

03-11

Tivoli Mfg. Ltd.

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Safety Bulletin

Bulletin No: SOSA010

Ride Type: Spin Out

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

Date: February 18, 2003

Page: 1 of 13

Rides Included: All Rides

Pages: 13

Parts supplied: on request

Purpose: Installation of gusset plate on vehicle sweeps.

Tivoli Mfg. Ltd, and KMG BV. are requiring all owners / operators of Spin Out amusement rides to install a gusset kit on each of the six vehicle sweeps as illustrated in the drawings attached.

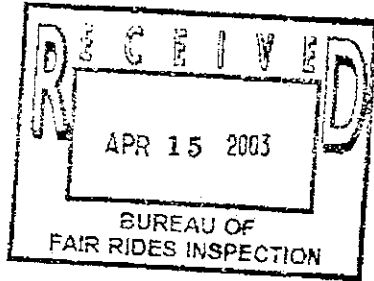
This bulletin supersedes bulletin SOSA050, Issued July 1, 2001 and SOSA008 issued January 16, 2003 and establishes new NDT requirements for inspection of the Spin Out Vehicle sweeps.

Gusset kits are available in the USA from AmTech / Amusement Technologies Intl. Inc free of charge if ordered with 60 days from the issuance of this bulletin.

Urgency of installation: These kits must be installed on all Spin Out rides as soon as possible within 60 days of last NDT inspection as outlined in Safety Bulletin SOSA008. If cracks were detected on any sweeps during this initial inspection the kits must be installed on all sweeps immediately before ride can be put back into operation. If no cracks were detected the ride must be NDT tested according to instructions in Safety Bulletin SOSA008 every 60 days to a maximum of 120 days until the kit can be installed on all sweeps.

Ordering of kits: Kits can be ordered in the USA through AmTech / Amusement Technologies Intl. Inc. 3306 N. Main St. Cleburne, Texas 76033. Tel: 817-641-5045 Fax: 817-645-9109. A drawing of the gusset plate (SO-002) is attached to this bulletin if it is more feasible for operator to have the plates made locally.

Kits include: 12 gussets for top and bottom hinge plate.
24 gussets for side of sweeps.



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Installation of Kits: Welding and installation of kits must be carried out by a qualified welder with certification for this type of welding.

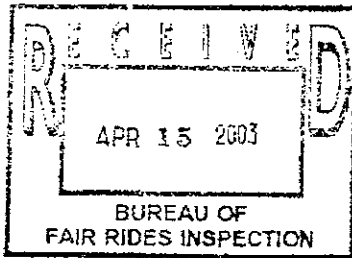
New NDT Requirements: After plates are installed all areas around newly installed gusset plat must be inspected every 400 hours or annually which ever comes first using a magnetic particle testing procedure. This must be accompanied by the annual visual inspection as outlined in the operator's manual.

Weld Requirements: Use low hydrogen 7018 welding rod, or a MIG welding machine (using 75% Argon -25% CO₂ shielding gas).

Installation Instructions: See Attached (Page 3.)

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- Enclosures: Bulletin SOSA010, Pages 1,2
 Installation Instructions, Pages 3,4,5
 Installation drawing # SOSA010C, Page 6
 Installation drawing# SOSA010E, Page 7
 Top gusset plate drawing# SO-002, Page 8
 Side gusset plate drawing# SOSA010D, Page 9
 KMG installation instructions (4 pages), Pages 10,11,12,13



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Spin Out Sweep Gusset Plate Installation Instructions

It is recommended to install gusset kits while sweeps are removed. If this is not possible please completely disconnect all electronic devices (i.e. PLC, Power supplies battery charger etc.) and turn off all circuit breakers in main enclosure and Incomer enclosure before welding on ride.

Welding on ride with electronics connected can possibly damage components.

Installation of top and bottom hinge plate gussets

- Step 1: Raise leveling jacks so rotating platform is as close to level as possible without interfering with fixed platform
- Step 2: Remove Vehicles from Sweep and move to edge of platform. Make sure vehicles are secure and will not roll on platform.
- Step3: Remove sweep light fixtures. Be aware of small spacers on mounting bolts.
- Step 4: Clean off paint and around where edge of gusset plate will be welded to sweep (see fig.1, drawing SOSA010C).

