

**Lampiran A.1 Spesifikasi Yamaha V-Ixion 2014**(Yamaha, 2016, *Spesifikasi Motor Yamaha v-ixion*, Yamaha.com)

<b>Tipe</b>	New Yamaha V-Ixion 2014	New Yamaha V-Ixion 2014
<b>Dimensi</b>		
<b>Panjang X Lebar X Tinggi</b>	1.856 x 694 x 1.060 mm	2.010 x 705 x 1.030 mm
<b>Jarak Sumbu Roda</b>	1.300 mm	1.300 mm
<b>Jarak terendah ke tanah</b>	165 mm	165 mm
<b>Berat isi</b>	129 kg	129 kg
<b>Kapasitas tangki bahan bakar</b>	12 liter	12 liter
<b>Rangka</b>		
<b>rangka</b>	Pressed backbone (Deltabox)	Pressed backbone (Deltabox)
<b>Tipe suspensi depan</b>	Teleskopik	Teleskopik
<b>Tipe suspensi belakang</b>	Lengan ayun link suspense monokross	Lengan ayun link suspense monokross
<b>Ukuran Ban Depan</b>	90/80 - 17 M/C 46P	90/80 - 17 M/C 46P
<b>Ukuran Ban Belakang</b>	120/70 - 17 M/C 58P	120/70 - 17 M/C 58P
<b>Rem Depan</b>	Cakram hidrolik, dengan piston ganda	Cakram hidrolik, dengan piston ganda
<b>Rem Belakang</b>	Cakram hidrolik, dengan piston tunggal	Cakram hidrolik, dengan piston tunggal
<b>Mesin</b>		
<b>Mesin</b>	4-langkah, SOHC-fuel injection,berpendingin cairan	4-langkah, SOHC-fuel injection,berpendingin cairan

<b>Jumlah/posisi silinder Volume silinder</b>	Silinder tunggal 149,8 cc	Silinder tunggal 149,8 cc	
<b>Diameter X Langkah</b>	57 x 58,7 mm	57 x 58,7 mm	
<b>Perbandingan Kompresi</b>	10,4 : 1	10,4 : 1	
<b>Daya Maksimum</b>	12,2 kW (16, 59 PS / 8.500 rpm)	12,2 kW (16, 59 PS / 8.500 rpm)	
<b>Torsi Maksimum</b>	14,5 N.m (1,48 kgf.m) / 7,500 rpm	14,5 N.m (1,48 kgf.m) / 7,500 rpm	
<b>Kapasitas Minyak Pelumas Mesin</b>	1 liter	1 liter	
<b>Tipe Kopling</b>	Basah , kopling manual, multiplat	Basah , kopling manual, multiplat	
<b>Tipe Transmsi</b>	Return 5 kecepatan		
<b>Pola Pengoperan Gigi</b>	(1-N-2-3-4-5)	(1-N-2-3-4-5)	
<b>Tipe Starter</b>	Elektrik dan kick starter	Elektrik dan kick starter	
<b>Kelistrikan</b>			
<b>Tipe Battery</b>	YTZ4V/GTZ4V (MF Battery 3Ah)	YTZ4V/GTZ4V (MF Battery 3Ah)	
<b>Busi</b>	CR8E (NGK) U24ESR-N (DENSO)	CR8E (NGK) U24ESR-N (DENSO)	
<b>Pengapian</b>	T.C.I./ Transistorizad Control ignition (Digital)	T.C.I./ Transistorizad Control ignition (Digital)	

**Lampiran A.2 Stress Analysis Report pemodelan *handle* asli**

**Stress Analysis Report**

**Autodesk®**

Analyzed File:	Handle asli mm.ipt
Autodesk Inventor Version:	2013 (Build 180222103, 222)
Creation Date:	1/06/2016, 11:50
Simulation Author:	Supri
Summary:	

**Project Info (iProperties)**

**Summary**

Author	Supri
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**Project**

Part Number	Handle asli mm.ipt
Designer	supri
Cost	0.00
Date Created	12/17/2016

**Status**

Design Status	WorkInProgress
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**Physical**

Material	Aluminum 6061-AHC
Density	2,71 g/cm <sup>3</sup>
Mass	0,0789774 kg
Area	10936,8 mm <sup>2</sup>
Volume	28869,9 mm <sup>3</sup>
Center of Gravity	x=-75,4797 mm y=-5,28276 mm z=-3,30932 mm

Note: Physical values could be different from Physical values used by FEA reported below.

