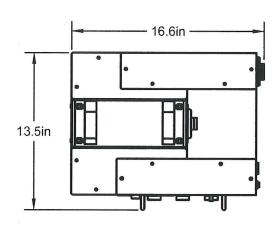
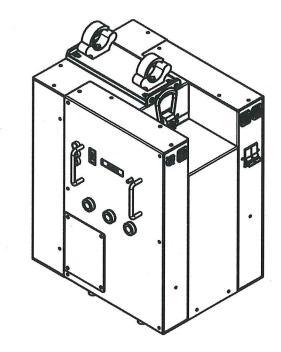
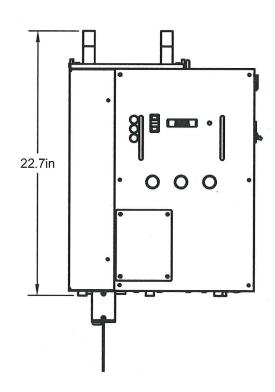
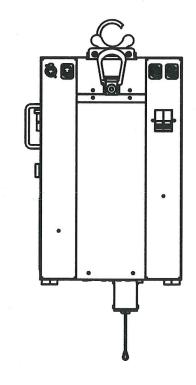
$x/x = +/-\frac{1}{16}$ " .xx = +/-0.010.xxx = +/-0.003









SPOTLINE PRACTICAL DESIGN SPECIFICATIONS

- 1. MAXIMUM TRAVEL VELOCITY IS 44 INCHES PER SECOND.
- 2. MAXIMUM CAPACITY IS 15 POUNDS.
- 3. THIS HOIST IS ONLY DESIGNED FOR INDOOR USE.
- 4. THIS HOIST SHALL BE USED FOR PERIODIC, TEMPORARY INSTALLATIONS.
- 5. THIS HOIST SHALL ONLY BE OPERATED BY QUALIFIED INDIVIDUALS.

UNIT WEIGHT: 79.7LB



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REV



PROJECT

SPOTLINE PRACTICAL

TITLE

OVERVIEW

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 APPROVED
 SIZE
 CODE
 DWG NO

 CHECKED
 B
 SLP01

 DRAWN
 Steve Hnath7/21/2017
 SCALE 1: 4
 WEIGHT
 SHEET 1

GENERAL NOTES

1. TECHNICAL STANDARDS

THE LOAD BEARING COMPONENTS WITHIN THE SPOTLINE PRACTICAL WINCH COMPLY WITH THE DESIGN REQUIREMENTS OF ANSI E1.6-1: 2012. THE STRUCTURAL FRAMING AND SUPPORT OF THESE COMPONENTS COMPLY WITH ANSI E1.6-1: 2012 OR ALUMINUM DESIGN MANUAL: 2005, WHICHEVER REQUIREMENT IS GREATER.

2. PERFORMANCE SPECIFICATIONS

- 1. THE MAXIMUM VELOCITY SHALL NOT EXCEED 44 INCHES PER SECOND.
- 2. THE MAXIMUM ACCELERATION SHALL NOT EXCEED 3 FEET PER SECOND2.
- 3. THIS HOIST IS DESIGNED FOR INDOOR USE ONLY.
- 4. THIS HOIST SHALL BE USED FOR PERIODIC, TEMPORARY INSTALLATIONS.
- 5. THIS HOIST SHALL ONLY BE USED AS A SINGLE UNIT RAISING AND LOWERING A LOAD AS SPECIFIED. THESE HOISTS HAVE NOT BEEN ENGINEERED TO BE COMBINED WITH OTHER HOISTS OR WORKING IN TANDEM.
- 6. A SAFETY CABLE OF 1/8" OR GREATER STEEL WIRE ROPE MUST BE ATTACHED TO THE PROVIDED ATTACHMENT POINT WHEN IN USE.

3. DESIGN LOADS:

THE WINCH HAS BEEN DESIGNED TO SUPPORT THE FOLLOWING:

- 15 LBS STATIC PAYLOAD

4. LOADING LIMITATIONS:

THE WINCH IS INTENDED FOR THEATRICAL USE AND IS NOT INTENDED FOR INDUSTRIAL RIGGING OR MATERIAL HANDLING APPLICATIONS.

5. FACILITY SUPPORT:

THE STRUCTURAL INTEGRITY OF THE SUPPORTING FACILITY DURING UNLOADING, INSTALLATION, USE, AND DISASSEMBLY IS THE RESPONSIBILITY OF THE END USER.

