

DETAILS OF TEE SLOTS FOR THE ATTACHMENT OF WING PLATFORMS TO STRUCTURE. BASEPLATE TO BE BOLTED TO STRUCTURE FOR TRIAL ASSY. AND THEN FINALLY WELDED. 16 HOLES POSITIONED ON TRIAL ASSY FROM TC1225 20 DRILL 6.5 DIA. & TAP M10 x 1.5.

SCALE :- 1:2

BOLTS USED FOR TRIAL ASSY

JACKS TO BE ROTATED ON ASSY. TO PROVIDE A CLEAR NATURAL DRAPE OF SUPPLY HOSE OVER WORKING TRAVEL OF SCREW JACKS. POSITION TO BE MARKED ON JACK MOUNTING PLATE (TC1225 13) & HOLES TRANSFERRED TO JACK - DRILL BASE OF JACK. 4 HOLES 5 DIA. & TAP M6 x 1.0 x 8 DEEP.

NOTE 1 - FOR DETAILS OF PLATFORMS, FLOORING HANDRAILS & LADDER SEE DETAILED ARRANGEMENT DRAWING N° TC1225 19

THIS PIPE CLIPPED TO FRAME (TC1225 03) WHERE SUITABLE. ROUTE TO BE DETERMINED ON ASSY.

DETAILS OF PIPEWORK TO CYLINDERS. SCALE :- 1:2

PART VIEW IN DIRECTION OF 'C' C. SCALE :- 1:5

POSITION AND SPOT ON ASSY

CABLE WRAP SIDE

MICROSWITCHES POSITION ON ASSY. AT EACH END OF TRAVEL. 4 HOLES DRILL 2.5 DIA. & TAP M3 x .5

OPPERMAN MOTORIZED WORM RED GEAR UNIT SIZE DGM 320 MOUNTING 3 7.3:1 RATIO WITH FLANGE MOUNTED BROOK CROMPTON PARK 3 PHASE TEVY CAGE MOTOR 7.5 kW 1488 RPM. CAGE SIZE D188.8 METAL SUPPLY.

NEETER JACK TYPE 20M J UR OPT 500 CUSTOMER DIMENSION 900 OPERATING TRAVEL 500 (4-OFF) SHAFT STUB END NOT REQUIRED (8 DIA ZERO) NUT TO BEWELDED N° TC1225 16 A.

1 1/2" DIA. SHAFT S7 (2-OFF) NEETER SUPPLY

RHP SELF-LUBE FLANGED BEARING UNIT FOR 1 1/2" DIA. SHAFT (4-OFF) NEETER SUPPLY

BARREL GEAR FLEXIBLE SHAFT COUPLING TYPE 24-319 SIZE 32 (4-OFF) NEETER SUPPLY

NEETER BEVEL GEAR UNIT SERIES 37 (1:1 RATIO) 31WAY N° 37341ES (2-OFF)

AS BUILT DRAWINGS
This drawing shows all materials to this date

APPROVED
No. TC1225 Rev. H
Date 25-10-1983

SECTION AA

APPROVED
No. TC1225 Rev. G
Date 25-10-1983

APPROVED
No. TC1225 Rev. D
Date 26-9-83

APPROVED
No. TC1225 Rev. C
Date 12-5-1983

APPROVED
No. TC1225 Rev. B
Date 26-10-1982

ORDER N° 118764 /A 225

CLEARANCE BETWEEN PRIMARY MIRROR & END OF PILGRIM BOLT WHEN MIRROR 2.0L ARE LOADED IS 66MM.



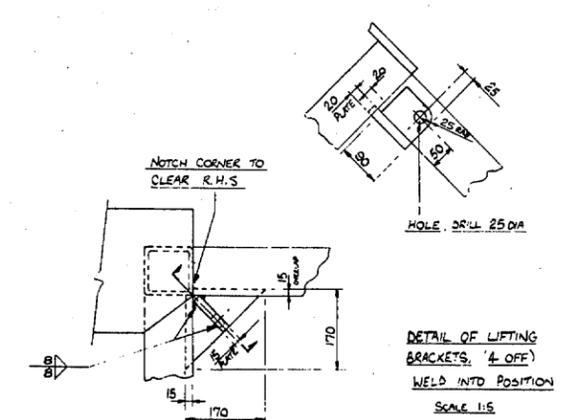
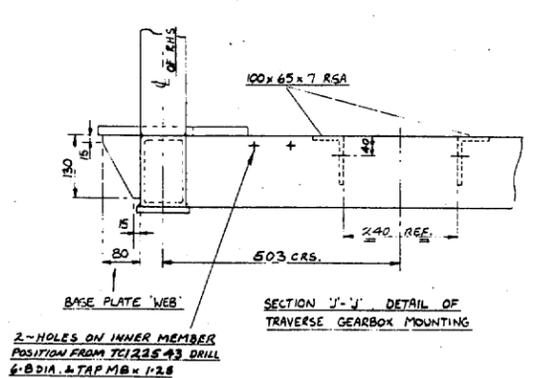
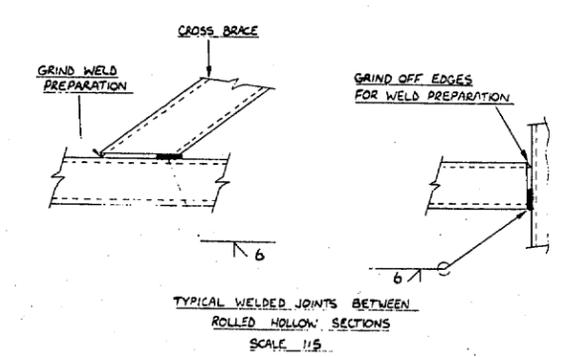
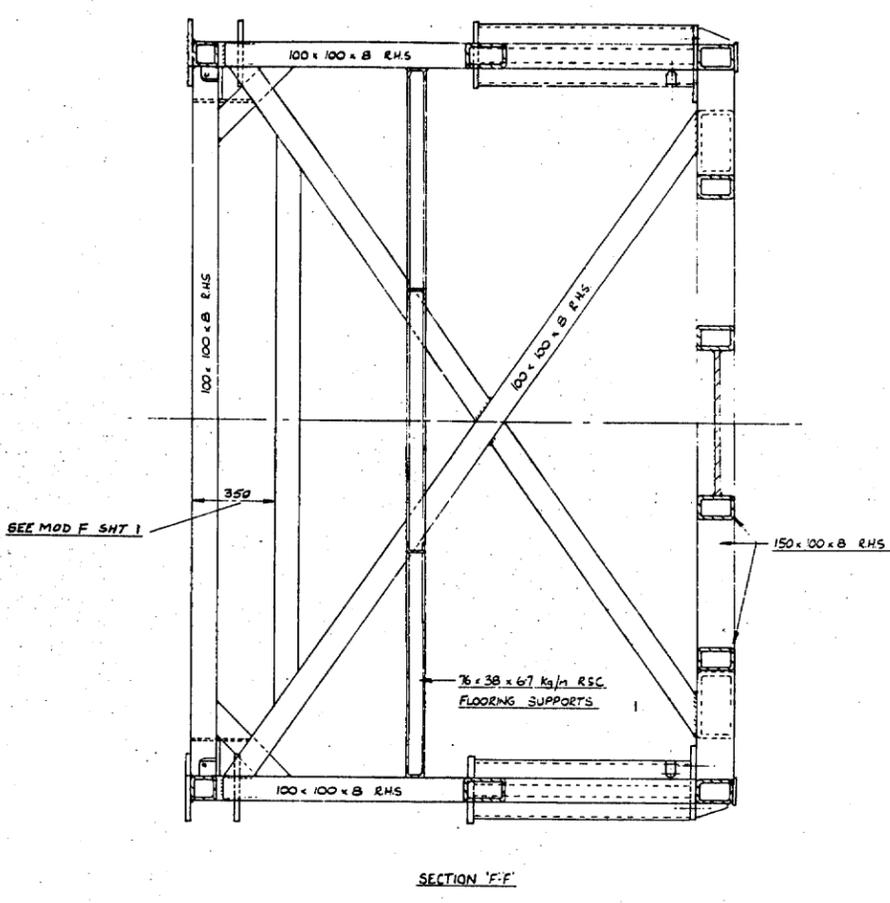
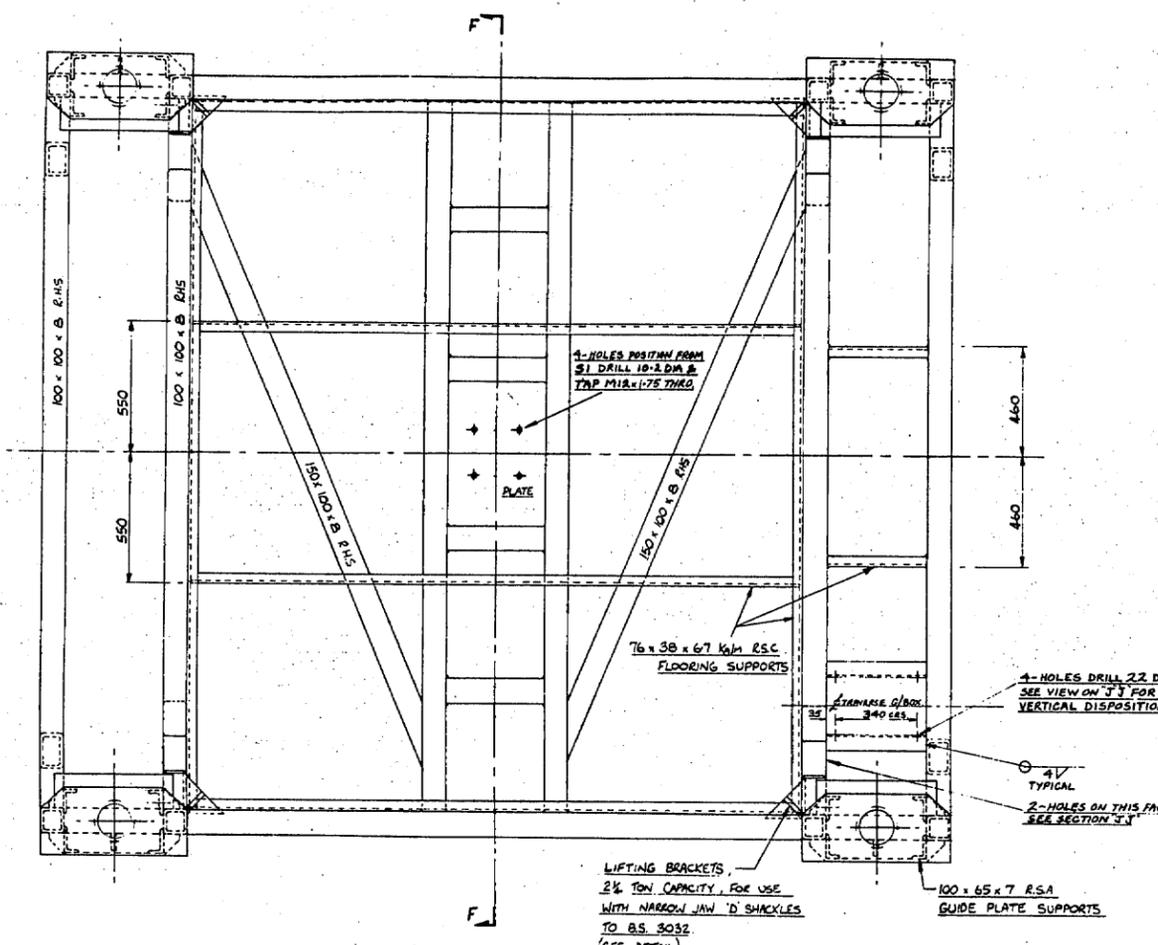
SEE DRG. N° TC1225 29 FOR SHRINK ASSEMBLY OF AXLES COMPRISING THE FOLLOWING ITEMS :- TC1225 23, 24 & 28 (ON BOTH AXLES) PLUS UNITS TC1225 25, 26, F14, & F15 ON DRIVE AXLE

DATE OF MOD REVISION BY	DATE OF MOD 11-10-83 REVISION BY J. BRADY MACHINING CANCEL FOR P/R PART 2 1983	DATE OF MOD 22-9-83 REVISION BY J. BRADY UNIT N° TC1225 55 & F37 BOLDED FOR MOUNTING OF TC1225 16 A	DATE OF MOD 15-10-83 REVISION BY J. BRADY CABLE GOND 6 Bush ADDED TC1225 26 P.R. 11	DATE OF MOD 15-10-83 REVISION BY J. BRADY DATE OF MOD 8-9-83 REVISION BY J. BRADY TC1225 26 Bush ADDED TC1225 26 P.R. 11	DATE OF MOD 25-10-83 REVISION BY J. BRADY F35 ADDED FOR MOUNTING
----------------------------	---	---	---	--	--

DATE OF MOD REVISION BY	DATE OF MOD 11-10-83 REVISION BY J. BRADY MACHINING CANCEL FOR P/R PART 2 1983	DATE OF MOD 22-9-83 REVISION BY J. BRADY UNIT N° TC1225 55 & F37 BOLDED FOR MOUNTING OF TC1225 16 A	DATE OF MOD 15-10-83 REVISION BY J. BRADY CABLE GOND 6 Bush ADDED TC1225 26 P.R. 11	DATE OF MOD 15-10-83 REVISION BY J. BRADY DATE OF MOD 8-9-83 REVISION BY J. BRADY TC1225 26 Bush ADDED TC1225 26 P.R. 11	DATE OF MOD 25-10-83 REVISION BY J. BRADY F35 ADDED FOR MOUNTING
----------------------------	---	---	---	--	--

DATE OF MOD REVISION BY	DATE OF MOD 11-10-83 REVISION BY J. BRADY MACHINING CANCEL FOR P/R PART 2 1983	DATE OF MOD 22-9-83 REVISION BY J. BRADY UNIT N° TC1225 55 & F37 BOLDED FOR MOUNTING OF TC1225 16 A	DATE OF MOD 15-10-83 REVISION BY J. BRADY CABLE GOND 6 Bush ADDED TC1225 26 P.R. 11	DATE OF MOD 15-10-83 REVISION BY J. BRADY DATE OF MOD 8-9-83 REVISION BY J. BRADY TC1225 26 Bush ADDED TC1225 26 P.R. 11	DATE OF MOD 25-10-83 REVISION BY J. BRADY F35 ADDED FOR MOUNTING
----------------------------	---	---	---	--	--

GRUBB PARSONS NEWCASTLE UPON TYNE NES 27B
ASSY. OF MIRROR HANDLING TROLLEY
SCALE 1:10
SHEET 1 OF 1
TC1225



- NOTES**
1. ALL WELDS TO BE 6mm FULL'S UNLESS OTHERWISE STATED (SEE WELDING DETAILS FOR ROLLED HOLLOW SECTIONS)
 2. ALL WELDS TO BS 5135 - STRESS RELIEVING IS NOT REQUIRED
 3. ALL PLATES TO BS 4360 : 974 - GRADE 43A. CHANNELS TO BS 4448 PT 4 - GRADE 43. ANGLES TO BS 4448 PT 4 - GRADE 43. ROLLED HOLLOW SECTIONS TO BS 4448 PT 2 - GRADE 43
 4. MANUFACTURE IN ACCORDANCE WITH GRUBB PARSONS PURCHASE SPEC 6
 5. FABRICATION TOLERANCES AS PURCHASE SPEC 6
 6. FINISH :- BLAST CLEAN ALL SURFACES, AND PRIME IN ACCORDANCE WITH GRUBB PARSONS SPEC 6
 7. FINISH PAINT - HARD GLOSS - OIL RESISTANT ENAMEL COLOUR - OBESE YELLOW.

