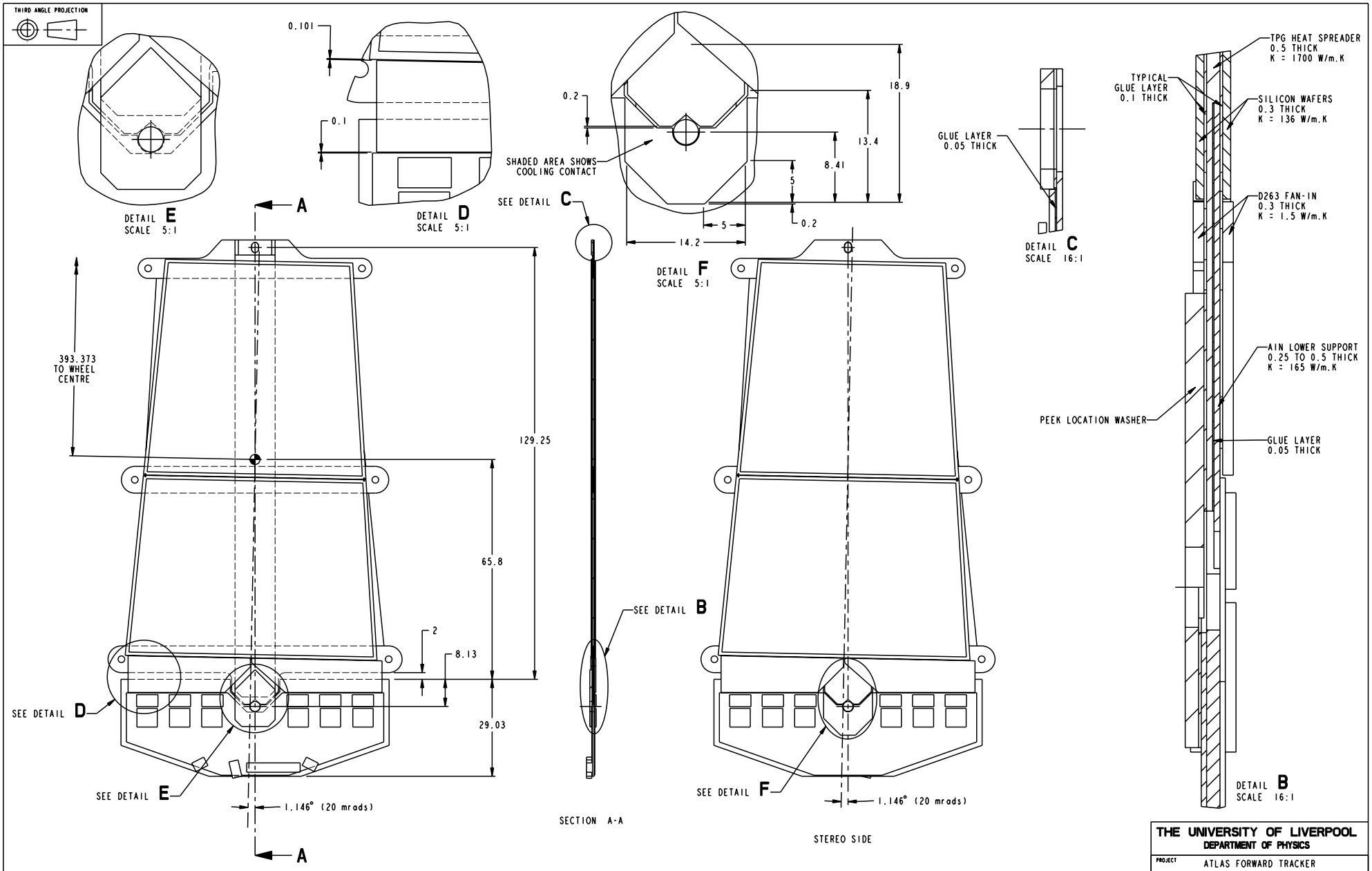


DETAIL OF MIDDLE MODULE
40 OFF PER RING

ISSUE	DATE	NAME	DESCRIPTION
A	24-Sep-98	P.SUTCLIFFE	FIRST ISSUE

MODIFICATIONS

UNLESS OTHERWISE SPECIFIED:-
ALL DIMENSIONS IN MILLIMETRES
SURFACE TEXTURE VALUES IN MICROMETRES
SURFACE TEXTURE TO BE ☐ ✓
MACHINE ALL OVER OR WHERE MARKED ✓
REMOVE BURRS AND BREAK SHARP EDGES

