

February 2, 1999

To: Mike Rinehart

Florida Dept of Agriculture

Fax: 1-850-488-9023

Re: Routine Maintenance Reminder



Dear Mr. Rinchart,

Please remember to inspect your Frog Hopper or Rodeo Rider cables for wear. This should be included in your daily inspection. Look for breaks in the wires and for wear, frays or kinks. A single broken wire will cause the cable to lose strength rapidly and means the cable has seen excessive wear.

If you see a broken wire, do not operate the Frog Hopper until you have replaced the cable. Included with this letter are pages from the Frog Hopper/Rodeo Rider Maintenance Manuals on General Maintenance Procedures, 24-Hour Shift change Inspection Sheets and 5000 cycles or Monthly Maintenance checklist.

If you need to purchase additional cables or if you have any questions, please call Kevin Goddes at 435-752-1987.

Sincerely,

Jacob Rippstein Children's Ride Sales This is a copy of our letter to Frog Hopper & Roses Rider Custoners Jane Linemone

reans: 435-788-1217 o Fex: 428-752-1148 o 168 Heet 2588 feeth o 1400- 40 4

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# SECTION 8: Maintenance Inspection Forms

## 8.2: 5000 CYCLES OR MONTHLY MAINTENANCE CHECKLIST

Inspect and perform necessary maintenance on the following and initial all check boxes. Refer to Section 5 of the Maintenance Manual for details.

1	Seat/restraints		
2.	Cables		
3.	Passenger care	bus:	
4.	Base structure	je na	13 Miles
5.	Sheave head	ja e	4266
6.	Sheave assemblies	page 1	211 C. may
7.	Electrical components		TERRET
8.	Fluid Isvels	internal	*****
9.	Hydraulic system	<del>  Lea</del>	=== ## ##
10.	Boom structure	) and	
11.	Power system	, year and the same of the sam	****
12.	Loading area		
13.	Oil filter	<b></b>	
14.	Lights	1924	Name of
			-

he last \$,000 cycle or monthly maintenance inspection was performed or	D,
y Authorized maintenance personnel (Name)	
his 5,000 cycle or monthly maintenance inspection was performed on	
Authorized maintenance personnel (Signature)	

970401-rev Froghopper/Rodeo Rider Maintenance Manual 02/01/99

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August 7, 2000

#### Re: ltrog Hopper"" Maintenance

It has come to our attention that many Frog Hopper TM (Owner/Operators have not performed adequate maintenance en their respective hydraulic systems. Allowing your hydraulic systems to become contaminated may cause serious ride malfunction. We must reiterate that it may cause unsafe conditions to allow your hydraulic systems to go without proper maintenance and/or inspection. Allowing contamination to enter your systems may cause malfunction in any of the valves on your ride.

In an effort to make your ride as safe as possible we will be sending you a flow compensated flow control valve which we will ask to be place on the ride immediately. If you allow some contamination to get in your system, your ride valves could malfunction. This valve add-on will help to prevent a possible ride failure under these conditions. However, this valve is not intended to replace proper maintenance,

This letter is to serve as a notice that this flow control valve is oil its way. It will he arriving within a few days of this letter. The flow control valve will be accompanied by instruction of how and where to install it. Installation is simple and will require only an adjustable wrench and about 10 min. to install.

Thank you.

Lawrence Allen P.E. Mechanical Engineer S&S Powers S & S Power



3.

August 9, 2000

To:

From:

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People LaoN

QD

Frog Hopper Maintenance Personnel

Ray Phister

S&S Power, Inc.

Service Department

Subject:

Instructions for Installing the Flow Control Valve

To properly install the flow control valve, follow instructions 1-3 as listed below:

- 1- Make sure all power is disconnected and the hydraulic pumps are off.
- 2- Disconnect the return hydraulic line that connects to the oil filter that connects to the supply tank inside the base of the ride. The tank is located in the upper left portion of the base. See picture # 1.

Attach the connectors as shown in the picture to the hydraulic line and to the elbow coning off the filter. Placing the flow control valve " in line " with the hydraulic return line. See picture #2.

After installation the system does not need to be bleed.

THE FLOW CONTROL VALVE IS ADJUSTED AT THE FACTORY, DO NOT ATTEMPT TO ADJUST THE VALVE.

Should you have any questions regarding the installation of the Flow Control Valve, or the reasons for doing it, please contact Mr. Ray Phister in our Frog Hopper service department 1-435-752-1987.

Thanks,

Ray Phister

Phnne- 435-7S2-1981, Fax: 43S-192-1948, 3SO West 2500 North, 600a0, Utah843



SES POWER, INC. 350 West 2500 North + Logen, Utah 84341 USA Phone: (435) 752-1987 + Fex: (435) 752-1948 http://www.s-spower.com

## SERVICE BULLETIN No. 02.05.01

DA E:

May 7, 2002

TO

Owners and Operators of Frog Hopper Rides

AT V.