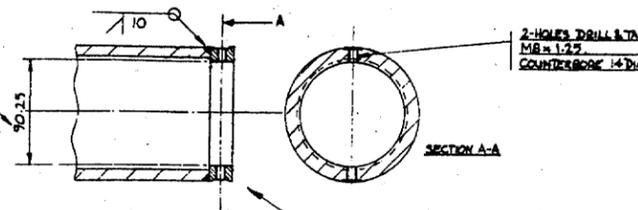
AS BUILT DRAWINGS
This drawing shows all resources to this work

PREPARED FOR & PARTNERS
APPROVED
No. TCI 225 03 S42 Rev. B
Date 25-10-1993

DATE OF MOD MODIFIED BY	DATE OF MOD: 10-83 MODIFIED BY: J.G.	FIRST MADE ORG No. 118764	MATERIAL As specified above
DATE OF MOD MODIFIED BY	DATE OF MOD MODIFIED BY	FIRST ISSUE DATE	FINISH SIDE NOTES AS SHOWN
DATE OF MOD MODIFIED BY		COST ACCOUNT 225	PART No.
DATE OF MOD MODIFIED BY		TITLE TROLLEY FRAME.	
DATE OF MOD MODIFIED BY		WEIGHT 446 NPT 1	SCALE 1:24
DATE OF MOD MODIFIED BY		No. OFF PER SET 1	UNIT No. TCI 225 03
DATE OF MOD MODIFIED BY		ISSUE B	

42 METRE WIDJAM RE-ROLL TELESCOPE
GRUBB PARSONS
NEWCASTLE UPON TYNE NE6 2YD

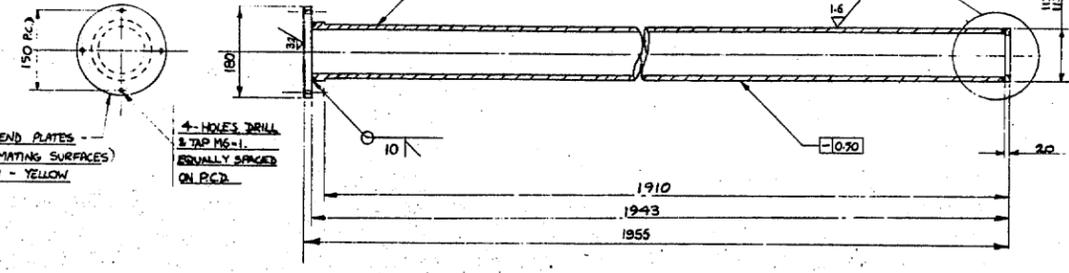
TOLERANCE TO ENSURE
LOOSE FIT WITH NUT
(0.25 MM CLEARANCE)



2 HOLES DRILL & TAP
M12 x 1.75
COUNTRYBOOK 14 DIA

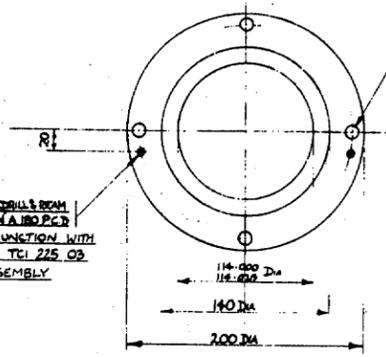
SECTION A-A

12.19 ± 0.12 THK WALL
STEEL TUBE TO DIN.
2448/1619/3 ST 37

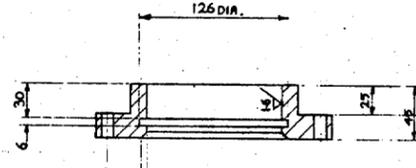


FREEMAN FOX & PARTNERS
APPROVED
No. TCI 225 13 Rev. A
Date 22-10-1982 by JZ

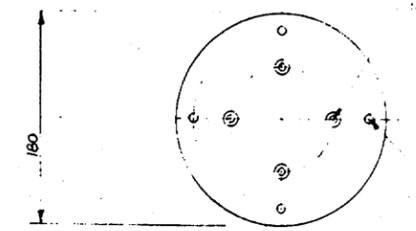
2 HOLES DRILL & TAP
M12 x 1.75 IN CONJUNCTION WITH
UNIT N° TCI 225 03
ON ASSEMBLY



4 HOLES DRILL 11
7.0 DIA EQUALLY SPACED
ON A 180 P.C.D.



FREEMAN FOX & PARTNERS
APPROVED
No. TCI 225 14 Rev. A
Date 22-10-1982 by JZ



4 HOLES DRILL
7.0 DIA EQUALLY SPACED
ON 88 P.C.D.

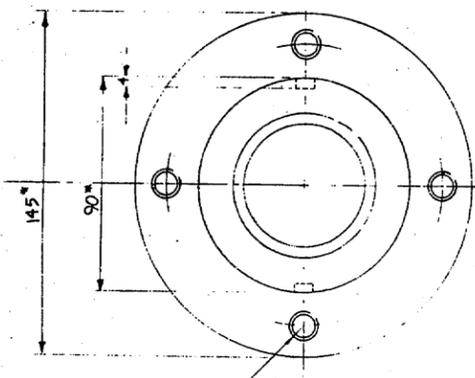
4 HOLES DRILL
7.0 DIA EQUALLY SPACED
ON 130 P.C.D.

FREEMAN FOX & PARTNERS
APPROVED
No. TCI 225 15 Rev. A
Date 22-10-1982 by JZ

DATE OF MOD MODIFIED BY	DATE OF MOD MODIFIED BY	FIRST MADE ORD No. 118764	MATERIAL TUBE - As above	FINISH AS ABOVE	ISSUE No. 1
		FIRST ISSUE DATE			
		COST ACCOUNT 225			
		TITLE COLUMN			
		WEIGHT 1742 kg	SCALE 1:2	UNIT No. TCI 225 13	ISSUE No. 1

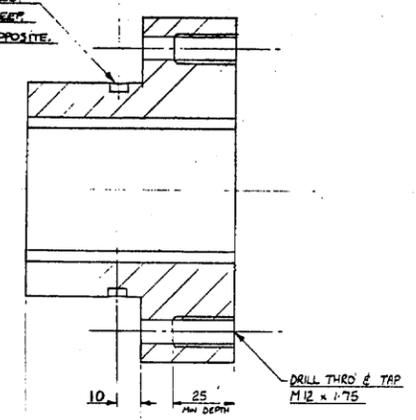
DATE OF MOD MODIFIED BY	DATE OF MOD MODIFIED BY	FIRST MADE ORD No. 118764	MATERIAL BUSH	FINISH AS ABOVE	ISSUE No. 1
		FIRST ISSUE DATE			
		COST ACCOUNT 225			
		TITLE BUSH			
		WEIGHT 4.6 kg	SCALE 1:2	UNIT No. TCI 225 14	ISSUE No. 1

DATE OF MOD MODIFIED BY	DATE OF MOD MODIFIED BY	FIRST MADE ORD No. 118764	MATERIAL 20 CARBON STEEL	FINISH AS ABOVE	ISSUE No. 1
		FIRST ISSUE DATE			
		COST ACCOUNT 225			
		TITLE JACK MOUNTING PLATE			
		WEIGHT 3 kg	SCALE 1:2	UNIT No. TCI 225 15	ISSUE No. 1



4 HOLES DRILL & TAP M12 x 1.75
EQUALLY SPACED ON A 117.5
P.C.D.

2 COUNTER-BORED
HOLES Ø 20 x 4 DEPT
DIAMETRICALLY OPPOSITE

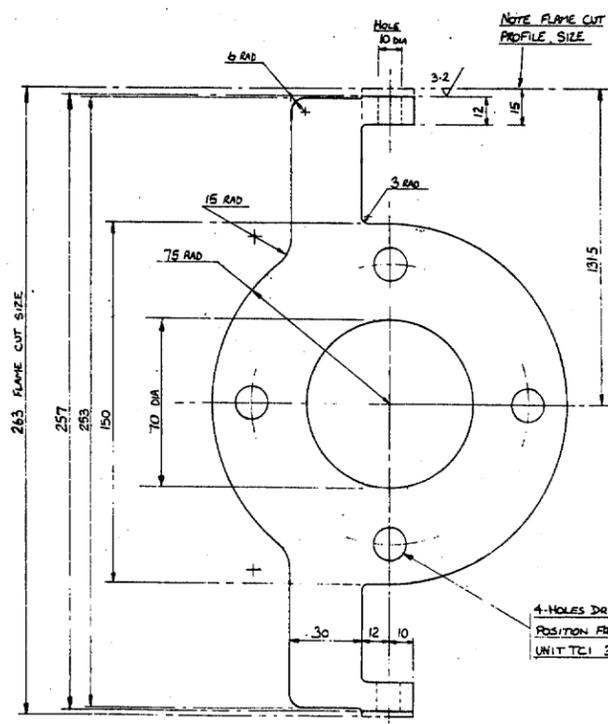


NOTE
TRAVEL NUT SUPPLIED BY NEETER
DRIVE LTB. DIMENSIONS MARKED *
ARE AS STANDARD FOR UNIT N°
20MSJ-UR.
MODIFICATIONS CONSIST OF 4 TAPPED
HOLES, M12 REPLACING CLEARANCE
HOLES, AND THE ADDITION OF
2 COUNTER-BORED RECESSES.

FREEMAN FOX & PARTNERS
APPROVED
No. TCI 225 16 Rev. A
Date 22-10-1982 by JZ

PAINTE NON - MATING SURFACES - OBES1 - YELLOW

DATE OF MOD MODIFIED BY	DATE OF MOD MODIFIED BY	FIRST MADE ORD No. 118764	MATERIAL As supplied	FINISH AS ABOVE	ISSUE No. 1
		FIRST ISSUE DATE			
		COST ACCOUNT 225			
		TITLE MODIFICATION TO TRAVEL NUT			
		WEIGHT 8.97 kg	SCALE 1:1	UNIT No. TCI 225 16	ISSUE No. 1



4 HOLES DRILL 14 DIA
POSITION FROM NUT
UNIT TCI 225 16

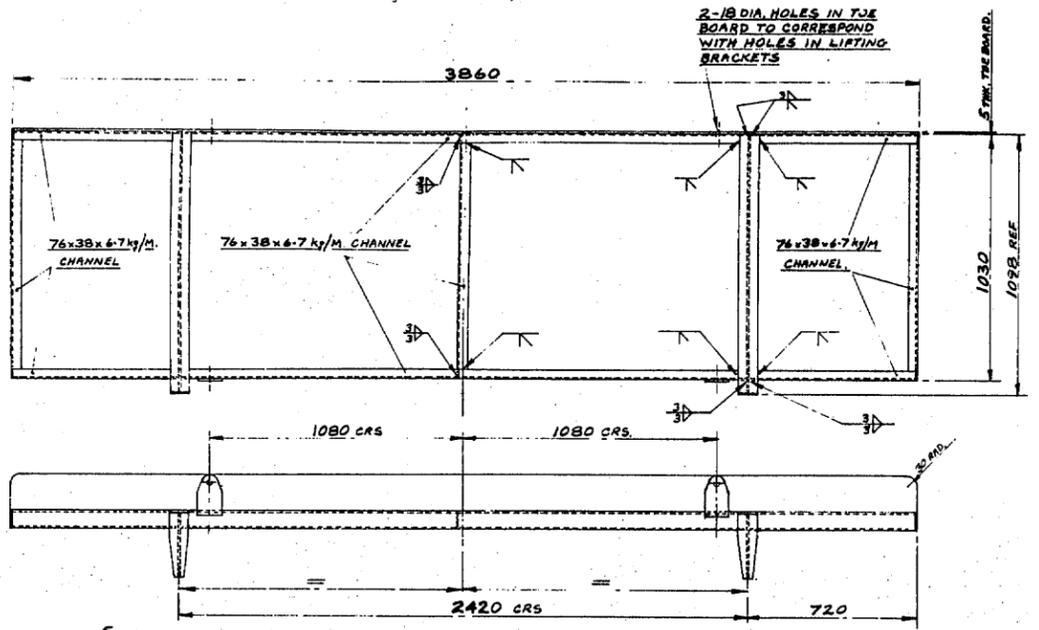
FREEMAN FOX & PARTNERS
APPROVED
No. TCI 225 17 Rev. A
Date 22-10-1982 by JZ

NOTE
PAINTE NON - MATING SURFACES
OBES1 - YELLOW

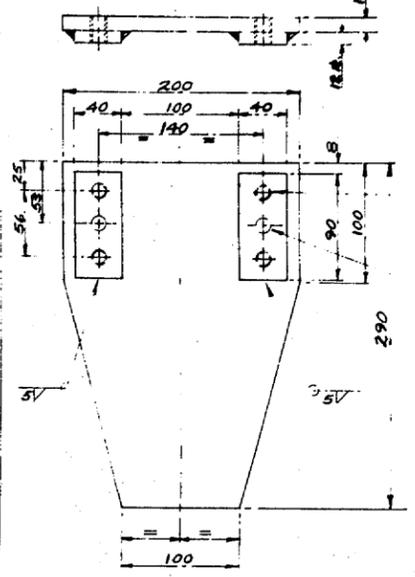
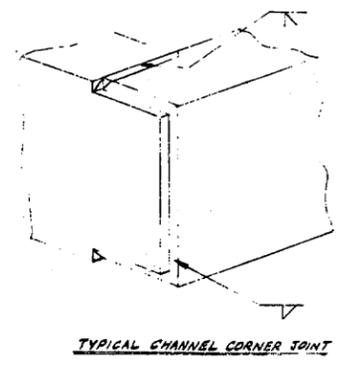
AS BUILT DRAWINGS
This drawing shows all features to BSB work

DATE OF MOD MODIFIED BY	DATE OF MOD MODIFIED BY	FIRST MADE ORD No. 118764	MATERIAL 20 CARBON STEEL	FINISH AS ABOVE	ISSUE No. 1
		FIRST ISSUE DATE			
		COST ACCOUNT 225			
		TITLE CM FOLLOWER			
		WEIGHT 2.04 kg	SCALE 1:1	UNIT No. TCI 225 17	ISSUE No. 1

4.2 METRE WILLIAM HERSCHEL TELESCOPE
OBSERVATORY DEL REY DE LOS REYES
REAL GREENWICH OBSERVATORY

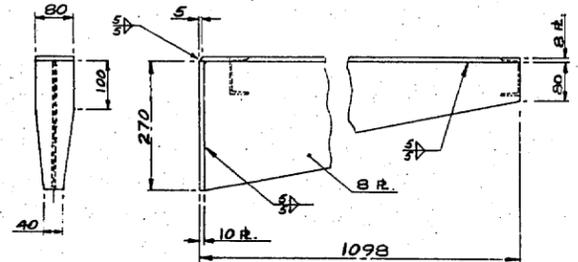


PLATES TO BS 4360:1976 GRADE 43A
 CHANNELS TO BS 4 PT 1 GRADE 43
 WELDS TO BS 5135
 MANUFACTURE IN ACCORDANCE WITH GRUBB PARSONS PURCHASE SPEC. N° 6 STRESS RELIEF IS NOT REQUIRED
 BLAST CLEAN & PRIME ALL SURFACES IN ACCORDANCE WITH GRUBB PARSONS PURCHASE SPEC. N° 8
 FINISH PAINT HARD GLOSS TO BS 4800 OBESI YELLOW

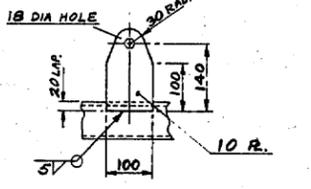


4-HOLES DRILL 10.2 DIA.
 & TAP M12 x 1.75 THROUGH

2-HOLES DRILL 14 DIA THROUGH (FOR M10 BOLTS) THESE HOLES TO BE USED FOR POSITIONING OF BRKTS ON TROLLEY FRAME. BRACKETS TO BE FINALLY WELDED TO TROLLEY FRAME. FINISH PAINT AFTER WELDING TO TROLLEY FRAME.



