

# Tivoli Mfg. Ltd.

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## ***Safety Bulletin***

**Bulletin No:** SOSA019

**Ride Type:** Spin Out

(aka. The Claw, The Maelstrom, El Nino)

**Date:** July 27, 2017

**Page:** 1

**Rides Included:** All Rides

**Pages:** 1 of 5

**Parts supplied:** N/A

**Purpose:** Shut Down and inspection of seat tube to support arm weldment

Recently a KMG B.V. Fireball had a catastrophic failure of the connection where the seat support arm is connected to the seat support tube of the vehicle. Not all details are known at this time. The construction of the Fireball seat is the same design as the Spin Out vehicle (also designed By KMG B.V.). KMG B.V. has ordered the shutdown of all affected Fireball and Spin out type ride while the incident is under investigation.

In conjunction with KMG B.V., Tivoli is also requiring the shut down on all Spin Out (El Niño, Maelstrom, The Claw) Rides while KMG B.V. Completes their investigation

During this investigation all Spin Out rides manufactured by Tivoli Enterprises Ltd. are now subject to an inspection of the areas surrounding this attachment. See attached Drawing.

This inspection applies to both type of vehicle attachment, 10 bolt flange and 2 pin connections.

All welds and surrounding area within 6" of weld should be cleaned of paint and tested by magnetic particle NDT procedure.

Additionally an ultra sound test of the wall thickness of the seat support arm and seat tube in the area around the arm support tube area is required.

Drawings of these components are attached indicating material size and wall thickness are attached to this bulletin.

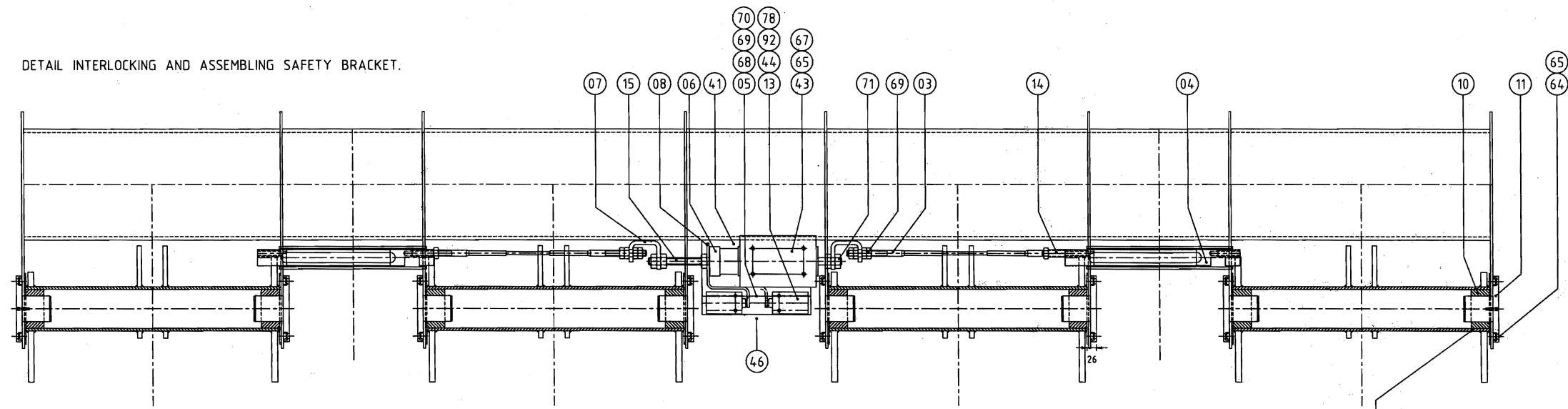
A visual inspection of the complete vehicle frame should be completed.

Inspections must be done by third party inspection service capable of providing a certificate of inspection.

