

Dartron

Issuing Entity:

Dartron

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Bulletin # SB-5K-091208

Release Date: September 12, 2008

Effective Date: Same

Supersedes: N/A

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SERVICE BULLETIN

Ride Manufacturer: Dartron

Affected Production Dates: All Cliff Hanger Rides

Ride Name: Cliff Hanger

Affected Serial #'s: All

Model #'s: All

Abstract of Issue: More than four years ago Dartron became aware of some isolated incidents of cracks found in the Cliff Hanger bearing base. Dartron issued Bulletin SB-5K-001 requiring inspection of the area. Dartron then developed a method of strengthening the bearing base through the addition of several reinforcing plates. Dartron issued Bulletin PI-5K-003, and later Bulletin SR-5K-0107-02, requiring the reinforcing plates to be installed. Before adding the reinforcing plates any existing cracks had to be repaired. Only a few Cliff Hanger owners reported finding cracks. Dartron's analysis showed that the cracks resulted from transporting the ride without adequately supporting the sweeps and possibly from an extreme eccentric (unbalanced) loading condition. Dartron used an Engineering instrumentation company from Salt Lake City to do a strain gauge analysis of a Cliff Hanger with the added reinforcing plates. The strain gauges showed that the reinforcing plates reduced stresses to the infinite life range in the extreme eccentric-loading cases. On portable Cliff Hangers, Dartron also required that a method be added to assist in ensuring that the sweeps were adequately supported during transport.

Reason for release: Recently cracks were found in the same area of a Cliff Hanger. Photos of these cracks have been widely circulated on the Internet. Dartron believes, and the ride owner agrees, that the cracks are the same cracks that were discovered four years ago but were not repaired before the reinforcing plates were added. The un-repaired cracks have continued to propagate resulting in cracks in the reinforcing plates. The ride owner is cooperating with Dartron and will have the entire bearing base repaired at Dartron's shop.

When viewing the photos circulating via the Internet please note that the reinforcing plates on the upper bearing base were welded incorrectly with a continuous weld as opposed to the stitch weld that was required by Bulletin PI-5K-003. Also please note that the reinforcing plate added on the lower bearing base weldment is installed in the wrong location and as a result is providing no added strength.

At this moment in time Dartron considers the widely circulated photographs to depict an isolated incident resulting from a required repair not being correctly implemented. However, Dartron is requesting all Cliff Hanger owners to conduct a visual inspection of the bearing base as described below. Inform Dartron if any cracks are found.

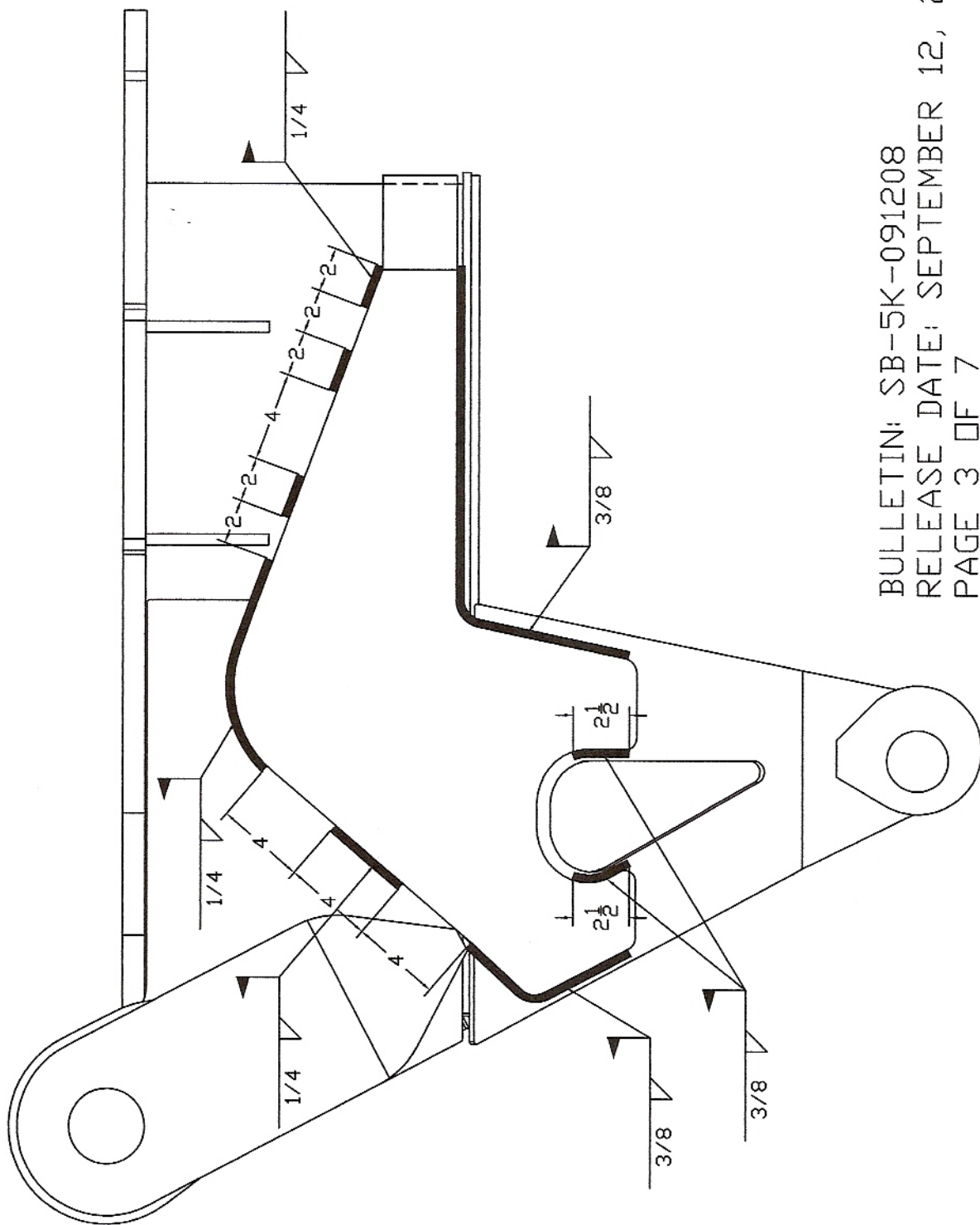
Action To Be taken:

1. A one time visual inspection must be conducted to inspect for cracks in the upper and lower bearing base as detailed below.
2. Inspect the reinforcing plates to confirm that they are installed as required by Bulletin PI-5K-003.
3. Inspect the sweep support jack to confirm that the modifications are correctly implemented as required in Bulletin SB-5K-001.
4. If cracks are found, repairs need to be completed per Dartron Specified procedures and Dartron must be notified.

Detail of issue:

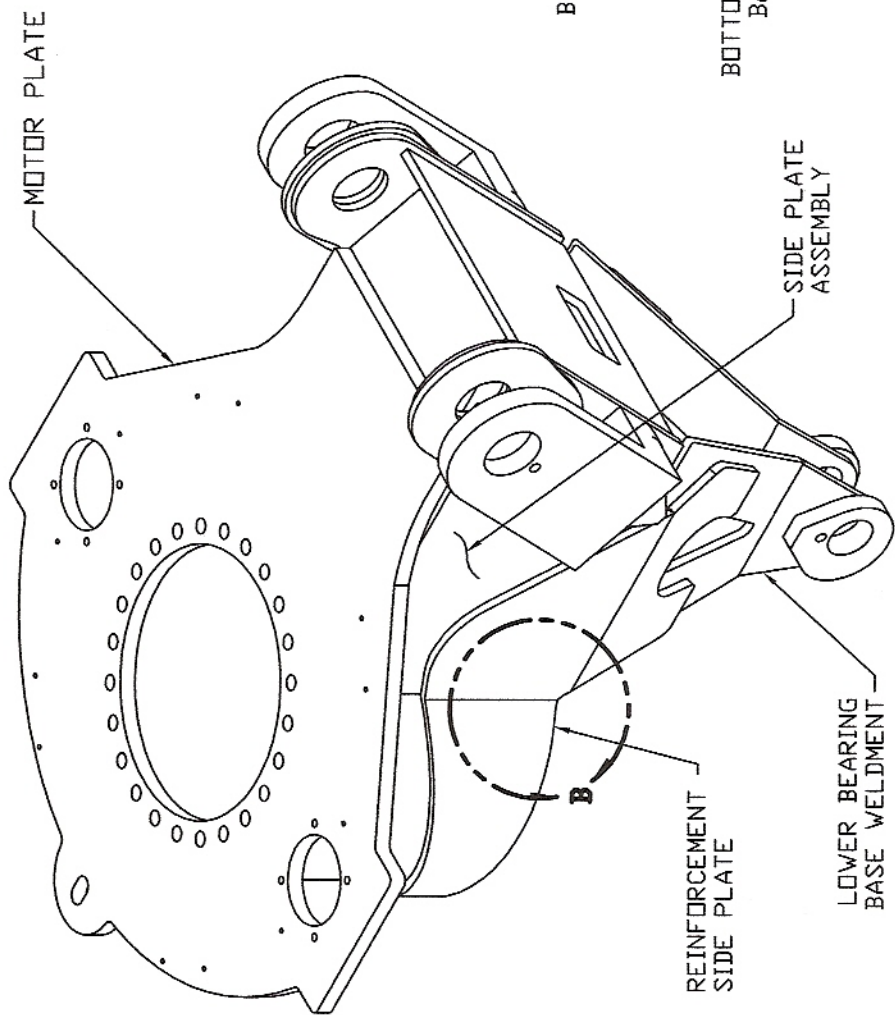
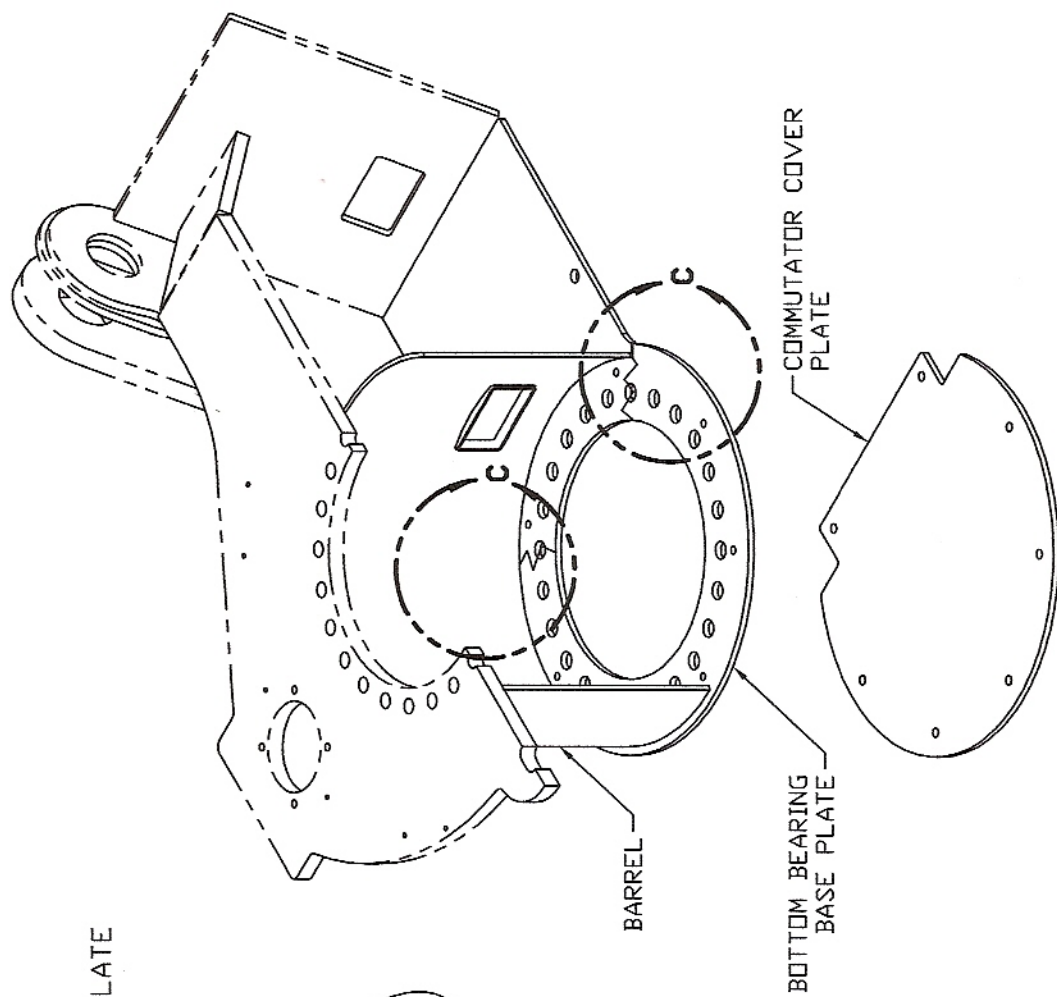
1. The ride must be set-up to perform this inspection.
2. The boom must be raised off of the boom rest pad and the Commutator Cover Plate must be removed to inspect some of these areas.
3. Five areas must be visually inspected for cracks. Those areas are shown on the drawings on pages 3 - 6 as detail areas A, B, C, D and E.
4. The areas to be inspected must be cleaned so that they are free of dirt and grease.
5. Visually inspect the location of the reinforcing plates and the associated welds as shown on pages 3 and 4.
6. Visually inspect the five areas for cracks or broken paint.
7. If broken paint is found, the paint must be removed to allow a more thorough visual crack inspection.
8. Verify the modifications to the sweep support jack assembly are per the drawing on page 7 of this bulletin.
9. If a crack is discovered please contact Dartron at 503-362-2536 to coordinate repairs.

