BI - ANNUAL

Sky Master

GENERAL N.D.T. INSPECTION.

Two Yearly Inspection (N.D.T.)

Every two years the machine should be submitted to non - destructive testing (N.D.T.) of its structural components.

This should be carried out by an appointed person who is an independent examiner (as in the annual inspection) and an N.D.T. technician certified to appropriate in a nationally recognised certification scheme, viz :-

1) PCN - (Personal Certification In N.DT.)

2) ASNT - (American Society Of N.D.T.)

Appropriate level for evaluation of results is level 2. It is the responsibility of the appointed person to verify the technician is suitably qualified and agree the test method and technique to be used.

The appointed person must distinguish between original manufacturing flaws and ones developed during use. Also he must distinguish between significant and insignificant flaws.

It is advised that the appointed person consults expert opinion as appropriate in the following disciplines :-

1) N.D.T.

2) Stress Analysis.

3) Welding Technology.

See checklist for N.D.T. of machine structure.

N.D.T. Inspection.

Recommended Methods Of N.D.T.

1)	Dye Penetrant Test	DPT	For surface cracks.
2)	Magnetic Particle Test	MT	For surface cracks.
3)	Ultrasonic Testing	UT	For flaws and thickness.

Applications checklist.

1) Check for surface cracks in parent metal at weld toes, edges of holes and any flamecut edges, in general terms in the vicinity of any stress raisers.

2) Check for cracks in the surface of weldments. These should appear along the throats of weldments.

3) Check for cracks in drive shafts in the vicinity of keyways, holes, changes in diameter or any other geometrical discontinuity.

4) Check for reduction in wall thickness in hollow sections caused by internal corrosion, also check for serious external corrosion (this is less likely). This is important on thin walled hollow sections in the vicinity of weldments and high stress areas.

Note:-

Use DPT/MT for 1 to 3 after thorough surface preparation and degreasing of structural surface.

Use UT for 1 to 4 . Remove paint and thoroughly clean, coat with grease to give a good acoustic coupling.

On completion of testing, re- paint all surfaces.

Specific Areas To Be Checked

1) Check main arm joint weldment (At mid position).

2) Check main arm to centre weldment.

3) Check car top beam and stay bracket weldment.

4) Check tower bolt block weldment .

5) Check tower to trailer weldment .

6) Check tie rod end weldment .

Note : These Are All Areas Of Maximum Stress

Other areas to be checked are at the discretion of the appointed person .
Machine to be dismantled as in annual inspection to allow sufficient access for the N.D.T. technician and equipment.

The Following Information Is Required On N.D.T. Report.

1) Date of examination.

2) Technicians name and qualification.

3) Details of N.D.T. technique.

4) Parts examined and which elements comprised part of sample.

5) Parts unavailable for examination, if any.

6) Results of examination.

All Reports To Be Kept Available By The Ride Owner

Number: S.B.SKY 002

Date: 14th Feb 1992

Supercedes: N/A

SERVICE BULLETIN

Effective Serial Numbers: Skymasters 001 to 014

Subject: Passenger Restraint Bars.

We have been advised by a State Inspector to alert operators that in the event of a single rider occupancy of a seat, the operator must ensure that the vacant Passenger Restraint Bar is in the down locked position before allowing the Ride to commence.

This is to prevent slightly built passengers from being able to move sideways and escaping under the adjacent raised Restraint Bar.

A.R.M. (U.K.) LTD.
Unit 1, Enstone Airfield,
Enstone, Oxford OX7 4NW, England
Tel:(0608) 677468 Fax:(0608)678765

