

MFB: MANCO
NAME: NDT
TYPE: N/A

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ULTRASONIC TEST REQUIREMENTS

Ultrasonic testing shall be performed once every year on the following rides built by Frank Hrubetz & Co., Kilinski Mfg. Co., and Manco Mfg., Inc.:

1. Non-Folding Round-up:

- A. Rocker shaft: See Dwg. BU-133MC sht. 2 of 3.
- B. Cylinder Anchor Shaft: See Dwg. BU-133MC sht. 3 of 3.
- C. Spindle shaft (every two years).

2. Folding Round-up:

- 1. Rocket shaft: See Dwg. BU-133MC sht. 2 of 3.
- 2. Cylinder Anchor Shaft: See Dwg. BU-133MC sht. 3 of 3.
- 3. Spindle (every two years).
- 4. NOTE: If rocker shaft, cylinder anchor shaft or spindle have been replaced with new shaft with shrink collar, then Ultrasonic testing is required every two years.

Ultrasonic Testing shall be performed every two years on the following rides built by Kilinski Mfg. Co.

1. Folding Round-up:

- A. Rocker shaft
- B. Cylinder anchor shaft
- C. Spindle

2. Super Round-up:

- A. Rocker shaft
- B. Cylinder anchor shaft
- C. Spindle

3. Hydraulic Paratrooper - park and portable:

- A. Spindle

4. Rim Drive Paratrooper - park and portable:

- A. Spindle

5. Standard Paratrooper - park and portable (built by Hrubetz):

- A. Spindle

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AUGUST 14, 1984

QC-UI-I-Rev. 2
Page 15 of 18

BULLETIN: BU-133 MC

MAIN BOOM ROCKER SHAFT FOR ROUND-UP RIDES MANUFACTURED BY FRANK HRUBETZ & CO., INC. AND KILINSKI MFG. CO.

ATTENTION OWNERS OF ABOVE RIDES

A failure has been reported of the main boom rocker shaft on a Round Up manufactured by Frank Hrubetz & Co., Inc. Although Man-Co Mfg., Inc. does not accept responsibility for rides built by Frank Hrubetz & Co., Inc., or Kilinski Mfg., Co., we do feel that this is a potential safety problem sufficiently important to bring to your attention.

If you own a Round-Up, we strongly urge that you immediately inspect the main boom rocker shaft and the cylinder anchor shaft for cracks using Ultrasonic Test. The test must be done by someone qualified to Level 2 ultrasonic testing. It is not necessary to disassemble the ride to perform the test on the main boom rocker shaft, or the cylinder anchor shaft.

THIS ULTRASONIC TEST MUST BE PERFORMED ONCE A YEAR.

This test was performed on a Round-Up at Man-Co Mfg., Inc. by an independent testing lab, using a 2.25 MHz transducer on the end of the shaft. The instrumentation was set up to produce a strong reflection from the opposite end of the shaft and calibrated so that the shoulder on the far end of the shaft registered approximately 15-20% of full scale. This would cause a crack at or near the closer shoulder to register significantly. The test was repeated at the other end of the shaft. A sketch of the shaft is on Sheet 2.

If any indication of cracks is found, a 5 MHz transducer may be helpful in determining it's extent.

The test was not considered to be difficult by the testing lab.

If cracks are found in the shaft, it SHALL BE replaced immediately. Replacement shafts of the latest design may be purchased from Man-Co Mfg., Inc.

Visually inspect all welds for cracks. For verification, use magnetic particle testing.



MAN-CO MFG., INC.

2725 19th Street S.E. • P.O. Box 13114 • Salem, OR 97309 U.S.A. • (503) 362-2341

REPAIR OF CRACKS

Large or long radial cracks are not field repairable. Small surface flaws in the weld, not the parent metal, may be ground and polished out. See BU 136, sheets 1-3. A maximum depth of one-sixteenth inch (1/16") material to be removed. Radius all sharp edges and/or blend out to remove any stress points. No gouges will be accepted. The surface finish cannot exceed 250 micro inch RMS nor have any craters, gouges, sharp edges or rapid changes in slope. After grinding and polishing smooth, the rejected area must be retested. If further testing shows a flaw still evident and rejectable, factory repair or replacement is recommended. Under no circumstance is field welding recommended by Man-Co manufacturing.

Hurricane • Paratrooper • Super Slide • Tip Top • Round Up • Rip-Tide

MAN-CO Builds Thrills!



DEPARTMENT OF AGRICULTURE
WEIGHTS AND MEASURES DIVISION
106 WEST SECOND STREET
FRANKFORT, KENTUCKY 40601
FAX NO. 502/564-5669

ATTENTION

ALL OPERATORS - OWNERS

Paratrooper/Round-Up/Spitfire/Fireballs

MAN-CO MFG., INC. BULLETINS

Bulletin	BU-119	07-17-80
Bulletin	BU-119RD	AUG. 90
Bulletin	BU-134MC	08-30-88
Bulletin	BU-135MC	09-20-88
Bulletin	BU-136MC	09-08-89
Bulletin	BU-138MC	09-01-89

Serial numbers information is attached. Compliance is mandatory prior to operating in the 1991 season.

Carl Dills, Assistant Director
Amusement Ride & Attraction

December 3, 1990

Date



MAN-CO MFG., INC.

2725 19th Street S.E. • P.O. Box 13114 • Salem, Oregon 97309 U.S.A.
Office (503) 362-2341 • FAX (503) 362-2536

February 26, 1990

To: Narso

RE: Serial Numbers and years of manufacturing for Round-ups and Paratroopers

Rides recommended for immediate shaft change. (those manufactured in 1970 or before)

Standard Round-up-Serial # 401 to 499
4401 to 4499

Folding Round-up - Serial # 201 to 269

Standard Paratrooper - Serial # 501 to 599

Rim Drive Paratrooper - Serial # 301 to 348

Hydraulic Paratrooper - Serial # 801 to 840

Spitfires -All

Rides recommended for shaft change with the next year (those manufactured in 1971 and after)

Folding Round-up - Serial # 270 to 299
#2201 to 2250

Rim Drive Paratrooper - Serial # 349 to 399

Hydraulic Paratrooper - Serial # 841 to 875

Fireball - Serial # F-701 to F-710

1571

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Page 1 of 6

BULLETIN: BU-119

30' ROUND-UP - SHAFTS AND SPINDLE REPLACEMENT

I. GENERAL

1. Weldor: Must be certified with SMAW to AWS D1.1-79, 3G position or better.
2. Electrode: SMAW (stick) - 1/8, 5/32, or 3/16 E7018.
3. Material: A-36
4. Removal: The old shaft or spindle should be carefully removed entirely, including all gussets, shims, and shrink collars. This may be accomplished using oxyacetylene, arc/air, or plasma arc cutting techniques. Care should be taken to avoid gouging the side or top plates of the boom or enlarging the shaft or spindle holes. Any cracks detected in the side or top boom plates (B), (C), or (D) should be arc gouged to the full crack depth and at least 2" beyond visible indications and then re-welded prior to installation of new shafts.
5. Preparation: All areas to be welded must be cleaned to remove all slag, scale, paint or rust prior to welding. Level boom right to left using side (B) for reference and front to back using top side (C), before attempting any alignment of spindle or shafts.
6. Heat Treatment: All weld areas should be preheated to 200-250° F. Maintain this minimum interpass temperature throughout weld and allow to cool slowly.
7. Inspection: Finished weld should be sound and free of cracks, undercut, cold lap, and craters.
8. Read and understand all instructions prior to starting repair.

Hurricane • Paratrooper • Super Slide • Tip Top • Round Up • Rip-Tide

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BULLETIN: BU-119

Page 2 of 6

II. MAIN SPINDLE REPLACEMENT (Item 1)

1. The upper and lower holes in the boom should be 6-3/4" in diameter to allow passage of the lower spindle shrink collar.
2. Place spindle with both shrink collars attached through top of boom so that upper collar rest flush on boom top.
3. With a precision machinist level, level right to left and fore and aft using spindle top for reference.
4. Tack securely in place and re-check alignment.
5. Weld top and bottom shrink collars to boom using multipass stringer beads. Weld sizes are shown on print BU-119, Sheet 5.

BULLETIN: BU-119

Page 3 of 6

III. PIVOT SHAFT REPLACEMENT (Item 5)

1. Install the 8" pipe and plates (Items 16, 17, 18, 19 on sheet 5).
2. Heat first shrink collar evenly with torch, applying flame to outside of collar only until inside surface reaches 550°F (blue color). Check temperature with tempstick.
3. Quickly slide shrink collar over marked end of pivot shaft (Letter "C") until it rests against shoulder. CAUTION! This process must be done quickly to assure that the collar does not freeze-up on the shaft before it is properly positioned. It cannot be broken loose by re-heating.
4. Insert pivot shaft with one shrink collar attached, thru boom so that shrink collar is flush with boom side.
5. Level shaft right to left and shim top and bottom inside pipe (E) so that shims will not interfere with placement of second shrink collar.
6. Align shaft fore and aft by measuring from right and left end centers to top center of main spindle (1). Shim in position as before and tack shims in place. Do Not Tack Or Weld On Pivot Shaft, only to shrink collars or shims.
7. Tack first shrink collar to opposite side so that no movement will occur in shaft while placing second collar.
8. Double check and cross reference shaft alignment with main spindle and cylinder anchor shaft.
9. Heat other shrink collar and slip over other end of shaft so that it rests against side plate. Use same procedure as steps 2 and 3. When collar has cooled, tack in place on side plate.
10. Weld shrink collars in place using multipass stringer beads. Weld size is shown on sheet 6.

BULLETIN: BU-119

Page 4 of 6

IV. CYLINDER ANCHOR SHAFT REPLACEMENT (Item 10)

1. Heat first shrink collar evenly with torch applying flame to outside of collar until inside surface reaches 550°F (blue color). Check with tempstick.
DO NOT APPLY HEAT TO INSIDE OF COLLAR.
2. Quickly slide shrink collar over marked end of anchor shaft (Letter "C") until it rests against shoulder.
CAUTION! This process must be done quickly to assure that the collar will not freeze up to the shaft before it is positioned. It cannot be broken loose by reheating.
3. Insert new anchor shaft (with one collar attached) through side of boom until shrink collar is flush with boom side. Orient collar so that flat edge on flange is down.
4. Level shaft right to left and shim top and bottom. Tack shims and shrink collar top and bottom Do Not Weld Or Tack On Anchor Shaft - only on shrink collar and shims.
5. Align anchor shaft fore and aft by measuring from right and left end centers to corresponding centers on pivot shaft. Shim and tack. Insure that all shims and tacks will not interfere with placement of second shrink collar.
6. Heat other shrink collar and slip over other end of shaft so that it rests against side plate with the flat edge of the flange facing down. Use same procedure as steps 1 and 2. When collar is cool, tack in place on side plate.
7. Install gussets and inside plate (Items 7, 8, 9 on sheet 5).
8. Weld shrink collars in place using multipass stringer beads. Fillet weld size is 5/8".



DEPARTMENT OF AGRICULTURE
WEIGHTS AND MEASURES DIVISION
106 WEST SECOND STREET
FRANKFORT, KENTUCKY 40601

Certification of Compliance

for

TYPE OF AMUSEMENT DEVICE

Round-Up or Paratrooper - Fireball - Spitfire

BULLETIN BU - MC Man-Co Mfg.

We hereby certify the procedure outlined in the above-mentioned service bulletin has been performed on the _____

Serial No(s) _____ in accordance

with the instructions and specifications supplied by _____

Date Procedure Performed _____

Name and Address of Person performing Procedure:

Attested:

Owner _____

Address _____

City _____ State _____

By: _____

Date: _____

Maintenance Supervisor _____

Address _____

City _____ State _____

Date: _____

Results: _____

THIS CERTIFICATION MUST BE COMPLETED AND FILED WITH THE DEPARTMENT PRIOR TO OPERATING IN THIS STATE.