**Simulation:1****General objective and settings:**

Design Objective	Single Point
Simulation Type	Static Analysis
Last Modification Date	12/26/2016, 11:42
Detect and Eliminate Rigid Body Modes	No

**Mesh settings:**

Avg. Element Size (fraction of model diameter)	0,1
Min. Element Size (fraction of avg. size)	0,2
Grading Factor	1,5
Max. Turn Angle	60 deg
Create Curved Mesh Elements	Yes

### Material(s)

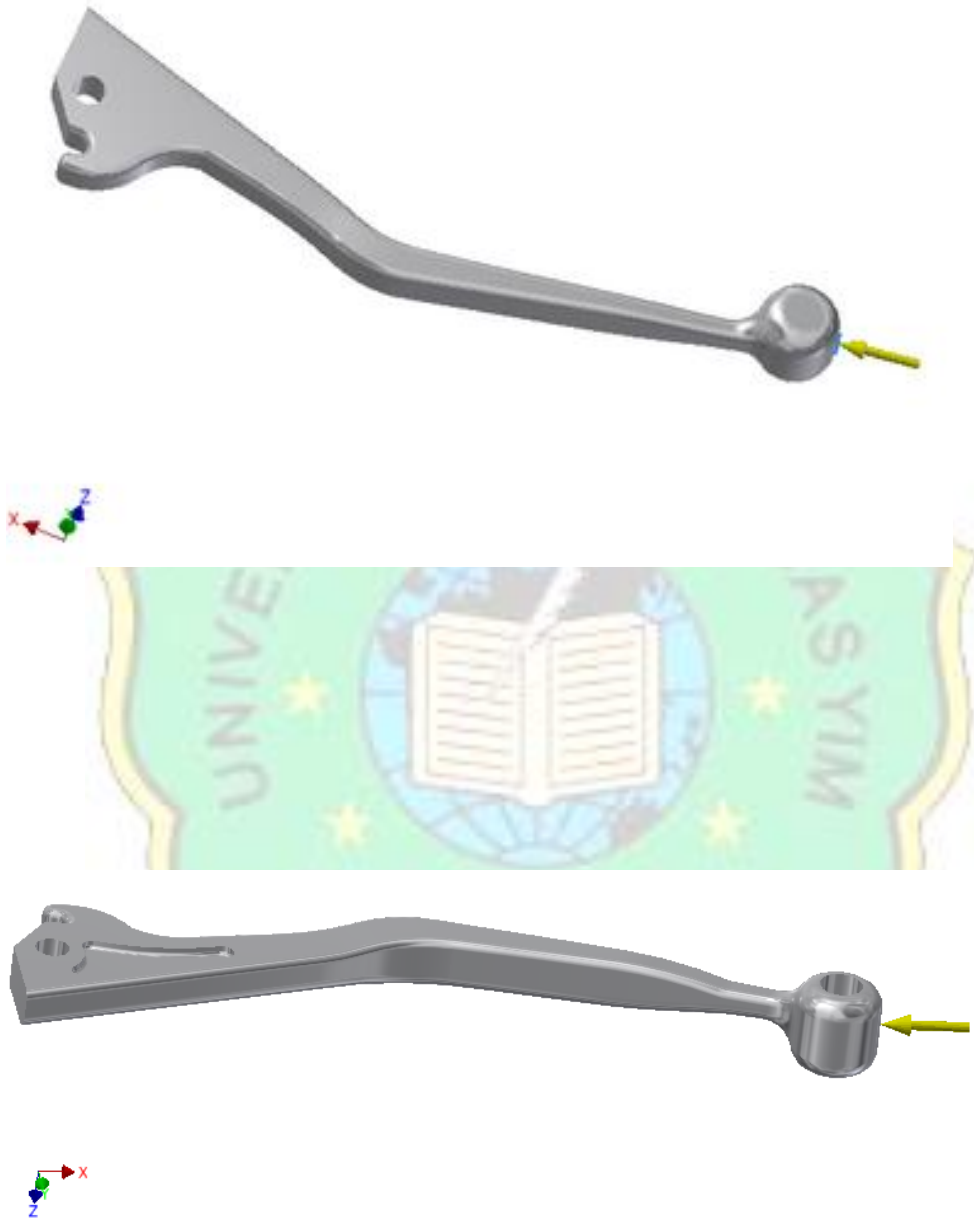
Name	Aluminum 6061-AHC	
General	Mass Density	2,71 g/cm <sup>3</sup>
	Yield Strength	275 MPa
	Ultimate Tensile Strength	310 MPa
Stress	Young's Modulus	68,9 GPa
	Poisson's Ratio	0,33 ul
	Shear Modulus	25,9023 GPa
Part Name(s)	Part handle asli.ipt	