Park Management and Maintenance Management

FR M:

Scott Holliday, Service Department Manager

SU JECT: Notification

On writ 13, 2002, an S & S Frog Hopper® ride reportedly malfunctioned, resulting in the apid descent of the passenger seat. While there do not appear to have been any injuries, the State of New Jersey (where this incident occurred) has chosen to suspend operation of the Frog Hopper® rides, pending an acceptable correction for what they have determined to be potentially injurious.

In . Ir efforts to be proactive with solutions, we have determined the two following corections approved by New Jersey:

- 1) A catch shock can be installed beneath the passenger seat at a materials cost of approximately \$700.00 USD per Frog Hopper® ride. Installation cost would be minimal.
- The existing cylinders can be removed and replaced with cushion cylinders at a materials cost of approximately \$3,700.00 USD. This enhancement to the ride also requires some modification to the boom and hydraulic system.

It I as come to our attention that some operators/owners of the S & S Frog Hopper® ric may have made unauthorized adjustments to the "flow control valves". The flow control valves is set at the factory, the purpose of which is to control the rate of descent of re-passenger seat should a valve or relay stick. If you have made any adjustment to the valves, please contact S & S immediately, and you will be instructed on how to re- irm them to their proper setting.

Pi ase contact Lawrence Allen (Engineering Department), Eric Schless (children's ride pr duction), or Scott Holliday (Service Department) at (435) 752-1987 with any quantons you may have.



SEP 13 2002

9/10/02

To: Whom it may concern

From: Lawrence Allen

Re: Frog Hopper<sup>TM</sup> weld inspection

4357521948

To clarify inspection requirements for the Frog Hopper ride, We require the following:

1 year interval: Visual inspection of all welded joints on the Frog Hopper™

3 year interval: NDT Magnetic particle or Ultrasonic testing of the following joints:

- Bolt mount plate at frame attachment location
- Tube steel frame at all corners and joints
- Base boit mount plates at connection to boom sides
- Upper boom attach brackets at connection to boom sides
- Lower cylinder mount
- Mount block of stationary pulley
- Cart trolley joints
- Seat boom attachment to trolley
- Rocker arm attachments

Thank you,

Lawrence Allen P.E. S & S Power



## FROG HOPPER TM / RODEO RIDER TM

## Preventative Maintenance / NDT Schedule

<u>Item</u>	Required Action
Wire Rope Replacement	Annually
Oil Filter Replacement	First 50 hour interval and Every 250 hours thereafter
Hydraulic Hose Replacement	Every 3 years
Electrical Control Relays	Annually
NDT Boom and Base Welds	Every 3 years
<u>Item</u>	Suggested Action
Sheave Bearing Replacement	Annually
Down Valve Replacement	Every 3 years

Hydraulic Cylinder Rebuild or Replace

Hydraulic Accumulators rebuild or replace

Cart Wheels

Oil change

Every 50,000 cycles

Annually or 30,000 cycles

Anhually

Annual

Note: The suggested action item list is intended to help decrease down time during the operating season.

Cagnien: Fa

S&S POWER, INC

350 West 2500 North Logan, Utah 84341

US

Phone: (435) 752-1987 Fax: (435) 752-1948

http://www.s-spower.com

## SERVICE BULLETIN No 03.10.10

DATE:

October 9, 2003

TO:

Frog Hopper and Rodeo Rider Owners

ATTN:

**Maintenance Department** 

FROM:

**S&S Service Department** 

**SUBJECT: NDT Inspection** 

S & S Power has implemented a NDT and retirement schedule for some critical components on S & S Frog Hopper and Rodeo Rider Rides. This schedule is an addendum to your Maintenance Manual and should be installed into your Maintenance Manual. This addendum supercedes any previous inspection criteria, pertaining to these components, which may be contained in the Maintenance Manual. All ride owners should adhere to this schedule.

Ref. sheet 2 (Preventative Maintenance / NDT Schedule)

Scott Holliday
Service Department Manager



August 3, 2004

State of New Jersey
Department of Community Affairs
101 So. Broad Street
P.O. Box 808, 3<sup>rd</sup> floor
Trenton, NJ 08625

ATTN: Andreas Lichter

RE: Frog Hoppers – S & S Power, Inc.

NJ Serial #3595, #3596 and #3606

#### Dear Andy:

I enclose herewith a copy of a Service Bulletin received via facsimile from S & S Power, Inc. regarding the Frog Hopper rides. This Bulletin references previously issued Service Bulletin 03.10.10 and was recirculated in an effort to clarify instructions within that Bulletin. All of the NDT suggested action items and maintenance information have already been made a part of the ride manual. However, in the directive received today, S & S Power included drawings.

If you have any questions, please don't hesitate to contact me.

