



OFFICE OF STATEWIDE HEALTH PLANNING AND DEVELOPMENT
FACILITIES DEVELOPMENT DIVISION

APPLICATION FOR OSHPD SPECIAL SEISMIC
CERTIFICATION PREAPPROVAL (OSP)

OFFICE USE ONLY

APPLICATION #: OSP – 0130 – 10

OSHPD Special Seismic Certification Preapproval (OSP)

Type: ☐ New ☒ Renewal

Manufacturer Information

Manufacturer: Young Touchstone, a Wabtec Company

Manufacturer's Technical Representative: Vicki Piazza

Mailing Address: 200 Smith Lane, Jackson TN, 38301

Telephone: 414-768-7420

Email: vpiazza@wabtec.com

Product Information

Product Name: Young Touchtone Remote Charge Air Coolers

Product Type: Remote Radiators

Product Model Number: 1.5 Square Feet thru 8 Square Feet

(List all unique product identification numbers and/or part numbers)

General Description: Units are remote mounted charge air coolers (also called intercoolers or aftercoolers) for turbocharged diesel powered gensets.

Mounting Description: Vertical and Horizontal Core, base mounted- rigid

Applicant Information

Applicant Company Name: TRU Compliance, by Structural Integrity Associates, Inc.

Contact Person: Andrew M. Coughlin, SE

Mailing Address: 5215 Hellyer Ave., Suite 210, San Jose, CA 95138

Telephone: 844-878-0200

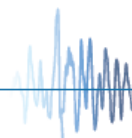
Email: acoughlin@structint.com

I hereby agree to reimburse the Office of Statewide Health Planning and Development review fees in accordance with the California Administrative Code, 2016.

Signature of Applicant:  Date: 10/29/2018

Title: Director, TRU Compliance Company Name: TRU Compliance, by Structural Integrity Associates, Inc.

"Access to Safe, Quality Healthcare Environments that Meet California's Diverse and Dynamic Needs"





**OFFICE OF STATEWIDE HEALTH PLANNING AND DEVELOPMENT
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California Licensed Structural Engineer Responsible for the Engineering and Test Report(s)

Company Name: TRU Compliance, by Structural Integrity Associates, Inc.

Name: Andrew M. Coughlin California License Number: S6082

Mailing Address: 5215 Hellyer Ave., Suite 210, San Jose, CA 95138

Telephone: 844-878-0200 Email: acoughlin@structint.com

Supports and Attachments Preapproval

- ☐ Supports and attachments are preapproved under OPM-
(Separate application for OSHPD Preapproval of Manufacturer's Certification (OPM) of Supports and attachments is required)
- ☒ Supports and attachments are not preapproved

Certification Method

- ☒ Testing in accordance with: ☒ ICC-ES AC156
- ☐ Other (Please Specify): OSP-0130-10
- BY: Ali Sumer
- DATE: 07/29/2019

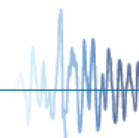
Testing Laboratory

Company Name: Pacific Earthquake Engineering Research Center (PEER)

Contact Name: Nate Knight

Mailing Address: 1301 South 46th St., Bldg. 420

Telephone: 510-642-3437 Email: peer_center@berkeley.edu





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Seismic Parameters

Design in accordance with ASCE 7-10 Chapter 13: ☒ Yes ☐ No

Design Basis of Equipment or Components (F_p/W_p) = 1.44 g

S_{DS} (Design spectral response acceleration at short period, g) = 2.0

a_p (In-structure equipment or component amplification factor) = 1.0

R_p (Equipment or component response modification factor) = 2.5

Ω_0 (System overstrength factor) = 2.0

I_p (Importance factor) = 1.5

z/h (Height factor ratio) = 1.0

Equipment or Component Natural Frequencies (Hz) = See Product Matrices

Overall dimensions and weight (or range thereof) = See Product Matrices

Equipment or Components @ grade designed in accordance with ASCE 7-10 Chapter 15: ☐ Yes ☒ No

