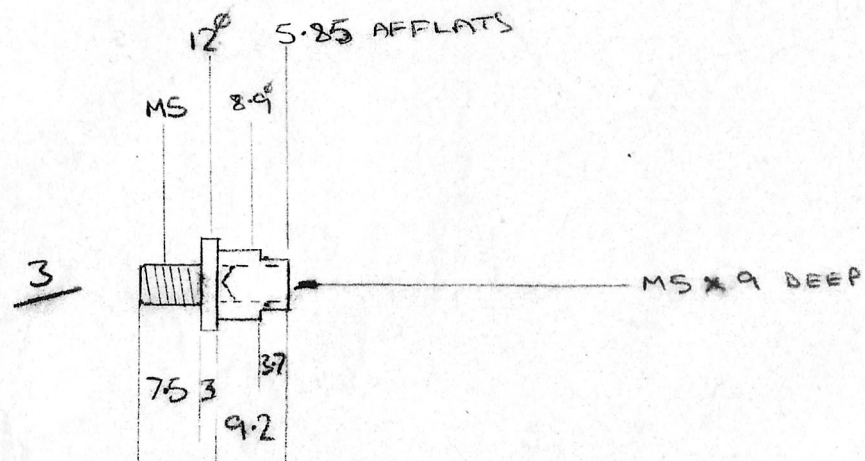
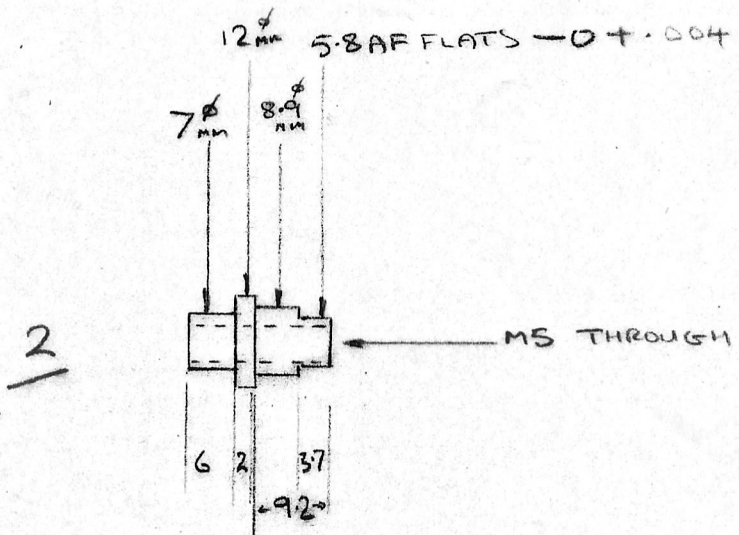
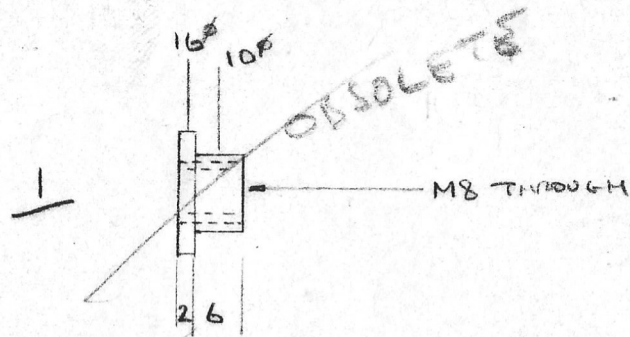
2 DRILL 6.5 Ø

1	LMB	
No.	DESCRIPTION	DATE
REVISIONS		

SPOON BRACKG

DRAWN	TRACED	CHECKED	APPROVED	DATE	SCALE
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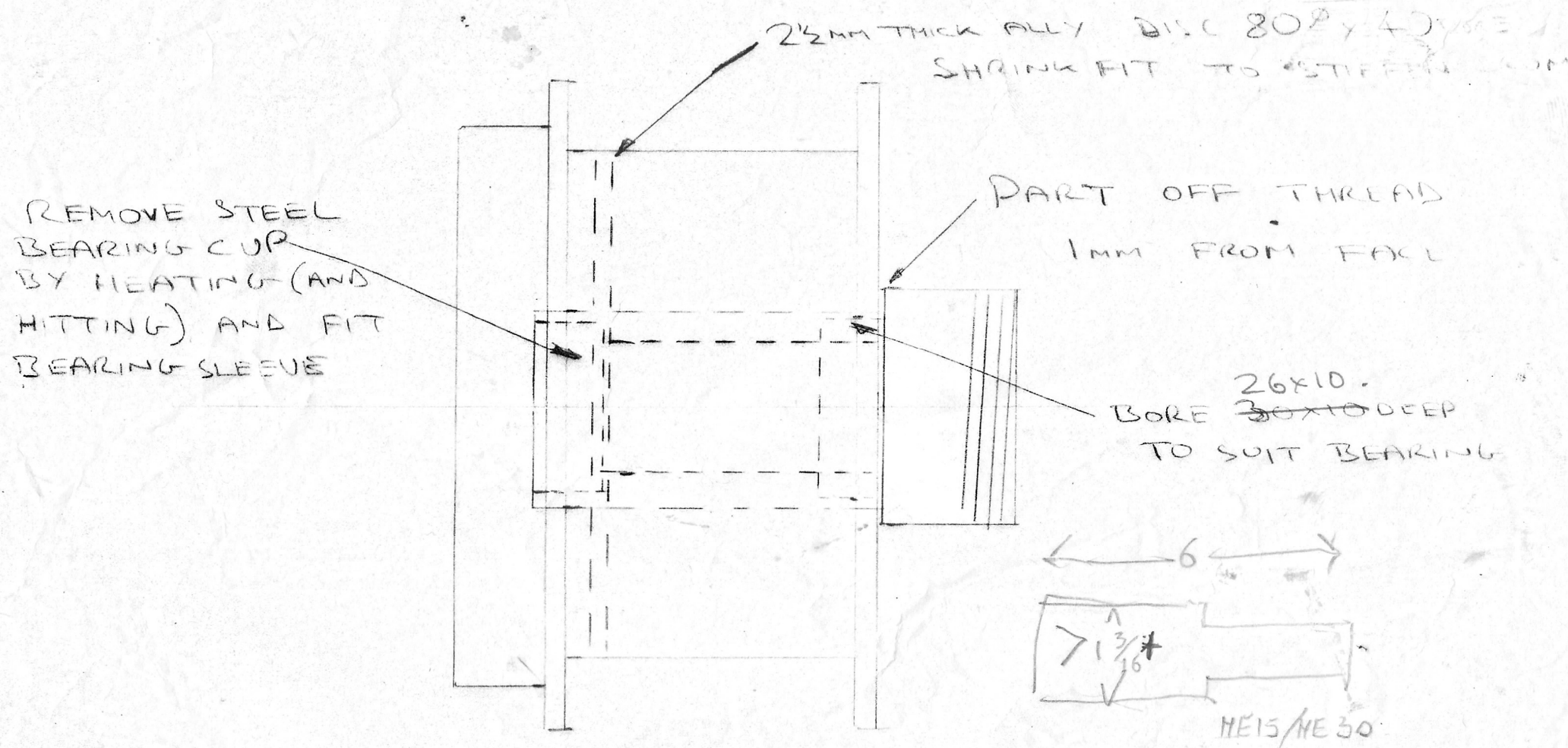
DRAWING No. 210



MAT ENIA		
No.	DESCRIPTION	DATE
REVISIONS		

- 1 IDLER STUD SLEEVE 2 OFF
- 2 GEAR LEVER BOSS 2 OFF
- 3 " " " 1 OFF

DRAWN	TRACED	CHECKED	APPROVED	DATE	SCALE
<i>[Signature]</i>				8.5.83	1-1
DRAWING No.		1	TPS	5	
		2	TPS	6	
		3	TPS	7	



No.	DESCRIPTION	DATE
REVISIONS		

DRUM BRAKES  
(MODS)

DRAWN	TRACED	CHECKED	APPROVED	DATE	SCALE
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DRAWING No. H 1

2 OFF STEERING TIE RODS  $5/16$ "  $\phi$  HE30 ALLY  $7 7/8$ " LONG ✓  
TAPPED M6 x 20mm EACH END

2" CROSS ARMS  $1 1/2$ "  $\phi$  x  $1/2$ " WALL  $7 1/2$ " LONG HE30 ALLY ✓

1 OFF SEAT TUBE 1" OD x  $1/8$ " WALL x 7" OA HE30 ALLY ✓

~~1~~ OFF STEERING TUBE  $1/2$ "  $\phi$  x  $1/8$ " WALL x  $10 1/2$ " LONG M12 THREAD x 22mm ✓  
ONE END.