Patrick Smith

Director of Attractions Maintenance

PS:jm Encl.



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S&S POWER, INC.

350 West 2500 North Logan, Utah 84341 USA Phone: (435) 752-1987 Fax: (435) 752-1948 http://www.s-spower.com

## SERVICE BULLETIN No 03.12.10

DATE:

**December 10, 2003** 

TO:

Frog Hopper Owners

ATTN:

Maintenance Department

FROM:

Scott Holliday

SUBJECT:

Frog Hopper NDT Schedule

It has come to our attention that there has been some confusion concerning Service Bulletin 03.10.10. We are issuing this bulletin in an effort to eliminate this confusion. Please refer to the following NDT schedule located on page 2 of this document.

This schedule is an addendum to your Maintenance Manual and should be installed into your Maintenance Manual. This addendum supercedes any previous inspection criteria, pertaining to these components, which may be contained in the Maintenance Manual. All ride owners should adhere to this schedule.

Ref. sheet 2 (Preventative Maintenance / NDT Schedule)



## FROG HOPPER TM / RODEO RIDER TM

## Preventative Maintenance / NDT Schedule

Item

Required Action

Wire Rope

Replace Annually

Oil Filter

Replace First 50 hour interval and Every 250 hours

thereafter

Hydraulic Hose

Replace every 3 years

Electrical Control Relays (Up, Slowdown, Down Valve)

Replace Annually

NDT Boom and Base Welds

(Refer to drawings F-FRG-BOO-W-2, and 002125

This includes all welds on the base and boom.

Every 3 years

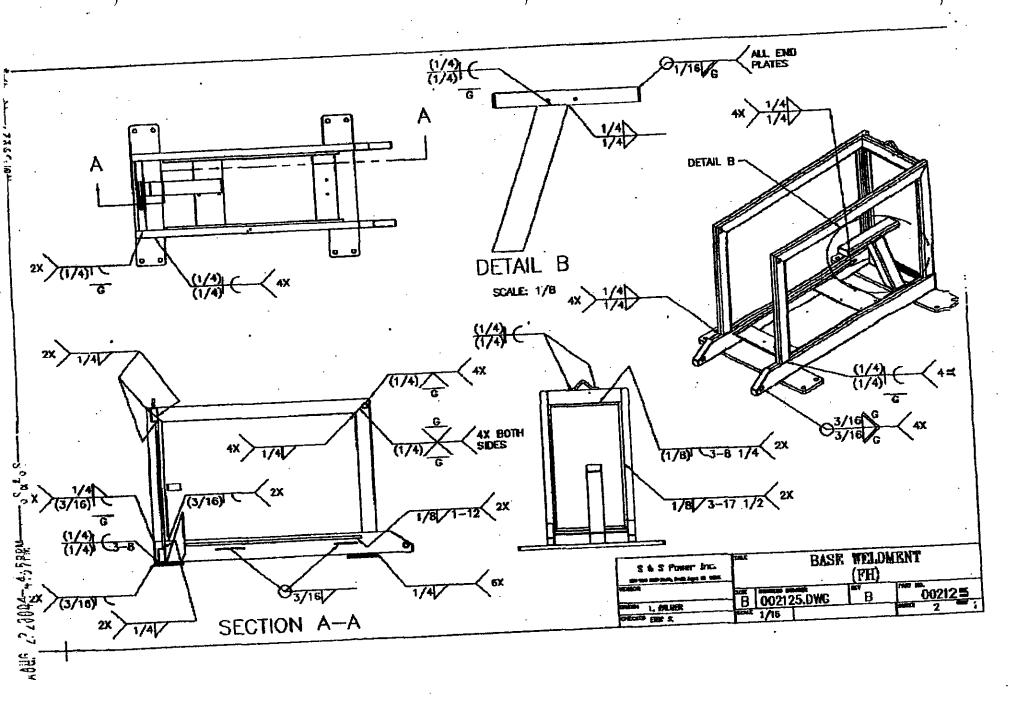
(Pre 2004 models Visual Inspection is required. Mag-particle is suggested. Post 2003 models Mag-particle is required.)

