



## Towing Device Test Report

### 1. DOCUMENT INFORMATION

<b>Description:</b>	Coupler Test Result
<b>Document Number:</b>	IM-12013-00.0
<b>Filename:</b>	IM-12013-00.0 KMDB (3.5t coupler)
<b>Date of Issue:</b>	14 June 2012
<b>Number of pages</b>	5

### 2. CLIENT INFORMATION

<b>Company:</b>	KMDB
<b>Contact Person:</b>	Mr. Flip de Klerk
<b>Address:</b>	7 Second Street, Vorsterskroon Ex 3, Nigel
<b>Client Specimen Reference:</b>	KMDB (3.5t Coupler)

### 3. TEST DETAILS

<b>IM Specimen Reference:</b>	12013-00.0		
<b>Laboratory:</b>	Investmech Test Laboratories		
<b>Laboratory Address:</b>	Factory # 2, 10B Kruger Avenue, Lyttelton Manor		
<b>Date of test:</b>	Start:10/05/2012 Finished:14/05/2012		
<b>Test Operator:</b>	Johan van Zyl		
<b>Test Specification:</b>	Section 4.3.2 of EC 94-20		
<b>Towing Vehicle Mass:</b>	2,805kg	<b>Rated Vertical Load on Tow Bar:</b>	0 kg
<b>Towed Vehicle Mass:</b>	3,500 kg	<b>Load application angle – <math>\alpha</math>:</b>	0°
<b>Dynamic Test load:</b>	9.17 kN	<b>Test Frequency:</b>	6.3 Hz
<b>Bolts Used:</b>	Class 8.8	<b>Bolt Torque:</b>	M12 69 Nm M16 171 Nm
<b>Test Result:</b>	The towing device completed 2,000,000 cycles without any visible signs of failure.		
This test report relates only to the sample tested and does not imply approval by Investmech (Pty) Ltd of the quality and/or performance of similiar parts that has not been tested.			

### 4. APPROVAL

Responsibility	Name	Designation	Signature	Date
Checked by:	San-Mari Rautenbach	Engineering Manager		14 June 2012
Approved by:	Dr M. Heyns Pr.Eng.	Managing Director	p.p.	14 June 2012