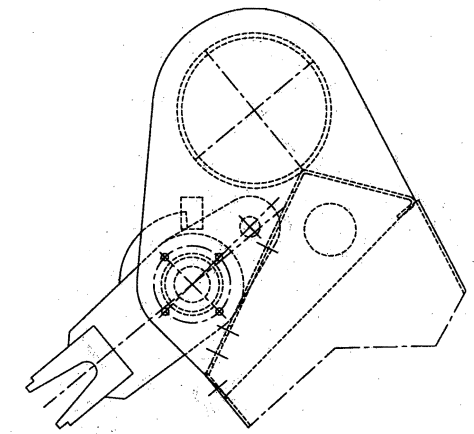
All Tests should be reported to Tivoli Mfg. Ltd. or it's US representative WorldRide Service & Supply Inc. @ 817-641-5045, Fax: 817-645-9109 or email Worldride@sbcglobal.net.

Tivoli Mfg. Ltd.

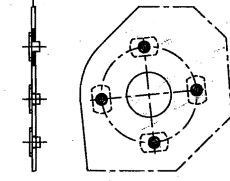
DETAIL INTERLOCKING AND ASSEMBLING SAFETY BRACKET.



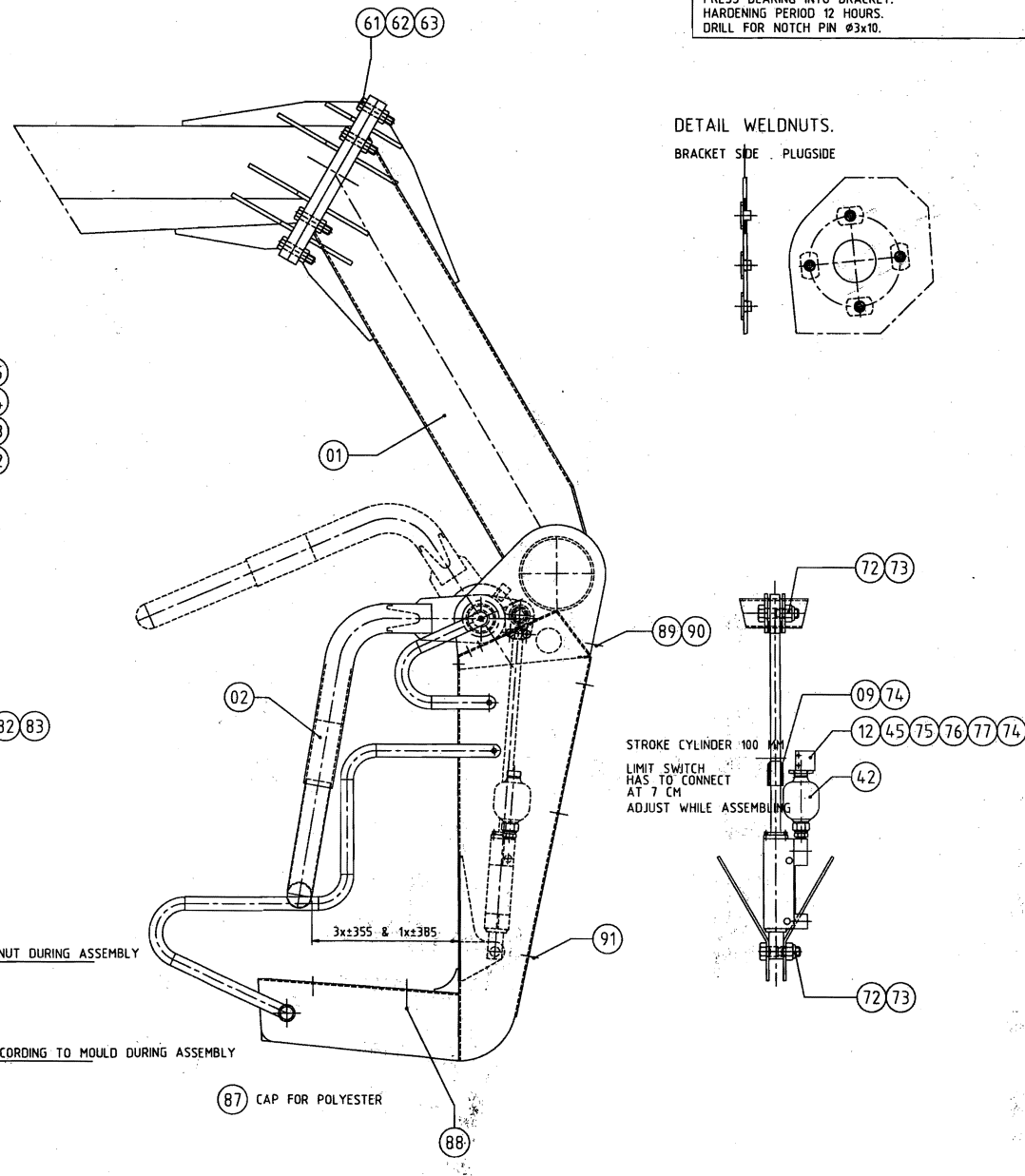