Caution

Make sure welding machine ground clamp is connected at the point where material is being welded. Welding can severely damage bearings and electronics if welding current is allowed to pass through them.

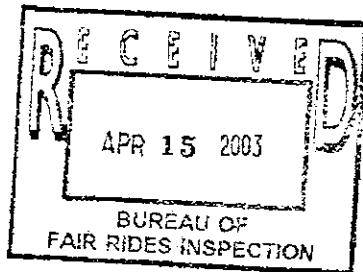
If cracks have been detected, repair according to procedure below first.

Drill small 1/4 inch hole through sweep at the both ends of the crack.

Grind a 1/4 inch wide groove approximately 1/8 inch deep through the center length of the crack.

Fill weld crack.

As weld cools, peen thoroughly to relieve stress.



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Grind or sand weld off flush with sweep material.

- Step 5: Grind weld around triangle hinge plate (See figure 1 Drawing SOSA010C) so weld is about 45°.
- Step 6: lay Gusset plate approximately 1/8 inch from base of weld on Triangular hinge plate. (See figure 2 drawing SOSA010C)
- Step 7: Assure plate is flat on sweep. If not clamp in place.
- Step 8: Tack weld plate, dispersing tacks evenly around parameter of gusset.
- Step 9: Proceed to weld 1/4" fillet around entire gusset. Weld in 6" passes in a star pattern until the plate is completely welded to the sweep. Make sure all welds over lap.
- Step 10: Grind weld on vehicle side of gusset as described in figure 2 drawing SOSA010C. Grinding must be transverse of the weld axis.
- Step 11: Peen weld with blunt instrument at the toe of the weld on top flat part of sweep as described in figure 2 drawing SOSA010C.
- Step 12: Clean and prime all welds and gusset plate.
- Step 13: Repeat on remaining 5 sweeps.
- Step 14: Restore power to ride. Fold up and lock in place sweeps and rotate arm 180° to carry out same procedure on the underside of all six sweeps.
- Step 15: Turn all circuit breakers off before welding.

Installation of side gusset plates

- Step 16: Clean side of sweeps of paint where welding will take place.
- Step 17: Position plates on side of sweep as described in drawing SOSA010D and tack n place.
- Step 18: Weld gusset in place with a 1/4" fillet weld on all sides.

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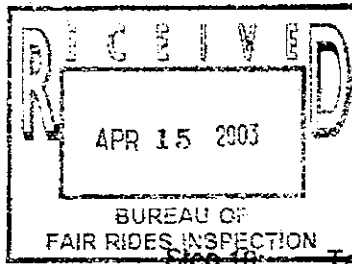
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- Step 19: Taper weld from side point of top plate to side gusset as described in figure 1 drawing SOSA010E.
- Step 20: Taper weld at end of side gusset as described in figure 2 drawing SOSA010E.
- Step 21: Dress and sand all welds.
- Step 22: After all work is completed, paint sweeps, reassemble ride and completely inspect and test as outlined in the operators manual before opening to public.

Complete for both top and bottom of sweep.