AGRICULTURE - KENTUCKY'S PRIDE

AN EQUAL OPPORTUNITY EMPLOYER M/F/H



MAN-CO MFG., INC.

2725 19th Street S.E. • P.O. Box 13114 • Salem, OR 97309 U.S.A. • (503) 362-2341

17 1990

Page 1 of 3

BULLETIN: BU-119-RD

RIM DRIVE PARATROOPER - SPINDLE SHAFT REPLACEMENT

I. GENERAL

1. Weldor: Must be certified with SMAW to AWS D1.1-79, 3G position or better.
2. Electrode: SMAW (stick) - 1/8, 5/32, or 3/16 E7018.
3. Material: A-36
4. Removal: The old shaft or spindle should be carefully removed entirely, including all gussets, shims, and shrink collars. This may be accomplished using oxyacetylene, arc/air, or plasma arc cutting techniques. Care should be taken to avoid gouging the side or top plates of the boom or enlarging the shaft or spindle holes. Any cracks detected in the side or top boom plates (B), (C), or (D) should be arc gouged to the full crack depth and at least 2" beyond visible indications and then re-welded prior to installation of new shafts.
5. Preparation: All areas to be welded must be cleaned to remove all slag, scale, paint or rust prior to welding. Level boom right to left using side (B) for reference and front to back using top side (C), before attempting any alignment of spindle or shafts.
6. Heat Treatment: All weld areas should be preheated to 200-250° F. Maintain this minimum interpass temperature throughout weld and allow to cool slowly.
7. Inspection: Finished weld should be sound and free of cracks, undercut, cold lap, and craters.
8. Read and understand all instructions prior to starting repair.

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BULLETIN: BU-119-RD

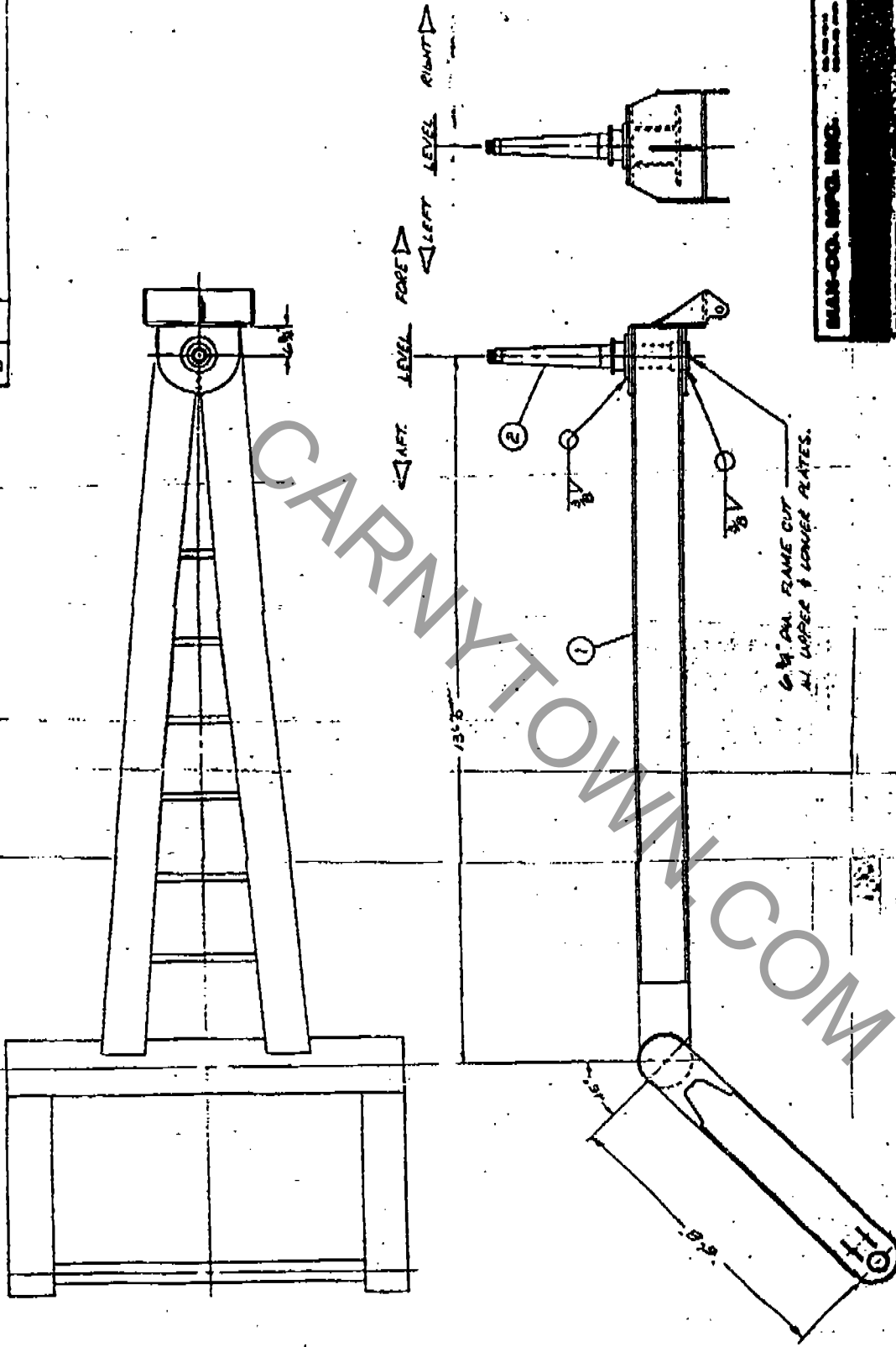
Page 2 of 3

II. MAIN SPINDLE REPLACEMENT (Item 1)

1. The upper and lower holes in the boom should be 6-3/4" in diameter to allow passage of the lower spindle shrink collar.
2. Place spindle with both shrink collars attached through top of boom so that upper collar rest flush on boom top.
3. With a precision machinist level, level right to left and fore and aft using spindle top for reference.
4. Tack securely in place and re-check alignment.
5. Weld top and bottom shrink collars to boom using multipass stringer beads. Weld sizes are shown on print BU-119, Sheet 3.

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NO	QTY	DESCRIPTION
1	1	MAIN BOOM RD-724
2	1	SPINDLE RD-758
3		



MAN-OO. MFG. INC.	
DATE	REV.
11/11	1
SAVOLF SHAFI REVISION	
DATE	BY
8/21/79	20

CARNYK TOWN.COM



DEPARTMENT OF AGRICULTURE
WEIGHTS AND MEASURES DIVISION
106 WEST SECOND STREET
FRANKFORT, KENTUCKY 40601

Certification of Compliance

for

TYPE OF AMUSEMENT DEVICE

Round-Up or Paratrooper - Fireball - Spitfire

BULLETIN BU - MC Man-Co Mfg.

We hereby certify the procedure outlined in the above-mentioned service bulletin has been performed on the _____

Serial No(s) _____ in accordance with the instructions and specifications supplied by _____

Date Procedure Performed _____

Name and Address of Person performing Procedure:

Attested:

Owner _____

Maintenance Supervisor _____

Address _____

Address _____

City _____ State _____

City _____ State _____

By: _____

Date: _____

Date: _____

Results: _____

THIS CERTIFICATION MUST BE COMPLETED AND FILED WITH THE DEPARTMENT PRIOR TO OPERATION IN THIS STATE.

AGRICULTURE - KENTUCKY'S PRIDE

AN EQUAL OPPORTUNITY EMPLOYER M/F/H

BULLETIN: BU-134 MC

DATE: 8/30/88

ROUND-UP/PARATROOPER MAIN SPINDLE SHAFT SAFETY LIMITING RING

ATTENTION ALL ROUND-UP AND PARATROOPER OWNERS

A Round-Up manufactured by Frank Hrubetz & Co., Inc. has experienced a failure in the upper bearing in place on the main spindle. When this happened, support at the top of the spindle was lost making it possible for the rotating platform to tilt and contact the main boom.

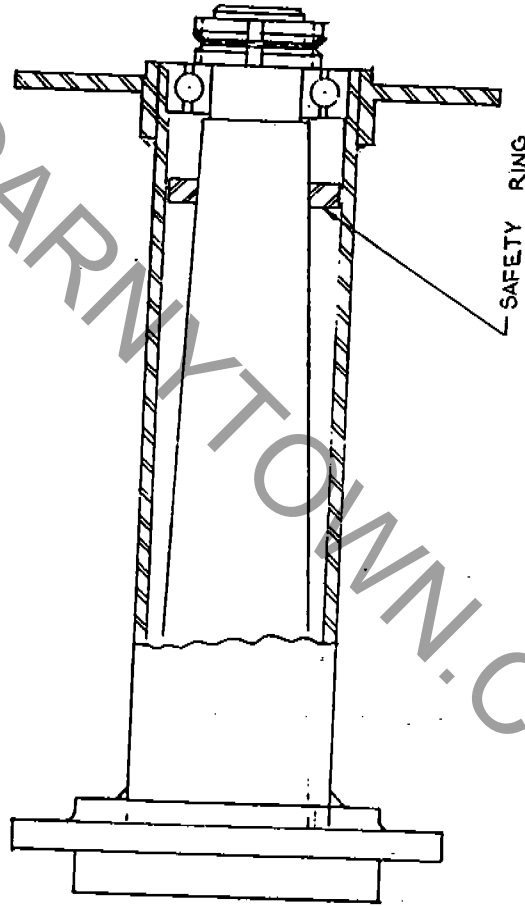
This condition makes it possible for the pins and sweeps to hit the boom and bring the rotating platform to a sudden stop.

Since the same shaft and hub assemblies are used in both the Round-Up and the Paratrooper, we feel that the problem exists in both types of rides.

We feel it is necessary for you to take the following preventive measures immediately: (See enclosed drawings RD-35R and FR-503S.)