6. IN CASE OF CONTRADICTION BETWEEN THE DRAWINGS, THE SPECIFICATIONS, AND THE CODES, OR IF ANY CHANGE IS REQUIRED, THE ENGINEER OF RECORD SHALL BE NOTIFIED IMMEDIATELY. NO STRUCTURAL OR MECHANICAL CHANGE SHALL BE MADE WITHOUT WRITTEN APPROVAL OF THE ENGINEER.

STRUCTURAL NOTES

1. ALUMINUM

A. MATERIAL: 6061-T6 FOR PLATES. 2. STEEL

A. SHEET THICKNESS: 16 GAUGE.

3. FASTENERS

- A. BOLTS FOR MECHANICAL CONNECTIONS SHALL BE SAE GRADE 5 OR HIGHER. ASSEMBLED USING PREVAILING TORQUE-TYPE ELASTIC STOP NUTS OR OTHER APPROVED VIBRATION-RESISTANT MECHANISM. WHEN APPROVED BY THE ENGINEER. STANDARD HEX NUTS WITH FLAT WASHERS MAY BE USED.
- B. DO NOT USE SPLIT WASHERS FOR MECHANICAL CONNECTIONS, U.O.N.
- C. USE LOCTITE "BLUE" #243 WHEREVER THREADLOCKING COMPOUND IS NOTED ON DRAWINGS, UNLESS OTHERWISE NOTED.
- D. ALL SET-SCREWS ARE TO BE SELF-LOCKING CUP POINT, NYLON PATCH TYPE.
 - UNLESS OTHERWISE NOTED OR AS FURNISHED WITH PURCHASED SUB-ASSEMBLIES.
- E. OVERSIZED OR SLOTTED HOLES SHALL NOT BE USED UNLESS SPECIFICALLY INDICATED ON DRAWINGS OR APPROVED IN WRITING BY THE STRUCTURAL ENGINEER.

MECHANICAL NOTES

1. COMMERCIAL/MANUFACTURED COMPONENTS:

A. THESE COMPONENTS (MOTORS, BEARINGS, MODTRUSS, UNISTRUT, SWITCHES. SENSORS, ETC.) SHALL BE INSTALLED AND MAINTAINED IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS, UNLESS OTHERWISE NOTED.

B. MATERIALS FOR MECHANICAL COMPONENTS SHALL CONFORM TO THE FOLLOWING ASTM SPECIFICATIONS:

KEYSTOCK: A36, ZINC PLATED

SHAFT STOCK: 1045 TGP

C. FOLLOW MANUFACTURERS' REQUIREMENTS PERTAINING TO THE USE.

MAINTENANCE, LUBRICATION, AND INSPECTION OF ALL PURCHASED COMPONENTS, INCLUDING BUT NOT LIMITED TO THE FOLLOWING:

BEARINGS

o IGUS EFOM-20

SERVOMOTOR WITH BRAKE

o MITSUBISHI HG-KN 23(B)(J)

OUTPUT BRAKE:

o P/N: KEB 0338F1X-005U

GEARBOX

o P/N: ATLANTA 59 01 039

LIFTING MEDIA

o CICOIL ULTRAFLEX CABLE

D. LIFTING MEDIA AND ALL FASTENERS SHOULD BE PERIODICALLY INSPECTED BY A QUALIFIED PERSON.

2. MOTOR CONTROL PARAMETERS

- A. MOTOR TORQUE: LIMIT TO 1.28 NM.
- B. BRAKE DELAY: SET BRAKE DELAY TO OUTPUT BRAKE OF 150 MS OR GREATER. CONTROLLER MUST RETAIN ABILITY TO PROVIDE THIS DELAY IN THE EVENT OF A CATEGORY-0 STOPPING EVENT.

3. WIRE ROPE AND ASSOCIATED HARDWARE

- A. WIRE ROPE MATERIAL AND FABRICATION SHALL COMPLY WITH WIRE ROPE TECHNICAL BOARD "WIRE ROPE USERS MANUAL," LATEST EDITION.
- B. ALL HARDWARE SHALL BE LOAD RATED AND PROPERLY SIZED FOR THE WIRE ROPE USED. AND SHALL BE INSTALLED AND LOADED IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS.
- C. USE THIMBLES AT ALL TURNED EYES.
- D. ALL CRIMPED COMPRESSION SLEEVES SHALL BE OF SOLID COPPER OR PLATED COPPER MATERIAL
- E. ALL SWAGED FASTENERS INCLUDING CRIMPED COMPRESSION SLEEVES SHALL BE FROM AN APPROVED MANUFACTURER SUCH AS CROSBY, NICOPRESS®, LOOS & CO., OR APPROVED ALTERNATIVE
- F. ALL SWAGED FASTENERS SHALL BE GAUGED TO ENSURE PROPER COMPRESSION, VERIFY SETTING OF COMPRESSION EQUIPMENT PRIOR TO STARTING CRIMPING OPERATIONS.
- G. ALL EYE BOLTS SHALL BE FORGED AND RATED SHOULDER-TYPE, UNLESS OTHERWISE NOTED.