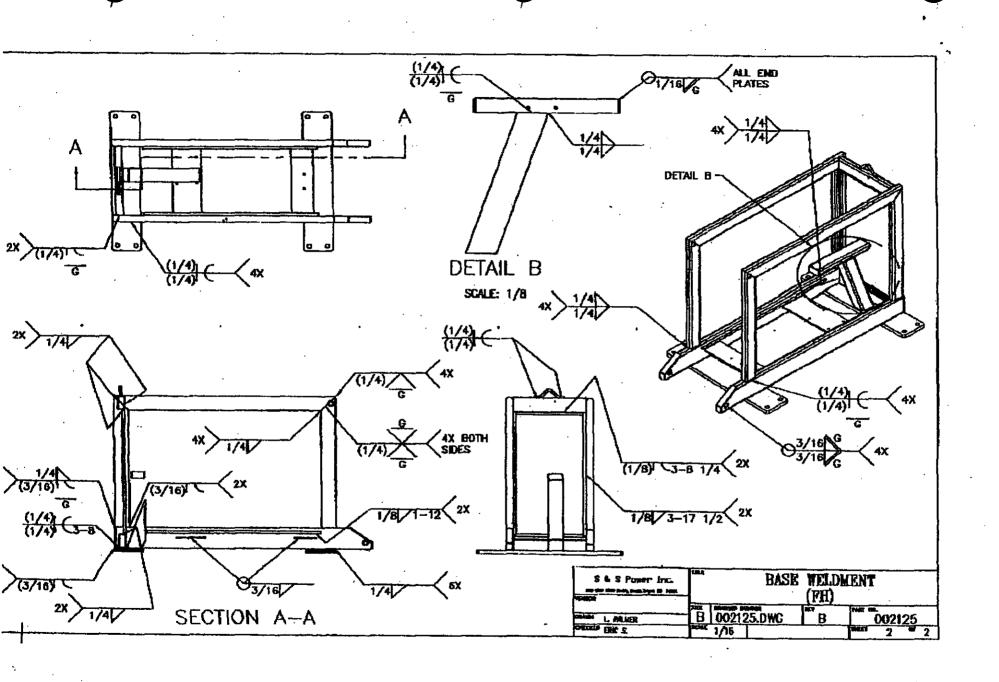
## SUGGESTED ACTION ITEM

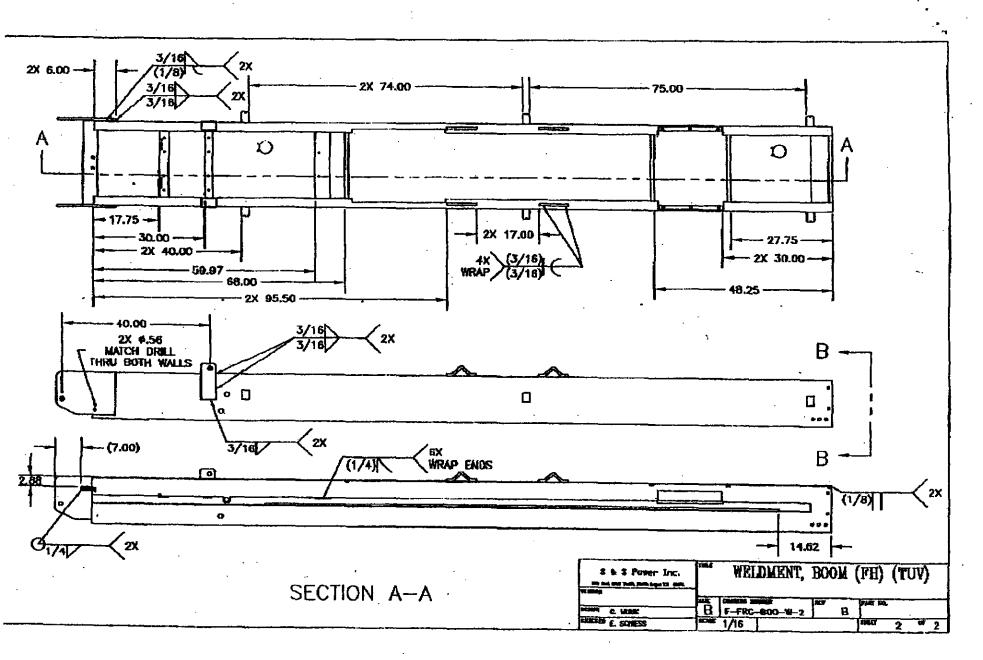
Item
Sheave Bearing
Down Valve
Hydraulic Cylinder Rebuild or Replace
Hydraulic Accumulators rebuild or replace
Cart Wheels
Oil change

Suggested Action
Replace Annually
Replace every 3 years
Every 50,000 cycles
Annually or 30,000 cycles
Replace Annually
Replace Annually

NOTE: Items included in the Suggested Action item list are not Safety Critical. They are only here to eliminate down time for repairs. They are suggestions only! S&S Power does not require the replacement of these items. We mention these items only to help the parks keep the rides up and running.







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# Effective date: 4-8-2004 Bulletin Number: 03.12.11 FROG HOPPER TM / RODEO RIDER TM

### Preventative Maintenance / NDT Schedule

Item

Required Action

Wire Rope

Replace Annually

Oil Filter

Replace First 50 hour interval

and Every 250 hours

thereafter

Hydraulic Hose

Replace every 3 years

Electrical Control Relays (Up, Slowdown, Down Valve)

Replace Annually

#### NDT Boom and Base Welds

(Refer to drawings F-FRG-BOO-W-2, and 002125

Every 3 years

Bolt mount plate at frame attachment location.