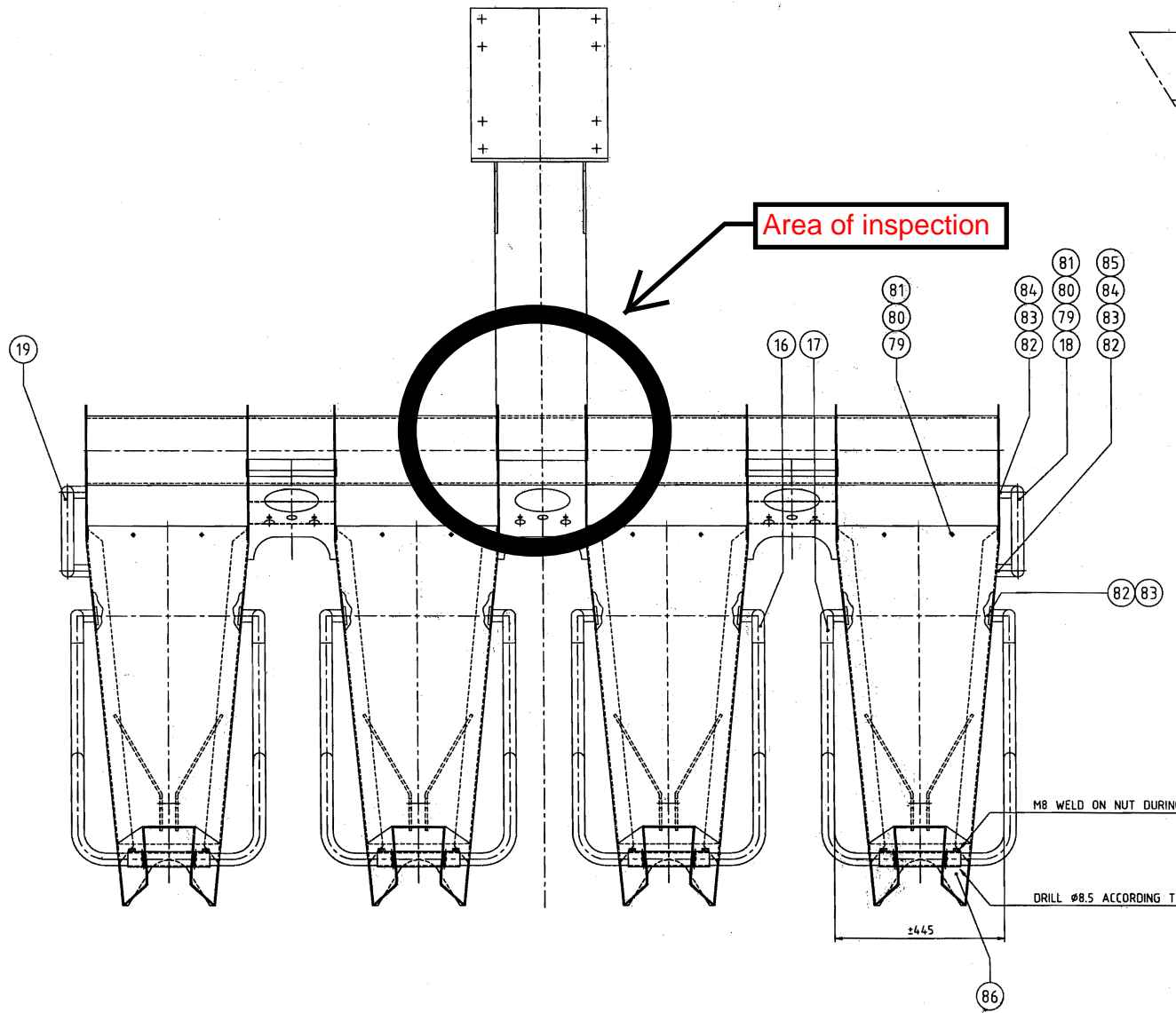
GLUE BEARING INTO SAFETY BRACKET.  
 ROUGHEN SURFACE FROM BEARING.  
 SPRAY LOCTITE ACTIVATOR 7649 ONTO SURFACE AND WAIT UNTIL VAPORISED  
 APPLY LOCTITE 648 ON INNER BRACKET SURFACE.  
 APPLY LOCTITE 648 ON FRONTEND OF BEARING.  
 PRESS BEARING INTO BRACKET.  
 HARDENING PERIOD 12 HOURS.  
 DRILL FOR NOTCH PIN Ø3x10.