RISK MITIGATION AND END USER RESPONSIBILITY

THE DESIGN OF THE SPOTLINE PRACTICAL WINCH INCLUDES SAFETY DEVICES WHERE POSSIBLE, INCLUDING SLACK-LINE DETECTION AND REDUNDANT BRAKES; HOWEVER, GIVEN ITS USE AS A HOIST WITH INTEGRATED POWER CONDUCTOR IN THE LIFTING MEDIA, THE USER MUST UNDERSTAND THE RISKS AND PLAY AN ACTIVE ROLE IN MAKING THE INSTALLATION AS SAFE AS POSSIBLE. THE DESIGN TEAM HAS ATTEMPTED TO IDENTIFY AND PROVIDE GUIDANCE TO MITIGATE THE APPARENT STRUCTURAL/MECHANICAL HAZARDS. THESE HAZARD MITIGATIONS MAY INCLUDE BUT NOT BE LIMITED TO:

- A. TAKING PRECAUTIONS TO PREVENT SLICING, ABRADING, OR SEVERING THE LIFTINGMEDIA
- B. PERIODIC INSPECTIONS OF THE LIFTING MEDIA AND ELECTRICAL CONNECTIONS

IN ADDITION TO THE AFOREMENTIONED RISKS, THE END USER SHALL BE RESPONSIBLE FOR IDENTIFYING POSSIBLE RISKS TO PERSONS OR PROPERTY THAT ARE LIKELY TO OCCUR DURING THE INSTALLATION AND DISASSEMBLY OF THE WINCH. BEST PRACTICES INCLUDING BUT NOT LIMITED TO SAFE LIFTING, RIGGING, AND APPLICABLE OSHA AND LOCAL REGULATIONS SHALL BE FOLLOWED AT ALL TIMES.

THE AFOREMENTIONED RISKS AND MITIGATION RECOMMENDATIONS APPLY ONLY TO SPECIFIC STRUCTURAL AND MECHANICAL HAZARDS. THESE DRAWINGS DO NOT CONSTITUTE A REVIEW OR APPROVAL OF THE ELECTRICAL, CONTROL AND POWER DISTRIBUTION SYSTEM(S). A FULL RISK ASSESSMENT AND HAZARD ANALYSIS OF THESE SYSTEMS AS WELL AS THEIR RELATION TO OPERATIONAL PROCEDURES MAY BE REQUIRED, BUT IS NOT THE RESPONSIBILITY OF THE STRUCTURAL/MECHANICAL ENGINEER



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PROJECT SPOTLINE PRACTICAL

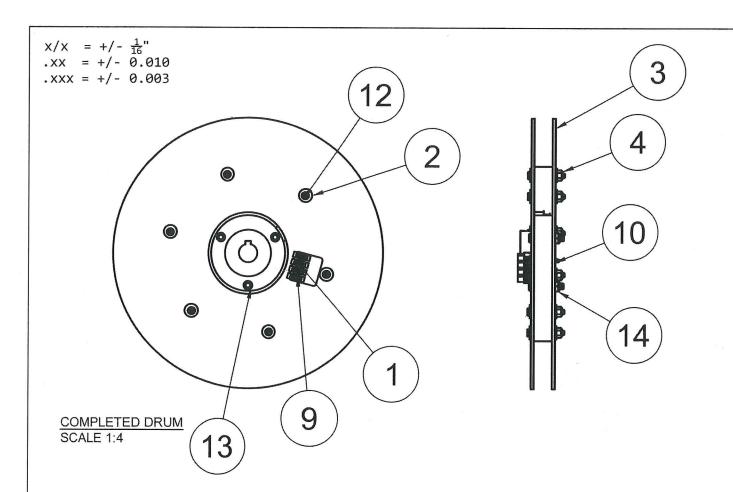
IGENERAL NOTES

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SIZE CODE DWG NO **APPROVED** B SLP02 CHECKED DRAWN Steve Hnath7/21/2017 SCALE WEIGHT

