

FROG HOPPER™ / RODEO RIDER™

Preventative Maintenance / NDT Schedule

<u>Item</u>	<u>Required Action</u>
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

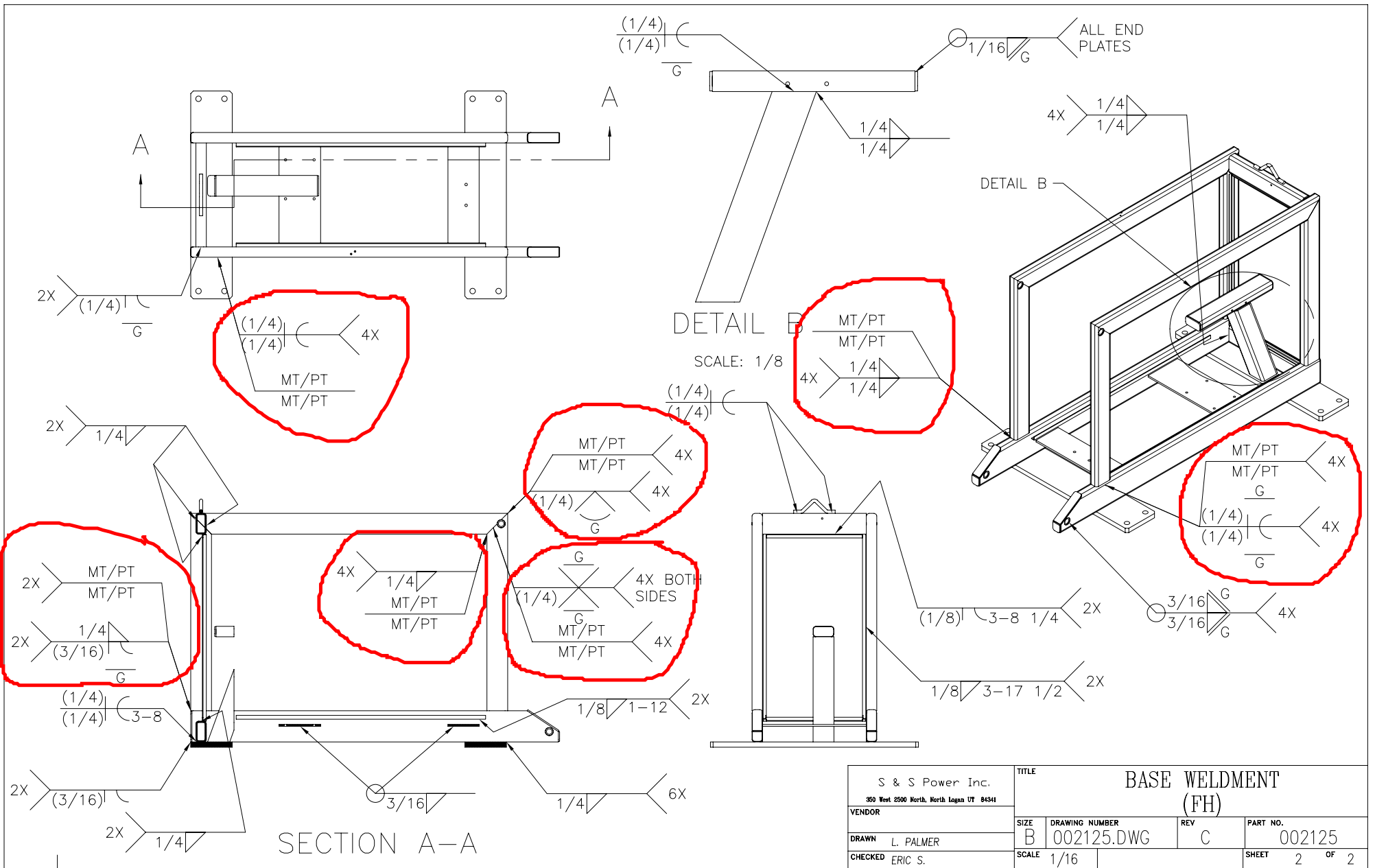
Bolt mount plate at frame attachment location.
Tube steel frame at all corners and joints.
Base bolt mount plates at connection to boom sides.
Upper boom attach brackets at connection to boom sides.
Lower cylinder mount
Mount block of stationary sheave
Cart trolley joints
Seat boom attachment to trolley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

