



**BALAI PENGEMBANGAN TALENTA INDONESIA**  
PUSAT PRESTASI NASIONAL  
SEKRETARIAT JENDERAL  
KEMENTERIAN PENDIDIKAN, KEBUDAYAAN, RISET, DAN TEKNOLOGI

**MERDEKA  
BELAJAR**



# KISI-KISI

## LOMBA KOMPETENSI SISWA SMK TINGKAT NASIONAL TAHUN 2023



### BIDANG LOMBA

**Teknik Rekayasa Pembuatan Mould**  
*(Plastic Die Engineering)*

**MERDEKA BERPRESTASI**  
Talenta Vokasi Menginspirasi



KISI - KISI

# PLASTIC DIE ENGINEERING

LKS SMK  
TINGKAT NASIONAL  
KE XXXI

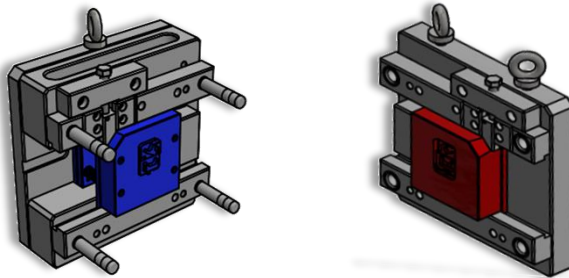
## 2023

CREATED BY : - MURYANTO  
- LUTFY E.B

KEMENTERIAN PENDIDIKAN, KEBUDAYAAN, RISET, DAN TEKNOLOGI  
**BALAI PENGEMBANGAN TALENTA INDONESIA**

Jl. Gardu, Srengseng Sawah  
Website : [www.pusatprestasinasional.kemdikbud.go.id](http://www.pusatprestasinasional.kemdikbud.go.id)  
SRENGSENG SAWAH - JAKARTA

**LOMBA KOMPETENSI SISWA  
(LURING)  
SEKOLAH MENENGAH KEJURUAN  
TINGKAT NASIONAL KE- XXXI TAHUN 2023**



**SOAL**

**BIDANG LOMBA  
PLASTIC DIE ENGINEERING**

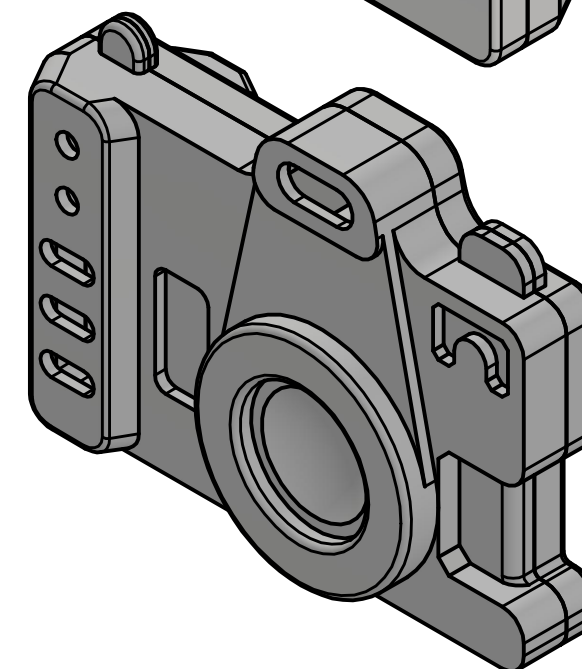
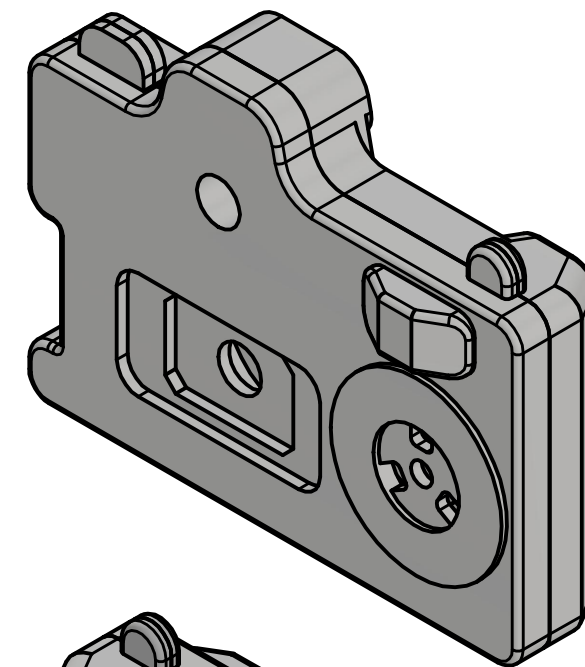
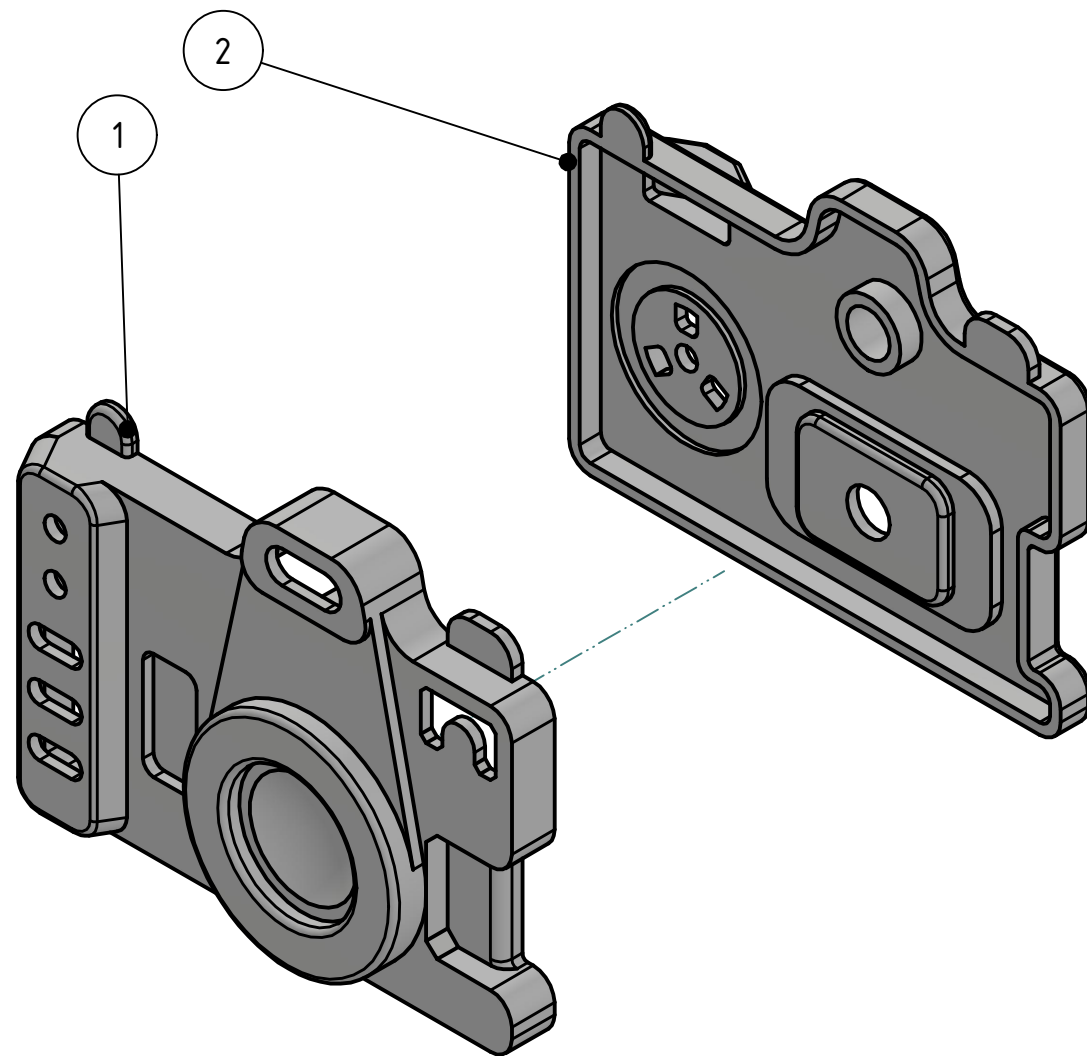