1. Remove the center ornament and inspect the weld on the hub (shown in drawings RD-35R and FR-503S) for cracks. If there are cracks, ship the hub to Man-Co Mfg.. We will repair, using the design presently being used.
2. Remove the top bearing and visually inspect the bearing and make sure there is a safety limiting ring in place. If there is a limiting ring on your ride, it will be plainly visible on the upper portion of your main spindle shaft. If it is not present, we highly recommend that you add this part immediately. (Part #STD 353)

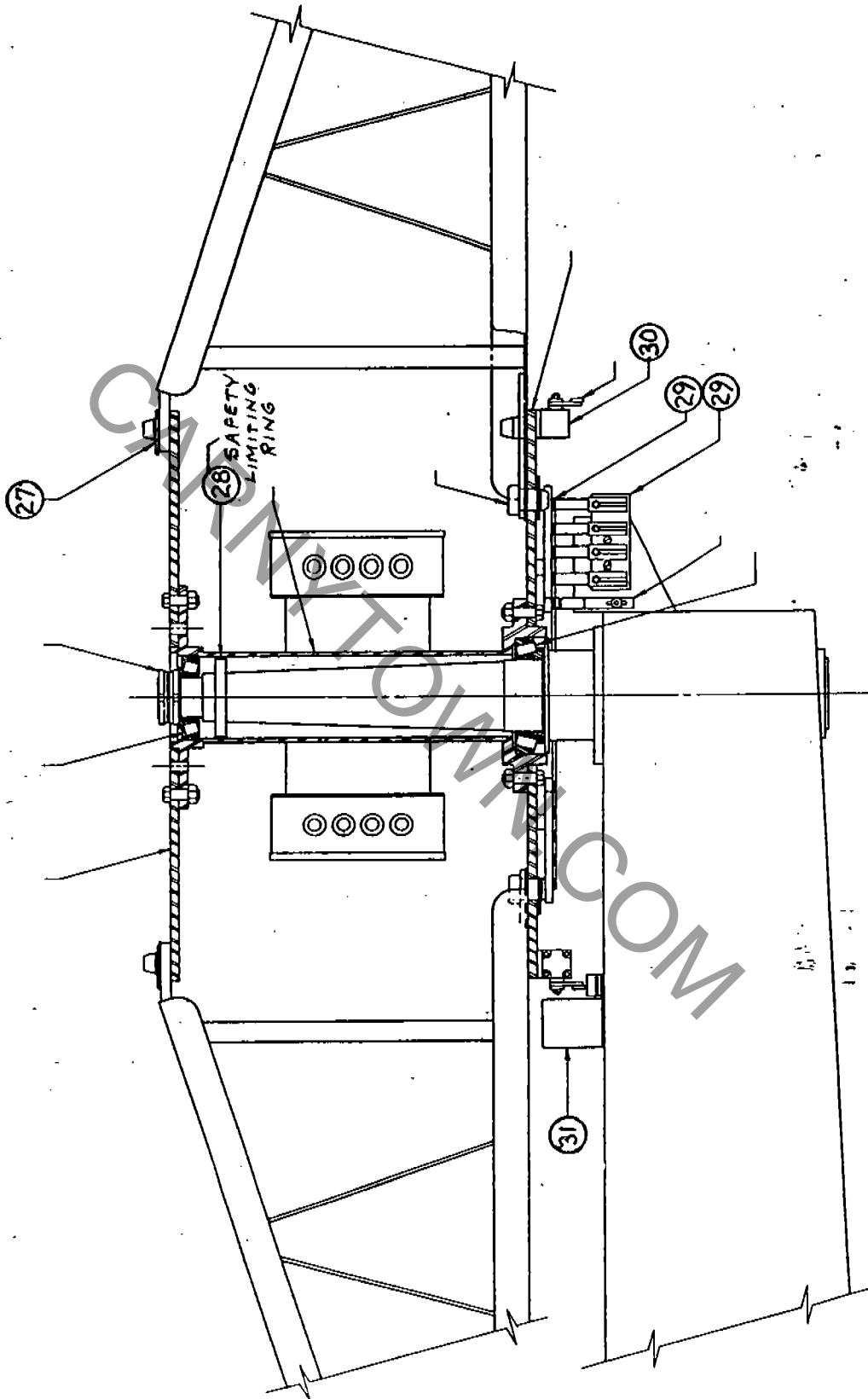
Although Man-Co is not responsible for the manufacturing of these rides, we are the exclusive manufacturer of replacement parts. We feel that it is in the best safety and interest of your customers that this preventive measure is adhered to.



BEFORE INSTALLING A NEW BALL BEARING ON A RIM DRIVE PARATROOPER MAIN SPINDLE, PUT A SAFETY RING ON THE SHAFT WITH THE TAPER CONFORMING WITH THE TAPER ON THE SHAFT. THE RING IS TO PREVENT THE HUB FROM COCKING TO ONE SIDE IF THE BEARING FAILS.

MAN-CO MFG. INC. 875 SW 45th AVE. S.E. GAINESVILLE, FLORIDA 32608	
SAFETY RING	INSTALLATION
DATE 2-17-72	
DRAWN BY BME	
SCALE	NO. RD-35-R

MATERIAL SPEC. DESCRIPTION



MAN-CO MFG. INC. 3175 EYALD AVE. S.E. SALEM, OREGON 97306

DESIGNED BY: PETE T.
 DATE: 8-26-80
 DRAWN BY: J.S.S.
 CHECKED BY:

CENTER HUB ASSEMBLY

REV. 1	DATE	DESCRIPTION
B	1/24/81	REVISED AND REDRAWN
B		
FR		
C		

REV. 1	DATE	DESCRIPTION
B	1/24/81	REVISED AND REDRAWN
B		
FR		
C		



DEPARTMENT OF AGRICULTURE
WEIGHTS AND MEASURES DIVISION
106 WEST SECOND STREET
FRANKFORT, KENTUCKY 40601

Certification of Compliance

for

TYPE OF AMUSEMENT DEVICE

Round-Up or Paratrooper - Fireball - Spitfire

BULLETIN BU - MC Man-Co Mfg.

We hereby certify the procedure outlined in the above-mentioned service bulletin has been performed on the _____

Serial No(s) _____ in accordance with the instructions and specifications supplied by _____

Date Procedure Performed _____

Name and Address of Person performing Procedure:

Attested:

Owner _____

Maintenance Supervisor _____

Address _____

Address _____

City _____ State _____

City _____ State _____

By: _____

Date: _____

Date: _____

Results: _____

THIS CERTIFICATION MUST BE COMPLETED AND FILED WITH THE DEPARTMENT PRIOR TO OPERATING IN THIS STATE.

AGRICULTURE - KENTUCKY'S PRIDE

AN EQUAL OPPORTUNITY EMPLOYER M/F/H

BULLETIN: BU-135 MC

DATE: 9/20/88

ANNUAL INSPECTION OF MAIN SPINDLE SHAFTS, ROCKER SHAFTS, CYLINDER
ANCHOR SHAFTS

ATTENTION ALL ROUND-UP, PARATROOPER AND FIREBALL OWNERS:

Due to recent failures in the spindle and rocker shafts of the Round-Up, and since the Paratrooper and Fireball rides manufactured by Frank Hrubetz Co. and Kilinski Mfg. (KMC) use the same shafts, Man-Co Manufacturing in cooperation with the recommendations of the Consumer Products Safety Commission feel the following steps should be taken.

These shafts need to be tested annually before the start of each season. Please see the Change Notice of the quality control procedures enclosed. (QC-UI-I-Rev. 3)

If any cracks are found, then the shafts are to be replaced immediately.

Maintenance records should be maintained and reviewed to determine the level of maintenance and frequency of the inspections of the individual ride. This is to insure that the rides are periodically inspected and safe.

Man-Co Manufacturing, as an exclusive manufacturer of replacement parts for the original Frank Hrubetz, and Kilinski Mfg. rides, can recommend but not mandate that these procedures be adhered to. However, we feel that this is a most important step for the protection of the ride owners and customers.

ULTRASONIC TEST REQUIREMENTS

Ultrasonic testing shall be performed once every year on the following rides built by Frank Hrubetz & Co., Kilinski Mfg. Co., and Man-Co Manufacturing, Inc.

Non-Folding Round-Up

1. Rocker shaft - see dwg. BU-133MC sht. 2 of 3
2. Cylinder anchor shaft - see Dwg. BU-133 sht. 3 of 3
3. Spindle shaft

Folding Round-Up

1. Rocker shaft - see Dwg. BU-133MC sht. 2 of 3
2. Cylinder anchor shaft - see Dwg. BU-133MC sht. 3 of 3
3. Spindle shaft

Super Round-Up

1. Rocker shaft
2. Cylinder anchor shaft
3. Spindle shaft

Hydraulic Paratrooper - park and portable

1. Spindle shaft

Rim Drive Paratrooper - park and portable

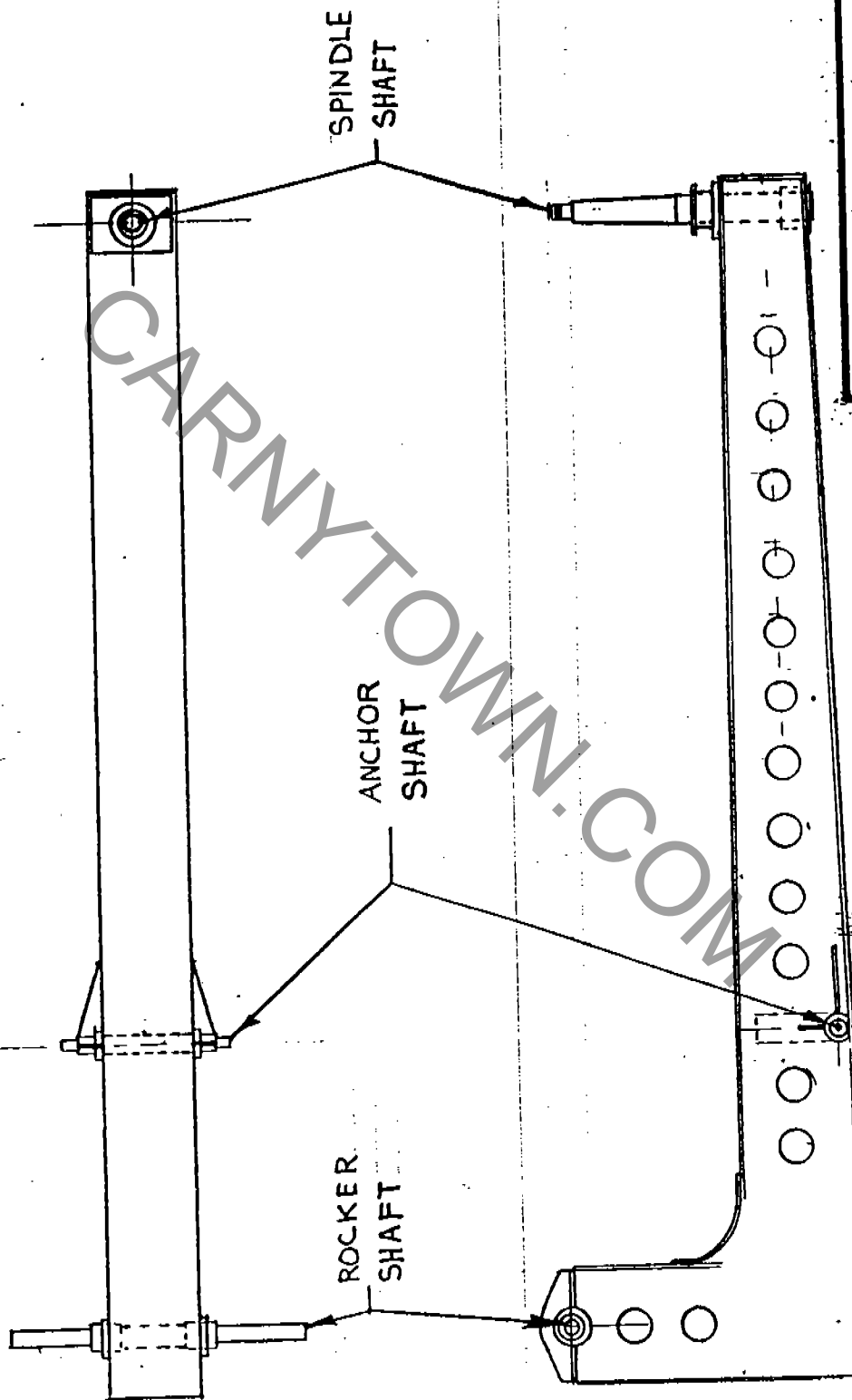
1. Spindle shaft

Standard Paratrooper - park and portable

1. Spindle shaft

Fireball - portable

1. Spindle shaft



MAN-CO. MFG. INC.

