grover c. WATKINS inc.
Telephone 502-442-1666 — P. O. Box 218 — PADUCAH, KY. 42001

January 25, 1977

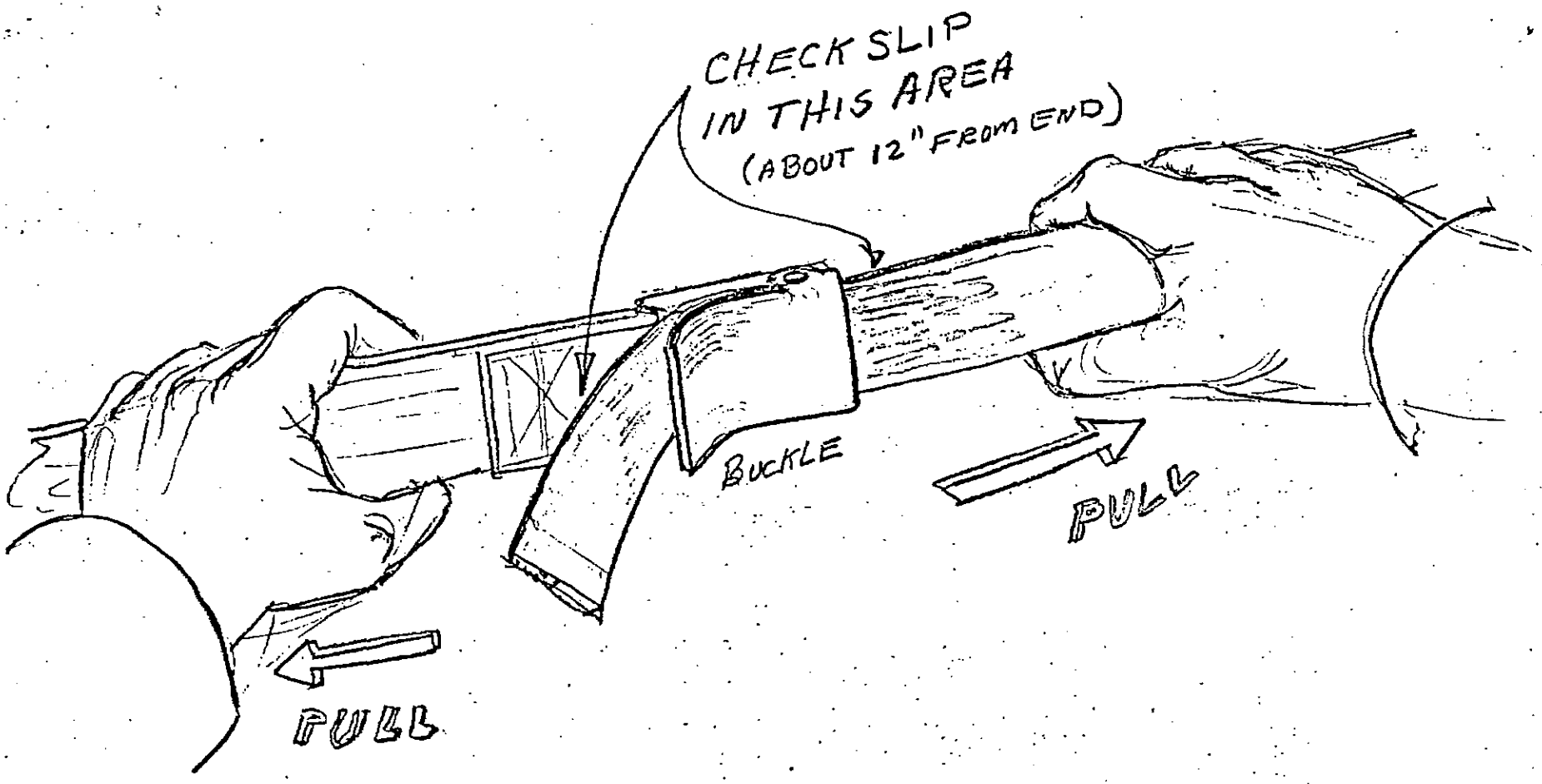
SERVICE BULLETIN
"Hustler" and "Tempest"

WARNING! There has been an instance of seat belt failure on a "Tempest". We ask you to check each seat belt on your ride immediately. Proper testing methods are shown on the enclosed drawing. During the operating season all seat belts should be checked daily to maintain safe operating conditions.