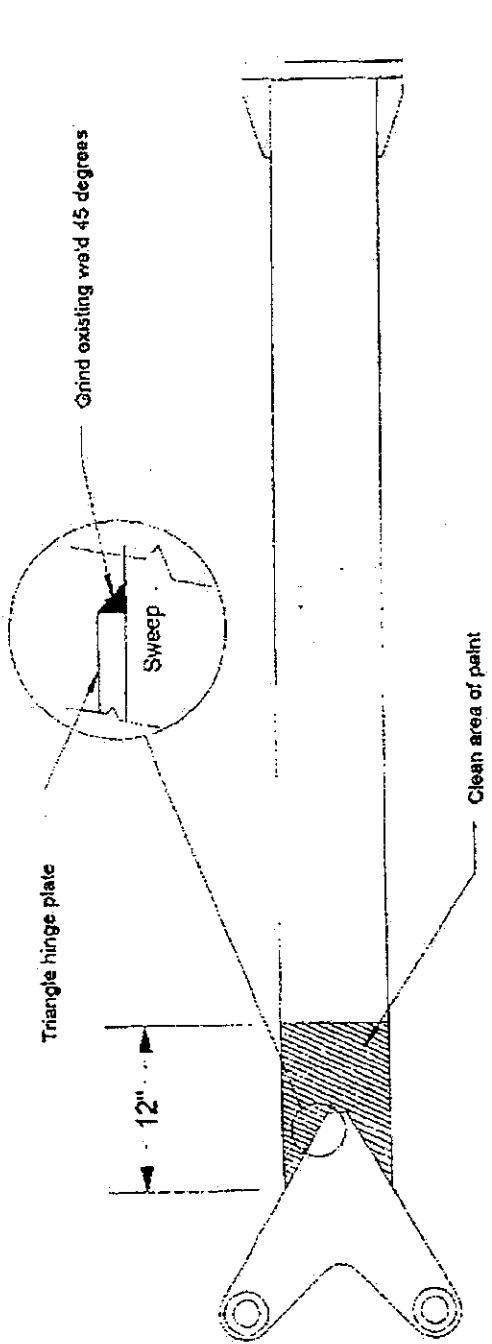


Figure 1