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

SUGGESTED ACTION ITEM

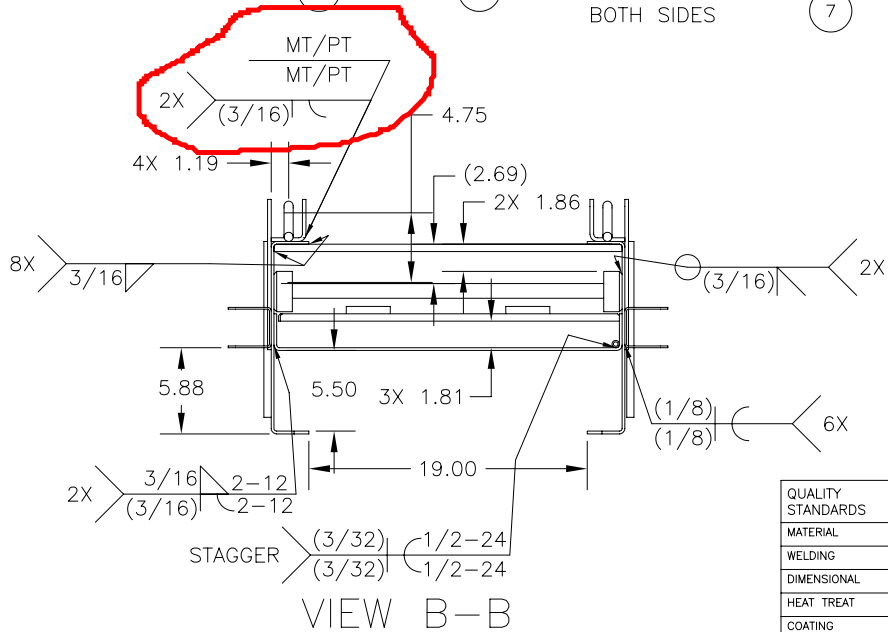
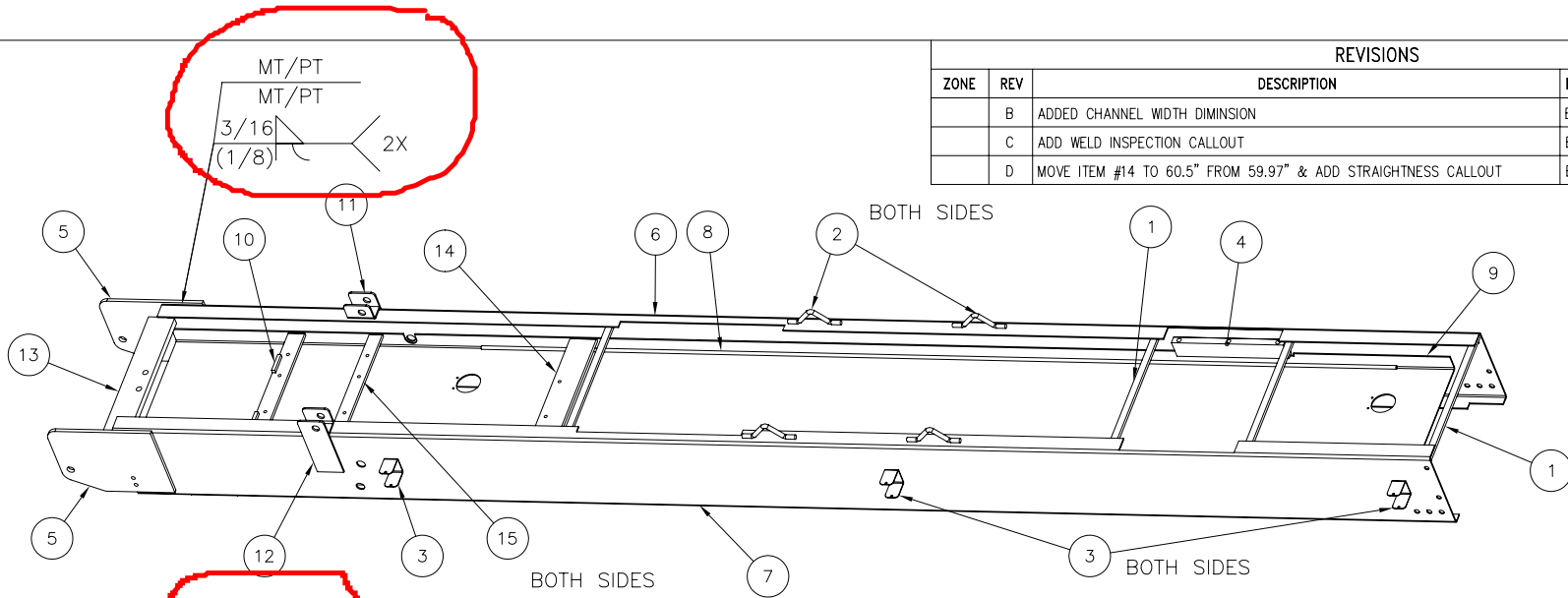
<u>Item</u>	<u>Suggested Action</u>
Sheave Bearing	Replace Annually
Down Valve	Replace every 3 years
Hydraulic Cylinder Rebuild or Replace	Every 50,000 cycles
Hydraulic Accumulators rebuild or replace	Annually or 30,000 cycles
Cart Wheels	Replace Annually
Oil change	Replace Annually