DETAIL OF CANTILEVER BEAM (2)



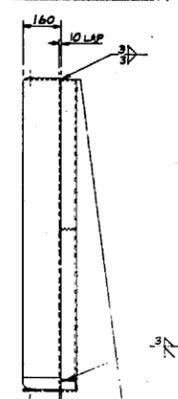
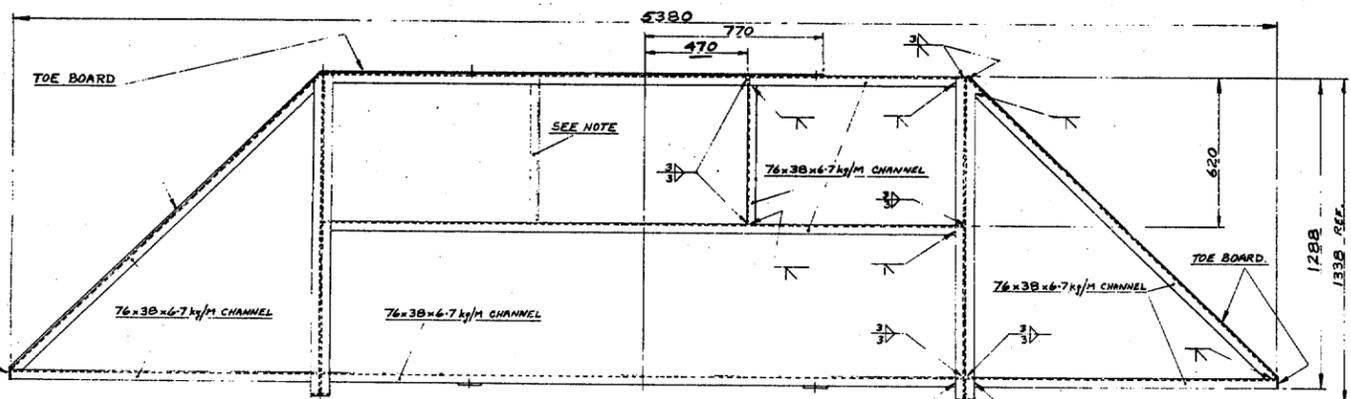
DETAIL OF LIFTING BRKT. (2)

FREEMAN FOX & PARTNERS
APPROVED
 No. TCI 225 19 Rev. A
 Date 22-10-1982

FREEMAN FOX & PARTNERS
APPROVED
 No. TCI 225 20 Rev. A
 Date 22-10-1982

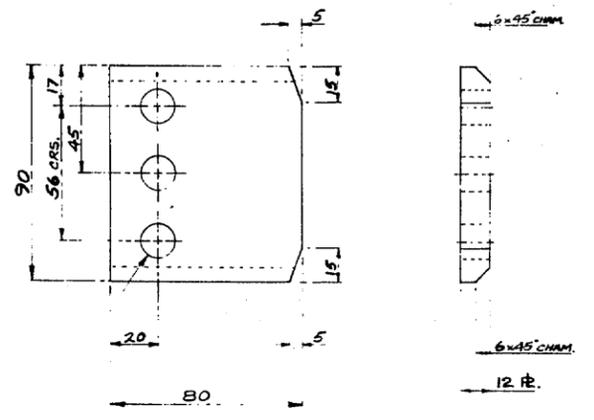
DATE OF MOD MODIFIED BY	DATE OF MOD MODIFIED BY	FIRST MADE ORD No. 118764	MATERIAL SEE NOTE ABOVE
		FIRST ISSUE DATE	FINISH SEE NOTE ABOVE
		COST ACCOUNT 225	PART No.
DATE OF MOD MODIFIED BY	DATE OF MOD MODIFIED BY	TITLE SIDE PLATFORM	
		WEIGHT 176 kg	SCALE 1:10
		No. OFF PER SET 2	UNIT No. TCI 225 19
			ISSUE A

DATE OF MOD MODIFIED BY	DATE OF MOD MODIFIED BY	FIRST MADE ORD No. 118764	MATERIAL SEE NOTE ABOVE
		FIRST ISSUE DATE	FINISH SEE NOTE ABOVE
		COST ACCOUNT 225	PART No.
DATE OF MOD MODIFIED BY	DATE OF MOD MODIFIED BY	TITLE SOCKET	
		WEIGHT 4.2 kg	SCALE 1:2
		No. OFF PER SET 8	UNIT No. TCI 225 20
			ISSUE A



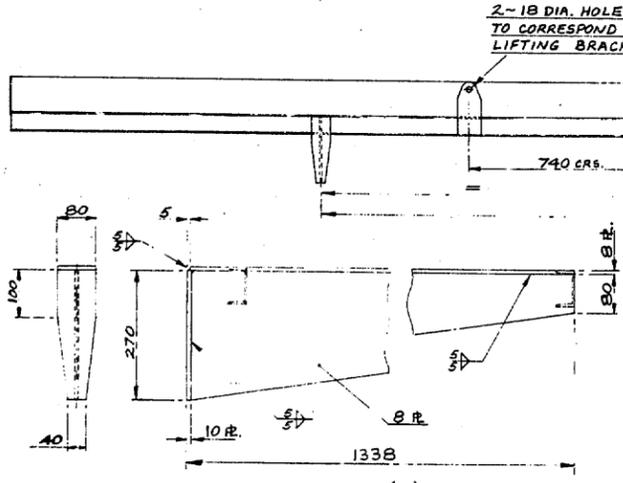
NOTE :- 2-OFF UNITS REQUIRED
 1-OFF AS DRAWN
 1-OFF OPPOSITE HAND i.e. WITH SHORT CHANNEL BRACE & GAP IN TOE BOARD ON OPPOSITE SIDE OF CENTRELINE

PLATES TO BS 4360:1976 GRADE 43A
 CHANNELS TO BS 4 PT 1 GRADE 43
 WELDS TO BS 5135
 MANUFACTURE IN ACCORDANCE WITH GRUBB PARSONS PURCHASE SPEC. N° 6 STRESS RELIEF IS NOT REQUIRED
 BLAST CLEAN & PRIME ALL SURFACES IN ACCORDANCE WITH GRUBB PARSONS PURCHASE SPEC. N° 8
 FINISH PAINT HARD GLOSS TO BS 4800 OBESI YELLOW

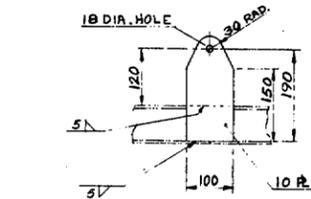


AS BUILT DRAWINGS
 This drawing shows as made to this work.

FREEMAN FOX & PARTNERS
APPROVED
 No. TCI 225 21 Rev. A
 Date 22-10-1982



DETAIL OF CANTILEVER BEAM (2)

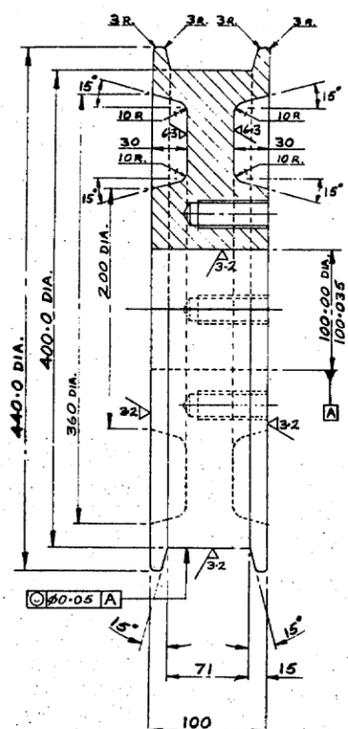


DETAIL OF LIFTING BRACKET (2)

FREEMAN FOX & PARTNERS
APPROVED
 No. TCI 225 21 Rev. A
 Date 22-10-1982

DATE OF MOD MODIFIED BY	DATE OF MOD MODIFIED BY	FIRST MADE ORD No. 118764	MATERIAL SEE NOTE ABOVE
		FIRST ISSUE DATE	FINISH SEE NOTE ABOVE
		COST ACCOUNT 225	PART No.
DATE OF MOD MODIFIED BY	DATE OF MOD MODIFIED BY	TITLE SIDE PLATFORM	
		WEIGHT 186 kg	SCALE 1:10
		No. OFF PER SET 2	UNIT No. TCI 225 21
			ISSUE A

DATE OF MOD MODIFIED BY	DATE OF MOD MODIFIED BY	FIRST MADE ORD No. 118764	MATERIAL SEE NOTE ABOVE
		FIRST ISSUE DATE	FINISH SEE NOTE ABOVE
		COST ACCOUNT 225	PART No.
DATE OF MOD MODIFIED BY	DATE OF MOD MODIFIED BY	TITLE SOCKET PLATE	
		WEIGHT 4.8 kg	SCALE 1:1
		No. OFF PER SET 16	UNIT No. TCI 225 22
			ISSUE A



NOTE
ON ONE UNIT ONLY
4-HOLES POSITION FROM UNITS
TCI 225 25 & 26 DRILL 17.5 DIA.
& TAP M12 x 2.5 x 45 DEEP
2-HOLES DRILL & REAM 20 DIA.
THROUGH IN CONJUNCTION WITH
UNITS TCI 225 25 & 26 AFTER
CENTRALISING ALL 3 UNITS
DRILLING DOWELLING & TRIAL
ASSY. OF SPACER & SPROCKET TO
BE COMPLETED BEFORE
FITTING WHEEL ON TO AXLE

2-HOLES ON 280 P.C.D.
DRILL 10.2 DIA. & TAP
M12 x 1.75 THROUGH

MATERIAL NOTE :-
STEEL TO BS 1501-224
GRADE 400 ART WITH CHAMPY
V NOTCH PROP > 41J @ R.T.
OR 31T @ 0°C AND
ULTRASONIC EXAMINATION TO
BS 5996 GRADE LC 2

FREEMAN FOX & PARTNERS

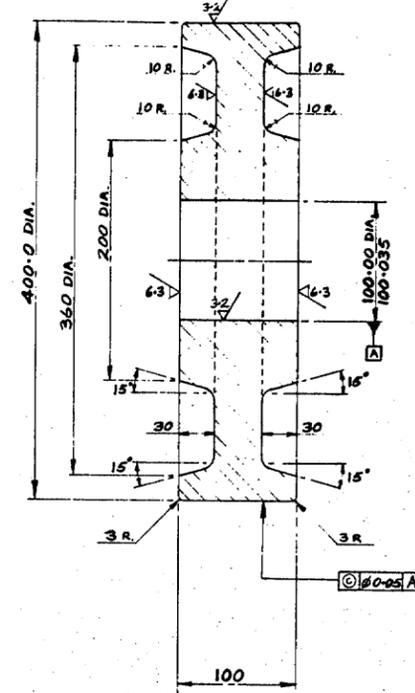
APPROVED

No. TCI 225 23 Rev. A

Date 22-10-1982 by JZ

PAINT AFTER ASSY. ON AXLE

DATE OF MOD MODIFIED BY	DATE OF MOD MODIFIED BY	FIRST MADE ORD No. 11874-4	MATERIAL	SEE NOTE ABOVE
		FIRST ISSUE DATE	FINISH	PRIME YELLOW
		COST ACCOUNT 225	PATT No.	225 23
		TITLE FLANGED WHEEL		
		WEIGHT 67.0 kg	SCALE 1:2	UNIT No. TCI 225 23
		No. OFF PER SET 2		ISSUE A



MATERIAL NOTE :-
STEEL TO BS 1501-224
GRADE 400 ART WITH CHAMPY
V NOTCH PROP > 41J @ R.T.
OR 31T @ 0°C AND
ULTRASONIC EXAMINATION TO
BS 5996 GRADE LC 2

FREEMAN FOX & PARTNERS

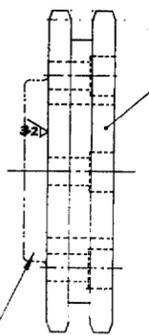
APPROVED

No. TCI 225 24 Rev. A

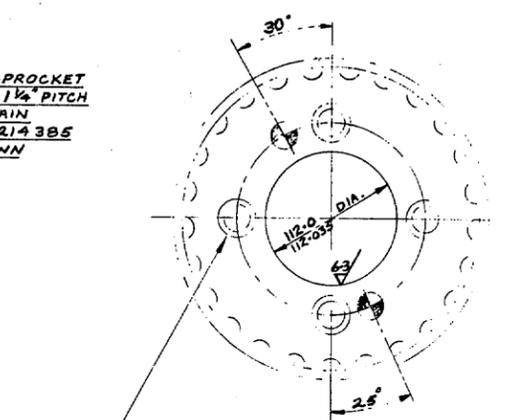
Date 22-10-1982 by JZ

PAINT AFTER ASSY. ON AXLE

DATE OF MOD MODIFIED BY	DATE OF MOD MODIFIED BY	FIRST MADE ORD No. 11874-4	MATERIAL	SEE NOTE ABOVE
		FIRST ISSUE DATE	FINISH	PRIME YELLOW
		COST ACCOUNT 225	PATT No.	225 24
		TITLE PLAIN WHEEL		
		WEIGHT 62 kg	SCALE 1:2	UNIT No. TCI 225 24
		No. OFF PER SET 2		ISSUE A



RENOLDS STOCK SPROCKET
25 TEETH TO SUIT 1 1/2" PITCH
DUPLEX ROLLER CHAIN
SPROCKET REF. N° 214 385
MODIFIED AS SHOWN



4-HOLES ON 160 P.C.D. DRILL
22 DIA. C'BORE 33 DIA x 20 DEEP
2-HOLES POSITIONED AS SHOWN
ON 160 P.C.D. DRILL & REAM IN
CONJUNCTION WITH UNITS
TCI 225 23 & 26 - 20 DIA.