DETAIL WELDNUTS.  
 BRACKET SIDE PLUGSIDE



Area of inspection



QTY	DESCRIPTION	UNIT	MATERIAL	STANDARD	
92	4	SPRING RING	ST.	M4	DIN127B
91	24	SELF TAPPER	ST.	Ø 4.8X22	
90	8	CLIP	ST.		
89	8	SELF TAPPER	ST.	Ø6.3X25	
88	16	SELF TAPPER	ST.	Ø4.8X19	
87	24	CAP	ST.	Ø14	
86	8	HEAD SCREW	RVS	MBX45	DIN912
85	2	NUT	ST.B	M8	DIN934
84	4	WASHER	ST.	M8	DIN125A
83	12	SPRING RING	ST.	M8	DIN127B
82	12	HEXAGON-HEAD BOLT	ST.B.B	MBX20	DIN933
81	8	BODY RING	ST.	M6	DIN...
80	8	LOCK NUT	ST.B	M6	DIN985
79	8	HEXAGON-HEAD BOLT	ST.B.B	M6X20	DIN933
78	4	HEAD SCREW	ST.B.B	M4X30	DIN912
77	8	LOCK NUT	ST.B	M4	DIN985
76	8	WASHER	ST.	M4	DIN125A
75	8	HEAD SCREW	ST.B.B	M4X35	DIN912
74	12	SOCKET SCREW	ST.B	M6X6	DIN916
73	8	LOCK NUT	ST.B	M20	DIN985
72	8	HEXAGON-HEAD BOLT	ST.B.B	M20X70	DIN931
71	5	NUT	ST.B	M10	DIN934
70	4	SPRING RING	ST.	M8	DIN127B
69	12	NUT	ST.B	M8	DIN934
68	2	HEXAGON-HEAD BOLT	ST.B.B	MBX20	DIN933
67	4	SOCKET-HEAD SCREW	ST.B.B	M6X16	DIN912
66					
65	40	SPRING RING	ST.	M6	DIN127B
64	32	HEAD SCREW	ST.B.B	M6X16	DIN912
63	16	WASHER	ST.	M16	DIN125A
62	8	NUT	ST.B	M16	DIN934
61	8	HEXAGON-HEAD BOLT	ST.B.B	M16X70	DIN931
60					
59					
58					
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56					
55					
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53					
52					
51					
50					
49					
48					
47					
46	1	SYNTHETIC GUARD			ETADECOR
45	4	SWITCH	XCK-P121	(646828)	TELEMECANIQUE
44	2	LIMIT SWITCH	XCMA-110	(639963)	TELEMECANIQUE
43	1	ACTUATOR (MAGNET)	BINDER 43116-070	24VGS 100% 30 MM	
42	4	SAFETY BRACKET CYLINDER			DOW
41	1	SPRING	600014/4		
40					
39	4	REAR SIDE CHAIR			KOK
38	4	HEAD SUPPORT			KOK
37	4	SEAT			KOK
36	4	BACK SUPPORT			
35					
34					
33					
32					
31					
30					
29	1	LEFT SHOULDERBRACKET			
28	1	RIGHT SHOULDERBRACKET			
27	4	LEFT BRACKET	600031/3		
26	4	RIGHT BRACKET	600030/3		
25	1	STUD	600010/3-04		
24	1	PIPE	600010/3-03		
23	2	PLATE FOR LIMIT SWITCH	600010/3-02		
22	4	SUPPORT SWITCH	700004/4		
21	8	PLUG	600003/4		
20	8	BEARING PLUG	600001/4		
19	4	SWITCH CAM	600028/4		
18	1	SWITCHING PLATE	600013/4		
17	2	COUPLER	600012/4		
16	1	SPRING GUIDE	600011/4		
15	1	MAGNET COIL SUPPORT	600010/3-01		
14	2	LOCKING AXLE	600009/3		
13	2	CONNECTING CABLE	600008/4		
12	4	SAFETY BRACKET	600006/1		L&R
11	1	GONDOLA CHAIR	600004/1		
10					
9					
8					
7					
6					
5					
4					
3					
2					
1					