REV

SHEET 2



8	7
	15
DRUM INTERIOR SCALE 1:2	TERMINATE 32" WIRE ROPE MESSENGER THROUGH SCREW IN POCKET

ITEM	QTY	PART NUMBER	DESCRIPTION	MATERIAL
1	1	TOUCH-SAFE TERMINAL BLOCK - MMC 7618K613		STEEL
2	12	#10 WASHER - CCI 1715		STEEL
3	2	DRUM CHEEK PLATE		ACRYLIC, CLEAR
4	6	10-32 NYLOCK - CCI 392		STEEL
7	1	DRUM CORE - MMC 85035K62		ACETAL RESIN, BLACK
8	. 1	TERMINAL BLOCK SPACER		ALUMINUM 6061
9	2	4-40 X 1-1/2" SHCS - CCI 1947		STEEL
10	2	4-40 NYLOCK - CCI 639		STEEL
11	1	HUB	9	ALUMINUM 6061
12	6	10-32 X 1-1/2 LHCS - MMC 92220A178		STEEL
13	3	1/4 X 1-1/4 SHCS - MMC 91251A544		STEEL
14	3	1/4 NYLOCK - CCI 515		STEEL
15	2	1/4 X 1/4 SET SCREW - CCI 810		STEEL

NOTE: TORQUE ALL #10 SCREWS TO 2 FT-LB NOTE: TORQUE ALL $\frac{1}{4}$ " SCREWS TO 6 FT-LB



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PROJECT

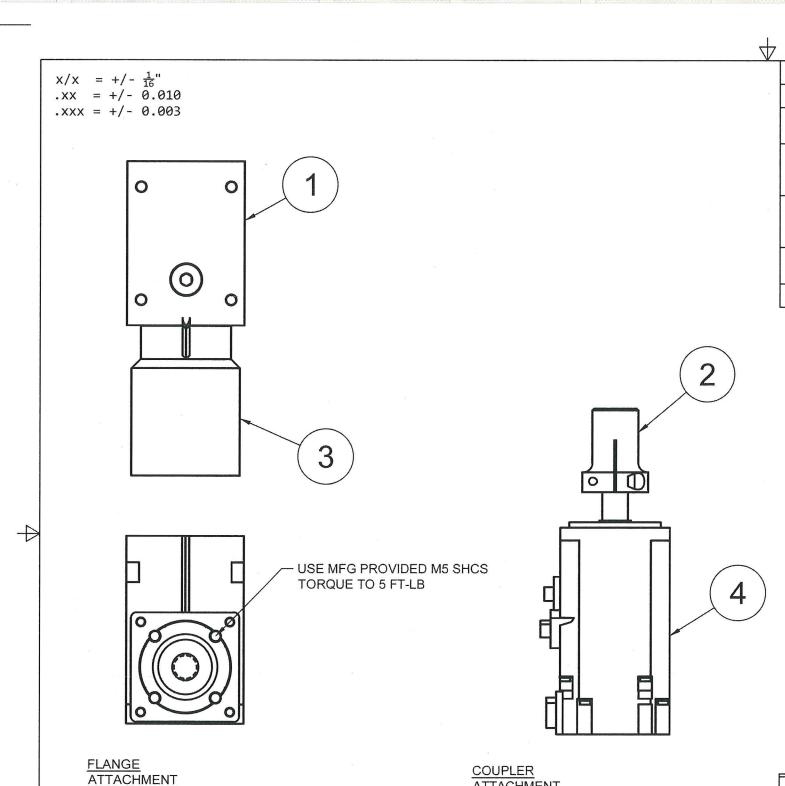
SPOTLINE PRACTICAL

TITLE DRUM

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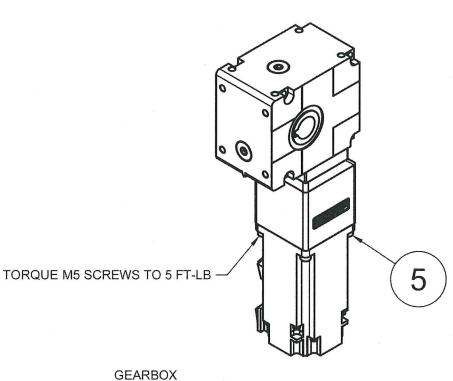
APPROVED SIZE CODE DWG NO
CHECKED B SLP03

DRAWN Steve Hnath7/21/2017 SCALE VARIES WEIGHT SHEET 3



ATTACHMENT

PARTS LIST **ITEM** QTY PART NUMBER **DESCRIPTION** MATERIAL ATLANTA DRIVES -STEEL 1 5901039 V1 2 ATLANTA DRIVES -STEEL 6551014 - MITSU COUPLER V1 3 ATLANTA DRIVES -STEEL 1 6559102 - MITSU FLANGE V1 MITSUBISHI STEEL 4 HG-KR23BJK V1 5 M5 X 16 SHCS - CCI 1931 STEEL