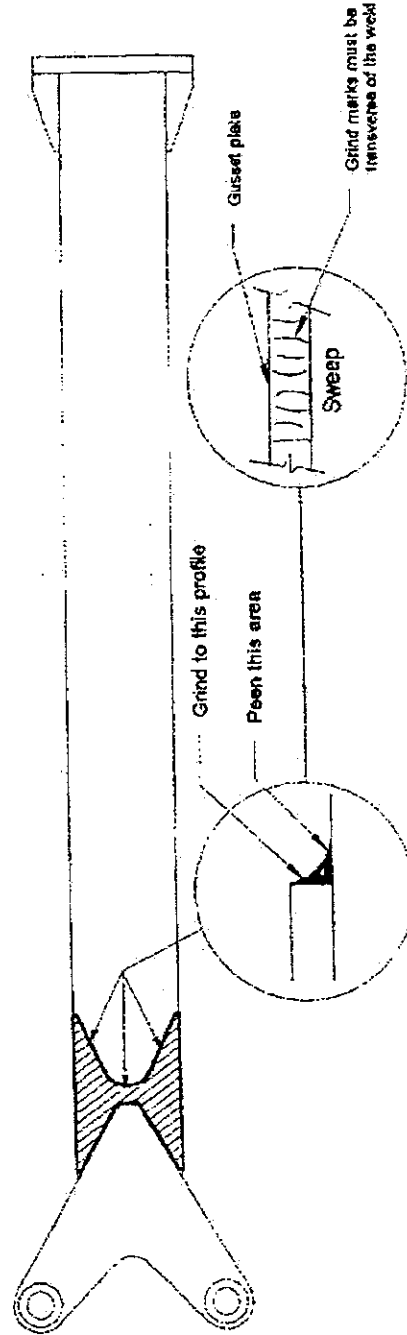
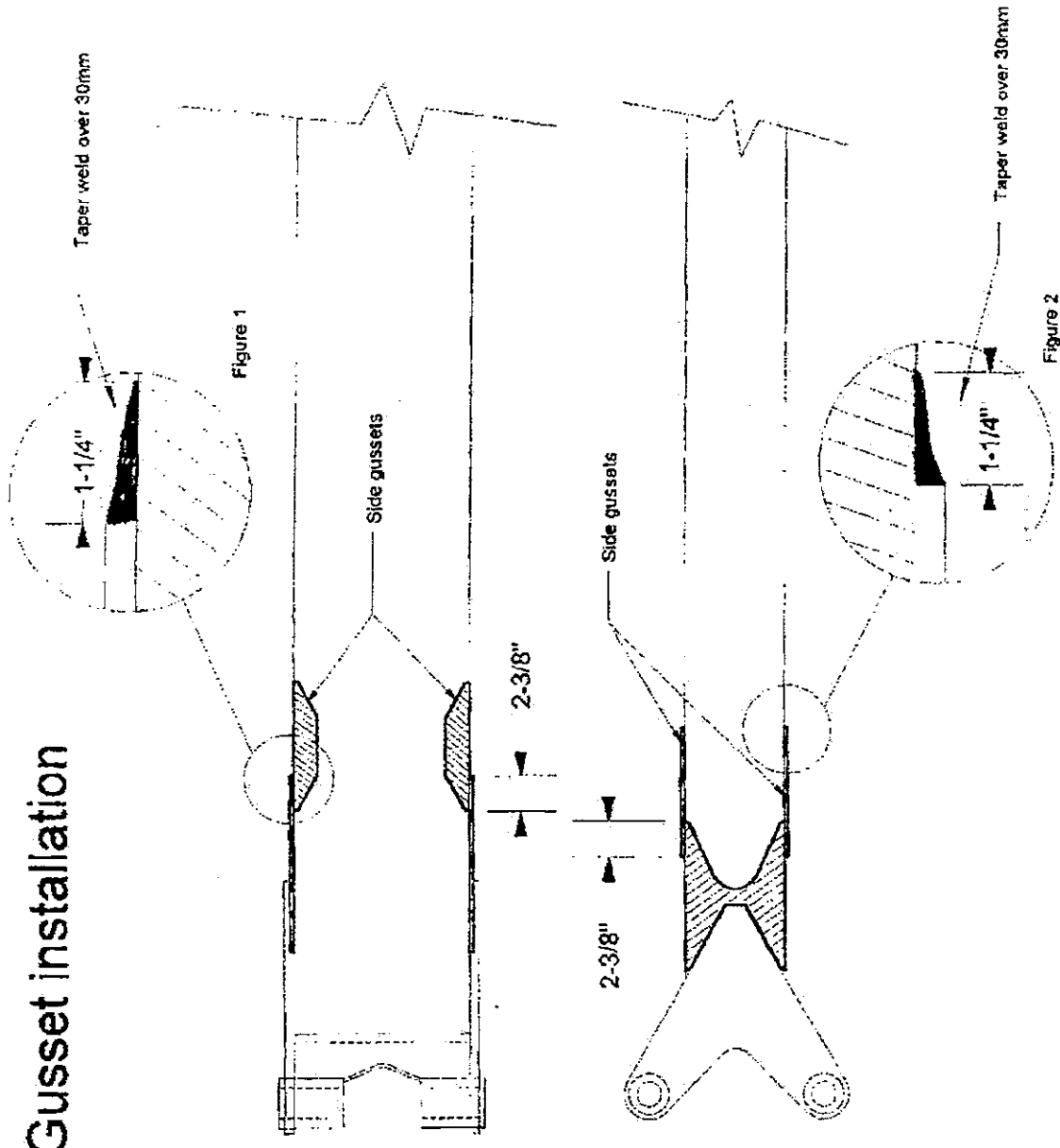