Pos. Aantal Benaming Mat. Afmeting schets Opmerking  
 MATERIAL NAAM MATERIAL CODE MATERIAL HANDELS AFM  
 ALGEMEEN 12-7 NEN 2634 1 NEN 2637 3538  
 TOEGELIJKTE TENZEL ANDERE VOOR  
 HOEK LINEAIR  
 NAAM: HRT DATUM: 04-98  
 KENTR. DATUM  
 ASSY. GONDOLA.MOVE-IT24  
 COBRA 600019/0  
 Nederland B.V.

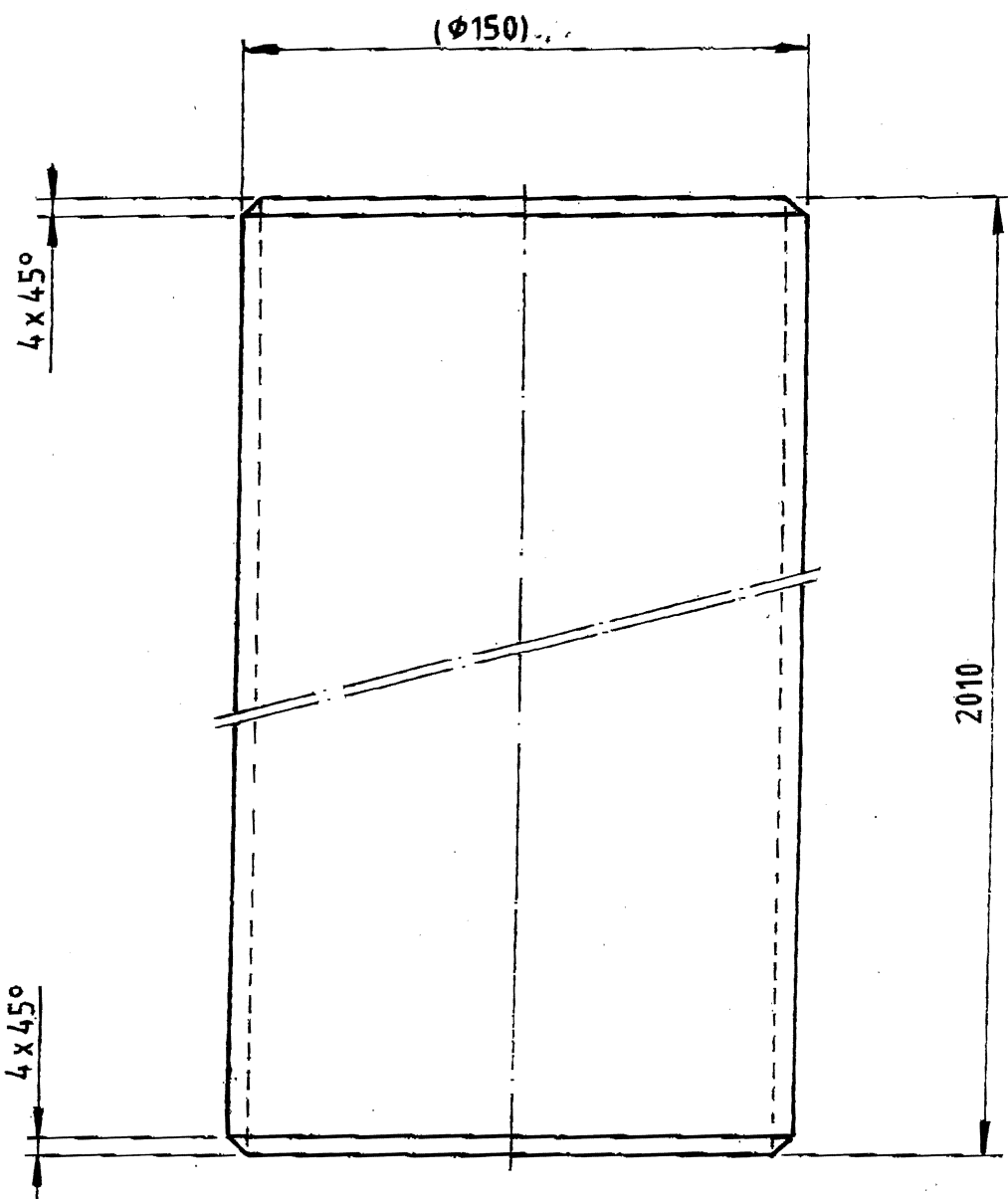
Seat Support Tube


a

a

b

b

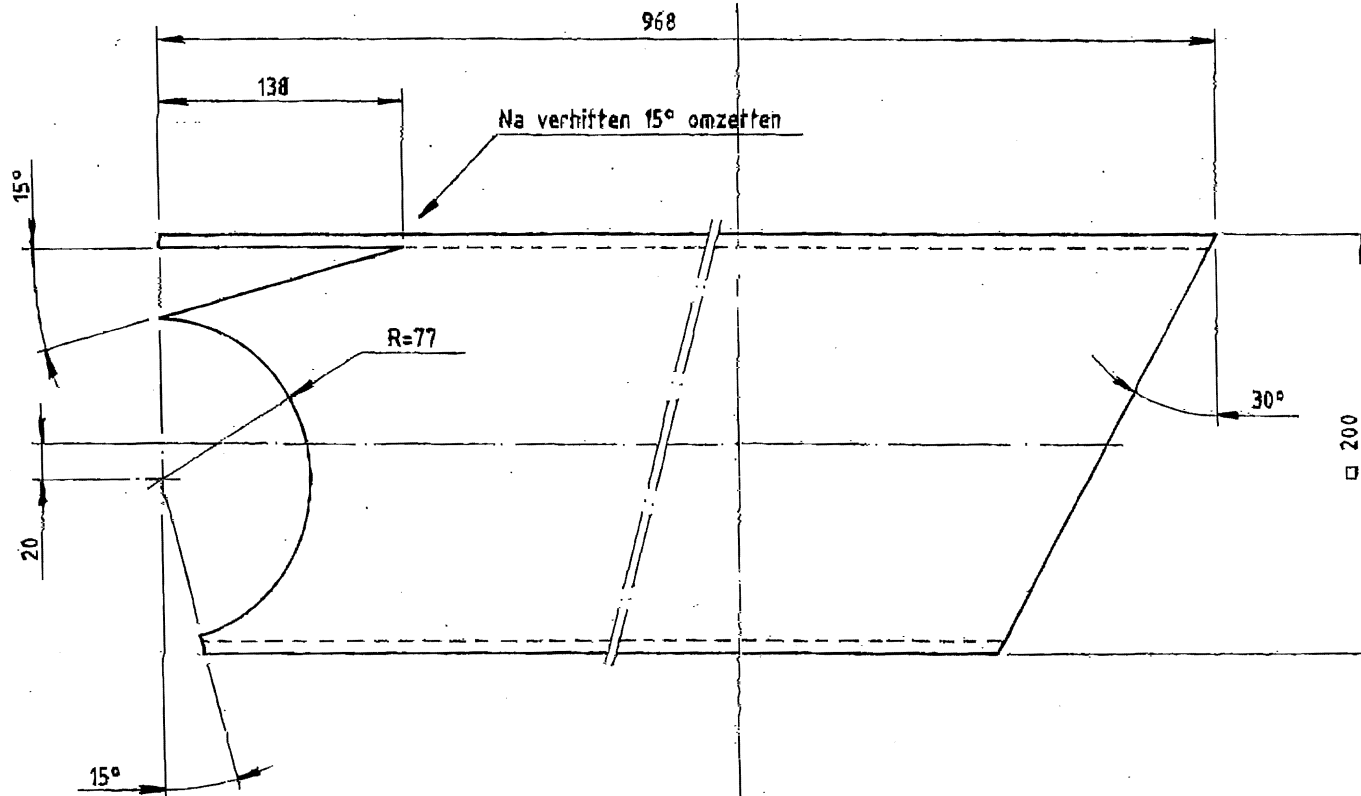