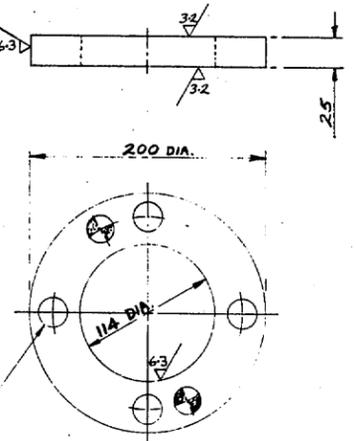
FREEMAN FOX & PARTNERS

APPROVED

No. TCI 225 25 Rev. A

Date 22-10-1982 by JZ

DATE OF MOD MODIFIED BY	DATE OF MOD MODIFIED BY	FIRST MADE ORD No. 11874-4	MATERIAL	STEEL AS SUPPLIED BY RENOLDS SEE 611
		FIRST ISSUE DATE	FINISH	PRIME YELLOW
		COST ACCOUNT 225	PATT No.	225 25
		TITLE SPROCKET		
		WEIGHT 16 kg	SCALE 1:2	UNIT No. TCI 225 25
		No. OFF PER SET 1		ISSUE A



4-HOLES ON 160 P.C.D. DRILL
22 DIA.
2-HOLES DRILL & REAM IN
CONJUNCTION WITH UNITS
N° TCI 225 23 & 25 - 20 DIA.

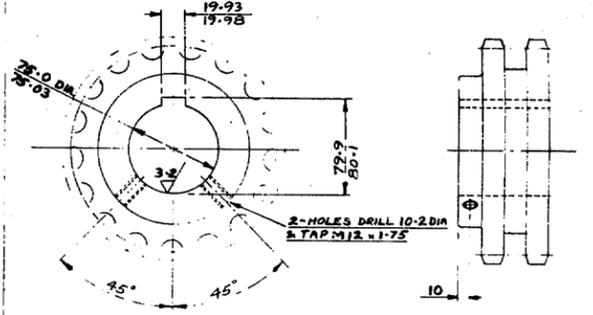
FREEMAN FOX & PARTNERS

APPROVED

No. TCI 225 26 Rev. A

Date 22-10-1982 by JZ

DATE OF MOD MODIFIED BY	DATE OF MOD MODIFIED BY	FIRST MADE ORD No. 11874-4	MATERIAL	STEEL BS 4360-43A
		FIRST ISSUE DATE	FINISH	PRIME YELLOW
		COST ACCOUNT 225	PATT No.	225 26
		TITLE SPACER		
		WEIGHT 3.77 kg	SCALE 1:2	UNIT No. TCI 225 26
		No. OFF PER SET 1		ISSUE A



RENOLDS STOCK WHEEL (17-TEETH)
REF. N° 214 367 FOR 1 1/2" PITCH DUPLEX CHAIN
TO BE BORED - KEYWAYED - DRILLED & TAPPED
FOR GRUB SCREWS AS SHOWN TO SUIT
OUTPUT SHAFT OF MWDU 7 GEARBOX

FREEMAN FOX & PARTNERS

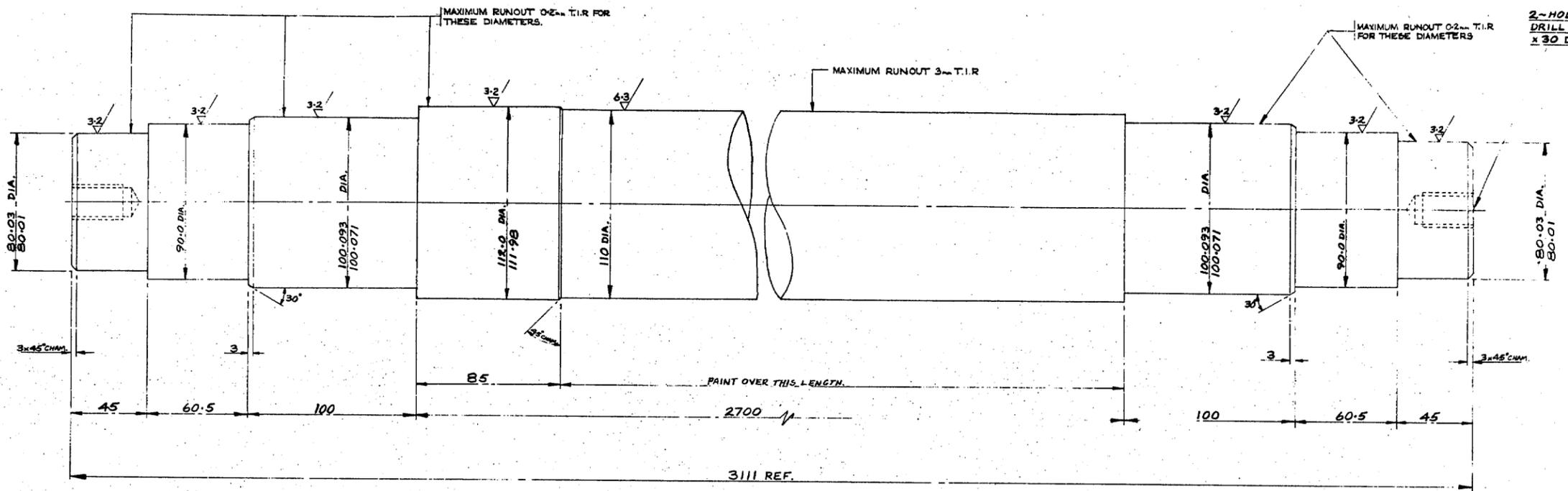
APPROVED

No. TCI 225 27 Rev. A

Date 22-10-1982 by JZ

DATE OF MOD MODIFIED BY	DATE OF MOD MODIFIED BY	FIRST MADE ORD No. 11874-4	MATERIAL	AS SUPPLIED BY RENOLDS SEE 611
		FIRST ISSUE DATE	FINISH	PRIME YELLOW
		COST ACCOUNT 225	PATT No.	225 27
		TITLE SPROCKET		
		WEIGHT 6.41 kg	SCALE 1:2	UNIT No. TCI 225 27
		No. OFF PER SET 1		ISSUE A

AS BUILT DRAWINGS
This drawing shows all variations to this work

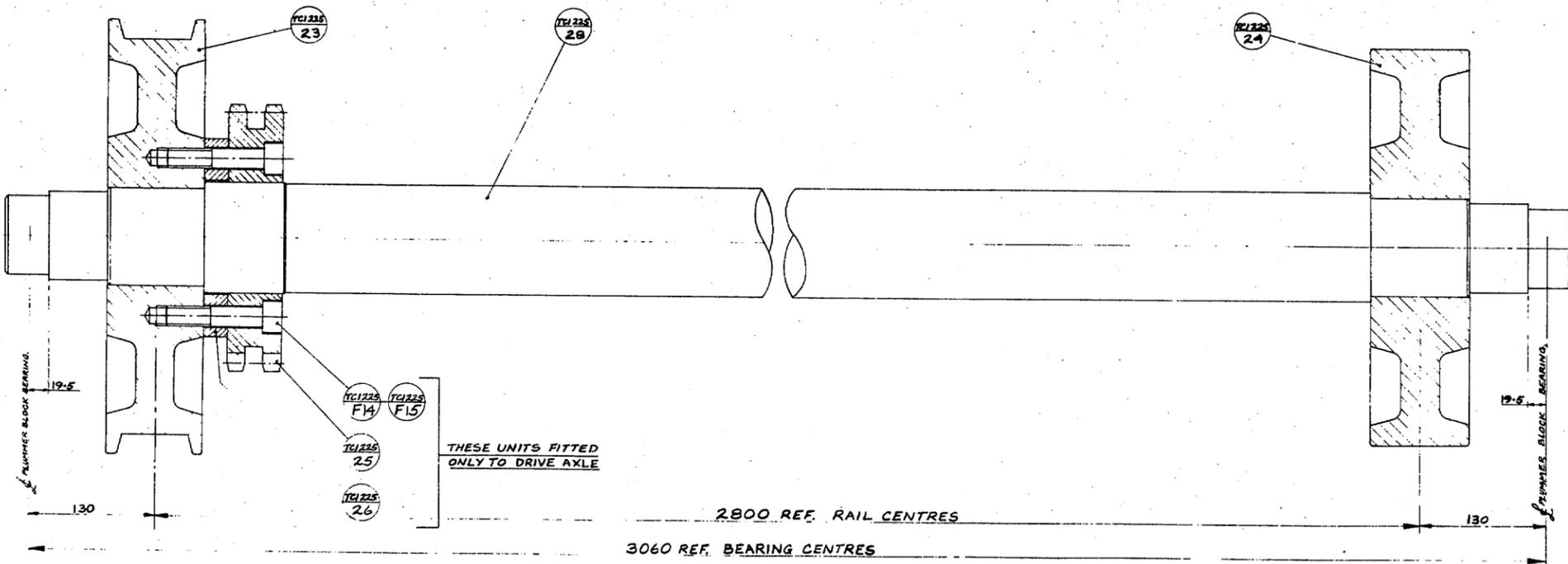


2 HOLES (1 EACH END) ON CENTRE
 DRILL 17.5 DIA. & TAP M20 x 2.5
 x 30 DEEP.

MATERIAL :- STEEL TO B.S. 970 PT. 1 GRADE 150 M36
 CONDITION A, OR STEEL TO
 C.A. PARSONS SPEC. 11

FREEMAN FOX & PARTNERS
 APPROVED
 No. TC1225 28 Rev. B
 Date 23-3-1982 by J.L.

DATE OF MOD. APPROVED BY	DATE OF MOD. APPROVED BY	FIRST MADE ORB No.	MATERIAL
		118764	SEE ABOVE.
DATE OF MOD. APPROVED BY	DATE OF MOD. APPROVED BY	FIRST ISSUE DATE	FRESH
			DRILLING
		COST ACCOUNT	PART No.
		225	
		TITLE	
		AXLE	
		WEIGHT	SCALE
		323.2 kg	1:1
		No. OFF PER SET	UNIT No.
		2	TC1225 28
			REV. B



ASSEMBLY PROCEDURE

- 1 FLANGED WHEEL TO BE ASSEMBLED ON TO AXLE FIRST (WHEELS AND AXLE TO BE CLEAN & FREE FROM OIL OR GREASE)
- 2 HEAT WHEEL TO 150° C
- 3 EITHER FIT WHEEL OVER AXLE OR PRESENT AXLE TO WHEEL AND HOLD IN POSITION AGAINST SHOULDER UNTIL WHEEL HAS COOLED SUFFICIENTLY TO MAINTAIN ITS POSITION (MAKE SURE THAT TAPPED HOLES IN WHEEL ARE ON INSIDE FACE)
- 4 ASSEMBLE SPACER & SPROCKET ON TO FLANGED WHEEL BY DOWELLING & BOLTING IN POSITION
- 5 WHEN INTEGRITY OF THIS ASSY. HAS BEEN CHECKED - THE PLAIN WHEEL CAN BE HEATED & SHRUNK ON TO OTHER END OF AXLE (AS IN 2 & 3)
- 6 REPEAT THE HEATING & SHRINKING PROCESS FOR WHEELS ON SECOND AXLE.

NOTE :- IT IS NOT IMPORTANT IN WHICH ORDER OR WHICH WAY AROUND THE WHEELS ARE FITTED AS THERE IS NO DRIVE SPROCKET ON THIS AXLE.

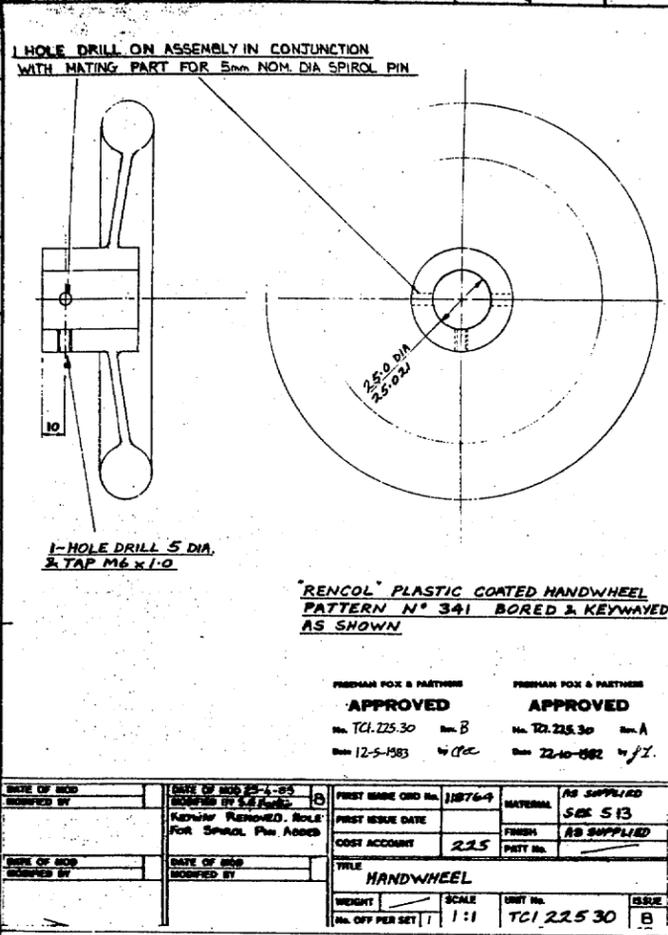
1-OFF AS DRAWN
 1-OFF WITHOUT SPROCKET & SPACER

AS BUILT DRAWINGS
 This drawing shows all features in this work.

FREEMAN FOX & PARTNERS
 APPROVED
 No. TC1225 29 Rev. A
 Date 22-10-1982 by J.L.