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.



REVISIONS

ZONE	REV	DESCRIPTION	ECN#	DATE	APPROVED
	B	ADDED CHANNEL WIDTH DIMENSION	E3828	4/21/03	K. MERRITT
	C	ADD WELD INSPECTION CALLOUT	E4108	1/27/04	K. MERRITT
	D	MOVE ITEM #14 TO 60.5" FROM 59.97" & ADD STRAIGHTNESS CALLOUT	E4816	2/24/05	K. MERRITT



VIEW B-B

SCALE: 1/8

15	1	MOUNT, UPPER ACCUMULATOR (FH)	001183
14	1	MOUNT, UPPER CYLINDER (FH)	F-FRG-BOO-3
13	1	LOWER CYLINDER MOUNT (FH)	SS1337
12	1	WELDMENT, BASE ATTACHMENT TAB (FH)	002179
11	1	WELDMENT, BASE ATTACHMENT TAB (FH)	002178
10	1	WELDMENT, LOWER ACCUMULATOR MOUNT (FH)	002175
9	1	CENTER CHANNEL (FH)	001181
8	1	CONDUIT, BOOM (FH)	002185
7	1	CHANNEL, SIDE (FH)	002184
6	1	CHANNEL, SIDE (FH)	002183
5	2	PLATE, BASE (FH)	002578
4	2	BLOCK, PULLEY HEAD MOUNTING, (FH)	990525
3	6	BRACKET, LIGHT (FH)	SS1361
2	4	LIFT HOOK (FH)	SS1362
1	4	BRACE (FH)	SS1338

QUALITY STANDARDS	SPECIFICATIONS	BY	DATE:
MATERIAL	-	DRN. C. MUNK	1/30/02
WELDING	AWS, CERTS	CHK. D. UDY	1/31/02
DIMENSIONAL	-	APPV. E. SCHIESS	1/31/02
HEAT TREAT	-	UNLESS OTHERWISE SPECIFIED	
COATING	PAINT AS PER JOB SPEC	DIMENSIONS ARE TO MOST DIMENSIONS UNLESS OTHERWISE SPECIFIED	
MARKING	SERIAL NO. ON SS1337	DIMENSION LISTS HELD AFTER PLATING (EXCEPT W/AL)	
MISC. TESTING	-	MACHINING TOLERANCES:	
		FABRICATION TOLERANCES:	