MATERIAAL NAAM Blanke naadloze precisiebuis		MATERIAAL KODE		MATERIAAL HANDELS AFM. Ø150x5	
ALGEMENE RUWHEID	✓	▽	▽	▽	▽
	Ra IN µM	NEN 3832 3834 3837 3838	A	NEN 3311	PROJ. AM.
TOLERANTIES TENZIJ ANDERS VERM. HOEK ± 5° LINEAIR ± 1		AANTAL	OPP. BEH. BENAMING		
NAAM	DATUM 28 Aug. 1994	Buis			
KONTR.	DATUM				
 <b>COBRA</b> <b>Nederland B.V.</b> <b>Needle</b>	TEKENING NR.		REV.	DATUM	
	4-201626		A	16-12 1996	
	AANTAL BLADEN 1	BLAD NR. 1			

X

C

# Support Arm



MATERIAAL NAAM	ST37-2	MATERIAAL KODE			MATERIAAL HANDELS AFM.	□ 200 X 6
ALGEMENE RUWHEID	✓ √ √ √ Ra IN μM	NEN 3632 3634 3637 3638	A	NEN 3311	PROJ. AM.	SCHAAL 1 : 2,5
TOLERANTIES TENZI ANDERS VERM. HOEK ± 0,5° LINEAIR ± 1		AANTAL	OPP. BEH. BENAMING			
NAAM	DATUM	24 Sep. 1996		Koker		
KONTR.	DATUM					
 <b>COBRA</b> Nederland B.V. Neede	TEKENING NR.		REV.	DATUM		
	3-202010					
AANTAL BLADEN 1		BLAD NR. 1				