

Dartron

Issuing Entity:
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Bulletin # PI-5K-003

Release Date: March 14, 2004

Effective Date: March 14, 2004

Supercedes: N/A

Completion Date: July 14, 2004

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PRODUCT IMPROVEMENT BULLETIN

Ride Manufacturer: Dartron Industries, Inc.

Affected Production Dates: All Cliff Hanger Rides

Ride Name: Cliff Hanger

Affected Serial #'s: All

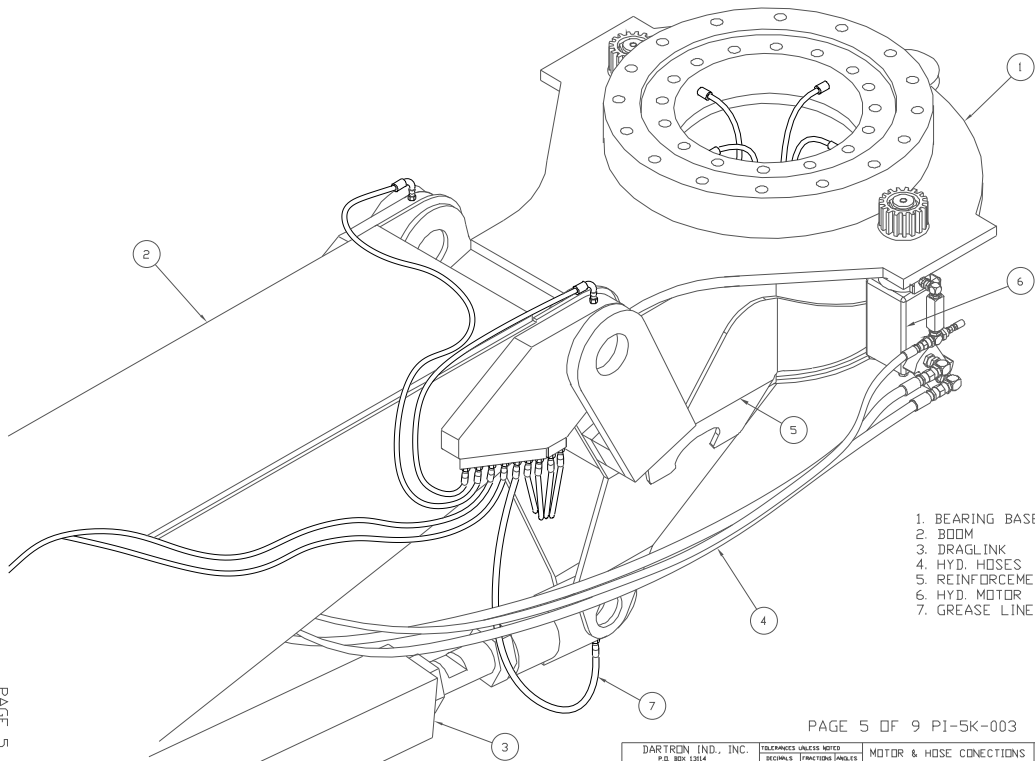
Model #'s: All

Abstract of Issue: Dartron is aware of Cliff Hanger rides that have developed cracks in the bearing base. Dartron Bulletin SB-5K-001 requires a visual inspection of the Bearing Base. If cracks are found the cracks must be repaired and reinforcing plates must be installed.

Reason for release: To communicate instructions for Bearing Base crack repairs and installation of reinforcing plates.

Action to be taken:

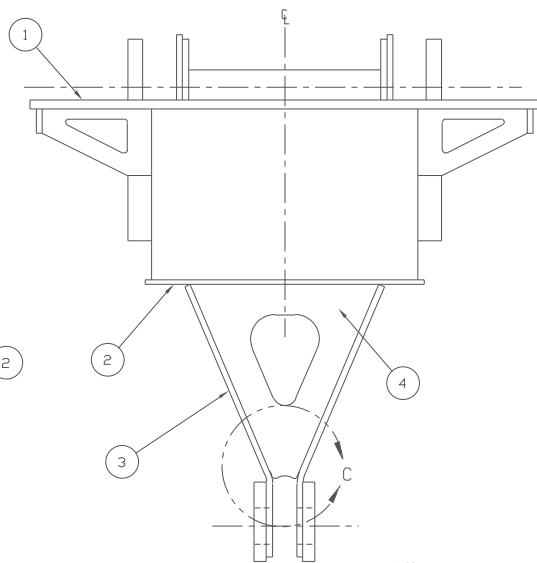
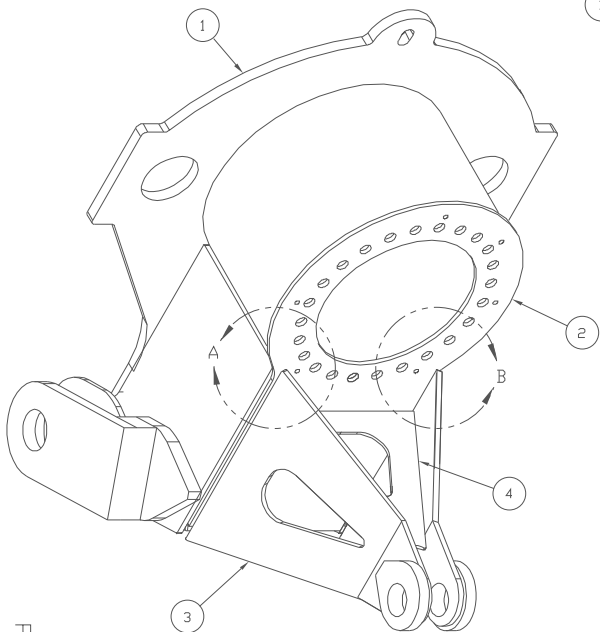
1. Contact Dartron and arrange for shipment of the reinforcing plates.
2. Arrange for a certified welding technician to perform this procedure who holds a current certificate for 7018 in the 2G, 3G, and 4G positions or equivalent. This certificate can be issued by any state.
3. Welding to be performed using 7018 stick electrode DC reverse polarity.
4. Allow approximately eight hours for the welding operation. Allow approximately four hours for cleanup and re-painting after the welding is complete.
5. Prepare the Cliff Hanger for the repairs as explained on Page 2.
6. Repair the cracks according to the procedure explained on Page 3.
7. Install the reinforcing plates as explained on Page 4.



1. BEARING BASE
2. BOOM
3. DRAGLINK
4. HYD. HOSES
5. REINFORCEMENT PLATE
6. HYD. MOTOR
7. GREASE LINE

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DARTRON IND., INC. P.O. BOX 13064 SALCM, OH 97309	TOLERANCES UNLESS NOTED		MOTOR & HOSE CONNECTIONS	DATE	SCALE	DRW
	DECIMALS	FRACTIONS		ANGLES	03-14-84	NTS
USE OR PERMISSION OF THIS DRAWING DEL. BY PERMISSION OF DARTRON, INC. DEL.	1/16	1/32		DWG NO.	SHEET	REV
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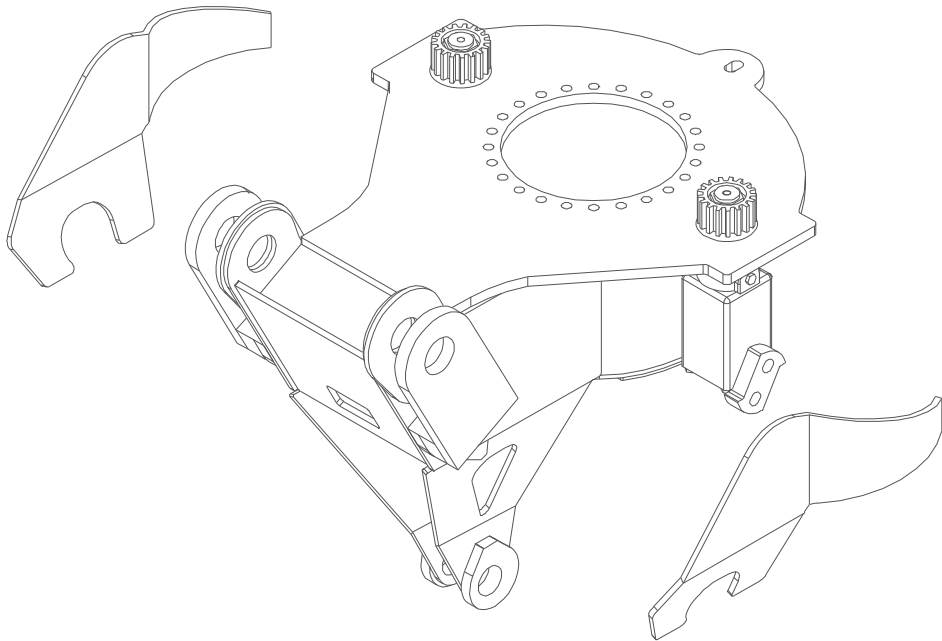