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350 West 2500 North Logan, UT 84341
Ph. (435)752-1987

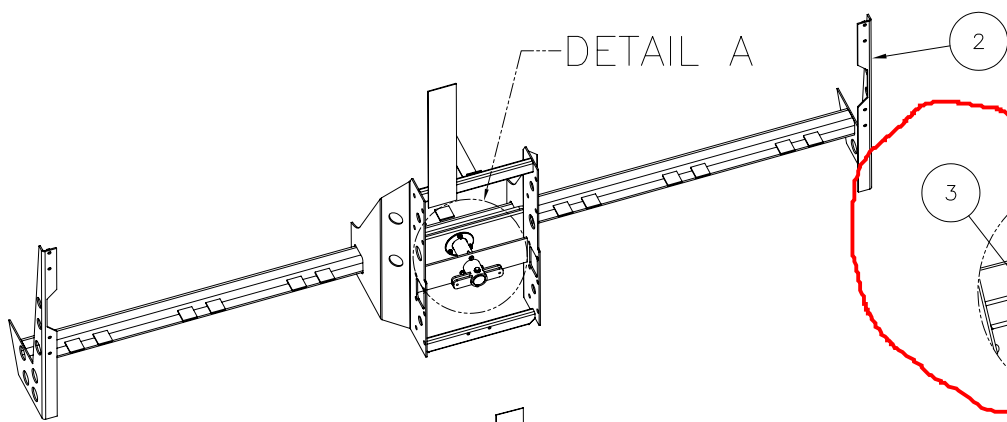
WELDMENT, BOOM (FH) (TUV)