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REV



PROJECT

ATTACHMENT

SPOTLINE PRACTICAL

DWG NO

POWERTRAIN ASSEMBLY

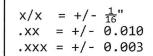
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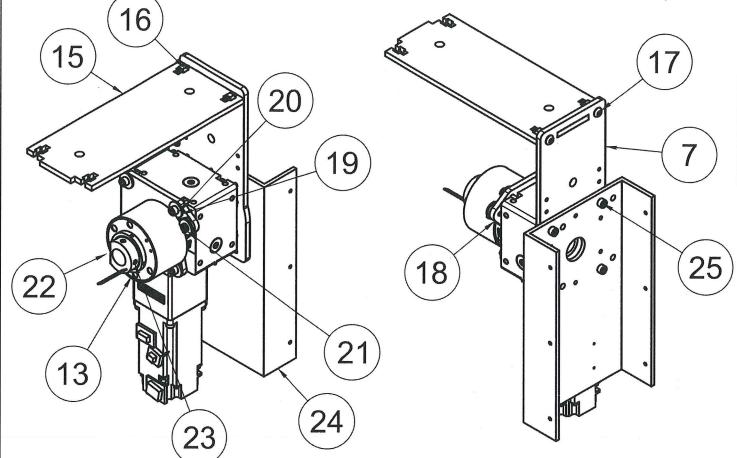
SIZE CODE APPROVED CHECKED

Steve Hnath7/21/2017 SCALE 1: 2

SLP04 SHEET 4 WEIGHT

DRAWN





				PARTS LIST	
	ITEM =	QTY	PART NUMBER	DESCRIPTION	MATERIAL
	7	1	MOTOR SIDE PLATE		ALUMINUM 6061
*	13	1	ORBEX THROUGH-BORE SLIP RING V3		STEEL
	15	1	YOKE TOP		ALUMINUM 6061
	16	2	1/4 NYLOCK - CCI 515		STEEL
	17	2	1/4 X 1 BHCS - CCI 1354	-	STEEL
	18	1	GEARBOX ADAPTER		ALUMINUM 6061
	19	6	1/4 WASHER - CCI 753		STEEL
	20	4	1/4 X 3-1/4 SHCS - MMC 91251A555		STEEL
	21	2	1/4 X 3/8 LHCS - CCI 1213		STEEL
	22	1	T-BUSHING		ACETAL RESIN, WHITE
	23	2	1/4 X 1/4 SET SCREW - CCI 810		STEEL
	24	1	SPINE		ALUMINUM 6061
	25	4	1/4 X 7/16 SHCS - MMC 91864A062		STEEL



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PROJECT

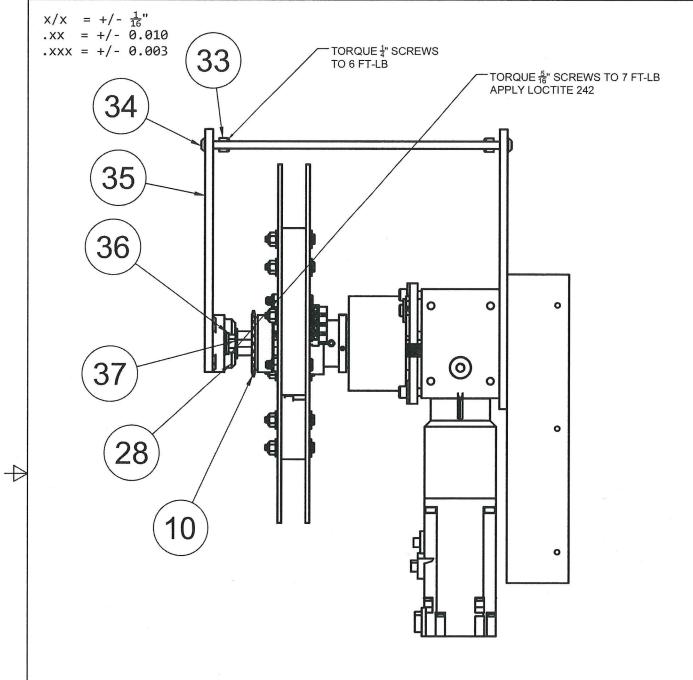
SPOTLINE PRACTICAL

TITLE

POWERTRAIN STRUCTURE

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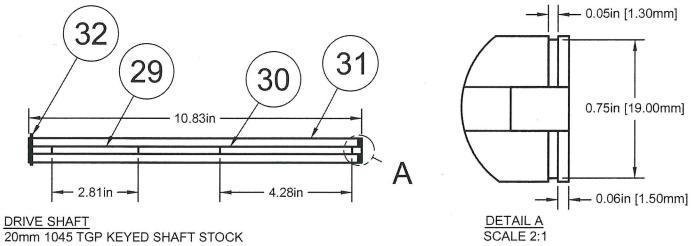
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CHECKED		В			SLP05		
DRAWN	Steve Hnath7/21/2017	SCA	LE 1: 4	WE	IGHT	SHEET 5	