P.O. BOX 13114
SALEM, OR 97309

SCALE:	DATE:	DRAWN BY:
NONE	3-14-89	SWJ
30' FOLDING ROUND-UP		ANCHOR SHAFT
		SK 4890

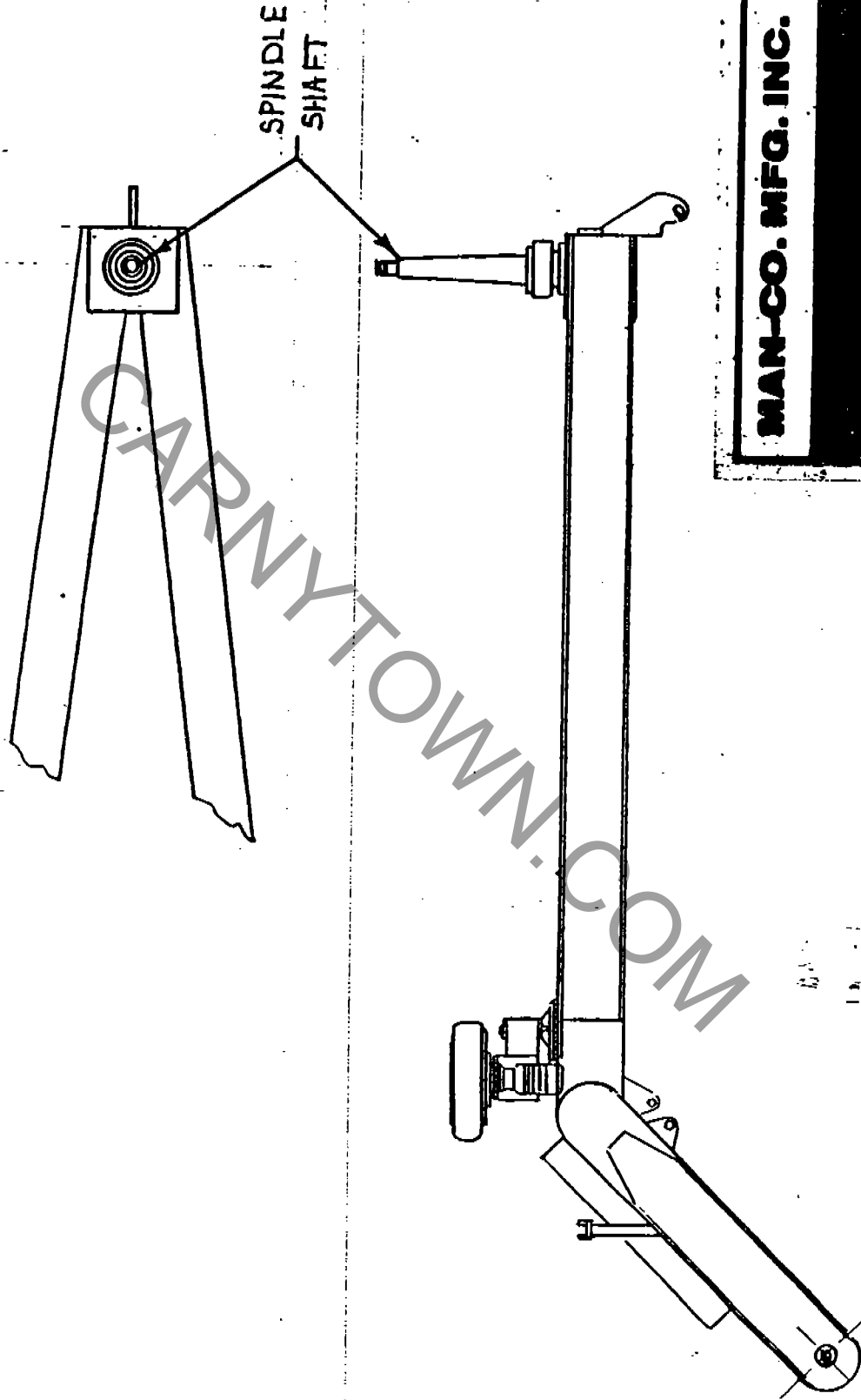
MAN-CO. MFG. INC.

P.O. BOX 18116
SALEM, OR 97309

SCALE:	DATE:	DRAWN BY:
NONE	3-14-89	SWJ

RIM DRIVE PARA BOOM

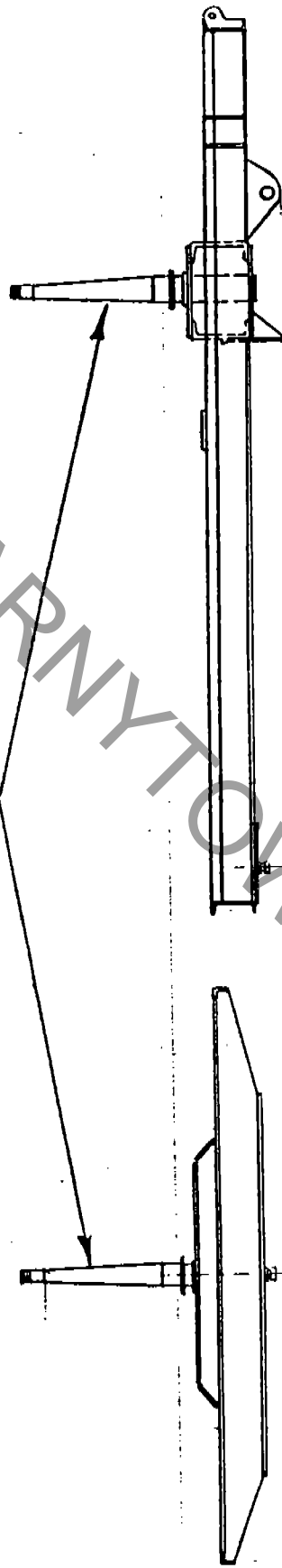
SK 314891



CARNY TOWN.COM

CARNYTOWN.COM

SPINDLE
SHAFT



MAN-CO. MFG. INC.

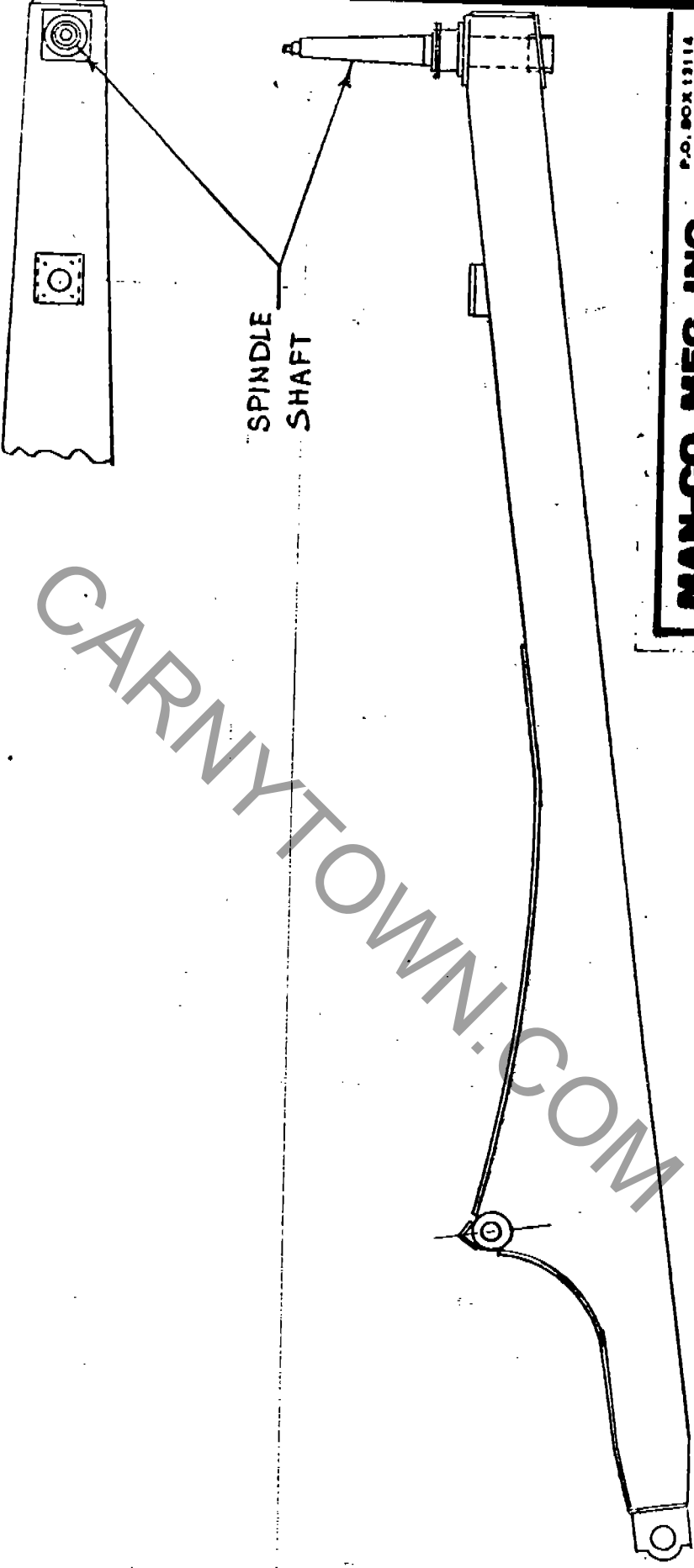
P.O. BOX 13114
SALEM, OR 97309

TOLERANCES: UNLESS NOTED		DRAWN BY: SWJ
DIGITALS	FRACTIONS	DATE: 3-14-89
$\pm .015$		SCALE: NONE
$\pm .010$		
$\pm .008$		

FIREBALL SPINDLE SHAFT		DRAWING NO: SK-314892
NEXT ASSEMBLY	REVISION	A

QC-UI-1-Rev. 3
Page 21 of 23

REV.	DATE	DESCRIPTION	REVISIONS



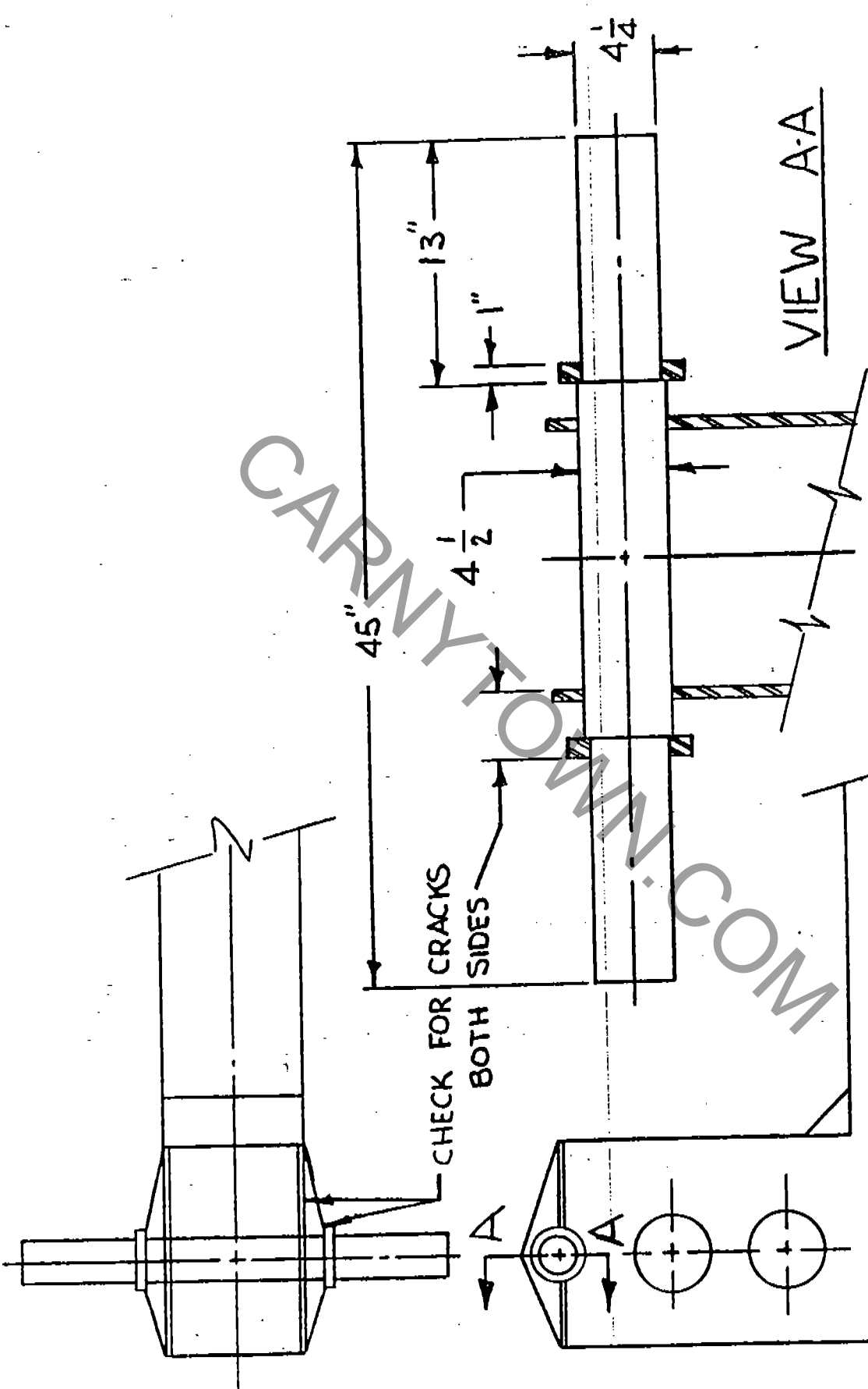
CARNYTOWN.COM

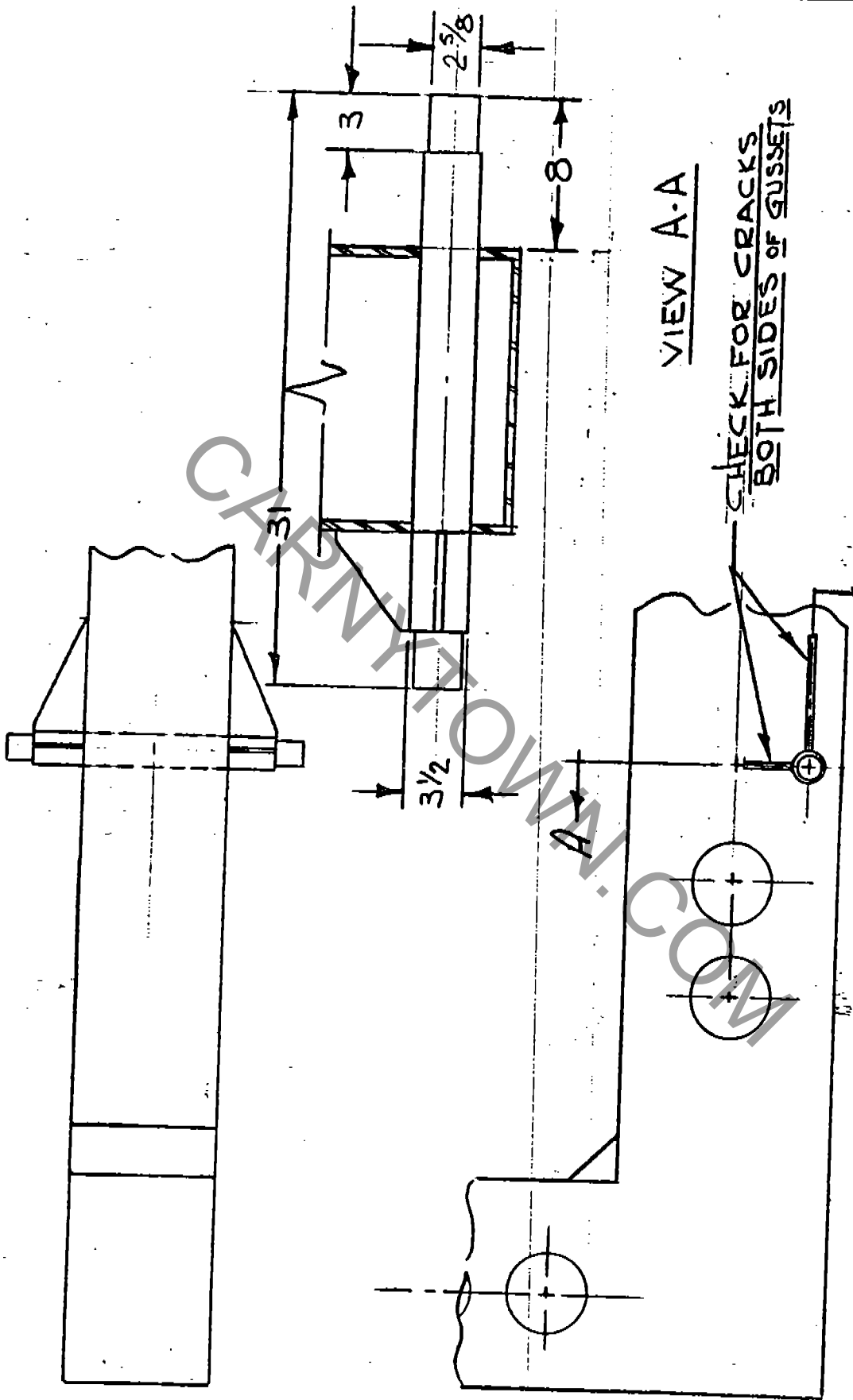
MAN-CO. MFG. INC.

P.O. BOX 13114
GALEM, OR 97339

SCALE: NONE	DATE: 3-14-89	DRAWN BY: SWJ
SPINDLE SHAFT ON BOOM		HYD. PARA

MAN-CO. MFG. INC.		P.O. BOX 12114 SALEM, OR 97309	
MAIU BOOM ROCKER SHAFT			
DATE	0-14-64	SHAFT DIMENSIONS PREVIOUS TO NO. SHAFKTS WITH SHRINK COLLARS	
DRAWN BY	M.O.Z.		
SCALE			





VIEW A-A

CHECK FOR CRACKS
BOTH SIDES OF GUSSETS

MAN-CO. MFG. INC.		P.O. BOX 13114 SALEM, OR 97309	
CYL. ANCHOR SHAFT		SHAFT DIMENSIONS PREVIOUS TO SHAFTS WITH SHRINK COLLARS	
DATE	8-14-84	NO.	SHRINK COLLARS
DRAWN BY	M.O.Z		
SCALE			



DEPARTMENT OF AGRICULTURE
WEIGHTS AND MEASURES DIVISION
106 WEST SECOND STREET
FRANKFORT, KENTUCKY 40601

Certification of Compliance

for

TYPE OF AMUSEMENT DEVICE

Round-Up or Paratrooper - Fireball - Spitfire

BULLETIN BU - MC Man-Co Mfg.

We hereby certify the procedure outlined in the above-mentioned service bulletin has been performed on the _____

Serial No(s) _____ in accordance with the instructions and specifications supplied by _____

Date Procedure Performed _____

Name and Address of Person performing Procedure:

Attested:

Owner _____

Maintenance Supervisor _____

Address _____

Address _____

City _____ State _____

City _____ State _____

By: _____

Date: _____

Date: _____

Results: _____

THIS CERTIFICATION MUST BE COMPLETED AND FILED WITH THE DEPARTMENT PRIOR TO OPERATING IN THIS STATE.

AGRICULTURE - KENTUCKY'S PRIDE

AN EQUAL OPPORTUNITY EMPLOYER M/F/H



MAN-CO MFG., INC.

2725 19th Street S.E. • P.O. Box 13114 • Salem, OR 97309 U.S.A. • (503) 362-2341

BULLETIN: BU-136 MC

NOTICE: THIS BULLETIN SUPERCEDES BU-131 MC DATED 1/5/82

DATE: 9/8/88

ROUND-UP/PARATROOPER HUB INSPECTION

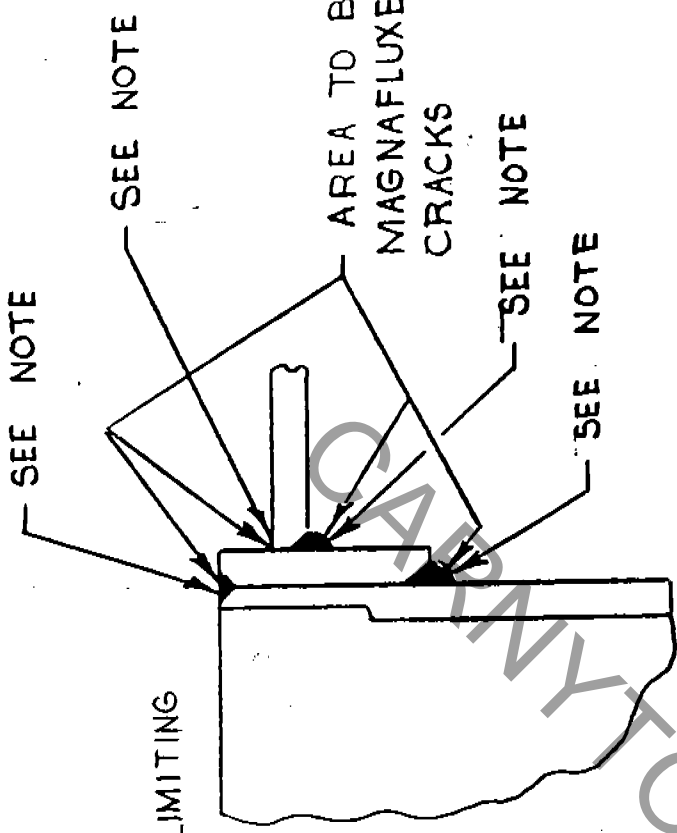
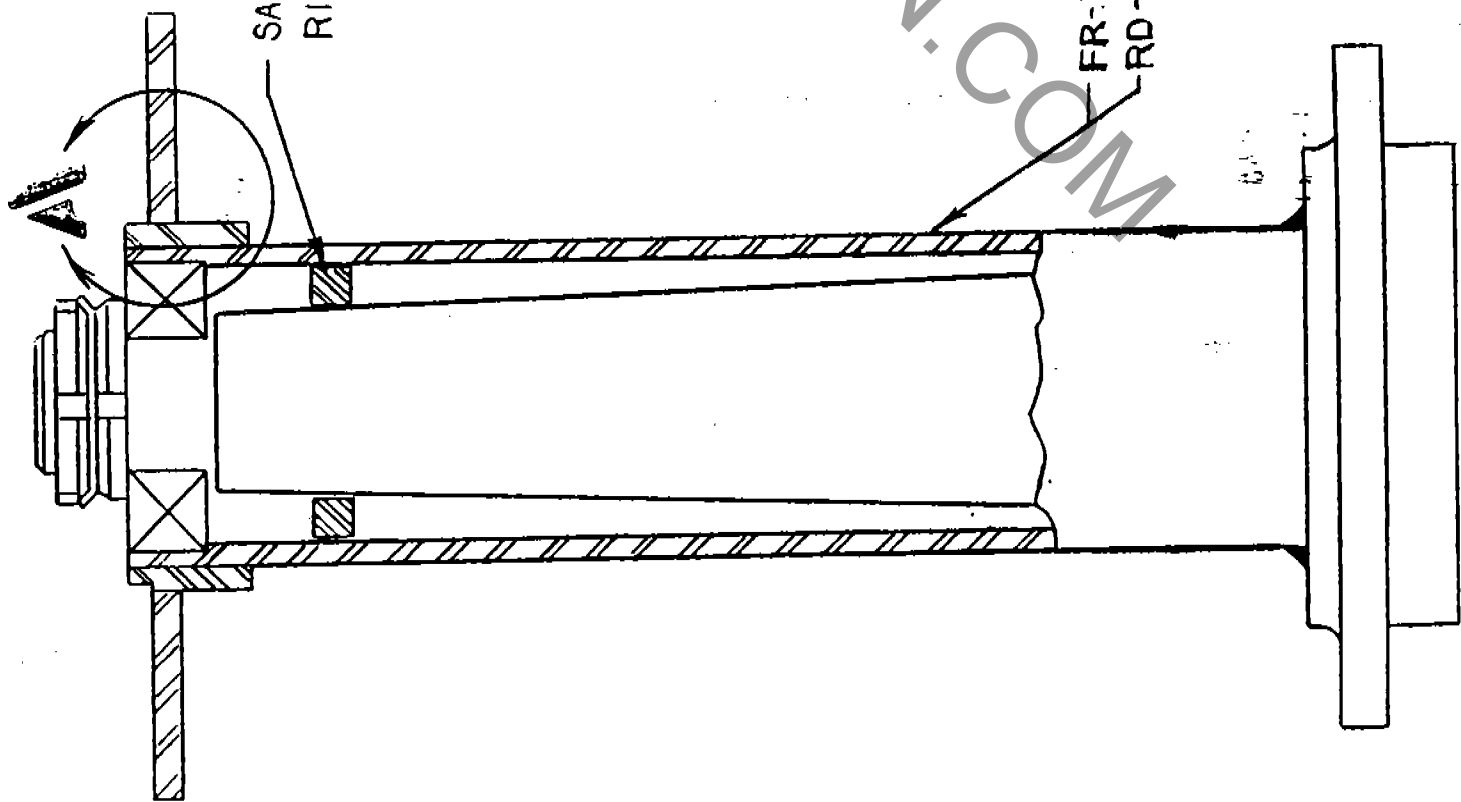
The main spindle shaft hub housing on the Round-Up and Paratrooper amusement rides that were manufactured by Frank Hrubetz Co., and Kilinski Mfg. Co. (KMC) have shown some sign of fatigue cracks in the weld areas of the hub assemblies.

We at Man-Co feel that this is something that should be inspected on a more regular basis and so we are recommending that the welds shown in the attached drawing (BU-136-MC) be inspected annually. If any sign of stress or cracks are noted, then we recommend that the entire hub assembly be replaced for the safety of the ride owners and customers.

Although Man-Co Mfg., Inc. is not responsible for the manufacturing of Hrubetz or KMC rides, we are the exclusive manufacturer of replacement parts. We feel that it is in the best safety of your customers that this preventive inspection is adhered to.

Hurricane • Hydraulic Paratrooper • Rim Drive Paratrooper • Super Slide • Folding Tip Top • Super Round Up • Folding Round Up

Your thrill is ours - - We build excitement!



NOTE:

IF CRACK IS
NOTED IN THIS
AREA, CENTER HUB
SHOULD BE REPLACE

DETAIL **A**

FR-713 CENTER HUB (REF)-ROUND-UP
 RD-35 CENTER HUB - PARATROOPER

~~XXXXXXXXXX-XXXX-XXXX~~

P.O. BOX 13114
 GALVESTON, TX 77550

DRAWN BY: SWJ DATE: 9-1-88 SCALE: NONE

CENTER HUB - INSPECTION OF WELDS
 ROUND-UPS & PARATROOPERS

BU 136 | A



DEPARTMENT OF AGRICULTURE
WEIGHTS AND MEASURES DIVISION
106 WEST SECOND STREET
FRANKFORT, KENTUCKY 40601

Certification of Compliance

for

TYPE OF AMUSEMENT DEVICE

Round-Up or Paratrooper - Fireball - Spitfire
BULLETIN BU - MC Man-Co Mfg.

We hereby certify the procedure outlined in the above-mentioned service bulletin has been performed on the _____

Serial No(s) _____ in accordance with the instructions and specifications supplied by _____

Date Procedure Performed _____

Name and Address of Person performing Procedure:

Attested:

Owner _____

Address _____

City _____ State _____

By: _____

Date: _____

Maintenance Supervisor _____

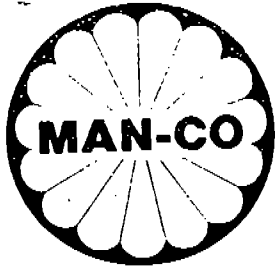
Address _____

City _____ State _____

Date: _____

Results: _____

THIS CERTIFICATION MUST BE COMPLETED AND FILED WITH THE DEPARTMENT PRIOR TO OPERATING IN THIS STATE.



MAN-CO MFG., INC.

2725 19th Street S.E. • P.O. Box 13114 • Salem, OR 97309 U.S.A. • (503) 362-2341

BULLETIN: BU-138-MC

DATE: 9/1/89

ATTENTION: ALL ROUND-UP, PARATROOPER, AND FIREBALL OWNERS

SHAFTS AND SPINDLE REPLACEMENT

It has been brought to our attention that there have been recent failures of the shafts and spindles of the above mentioned rides that were manufactured by Frank Hrubetz Co. and Kilinski Manufacturing Company (KMC). For various reasons, these failures have only occurred in those rides that have the shafts and spindles welded directly into the boom. Newer rides and replacement shafts and spindles that have used shrink collars for installation (therefore no direct welding to the shaft) have not experienced these failures and with proper maintenance and regular testing should provide years of safe operation.

However, due to these failures, Man-Co Manufacturing, Inc. recommends that the following steps should be taken.

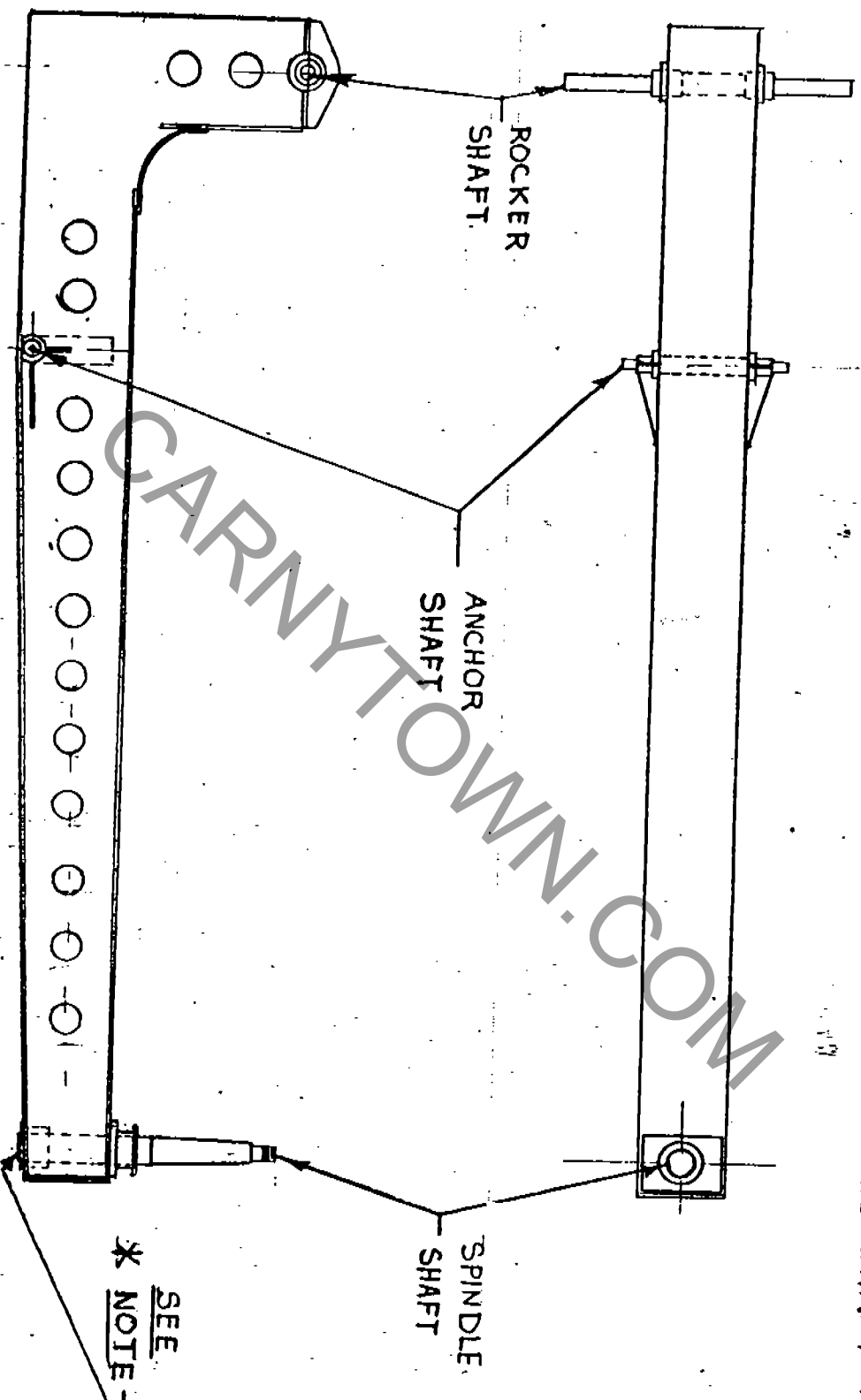
- 1) Inspect your ride and determine if the shafts and/or spindles are welded in directly, or if shrink collars are used. (See Drawings BU-138-A through F for information on how to determine the installation method used on your ride.)
- 2) If shrink collars are used on your ride, there is no need for replacement. Please note: All shafts and spindles still need to be tested annually according to the procedures outlined in BU-135-MC (QC-UI-1 - Rev. 3).
- 3) If the shafts and/or spindles on your ride are welded directly to the boom, then replacement is needed.

Due to the time element involved to manufacture and install these shafts and spindles, we recommend that a time period of one year be allowed to make these replacements. However, if your ride is a 1970 model or older, we recommend the replacements be installed as soon as feasibly possible.

Man-Co Manufacturing, Inc. is not related to or a successor of Frank Hrubetz Co., or Kilinski Manufacturing, Inc. and can recommend but not mandate that these procedures be adhered to. However, we feel that this is a most important step for the protection of the ride owners and the safety of their customers.