**ALL REFERENCED BULLETINS ARE AVAILABLE ON THE DARTRON WEBSITE
www.dartronrides.com**



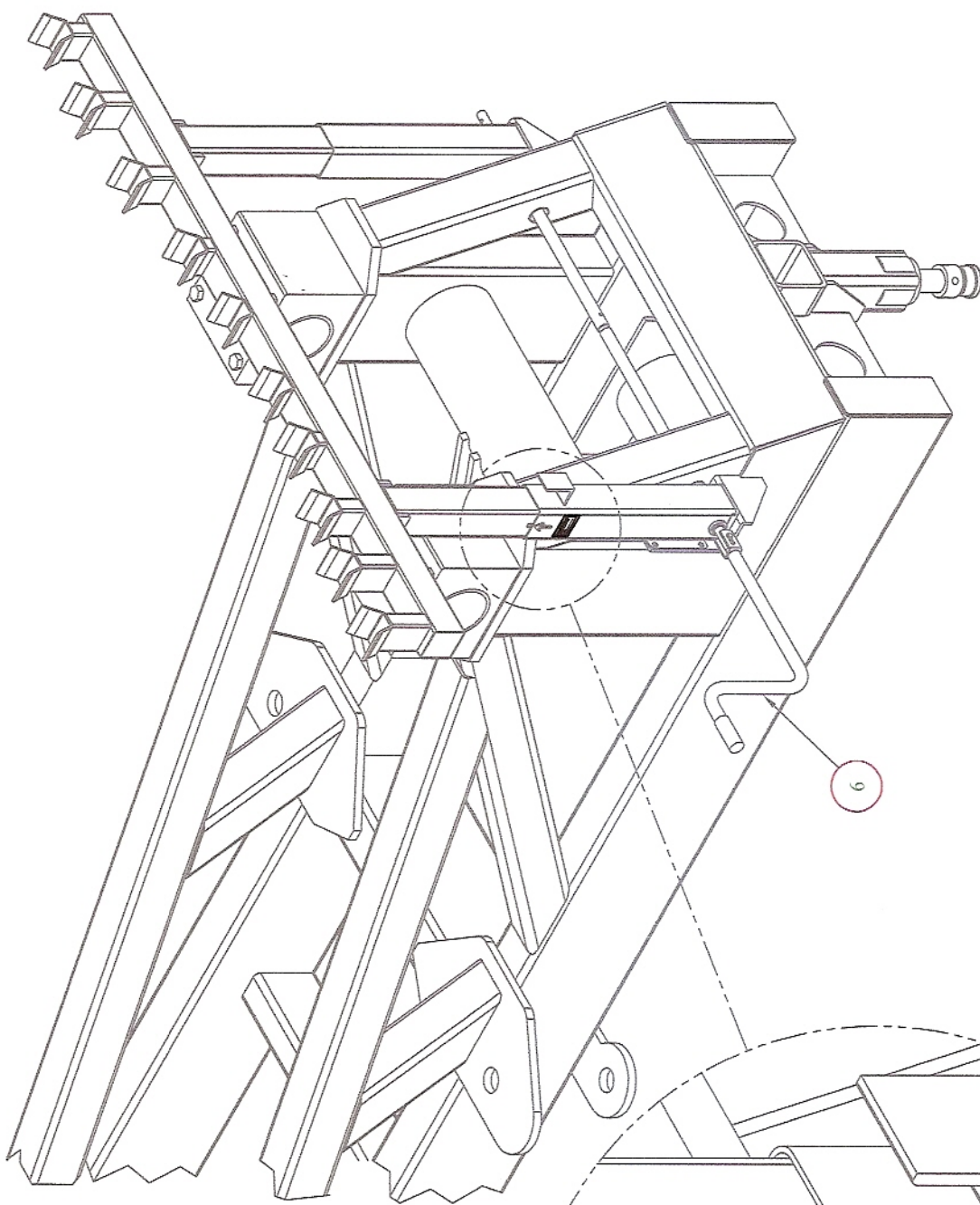
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DARTRON IND., INC.		TOLERANCES UNLESS NOTED		BEARING BASE INSPECTION		DATE		SCALE		DRAWN BY	
P.O. BOX 1114 DARTRON, IN 46039		DECIMALS FRACTIONS ANGLES		DRAWING		09-12-08		NYS		JIN	
USE OR REPRODUCTION OF THIS DRAWING ONLY BY PERMISSION OF DARTRON IND. INC.		± 0.005 ± 0.010 ± 0.015		DARTRON		SB-5K-091208		SHEET		REVISION	
		± 0.005 ± 0.010 ± 0.015						3/7		A	