	PARTS LIST						
ITEM	QTY	PART NUMBER	DESCRIPTION	MATERIAL			
10	1	NYLON SPROCKET - MMC 60425K29		ACETAL RESIN, WHITE			
28	1	IGUS EFOM_20_1 V1		STEEL			
29	1	DRUM KEY		STEEL			
30	1	GEARBOX KEY		STEEL			
31	1	MAIN SHAFT		STEEL			
32	1	20MM SNAP RING - MMC 98541A123		STEEL			
33	2	1/4 NYLOCK - CCI 515		STEEL			
34	2	1/4 X 1 BHCS - CCI 1354		STEEL			
35	1	DRUM PLATE		ALUMINUM 6061			
36	2	5/16 SAE WASHER - MMC 90126A030		STEEL			
37	2	5/16 X 3/4 HHCS - MMC 92865A581		STEEL			



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PROJECT

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TITLE

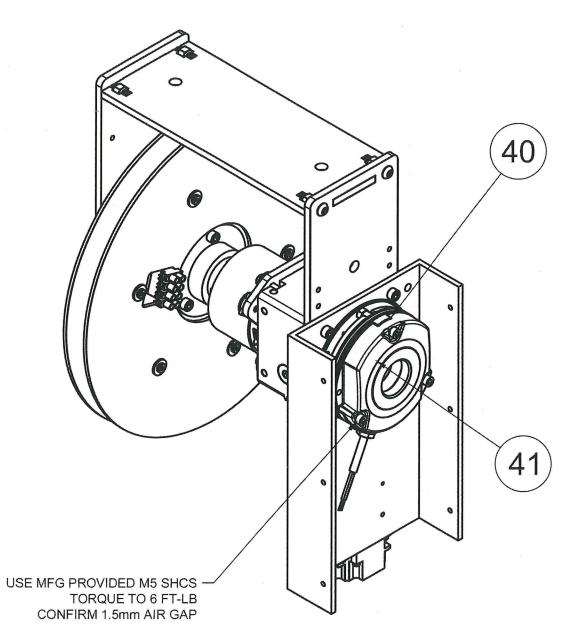
SHAFTING

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APPROVED SIZE CODE DWG NO
CHECKED B SLP06

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 $x/x = +/-\frac{1}{16}$ " .xx = +/-0.010.xxx = +/-0.003



	PARTS LIST						
ITEM	QTY	PART NUMBER	DESCRIPTION	MATERIAL			
40	1	KEB 0338F1X005U_REVA V1		STEEL			
			PARTS LIST				
ITEM	QTY	PART NUMBER	DESCRIPTION	MATERIAL			
41	1	20MM SNAP RING - MMC 98541A123		STEEL			



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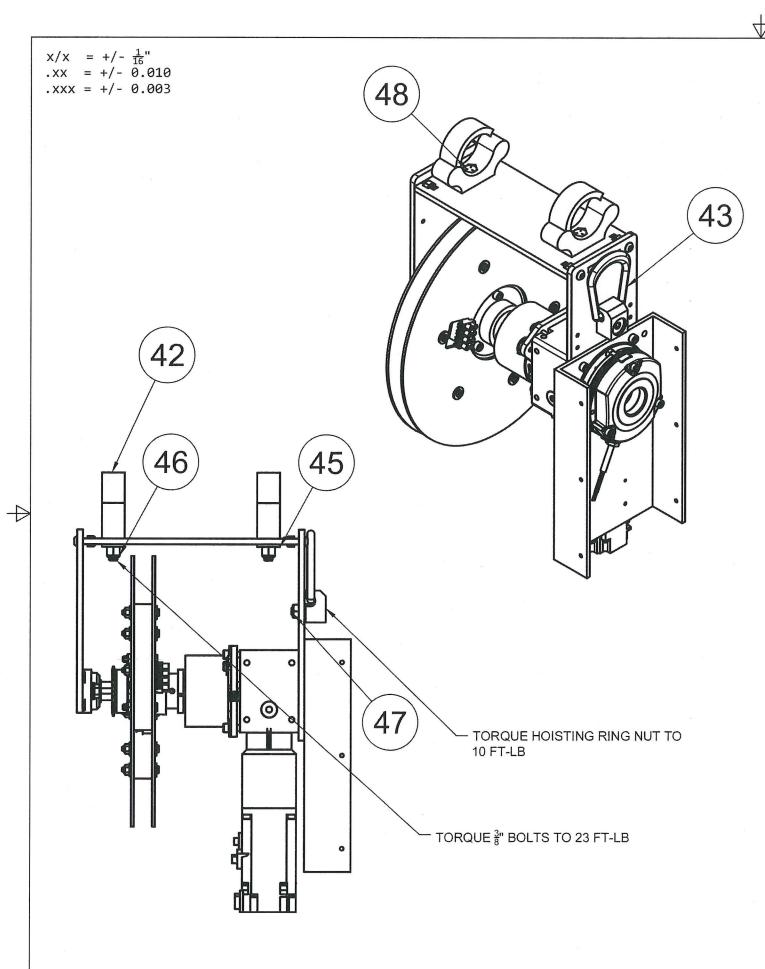
TITIF