DATE OF MOD. APPROVED BY	DATE OF MOD. APPROVED BY	FIRST MADE ORB No.	MATERIAL
		118764	
DATE OF MOD. APPROVED BY	DATE OF MOD. APPROVED BY	FIRST ISSUE DATE	FRESH
			DRILLING
		COST ACCOUNT	PART No.
		225	
		TITLE	
		ASSEMBLED AXLE	
		WEIGHT	SCALE
		323.7 kg	1:2
		No. OFF PER SET	UNIT No.
		2	TC1225 29
			REV. A

4.2 METRE METRE LINE
 OBSERVE THE METRE LINE
 THE METRE LINE
 THE METRE LINE

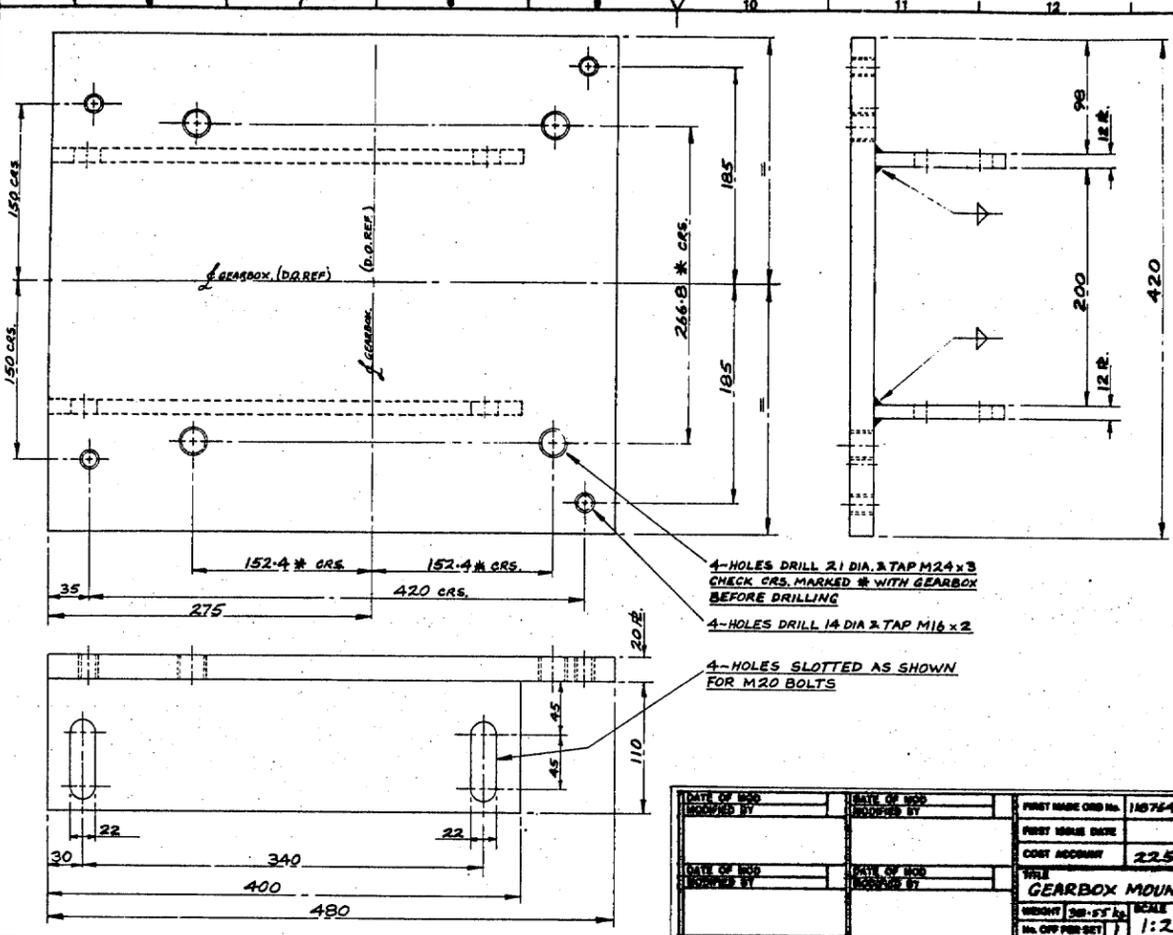


RENCOL PLASTIC COATED HANDWHEEL
PATTERN N° 341 BORED & KEYWAYED
AS SHOWN

FREEMAN FOX & PARTNERS
APPROVED
No. TC1 225 30 Rev. B
Date 12-5-1983 by J.C.

FREEMAN FOX & PARTNERS
APPROVED
No. TC1 225 30 Rev. A
Date 22-10-1982 by J.Y.

DATE OF MOD. MODIFIED BY	DATE OF MOD. MODIFIED BY	FIRST MADE ORD No. 118764	MATERIAL 505 S13	FINISH AS SUPPLIED
DATE OF MOD. MODIFIED BY	DATE OF MOD. MODIFIED BY	FIRST ISSUE DATE	COST ACCOUNT 225	PART No.
DATE OF MOD. MODIFIED BY	DATE OF MOD. MODIFIED BY	TITLE HANDWHEEL		
DATE OF MOD. MODIFIED BY	DATE OF MOD. MODIFIED BY	WEIGHT	SCALE 1:1	UNIT No. TC1 225 30
DATE OF MOD. MODIFIED BY	DATE OF MOD. MODIFIED BY	No. OFF PER SET 1	ISSUE	B



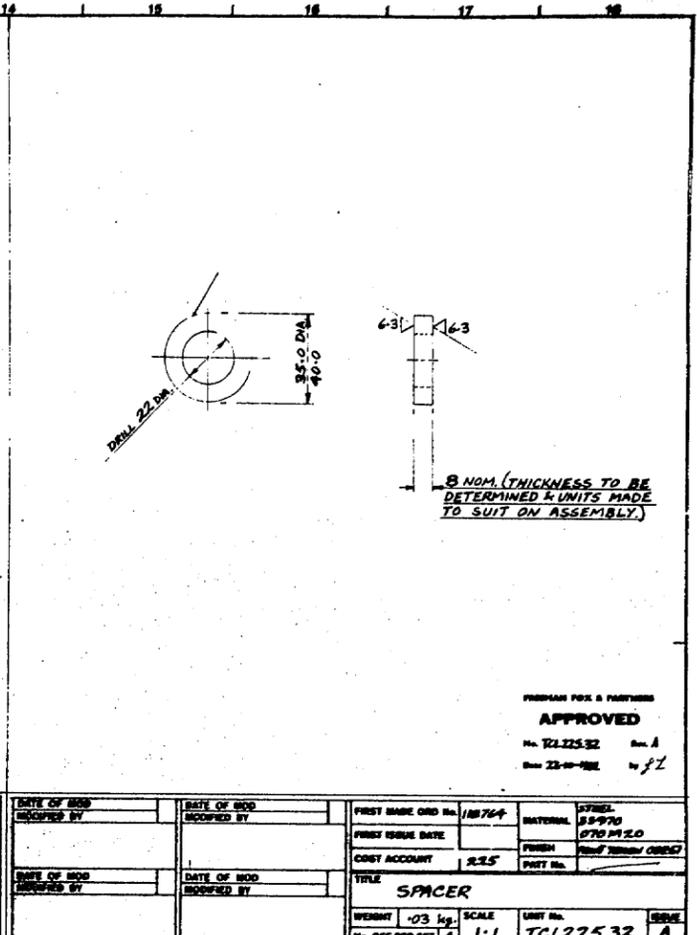
4-HOLES DRILL 21 DIA. & TAP M24 x 3
CHECK CRS. MARKED * WITH GEARBOX
BEFORE DRILLING

4-HOLES DRILL 14 DIA. & TAP M16 x 2

4-HOLES SLOTTED AS SHOWN
FOR M20 BOLTS

FREEMAN FOX & PARTNERS
APPROVED
No. TC1 225 31 Rev. A
Date 22-10-1982 by J.Y.

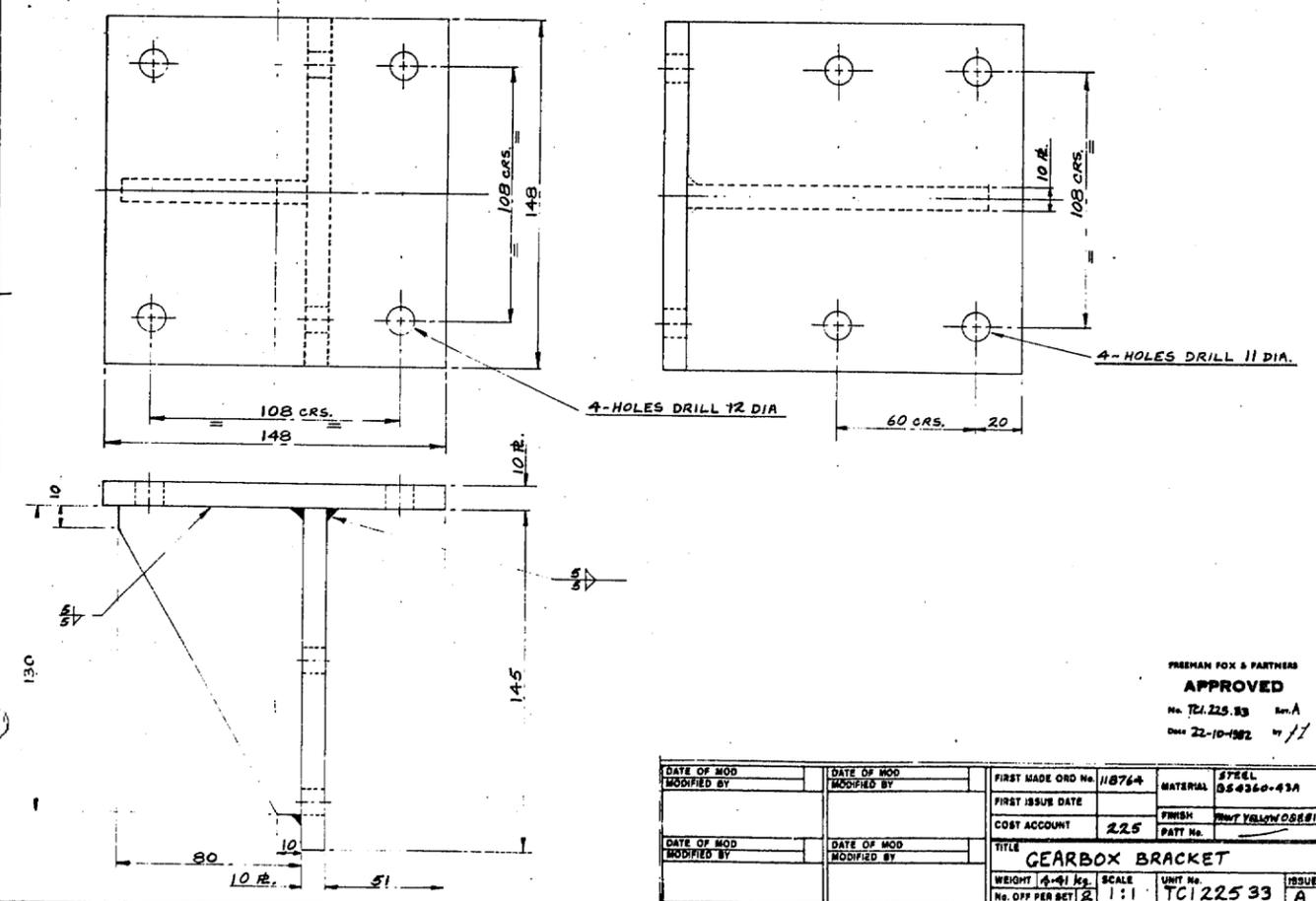
DATE OF MOD. MODIFIED BY	DATE OF MOD. MODIFIED BY	FIRST MADE ORD No. 118764	MATERIAL STEEL BS 4360-43A	FINISH PRIME YELLOW OXIDE
DATE OF MOD. MODIFIED BY	DATE OF MOD. MODIFIED BY	FIRST ISSUE DATE	COST ACCOUNT 225	PART No.
DATE OF MOD. MODIFIED BY	DATE OF MOD. MODIFIED BY	TITLE GEARBOX MOUNTING PLATE		
DATE OF MOD. MODIFIED BY	DATE OF MOD. MODIFIED BY	WEIGHT 28.55 kg	SCALE 1:2	UNIT No. TC1 225 31
DATE OF MOD. MODIFIED BY	DATE OF MOD. MODIFIED BY	No. OFF PER SET 1	ISSUE	A



8 NOM. (THICKNESS TO BE
DETERMINED & UNITS MADE
TO SUIT ON ASSEMBLY)

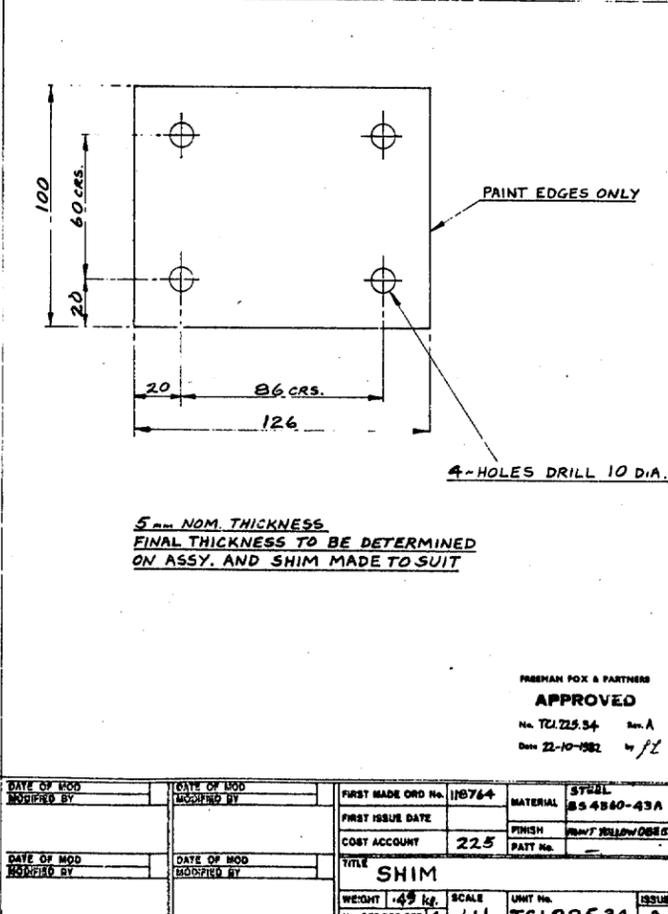
FREEMAN FOX & PARTNERS
APPROVED
No. TC1 225 32 Rev. A
Date 22-10-1982 by J.Y.

DATE OF MOD. MODIFIED BY	DATE OF MOD. MODIFIED BY	FIRST MADE ORD No. 118764	MATERIAL STEEL BS 4360-43A	FINISH PRIME YELLOW OXIDE
DATE OF MOD. MODIFIED BY	DATE OF MOD. MODIFIED BY	FIRST ISSUE DATE	COST ACCOUNT 225	PART No.
DATE OF MOD. MODIFIED BY	DATE OF MOD. MODIFIED BY	TITLE SPACER		
DATE OF MOD. MODIFIED BY	DATE OF MOD. MODIFIED BY	WEIGHT 0.03 kg	SCALE 1:1	UNIT No. TC1 225 32
DATE OF MOD. MODIFIED BY	DATE OF MOD. MODIFIED BY	No. OFF PER SET 4	ISSUE	A



FREEMAN FOX & PARTNERS
APPROVED
No. TC1 225 33 Rev. A
Date 22-10-1982 by J.Y.