Design Basis of Equipment or Components (V/W) = _____

S_{DS} (Design spectral response acceleration at short period, g) = _____

S_{D1} (Design spectral response acceleration at 1 second period, g) = _____

R (Response modification coefficient) = OSP-0130-10

Ω_0 (System overstrength factor) = _____

C_d (Deflection amplification factor) = BY: Ali Sumer

I_p (Importance factor) = 1.5

Height to Center of Gravity above base = DATE: 07/29/2019

Equipment or Component Natural Frequencies (Hz) = _____

Overall dimensions and weight (or range thereof) = _____

Tank(s) designed in accordance with ASME BPVC, 2015: ☐ Yes ☒ No

List of Attachments Supporting Special Seismic Certification

☒ Test Report(s) ☐ Drawings ☐ Calculations ☐ Manufacturer's Catalog

☒ Other(s) (Please Specify): Product Matrices, Addendum Letter

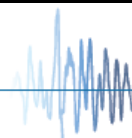
OSHPD Approval (For Office Use Only) – Approval Expires on December 31, 2022

Signature: [Signature] Date: July 28, 2019

Print Name: Ali Sumer Title: DSE

Special Seismic Certification Valid Up to : S_{DS} (g) = 2.0 z/h = 1.0

Condition of Approval (if applicable): _____



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Model Line: Remote CAC

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Notes:

UNIT UNDER TEST (UUT) SUMMARY SHEET

1800975-CR-001 R1



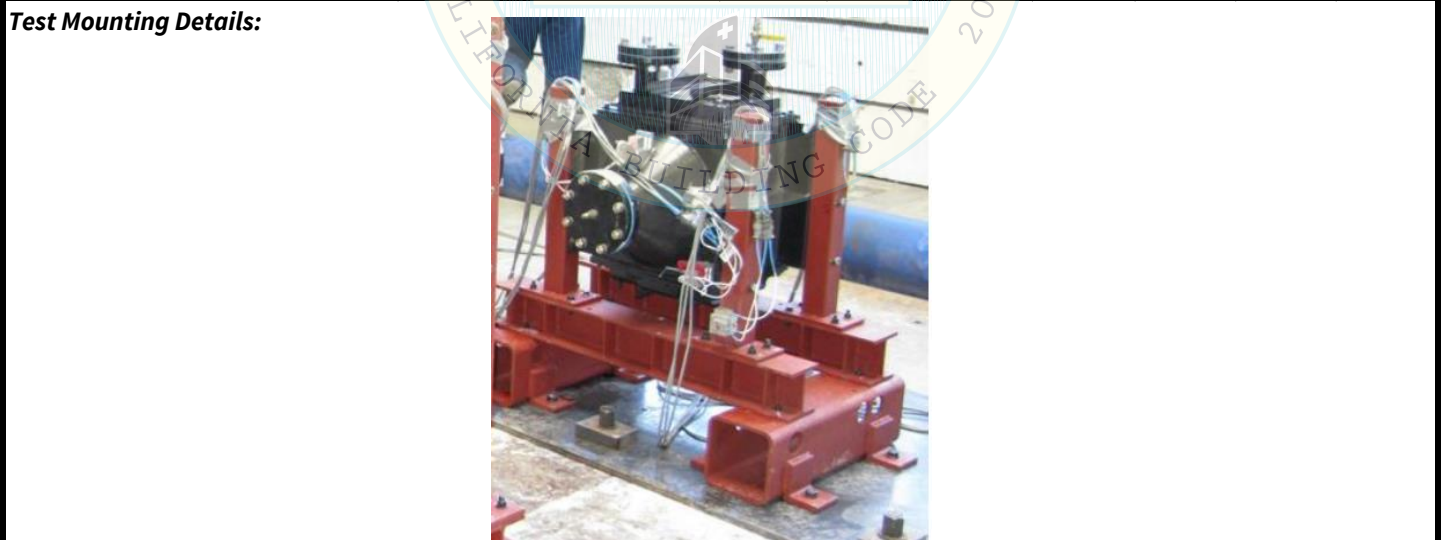
Manufacturer:	Young Touchstone, a Wabtec Company	UUT 1a
Model Line:	Remote CAC	
Model Number:	RCAC15A17084	
Serial Number:		2979113

Product Construction Summary:
Carbon steel frame, horizontal arrangement, copper fin core

Options/Subcomponent Summary:
Leg mounted to frame, 1.5 ft² size, vertical core, non-isolated mount