LOAD BRAKE

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PARTS LIST					
ITEM	QTY	PART NUMBER	DESCRIPTION	MATERIAL	
42	2	THE LIGHT SOURCE SLIM COUPLER V1		STEEL	
43	1	SIDE MOUNT HOISTING RING - ACTEK #68210		STEEL	
PARTS LIST					
ITEM	QTY	PART NUMBER	DESCRIPTION	MATERIAL	
45	2	3/8 WASHER - CCI 811		STEEL	
46	3	3/8 NYLOCK - CCI 620		STEEL	
47	1	3/8 GR. 8 JAM NYLOCK - CCI 1727	9	STEEL	



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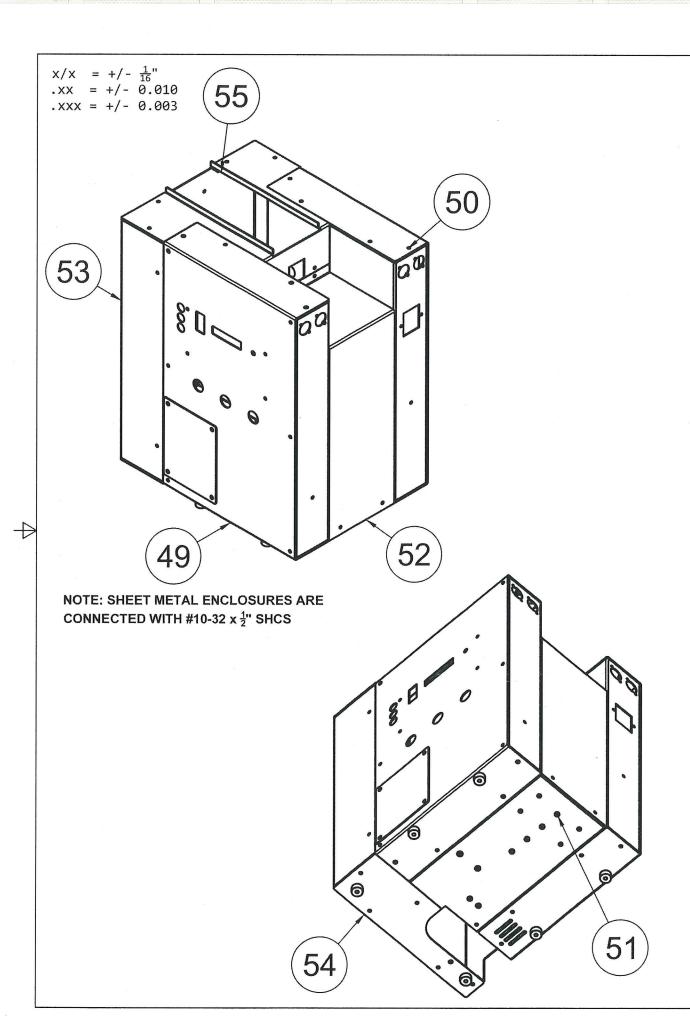
TITLE

RIGGING HARDWARE

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 SIZE
 CODE
 DWG NO
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 B
 SLP08
 SHEET 8



	PARTS LIST					
ITEM	QTY	PART NUMBER	DESCRIPTION	MATERIAL		
49	1 -	STAGEHAND ENCLOSURE				
50	1	DRIVE ENCLOSURE				
51	1	BOTTOM PAN		STEEL		
52	1	BRAKE COVER		STEEL		
53	1	DRUM CLADDING		STEEL		
54	1	BOTTOM PLATE		×		
55	1	TOP FLANGE		STEEL		