**KEMENTERIAN PENDIDIKAN, KEBUDAYAAN, RISET, DAN TEKNOLOGI  
BADAN PENGEMBANGAN TALENTA INDONESIA (BPTI)**

Jalan Gardu, Srengseng Sawah  
Website: [www.pusatprestasinasional.kemdikbud.go.id](http://www.pusatprestasinasional.kemdikbud.go.id)

**SRENGSENG SAWAH - JAKARTA**





## ASSEMBLY

2	1	CAMERA PART 2	
1	1	CAMERA PART 1	
ITEM	QTY	PART NUMBER	DESCRIPTION

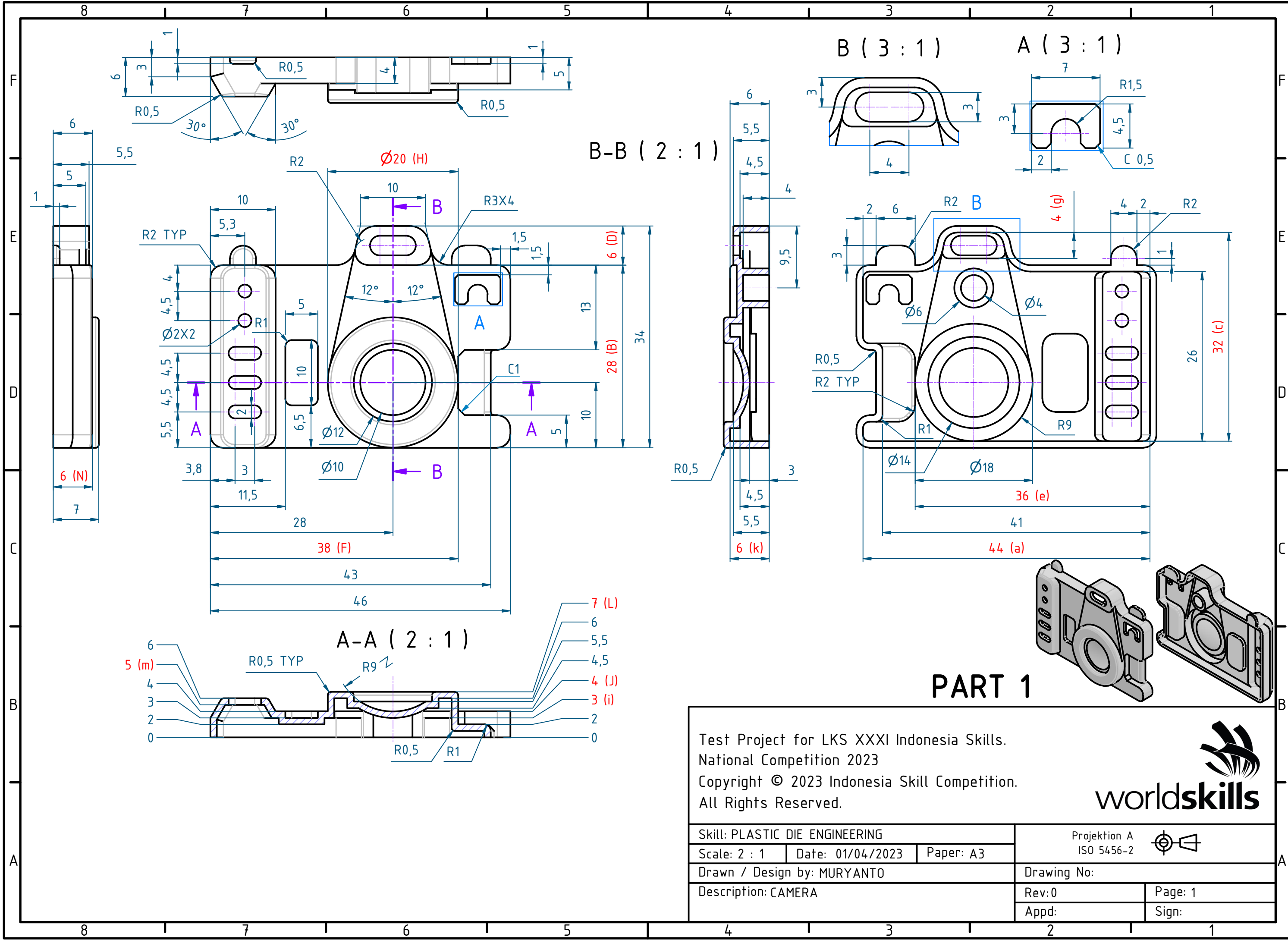
### Ensure That

- 1) The moulding component is polystyrene (shrinkage approx. 0.5%).
- 2) There is no burr on the product (moulded part).
- 3) There is no cutter mark of machining on the surface of the product (moulded part).
- 4) There is no scratches, dent etc on the surface of the product (moulded part).
- 5) There is no defective moulding such as flow marks, weld line, burn etc.
- 6) Steps of ejector pin mark are within 0.1mm. Protrusions are not allowed

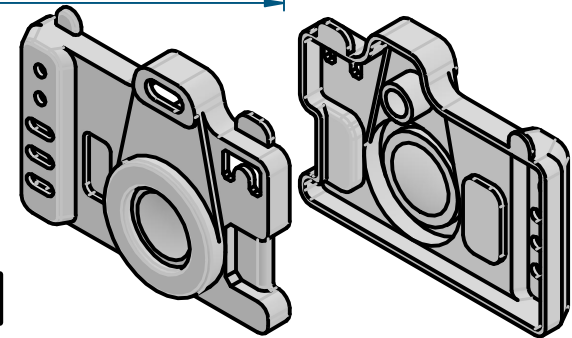
Test Project for LKS XXXI Indonesia Skills.  
National Competition 2023  
Copyright © 2023 Indonesia Skill Competition.  
All Rights Reserved.