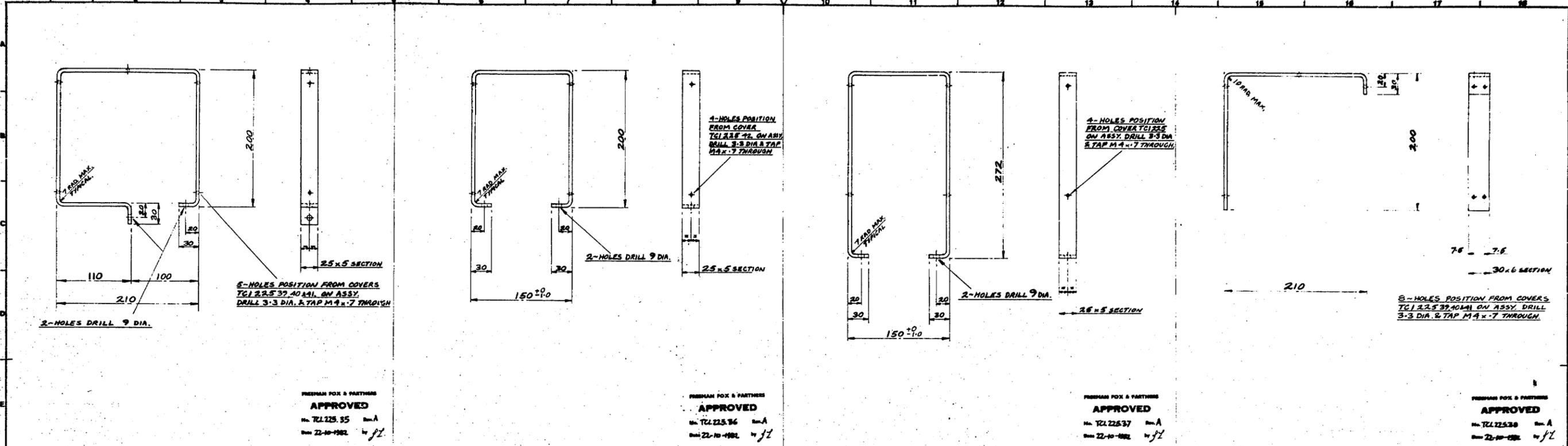
DATE OF MOD. MODIFIED BY	DATE OF MOD. MODIFIED BY	FIRST MADE ORD No. 118764	MATERIAL STEEL BS 4360-43A	FINISH PRIME YELLOW OXIDE
DATE OF MOD. MODIFIED BY	DATE OF MOD. MODIFIED BY	FIRST ISSUE DATE	COST ACCOUNT 225	PART No.
DATE OF MOD. MODIFIED BY	DATE OF MOD. MODIFIED BY	TITLE GEARBOX BRACKET		
DATE OF MOD. MODIFIED BY	DATE OF MOD. MODIFIED BY	WEIGHT 4.41 kg	SCALE 1:1	UNIT No. TC1 225 33
DATE OF MOD. MODIFIED BY	DATE OF MOD. MODIFIED BY	No. OFF PER SET 2	ISSUE	A



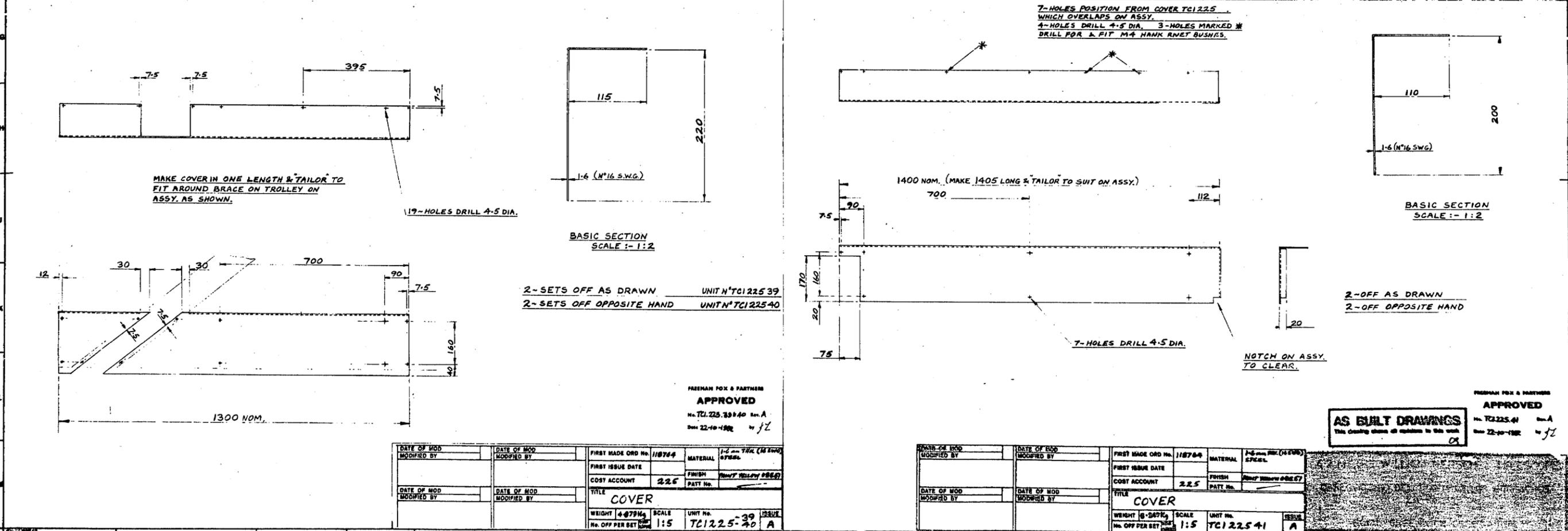
FREEMAN FOX & PARTNERS
APPROVED
No. TC1 225 34 Rev. A
Date 22-10-1982 by J.Y.

DATE OF MOD. MODIFIED BY	DATE OF MOD. MODIFIED BY	FIRST MADE ORD No. 118764	MATERIAL STEEL BS 4360-43A	FINISH PRIME YELLOW OXIDE
DATE OF MOD. MODIFIED BY	DATE OF MOD. MODIFIED BY	FIRST ISSUE DATE	COST ACCOUNT 225	PART No.
DATE OF MOD. MODIFIED BY	DATE OF MOD. MODIFIED BY	TITLE SHIM		
DATE OF MOD. MODIFIED BY	DATE OF MOD. MODIFIED BY	WEIGHT 4.9 kg	SCALE 1:1	UNIT No. TC1 225 34
DATE OF MOD. MODIFIED BY	DATE OF MOD. MODIFIED BY	No. OFF PER SET 4	ISSUE	A

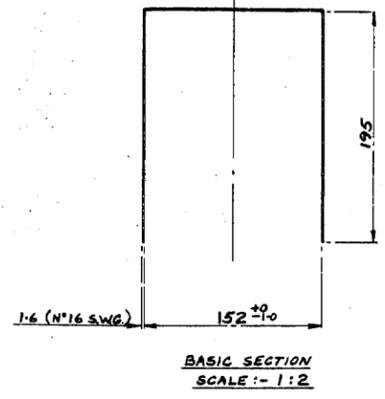
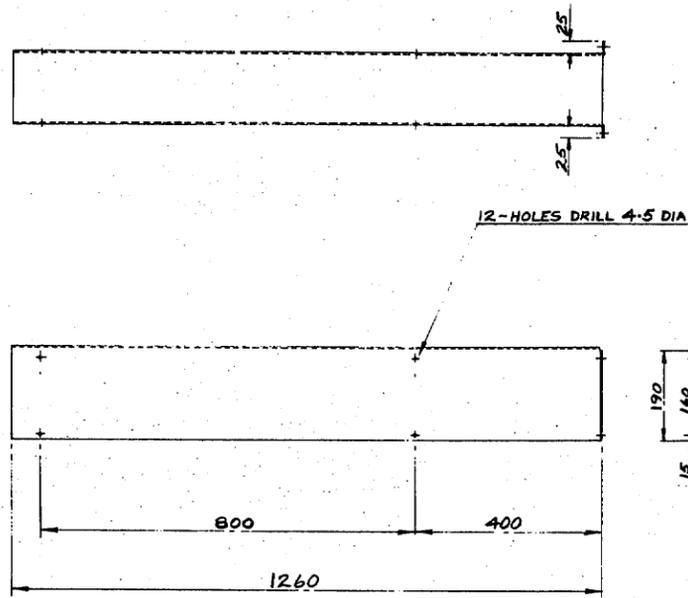
AS BUILT DRAWINGS
This drawing shows all materials to this work



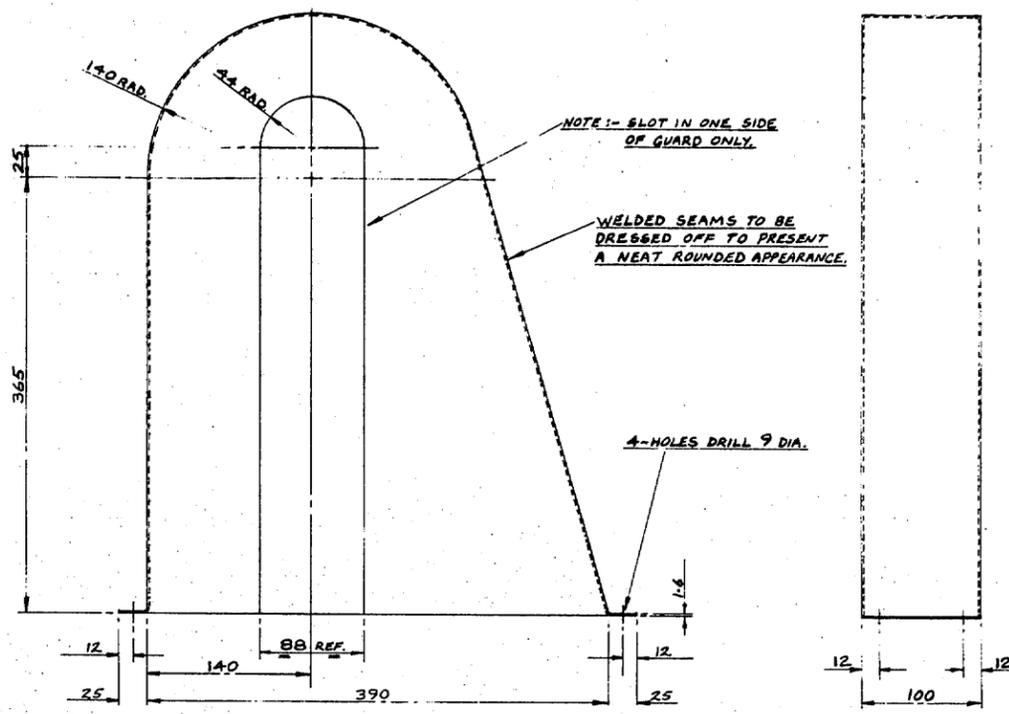
DATE OF MOD MODIFIED BY	DATE OF MOD MODIFIED BY	FIRST MADE ORD No. 118764	MATERIAL 25x5 PLK. BRIDGE STEEL	DATE OF MOD MODIFIED BY	DATE OF MOD MODIFIED BY	FIRST MADE ORD No. 118764	MATERIAL 25x5 PLK. BRIDGE STEEL	DATE OF MOD MODIFIED BY	DATE OF MOD MODIFIED BY	FIRST MADE ORD No. 118764	MATERIAL 25x5 PLK. BRIDGE STEEL	DATE OF MOD MODIFIED BY	DATE OF MOD MODIFIED BY	FIRST MADE ORD No. 118764	MATERIAL 25x5 PLK. BRIDGE STEEL		
		FIRST ISSUE DATE	FINISH														
		COST ACCOUNT 225	PART No.			COST ACCOUNT 225	PART No.			COST ACCOUNT 225	PART No.			COST ACCOUNT 225	PART No.		
		TITLE COVER SUPPORT						TITLE COVER SUPPORT						TITLE COVER SUPPORT			
		WEIGHT 1.369kg	SCALE 1:2	UNIT No. TC1 225 35	ISSUE A			WEIGHT 1.369kg	SCALE 1:2	UNIT No. TC1 225 36	ISSUE A			WEIGHT 1.369kg	SCALE 1:2	UNIT No. TC1 225 37	ISSUE A
		No. OFF PER SET 2				No. OFF PER SET 2		No. OFF PER SET 2		No. OFF PER SET 2				No. OFF PER SET 2		No. OFF PER SET 2	



DATE OF MOD MODIFIED BY	DATE OF MOD MODIFIED BY	FIRST MADE ORD No. 118764	MATERIAL 1/2 IN THK (M 200) STEEL	DATE OF MOD MODIFIED BY	DATE OF MOD MODIFIED BY	FIRST MADE ORD No. 118764	MATERIAL 1/2 IN THK (M 200) STEEL	DATE OF MOD MODIFIED BY	DATE OF MOD MODIFIED BY	FIRST MADE ORD No. 118764	MATERIAL 1/2 IN THK (M 200) STEEL	DATE OF MOD MODIFIED BY	DATE OF MOD MODIFIED BY	FIRST MADE ORD No. 118764	MATERIAL 1/2 IN THK (M 200) STEEL		
		FIRST ISSUE DATE	FINISH														
		COST ACCOUNT 225	PART No.			COST ACCOUNT 225	PART No.			COST ACCOUNT 225	PART No.			COST ACCOUNT 225	PART No.		
		TITLE COVER						TITLE COVER						TITLE COVER			
		WEIGHT 4.079kg	SCALE 1:5	UNIT No. TC1 225 39	ISSUE A			WEIGHT 4.079kg	SCALE 1:5	UNIT No. TC1 225 40	ISSUE A			WEIGHT 4.079kg	SCALE 1:5	UNIT No. TC1 225 41	ISSUE A
		No. OFF PER SET 2				No. OFF PER SET 2		No. OFF PER SET 2		No. OFF PER SET 2				No. OFF PER SET 2		No. OFF PER SET 2	