UUT Properties						
Weight (lb.)	Dimension (in.)			Lowest Natural Frequency (Hz)		
	Depth	Width	Height	Front-Back	Side-Side	Vertical
370	26.3	33.5	22.2	>33.3	33.0	>33.3

UUT Highest Passed Seismic Run Information								
Building Code	Test Criteria	S _{DS} (g)	z/h	I _p	A _{FLX-H} (g)	A _{RIG-H} (g)	A _{FLX-V} (g)	A _{RIG-V} (g)
CBC 2016, IBC 2015	ICC-ES AC156 (2015)	2.0	1.0	1.5	3.20	2.40	1.33	0.53



Unit mounted to I-beams with twelve (12) 1/2" A307 bolts¹. The I-beams are mounted to the GENSET rail with eight (8) 1/2" A307 bolts and the GENSET rail is mounted to the shake table with eight (8) 1/2" A307 bolts.

Unit maintained structural integrity and remained functional per manufacturer requirement after shake table test.

Contents were included in testing per operating conditions.

¹ See drawing with mounting details below for bolt reference. It is assumed that A307 bolts are used to mount the unit to the shake table since this bolt is called out in the drawing.

UNIT UNDER TEST (UUT) SUMMARY SHEET

1800975-CR-001 R1

TRU
COMPLIANCE

Manufacturer: Young Touchstone, a Wabtec Company

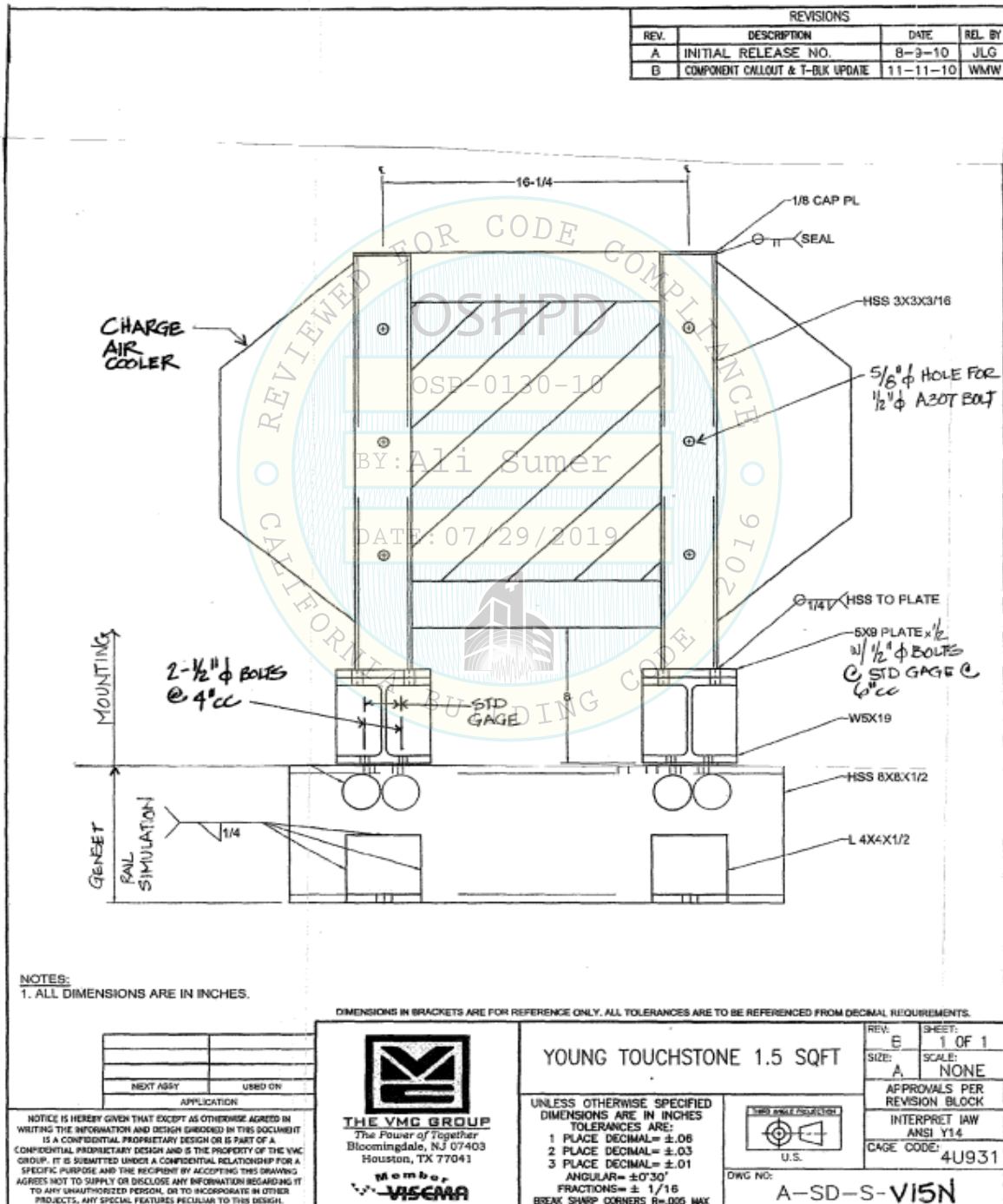
Model Line: Remote CAC

Model Number: RCAC15A17084

Serial Number: 2979113

UUT 1a

Drawing with mounting details:



UNIT UNDER TEST (UUT) SUMMARY SHEET

1800975-CR-001 R1



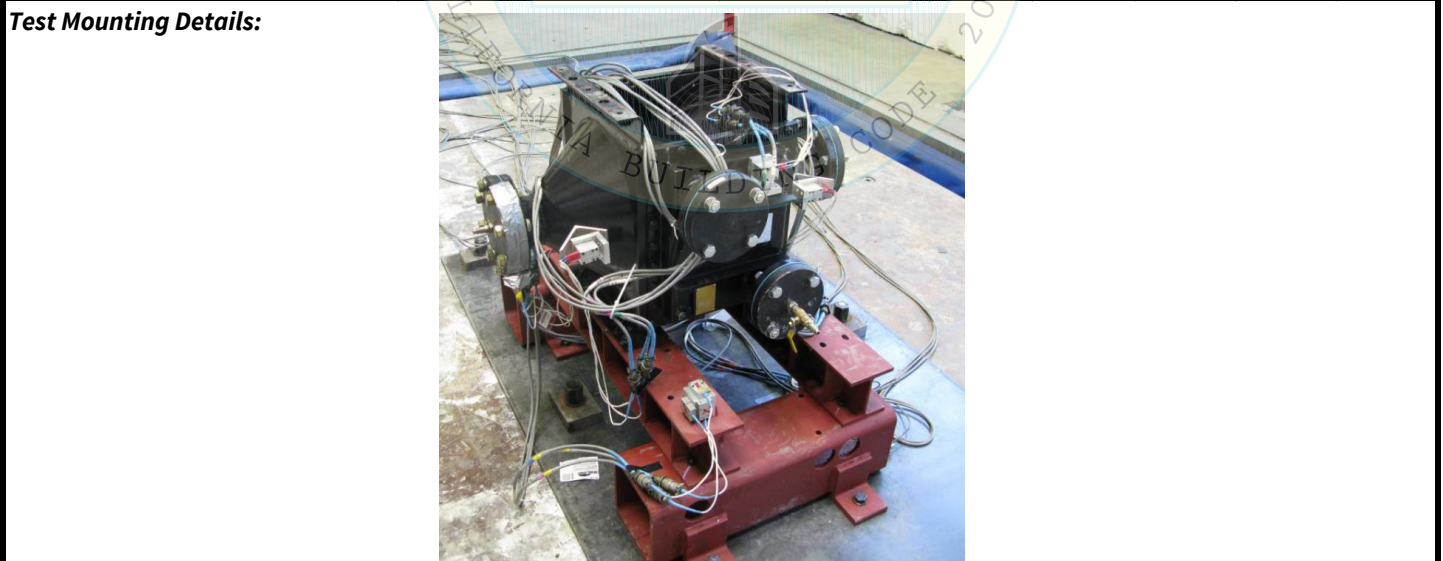
Manufacturer:	Young Touchstone, a Wabtec Company	UUT 1b
Model Line:	Remote CAC	
Model Number:	RCAC15A17084	
Serial Number:		2979113

Product Construction Summary:
Carbon steel frame, horizontal arrangement, copper fin core

Options/Subcomponent Summary:
Base mounted, 1.5 ft² size, horizontal core, non-isolated mount