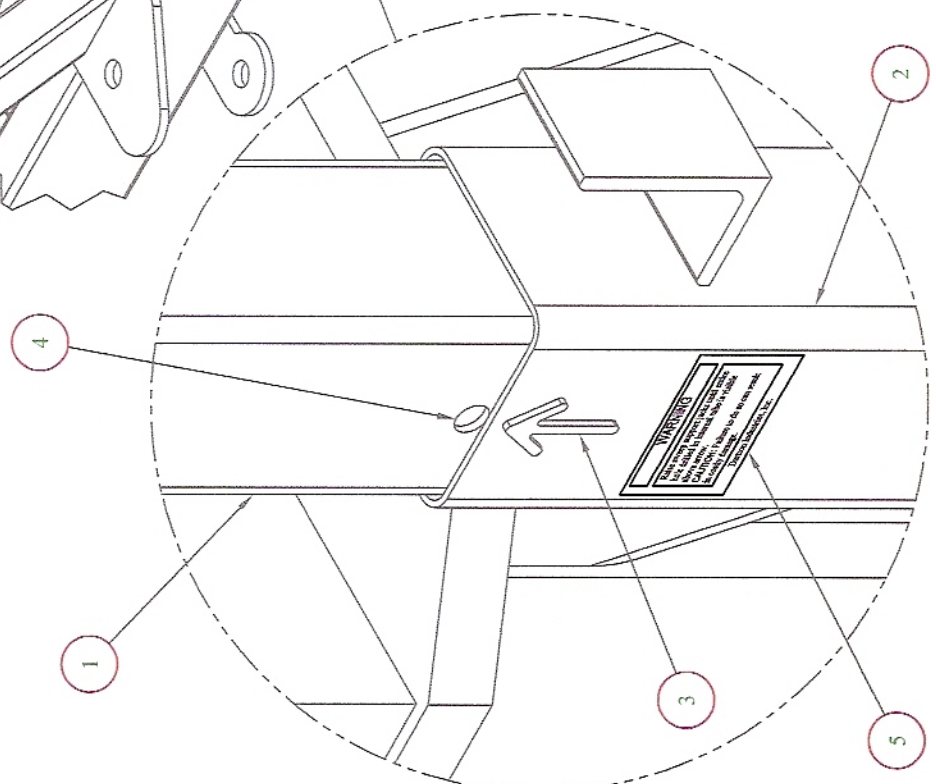


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DARTRON IND., INC.	TOLERANCES UNLESS NOTED	BEARING BASE INSPECTION	DATE	SCALE	DRAWN BY
101 NIX ST. S.W. DALLAS, TEXAS 75209	DECIMALS FRACTIONS ANGLES		09-12-08	NTS	DH
USE TO SUBSTITUTION OF THIS DRAWING ONLY BY PERMISSION OF DARTRON IND., INC.	$\pm 1/16$ $\pm .001$ HOLE $\pm .002$		DWG NO.	SHEET	REVISION
		DARTRON	SB-5K-091208	5/7	A



- 1. INNER TUBE
- 2. OUTER TUBE
- 3. ARROW
- 4. REFERENCE HOLE
- 5. WARNING PLACARD
- 6. CRANK HANDLE



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DARTRON IND., INC.		SWEEP SUPPORT RACKING		DATE		SCALE		DRAWING	
PO BOX 13134				09-06-03		NTS		DH	
501 EAL, OR 97209				10/02/05		5/6		REVISION	
DESIGN: STEVE CULLEN, STEVE HERRING		DARTRON		SB-5K-091-05		5/6		0	
ASSY: KELLY HARRIS, JEFF LARSEN, JEFF LARSEN									
3. GRANDESCHNEIDER		FRACTIONS		INCHES		1/8"			
XX+100		1		1/8"					
XX+100									