Tube steel frame at all corners and joints.

Base bolt mount plates at connection to boom sides.

Upper boom attach brackets at connection to boom sides.

Lower cylinder mount

Mount block of stationary sheave

Cart trolley joints

Seat boom attachment to trolley

Rocker arm attachment

(Pre 2004 models Visual Inspection is required. Mag-particle is suggested. Post 2003 models Mag-particle is required.)

#### **SUGGESTED ACTION ITEM**

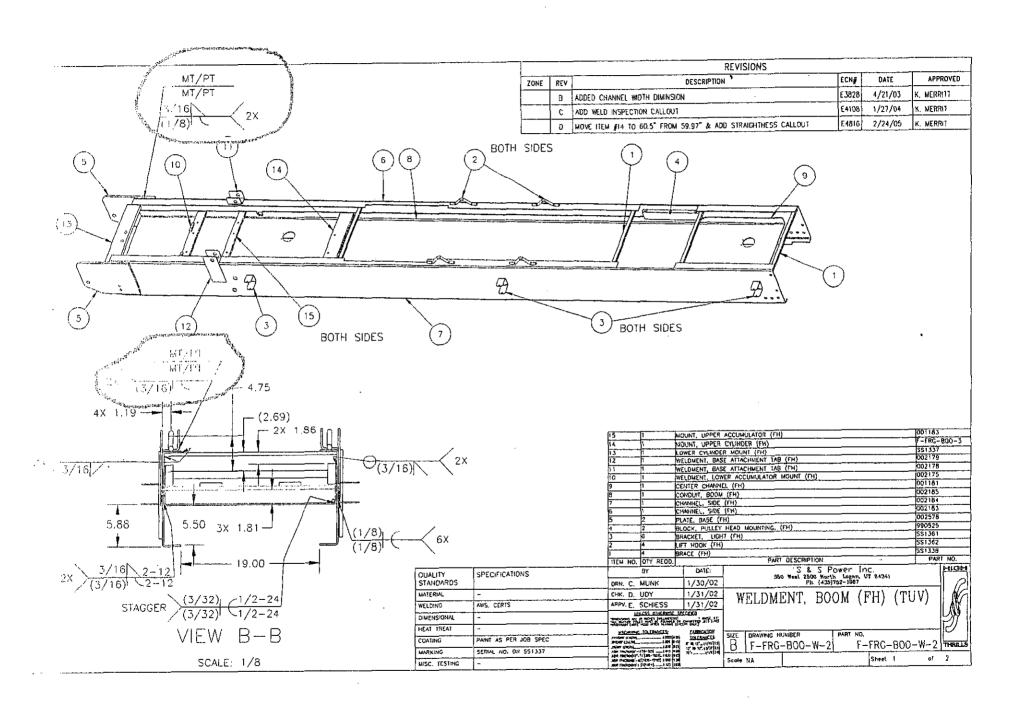
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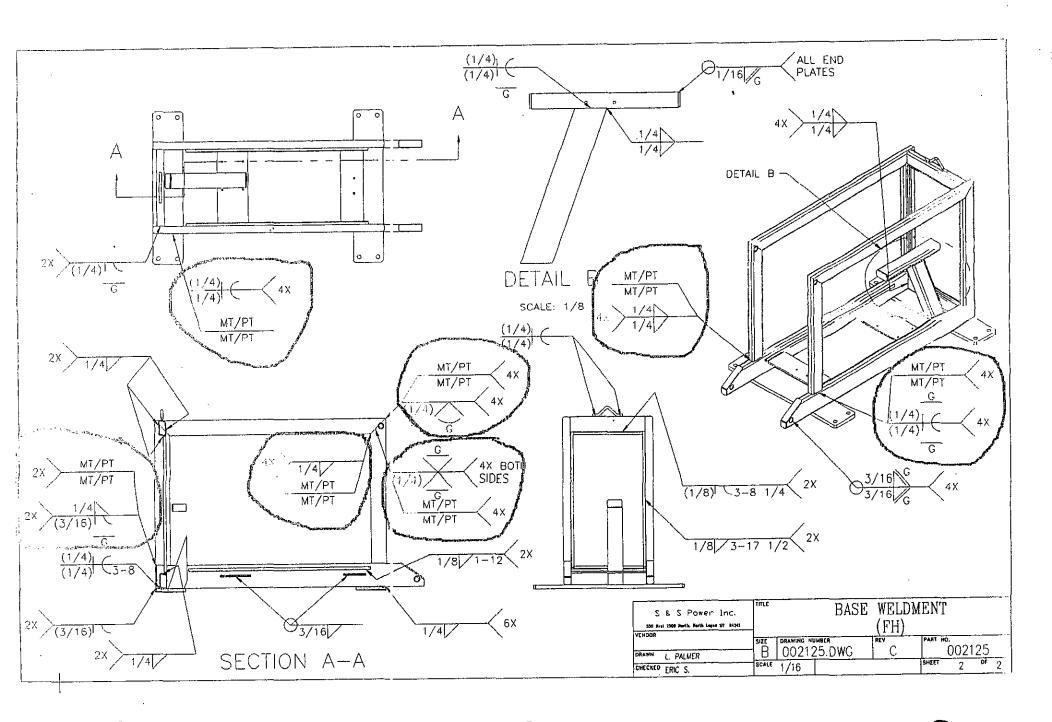
Sheave Bearing
Down Valve
Hydraulic Cylinder Rebuild or Replace
Hydraulic Accumulators rebuild or replace
Cart Wheels
Oil change