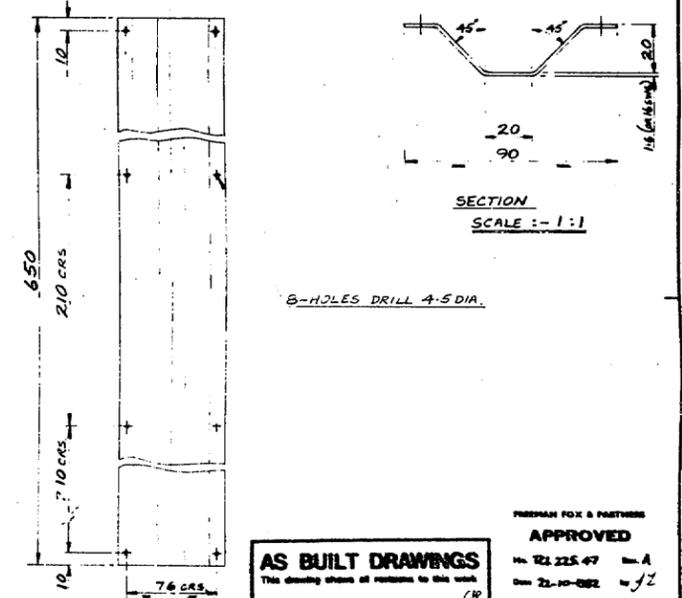
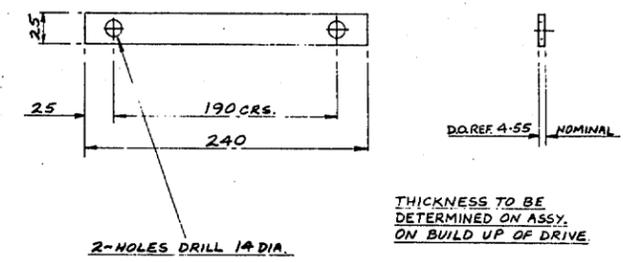
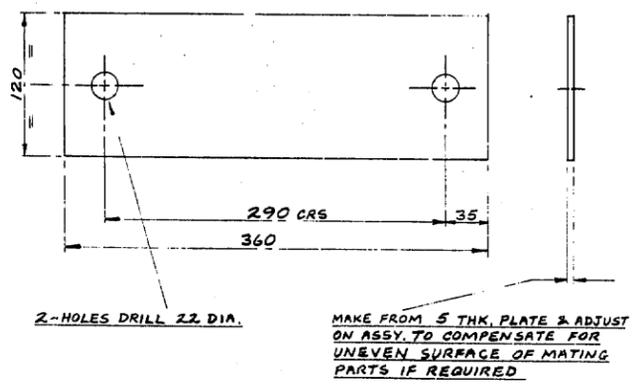
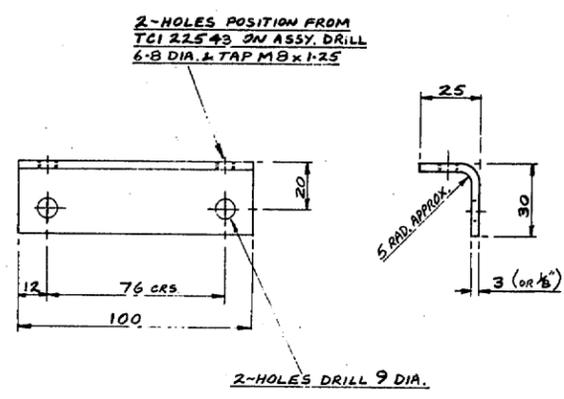
FRESHMAN FOX & PARTNERS
APPROVED
 No. TC122542
 Date 22-10-1982



FRESHMAN FOX & PARTNERS
APPROVED
 No. TC122543
 Date 22-10-1982

DATE OF MOD. MODIFIED BY	DATE OF MOD. MODIFIED BY	FIRST MADE ORD No. 118764	MATERIAL 1/4" (N°16 SWG)
		FIRST ISSUE DATE	FINISH (Paint Yellow O.B.S.T.)
		COST ACCOUNT 225	PATT No.
TITLE COVER			
WEIGHT 0.43 Kg		SCALE 1:1	UNIT No. TC122542
No. OFF PER SET 2			ISSUE A

DATE OF MOD. MODIFIED BY	DATE OF MOD. MODIFIED BY	FIRST MADE ORD No. 118764	MATERIAL 1/4" (N°16 SWG)
		FIRST ISSUE DATE	FINISH (Paint Yellow O.B.S.T.)
		COST ACCOUNT 225	PATT No.
TITLE CHAIN GUARD			
WEIGHT 10.283 Kg		SCALE 1:2	UNIT No. TC122543
No. OFF PER SET 1			ISSUE A



FRESHMAN FOX & PARTNERS
APPROVED
 No. TC122544
 Date 22-10-1982

FRESHMAN FOX & PARTNERS
APPROVED
 No. TC122545
 Date 22-10-1982

FRESHMAN FOX & PARTNERS
APPROVED
 No. TC122546
 Date 22-10-1982

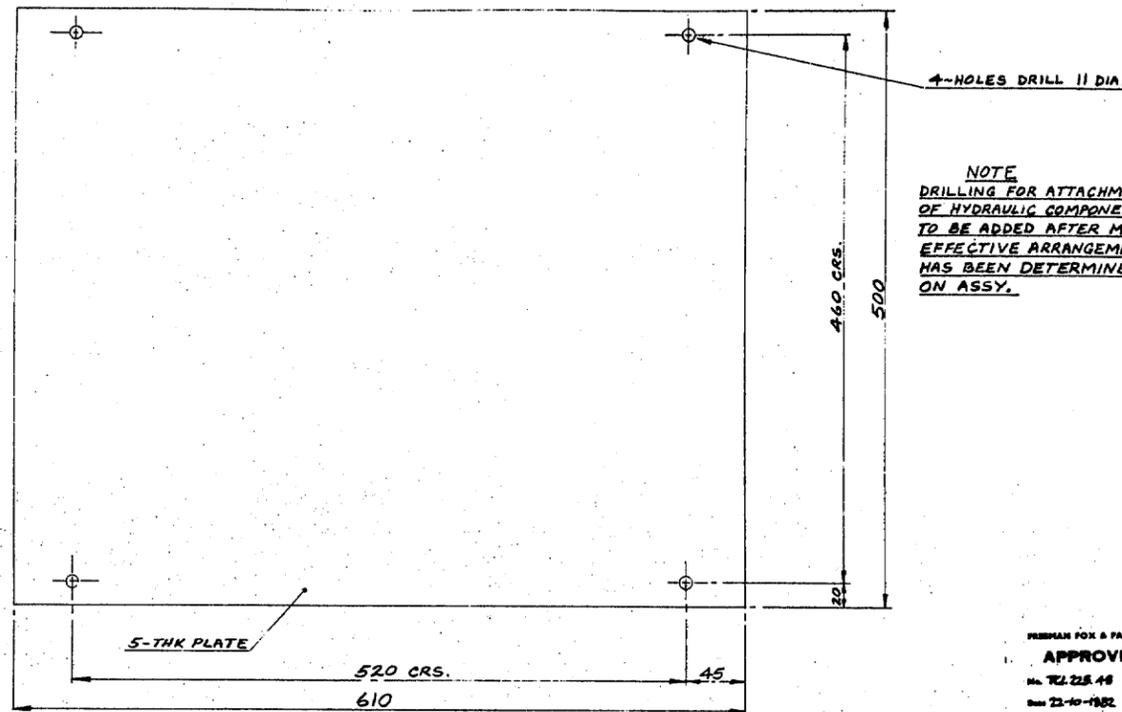
FRESHMAN FOX & PARTNERS
AS BUILT DRAWINGS
 No. TC122547
 Date 22-10-1982

DATE OF MOD. MODIFIED BY	DATE OF MOD. MODIFIED BY	FIRST MADE ORD No. 118764	MATERIAL 3/16" (N°18 SWG)
		FIRST ISSUE DATE	FINISH (Paint Yellow O.B.S.T.)
		COST ACCOUNT 225	PATT No.
TITLE BRACKET			
WEIGHT 0.199 Kg		SCALE 1:1	UNIT No. TC122544
No. OFF PER SET 1			ISSUE A

DATE OF MOD. MODIFIED BY	DATE OF MOD. MODIFIED BY	FIRST MADE ORD No. 118764	MATERIAL STEEL BS 4360-43H
		FIRST ISSUE DATE	FINISH (Paint Yellow O.B.S.T.)
		COST ACCOUNT 225	PATT No.
TITLE PACKER			
WEIGHT 1.447 Kg		SCALE 1:2	UNIT No. TC122545
No. OFF PER SET 4			ISSUE A

DATE OF MOD. MODIFIED BY	DATE OF MOD. MODIFIED BY	FIRST MADE ORD No. 118764	MATERIAL STEEL BS 4360-43H
		FIRST ISSUE DATE	FINISH (Paint Yellow O.B.S.T.)
		COST ACCOUNT 225	PATT No.
TITLE PACKER			
WEIGHT 1.608 Kg		SCALE 1:2	UNIT No. TC122546
No. OFF PER SET 2			ISSUE A

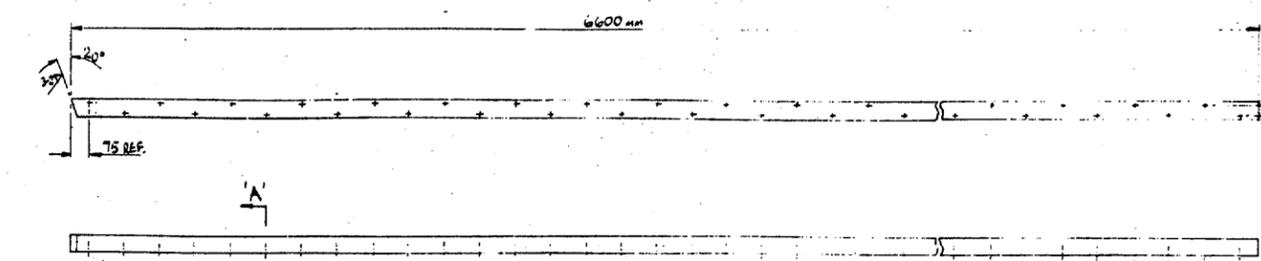
DATE OF MOD. MODIFIED BY	DATE OF MOD. MODIFIED BY	FIRST MADE ORD No. 118764	MATERIAL 1/4" (N°16 SWG)
		FIRST ISSUE DATE	FINISH (Paint Yellow O.B.S.T.)
		COST ACCOUNT 225	PATT No.
TITLE COVER			
WEIGHT 10.480 Kg		SCALE 1:2	UNIT No. TC122547
No. OFF PER SET 1			ISSUE A



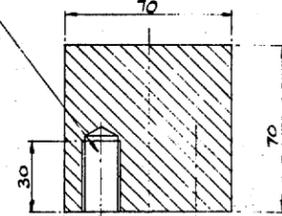
NOTE
DRILLING FOR ATTACHMENT
OF HYDRAULIC COMPONENTS
TO BE ADDED AFTER MOST
EFFECTIVE ARRANGEMENT
HAS BEEN DETERMINED
ON ASSY.

FREEMAN FOX & PARTNERS
APPROVED
No. TC1.225.48 Rev. A
Date 22-10-1982 by J.L.

DATE OF MOD MODIFIED BY	DATE OF MOD MODIFIED BY	FIRST MADE ORD No. 118764	MATERIAL STEEL BS 4360-43A
DATE OF MOD MODIFIED BY	DATE OF MOD MODIFIED BY	FIRST ISSUE DATE	FINISH PAINT YELLOW OLEO
DATE OF MOD MODIFIED BY	DATE OF MOD MODIFIED BY	COST ACCOUNT 225	PATT No.
		TITLE BASEPLATE	
		WEIGHT 11.97kg	SCALE 1:2
		UNIT No. TC1.225.48	ISSUE A



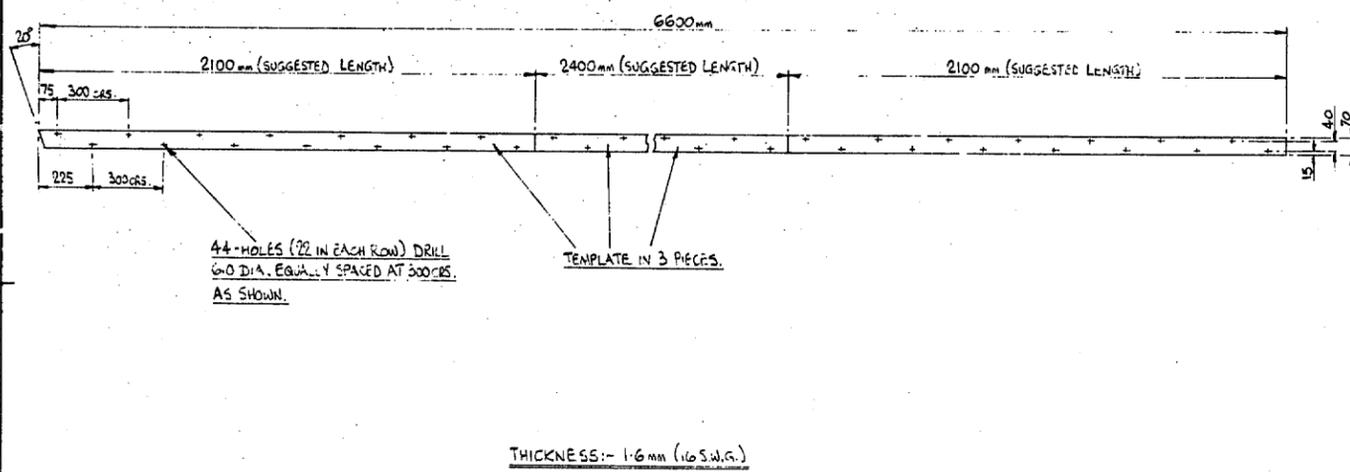
44-HOLES DRILL & TAP M10x2.0
USING TEMPLATE TC1.225.51.



SECTION 'A-A'

UNIT No.	REMARKS	No. OFF
TC1.225.48	AS DRAWN	1
TC1.225.50	OPP. HAND	1

DATE OF MOD MODIFIED BY	DATE OF MOD MODIFIED BY	FIRST MADE ORD No. 118764	MATERIAL STEEL '20' CARBON (BS 4360-43A)
DATE OF MOD MODIFIED BY	DATE OF MOD MODIFIED BY	FIRST ISSUE DATE	FINISH PAINT YELLOW OLEO
DATE OF MOD MODIFIED BY	DATE OF MOD MODIFIED BY	COST ACCOUNT 225	PATT No.
		TITLE RAIL	
		WEIGHT 253 kg	SCALE 1/2
		UNIT No. TC1.225.49/50	ISSUE A

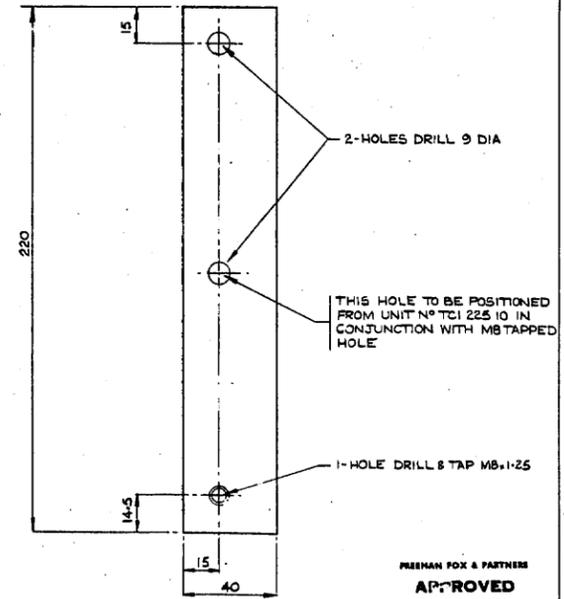


44-HOLES (22 IN EACH ROW) DRILL
6.0 DIA. EQUALLY SPACED AT 300 CRS.
AS SHOWN.