- 1. MOTOR PLATE
- 2. BEARING BASE
BOTTOM PLATE
- 3. LOWER PLATES
- 4. SEPARATOR PLATES

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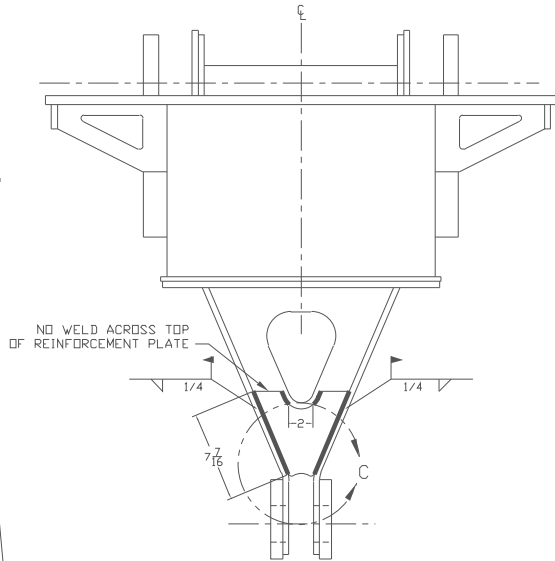
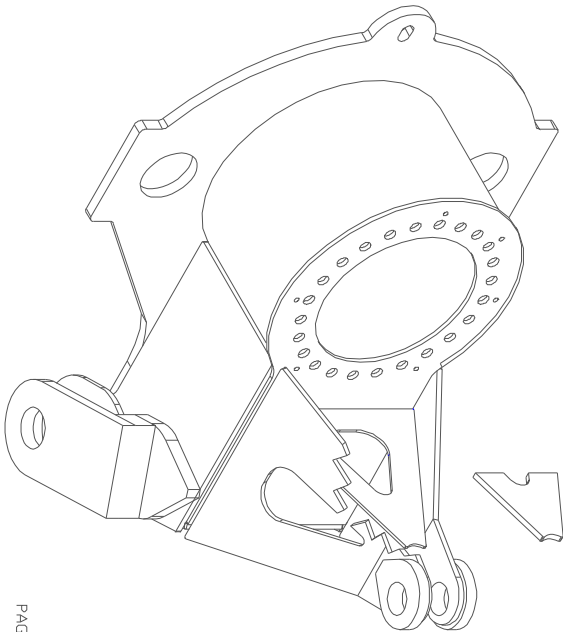
DARTRON IND., INC. P.O. BOX 13114 SALEM, OR 97309		TOLERANCES UNLESS NOTED DECIMALS FRACTIONS ANGLES			DATE 03-14-04	SCALE NTS	DRAWN DH	
USE OR REPRODUCTION OF THIS DRAWING ONLY BY PERMISSION OF DARTRON IND. INC.		.X ± 0.001 .XX ± 0.015 .XXX ± 0.062	± 1/16	±30°	STRESS OR FRACTURE POINTS DARTRON	DWG NO. PI-5K-003	SHEET 6/9	REVISION 0



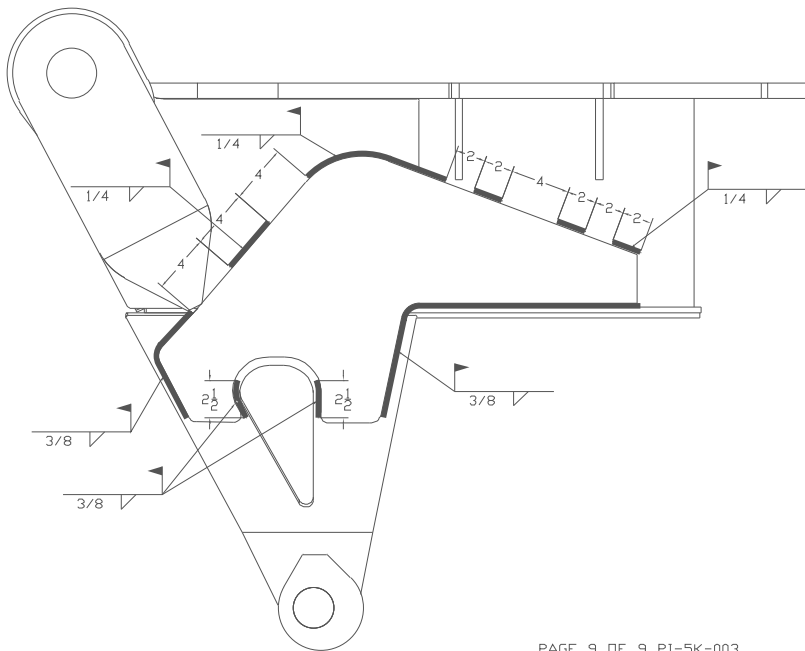
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DARTRON IND., INC. P.O. BOX 12014 SALINA, KS 67209			TOLERANCES UNLESS NOTED		DATE	SCALE	DRAWN
± .001	FRACTIONS	ANGLES	REINFORCEMENT PLATES		03-14-04	NTS	BH
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DARTRON IND., INC. P.O. BOX 12314 SALEM, OR 97309	TOLERANCES UNLESS NOTED			DATE 03-14-04 SCALE NTS DRAWN DH	SHEET 8/9 REVISION A
	.0000 .0005 .0010	DECIMALS FRACTIONS ANGLES	.1/16 130°		