If you are able to slip the plain end in the buckle at all, please contact this office at once for replacements. The slightest slip can be hazardous.

FAILURE TO CHECK YOUR SEAT BELTS REGULARLY CAN CAUSE PERSONAL INJURIES.

GROVER C. WATKINS, INC.


CHECK SLIP
IN THIS AREA
(ABOUT 12" FROM END)
BUCKLE
PULL
PULL

U.S. CONSUMER PRODUCT SAFETY COMMISSION
WASHINGTON, D.C. 20207

OFFICE OF COMPLIANCE
AND ENFORCEMENT

Division of
Corrective Actions
Tel: 301-504-0608
Fax: 301-504-0359

IMPORTANT SAFETY BULLETIN

RE: Grover C. Watkins - "Hustler & Tempest" Amusement Rides

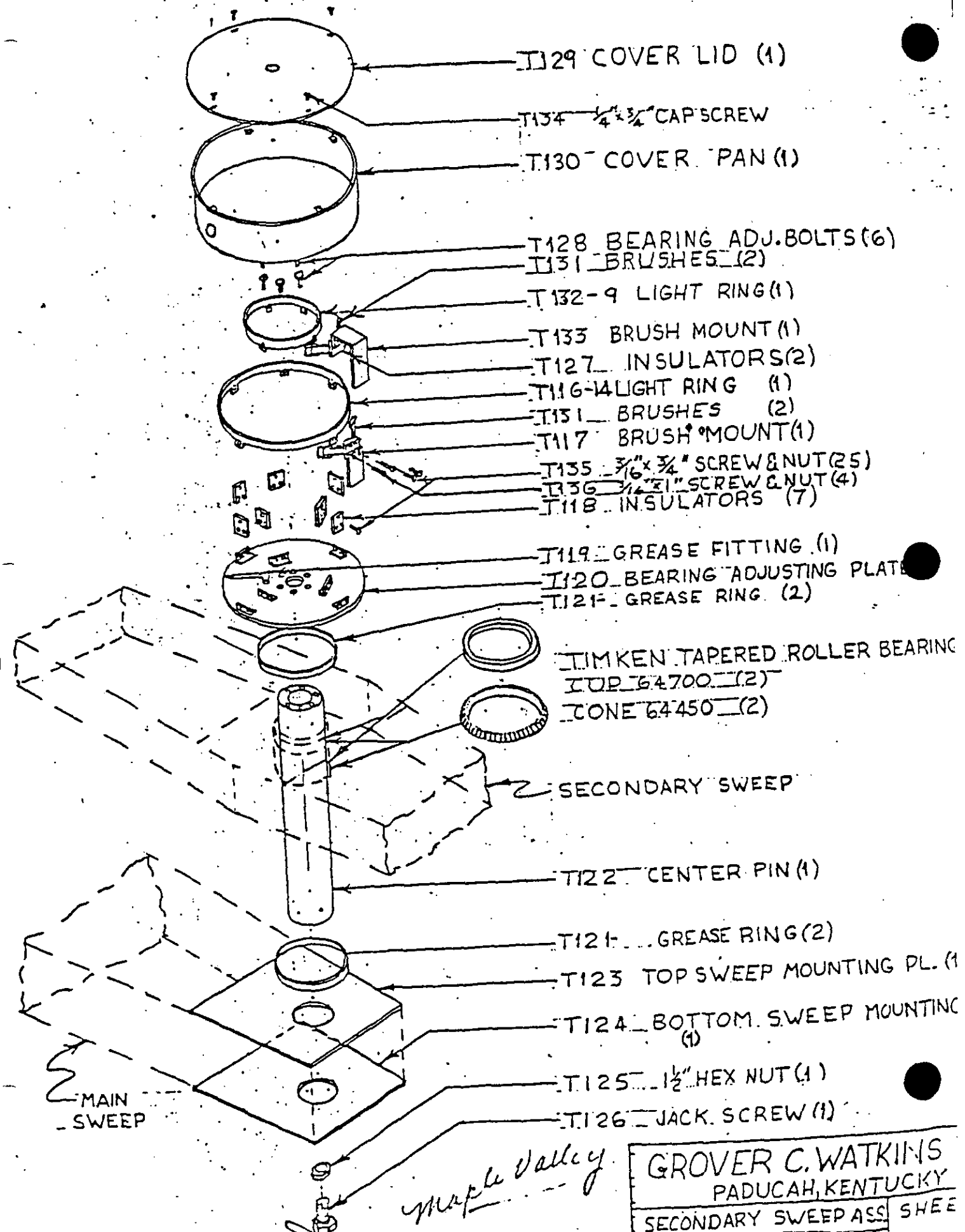
On April 7, 1993, the U.S. Consumer Product Safety Commission (CPSC) investigated an accident in Philadelphia, PA which involved a Grover C. Watkins "Hustler" amusement ride. Apparently, the hollow center pin of the secondary sweep failed permitting the sweep and two cars mounted on it to fall to the ground.