SIZE	DRAWING NUMBER	PART NO.
D	F-FRG-BOO-W-2	F-FRG-BOO-W-2

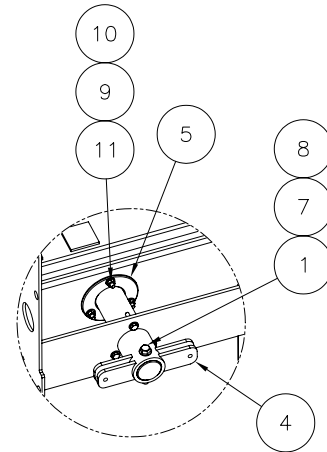
Scale NA Sheet 1 of 2



REVISIONS					
ZONE	REV	DESCRIPTION	ECN#	DATE	APPROVED

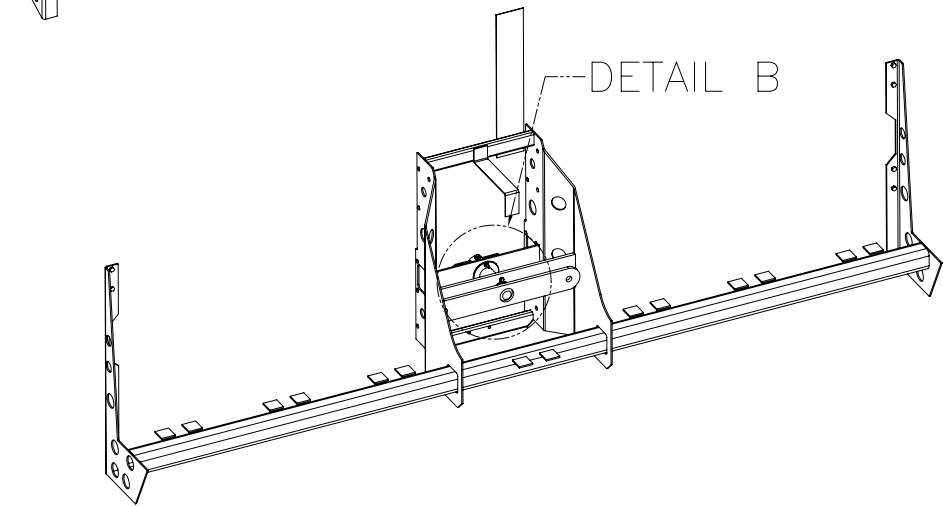


DETAIL B
SCALE: 1/8



DETAIL A
SCALE: 1/8

See Drawing



DETAIL A

11	6	NYLON INSERT LOCKNUT, 1/4-20 UNC	NLN-250C
10	12	FLAT WASHER, SAE, 1/4, ZINC	FLWSAE-250ZC
9	6	HEX HEAD CAP SCREW, 1/4-20 UNC X 1 1/4, ZINC, GR5	HHCS-250CX1250ZC
8	1	NYLON INSERT LOCKNUT, 3/8-16 UNC	NLN-375C
7	2	FLAT WASHER, SAE, 3/8, ZINC	FLWSAE-375ZC
6	1	CABLE PIVOT BUSHING, BACK (FH)	991011
5	1	CABLE PIVOT BUSHING, FRONT (FH)	991010
4	1	WELDMENT, CAM TRIGGER (FH)	002281
3	1	WELDMENT, CABLE PIVOT (FH)	002278
2	1	WELDMENT, CART (FH)	002268
1	1	HEX HEAD CAP SCREW, 3/8-16 UNC X 3, ZINC, GR5	HHCS-375CX3000ZC
ITEM NO.	QTY REQ.	PART DESCRIPTION	PART NO.

BY	DATE:
DRN. D. UDY	11/16/00
CHK. E.SCHIESS	01/04/01
APPV. L.ALLEN	01/04/01

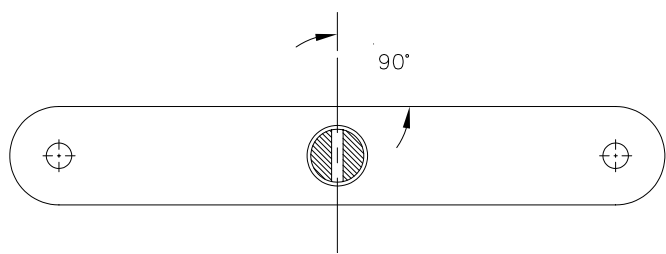
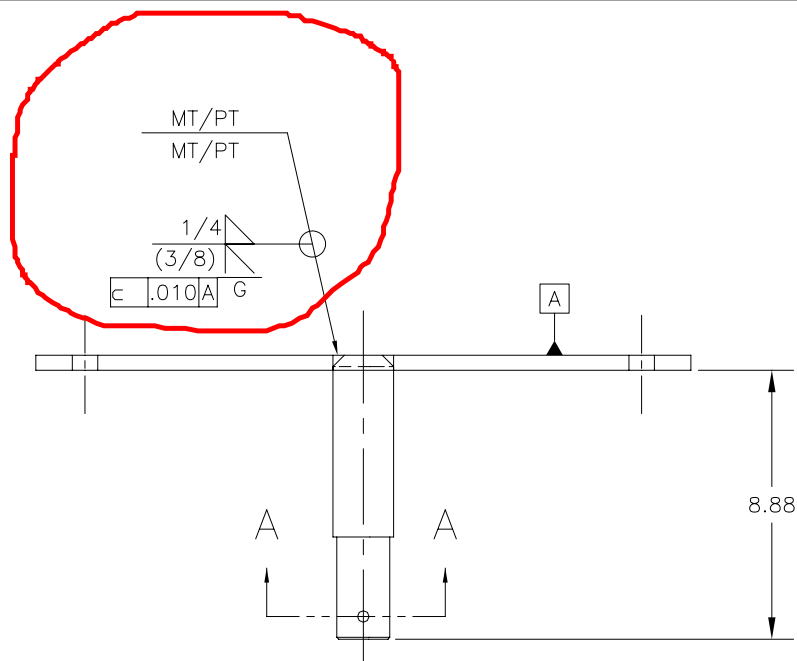
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350 West 2500 North Logan, UT 84341
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ASSEMBLY, CART WELDMENT
AND CAM TRIGGER (FH)