UUT Properties						
Weight (lb.)	Dimension (in.)			Lowest Natural Frequency (Hz)		
	Depth	Width	Height	Front-Back	Side-Side	Vertical
370	22.2	33.5	26.3	9.0	>33.3	>33.3

UUT Highest Passed Seismic Run Information								
Building Code	Test Criteria	S _{DS} (g)	z/h	I _p	A _{FLX-H} (g)	A _{RIG-H} (g)	A _{FLX-V} (g)	A _{RIG-V} (g)
CBC 2016, IBC 2015	ICC-ES AC156 (2015)	2.0	1.0	1.5	3.20	2.40	1.33	0.53



Unit mounted to the I-beams with six (6) 1/2" A307 bolts¹. The GENSET rail is mounted to the shake table with with eight (8) 1/2" A307 bolts.

Unit maintained structural integrity and remained functional per manufacturer requirement after shake table test.

Contents were included in testing per operating conditions.

¹ See drawing with mounting details below for bolt reference. It is assumed that A307 bolts are used to mount the unit to the shake table since this bolt is called out in the drawing.

UNIT UNDER TEST (UUT) SUMMARY SHEET

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Manufacturer: Young Touchstone, a Wabtec Company

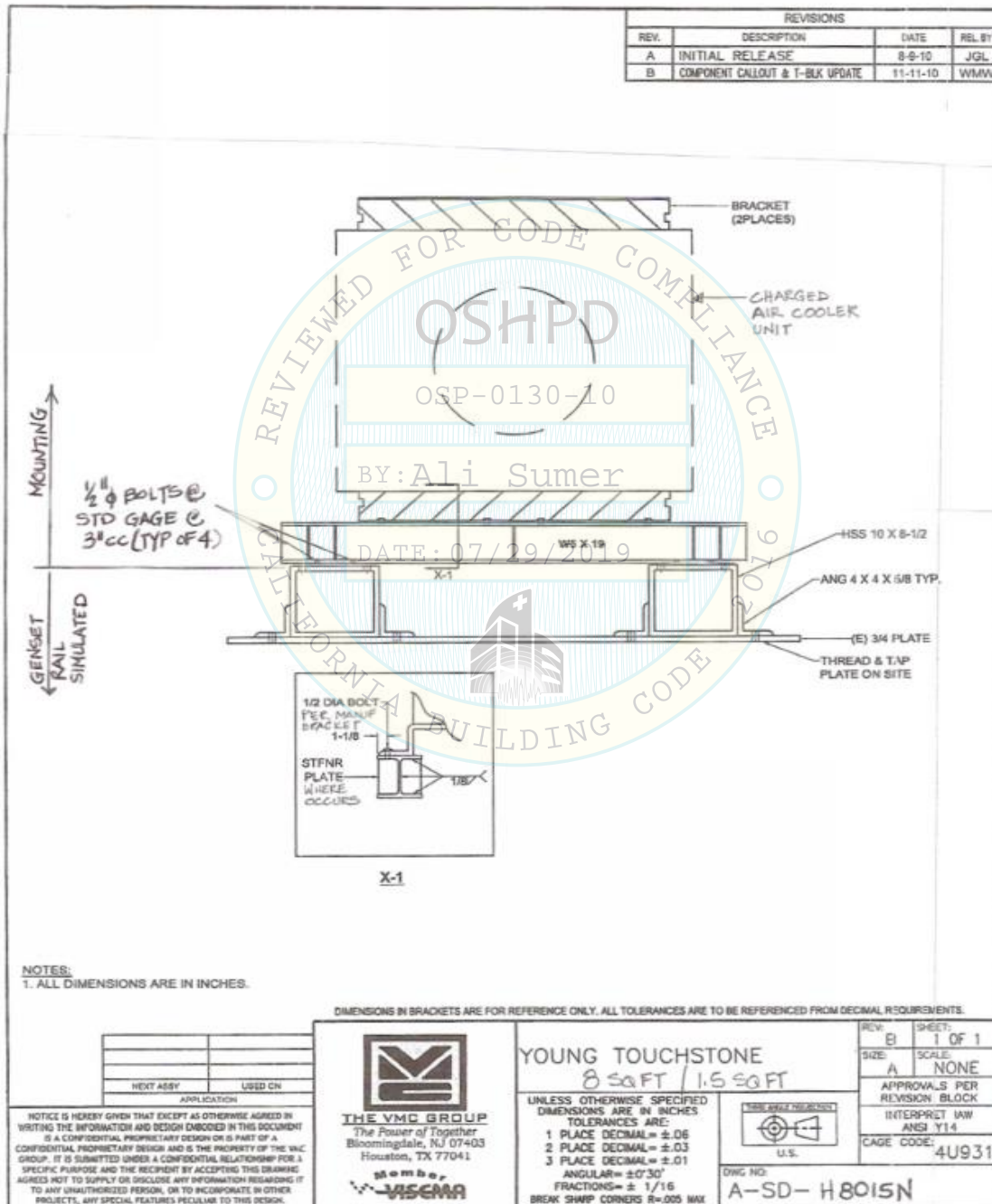
Model Line: Remote CAC

Model Number: RCAC15A17084

Serial Number: 2979113

UUT 1b

Drawing with mounting details:



UNIT UNDER TEST (UUT) SUMMARY SHEET

1800975-CR-001 R1