USA Office
Box 2042, Wintersville
Ohio 43953
Tel: 614 2646599 Fax: 614 2649978

Skymaster ARM

SERVICE BULLETIN NO. S.B.S.K.Y. 1.00

DATED JANUARY 28TH 1991

S U B J E C T

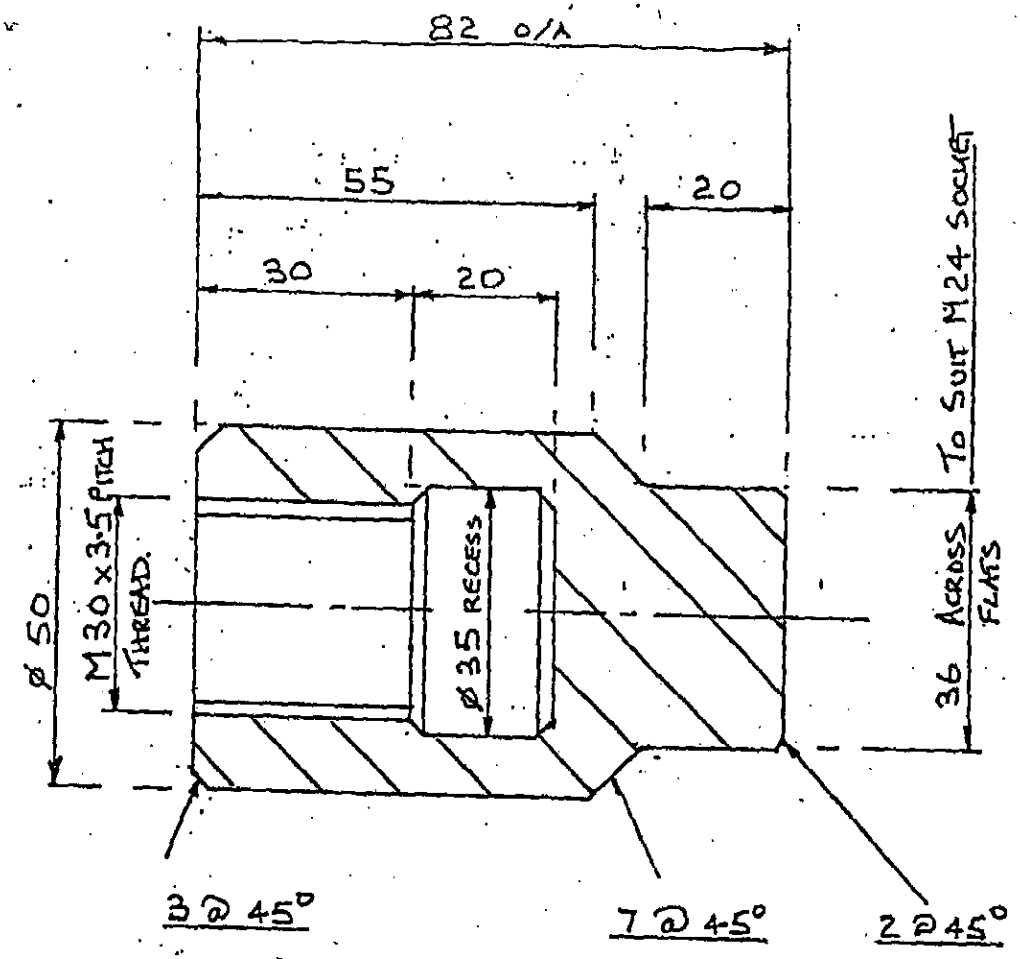
COUNTERWEIGHT ARM HINGE FIXING BOLTS

1) In view of the prevalence of counterfeit bolts purporting to be bona-fida grade 8.8 or better, the following course of action has now been implemented.

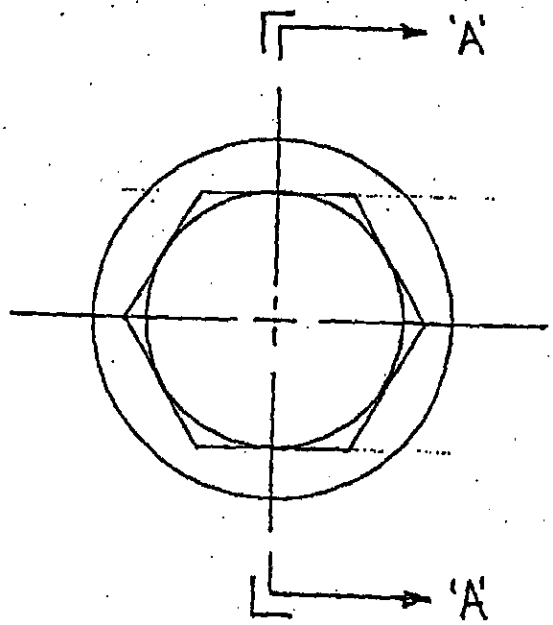
2) Special purpose nuts with reduced hexagons (M30 x M24 hexagon) that enable torque to be accurately established are to be retro-fitted on serial numbers SKY 1 to 8.

3) Rides with serial numbers SKY 9 onwards are now modified to allow a standard socket and nut to be utilised.

4) To further guard against the possibility of counterfeit bolts, a back up shear pin with bracketry is to be retro-fitted to serial numbers SKY 1 to 6. All rides from SKY 7 will have this as factory fitted.