STAGEHAND ENCLOSURE CONTENTS:
CREATIVE CONNERS STAGEHAND CONTROL BOARD
BRAKE TEST PCB
BRAKE TEST BUTTONS
LIMIT OVERRIDE PUSHBUTTONS

DRIVE ENCLOSURE CONTENTS: MITSUBISHI MR-J4A SERVO DRIVE (2) 10A UL489 CIRCUIT BREAKERS

BOTTOM PAN CONTENTS:
24V POWER SUPPLY
12V POWER SUPPLY
DUAL-CHANNEL SAFETY RELAY
MOTOR BRAKE CONTROL RELAY
LOAD BRAKE CONTROL RELAY
LOAD BRAKE RECTIFIER
ROTARY LIMIT SWITCH
SLACK LINE LIMIT SWITCH
END-OF-TRAVEL LIMIT SWITCH



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PROJECT

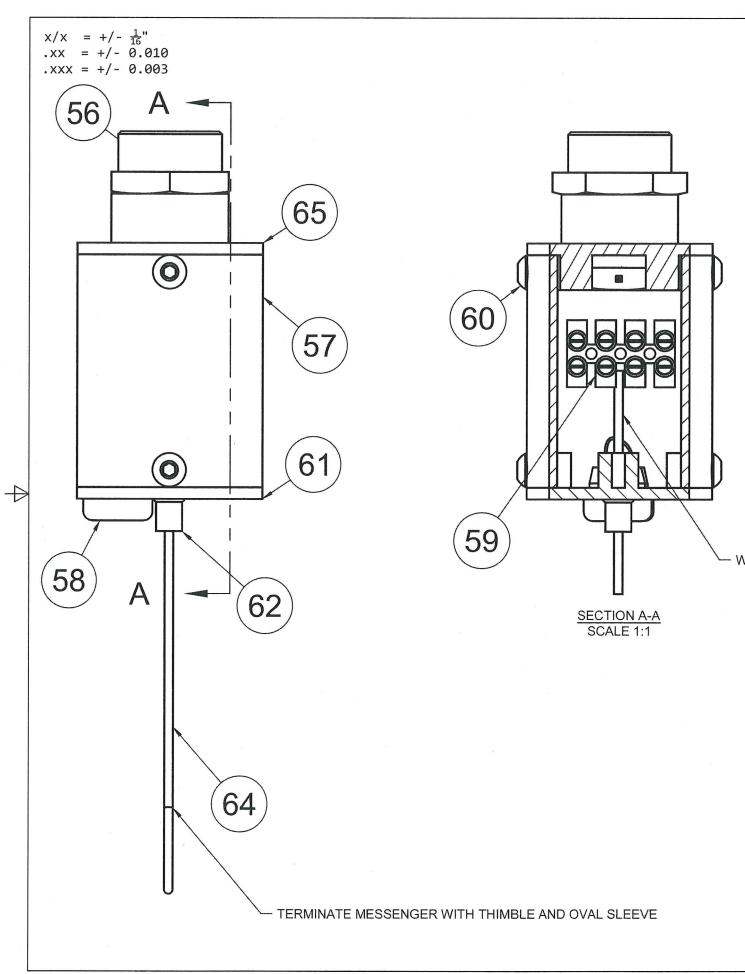
SPOTLINE PRACTICAL

TITLE

SHEET METAL CLADDING

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APPROVED)	SIZE		CODE	DWG NO		REV	
CHECKED	,	В			SLP09			
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	PARTS LIST						
ITEM	QTY	PART NUMBER	DESCRIPTION	MATERIAL			
56	1	SKINDICHT SVFK PG 21 ART. NR. 52005680(F1=9,F2=3) V2		STEEL			
57	1	BODY		ALUMINUM			
58	1	SNAP-IN CORD GRIP - MMC 74125K74		STEEL			
59	1	TOUCH-SAFE TERMINAL BLOCK - MMC 7618K613		STEEL			
60	4	10-32 X 1/4 BHCS - MMC 91255A261		STEEL			
61	1	ВОТТОМ САР		ALUMINUM			
62	1	3/32 STOP SLEEVE		STEEL			
63	1	GROMMET - MMC 9600K17		STEEL			
64	1	3/32 MESSENGER		STEEL			
65	1	TOP CAP		ALUMINUM			

WIRE ROPE PASSES UNINTERRUPTED THROUGH TERMINATION



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PROJECT

SPOTLINE PRACTICAL

TITLE

BOTTOM TERMINATION

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