Manufacturer:	Young Touchstone, a Wabtec Company	UUT 2a
Model Line:	Remote CAC	
Model Number:	RCAC80A17168	
Serial Number:		2979067

Product Construction Summary:
Carbon steel frame, horizontal arrangement, copper fin core

Options/Subcomponent Summary:
Leg mounted to frame, 8 ft² size, vertical core, non-isolated mount

UUT Properties						
Weight (lb.)	Dimension (in.)			Lowest Natural Frequency (Hz)		
	Depth	Width	Height	Front-Back	Side-Side	Vertical
1700	40.3	55.9	44.2	29.0	19.0	10.0

UUT Highest Passed Seismic Run Information								
Building Code	Test Criteria	S _{DS} (g)	z/h	I _p	A _{FLX-H} (g)	A _{RIG-H} (g)	A _{FLX-V} (g)	A _{RIG-V} (g)
CBC 2016, IBC 2015	ICC-ES AC156 (2015)	2.0	1.0	1.5	3.20	2.40	1.33	0.53



Unit mounted to I-beams with twelve (12) 1/2" A307 bolts¹. The I-beams are mounted to the GENSET rail with eight (8) 1/2" A307 bolts and the GENSET rail is mounted to the shake table with eight (8) 1/2" A307 bolts.

Unit maintained structural integrity and remained functional per manufacturer requirement after shake table test.

Contents were included in testing per operating conditions.

¹ See drawing with mounting details below for bolt reference. It is assumed that A307 bolts are used to mount the unit to the shake table since this bolt is called out in the drawing.