Hurricane • Paratrooper • Super Slide • Tip Top • Round Up • Rip-Tide

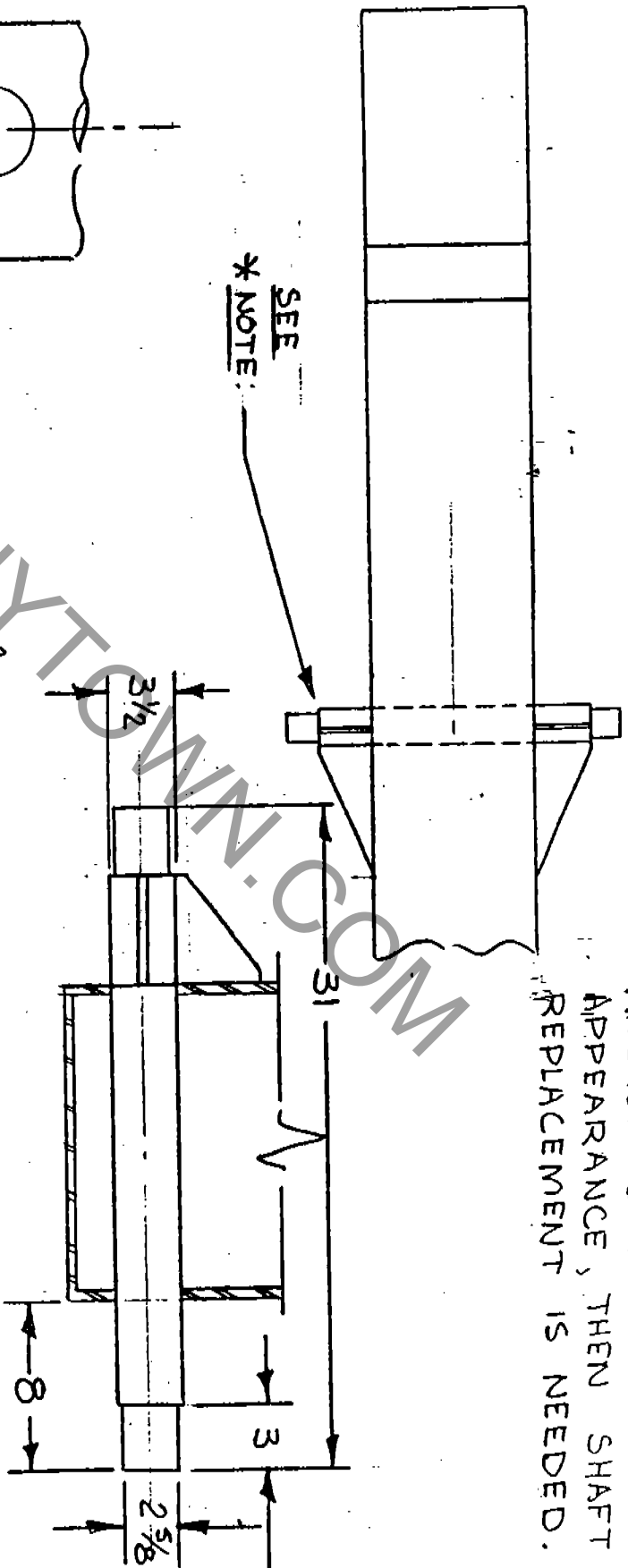
MAN-CO Builds Thrills!



*NOTE: IF NO SHRINK COLLAR IS VISIBLE AT BOTTOM OF BOOM, THEN REPLACEMENT OF SPINDLE SHAFT IS NEEDED.

MAN-CO. MFG. INC.		P.O. BOX 18116 BALTIM, OR 97009	
SCALE:	DATE:	DRAWN BY:	
NONE	8-31-89	SWJ	
30' FOLDING ROUND-UP		ANCHOR SHAFT	
		B1 8-A	

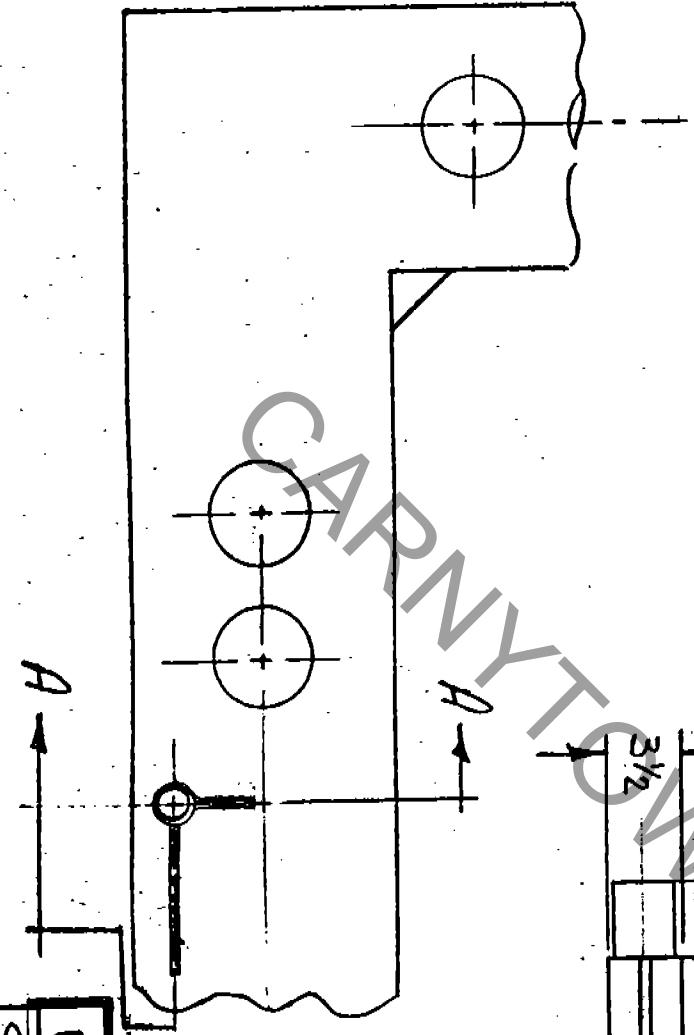
* NOTE: IF CYLINDER ANCHOR SHAFT HAS THIS APPEARANCE, THEN SHAFT REPLACEMENT IS NEEDED.



SEE * NOTE:

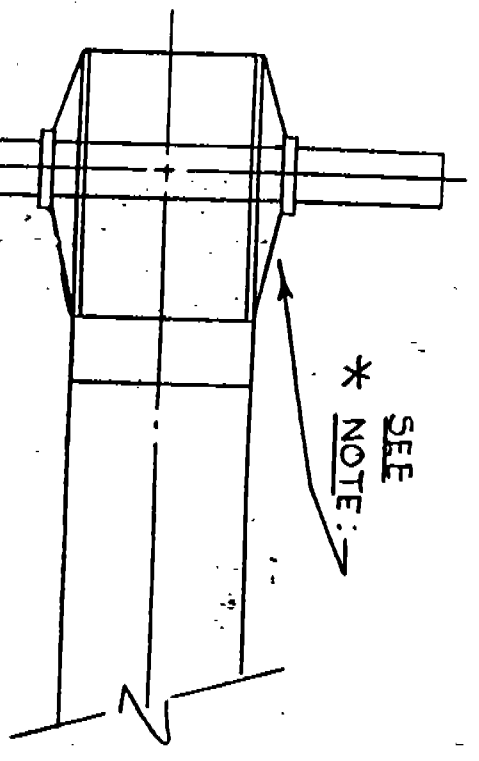
VIEW A-A

SHAFT SHOWN PRIOR TO SHRINK COLLAR



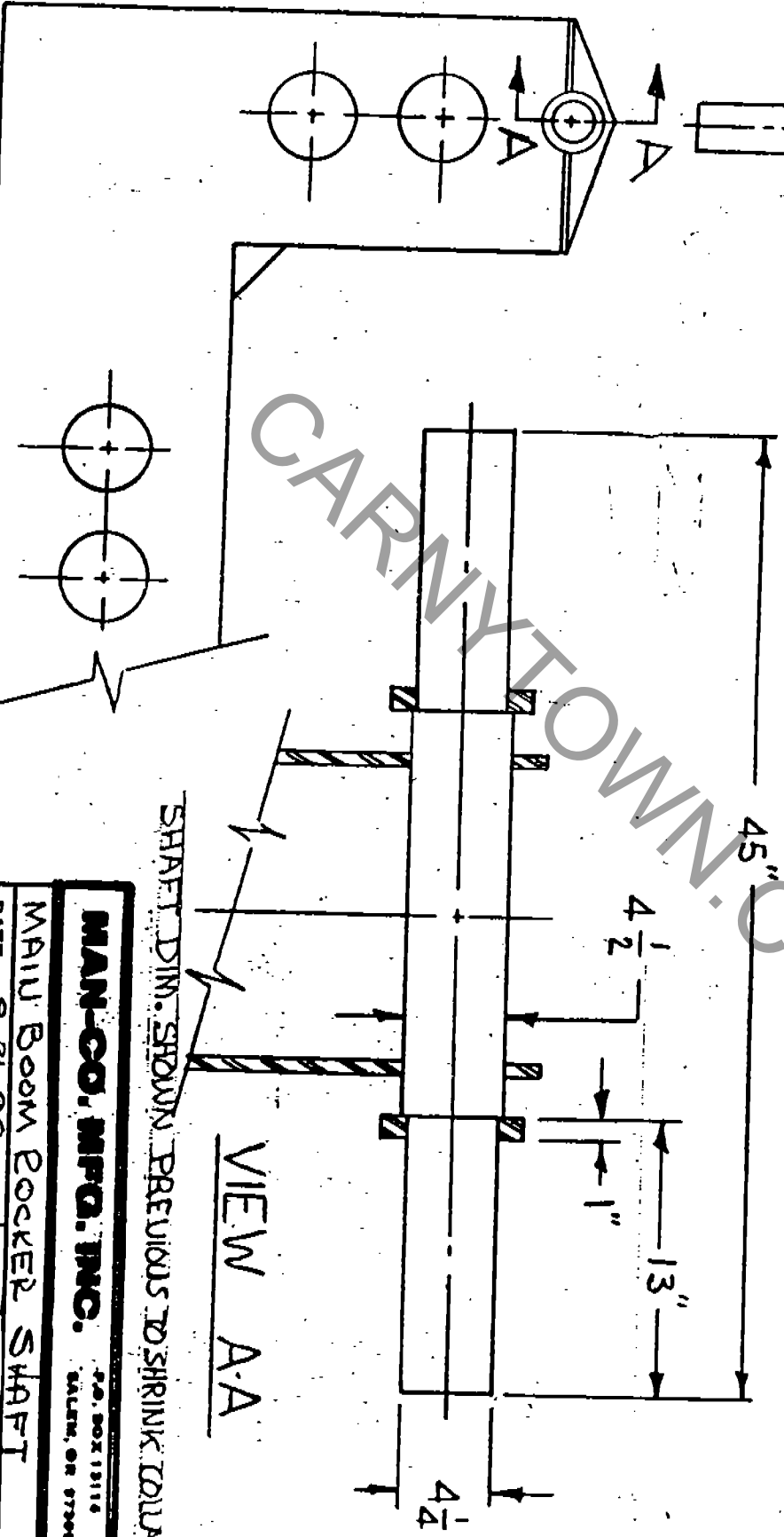
MAN-DO: MFG. INC. 720, BOX 13114 SALEM, OR 97309
 CYL. ANCHOR SHAFT
 DATE 8-31-89
 DRAWN BY SWJ
 SCALE

NO. BU 138-AB



* SEE NOTE: ->

* NOTE: IF ROCKER SHAFT HAS THIS APPEARANCE THEN REPLACEMENT OF SHAFT IS NEEDED.



VIEW A-A

SHAFT DIM. SHOWN PREVIOUS TO SHRINK COLLAR

MAN-CO, MFG. INC.

P.O. BOX 13116 SALEM, OR 97309

MAIL ROOM ROCKER SHAFT

DATE 8-31-89

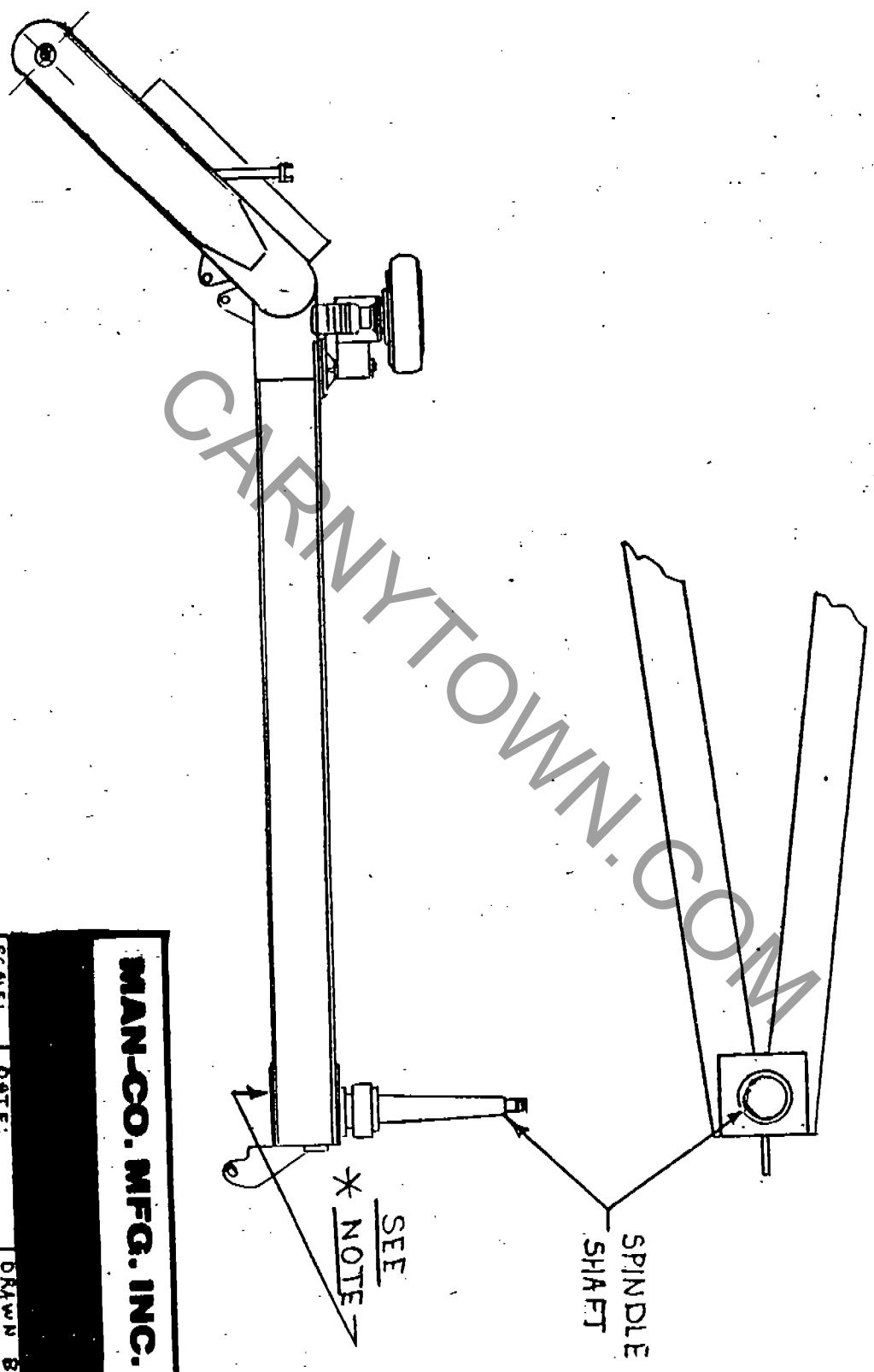
DRAWN BY SUDJ

SCALE

NO. BU 1138-C

CARNYTOWN.COM

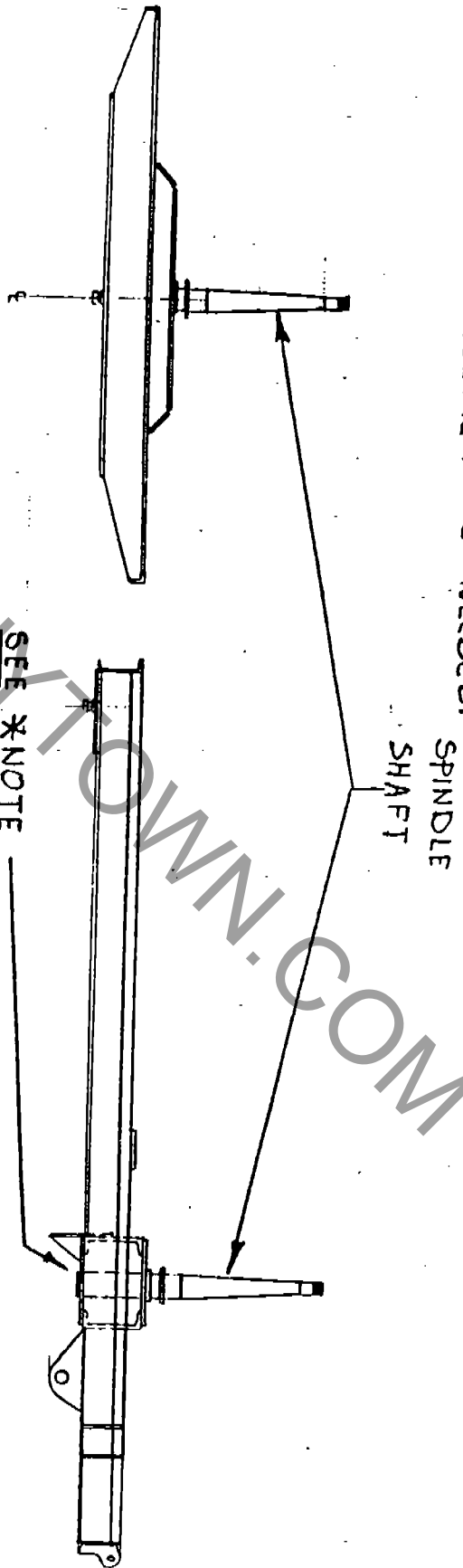
* NOTE: IF NO SHRINK COLLAR IS VISIBLE AT BOTTOM OF BOOM, THEN REPLACEMENT OF SPINDLE SHAFT IS NEEDED.



MAN-CO. MFG. INC.			
P.O. BOX 13114 SALINA, KS 67508			
SCALE:	DATE:	DRAWN BY	
NONE	8-31-89	SWJ	
RIM DRIVE PARA BOOM			

BU-13R-N

*NOTE: IF NO SHRINK COLLAR IS VISIBLE AT THIS POINT THEN SPINDLE SHAFT REPLACEMENT IS NEEDED.



CARNIYOWN.COM

MAN-CO. MFG. INC.

P.O. BOX 13114
SALEM, OR 97309

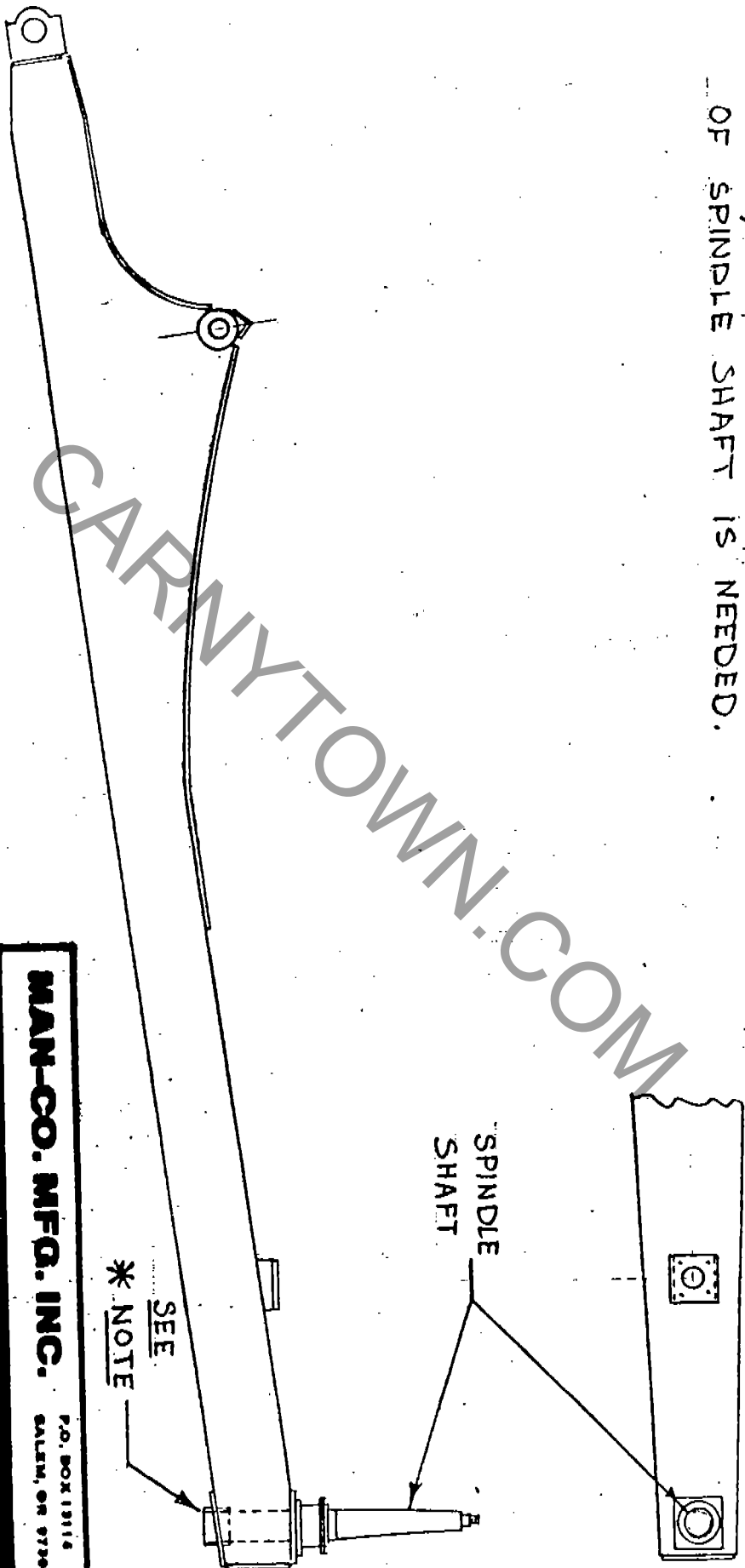
TOLERANCES: UNLESS NOTED		DRAWN BY: SWJ	
DIMENSIONS	FRACTIONS	ANGLES	DATE B-31-89
$\pm .015$			SCALE NONE
$\pm .010$			
$\pm .008$			

FIREBALL SPINDLE SHAFT

NEXT ASSEMBLY: REVISION: DRAWING NO: BU 138-F

REV.	DATE	DESCRIPTION
		REVISIONS

* NOTE: IF NO SHRINK COLLAR IS VISIBLE AT BOTTOM OF BOOM, THEN REPLACEMENT OF SPINDLE SHAFT IS NEEDED.



MAN-CO. MFG. INC.

P.O. BOX 13116
SALEM, OR 97309

SCALE: NONE
DATE: 8-31-89
DRAWN BY: SWJ

SPINDLE SHAFT ON BOOM

HYD. PARA.

B' 130-E



DEPARTMENT OF AGRICULTURE
WEIGHTS AND MEASURES DIVISION
106 WEST SECOND STREET
FRANKFORT, KENTUCKY 40601

Certification of Compliance

for

TYPE OF AMUSEMENT DEVICE

Round-Up or Paratrooper - Fireball - Spitfire

BULLETIN BU - MC Man-Co Mfg.

We hereby certify the procedure outlined in the above-mentioned service bulletin has been performed on the _____

Serial No(s) _____ in accordance with the instructions and specifications supplied by _____

Date Procedure Performed _____

Name and Address of Person performing Procedure:

Attested:

Owner _____

Address _____

City _____ State _____

By: _____

Date: _____

Maintenance Supervisor _____

Address _____

City _____ State _____

Date: _____

Results: _____

THIS CERTIFICATION MUST BE COMPLETED AND FILED WITH THE DEPARTMENT PRIOR TO OPERATING IN THIS STATE.

AGRICULTURE - KENTUCKY'S PRIDE

AN EQUAL OPPORTUNITY EMPLOYER M/F/H

CARNYTOWN.COM