Bottom Centering Pulley with Break Detector

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Introduction

The bottom centering pulley with break detector is located immediately below the secondary coating triple axis flaw detector. And uses infrared optical detection to detect the presence or absence of fibre which, in the latter case signals a fibre break.

(Drawings 380111A, 380174A & 380175A refer).

Description

This precision pulley forms the lower datum point for tower alignment and is provided with X/Y slides for lateral alignment and angular adjustment in one plane

The main mounting frame, installed on the face of the tower, provides the attachment points for the bottom centering pulley and a pivoting bracket in which the load cell pulley of the tension monitoring system is mounted.

The break detector unit incorporates an infrared optical transmission fibre detector which is used to detect the presence or absence of fibre to indicate a fibre break condition when appropriate.

The tower control software is interfaced with the break detector unit to avoid false triggering during start up.

Operation

Align the bottom centering pulley in accordance with the procedures set out in the tower alignment manual.

On start up of the fibre draw and wrap the fibre around the pulley then check the alignment and adjust using the X/Y slides as necessary.

Maintenance

Warning ***The correct Personal Protective Equipment (PPE) is to be worn at all times.***

Warning ***Working at height and related safety.***

- ***Personnel are to remain behind guard rails at all times and/or wear an appropriate safety harness.***
- ***Personnel are to practice good housekeeping and methodical working practices to prevent items falling from the tower.***

Warning ***Methanol.***

- ***Methanol is toxic if ingested and can be absorbed through the skin on prolonged exposure.***
- ***Impermeable gloves are to be worn.***

General

Ensure that the X/Y slides are running free and true.

Routine

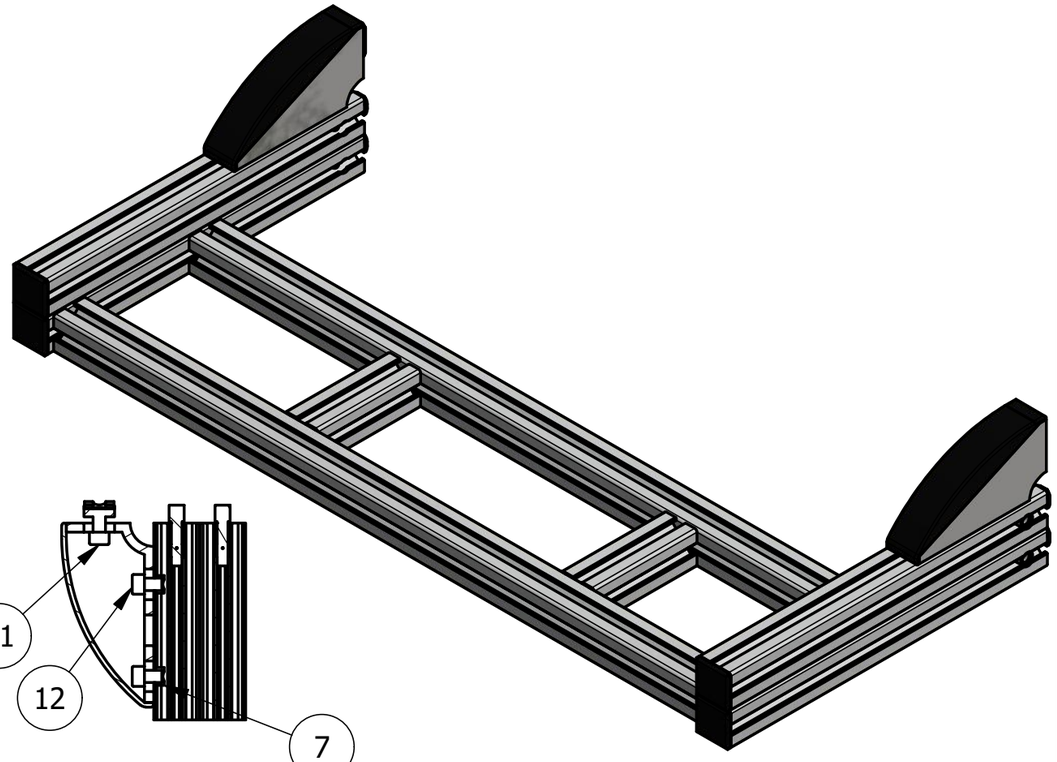
The following inspection and servicing procedure is to be carried out. The frequency of the inspection and servicing may vary dependant on tower usage and the working environment.