Skill: PLASTIC DIE ENGINEERING		Projektion A ISO 5456-2	
Scale: 1 : 2	Date: 01/04/2023		
Drawn / Design by: MURYANTO		Drawing No: DRAWING ASSY	
Description: CAMERA		Rev: 0	Page: 3
		Appd:	Sign:



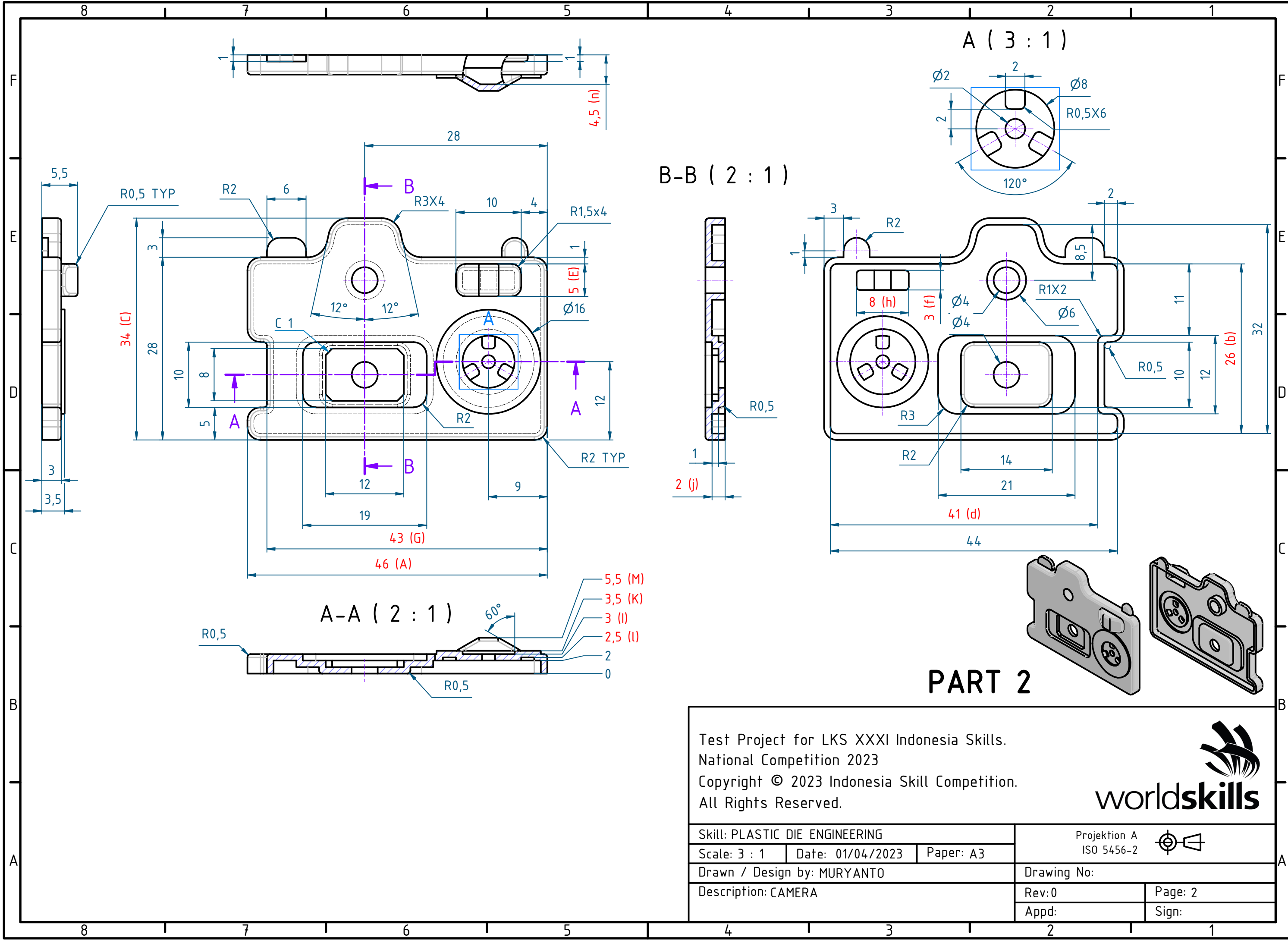
# PART 1



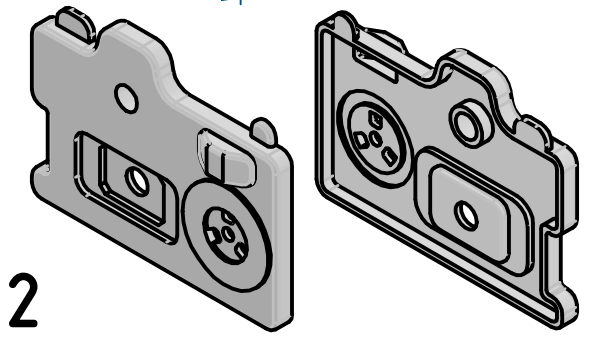
Test Project for LKS XXXI Indonesia Skills.  
 National Competition 2023  
 Copyright © 2023 Indonesia Skill Competition.  
 All Rights Reserved.

Skill: PLASTIC DIE ENGINEERING			Projektion A ISO 5456-2	
Scale: 2 : 1	Date: 01/04/2023	Paper: A3		
Drawn / Design by: MURYANTO				
Description: CAMERA			Rev:0	Page: 1
			Appd:	Sign:





## PART 2



Test Project for LKS XXXI Indonesia Skills.  
National Competition 2023  
Copyright © 2023 Indonesia Skill Competition.  
All Rights Reserved.

Skill: PLASTIC DIE ENGINEERING			Projektion A ISO 5456-2	
Scale: 3 : 1	Date: 01/04/2023	Paper: A3		
Drawn / Design by: MURYANTO				
Description: CAMERA			Drawing No:	
			Rev: 0	Page: 2
			Appd:	Sign:



## PETUNJUK MENGERJAKAN TEST PROJECT

### MOULD DESIGN

### LKS NASIONAL 2023

1. Berdo'a.
2. Perhatikan Soal/gambar plastik, lihat ukurannya dengan teliti dan pahami dengan baik.
3. - Menyiapkan / Membuat 1 Folder Baru di Desktop yang akan dipakai untuk mengerjakan modul Mould Design dengan nama  
LKS<Tahun>\_PDE\_<Nama>\_<Provinsi>.
4. - Pada Folder Mould Design harus berisi semua file gambar yang sudah dibuat (File **IAM, IPT, IDW, PDF & Pack n Go Gambar Assembly**)
  - Semua File Gambar (**IAM, IPT, IDW, PDF & pack n Go Assembly**) harus disimpan (Save as).
  - File Disimpan dengan rapi di dalam Folder tersebut dengan penamaan file sbb :  
PDE\_<Nama Gambar>\_<Nama Siswa>\_<Nama Singkatan Provinsi>.  
Contoh :  
PDE\_Cavity Mould\_Eko Purwanto\_Banten  
PDE\_Core Mould\_Eko Purwanto\_Banten  
PDE\_Assembly Mould\_Eko Purwanto\_Banten  
dst.
5. Gambar kerja yang diberikan adalah gambar part plastik yang kemudian dilakukan proses desain mould ( Cavity Mould , Core Mould & Assembly Mould ) dengan menggunakan software Autodesk Inventor sesuai dengan ukuran unit die pada Deskripsi Teknis.
6. Gambar yang dibuat adalah Model Cavity mould , Model Core Mould , Assembly Mould ( lengkap dengan komponen-komponenya ).
  - Membuat design Runner, Gate , Air Vent , Sprue Lock, Cooling chanel
  - Jumlah Ej.Pin yang dibuat harus mempertimbangkan keseimbangan saat proses Eject part (Jumlah Ej.Pin Bebas: Min 8).