5. TEST SPECIMEN IDENTIFICATION

IM Specimen Reference: 12013-00.0

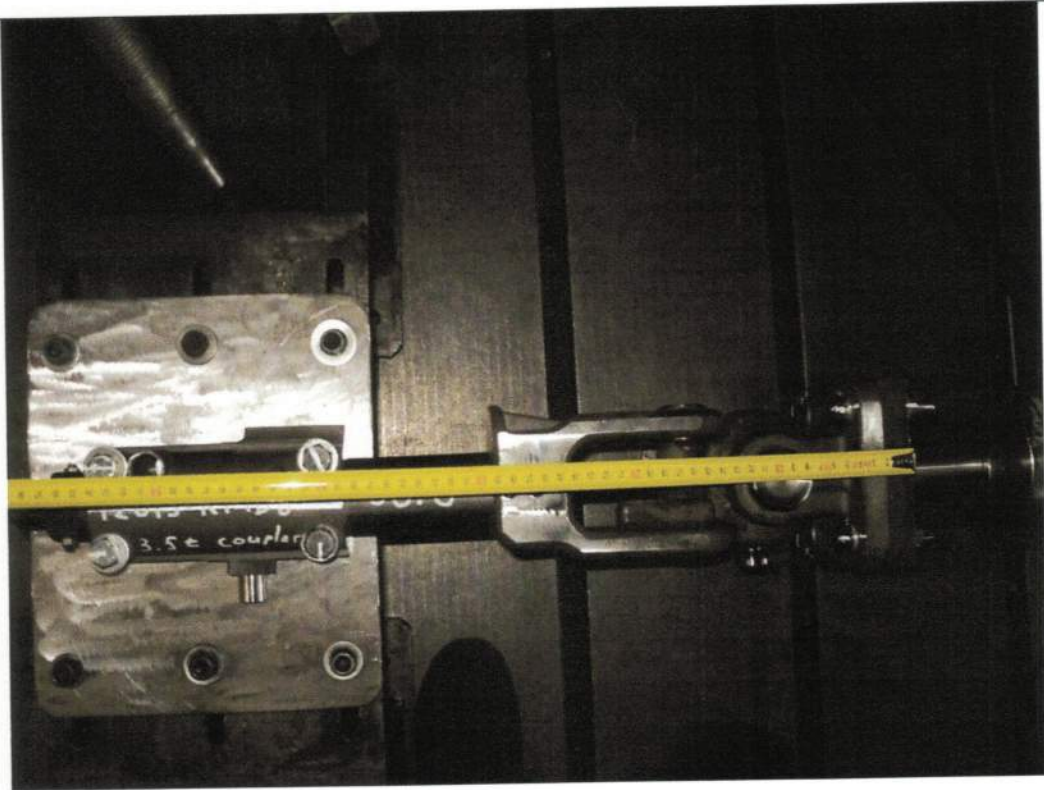


Figure 1: Overall view of test specimen with longitudinal dimensions

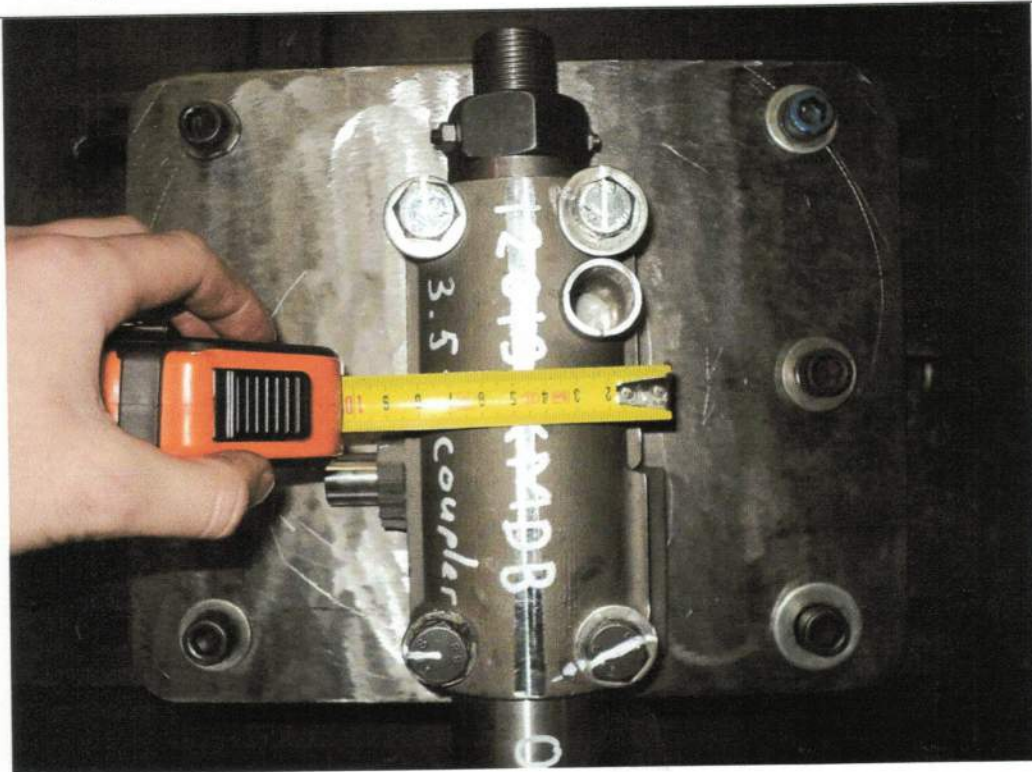


Figure 2: Close up view indicating the horizontal dimension