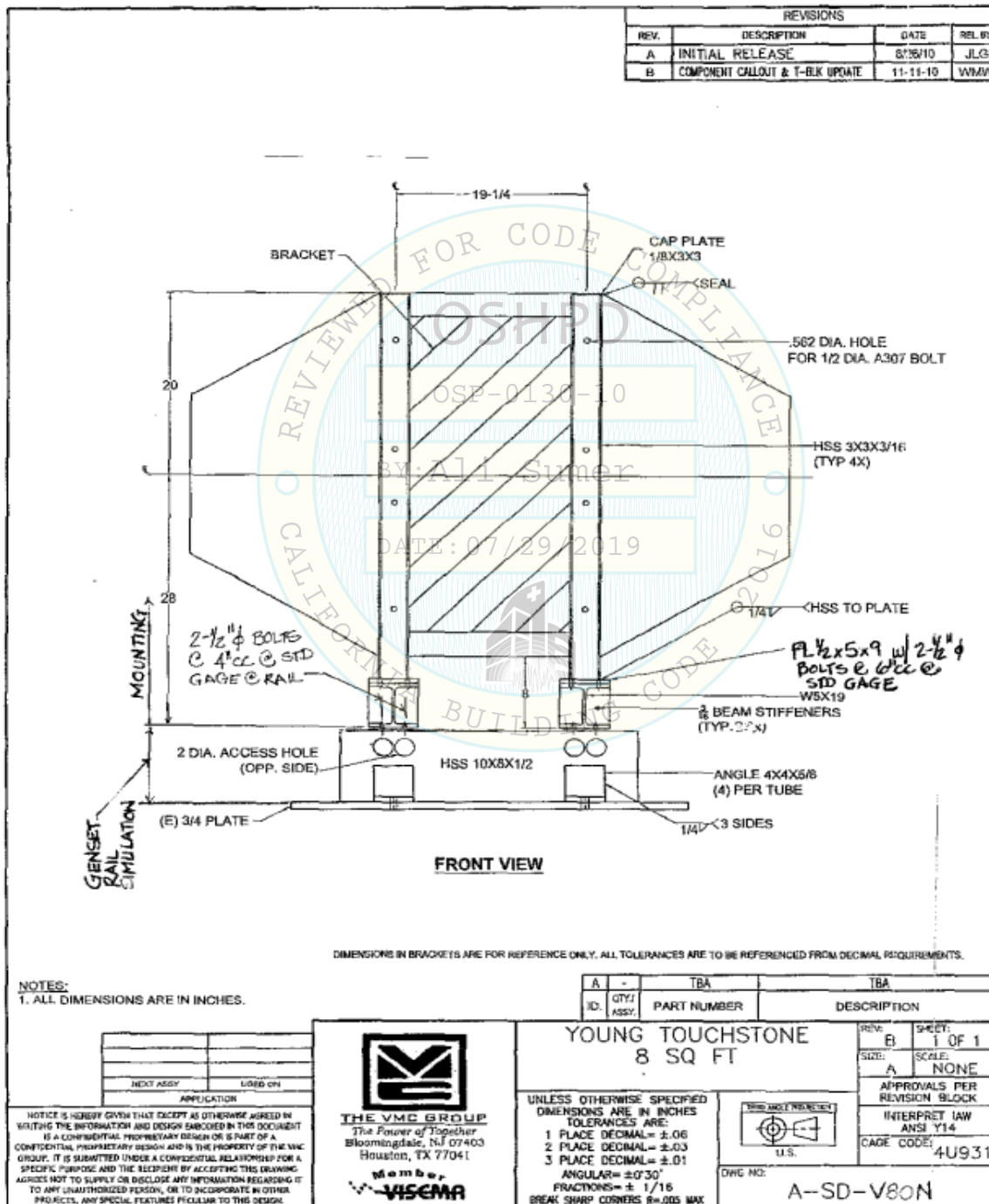
1800975-CR-001 R1



UUT 2a

Serial Number: 2979067

Drawing with mounting details:



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UNIT UNDER TEST (UUT) SUMMARY SHEET

1800975-CR-001 R1



Manufacturer:	Young Touchstone, a Wabtec Company	UUT 2b
Model Line:	Remote CAC	
Model Number:	RCAC80A17168	
Serial Number:		2979067

Product Construction Summary:
Carbon steel frame, horizontal arrangement, copper fin core

Options/Subcomponent Summary:
Base mounted, 8 ft² size, horizontal core, non-isolated mount

UUT Properties						
Weight (lb.)	Dimension (in.)			Lowest Natural Frequency (Hz)		
	Depth	Width	Height	Front-Back	Side-Side	Vertical
1700	44.2	55.9	40.3	9.0	20.6	31.0

UUT Highest Passed Seismic Run Information								
Building Code	Test Criteria	S _{DS} (g)	z/h	I _p	A _{FLX-H} (g)	A _{RIG-H} (g)	A _{FLX-V} (g)	A _{RIG-V} (g)
CBC 2016, IBC 2015	ICC-ES AC156 (2015)	2.0	1.0	1.5	3.20	2.40	1.33	0.53

Test Mounting Details:



Unit mounted to the I-beams with eight (8) 1/2" A307 bolts¹. The GENSET rail is mounted to the shake table with with eight (8) 1/2" A307 bolts.

Unit maintained structural integrity and remained functional per manufacturer requirement after shake table test.

Contents were included in testing per operating conditions.

¹ See drawing with mounting details below for bolt reference. It is assumed that A307 bolts are used to mount the unit to the shake table since this bolt is called out in the drawing.

UNIT UNDER TEST (UUT)
SUMMARY SHEET

1800975-CR-001 R1



Manufacturer: Young Touchstone, a Wabtec Company
Model Line: Remote CAC
Model Number: RCAC80A17168
Serial Number: 2979067

UUT 2b

Drawing with mounting details:

