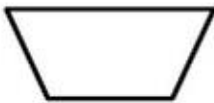
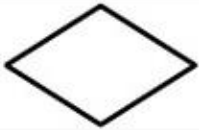
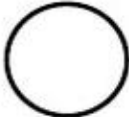


LAMPIRAN

Lampiran 1. Lembar konsultasi bimbingan tugas akhir

		UNIVERSITAS SANGGA BUANA YPKP FAKULTAS TEKNIK PROGRAM STUDI S1 TEKNIK MESIN LEMBAR KONSULTASI BIMBINGAN TUGAS AKHIR	
NPM	2115161002		
NAMA	Ahmad Rianto		
PEMBIMBING	Jenal Sodikin, S.T., M.T.		
JUDUL TUGAS AKHIR	Rancang Bangun Mesin Duplikat Kunci		
NO.	TANGGAL BIMBINGAN	POKOK BAHASAN	PARAF PEMBIMBING
1	06-02-20	PENGAJUAN BAB I	
2	22-02-20	REVISI BAB I	
3	02-03-20	ACC BAB I	
4	19-03-20	PENGAJUAN BAB II	
5	06-04-20	REVISI BAB II	
6	29-04-20	ACC BAB II	
7	04-05-20	PENGAJUAN BAB III	
8	20-05-20	ACC BAB III	
9	10-06-20	PENGAJUAN BAB IV	
10	24-06-20	ACC BAB IV	
11	15-07-20	PENGAJUAN BAB V	
12	12-08-20	ACC BAB V	
Dimulai pada tanggal	06-02-2020	Disetujui oleh: Dosen Pembimbing,  Jenal Sodikin, S.T., M.T. NIDN. 0424038403	
Berakhir pada tanggal	12-08-2020		
Jumlah konsultasi	dua belas (12)		
Diusulkan sidang tanggal			

Lampiran 2 Lambang-lambang diagram alir

LAMBANG	NAMA	KETERANGAN
	Terminal	Untuk menyatakan mulai (<i>start</i>), berakhir (<i>finish</i>), dan berhenti (<i>stop</i>).
	Input	Data dan persyaratan diberikan disusun di sini
	Pekerjaan orang	Disini perlu pertimbangan-pertimbangan seperti: pemilihan persyaratan kerja, bahan dan perlakuan panas. Penggunaan faktor-faktor keamanan dan faktor-faktor lain.
	Pengolahan	Pengolahan dilakukan secara mekanis dengan menggunakan persamaan, tabel dan gambar.
	Keputusan	Harga yang dihitung dibandingkan dengan harga patokan, dll. Untuk mengambil keputusan.
	Dokumen	Hasil perhitungan yang utama dikeluarkan pada alat tik
	Penghubung	Untuk menyatakan pengeluran dari tempat keputusan ketempat sebelumnya atau berikutnya atau suatu pemasukan ke dalam aliran yang berlanjut.
	Garis alir	Untuk menghubungkan langkah-langkah yang berurutan.

Kiyokarsu Suga, Sularso. 2004

Lampiran 3. Mesin duplikat kunci



Lampiran 4. Data sheet ASTM A36

ASTM A36 Steel, bar

Categories: [Metal](#); [Ferrous Metal](#); [ASTM Steel](#); [Carbon Steel](#); [Low Carbon Steel](#)

Material Notes: Minimum Cu content when copper steel is specified. Used for guardrails.