METRIC SCREW THREADS TO BS3643 CLASS 6H/6g
TOLERANCES UNLESS OTHERWISE SPECIFIED
MACHINED ☐.☐ ±
ANGULAR ±
DO NOT SCALE

DRAWING PRACTICE AND TOLERANCE INTERPRETATION TO BS308

MATERIAL	SEE CHART
SPEC	SEE PARTS
TREATMENT	SEE PARTS
FINISH	SEE PARTS

WELDING SYMBOLS TO BS 499

DRAWN	P.SUTCLIFFE
DATE	24-Sep-98
CHECKED	P.SUTCLIFFE
APPROVED	P.SUTCLIFFE

THE UNIVERSITY OF LIVERPOOL
DEPARTMENT OF PHYSICS

PROJECT: ATLAS FORWARD TRACKER

TITLE: MIDDLE MODULE, BeO/AIN/TPG VERS.

DRAWING NUMBER: NP27-03-120

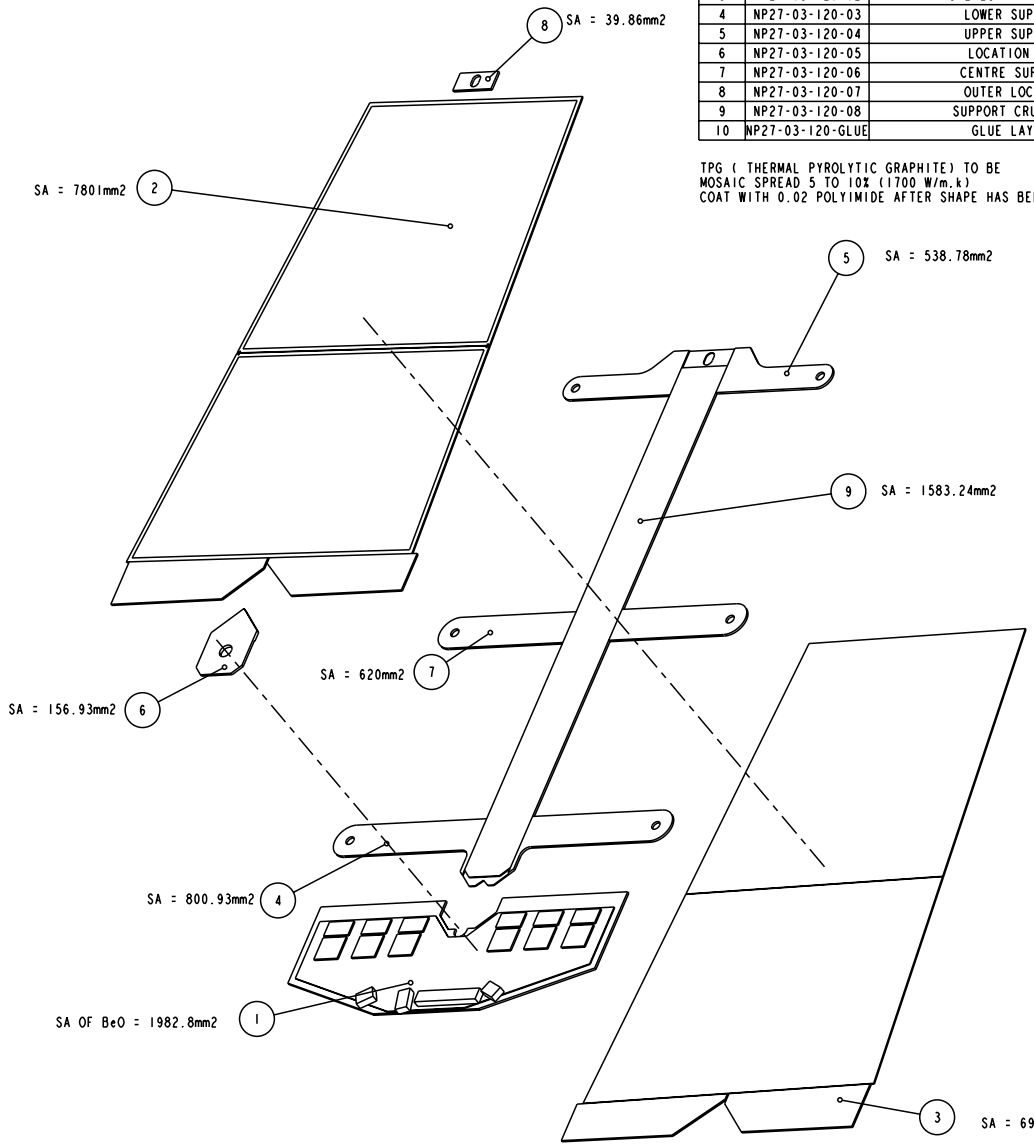
ARRGT. DRAWING: NP27-03-90

SHEET 1 OF 3 SHEETS SCALE:-2:1 A1

THIRD ANGLE PROJECTION

ITEM	PART/CAD No	DWG TITLE	MATERIAL	MAT SPEC	REMARK	QTY
1	NP27-03-116	HYBRID BASE ASSEMBLY - TPG/BeO	SEE PARTS	SEE PARTS	-	1
2	NP27-03-120-01	MIDDLE SILICON WAFERS	SILICON	-	0.3mm THICK	2
3	NP27-03-120-02	STEREO/PHI FAN-IN	BOROSILICATE GLASS	D263	0.3mm THICK	2
4	NP27-03-120-03	LOWER SUPPORT	AIN	-	0.5mm THICK	1
5	NP27-03-120-04	UPPER SUPPORT	AIN	-	0.5mm THICK	1
6	NP27-03-120-05	LOCATION PAD	PEEK	-	-	1
7	NP27-03-120-06	CENTRE SUPPORT	AIN	-	0.5mm THICK	1
8	NP27-03-120-07	OUTER LOCATOR	PEEK	-	0.5mm THICK	1
9	NP27-03-120-08	SUPPORT CRUCIFIX	TPG	SEE NOTE	0.5mm THICK	1
10	NP27-03-120-GLUE	GLUE LAYERS	?	?	0.1mm OR 0.05mm thick	1

TPG (THERMAL PYROLYTIC GRAPHITE) TO BE
MOSAIC SPREAD 5 TO 10% (1700 W/m.k)
COAT WITH 0.02 POLYIMIDE AFTER SHAPE HAS BEEN CUT.



ISSUE	DATE	NAME	DESCRIPTION
A	24-Sep-98	P.SUTCLIFFE	FIRST ISSUE
MODIFICATIONS			

UNLESS OTHERWISE SPECIFIED:-
ALL DIMENSIONS IN MILLIMETRES
SURFACE TEXTURE VALUES IN MICROMETRES
SURFACE TEXTURE TO BE ☐ ✓
MACHINE ALL OVER OR WHERE MARKED ✓
REMOVE BURRS AND BREAK SHARP EDGES