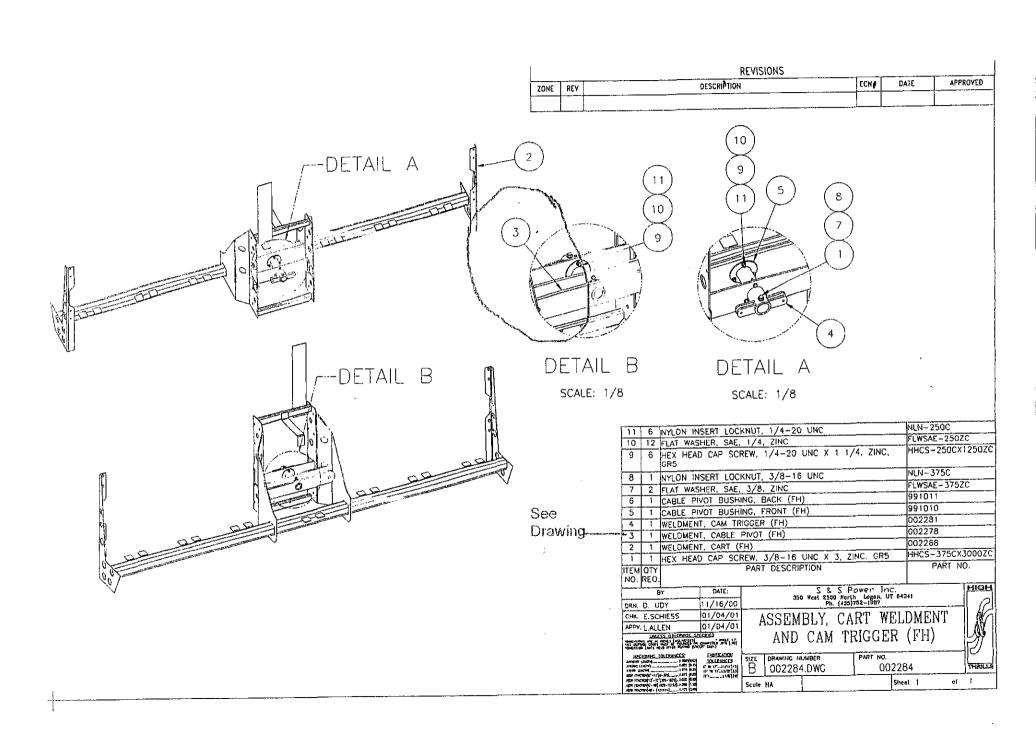
**Suggested Action** 

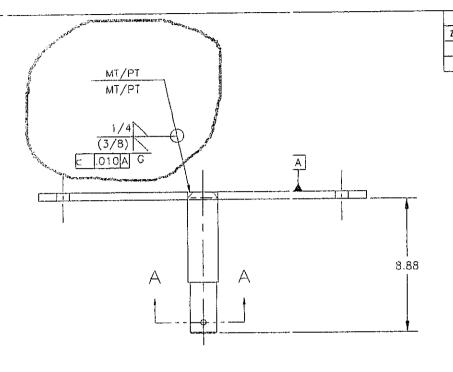
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Replace every 3 years
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Annually or 30,000 cycles
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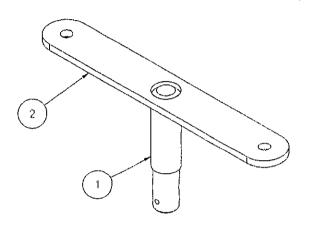


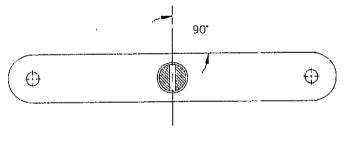






	REVISIONS									
ZONE	REV	DESCRIPTION	ECN#	DATE	APPROVED					
	A	ADDED DIMENSION	E3830	4/23/03	S. BARWCK					
	В	ADDED MT \ PT WELD CALLOUT	E4101	1/19/04	N. HANSEN					





SECTION A-A

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## FROG HOPPER TM / RODEO RIDER TM

#### Preventative Maintenance / NDT Schedule

<u>Item</u> Required Action

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and Every 250 hours

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NDT Boom and Base Welds

(Refer to drawings F-FRG-BOO-W-2, and 002125

Every 3 years

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Cart trolley joints

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(Pre 2004 models Visual Inspection is required. Mag-particle is suggested. Post 2003 models Mag-particle is required.)