Figure 2

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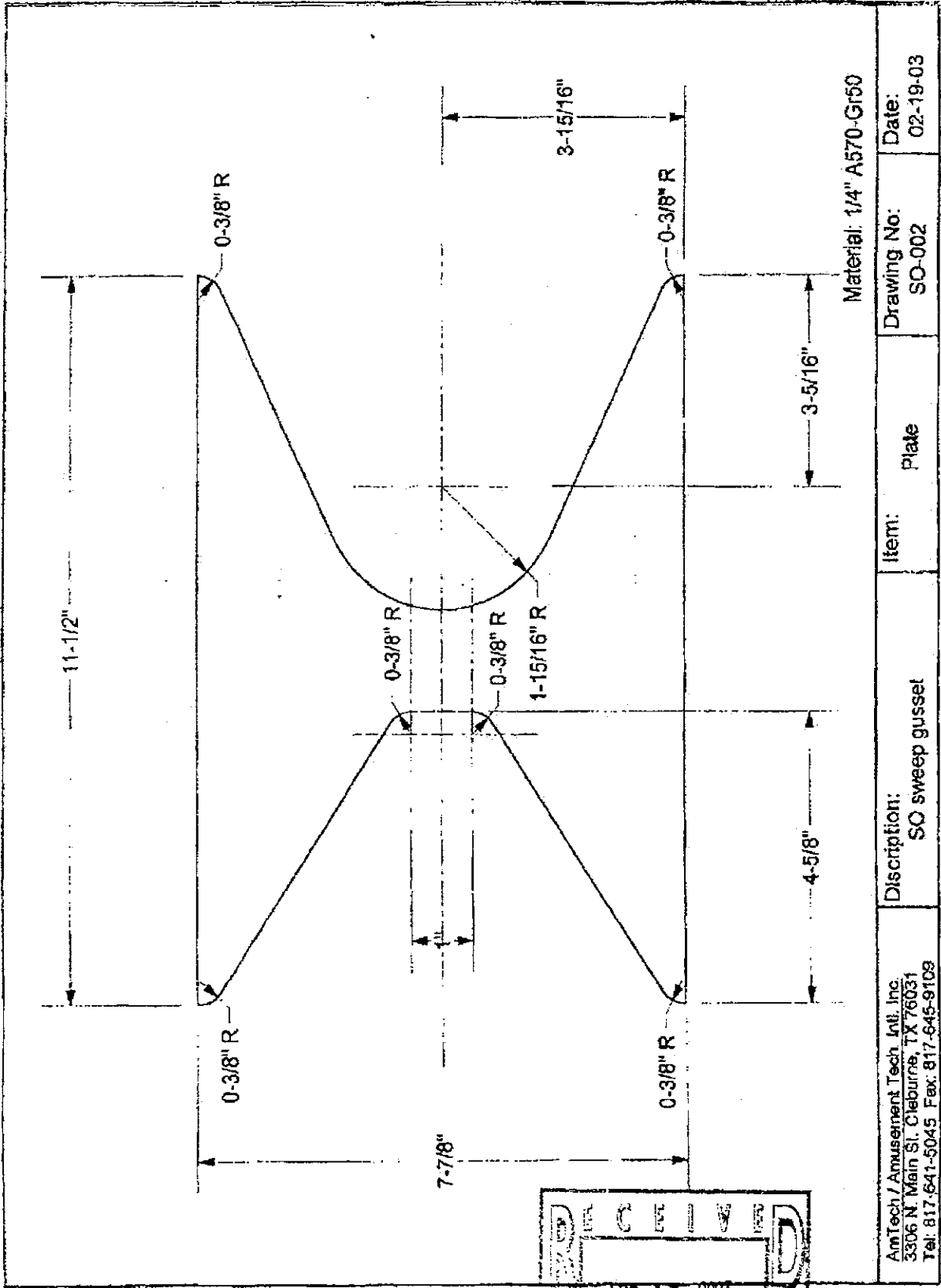
Tivoli Mfg. Ltd.		Description	Spin Out Sweep	Part	Gusset installation	Drawing #	SOSA010C	Date	02-20-03
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Side Gusset Installation



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Tivoli Mfg. Ltd.	Spin Out Sweep	Part	Side gusset installation	Drawing#	SOSA010E	Date	02-20-03
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Material: 1/4" A570-Gr50

Date: 02-19-03

Drawing No: SO-002

Plate

Item:

SO sweep gusset

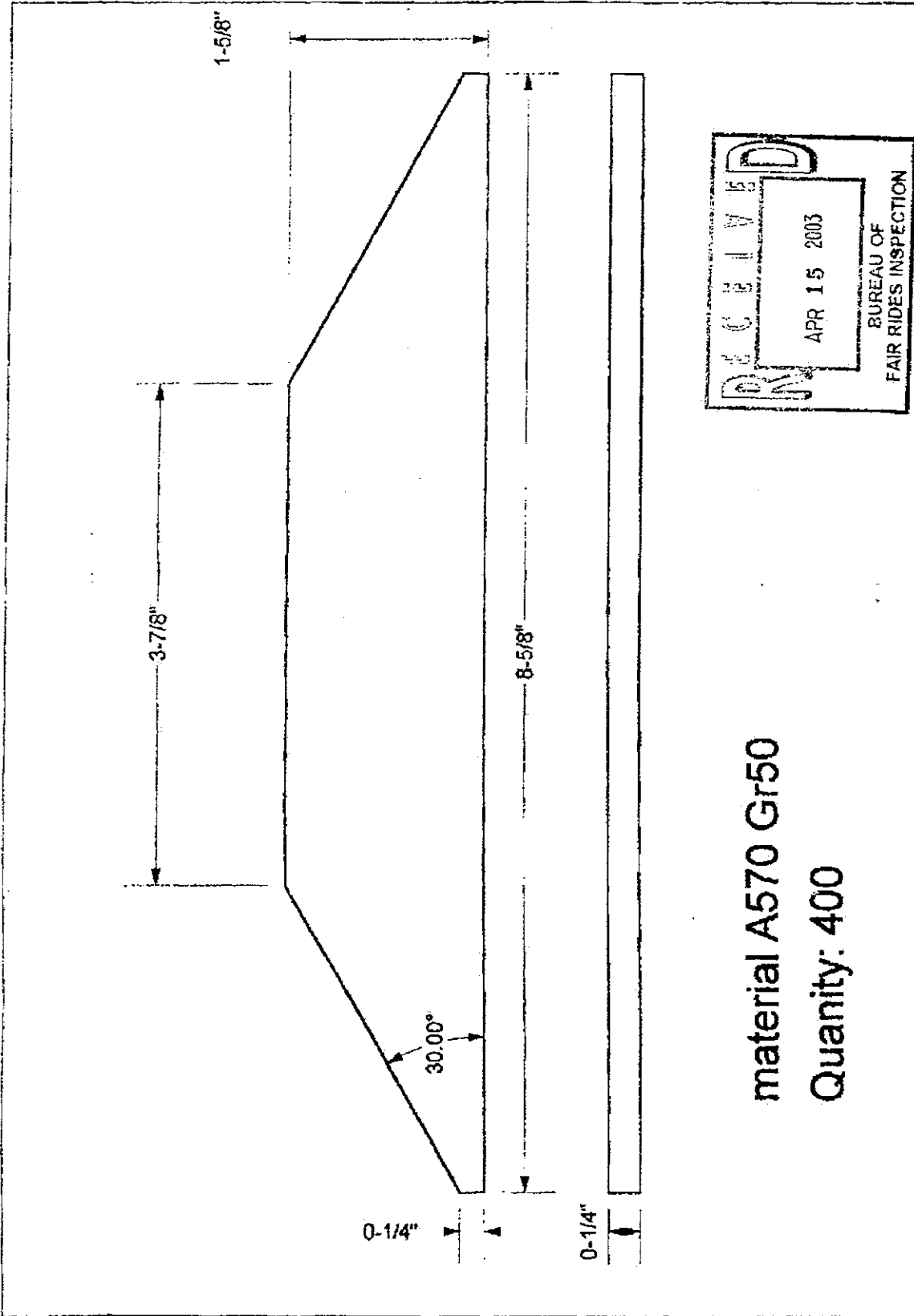
Description:

AmTech / Amusement Tech, Intl. Inc.
3306 N. Main St. Cleburne, TX 76031
Tel: 817-641-5045 Fax: 817-645-9109

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material A570 Gr50

Quantity: 400

Description	Part	Drawing	Date
Spln Out Sweep	Sweep side Gusset	SOSA010D	02-22-03

Tivoli Mfg. Ltd.

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KMG EUROPE BV

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BTW NL: 0654.40.493.B01
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AEN-AANRO Tilburg: 561500099

To : [REDACTED]
Contact person : [REDACTED]
From : [REDACTED]
Date : 14-02-2003
Facsimile : [REDACTED]
No. of pages (incl. this page) : 4
Subject : repairing arm move k 24
Order number : [REDACTED]

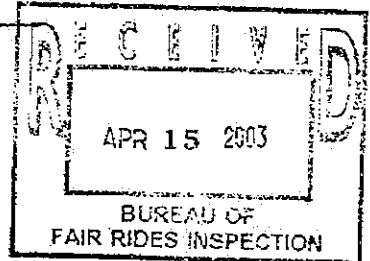
For your information Urgent

FAX MESSAGE

Dear mister

For repairing the arm:

1. Grind out the cracks and re weld them *Grind the welds*
2. Make two plates according to page 2
3. Weld one plate on top of the arm and weld one on the bottom side of the arm.
4. Weld the plates on all sides.
5. Grind all the new welds.
6. make four plates according to page 3
7. Weld two plates on one side of the arm and the other two plates side on the other side of the arm.
8. Grind all the new welds.
9. See also page 4 for the exact location of the plates.