~~1~~ OFF FRONT CHANGER TUBE  $3/4$ "  $\phi$  x 16G x 6" OA HE30 ALLY X

1 off main tube 2" OD  $1/8$ " wall 62" HE30 or pref HE15 X

~~Gun Metal?~~

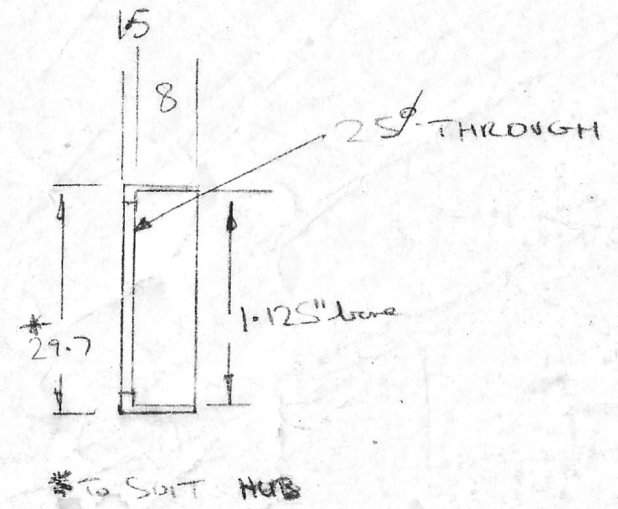
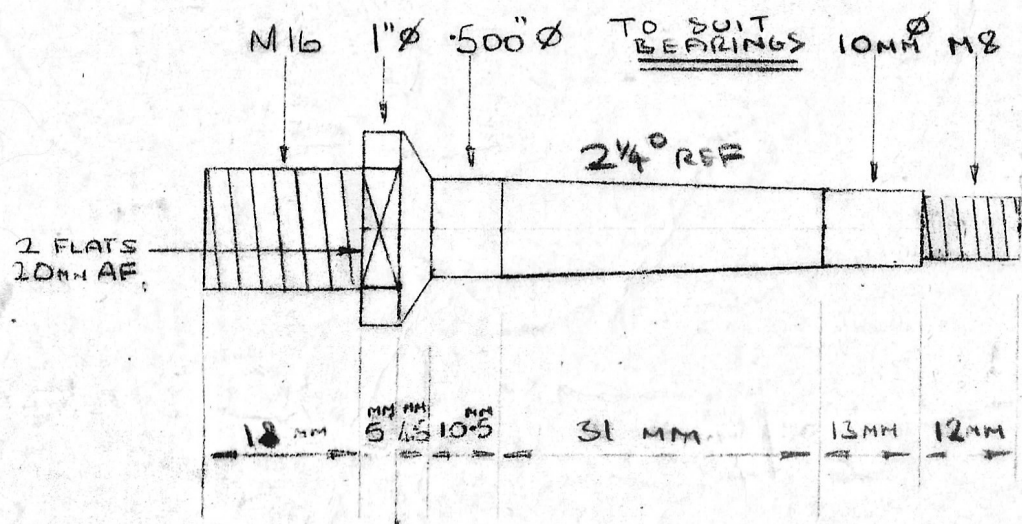
EN1A Brake shoe pivot  $1 1/2$ " x  $5/8$ " x 2

~~$2 1/2$  mm Alloy 4" square, or disc~~

No.	DESCRIPTION	DATE	DRAWN	TRACED	CHECKED	APPROVED	DATE	SCALE
REVISIONS			DRAWING No. MISC					

25.4  
3.175  
28.575

29.7  
28.575  
1.125  
.565



(97mm)

0.820

	MAT. ENIG T	1
	ALLY	2
No.	DESCRIPTION	DATE

STUB AXLE FRONT  
20FF

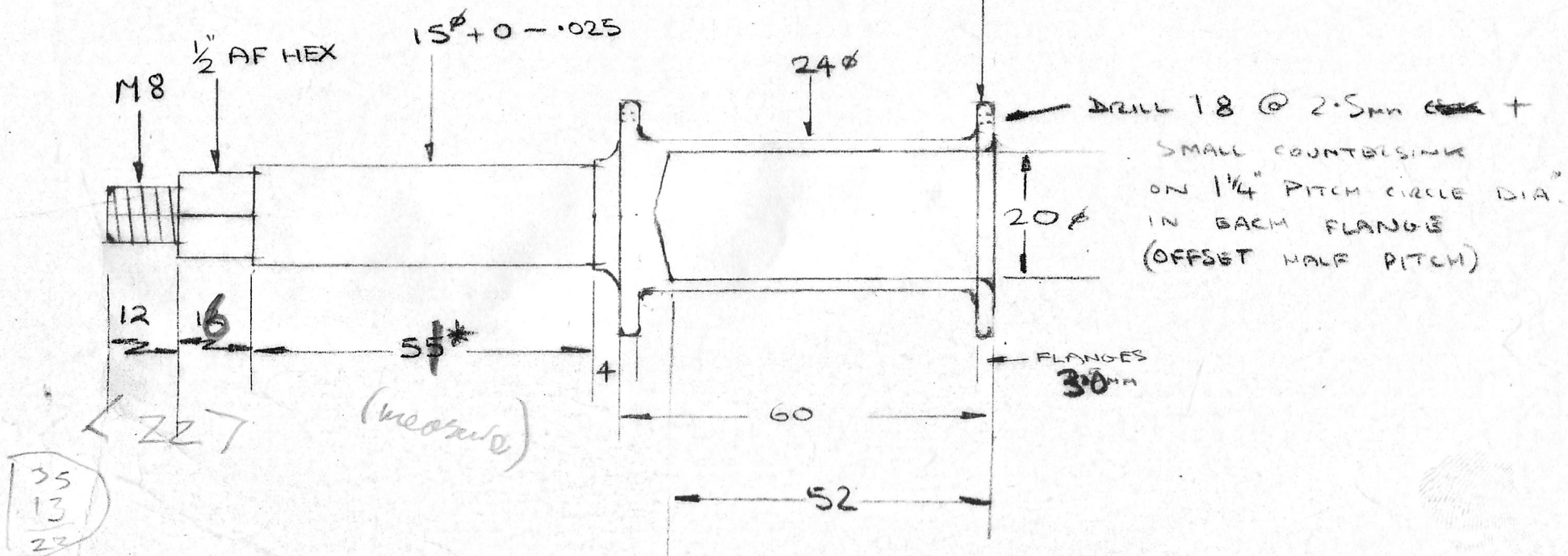
BEARING BUSH. 20FF

DRAWN <i>MB</i>	TRACED	CHECKED	APPROVED	DATE 30-12-82	SCALE 1-1
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DRAWING No. T P S 1

\* WHEN FITTED THIS WILL REQUIRE NYLON SPACER TO PREVENT END FLOAT MACHINE AS NECESSARY.