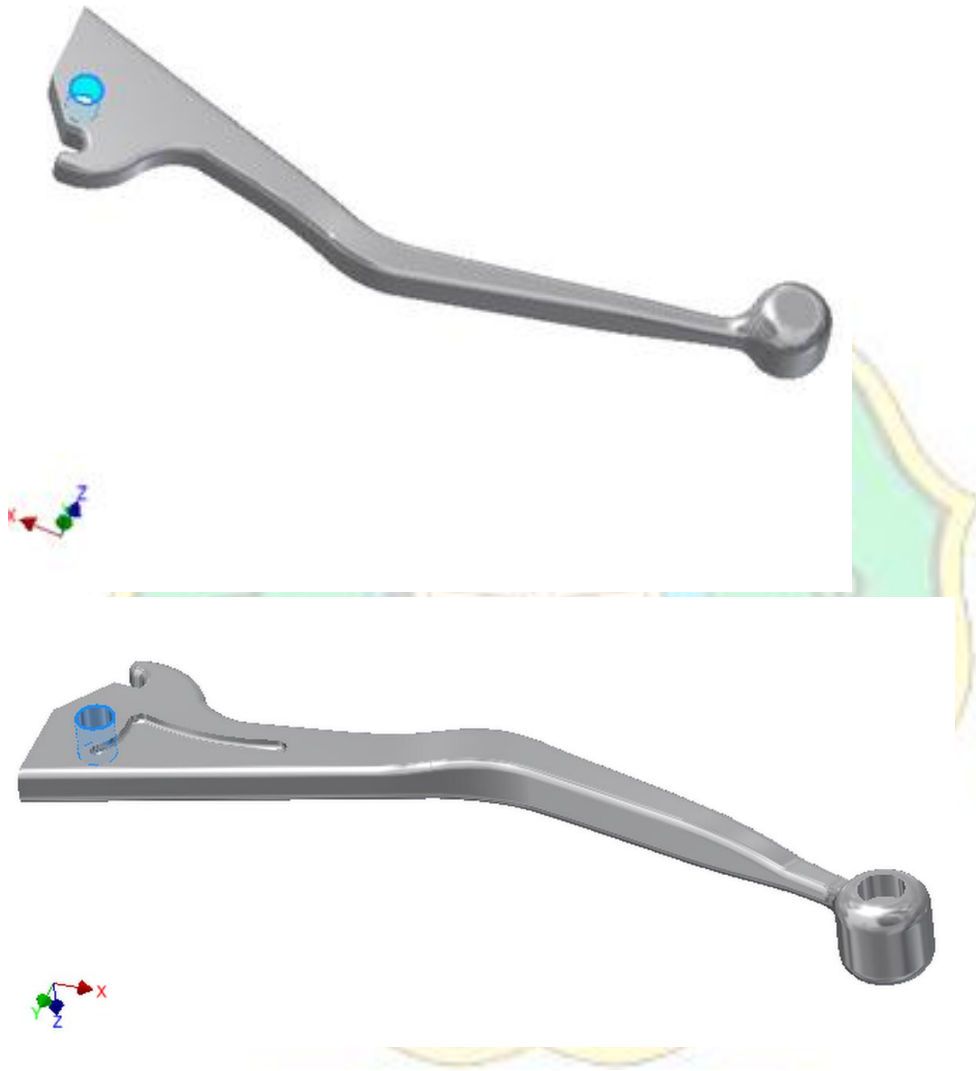
### Operating conditions

#### *Force:1*

Load Type	Force
Magnitude	1115,160 N
Vector X	1148.225 N
Vector Y	-0,000 N
Vector Z	-195,160 N

**Selected Face(s)**



**Fixed Constraint:1****Selected Face(s)**

### Reaction Force Moment on Constraints

Constraint Name	Reaction Force		Reaction Moment	
	Magnitude	Component (X,Y,Z)	Magnitude	Component (X,Y,Z)
Fixed Constraint:1	632.459 N	623.537 N	6.9817 N m	0 N m
		105.858 N		0 N m
		0 N		6.9817 N m
Fixed Constraint:2	632.459 N	623.537 N	6.9817 N m	0 N m
		105.858 N		0 N m
		0 N		6.9817 N m

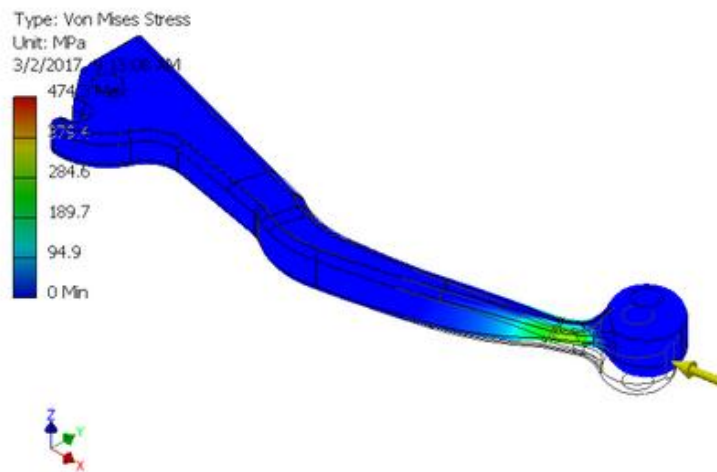
### Result Summary

Name	Minimum	Maximum
Volume	28869,9 mm <sup>3</sup>	
Mass	0,0789774 kg	
Von Mises Stress	0.021357 MPa	474.291 MPa
1st Principal Stress	-39.9595 MPa	337.404 MPa
3rd Principal Stress	-486.274 MPa	14.5794 MPa
Displacement	0 mm	2,314 mm
Safety Factor	0,579813 ul	15 ul

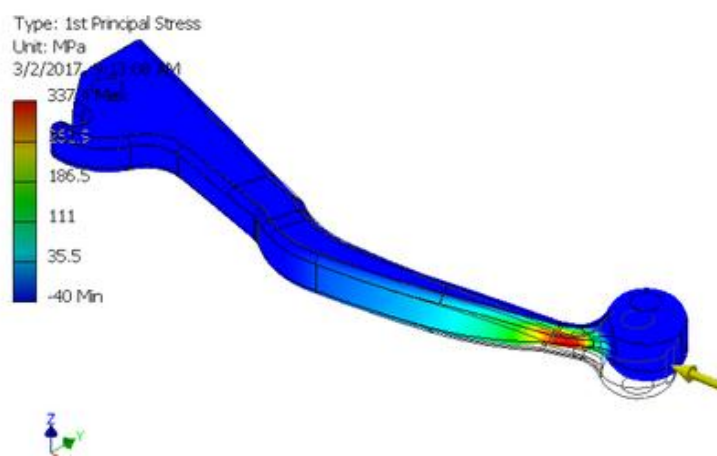


## Figures

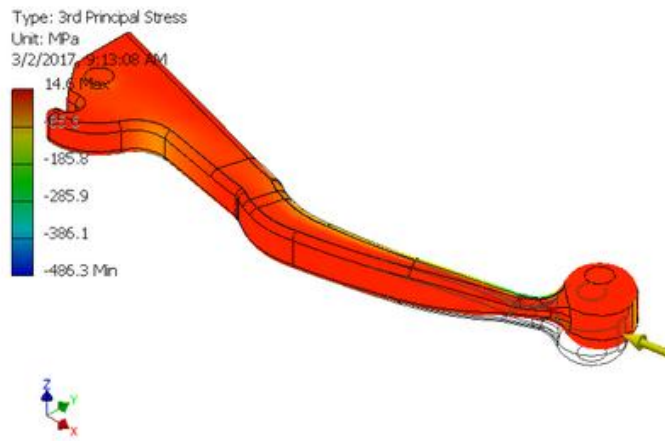
### Von Mises Stress



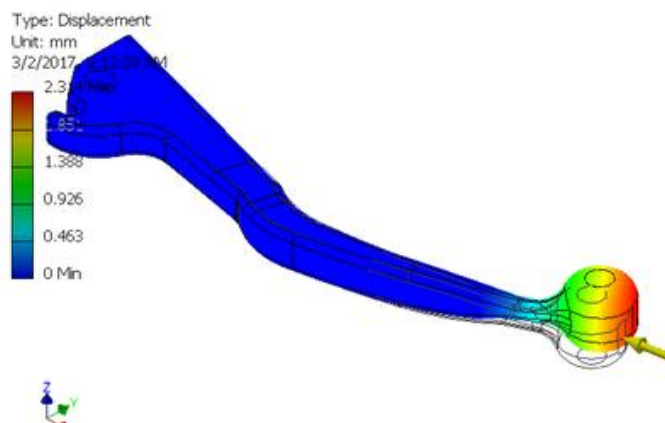
### 1st Principal Stress



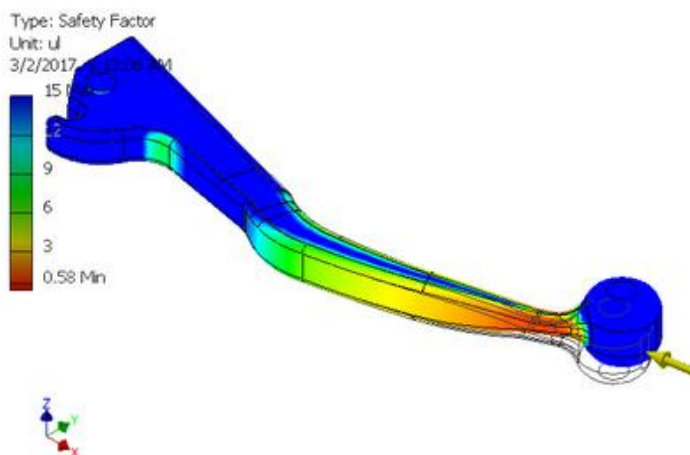
### 3rd Principal Stress



### Displacement



### Safety Factor



**Lampiran A.3. Handle asli, pengukuran berat, pengujian Rockwell dan simulasi menggunakan Autodesk Inventor Professional.**



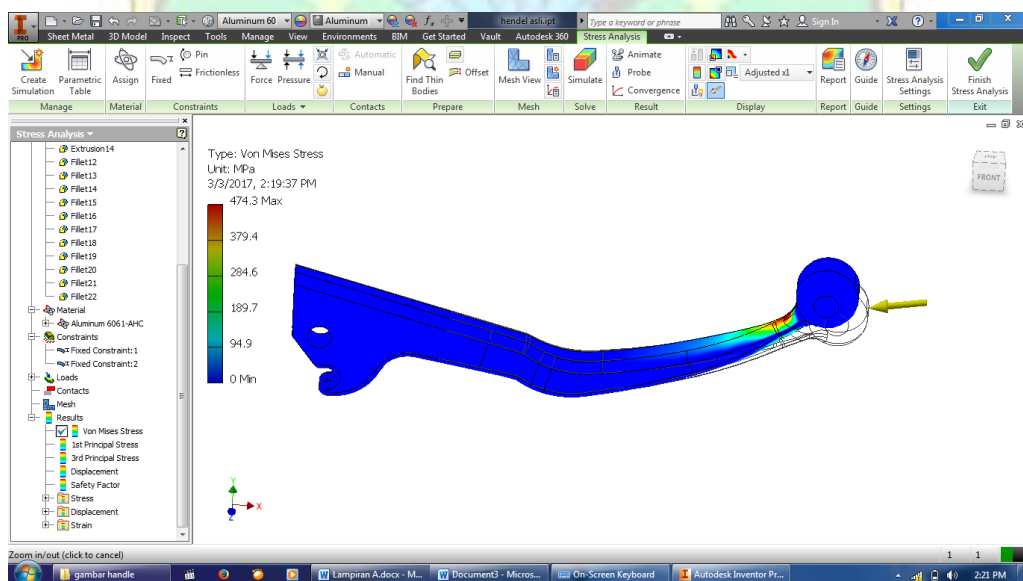
*Handle asli*



**Pengukuran berat *handle***



**Pengujian Rockwell**



**Simulasi menggunakan Autodesk Inventor Professional**