METRIC SCREW THREADS TO BS3643 CLASS 6H/6g
TOLERANCES UNLESS OTHERWISE SPECIFIED
MACHINED DIM ±
ANGULAR ±
DO NOT SCALE

DRAWING PRACTICE AND TOLERANCE INTERPRETATION TO BS308

MATERIAL	SEE CHART
SPEC	SEE PARTS
TREATMENT	SEE PARTS
FINISH	SEE PARTS

WELDING SYMBOLS TO BS 499

DRAWN	P.SUTCLIFFE
DATE	24-Sep-98
CHECKED	P.SUTCLIFFE
APPROVED	P.SUTCLIFFE

THE UNIVERSITY OF LIVERPOOL
DEPARTMENT OF PHYSICS

PROJECT: ATLAS FORWARD TRACKER

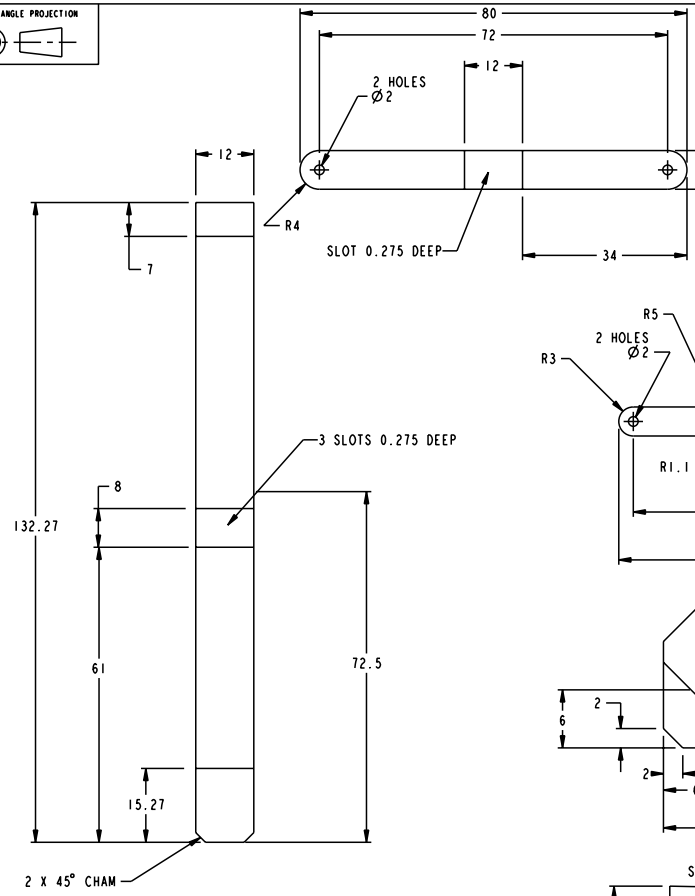
TITLE: MIDDLE MODULE, BeO/AIN/TPG VERS.