#### SUGGESTED ACTION ITEM

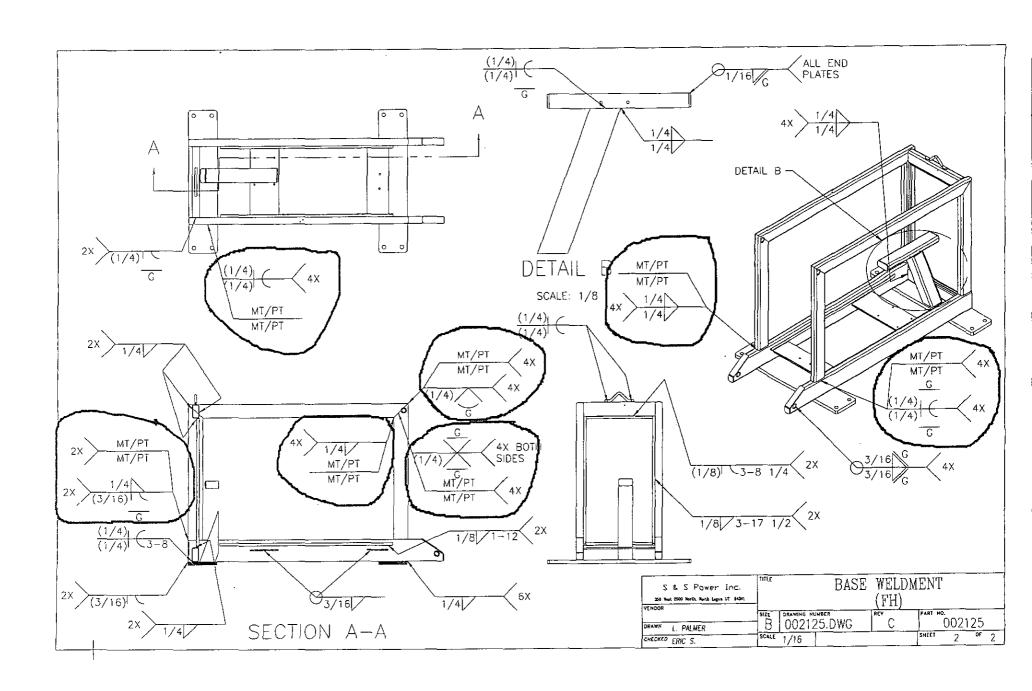
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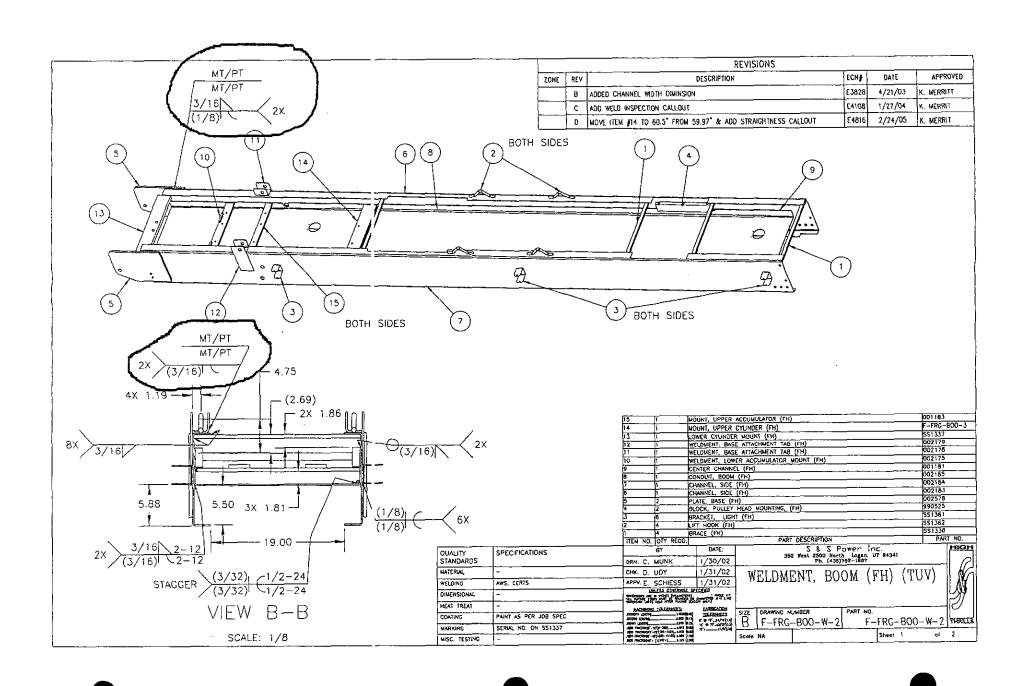
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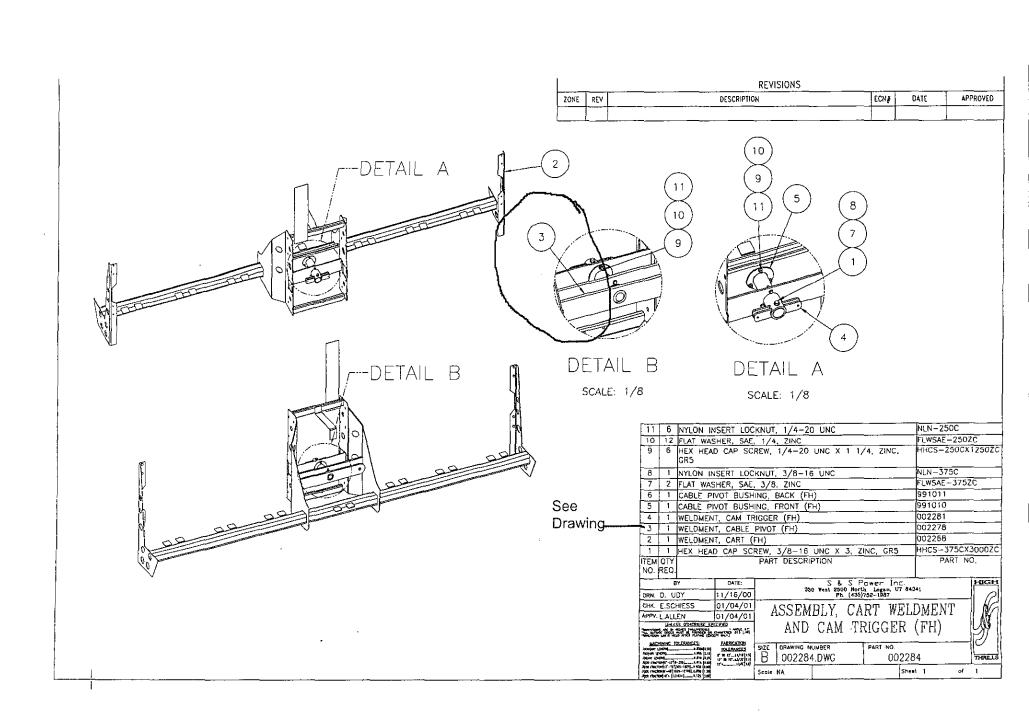
**Suggested Action** 