UNLESS OTHERWISE SPECIFIED		* ANGLE 45°
DIMENSIONS ARE IN INCHES (MILLIMETERS)		* ALL OTHER DIMS MUST BE ROUNDED TO SHOWN DECIMALS
TOLERANCES		
MACHINING TOLERANCES:		
XXX(X) LENGTH	±.000 (0.02)	
XXX(X) LENGTH	±.005 (0.13)	
XXX(X) LENGTH	±.010 (0.25)	
X(X) FRACTION (1"-30)	±.010 (0.40)	
X(X) FRACTION (1"-100)	±.020 (0.80)	
X(X) FRACTION (1"-100)	±.030 (1.20)	
X(X) FRACTION (1"-100)	±.040 (1.60)	
X(X) FRACTION (1"-100)	±.050 (2.00)	

SIZE	DRAWING NUMBER	PART NO.
B	002284.DWG	002284
Scale NA		Sheet 1 of 1

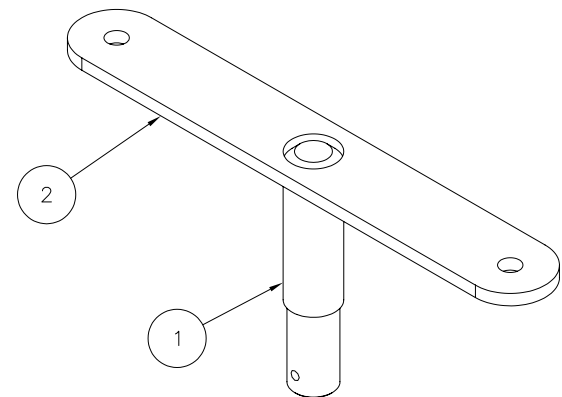




SECTION A-A

CERTS
 -
 PER AWS D1.1
 INSPECT 10% OF LOT
 ZINC
 -
 SEE WELD SYMBOLS

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



BY DRN. D. UDY	DATE: 11/20/00	S & S Power Inc. 350 West 2500 North Logan, UT 84341 Ph. (435)752-1887			
CHK. E.SCHIESS	01/04/01	WELDMNT, CABLE PIVOT (FH)			
APPV. L.ALLEN	01/04/01	SIZE B	DRAWING NUMBER 002278.DWG	PART NO. 002278	
<small>UNLESS OTHERWISE SPECIFIED</small> <small>* DIMENSIONS ARE IN INCHES UNLESS OTHERWISE SPECIFIED</small> <small>FINISHES ARE TO BE AS SPECIFIED IN THE DRAWING UNLESS OTHERWISE SPECIFIED</small> <small>FINISHES ARE TO BE AS SPECIFIED IN THE DRAWING UNLESS OTHERWISE SPECIFIED</small>		<small>MACHINING TOLERANCES:</small> <small>XXX(X)Y Z LENGTH.....±.0005[0.02]</small> <small>XXX(X)Y Z LENGTH.....±.005 [0.15]</small> <small>X(X)Y Z LENGTH.....±.010 [0.25]</small> <small>X(X)Y Z FRACTION[1/16]-.005.....±.015 [0.30]</small> <small>X(X)Y Z FRACTION[1/8]-.010.....±.020 [0.50]</small> <small>X(X)Y Z FRACTION[1/4]-.015.....±.030 [0.75]</small> <small>X(X)Y Z FRACTION[1/2]-.020.....±.040 [1.00]</small> <small>X(X)Y Z FRACTION[3/4]-.030.....±.050 [1.25]</small>	<small>FABRICATION TOLERANCES:</small> <small>0" TO 12".....±1/16[1.5]</small> <small>12" TO 72".....±1/8[2.0]</small> <small>72".....±1/4[3.0]</small>	Scale 1/4	Sheet 1 of 1