Key Words: UNS K02600

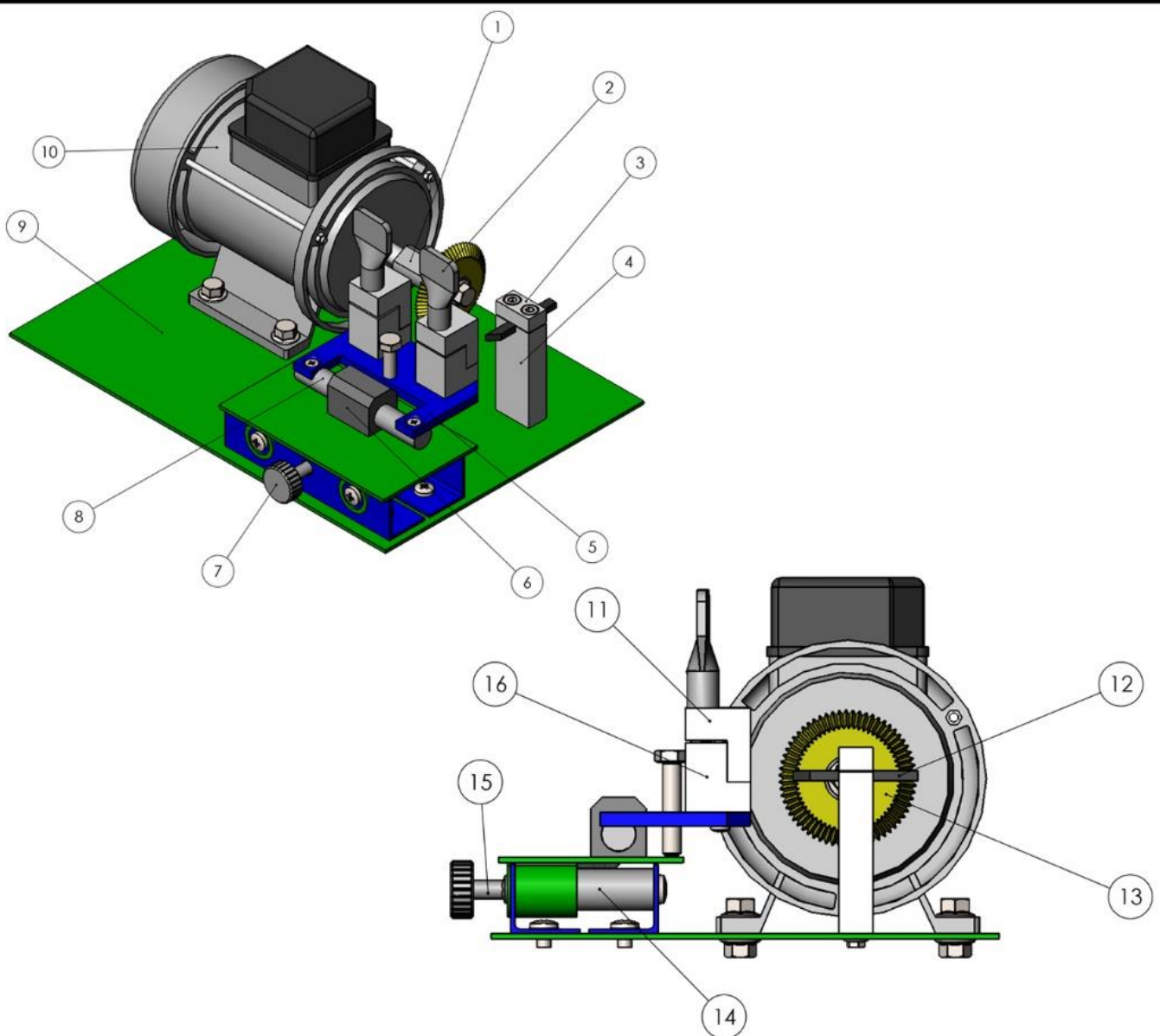
Vendors: [Click here to view all available suppliers for this material.](#)

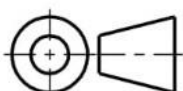
Please [click here](#) if you are a supplier and would like information on how to add your listing to this material.

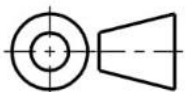
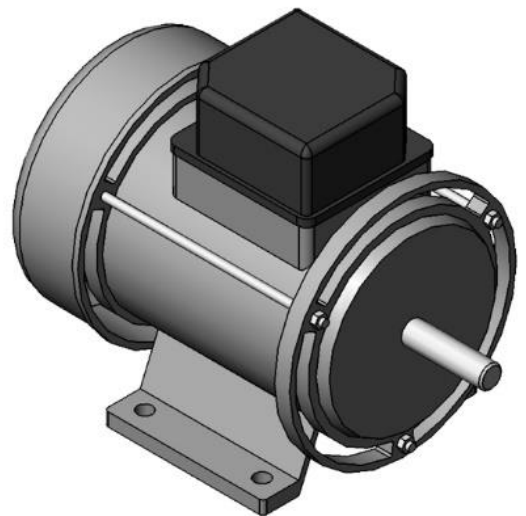
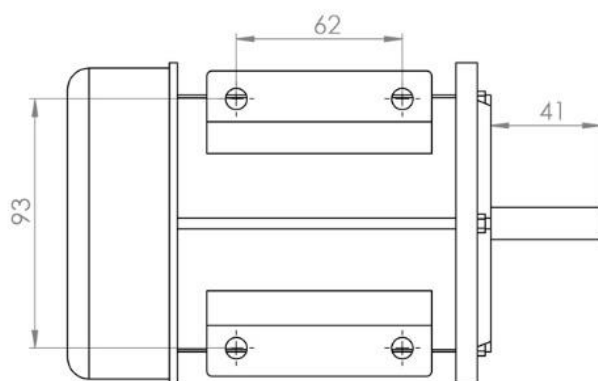
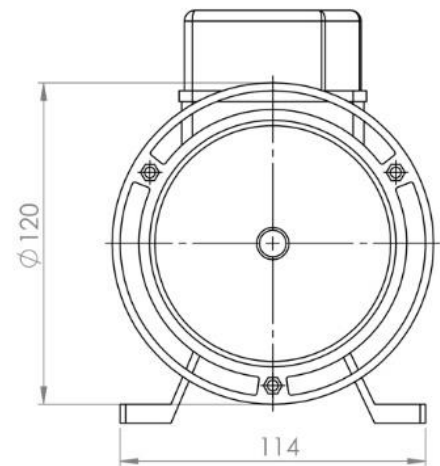
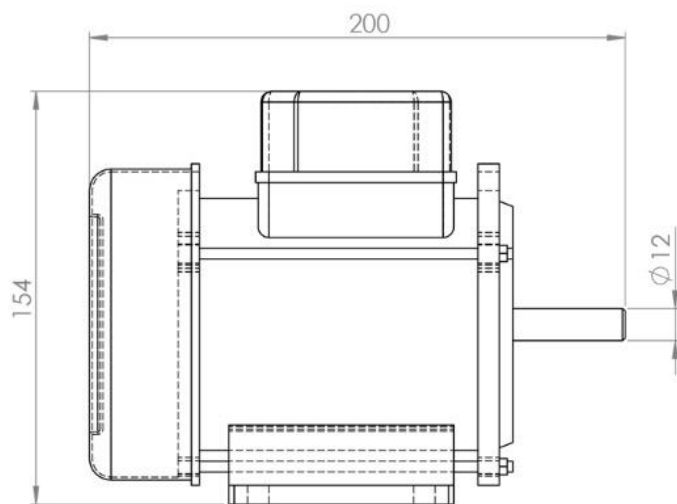
Physical Properties	Metric	English	Comments
Density	7.85 g/cc	0.284 lb/in ³	
Mechanical Properties	Metric	English	Comments
Tensile Strength, Ultimate	400 - 550 MPa	58000 - 79800 psi	
Tensile Strength, Yield	250 MPa	36300 psi	
Elongation at Break	20.0 %	20.0 %	in 200 mm
	23.0 %	23.0 %	In 50 mm.
Modulus of Elasticity	200 GPa	29000 ksi	
Compressive Yield Strength	152 MPa	22000 psi	Allowable compressive strength
Bulk Modulus	140 GPa	20300 ksi	Typical for steel
Poissons Ratio	0.260	0.260	
Shear Modulus	79.3 GPa	11500 ksi	
Component Elements Properties	Metric	English	Comments
Carbon, C	0.260 %	0.260 %	
Copper, Cu	0.20 %	0.20 %	
Iron, Fe	99.0 %	99.0 %	
Manganese, Mn	0.75 %	0.75 %	
Phosphorous, P	<= 0.040 %	<= 0.040 %	
Sulfur, S	<= 0.050 %	<= 0.050 %	

[References](#) for this datasheet.

Some of the values displayed above may have been converted from their original units and/or rounded in order to display the information in a consistent format. Users requiring more precise data for scientific or engineering calculations can click on the property value to see the original value as well as raw conversions to equivalent units. We advise that you only use the original value or one of its raw conversions in your calculations to minimize rounding error. We also ask that you refer to MatWeb's [terms of use](#) regarding this information. [Click here](#) to view all the property values for this datasheet as they were originally entered into MatWeb.



16	Cekam bawah	2	Duralium 7075	-	Dibuat	
15	Tuas pengatur	1	Low carbon steel	-	Dibeli	
14	Dudukan tuas pengatur	2	ASTM A36	-	Dibuat	
13	Mata pisau	1	HSS	-	Dibeli	
12	Pisau master	1	ASTM A36	-	Dibuat	
11	Cekam atas	2	Duralium 7075	-	Dibuat	
10	Motor listrik	1	-	-	Dibeli	
9	Alas mesin duplikat kunci	1	ASTM A36	-	Dibuat	
8	Poros engsel	1	ASTM A36	-	Dibuat	
7	Handel tuas pengatur	1	ASTM A36	-	Dibuat	
6	Dudukan engsel	1	Duralium 7075	-	Dibuat	
5	Engsel	1	ASTM A36	-	Dibuat	
4	Dudukan pisau master	1	Duralium 7075	-	Dibuat	
3	Pengunci pisau master	1	ASTM A36	-	Dibuat	
2	Pengunci cekam	2	Duralium 7075	-	Dibuat	
1	Poros	1	ASTM A36	-	Dibuat	
No.	Nama Komponen	Jmlh.	Bahan	Ukuran	Keterangan	
	Skala : 1 : 2		Digambar : Ahmad Rianto		Peringatan	
	Satuan : mm		NPM : 2115161002			
	Tanggal : 30-05-2020		Diperiksa : -			
MESIN-FT-USB		MESIN DUPLIKAT KUNCI			Skripsi	A4



Skala : 1 : 2

Satuan : mm

Tanggal : 30-05-2020

Digambar : Ahmad Rianto

NPM : 2115161002

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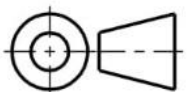
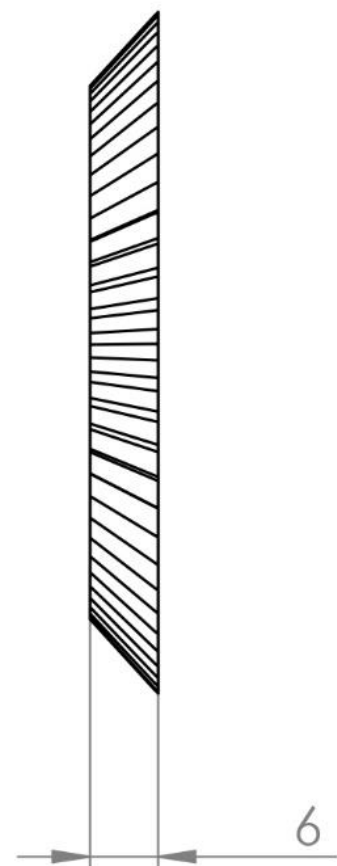
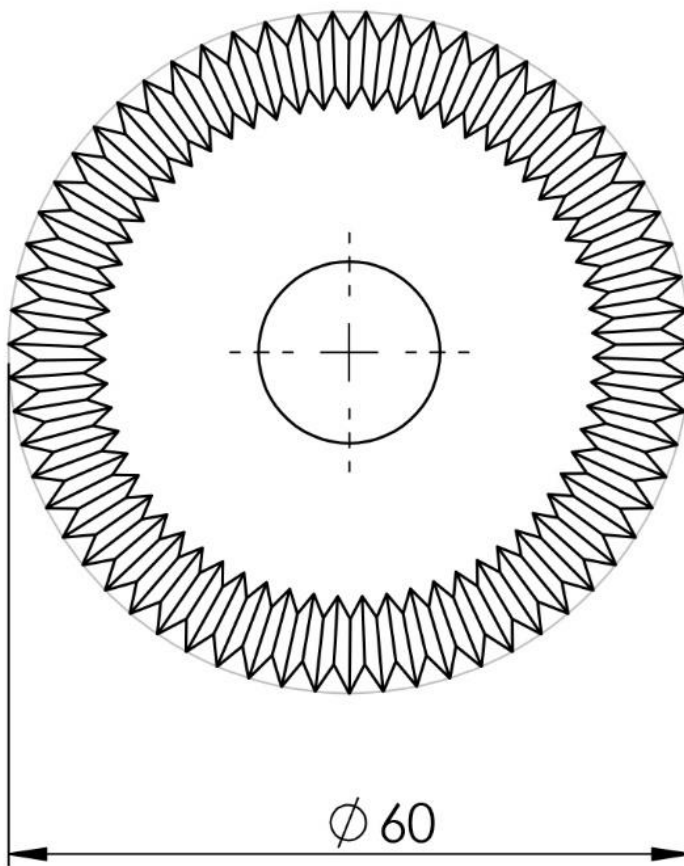
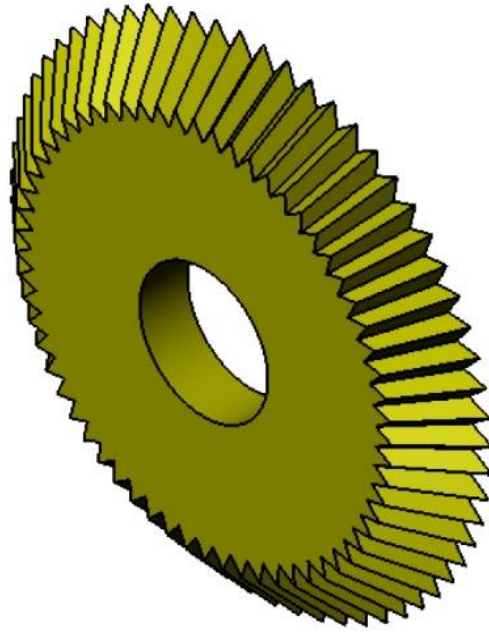
Peringatan

MESIN-FT-USB

MOTOR LISTRIK

Skripsi

A4



Skala : 1 : 2

Satuan : mm

Tanggal : 30-05-2020

Digambar : Ahmad Rianto

NPM : 2115161002

Diperiksa : -

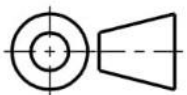
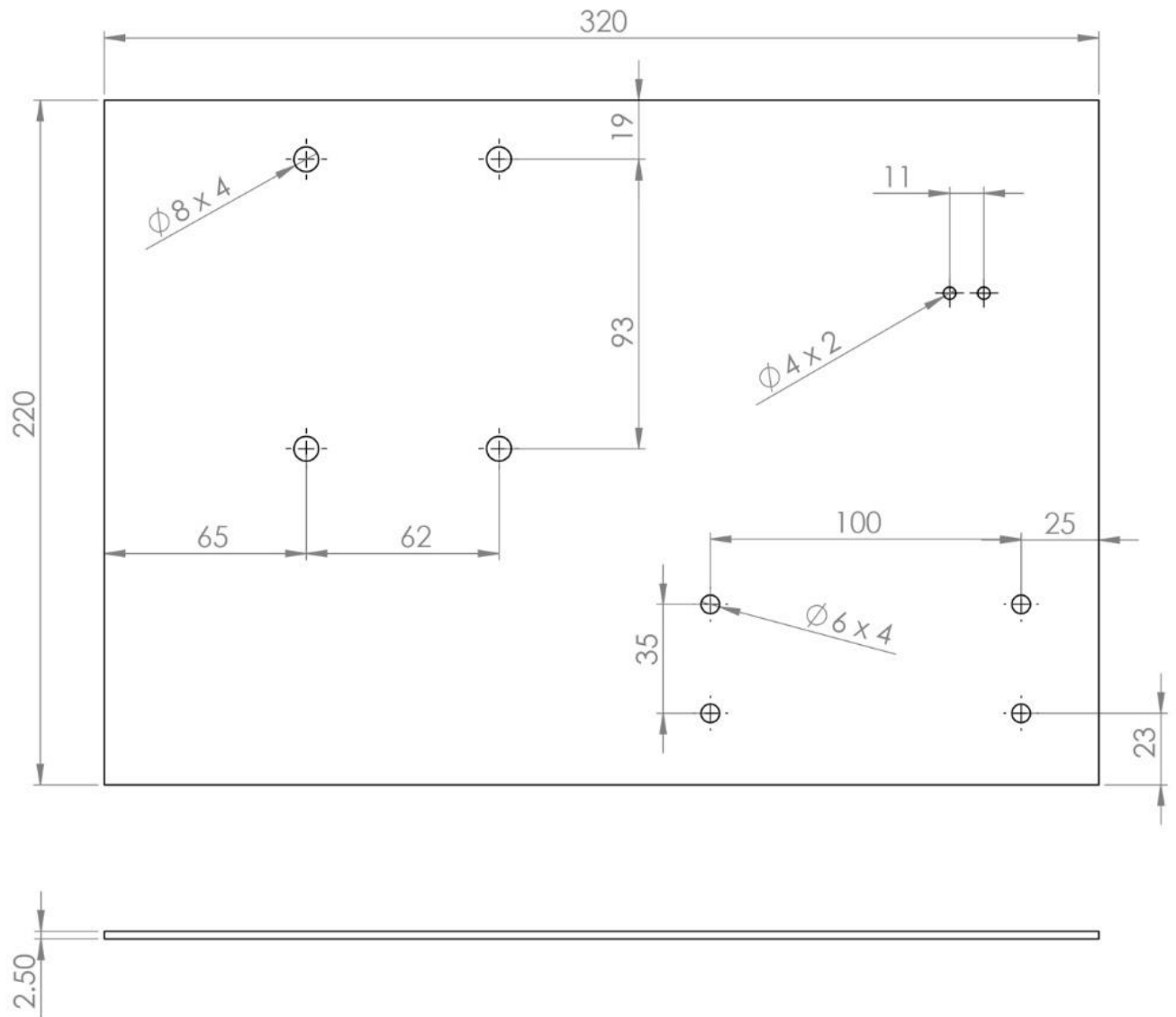
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MESIN-FT-USB

MATA PISAU

Skripsi

A4



Skala : 1 : 2

Satuan : mm

Tanggal : 30-05-2020

Digambar : Ahmad Rianto

NPM : 2115161002

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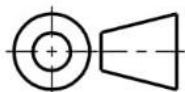
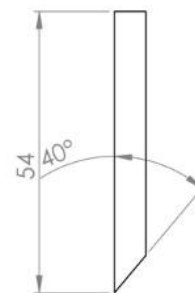
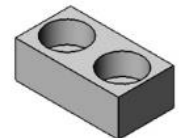
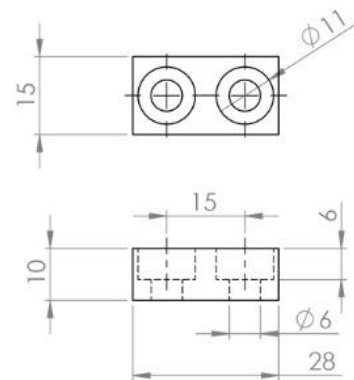
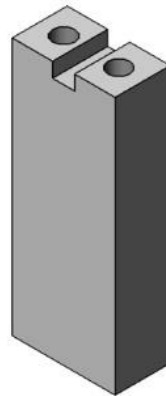
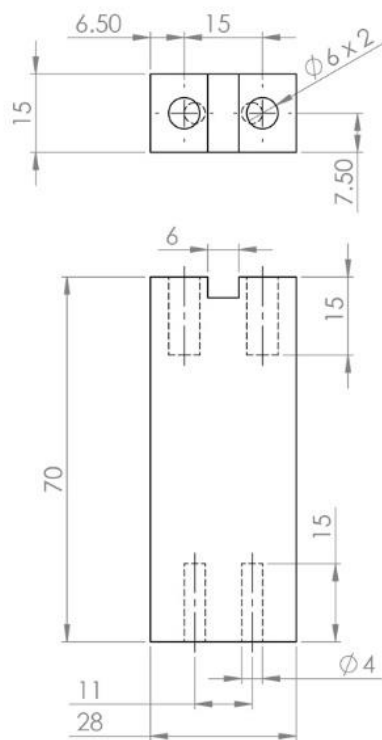
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ALAS MESIN DUPLIKAT KUNCI

Skripsi

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Satuan : mm

Tanggal : 30-05-2020

Digambar : Ahmad Rianto

NPM : 2115161002

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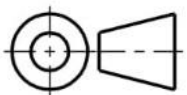
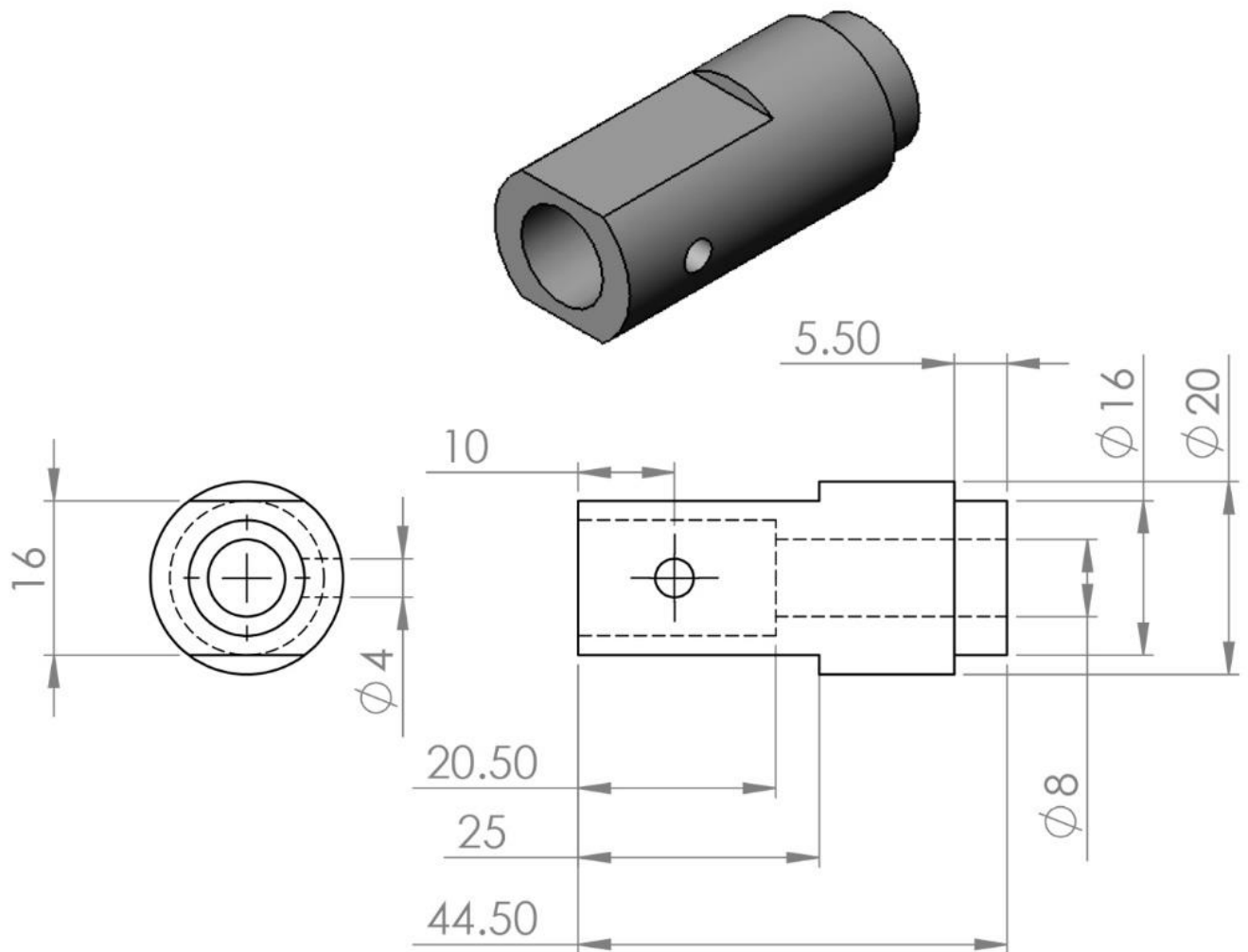
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MESIN-FT-USB

DUDUKAN DAN PISAU MASTER

Skripsi

A4



Skala : 1 : 2

Satuan : mm

Tanggal : 30-05-2020

Digambar : Ahmad Rianto

NPM : 2115161002

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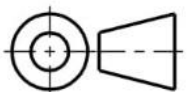
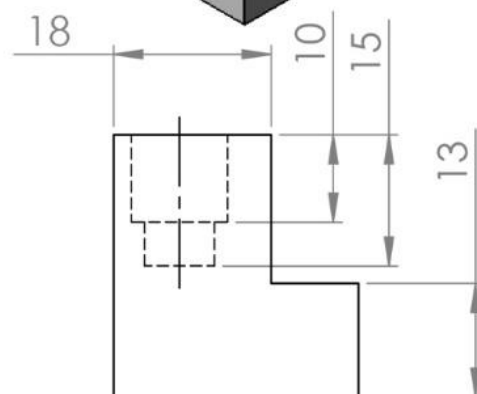
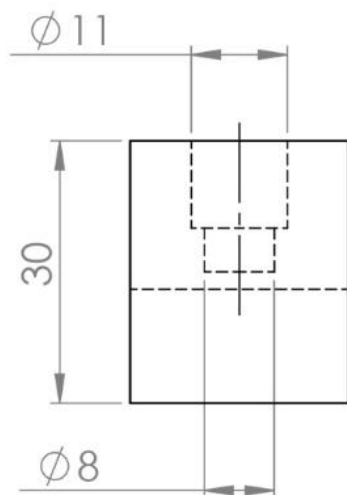
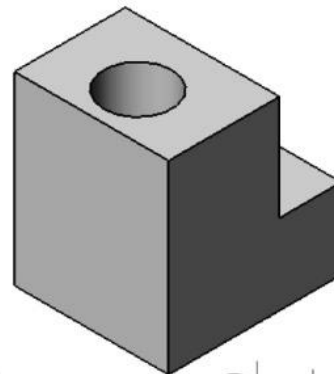
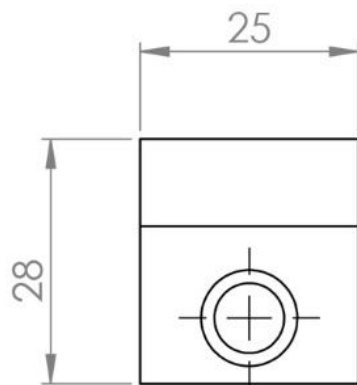
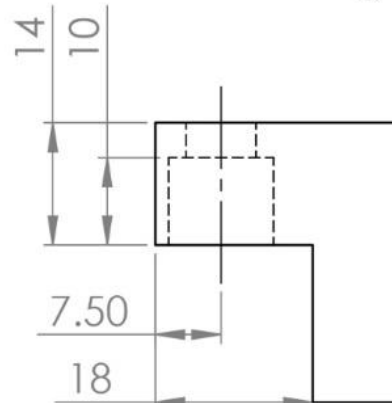
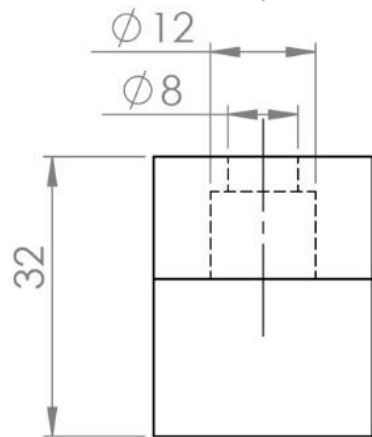
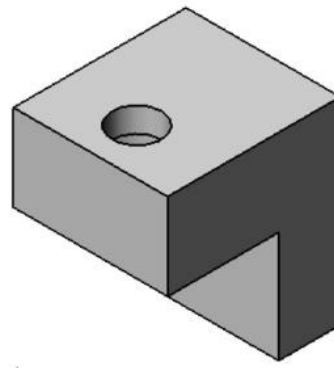
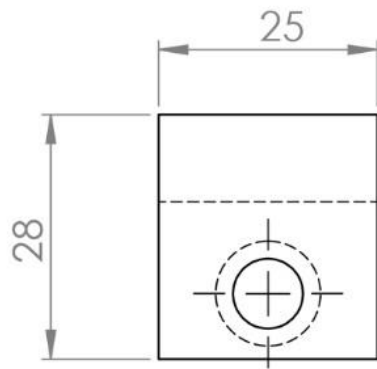
Peringatan

MESIN-FT-USB

POROS

Skripsi

A4



Skala : 1 : 2

Satuan : mm

Tanggal : 30-05-2020

Digambar : Ahmad Rianto

NPM : 2115161002

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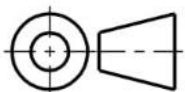
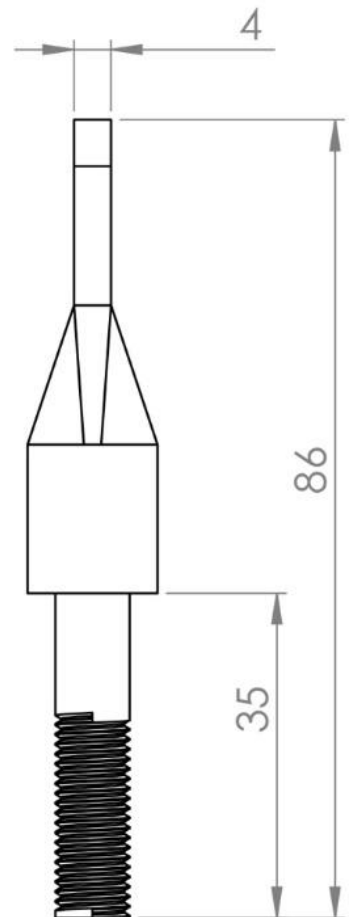
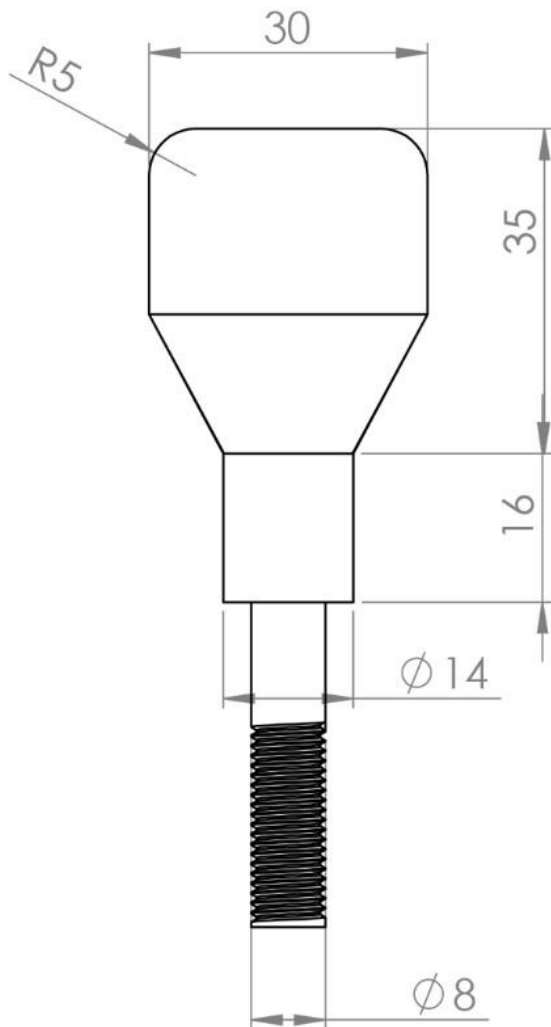
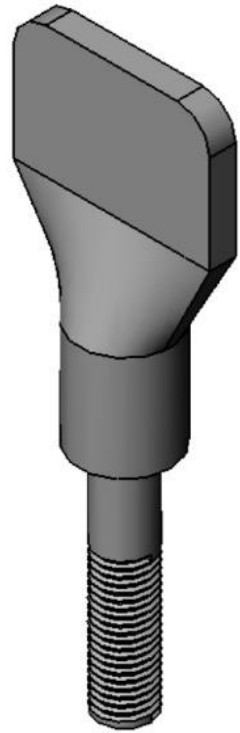
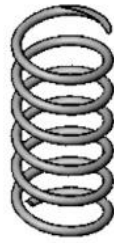
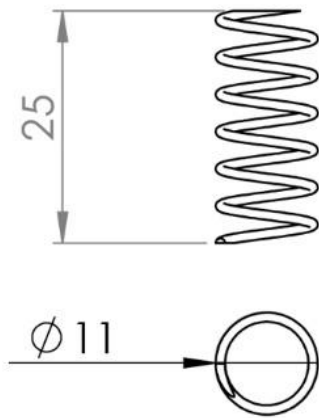
Peringatan

MESIN-FT-USB

CEKAM KUNCI

Skripsi

A4



Skala : 1 : 2

Satuan : mm

Tanggal : 30-05-2020

Digambar : Ahmad Rianto

NPM : 2115161002

Diperiksa : -

Peringatan

MESIN-FT-USB

PENGUNCI CEKAM

Skripsi

A4