With Kind Regards

Ronald Jorritsma

Material. 50D. English.
A570 GR. 50 American.

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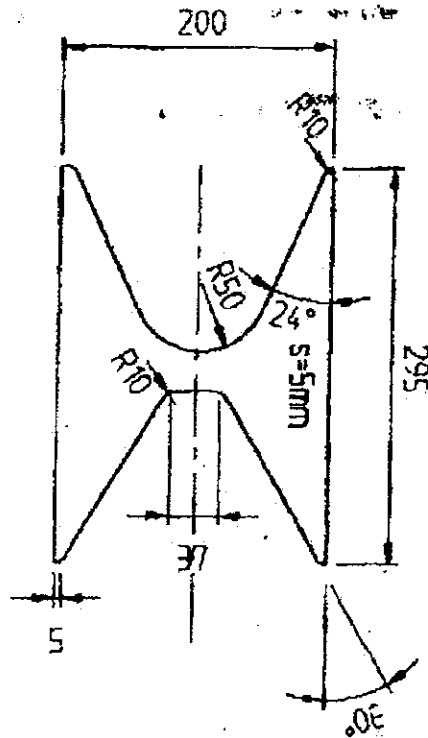
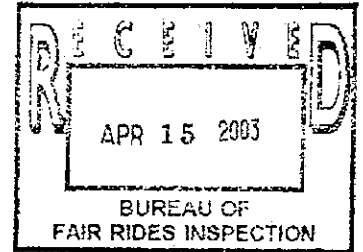
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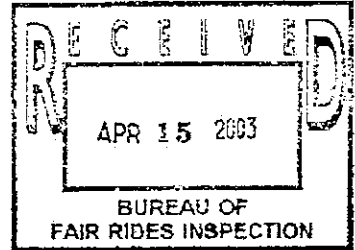
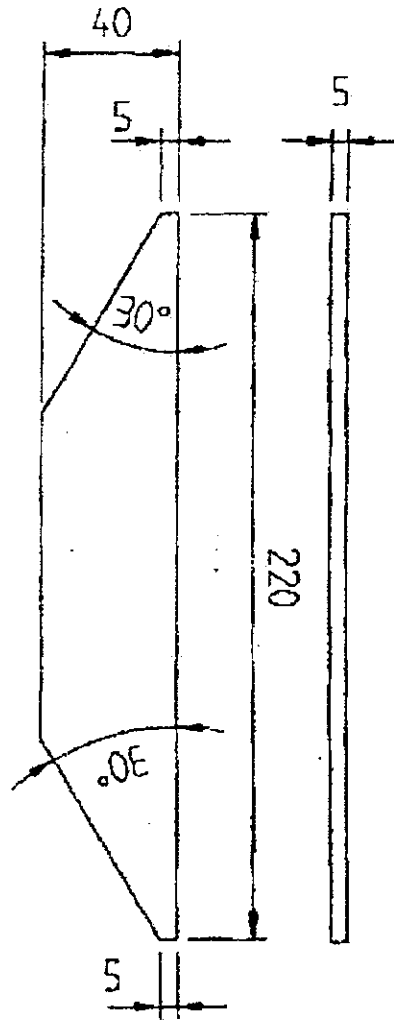
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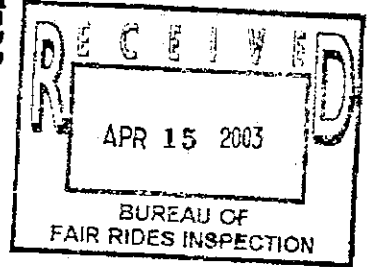
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Van
Datum
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Aankomende (incl. de brief)
Betreff
Order nr.

Ter informatie Spoor

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