- Ej.Pin akan dinilai keseimbangannya dan akan di cek ukurannya
  - Gambar yang ditampilkan minimal Pandangan Depan, Atas, samping, Isometric, Detail dan Section (Jika diperlukan)
  - Gunakan template yang sudah disediakan untuk membuat gambar 2D
  - Gunakan kertas A3
7. Ukuran harus dicantumkan dengan jelas sesuai pada soal yaitu : ukuran core mould menggunakan huruf kecil ,ukuran cavity mould menggunakan huruf besar , ukuran datum model dari ordinat xy , posisi ejector pin dari ordinat xy.
  8. Gunakan alat bantu yang sesuai ,kalkulator ,dll.
  9. Penyusutan ukuran yang ditetapkan adalah 0,5 % (mengacu pada standard world skills international untuk jenis material GPPS ,General Purpose Poly Styrene).
  10. Lakukan penghitungan penyusutan plastik untuk menentukan ukuran model mould, dengan cara :  
Misal ukuran panjang part plastik 100 mm,dengan penyusutan 0,5%.Maka ukuran mould yang harus dibuat adalah  $100 + (100 \times 0,005) = 100,5$  mm.
  11. Kontrol Waktu kerja menggunakan Stopwatch, Jam tangan, Jam dinding atau pakai alat lain (bebas)



**PETUNJUK MENGERJAKAN TEST PROJECT**  
**MANUFACTURING**  
**LKS NASIONAL 2023**

1. Berdo'a.
2. Siapkan alat dan bahan yang akan digunakan.
3. Lakukan pengecekan mesin, alat dan bahan yang akan digunakan.
4. Laporkan kepada teknisi, pembimbing dan juri ketika terdapat ke-abnormalan dalam mesin, alat, maupun bahan yang akan digunakn untuk praktek.
5. Gunakan peralatan safety sbb :

Peserta wajib membawa peralatan safety dari sekolahnya masing-masing ,yaitu:

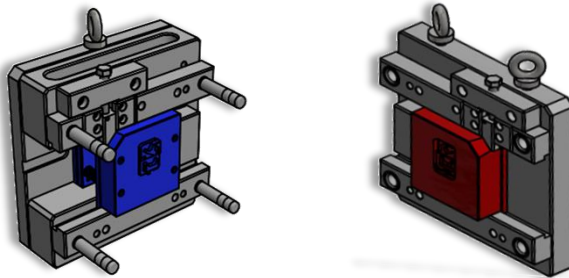
- \* Seragam kerja lengan pendek
- \* Sepatu safety ,bukan sepatu sport
- \* Kacamata safety
- \* Penutup kepala (topi)

**Jika ada peserta yang tidak mengenakan alat safety seperti yang tercantum diatas maka tidak diijinkan mengikuti pertandingan.**

6. Mesin yang digunakan adalah mesin *CNC milling 3 Axis* dengan control system : *FANUC, GSK, Sinumeric* atau Mitsubishi (d disesuaikan dengan ketersediaan jenis Control system yang ada di Lokasi perlombaan). Oleh sebab itu peserta harus siap untuk mengoperasikan CNC dengan Control system apapun.
7. Pekerjaan **pertama** yang dilakukan adalah membuat **Unit Die : Cavity Plate & Core Plate** saja. Sedangkan komponen yang lainnya sudah siap pakai/sudah siap assembly. Prosesnya Mulai dari membuat program, Machining 6 permukaan & Lubang unit die Core & Cavity plate, Bench Work&Fitting (Tapping, Chamfering, Setting Lubang Return Pin, Cutting return pin, Cek ulir, cek pemasangan bolt, dll)
8. Pekerjaan **kedua** yang dilakukan adalah :

- membuat model mould dengan bermacam cutting tools untuk membuat model sesuai soal/gambar plastik , membuat lubang ejector pin , runner , gate , airvent , cooling chanel dll.
- Lakukan proses polishing pada bagian model mould dengan berbagai macam polishing tools.
- Peserta memasang Ej. Pin dengan jumlah dan ukuran ejector pin sesuai dengan Design Mould.
- Ej. Pin harus dipotong sesuai dengan design menggunakan alat potong gerinda.
- Setelah selesai pembuatan mould (machining dan polishing), semua komponen dirakit sesuai dengan gambar assembly.

**LOMBA KOMPETENSI SISWA  
(LURING)  
SEKOLAH MENENGAH KEJURUAN  
TINGKAT NASIONAL KE- XXXI TAHUN 2023**



**CONTOH  
Pengerjaan Soal**

**BIDANG LOMBA**

**PLASTIC DIE ENGINEERING**

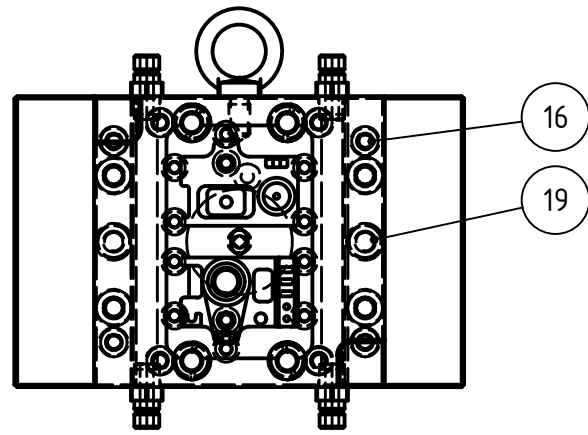


**KEMENTERIAN PENDIDIKAN, KEBUDAYAAN, RISET, DAN TEKNOLOGI  
BADAN PENGEMBANGAN TALENTA INDONESIA (BPTI)**

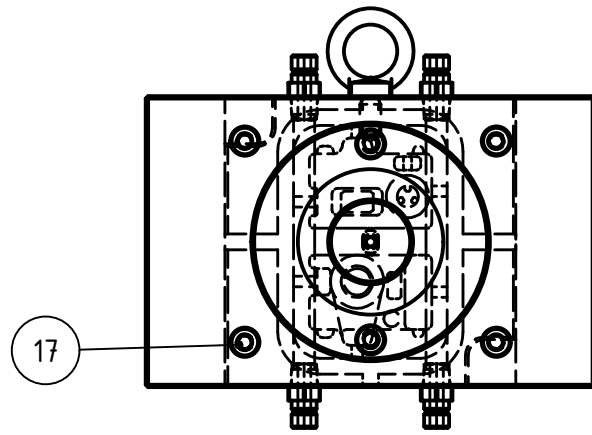
Jalan Gardu, Srengseng Sawah

Website: [www.pusatprestasinasional.kemdikbud.go.id](http://www.pusatprestasinasional.kemdikbud.go.id)