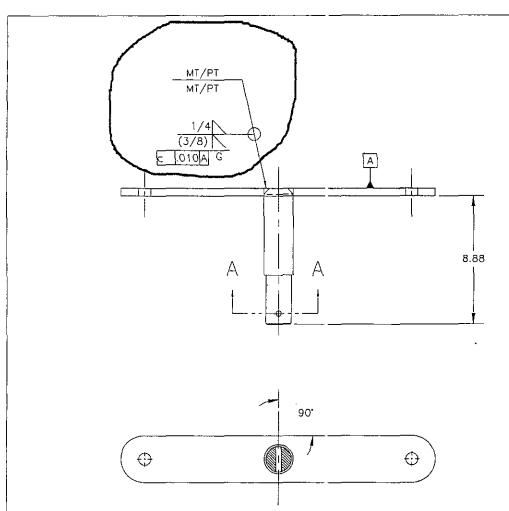
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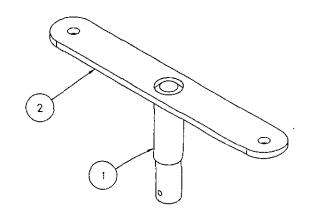






SECTION A--A

REVISIONS								
ZONE	REV	DESCRIPTION	ECH#	DATE	APPROVED			
	A	ADDED DIMENSION	E3830	4/23/03	S. BARWICK			
	В	ADDED MT \ PT WELD CALLOUT	E4101	1/19/04	N. HANSEN			



CERTS
PER AWS DI.1
INSPECT 10% OF LOT

SEE WELD SYMBOLS

कोर स्वताकनीतः स्वीतिक विशेषः स्वतः अस्य स्वताकनीतः स्वीतिक स्वतः । स्वतः अस्य स्वतःस्वतः । स्वतःस्वतः । स्वतः		Scole 1/4	Sheet 1	of I
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DRN. D. UDY	11/20/00	350	Ph. (435)752-1987	/
BY	DATE:		S & S Power Inc. Test 2500 North logen, UT 84341	HIC