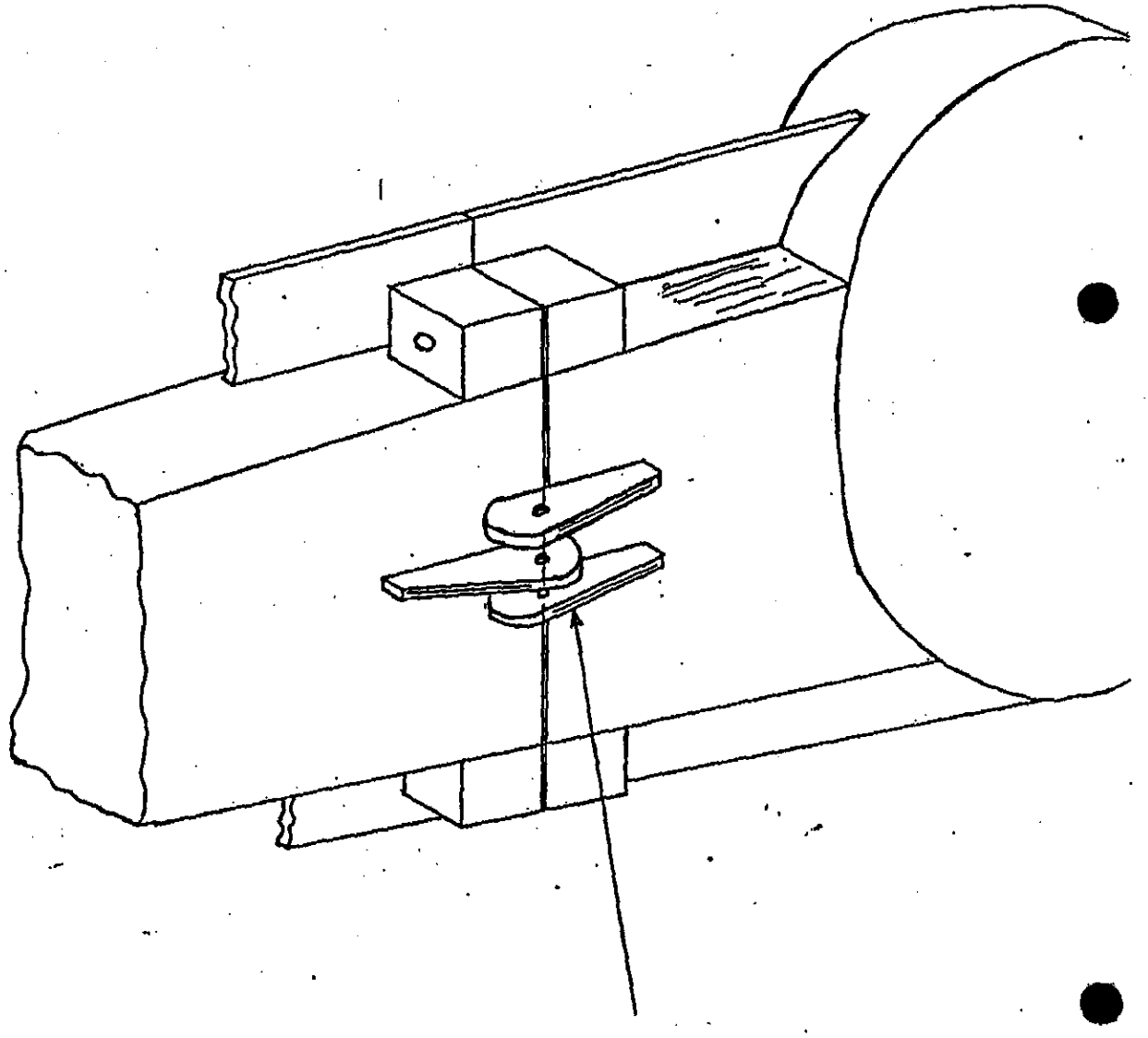


SECTION 'A'-'A'



MAT^{L} EN8 (080M40) BRIGHT ROUND

SPECIAL NUT FOR "SKYMASTER" 4-OFF PER RING



BACK UP SHEAR PIN BRACKET

The Commonwealth of Massachusetts
Department of Public Safety
One Ashburton Place, Room 1301
Boston, Massachusetts 02108-1618
Phone (617) 727-3200
Fax (617) 727-5732

Mitt Romney
Governor

Kerry Healey
Lieutenant Governor

Robert C. Haas
Secretary

Thomas G. Gatzunis, P.E.
Commissioner

08/10/2006

NOTICE OF RECOMMENDED ACTION

To: Amusement Owners

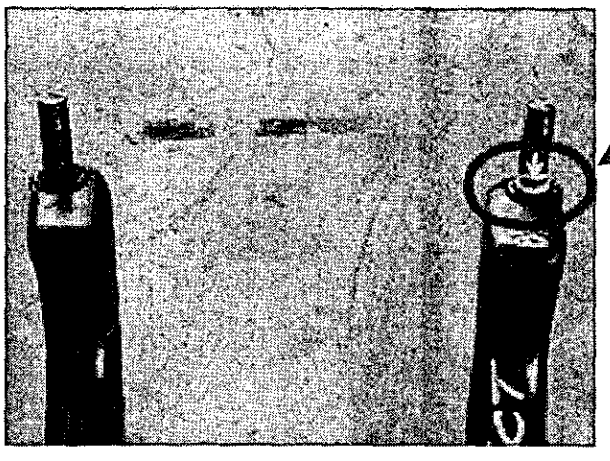
From: Mark F. Mooney, Chief of Inspections - Mechanical

RE: SKYMASTER Over the Shoulder Restraint

Recently, an owner found hairline cracking occurring on the shoulder restraints on their Skymaster amusement device manufactured in 1994 by A.R.M. The owner performed additional magnetic particle examination on the remaining restraints and found additional restraints with similar cracking.

The cracks were found at the point where the foam padding ends. This is the area where the restraint passes through a block to secure the restraint to the device (see photos attached).

If you have this device, you are strongly urged to immediately remove all the shoulder restraints and have them non-destructively tested to ensure the integrity of the restraints.



This failure has not been identified with any injuries. If you have any questions, please e-mail me @ mark.mooney@state.ma.us