Client:	Earth Contact Products
Job Number:	FC05554.003
Product:	1.5” RCS

Reference Method

At the client request, tension testing was performed on eight supplied samples consisting of 1.5” RCS shafts with varying bolt hole sizes and locations to determine ultimate tension capacity. Testing was performed in general accordance with ICC-ES AC358 (4.2.1). It is understood that the samples were tested for reference only and will not be submitted for accreditation purposes.

Standard Procedure

Shaft dimensions were taken for all specimens. The bolts were installed per manufacturer’s instructions. Each specimen was then mounted to a vertical load frame with one end attached to a fixed platform and the other end attached to a mobile platform with the capability to apply the load to the specimen in the axial direction (see Figure 1). Both applied load and resulting deformation were recorded digitally using a computer. Load was applied slowly to simulate a statically applied load. Deformation was recorded at load intervals not exceeding 20% of the estimated design allowable load of the specimen. Each load increment was held for a minimum of one minute. The test was stopped when sample failure occurred.



Figure 1

Deviations from Standard Procedure

There was no deviation from the standard method.

Summary of Results

Specimen Number	Sample ID	Shaft Length (in)	Dimension to ℄ of Hole (in)	Average Bolt Hole Diameter (in)	Measured Ultimate Capacity (lbs)	Measured Allowable Capacity (lbs)[1]	Average Allowable Capacity (lbs)	Failure Mode
T1	A-A	22	2.250	0.865	80,667	40,334	40,732	Bolt Shear
T2	B-B			0.846	82,258	41,129		Bolt Shear
T3	C-C	26	1.625	0.833	77,868	38,934	40,341	Bolt Shear
T4	D-D			0.823	83,496	41,748		Bolt Shear
T5	E-E	43	2.000	0.783	79,848	39,924	41,010	Bolt Shear
T6	F-F			0.782	84,190	42,095		Bolt Shear
T7	G-G	43.5	2.250	0.856	80,666	40,333	39,238	Bolt Shear
T8	H-H			0.856	76,283	38,142		Bolt Shear

[1] *Per section 4.2.1.2 of AC358, allowable capacity based on lesser value of 0.6*P_y and 0.5*P_{max} per Davisson 0.2% offset method*

We appreciate the opportunity to work with you on this project. If you have any questions regarding the information provided in this report, please do not hesitate to contact us.

Sincerely,
CTL|THOMPSON, INC.

Ryan Beck, P.E.
Project Engineer
Accredited Laboratory Manager

Report Authorized for Release:

Document Approved for Release
TL-342

RSB

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Revision Log

Date	*Revision No.*	*Explanation*	*By*
12.10.2020	*0*	*Initial Issue*	*R. Beck, Manager*