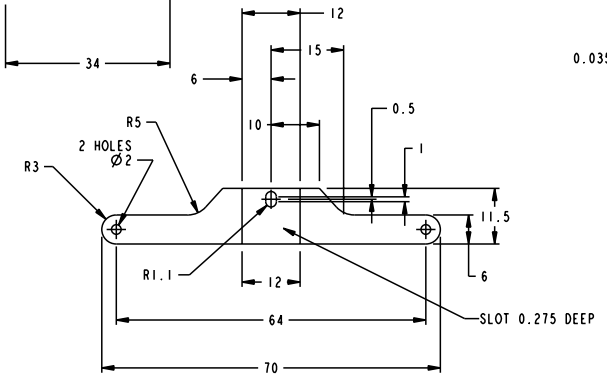
DRAWING NUMBER: NP27-03-120

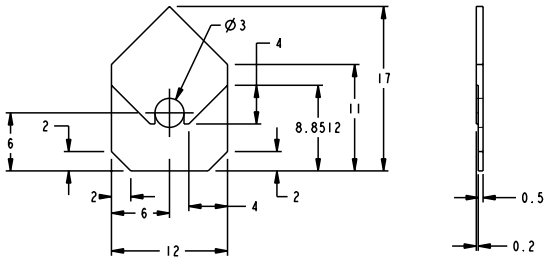
ARRGT. DRAWING: NP27-03-90

SHEET 2 OF 3 SHEETS SCALE:-2:1 A1

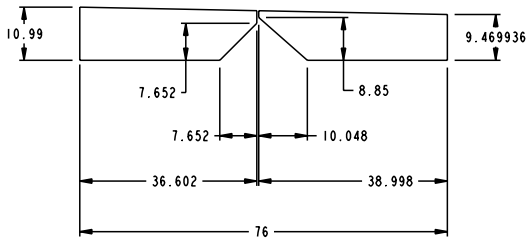
THIRD ANGLE PROJECTION

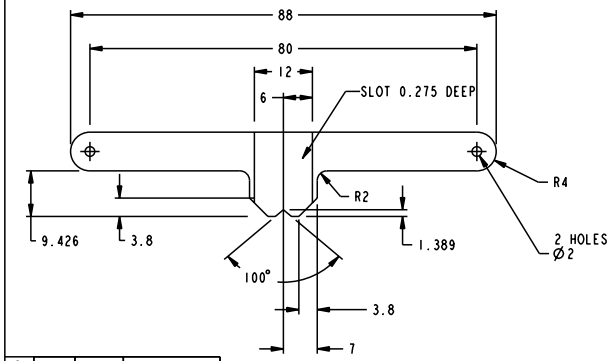


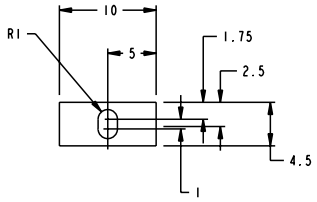




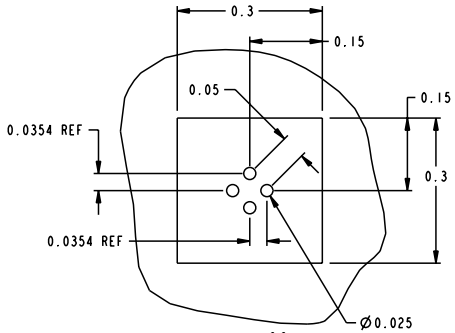
SCALE 4:1



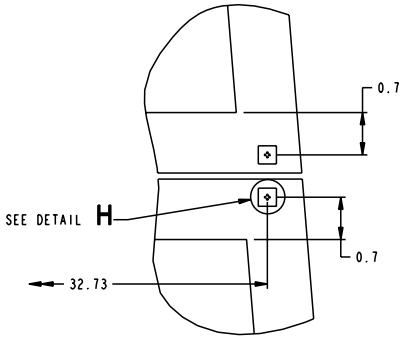




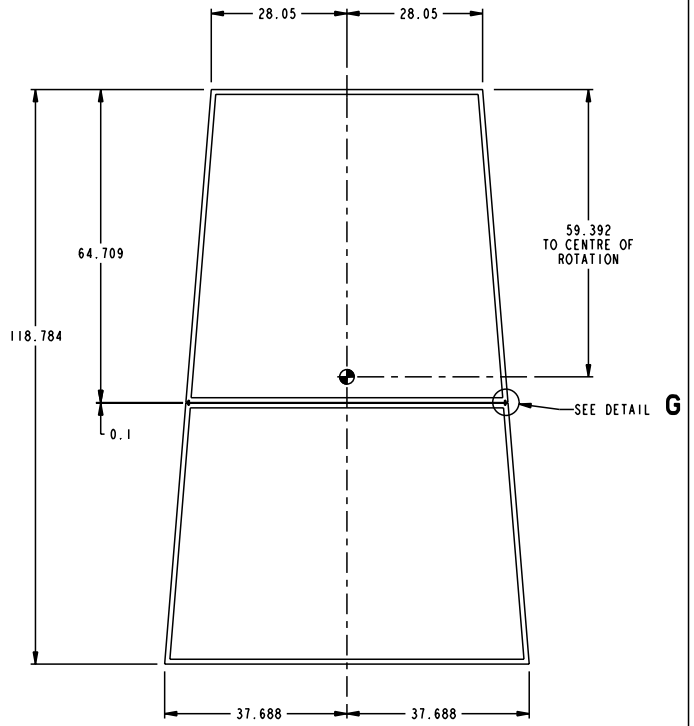
SCALE 4:1



DETAIL H
SCALE 200:1



DETAIL G
SCALE 25:1



ISSUE	DATE	NAME	DESCRIPTION
A	24-Sep-98	P.SUTCLIFFE	FIRST ISSUE
MODIFICATIONS			

UNLESS OTHERWISE SPECIFIED:-	METRIC SCREW THREADS TO BS3643 CLASS 6H/6g	DRAWING PRACTICE AND TOLERANCE INTERPRETATION TO BS308		WELDING SYMBOLS TO BS 499	
ALL DIMENSIONS IN MILLIMETRES	TOLERANCES UNLESS OTHERWISE SPECIFIED	MATERIAL	SEE CHART	DRAWN	P.SUTCLIFFE
SURFACE TEXTURE VALUES IN MICROMETRES	MACHINED ±0.5	SPEC	SEE PARTS	DATE	24-Sep-98
SURFACE TEXTURE TO BE ☐ ✓	ANGULAR ±	TREATMENT	SEE PARTS	CHECKED	P.SUTCLIFFE
MACHINE ALL OVER OR WHERE MARKED ✓	DO NOT SCALE	FINISH	SEE PARTS	APPROVED	P.SUTCLIFFE
REMOVE BURRS AND BREAK SHARP EDGES					

THE UNIVERSITY OF LIVERPOOL
DEPARTMENT OF PHYSICS

PROJECT	ATLAS FORWARD TRACKER		
TITLE	MIDDLE MODULE, BeO/AlN/TPG VERS.		
DRAWING NUMBER	NP27-03-120	ARRGT. DRAWING	NP27-03-90
SHEET 3	OF 3 SHEETS	SCALE:-2:1	A1