This problem seems to be similar to one which was the subject of a Grover C. Watkins Emergency Safety Bulletin issued on March 24, 1978. [See Attached.]

It is important, at a minimum, that all state safety inspectors and "Hustler/Tempest" ride owners and operators non-destructively inspect by ultrasonic inspection methods the center pin of each secondary sweep and the center pin of each car annually. [See attached drawings.]

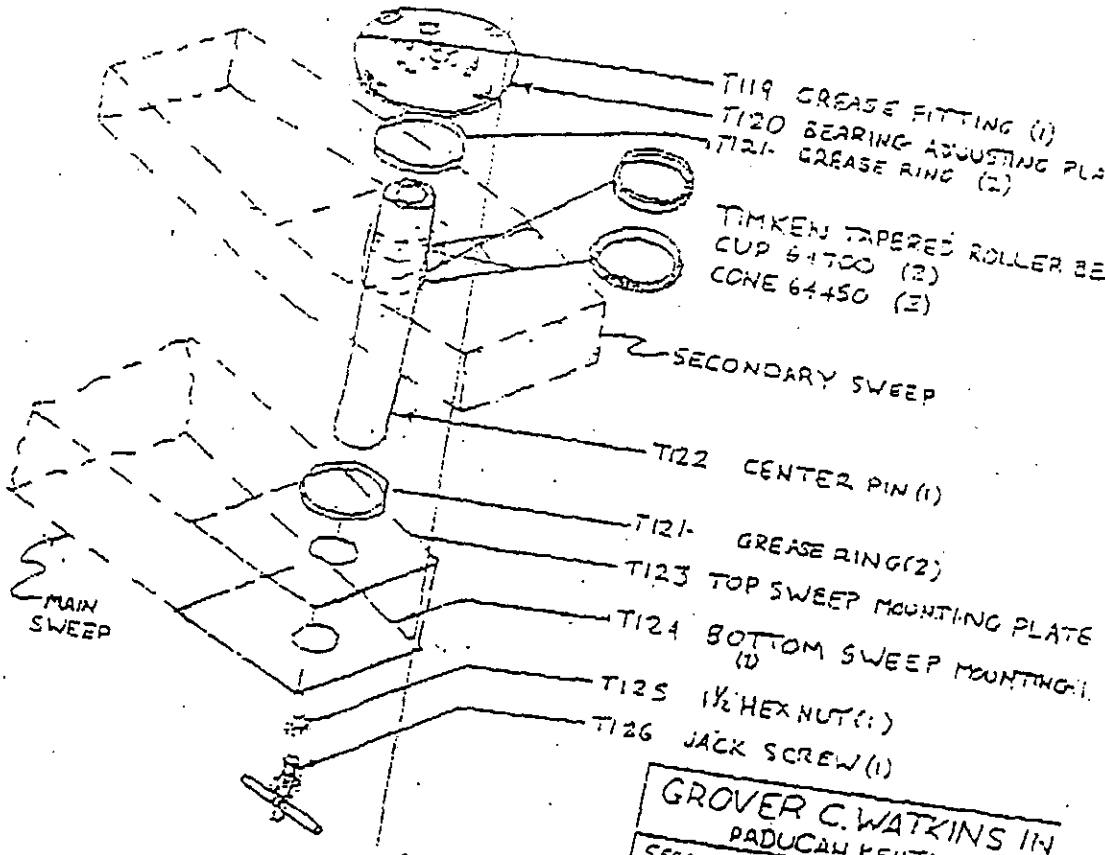
If cracking is found in any center pin, it should be replaced.