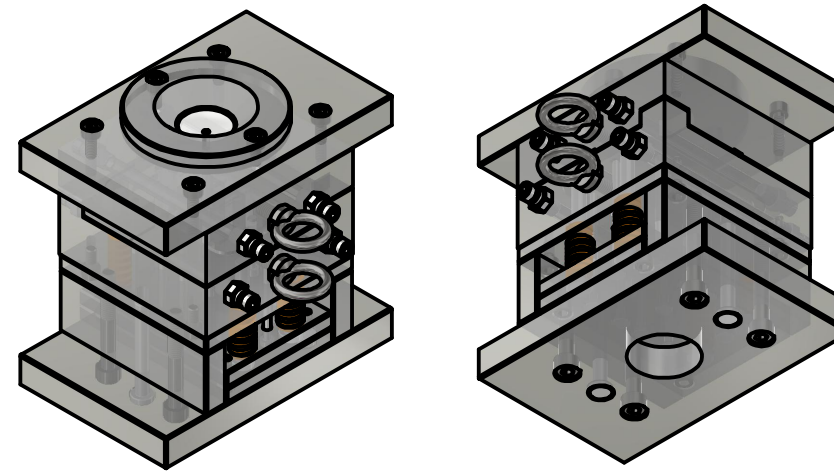
SRENGSENG SAWAH - JAKARTA



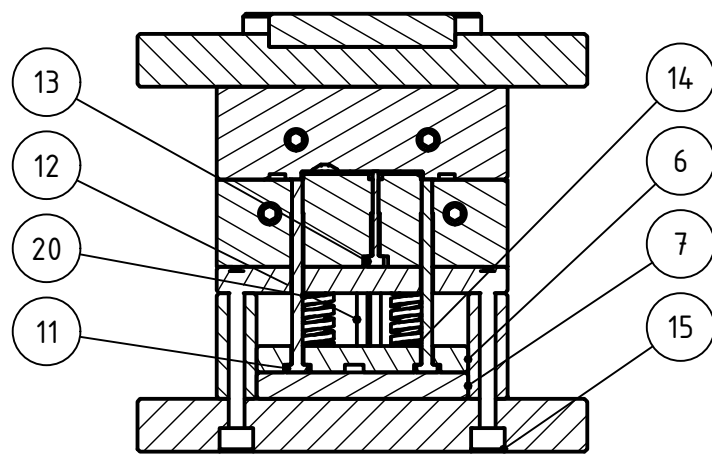
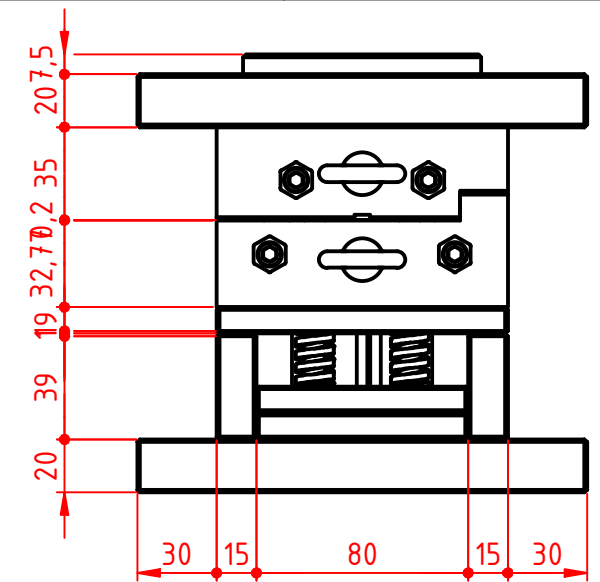
CORE TOP VIEW



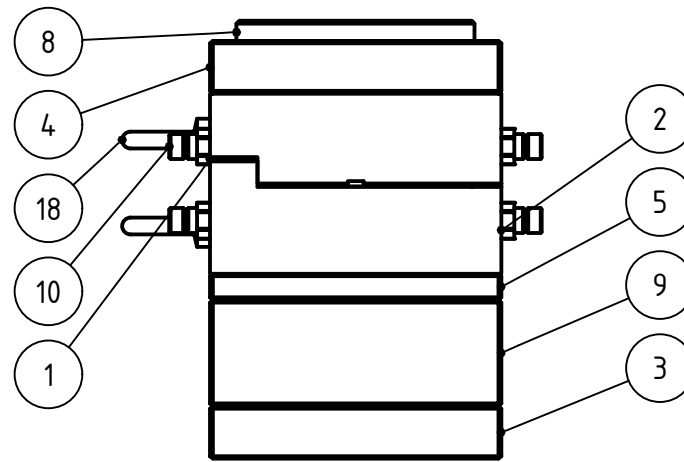
CAVITY TOP VIEW



3D ISOMETRIC VIEW

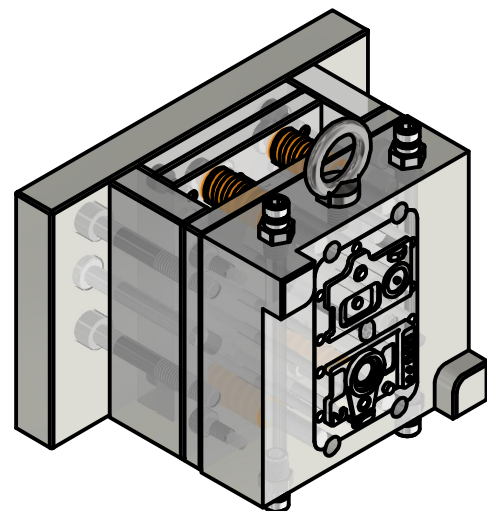


ASSY FRONT VIEW

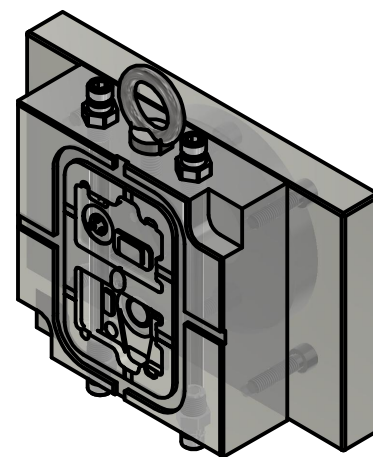


ASSY SIDE VIEW

20	Return Pin	Return Pin E 8x67	SUJ 2	4
19	Return Pin	Return Pin E 8x63	SUJ 2	2
18	Lifting Eyebolt	JIS B 1168 - M8	Steel, Mild	2
17	BOLT	ISO 4762 - M6 x 25	Stainless Steel, 440C	4
16	BOLT	ISO 4762 - M6 x 12	Stainless Steel, 440C	10
15	BOLT	ISO 4762 - M8 x 60	Stainless Steel, 440C	4
14	SPRING	358-16-32	Generic	4
13	Straight Core Pin	CDH4-60	Generic	2
12	Ejector pins-hardened	AH 4 -100	DIN 1.2210	1
11	Ejector pins-hardened	AH 4 -500	DIN 1.2210	10
10	Couplers for mold-Plug	"JPJH1"	C 3604	8
9	STRIPPER	110x15x40	S50C	2
8	LOCATING RING	D90x12.5	S50C	1
7	EJECTOR RETAINER PLATE	110x80x10	S50C	1
6	EJECTOR PLATE	110x80x10	S50C	1
5	ADAPTOR CORE	110x110x10	S50C	1
4	ADAPTOR CAVITY	170x110x20	S50C	1
3	ADAPTOR BASE	170x110x20	S50C	1
2	CORE MOULD	110x110x40	S50C	1
1	CAVITY MOUD	110x110x35	S50C	1
ITEM	PART NUMBER	SIZE	MATERIAL	QTY



CORE VIEW



CAVITY VIEW

Test Project for LKS XXXI Indonesia Skill.  
National Competition 2023.  
Copyright © 2023 Indonesia Skill Competition.  
All Rights Reserved.