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DARTRON IND., INC. P.O. BOX 13114 SALEM, OR 97309 USE IN REPRODUCTION OF THIS DRAWING ONLY BY PERMISSION OF DARTRON IND., INC.	DIMENSIONS UNLESS NOTED DECIMALS FRACTIONS ANGLES		WELD LOCATIONS DARTRON	DATE 03-14-04	SCALE NTS	DRAWN BY DM
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Prepare Cliff Hanger for Bearing Base Crack Repairs

Step 1: The ride must be at least partially set up. The front car-racks must be down and the wheel must be pinned together.

Step 2: Material required includes:

- a) Support for the bearing base such as blocking stacked on the ground.
- b) A tarp or tent to place over the work area in the event of wet weather.

Step 3: Using the ride hydraulics lift the boom enough to provide a comfortable working height for the repairmen. This height will be approximately 3 feet above the boom rest pad.

Step 4: Support must be provided under the Bearing Base to prevent the boom from dropping during the repair process. This support can be blocking or a similar material stacked on the ground under the Bearing Base. Remove the grease line and the fitting [Page 5, Item 7] from the bottom of the drag link pivot. The support should be provided directly under the pivot pin ears that attach the Drag Link to the Bearing Base. Do not support the 6" square drag-link tube, [See page 5, Item 3], as it will bend.

Another method of supporting the Bearing Base is to build a cross member bridge. The cross member bridge can be placed across the trailer frame behind the boom rest and will support the Drag Link Pivot Pin Ears.

Step 5: Disconnect the hydraulic hoses to the two drive motors. [Page 5, Item 4] Caps and plugs must be installed on the hoses and motor ports to avoid leakage of hydraulic fluid. Mark the motor hoses so they will not get crossed during reassembly. Fold the hoses back out of the way. It is not necessary to remove the two hydraulic drive motors.

Cliff Hanger Bearing Base Crack Repair Procedures

Step 1: The welding technician performing this procedure must hold a current certificate for 7018 in the 2G, 3G, and 4G positions or equivalent. This certificate can be issued by any state.

Step 2: The welding technician must use 7018 stick electrode DC reverse polarity. The 7018 rod must be stored in a rod heater to prevent moisture absorption.

Step 3: V groove the crack until cracked material is removed or until the root of the weld is reached.

Step 4: Fill the exposed area back to flush or to the original fillet size with 7018 DC filler rod.

Step 5: Sand or grind welded area to match as closely as possible the original finish of the part.

Cliff Hanger Bearing Base Reinforcing Plate Installation

Step 1: The welding technician performing this procedure must hold a current certificate for 7018 in the 2G, 3G, and 4G positions or equivalent. This certificate can be issued by any state.

Step 2: Hold the reinforcing plates to the sides of the bearing base in the position shown on Page 7. Mark around the plates and note any place where weld prep is required.

Step 3: Remove the reinforcing plates and prep the surfaces of the bearing base by removing paint, weld bulges and other small interferences allowing the plates to fit snugly.

Step 4: All surfaces of the reinforcing plates must fit within 1/16" of flat. A very tight fit is always best. Warning: Do not use hydraulic motors to hold plates. Pressure on the motors could cause damage.

Step 5: Remove the bottom access plate on the bearing base to allow the use of C-clamps to hold the reinforcing plates tight.

Step 6: Fit the Separator web reinforcing plate in position as show on Page 8. The inside edges of the separator web reinforcing plate must be beveled to clear the existing weld. Weld the reinforcing plate to the separator web as shown on Page 8.

Step 7: Weld the reinforcing plates to the bearing base using Page 9 for reference details.

Step 8: Complete the installation of the reinforcing plates. Clean and prepare for painting all unpainted surfaces.

Step 9: To seal out water and provide a good paint surface seam sealer should be applied to all unwelded edges of the reinforcing plates.

Step 10: Primer and paint to as close to original color as possible. Original paint colors are available from any Dupont Centari paint dealer.