

Meeting Description	Fourth Project Meeting in Kuopio (Finland)
Meeting hosted by	Savon ammattii - ja aikuisopisto

Date / Time / Place	Monday, 17 th September 2012, Conference Room, at 15:45
Name of Workline	Workline B – Wagon Components
Name of Workgroup	Wheel Design

Representative workgroup member	[IE] John O’Neill
Co-representative workgroup member	[IT] Michele Agati
Co-representative workgroup member	[HR] Gordana Eric

Further workgroup members	Teachers and Students from [IE], [IT], [HR], [SK] & [HU]

Minute written by	[IE] Brendan Doherty
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Description of work progress: Topics / Tasks / Results / Decisions / Facts of importance	Responsible school(s) or person(s) incl. deadlines
<p>At the last meeting in Celje all schools were asked to produce four wheels with bearings for testing in Kuopio.</p> <p>We had lots of wheels and axles and a carriage brought by [IT].</p> <p>We tested the new wheels on this carriage and there were also some sections of track.</p> <p>It was found that some friction was caused by the O-ring dragging on the mid section of the bearing. We decided that this was caused by the O-ring being squashed too much. A number of suggestions were made about how to solve this problem.</p> <p>The clearance on the track was also seen to be too much and we decided to reduce this from 4mm to 2mm.</p> <p>Because schools have made wheels we decided not to alter this design but instead to make the changes to the axle.</p> <p>These problems will be discussed further on Tuesday and final decisions will be made.</p>	

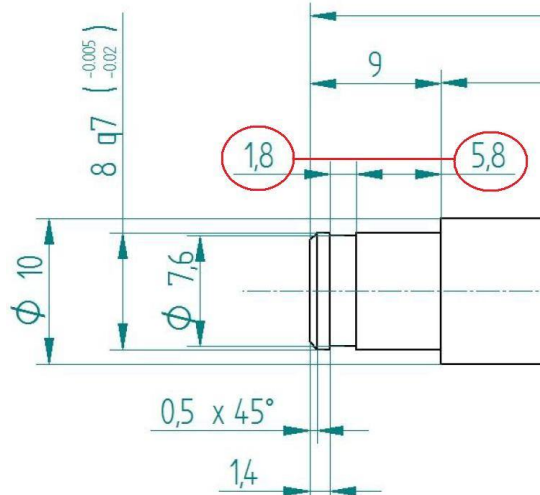
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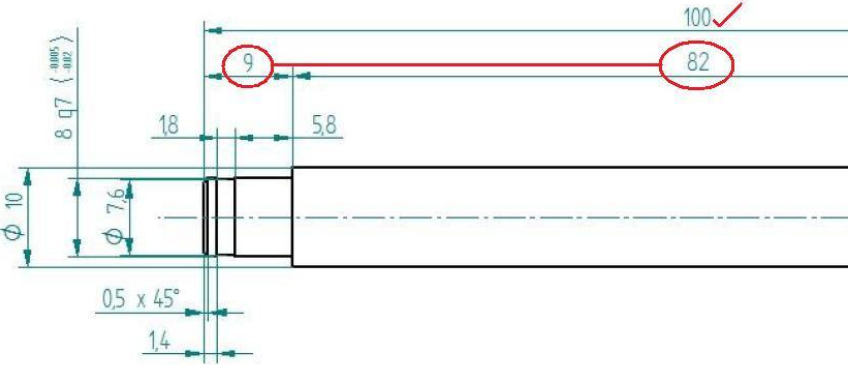
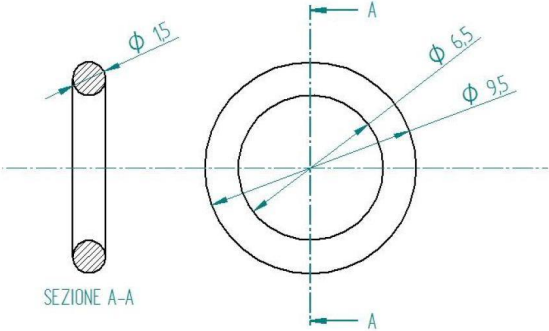
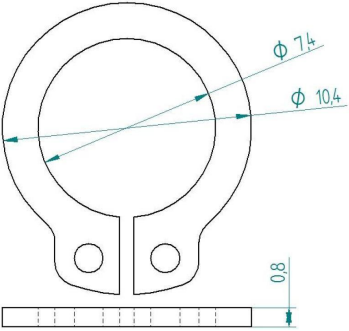
Date / Time / Place	Tuesday, 18 th & Thursday 20 th September 2012, Conference Room
Name of Workline	Workline B – Wagon Components
Name of Workgroup	Wheel Design

Representative workgroup member	[IE] John O’Neill
Co-representative workgroup member	[IT] Michele Agati
Co-representative workgroup member	[HR] Gordana Eric

Further workgroup members	Teachers and Students from [IE], [IT], [HR], [SK] & [HU]

Minute written by	[IE] Jack O’Neill
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Description of work progress: Topics / Tasks / Results / Decisions / Facts of importance	Responsible school(s) or person(s) incl. deadlines
<p>We discussed the problems we found on Monday which were:</p> <p>Problem: Rotation of wheel was stiff. Reason: Rubber O-ring pressing on stationary part of bearing. Solution: Increase width of groove to from 1.6 mm to 1.8mm. Note: This extra 0.2mm is taken from the 6mm length for the bearing. Thus reducing this length to 5.8mm.</p> 	

Description of work progress: Topics / Tasks / Results / Decisions / Facts of importance	Responsible school(s) or person(s) incl. deadlines
<p>Problem: The side to side clearance of 4mm on track is too generous. Reason: Inside to inside of wheel of 80mm + 2 x 3mm flanges = 86mm Track gauge is 90mm leaving 4mm clearance.</p> <p>Solution: Increase wheel to wheel distance to 82mm. Reduces side to side clearance to 2mm.</p> <p>Note: This increase is taken from the 10mm reduced diameters. Thus shortening ends to 9mm (overall length of 100mm stays)</p>  <p>Problem: Some schools may not be able to produce steel axles. Reason: CNC lathes not equipped with tooling for steel. Solution: Give an option of aluminium axles.</p> <p>Rubber O-ring to be used:</p>  <p>Circlip to be used:</p> 	
Drawings to be uploaded to the forum as soon as possible.	[IT]