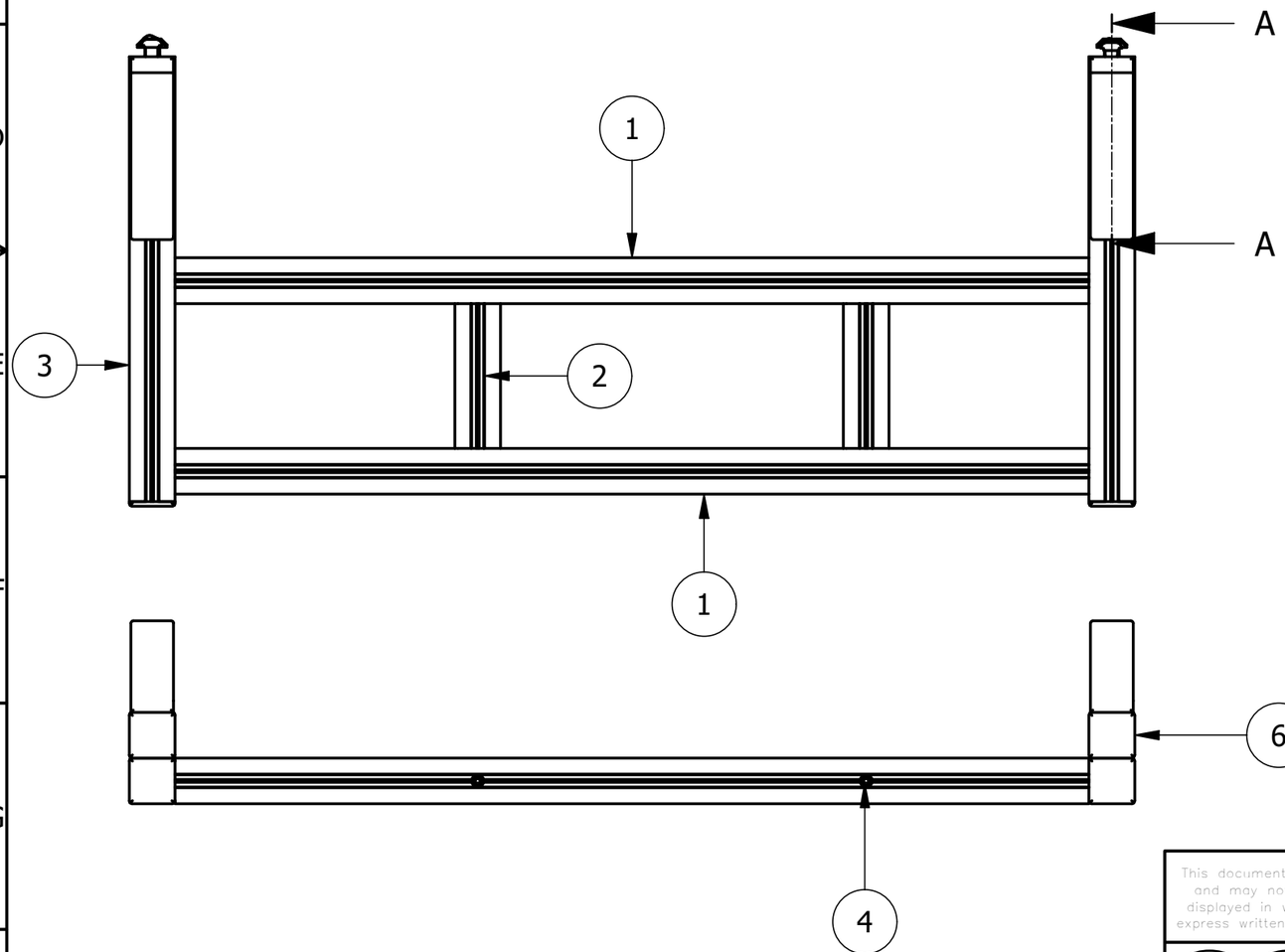
Weekly

Check that the pulley rotates freely, the bearing has no significant play and that the root of the pulley's "V" is free from dirt. Clean "V" with soft lint free cloth and methanol or isopropyl alcohol if necessary.