Figure 3: Close up view indicating the critical dimension of the test specimen

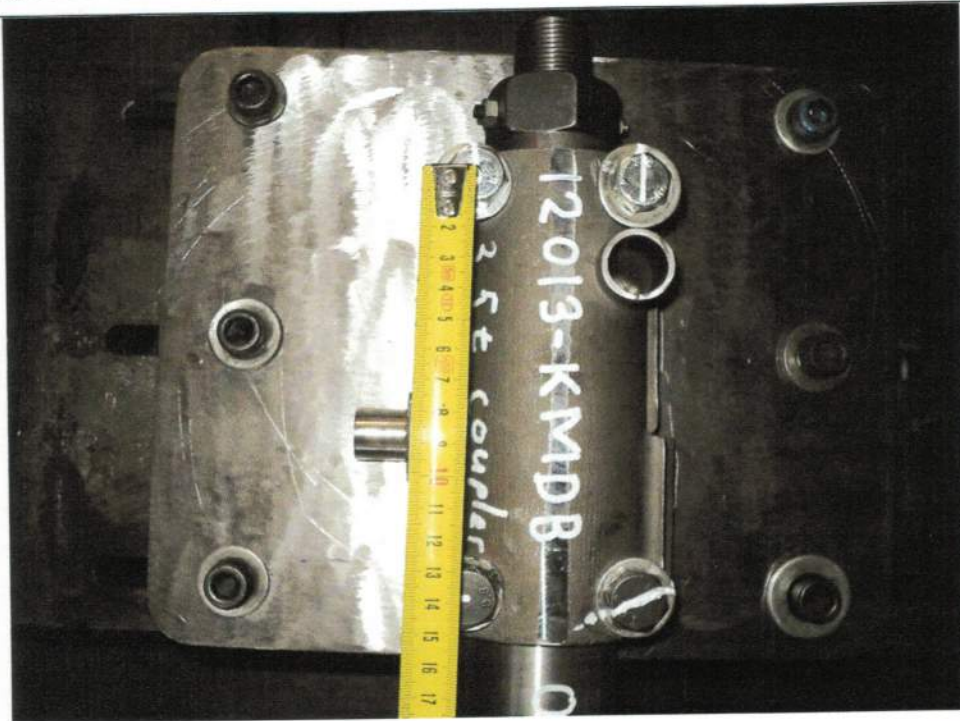


Figure 4: Close up view indicating the critical dimension of test specimen

6. TEST SETUP

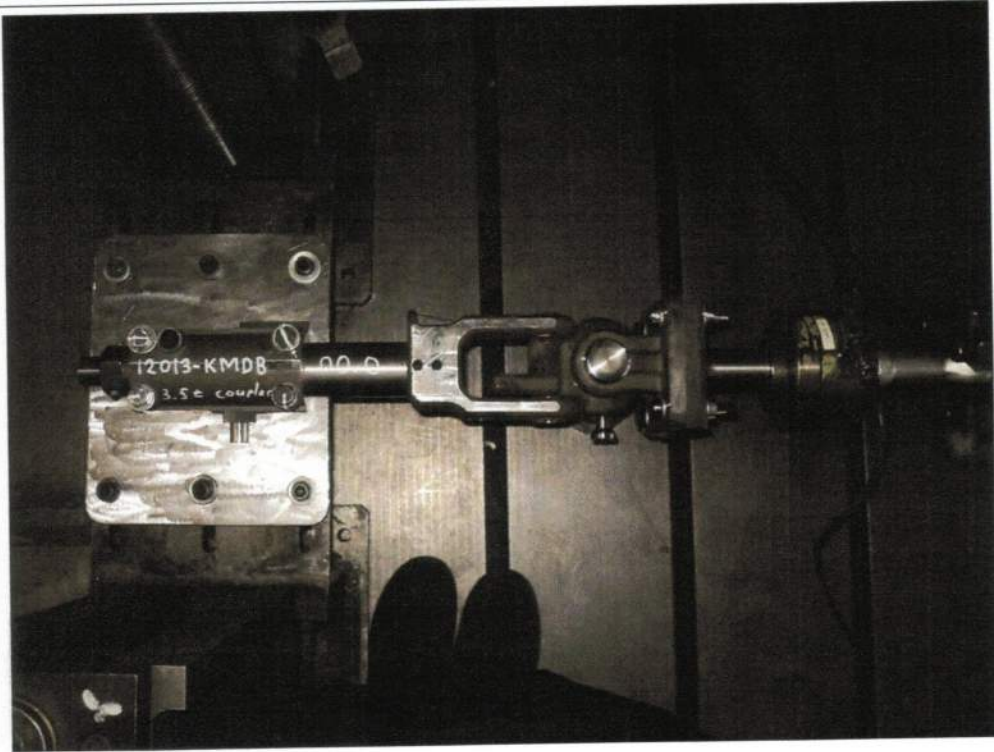