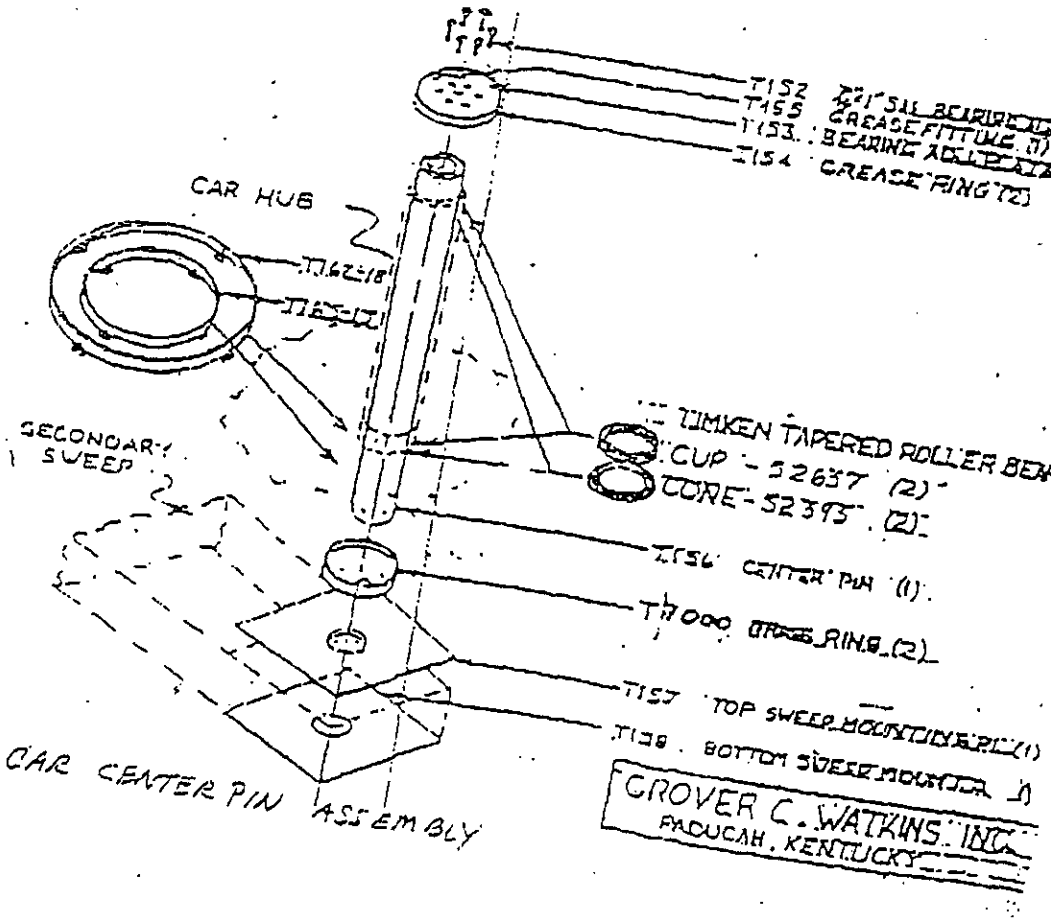
CPSA 6 (b)(1) Cleared 12/4/93
No Mfrs/Privlbls or Products Identified
Excepted by
Firms Notified,
Comments Processed