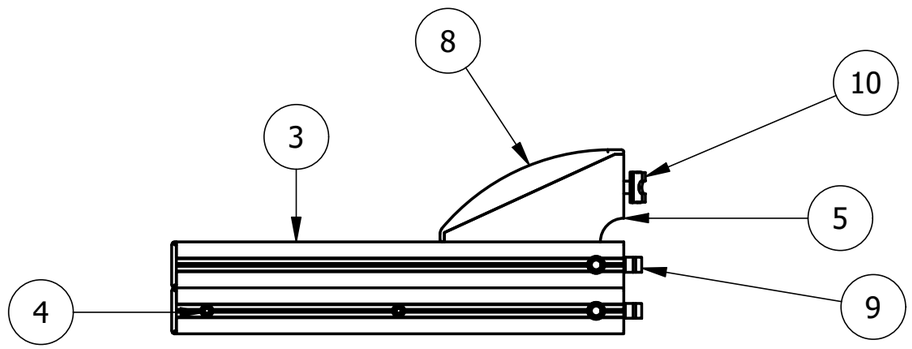
PARTS LIST			
ITEM	QTY	PART NUMBER	DESCRIPTION
1	2	284609	AL EXT. 30X30X600
2	2	284925	30 x 30 x 95 AL.EXTRUSION
3	2	380178	30 x 60 x 292 AL.EXTRUSION
4	8	H04487	Core Screw M8 x 25 S/S
5	2	H04488	BRACKET 30X60X120
6	4	H04489	CAP 30X30
7	4	H04490	T-NUT M8 8MM
8	2	H04497	BRACKET COVER
9	4	H04607	QUICK CON 8 TO 10
10	2	H04608	M8 TEE NUT 10 GRV
11	2	K00405	HxCpHd M8x16 S/S
12	4	K00721	HxCpHd M8x12 S/S

REVISION HISTORY				
REV	DESCRIPTION	DCR No.	DATE	APPROVED
1	FIRST ISSUE		7.2.18	CK





A-A (1 : 4)



SG Controls Limited

Drawn: Ckerby | Date: 07/02/2018

DO NOT SCALE
IF IN DOUBT ASK
UNLESS OTHERWISE STATED DIMENSIONS ARE IN mm
DIM TOL 0 ± 0.3
0.0 ± 0.1
ANGULAR TOL ±0.5
SURFACE FINISH 1.6 µm
REMOVE ALL SHARP EDGES

TITLE: SUPPORT BRACKET - GUIDE PULLEY

USED ON

DRG No. 380175A

SHEET 1 OF 1

REV 1

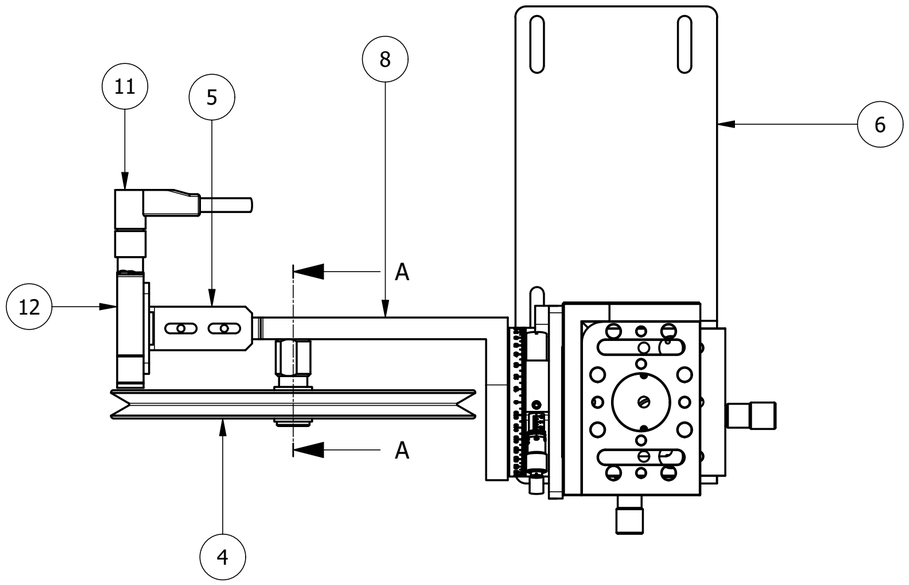
MATERIAL:

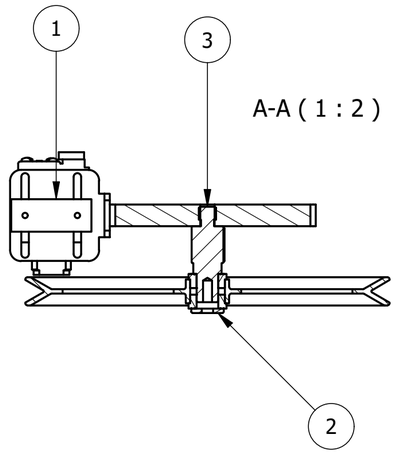
FINISH:

ORIG SCALE

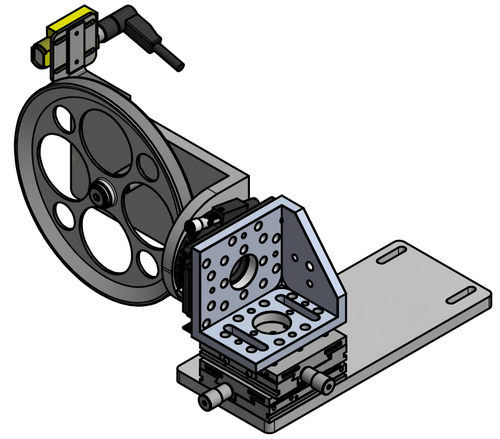
ORIG SHEET A3

REVISION HISTORY				
REV	DESCRIPTION	DCR No.	DATE	APPROVED
1	FIRST ISSUE		07.2.18	CK





A-A (1 : 2)



PARTS LIST			
ITEM	QTY	PART NUMBER	DESCRIPTION
1	2	284450	CLAMP WASHER - RECTANGULAR M4
2	2	284565	CLAMP WASHER
3	2	284657	PULLEY SPIGOT - GUIDE PUULEY
4	2	284664	150mm DIA. VEE GROOVE PULLEY
5	2	284680	MTG BTKT -BREAK DETECTOR
6	2	380176	MOUNTING BLOCK - GUIDE PULLEY
7	2	H05334	ROTATING STAGE
8	2	380177	PULLEY BRACKET
9	2	H05335	ANGLE BRACKET
10	4	H05333	LINEAR SLIDE
11	2	EL82559	LEAD M12 4 WAY
12	2	EL82573	MINIBEAM SENSOR
13	4	K00095	HxCpHd M4x12 S/S
14	2	K00162	HxCpHd M5x8 S/S
15	4	K03170	HxCpHd M3x20 S/S

SG Controls Limited

DRAWN: ckerby DATE: 07/02/2018

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UNLESS OTHERWISE STATED DIMENSIONS ARE IN mm
DIM TOL 0 ± 0.3, 0.0 ± 0.1
ANGULAR TOL ± 0.5
SURFACE FINISH 1.6
REMOVE ALL SHARP EDGES

TITLE: CAPSTAN GUIDE PULLEY

USED ON: 380111A

DRG No.: 380174A

SHEET: 1 OF 1

REV: 1

MATERIAL:

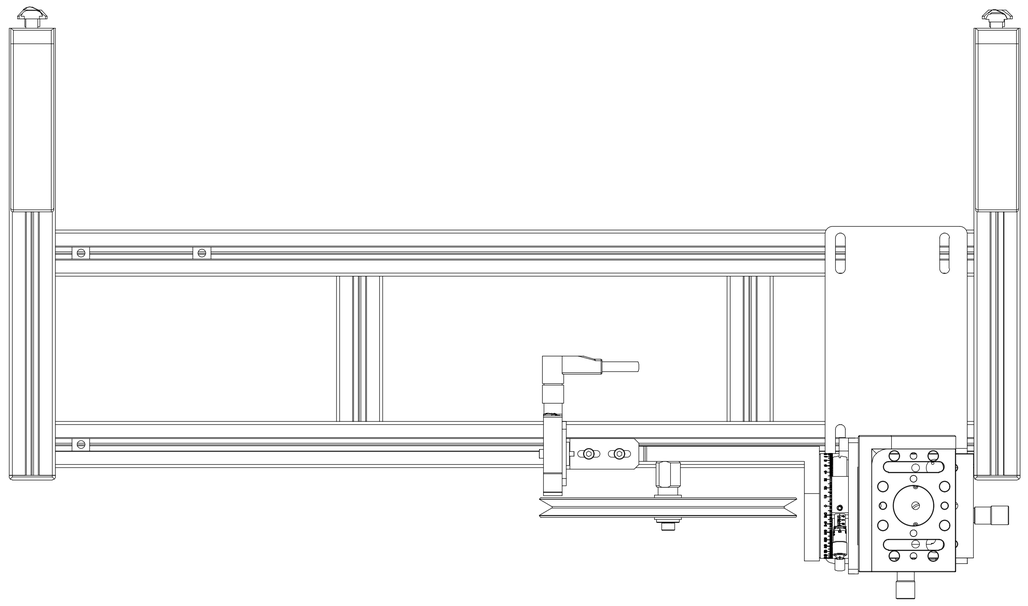
FINISH:

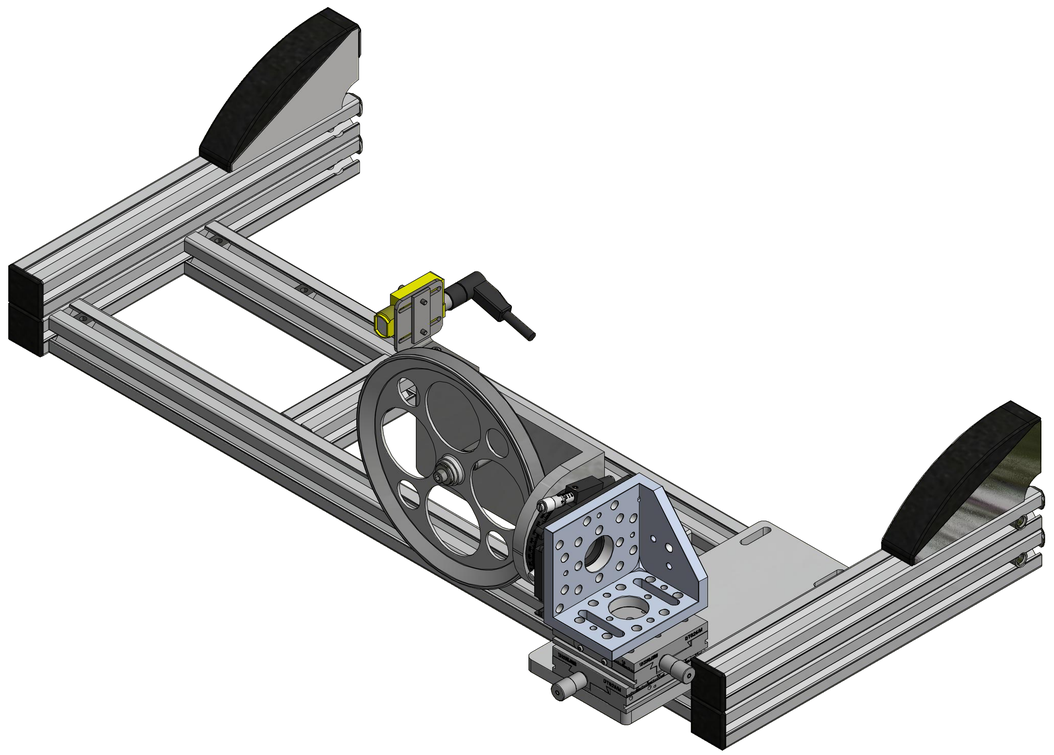
ORIG SCALE 1:2

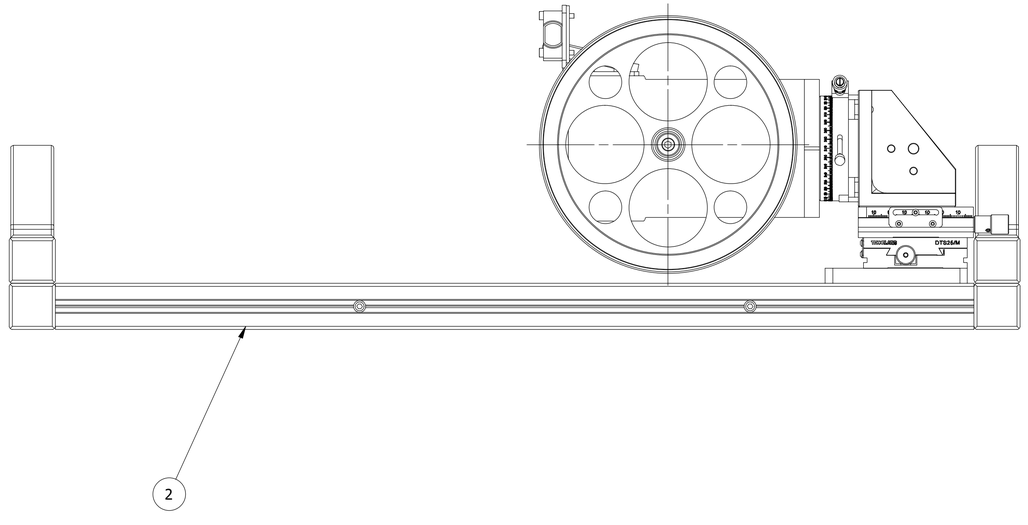
ORIG SHEET A2

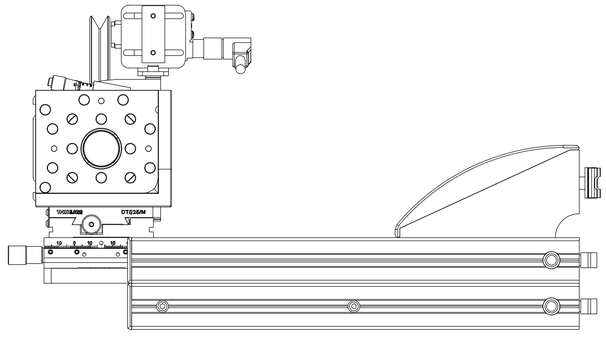
REVISION HISTORY				
REV	DESCRIPTION	DCR No.	DATE	APPROVED
1	FIRST ISSUE		23.12.15	CK

PARTS LIST			
ITEM	QTY	PART NUMBER	DESCRIPTION
1	2	380174A	CAPSTAN GUIDE PULLEY
2	1	380175A	SUPPORT BRACKET - GUIDE PULLEY
4	3	H04445	T-NUT M6 8MM









THIS DRAWING SHOWS THE GUIDE PULLEY SET FOR A LEFT HAND TOWER
IT CAN BE CONFIGURED FOR A RH TOWER IF REQUIRED

SG Controls Limited

DRAWN: aweise | DATE: 04/10/2017

DO NOT SCALE
IF IN DOUBT ASK
UNLESS OTHERWISE STATED
DIMENSIONS ARE IN mm
DIM TOL 0 ± 0.3
0.0 ± 0.1
ANGULAR TOL ± 0.5
SURFACE FINISH 1.6 µm
REMOVE ALL SHARP EDGES

TITLE: GUIDE PULLEY & BREAK DETECTOR

USED ON

DRG No. 380111A

SHEET 1 OF 1 | REV 1

MATERIAL:

FINISH:

ORIG SCALE 1:2

ORIG SHEET A1