TEMPLATE IN 3 PIECES.

THICKNESS:- 1.6 mm (16 S.W.G.)

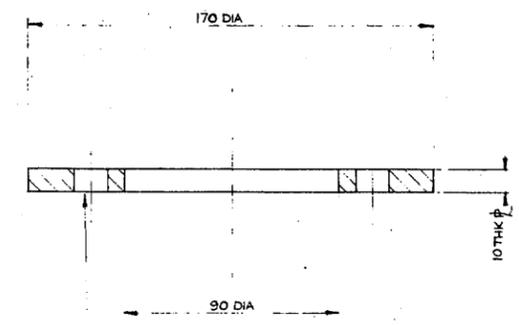
DATE OF MOD MODIFIED BY	DATE OF MOD MODIFIED BY	FIRST MADE ORD No. 118764	MATERIAL STEEL '20' CARBON 1.6 THICK (16 S.W.G.)
DATE OF MOD MODIFIED BY	DATE OF MOD MODIFIED BY	FIRST ISSUE DATE	FINISH NATURAL
DATE OF MOD MODIFIED BY	DATE OF MOD MODIFIED BY	COST ACCOUNT 225	PATT No.
		TITLE TEMPLATE	
		WEIGHT 1.28kg	SCALE 1/1
		UNIT No. TC1.225.51	ISSUE A



THIS HOLE TO BE POSITIONED
FROM UNIT NO TC1.225.10 IN
CONJUNCTION WITH M8 TAPPED
HOLE

FREEMAN FOX & PARTNERS
APPROVED
No. TC1.225.52 Rev. A
Date 26-9-83 by J.L.

DATE OF MOD MODIFIED BY	DATE OF MOD MODIFIED BY	FIRST MADE ORD No. 118764	MATERIAL 40 x 12 THK '20' CARBON STEEL MOUNT BAR
DATE OF MOD MODIFIED BY	DATE OF MOD MODIFIED BY	FIRST ISSUE DATE	FINISH PAINT YELLOW OLEO
DATE OF MOD MODIFIED BY	DATE OF MOD MODIFIED BY	COST ACCOUNT 225	PATT No.
		TITLE PACKER	
		WEIGHT 1.28kg	SCALE 1/1
		UNIT No. TC1.225.52	ISSUE A

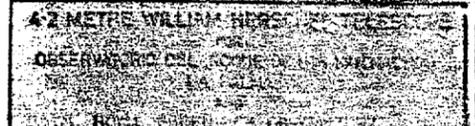


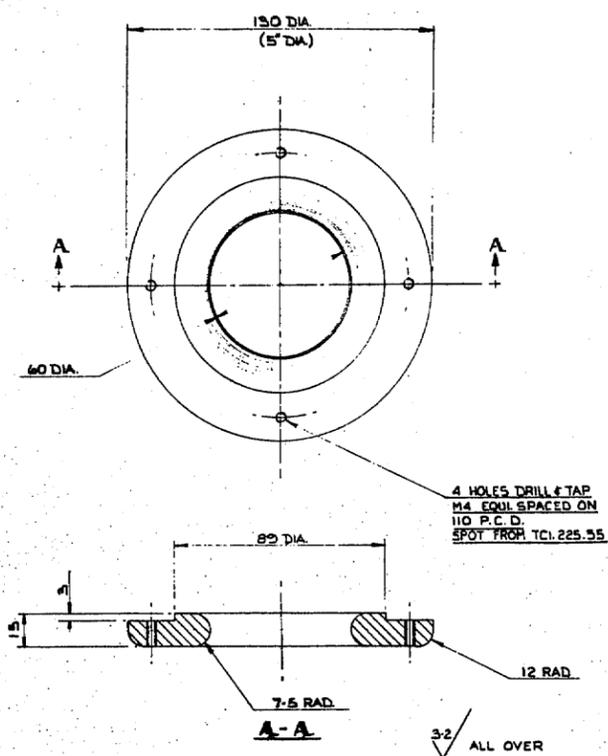
4-HOLES DRILL 14 DIA. POSITION
FROM CAM FOLLOWER UNIT NO TC1.225.17

AS BUILT DRAWINGS
This drawing shows all conditions in this work.

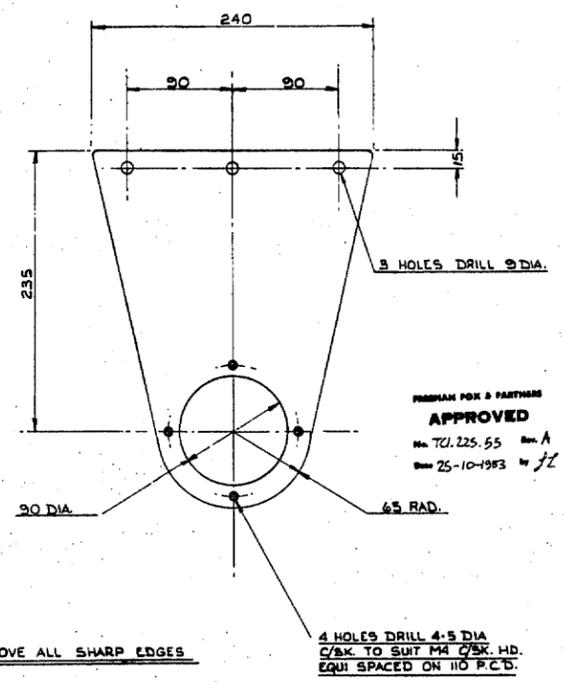
FREEMAN FOX & PARTNERS
APPROVED
No. TC1.225.53 Rev. A
Date 2-10-1982 by J.L.

DATE OF MOD MODIFIED BY	DATE OF MOD MODIFIED BY	FIRST MADE ORD No. 118764	MATERIAL '20' CARBON STEEL
DATE OF MOD MODIFIED BY	DATE OF MOD MODIFIED BY	FIRST ISSUE DATE	FINISH PAINT YELLOW OLEO
DATE OF MOD MODIFIED BY	DATE OF MOD MODIFIED BY	COST ACCOUNT 225	PATT No.
		TITLE BELLOWS CLAMP RAIL	
		WEIGHT 1.28kg	SCALE 1/1
		UNIT No. TC1.225.53	ISSUE A

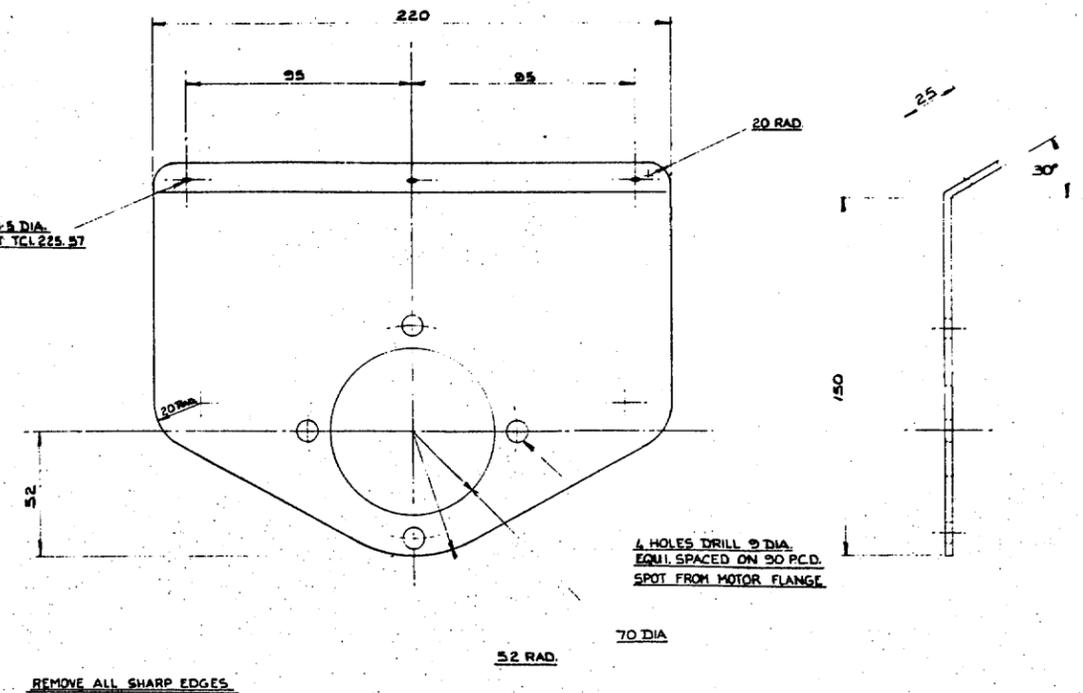




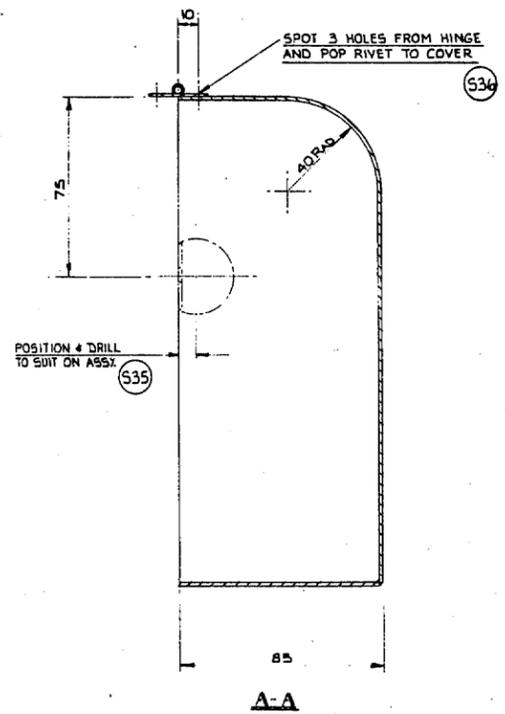
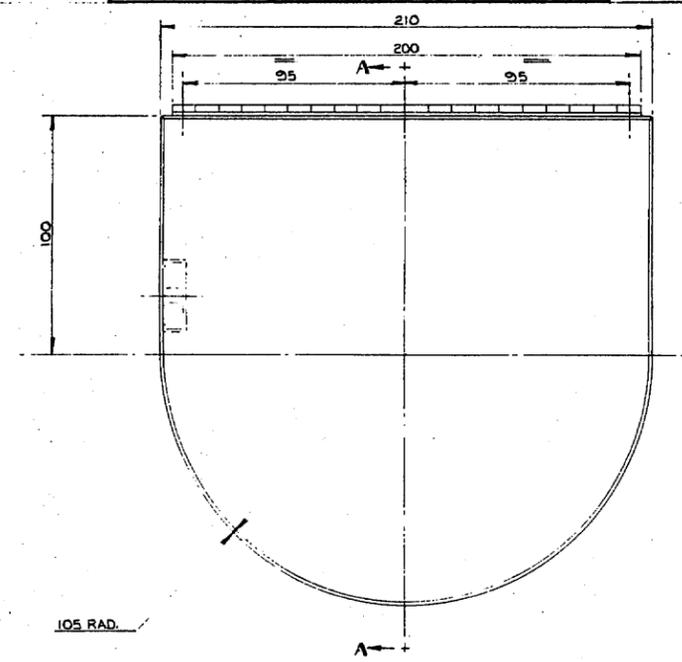
DATE OF MOD. MODIFIED BY	FIRST MADE ORD No. 118764	MATERIAL 130mm / 5" DIA. NYLON ROD
DATE OF MOD. MODIFIED BY	FIRST ISSUE DATE	FINISH NATURAL
DATE OF MOD. MODIFIED BY	COST ACCOUNT 225	PART No.
DATE OF MOD. MODIFIED BY	TITLE CABLE BUSH	
DATE OF MOD. MODIFIED BY	WEIGHT	SCALE 1:1
DATE OF MOD. MODIFIED BY	UNIT No. TCL 225.54	ISSUE A



DATE OF MOD. MODIFIED BY	DATE OF MOD. MODIFIED BY	FIRST MADE ORD No. 118764	MATERIAL 3mm Thick STEEL
DATE OF MOD. MODIFIED BY	DATE OF MOD. MODIFIED BY	FIRST ISSUE DATE	FINISH POLY UNIFORM COAT
DATE OF MOD. MODIFIED BY	DATE OF MOD. MODIFIED BY	COST ACCOUNT 225	PART No.
DATE OF MOD. MODIFIED BY	DATE OF MOD. MODIFIED BY	TITLE BRACKET (CABLE GUIDE)	
DATE OF MOD. MODIFIED BY	DATE OF MOD. MODIFIED BY	WEIGHT	SCALE 1:2
DATE OF MOD. MODIFIED BY	DATE OF MOD. MODIFIED BY	UNIT No. TCL 225.55	ISSUE A



DATE OF MOD. MODIFIED BY	DATE OF MOD. MODIFIED BY	FIRST MADE ORD No. 118764	MATERIAL 3mm Thick STEEL
DATE OF MOD. MODIFIED BY	DATE OF MOD. MODIFIED BY	FIRST ISSUE DATE	FINISH POLY UNIFORM COAT
DATE OF MOD. MODIFIED BY	DATE OF MOD. MODIFIED BY	COST ACCOUNT 225	PART No.
DATE OF MOD. MODIFIED BY	DATE OF MOD. MODIFIED BY	TITLE BACKPLATE	
DATE OF MOD. MODIFIED BY	DATE OF MOD. MODIFIED BY	WEIGHT	SCALE 1:1
DATE OF MOD. MODIFIED BY	DATE OF MOD. MODIFIED BY	UNIT No. TCL 225.56	ISSUE A



DATE OF MOD. MODIFIED BY	DATE OF MOD. MODIFIED BY	FIRST MADE ORD No. 118764	MATERIAL 20 S.W.G. STEEL
DATE OF MOD. MODIFIED BY	DATE OF MOD. MODIFIED BY	FIRST ISSUE DATE	FINISH POLY UNIFORM COAT
DATE OF MOD. MODIFIED BY	DATE OF MOD. MODIFIED BY	COST ACCOUNT 225	PART No.
DATE OF MOD. MODIFIED BY	DATE OF MOD. MODIFIED BY	TITLE COVER	
DATE OF MOD. MODIFIED BY	DATE OF MOD. MODIFIED BY	WEIGHT	SCALE 1:1
DATE OF MOD. MODIFIED BY	DATE OF MOD. MODIFIED BY	UNIT No. TCL 225.57	ISSUE A

NOTE
FABRICATE FROM 20 S.W.G. STEEL SHEET
BRAZE ALL JOINTS AND DRESS OFF SMOOTH

FREEMAN FOX & PARTNERS
APPROVED
No. TCL 225.57 Rev. A
Date 25-10-1983

AS BUILT DRAWINGS
This drawing shows all dimensions in this work