Skill: PLASTIC DIE ENGINEERING

Projektion A  
ISO 5456-2



Scale: 2 : 1 | Date: 05/07/2023 | Paper: A3

Drawn / Design by: Muryanto

Drawing No: -

Description: ASSEMBLY MOULD

Rev: -

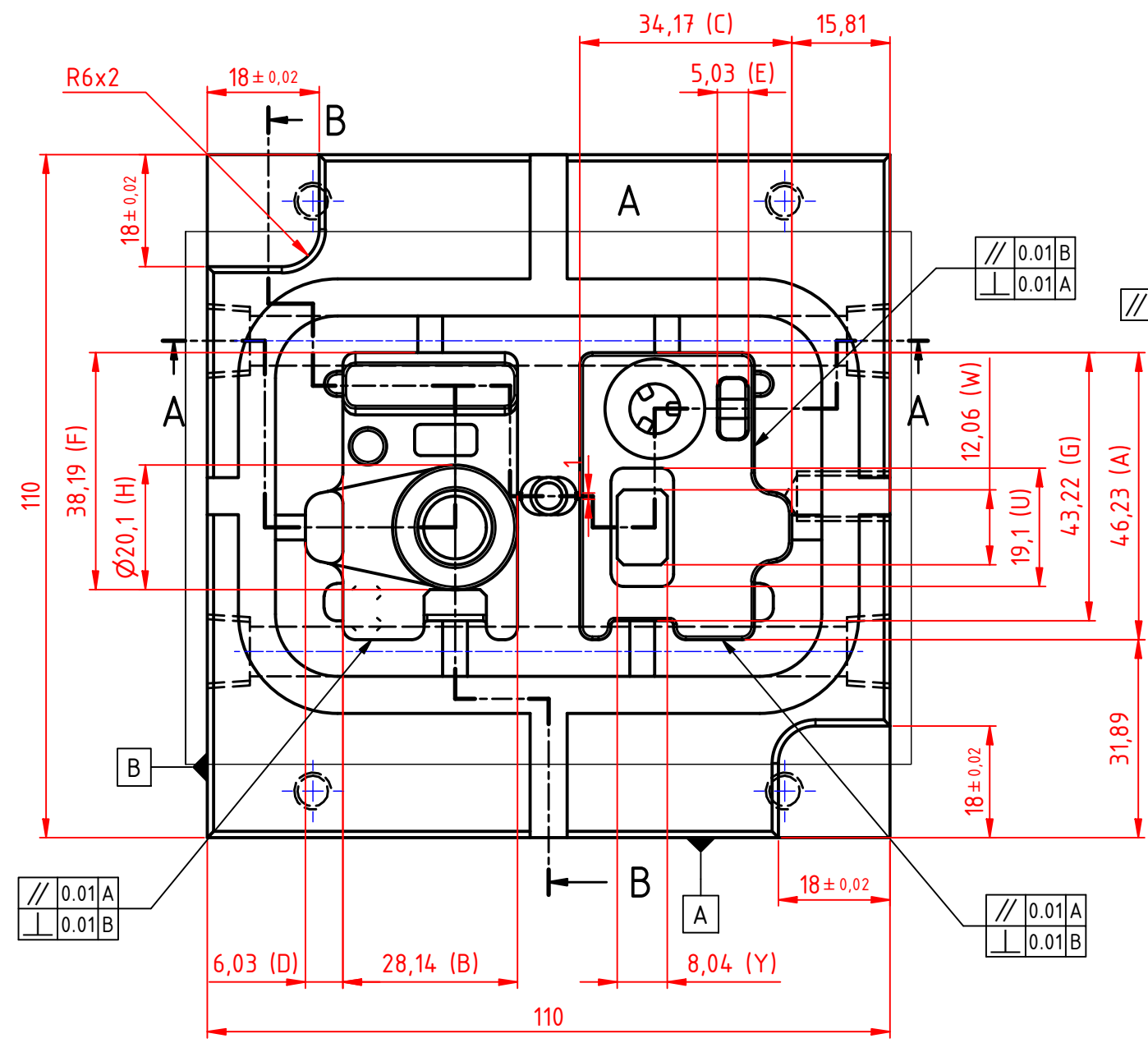
Page: 1/1

Appd:

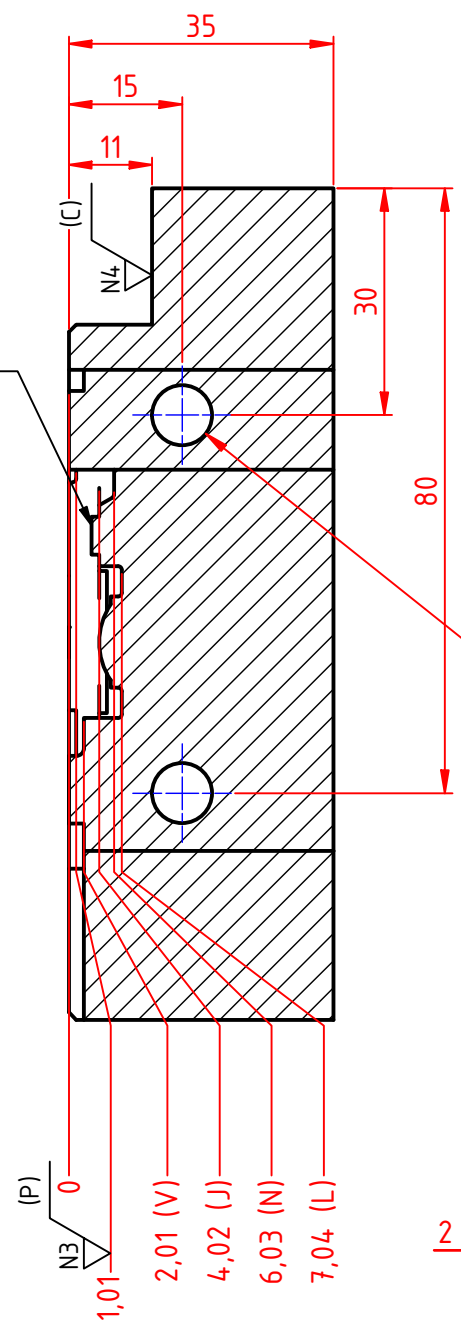
Sign:



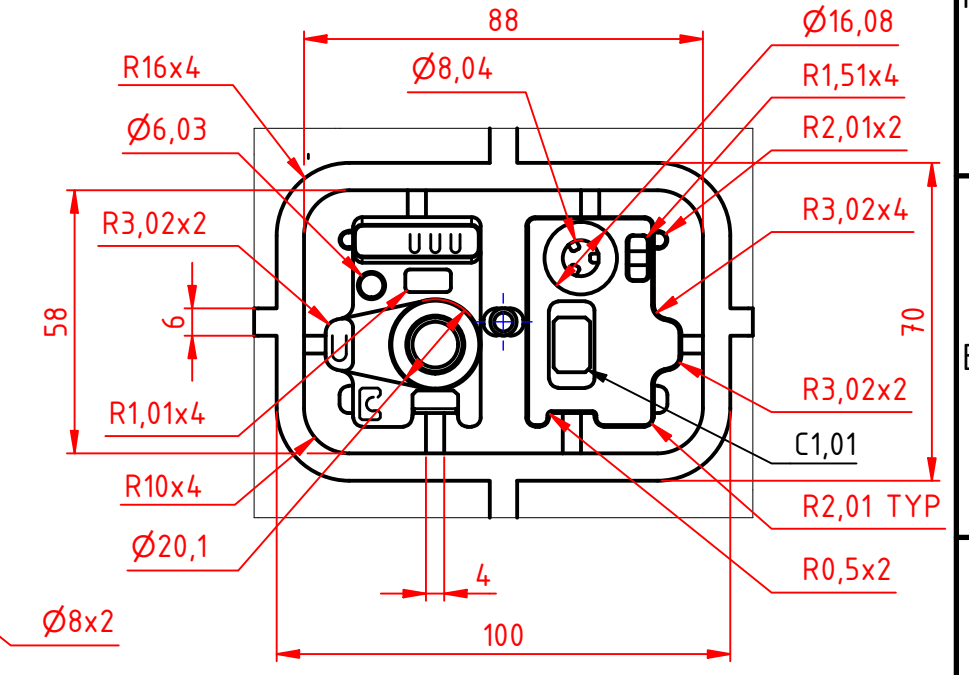
1. GRINDING (G) (N5) (N4) (N3) CNC (C) POLISHING (P)



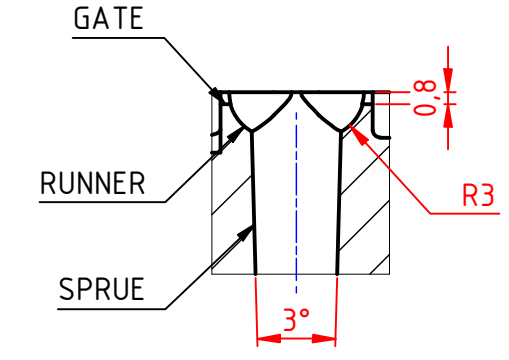
SECTION B-B



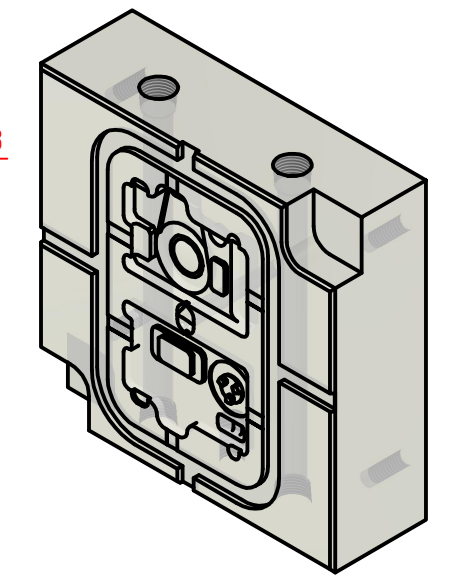
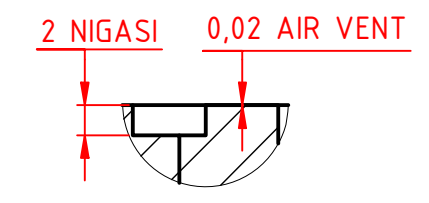
DETAIL A