Figure 5: Top view of the test setup

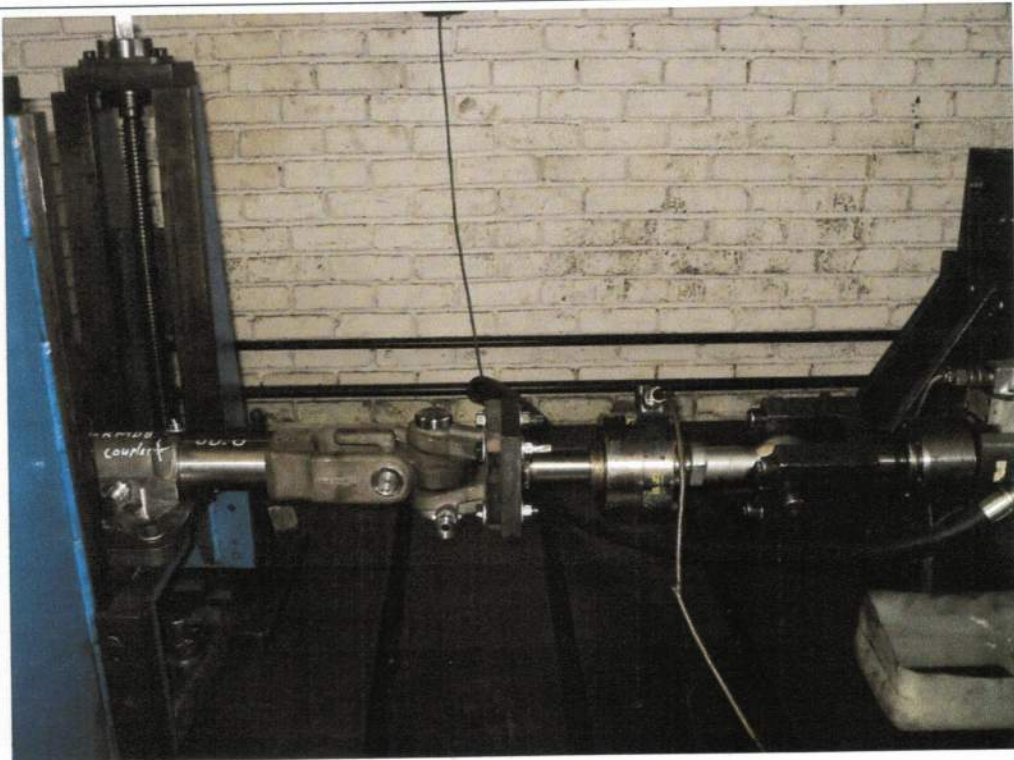


Figure 6: Side view of the test setup

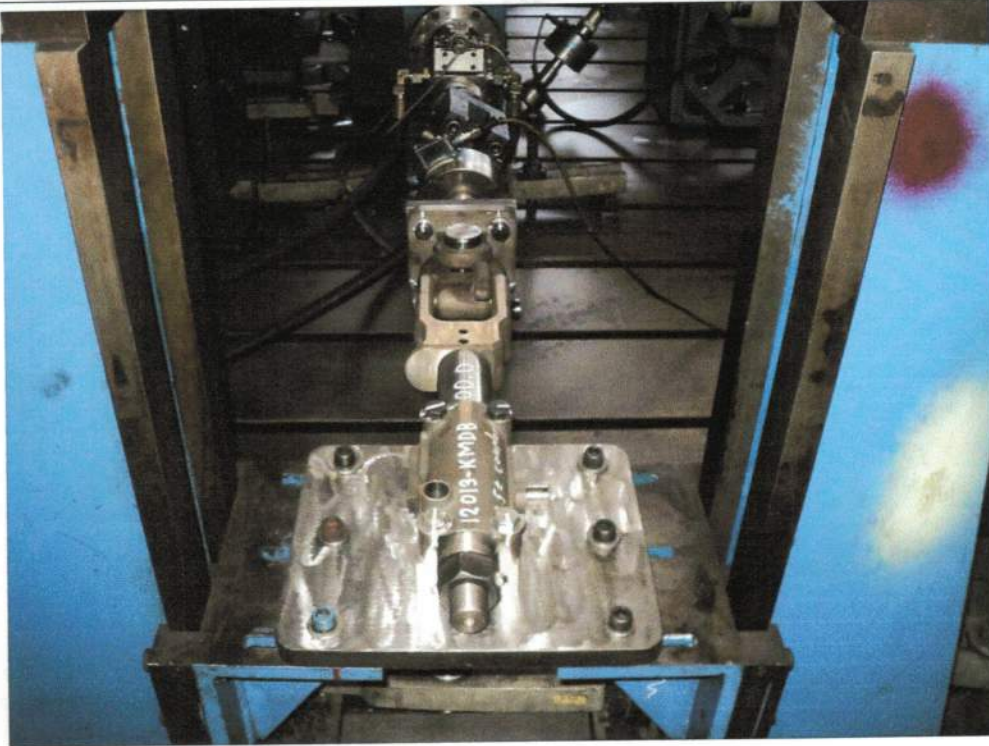


Figure 7: Overall view of towing device test setup

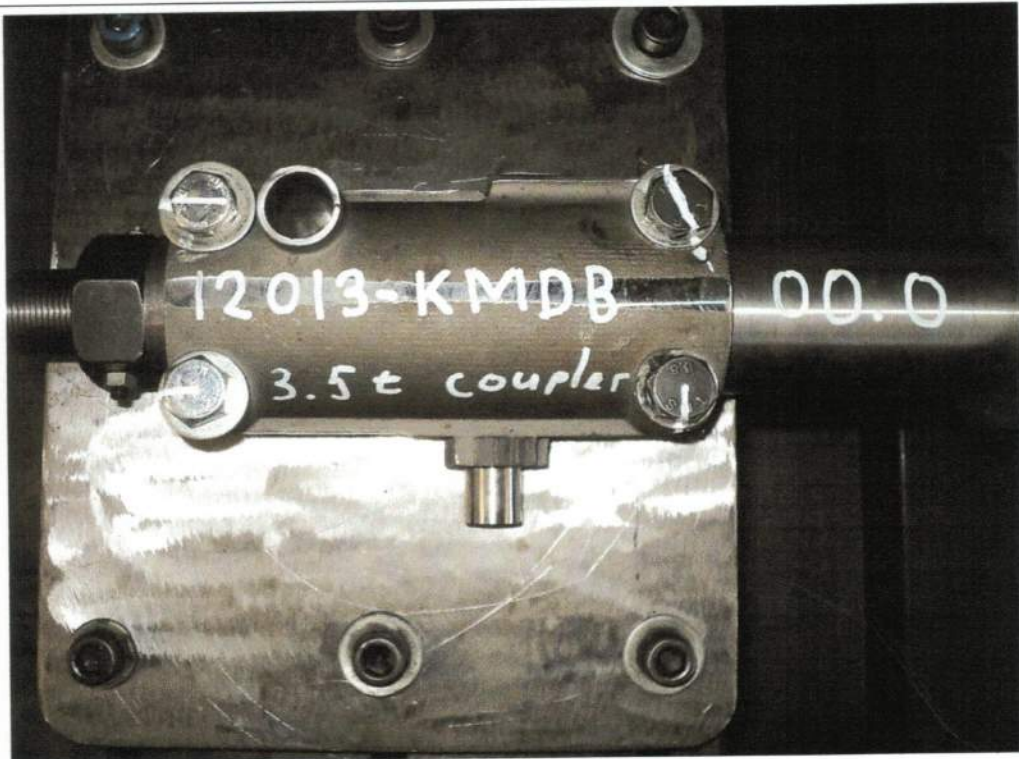


Figure 8: Mounting detail of the towing device test setup

Comment:

A 3.5 ton Coupler was tested by applying a dynamic load of 9.17 kN via a servo hydraulic actuator. The Coupler completed 2,000,000 cycles without any visible signs of failure.