- 1. Get to 5mm
- 2. machine thread
- 3. Mount hub (washer)
- 3 mate washer
- 4 cut hex
- 5 drill out - both ends - 8mm  $\frac{2}{10}$ mm
- 6 tap f/w end



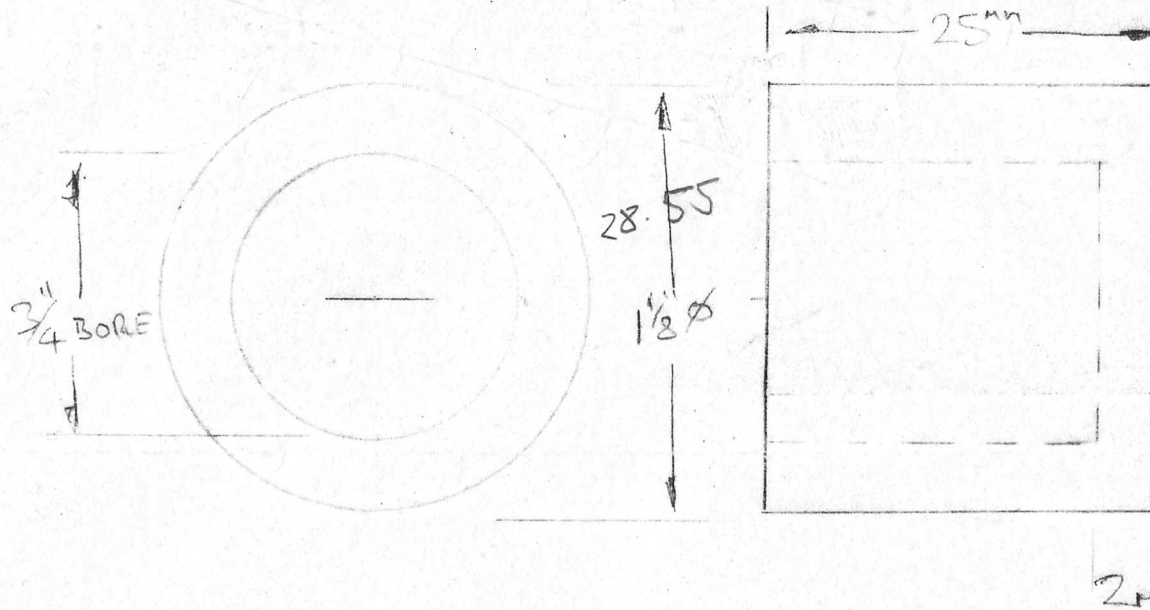
35  
13  
22

MAT EN 8		
No.	DESCRIPTION	DATE
REVISIONS		

REAR AXLE/HUB  
1 OFF

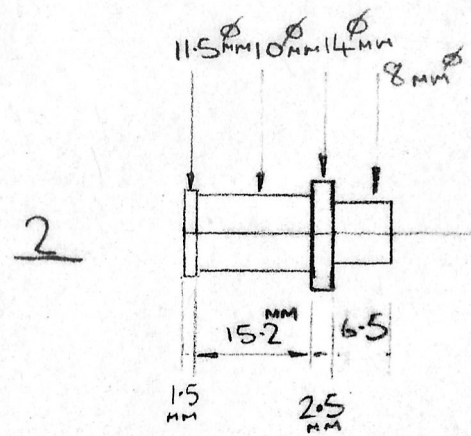
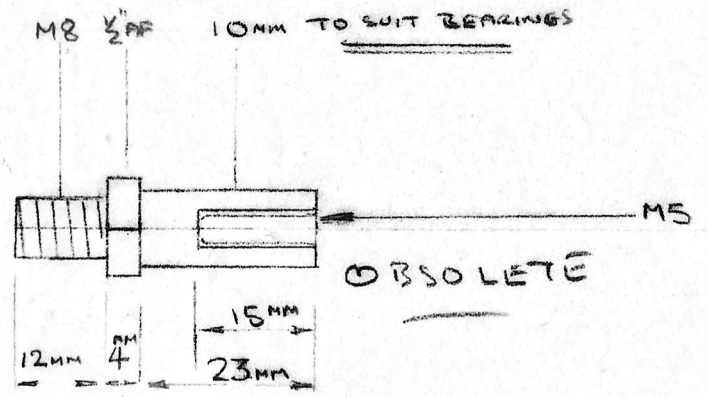
DRAWN M2	TRACED -	CHECKED -	APPROVED -	DATE 24-10-84	SCALE 1-1
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DRAWING No. TPS 2 B



FRONT CHANGER  
MOUNT SLEEVE  
"PLASTIC"

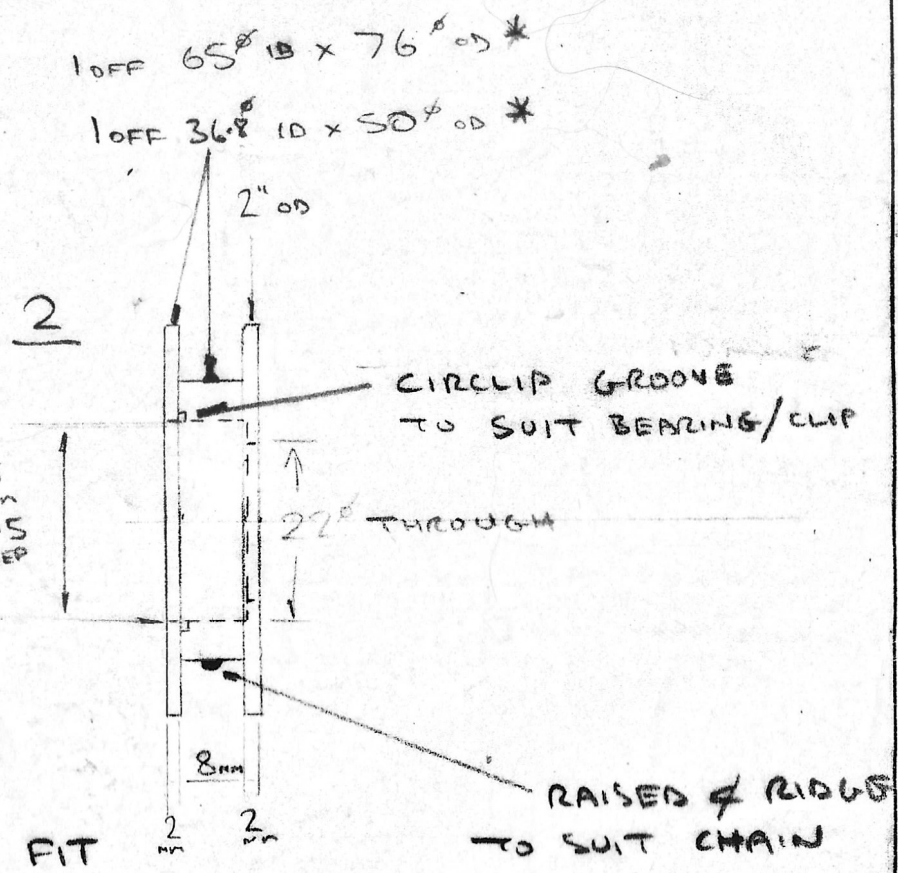
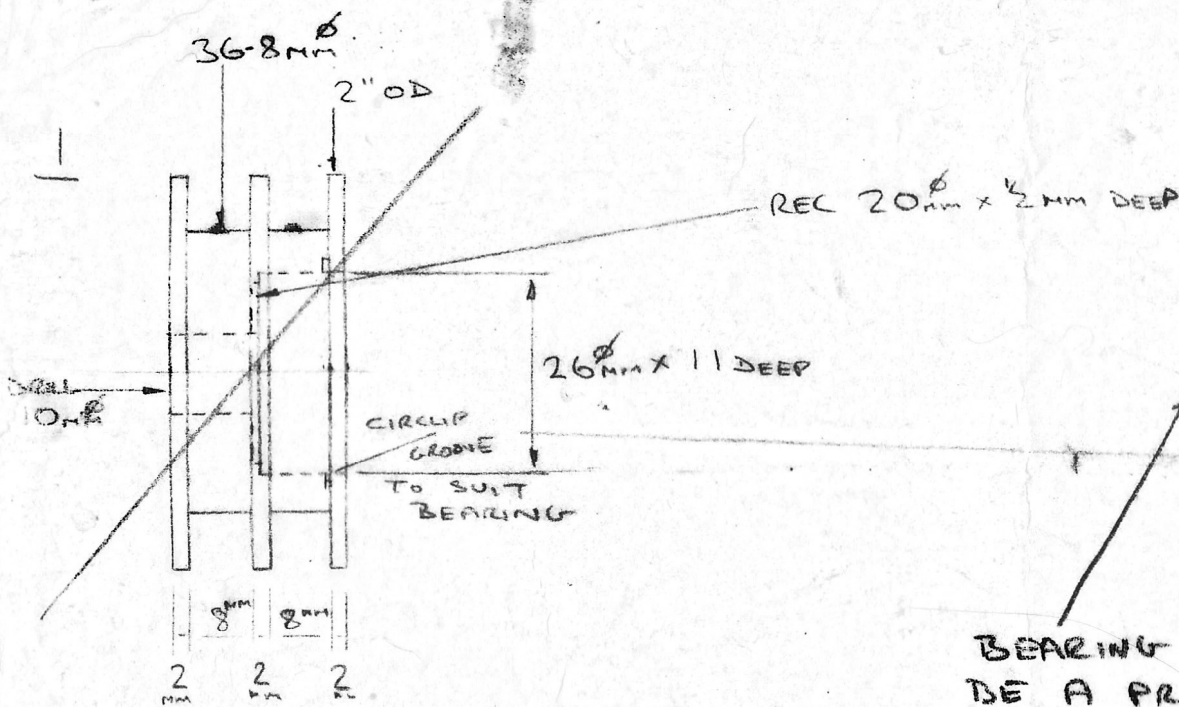
2X  
=



1	MAT 1/2 AF HEX	
2	MAT MS (EN1A)	
No.	DESCRIPTION	DATE

1	IDLER AXLE <u>OBSOLETE</u>
2	BRAKE SHOE PINOT 2 OFF

DRAWN <i>MS</i>	TRACED	CHECKED	APPROVED	DATE 30-12-82	SCALE 1-1
DRAWING No. 1			TPS 3		
2			TPS 4		



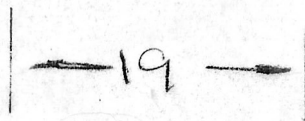
1	MAT 2" NYLON	
2	MAT 2"	
No.	DESCRIPTION	DATE

1 IDLER ~~OBsolete~~  
2 IDLERS 1 EACH \*  
2 OFF

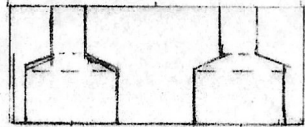
DRAWN MB	TRACED	CHECKED	APPROVED	DATE 30-12-82	SCALE 1-1
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DRAWING No. 1 TAN 1  
2 TAN 2A

①



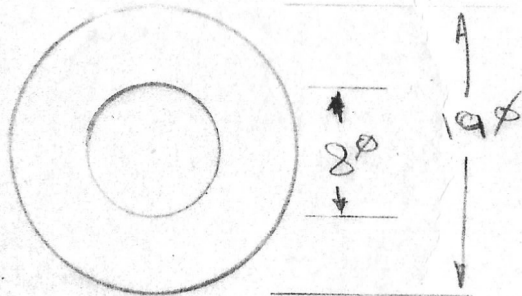
2x



7.5  $\phi$  (TO SUIT BRAKE LEVER)



DRILL 2 6.5  $\phi$  - SLEEP + 2.5 THROUGH



2 EACH 1MM THICK NYLON AND PTFE OR ACETAL

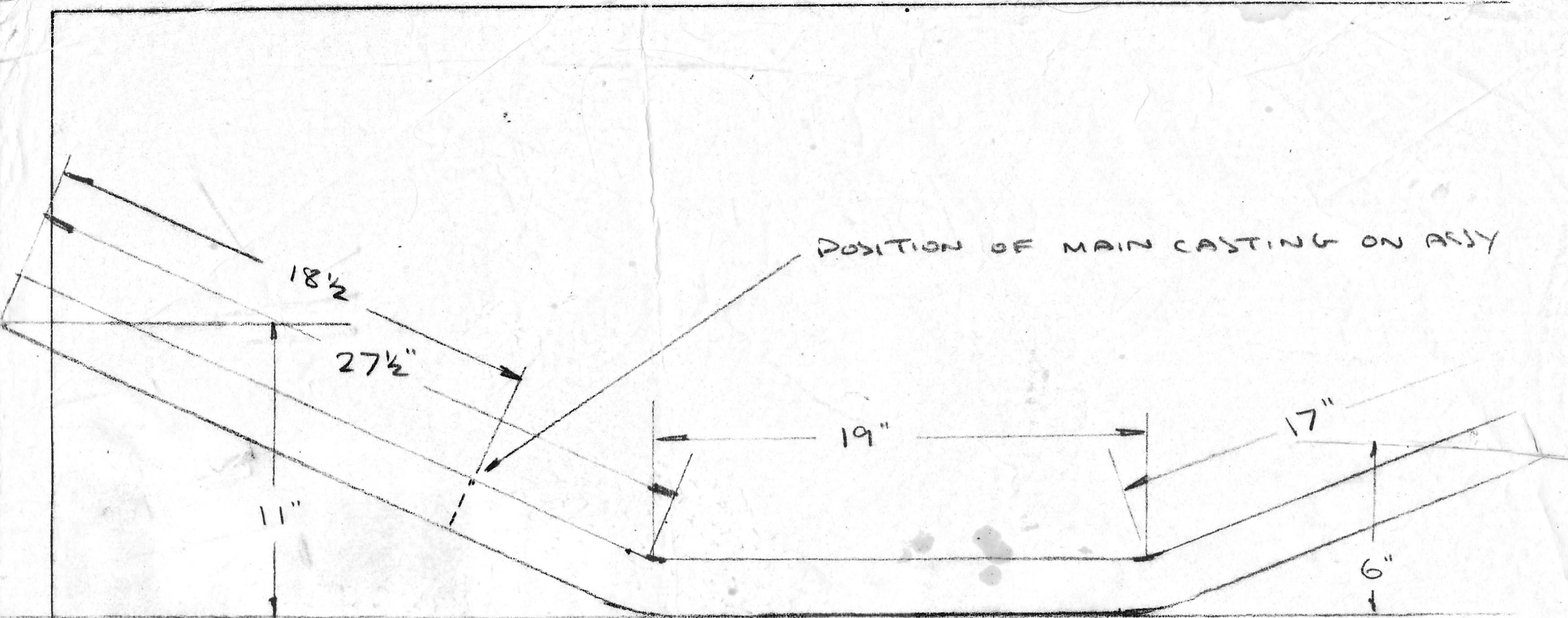
2x

①	ALLY	1 OFF
②	NYLON/PTFE/ACETAL	4 OFF
No.	DESCRIPTION	DATE
REVISIONS		

- ① BRAKE LEVER CABLE ANCHOR
- ② KING PIN THRUST WASHERS

DRAWN	TRACED	CHECKED	APPROVED	DATE	SCALE
					2x

DRAWING No. TPA 3 TPN 3



2" OD x 1/8 WALL  
 62" LONG BEFORE BENDING

730123 EXT 74 JOHN WOODRICK

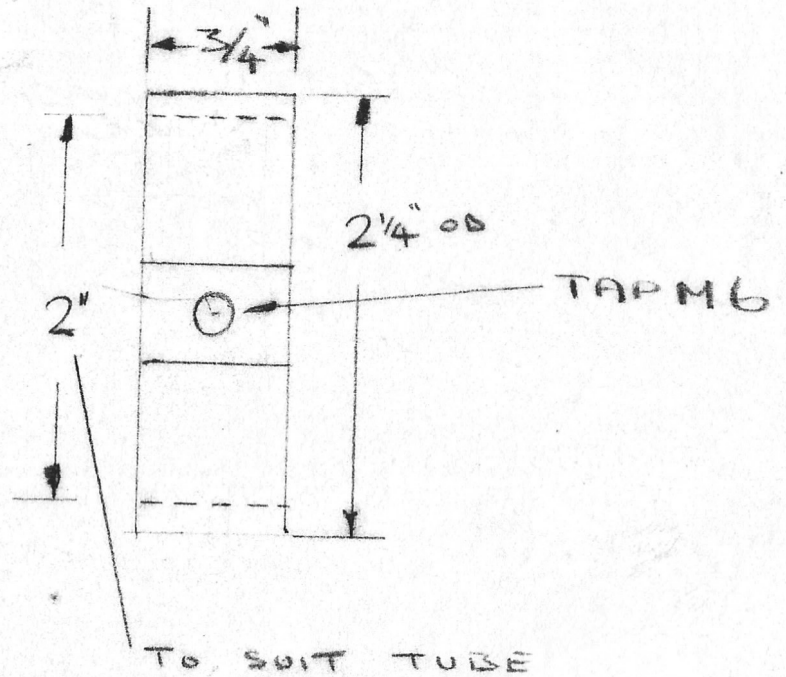
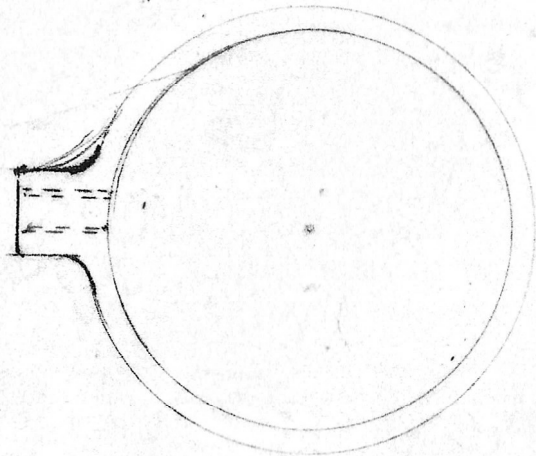
MAIN TUBE HE30  
 ALLY

DRAWN	TRACED	CHECKED	APPROVED	DATE	SCALE 5mm = 1"
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No.	DESCRIPTION	DATE
REVISIONS		

DRAWING No. T 1

FIT STUD  
FOR HANDBRAKE  
PIVOT



MAT. ALLY HE30

HANDBRAKE MOUNTING  
BRACKET

DRAWN

*M*

TRACED

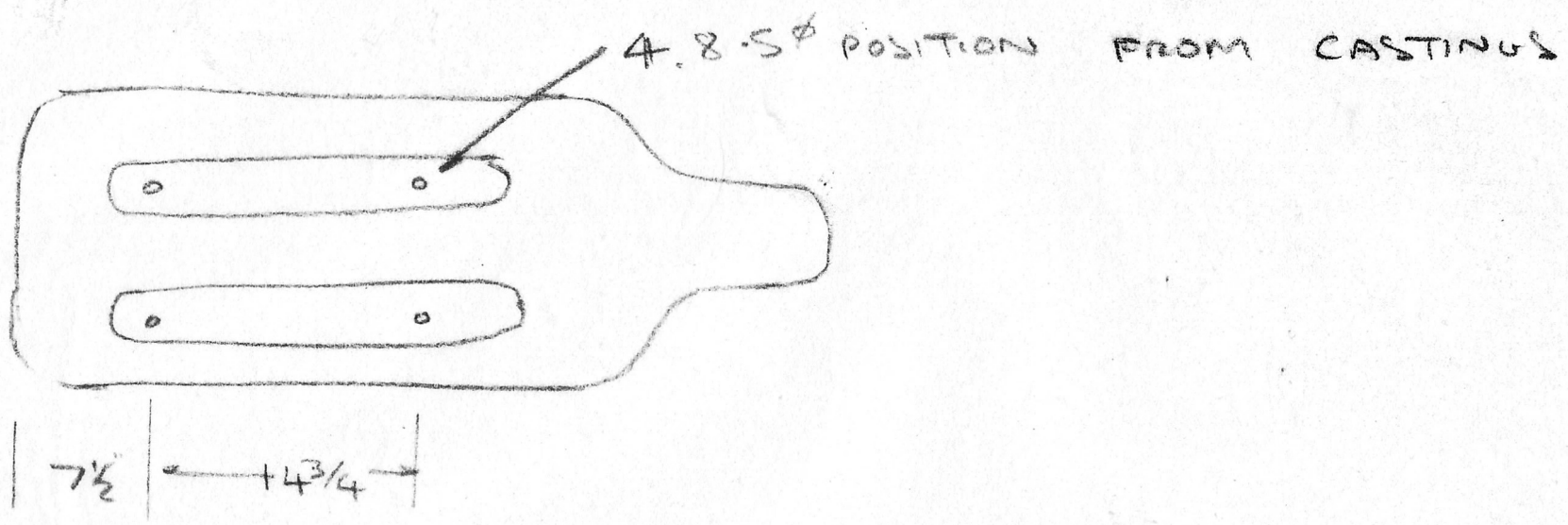
DATE

12-1-86

SCALE

1/1

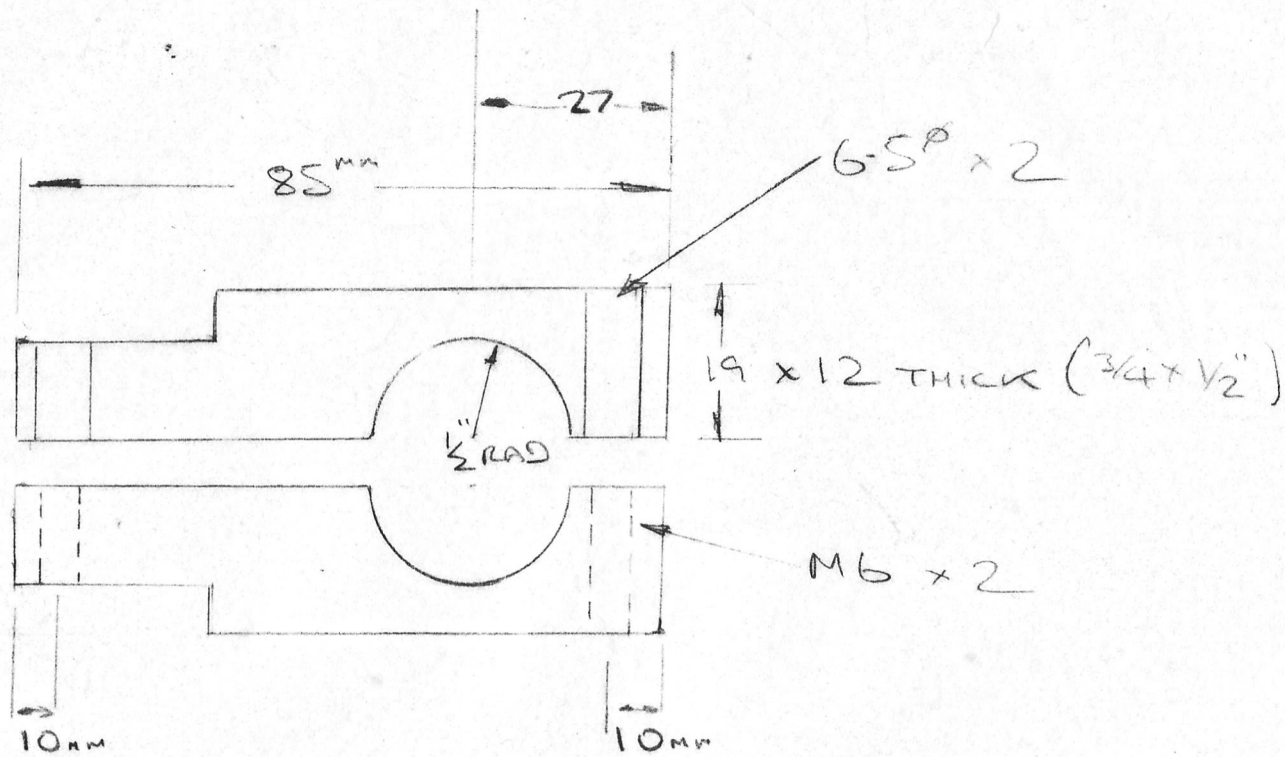
DRAWING NO. AM. 1.



No.	DESCRIPTION	DATE
REVISIONS		

SEAT

DRAWN	TRACED	CHECKED	APPROVED	DATE	SCALE
DRAWING No. S1					



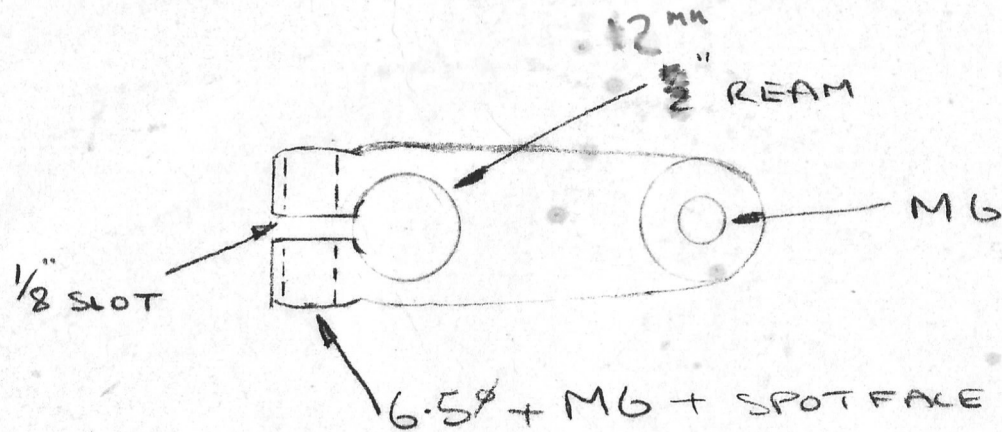
THIS SUITS UNION DYNAMO  
MAY NEED MODS FOR OTHERS

No.	DESCRIPTION	DATE
REVISIONS		

DYNAMO BRACKET  
HE30 ALLY

DRAWN	TRACED	CHECKED	APPROVED	DATE	SCALE
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DRAWING No. D.M. 1

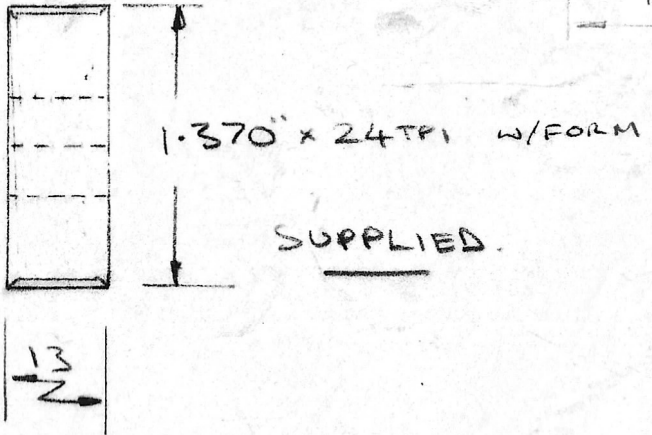
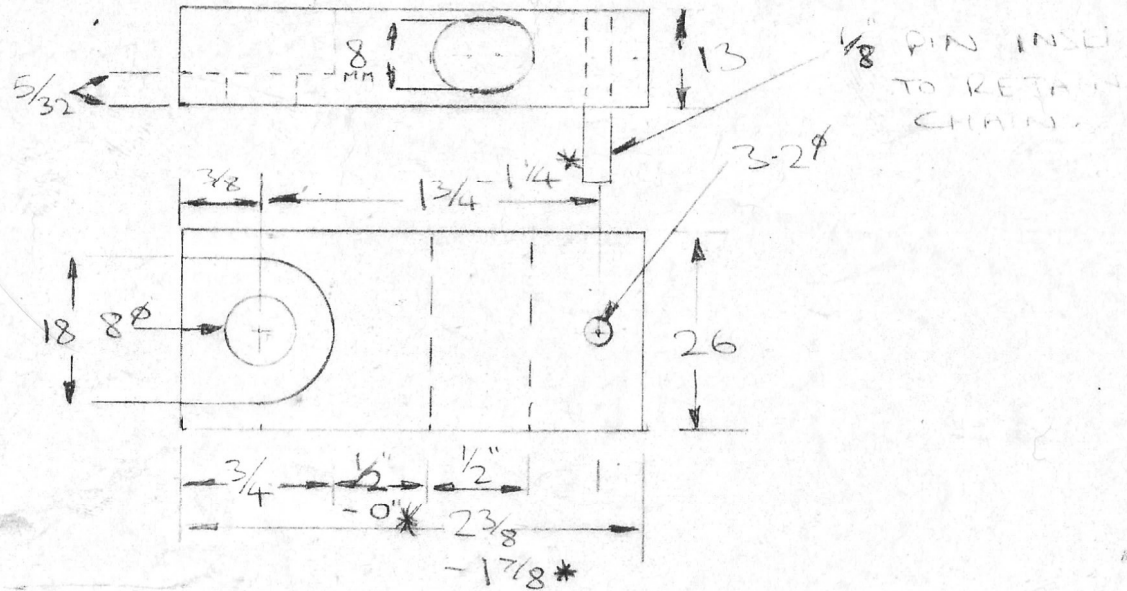
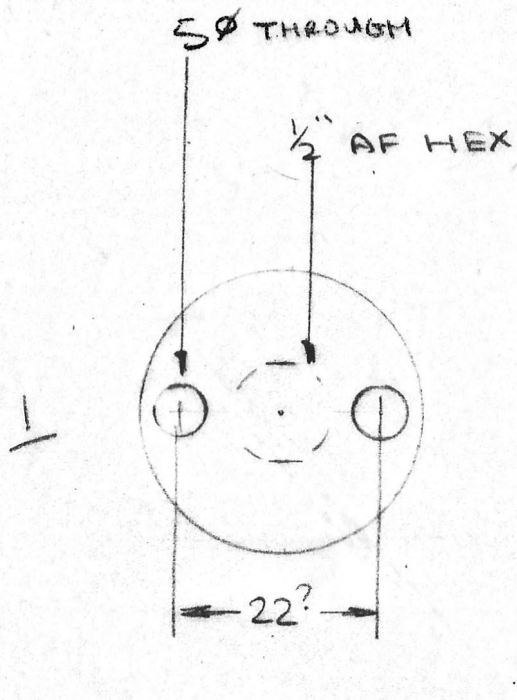


1	GUNMETAL	
No.	DESCRIPTION	DATE

STEERING ARM

DRAWN	TRACED	CHECKED	APPROVED	DATE	SCALE
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DRAWING No. BCI



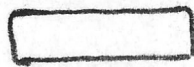
1	MAT. ALLY HE30	
2	" ACETAL RESIN OR	NYLON
No.	DESCRIPTION	DATE
REVISIONS		

- 1 BLOCK ADAPTOR 1 OFF
- 3 CHAIN GUIDES \* EACH

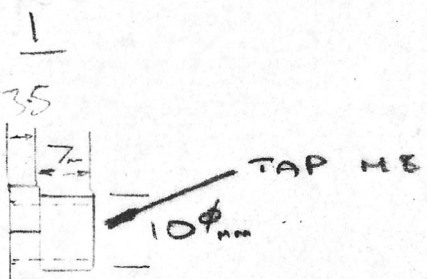
DRAWN	TRACED	CHECKED	APPROVED	DATE	SCALE
				24-10-84	1-1

DRAWING No. TPA 2 B 2/ TPAR 1A/B

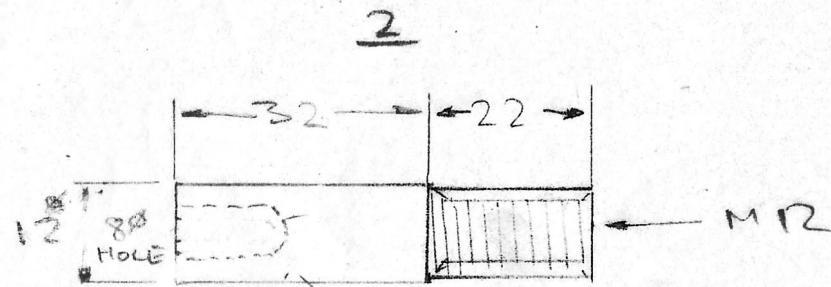
1-18 →



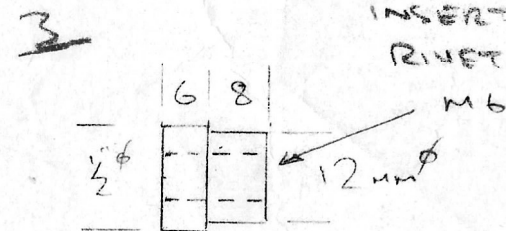
8 $\phi$  NYLON PIN  
TIGHT FIT IN NO 2



1/2 AF  
2 HEX



THIS PART AND STEERING TUBE  
TO BE FITTED TO STEERING JOINT -  
INSERTED WITH LOCTITE AND  
RIVET OVER ENDS



	M/STEEL	1								
	ALLY	2/3								
No.	DESCRIPTION	DATE	1	ISLER BUSH 2OFF	DRAWN <i>MS</i>	TRACED	CHECKED	APPROVED	DATE 3-12-83	SCALE 1-1
REVISIONS 2-10-84 KEY REMOVED			2	STEERING ARM PIN 1OFF	DRAWING No. TPA 4-5-6					
			3	BRAKE MOUNT 1OFF						



HUMAN POWERED VEHICLES

BURROWS ENGINEERING  
Green Lane West  
Rackheath  
Norwich, Norfolk NR13 6LW  
Tel: Norwich 721357

SPEEDY KIT

This comprises:-

13	castings
2	17" rims
1	24" rims
2	drum brakes
1	seat
4	rod ends
1	universal joint
5	D.U. bushes
4	seat mounting rubbers
1	block adaptor

Drawings for all castings and other machined parts and advice on possible machining approaches and assembly details.

You will need additional items to the value of approximately £200 - 250.00 .



HUMAN POWERED VEHICLES

BURROWS ENGINEERING  
Green Lane West  
Rackheath  
Norwich, Norfolk NR13 6LW  
Tel: Norwich 721357

WINDCHEETAH S.L. - Maintenance Manual

The first thing to understand about the S.L. is, that it is not a cycle in the normal sense and that your local cycle shop may well be baffled by some of its features.

Certain jobs such as bearing replacement would probably be best handled by a local engineering works or even motor cycle dealer.

BRAKES

The stopping power of the drum brakes fitted to the S.L. is as you will have discovered by now, exceptionally good. This brings with it, its own problems in that if they get out of adjustment, they will pull badly to one side.

The adjustments for this are on the hubs and once set they should remain set for some while.

Special care should be taken if water has got into the drums as just like a car they will tend to snatch until dried out.

The shoes would seem to last around 6000 miles or more. Any tendency to excessive snatch or squeal can often be cured by abrasive rubbing on the shoes with coarse emery. The rear brake is intended for parking and is not very effective!

STEERING

For correct response and feel the front wheels should toe in between 3 and 6mm, any more will cause excessive tyre wear and drag and too little will make the steering jerky. Adjustment can be carried out by releasing the track rod end from the steering arm and screwing it on or off the track rod.

None of the steering joints should require lubrication unless they get frequent wettings in which case an occasional spray of Triflon seems to work well.

Do not let friends sit in your S.L. turning the steering from side to side when stationary as this causes excessive wear in the universal joints.

Occasional checks on the tightness of all nuts in this area is to be recommended.

## HOW TO BUILD A 'SPEEDY'

Rule number one, if in doubt ask ! Norwich: 721357

You will need a lathe and milling machine at the very least to complete this kit and the experience to operate them or you could get someone to do the machining for you.

The turned parts are all fairly straight forward but check where they mate with commercial parts ie. gear lever bosses.

Bending the main tube is very easy if you have a good bender, if not, find someone who has.

The main problem with the castings, is holding them.

How you do this will depend upon what equipment you have.

Spend a lot of time thinking and a little machining !

In many cases you have to machine to the 'casting' rather than a set dimension.

Don't worry too much, as spare castings are quite cheap.

All clearances for glued joints should be +002" +005".

They are not fussy but be careful as sliding a very clean casting down a clean ally tube is tricky and they can easily "pick up".

Keep cross checking all through and when all the parts are ready, fit them together dry and check ground clearance, etc.

I have used both Loctite 638 and Permabond 201, both of which work well and there are probably others that you could try.

Clean all joints with acetone and roughen surface with file to provide a good key.

Apply adhesive with a brush to both surfaces and slide together, except C2 main casting which is positioned roughly at first and filled through a small hole with a hypodermic until it floods out at the edges.

Any joint that turns out to be wrong after setting can be dismantled by heating with a torch to about 250°c, which will soften the glue.

### BEARINGS

All the bearings used are standard sealed ballraces and no adjustment as such is possible, but all are replaceable.

The front wheels require some skill, and heating the hub with a normal fan heater will make removal and refitting easier, any bearing which is still loose when the hub cools should be refitted with Loctite.

The front and rear spindles are simply clamped in place. The only thing to watch is that you do not overtighten as this will distort the bearings.

The jockey rollers are simple enough if you have circlip pliers if not then borrow some!

### CHAIN

Same as a bike but more of it! A monthly spray with Triflon seems to work well. A noisy chain is usually a sign of needing oil, but could mean that one of the outer chain guides have been knocked out of line.

### WHEELS

Any truing or re-building that has to be done is probably best done on the machine unless you want to make dummy axles.

The rear wheel is a tight fit and care should be taken not to damage the bearing face.

On the front wheels care should be taken when refitting not to overtighten the nuts. They should be just pinch the bearings and no more.

### GEARS

Same as your bike but when removing the rear mech use the 6mm nuts when possible to avoid stripping the thread in the alloy arm.

### FRAME

This is a glued assembly and certain repairs can be carried out but I would suggest contacting the works with any problems.

### SEAT

This is adjustable for height (length?) by means of the 8mm clamp nuts at front and rear. If this is not sufficient then new holes can be drilled in the seat although this may alter the angle.

Bearing services Ltd 10 Leyden Rd Stevenage

F6 357641

BEARINGS

RHP  
SKF

Japan

British

Front wheel inner	KLNJ 1/2" R51 XZ	C	£3.36
Front wheel outer	6000- R51 XZ	C	£1.77
Front spindle	6003 R51 XZ	C	£2.20
Rear spindle	6002 R51 XZ	C	£2.09
Chain pulleys	600C 2R51 XZ?	C	£1.77

80% discount

THREADS

18.45 - 4.30

1 - 1.30

Front wheel nuts	M8	672
Rear wheel nuts	M8	354
Rear block nuts	M8	440
Front bearing clamp	M6	418
Rear bearing clamp	M6	354
Rear seat mount	M8	2238
Front seat mount	5/16" UNF	2 238
Seat rubbers	3/16" UNF	1 119
Rod ends	M8 6	1 119
Steering arm bolts	M6	25737
Steering lever clamp	M6	
Steering arm clamp	M6	
Pedals	9/16" x 18 L & R	
Block	1.370 x 24 TPI	
Wheel spindle to hub	M16	
King pins	M8	
Rear gear changer	M6 + 10 x 1mm	
Chain pulley spindle	M8	

SKWange

0438 312311

ext 263

365

SPARES LIST

A = Works only	B = Modified	C = Recommended	D = Any Equivalent
Frame	Ally tube and castings		A
Front rims	17" moulton H.P.		B
Rear rims	24" H.P.		D
Front spoke	5 5/16"		A
Rear spoke	10 3/16 + 10 1/4		A
Front brakes	Normandy Tandem		B
Rear hub	<del>Ken Rodgers</del> INTEGRAL		CA
Front spindles	EN16T steel		A
Rear spindles	EN16T steel or 8		A
Chain set	T.A. tourist		D
Crank spindles	F.T. double		C
Pedals	MKS		D
Seat	GRP		A
Seat mount	Exhaust mounts		C
Chain	Sedis sport		C
Front changer	Suntour		D
Rear changer	Suntour G.T.		D
Front tyres	Moulton 17"		C
Rear tyres	24" speed		D
Gear/brake levers	Campag		C
Front gear cable	Milremo rear gear		D
Rear gear cable	Milremo handle gear		D
Rear brake cable	Milremo rear gear		D
Front brake cable	Milremo rear brake		D
Chain pulley	Nylon		A
Chain guides	Acetal / NYLON		A
Lights	<del>Sanyo</del> DYNAMO (UNION)		C
King pins	Silver steel		A
Rod ends	<del>Huco M8</del> SPRINGFIX M6		B
Steering joint	Huco 1 1/4"		C
Steering rods	HE30 5/16" Ø ally		A
Foam	Bultec		D
Block	Suntour 13.28 ultra b		D
Block adaptor	<del>Ken Rodgers</del> BURROWS		C
Front seat clamp	2" Exhaust clamps		D
Seat knobs	Reneol		D

### JOYSTICK C3

1. Clamp to A/Plate face. Drill/Ream  $\frac{1}{2}$ " diameter drill 4 @ 2.55mm + 5.1 C/Bore and 1 @ 5.5. Locate by eye in best positions.
2. Clamp to A/Plate Drill/Tap MS + 200mm recess. Drill 7mm through.
3. Hold  $\frac{1}{2}$ " bar in vice, slide joystick on and clamp FREE END (near 7mm hole) Drill/Tap 6.5 + M6 + C/Bore.
4. Hold in vice, drill 5.1 through and C/Bore  $\frac{1}{2}$ " diameter 2mm DEEP, turn over and C/Bore 7mm.
5. Drill 2.5 + C/Bore 5.1 using long series drills FREEHAND ?
6. Cut slot using two blades in hacksaw.

### DRUM BRAKES

1. Dismantle.
2. Hold in three jaw part off thread bore 26mm to suit bearing.
3. Make inserts for  $\frac{1}{2}$ " bearing and stiffening disc.
4. Heat drum brake (with FAN HEATER) fit discs and bearings.
5. File one operating cam to reverse handing.
6. Fit brake shoe pivot post to back plate with loctite and rivet over at rear.
7. Re-assemble shoes etc, on new back plate, check cams for correct handing !

REAR BEARING HOUSING C9a

1. Hold dividing head or fixture to bore 30mm and 32mm  $\phi$  bores and machine face.
2. Clamp to fixture to turn to  $1\frac{3}{4}$ " diameter.
3. Clamp to A/Plate face gear hanger joint. Re-position drill 2 x 6.5 diameter and M6 and C/Bore. Cut two slots 1/16.

FRONT BEARING HOUSING C1

1. Ditto C9a.
2. Ditto C9a.
3. Ditto C9a.
4. Clamp on A/Plate drill  $\frac{3}{4}$ " diameter.

REAR GEAR MANGER C9B

1. Hold in vice machine face 'A' and deill/tap M10 x 1
2. Hold in vice machine face 'B' and drill/tap 2 @ M6.

SPOON BRAKE C10

1. Hold in vice drill 2 @ 6 diameter (That's all!)

FRONT SEAT MOUNT C6

1. Hold in vice, drill 2 @ 8.5 diameter and 2 @ 5/16" UNF. face top to clean.
2. Clamp to A/Plate and bore  $\frac{1}{2}$  round to 2" diameter, and drill 2 @ 2.5 diameter and 5.5 C/Bore.
3. Clamp to A/Plate drill M8 and C/Bore.

LOWER REAR SEAT MOUNT C7

1. Hold in 4 jaw bore 2" diameter and face.
2. Clamp to A/Plate bore 1" diameter.
3. Clamp to A/Plate drill 2 @ 8.5 and M8 plus C/Bores.
4. Hold in vice slit with  $\frac{1}{8}$  saw.
5. Drill/tap M4 by hand.

*Face both sides?*  
*1000 RPM or less*  
*1500 1000*  
*500 3*  
*- less than 2000 RPM - do on mill?*  
*- use vice + drill? - move vice*  
*mill*  
*inverted*  
*spot face*  
*not casting*

MAIN FRAME LUG C2

1. Hold in 3 jaw chuck to bore 2" through.
2. Mount on spigot to face 'A' square to bore.
3. Bolt to angle plate 'Face A' set head of mill to  $2\frac{1}{2}^{\circ}$  and align castings by eye with cutter for both angle and position and bore  $1\frac{1}{2}$ " diameter  $2\frac{1}{2}$ " deep both arms.
4. Still on angle plate with head square drill and ream 14mm diameter and 10mm diameter holes and M8 and spotface.

*What is 'A'?*

STEERING ARM BC1

1. Hold in vice ream 12mm and tap M6.
2. Hold in vice drill 6.5 diameter and M6.
3. Hold in vice slit  $\frac{1}{8}$ .

UPPER REAR SEAT MOUNT C8

1. Hold in 4 jaw, bore 1" diameter.
2. Hold in 'V' jaw vice, drill 5/16" UNF 1 end at a time.

BACK PLATE/KINGPIN ASSEMBLY CS L & R

1. Hold in 4 jaw face 'A' and boss drill/tap M16, cut groove 90.5 diameter.
2. Hold in vice mill top and bottom face to 52mm A 7°.
3. Clamp to A/Plate drill and ream 10mm diameter A 7°.
4. Screw on to M16 spigot on bed of mill, drill 8mm and ream 11mm @ 2.5"  $\phi$ .
5. Hold in vice face boss to 11mm .
6. Hold in vice drill/tap 2 @ M6.

FORK ENDS

1. Hold in 4 jaw chuck and turn spigot 1.250" diameter.
2. Hold in dividing head or make fixture drill 8 diameter and tap M8 and face to 55mm and  $\phi$  bores.

## ASSEMBLY SEQUENCE

Slide on handbrake bracket but do not glue until wheel is fitted.

Fit rear bearing housing C9a.

First check alignment by laying main tube on it's side, when the casting should tilt slightly so as to bring the wheel about  $\frac{1}{4}$ " nearer to the centre at the ground.

Fit fork ends C4 to side tubes. When set assembly main casting

When set assemble main casting C2 with side tubes "dry", fit hubs and wheels and rear wheel so that machine can be stood on ground and angles checked by eye.

Inject adhesive into C2, wiggle it to spread adhesive and check it's position and angle (rear wheel in at ground) and leave to set.

Remove side arms and re-fit with adhesive support front tube at correct height and insert 12" or so lengths of 8mm diameter rod with  $\frac{1}{2}$ " of M8 thread as king pins to check angle by eye from side elevation.

They should angle back about  $1^{\circ}$  at the top.

Greater angles increase the self centring but make steering heavy, and vice versa. Leave to set.

Fit bottom bracket, aligning it so that the chain ring will be about  $\frac{1}{8}$ " in at the top.

Fit front changer tube and assemble C7 and 8, seat mounts on tube square to each other.

All studs should be retained with Loctite also front axles. Also the front brake shoe pivot posts can be assembled with Loctite but still need riveting over at rear with a ball peen hammer, carefully, or you will damage casting.

Also on the brakes you will have to file one of the operating cams to reverse it's handling.

You will need M8-6-5 studding or screws to cut down for various studs, ie seat mount, rollers.

Always use nylock or similar nuts. King pins can be standard M8 x 90 bolts with 24mm of thread but standard ones tend to be undersize and I generally make them up from ground bars plus a nut fixed at one end or turn from solid.

When fitting the D.U. bushes for these and the steering pivot, be very careful not to scratch their surface.

The steering joint assembly, when complete, should be cross drilled through the nylon body into the ally and tapped M5 (2of) to prevent it pulling apart.

If you have any queries, please do not hesitate to call me, also any advice you think might be useful to other builders, will be gratefully received.