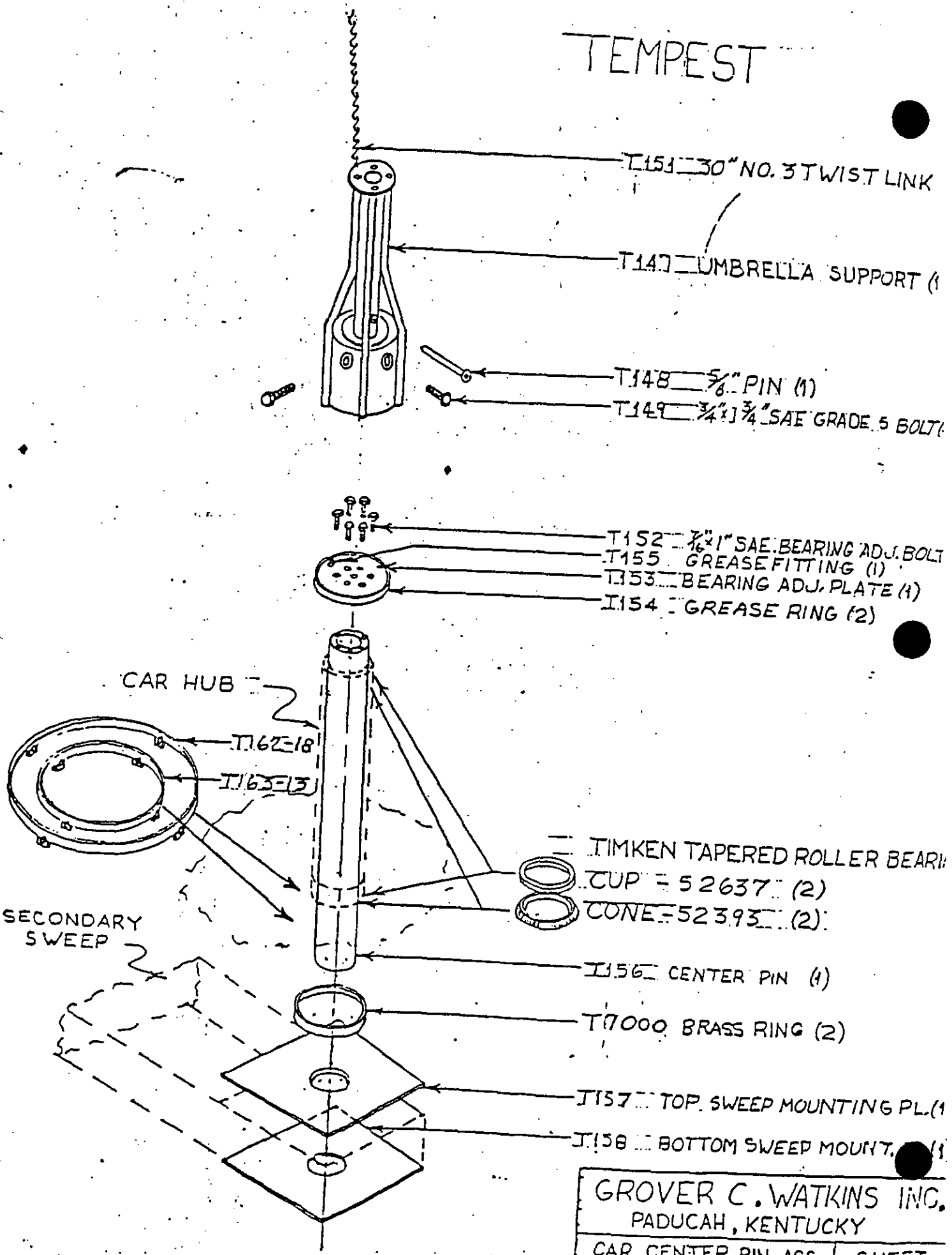
Maple Valley

GROVER C. WATKINS
PADUCAH, KENTUCKY
SECONDARY SWEEP ASS SHEE

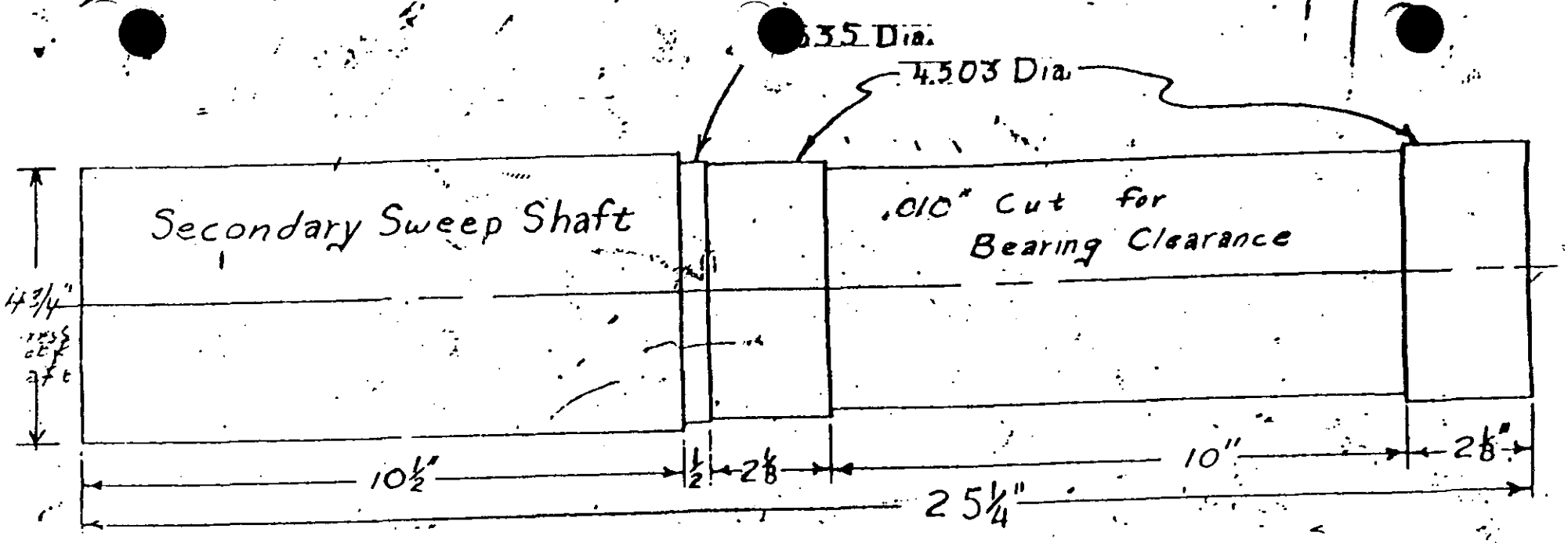

T119 GREASE FITTING (1)
T120 BEARING ADJUSTING PLATE (1)
T121 GREASE RING (2)
TIMKEN TAPERED ROLLER BEARING
CUP 64700 (2)
CONE 64450 (2)
SECONDARY SWEEP
T122 CENTER PIN (1)
T121 GREASE RING (2)
T123 TOP SWEEP MOUNTING PLATE (1)
T124 BOTTOM SWEEP MOUNTING (1)
T125 1½ HEX NUT (1)
T126 JACK SCREW (1)
MAIN SWEEP
GROVER C. WATKINS INC
PADUCAH KENTUCKY
SECONDARY SWEEP ASS'Y
DR. WMD
SCALE 3/4" = 1"
SHEET NO. 2


T152
T155
T153
T154 GREASE RING (2)
CAR HUB
SECONDARY SWEEP
TIMKEN TAPERED ROLLER BEARING
CUP - 52637 (2)
CONE - 52393 (2)
T156 CENTER PIN (1)
T157 TOP SWEEP MOUNTING PL (1)
T158 BOTTOM SWEEP MOUNTING PL (1)
CAR CENTER PIN ASSEMBLY
GROVER C. WATKINS INC
PADUCAH, KENTUCKY

TEMPEST



GROVER C. WATKINS INC. PADUCAH, KENTUCKY		
CAR CENTER PIN ASS.		SHEET
DR. WMD	SCALE 3/4"=1'	NO. 3



Scale ⅜"=1"

Hustler & Tempest

Scale ¼"=1"

Grover C. Watkins I Paducah, Kentucky		
Shaft & Bearing Pl		
Date 6/18/71	Scale ⅜"=1"	Dwg.
Dfm. B. Davis	Ch.	HTS7

UNITED STATES GOVERNMENT

MEMORANDUM

U.S. CONSUMER PRODUCT SAFETY COMMISSION
WASHINGTON, D.C. 20207

TO : J. A. DeMarco, CECA
THROUGH: Frank Brauer, EXCE
James I. Price, Director, ESME
FROM : Thomas E. Caton, ESME

June 9, 1993

SUBJECT: PSA 8325, CA930062, Grover C. Watkins Inc. Hustler Amusement Ride

REF: (a) IDI 930413CNE5115

(b) ASTM Standards on Amusement Rides and Devices, 4th ed., Philadelphia, PA: American Society for Testing and Materials, 1992

(c) State of New York, Code Rule 45 Amusement Devices, Viewing Stands and Tents at Carnivals, Fairs and Amusement Parks

(d) Telephone conversation between Amusement Ride Safety Division of Ohio and ESME of June 2, 1993

REQUEST

Review file and IDI 930413CNE5115 and comment on failure of the Hustler amusement ride.

BACKGROUND

During the night of April 7, 1993, in Philadelphia, PA, two Hustler amusement ride cars dropped to the ground when "the spindle which holds the smaller sweep to the main sweep broke". Although the two cars could hold a maximum of 22 people, the IDI reports that 29 people were admitted to the local hospitals. None of the injuries were reported as being critical. The IDI photographs of this spindle show that it has a circular hollow center. The circular hollow center provides a passageway for electrical wiring.

A Commonwealth of Pennsylvania Quality Control Inspector reported that the Hustler's papers were in order, except that the non-destructive testing (NDT) inspection reports for the spindles were missing. The ride's owner reported that the spindles had not been inspected because they were difficult to access. The state inspector also reported that the spindle fracture must have been forming for some time, implying fatigue failure.

DISCUSSION

The Hustler was manufactured by Grover C. Watkins Inc. which is no longer in business. The Hustler has one 43 foot long main sweep which rotates around a center pin assembly and two 21 foot long secondary sweeps. The main sweep is spun by means of a chain and gear. A secondary sweep is attached to each end of the main sweep on a center pin assembly. A car is mounted on each

end of the secondary sweeps. Each car rotates about a car center pin assembly. Each car has an 11 person capacity giving the ride a maximum 44 person capacity.

The Hustler is similar to another Grover C. Watkins Inc. amusement ride known as the Tempest. The Tempest and Hustler only differ by their trailer mounting. They are hydraulically driven and can spin in either a clockwise or counterclockwise direction. ES files contain sections of a Grover C. Watkins Inc. Tempest amusement ride manual and some related bulletins. I compared the description of the spindle failure contained in the IDI with the Grover C. Watkins drawings and determined that the broken spindle is most likely the part identified as the T122 center pin for the secondary sweep assembly.

It also appears that this April 7. 1993, center pin failure is similar to the shaft failure involving a Tempest discussed in a Grover C. Watkins Inc. Emergency Safety Bulletin dated August 24, 1978 (bulletin). The bulletin (see attachment) described a secondary sweep shaft breakage that resulted in the tilting of the secondary sweep and its two cars onto the ground. The bulletin advised that the secondary sweeps should be non-destructively tested (ultrasonic recommended) immediately. This advice appears to still be valid and should be followed by current owners of Hustler and Tempest amusement rides. If a cracked spindle (center pin) is found, it should be replaced.

The bulletin and the available Grover C. Watkins, Inc. documents do not provide a recommended frequency of spindle inspection. Inspection frequency guidelines for an annual inspection can be obtained from ASTM standards and state regulations. For example, ASTM F 846-92 (REF b), recommends that "the initial design shall be developed to expect a period between tests to be no more frequent than annually." Furthermore, the states of New York (REF c) and Ohio (REF d) require that ride components recommended by the manufacturer for inspection should be inspected at least annually or once per licensing year.

CONCLUSION

Apparently, the fractured hollow spindle had not been recently non-destructively inspected prior to its failure. Therefore, the April 7, 1993, Hustler accident may have resulted from a lack of inspection and proper maintenance of the spindles (center pins).

Current owners of Grover C. Watkins Inc. Tempest/Hustler amusement rides should be notified and required to non-destructively inspect their ride's spindles (center pins). Any cracked spindles (center pins) found should be replaced.

Attachment

cc: Marc Schoem, CECA
Robert Verhalen, EP