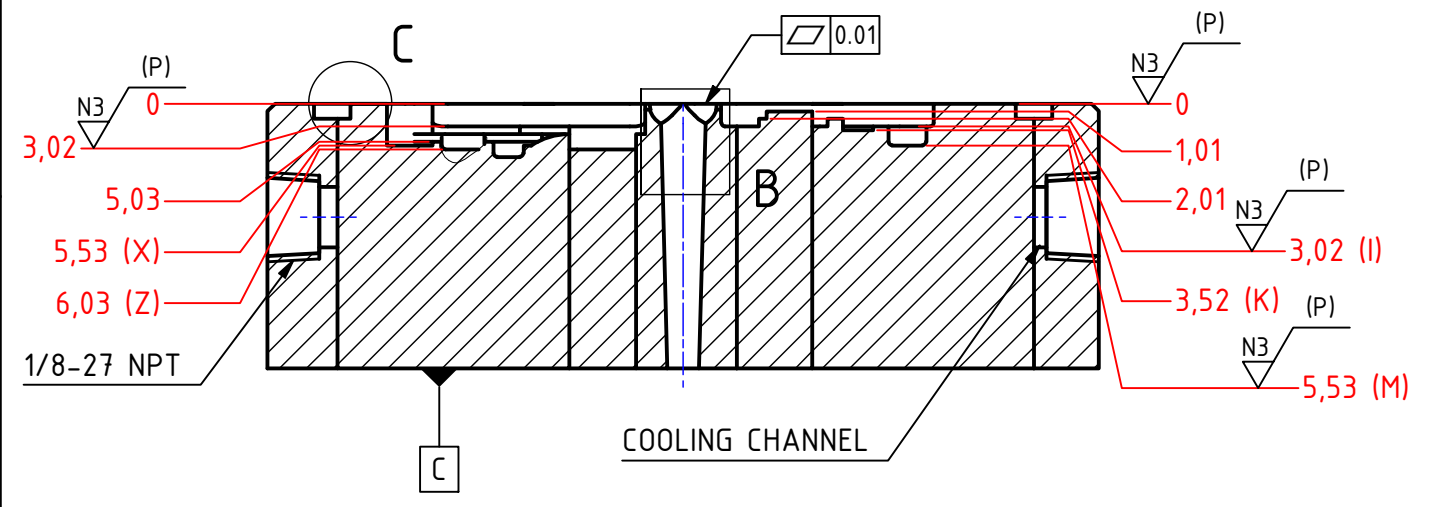
DETAIL B



DETAIL C



SECTION A-A

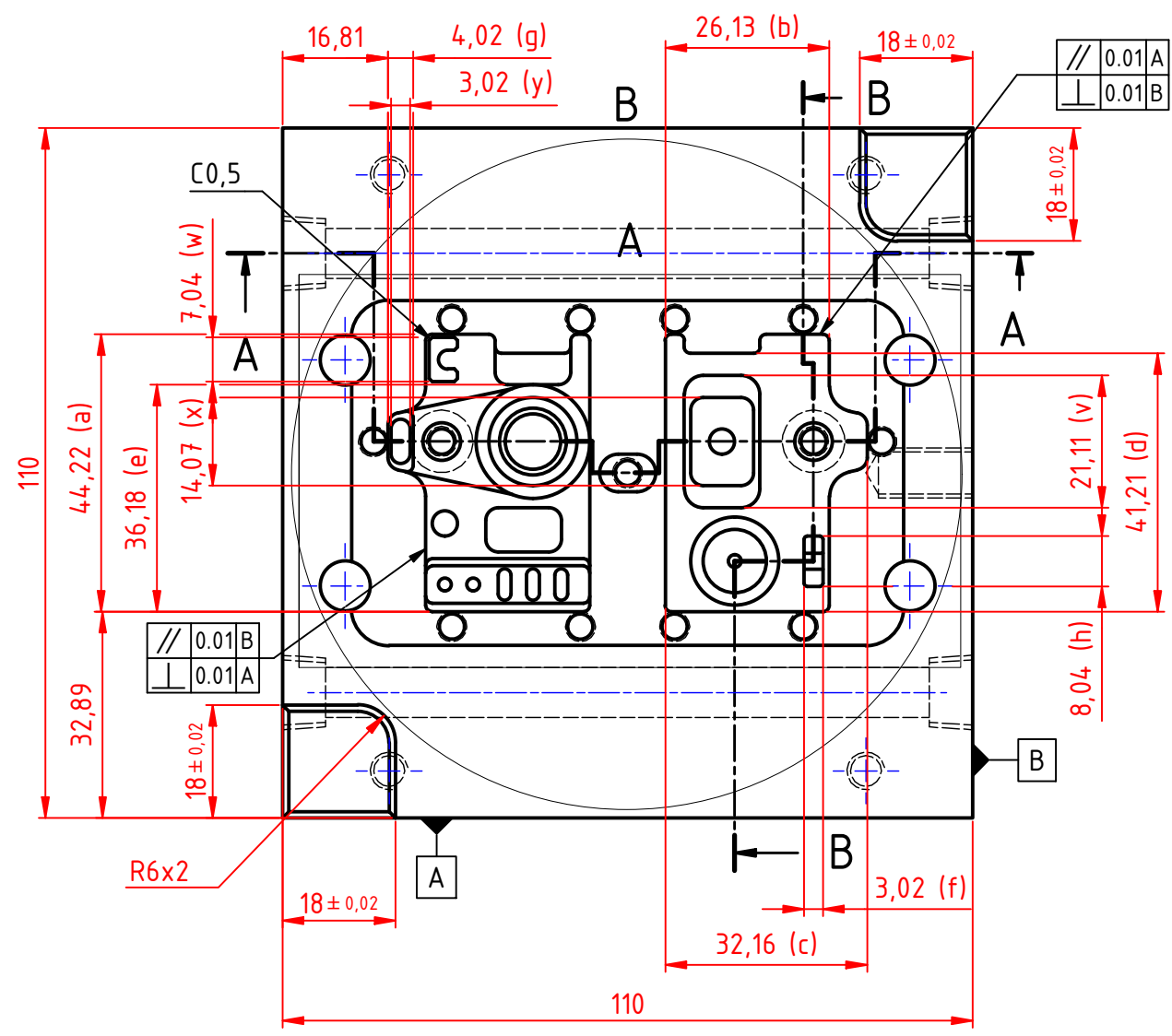


Test Project for LKS XXXI Indonesia Skill.  
National Competition 2023.  
Copyright © 2023 Indonesia Skill Competition.  
All Rights Reserved.

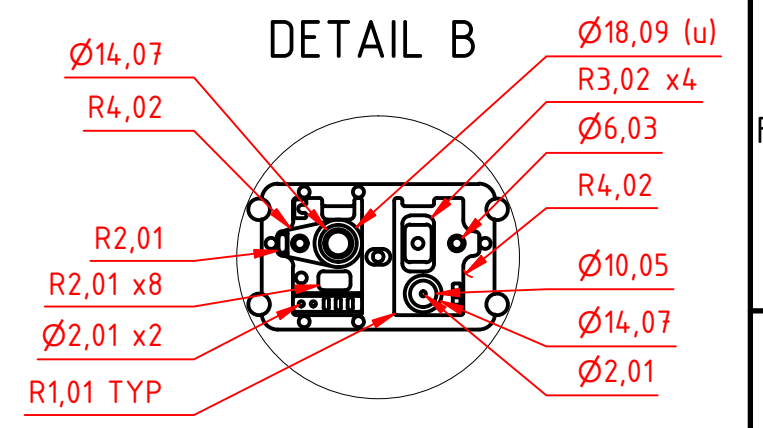
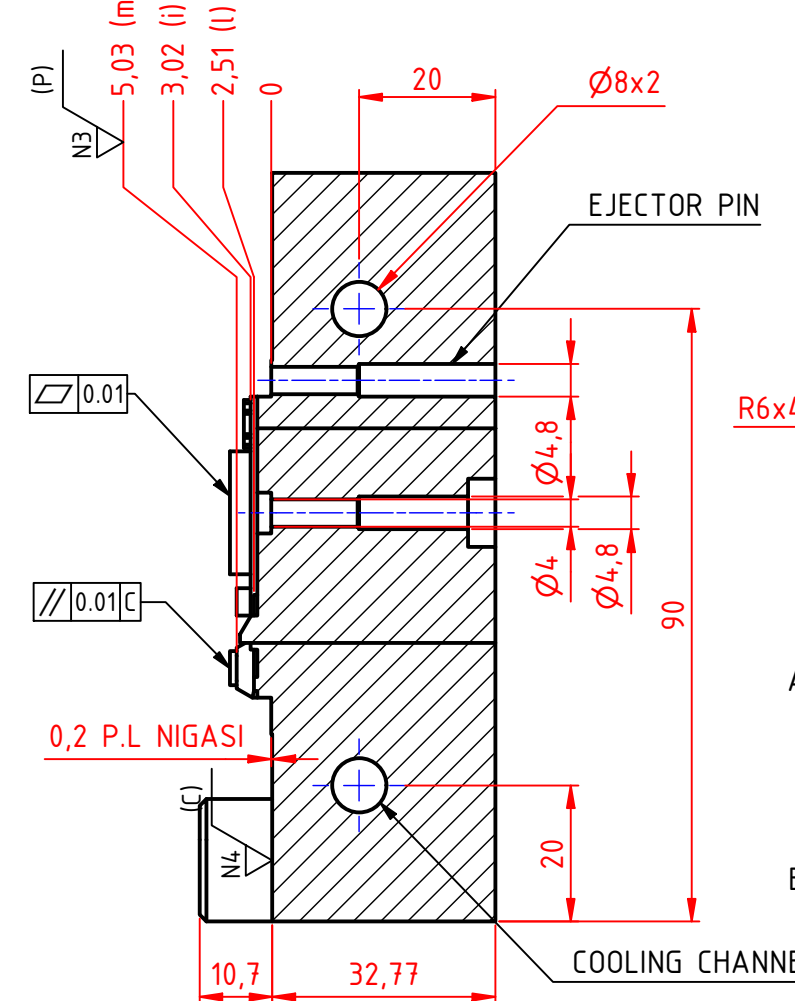


Skill: PLASTIC DIE ENGINEERING			Projektion A ISO 5456-2	
Scale: 2 : 1	Date: 05/07/2023	Paper: A3	Drawing No: -	
Drawn / Design by: Muryanto				
Description: CAVITY MOULD			Rev: -	Page: 1/1
			Appd:	Sign:

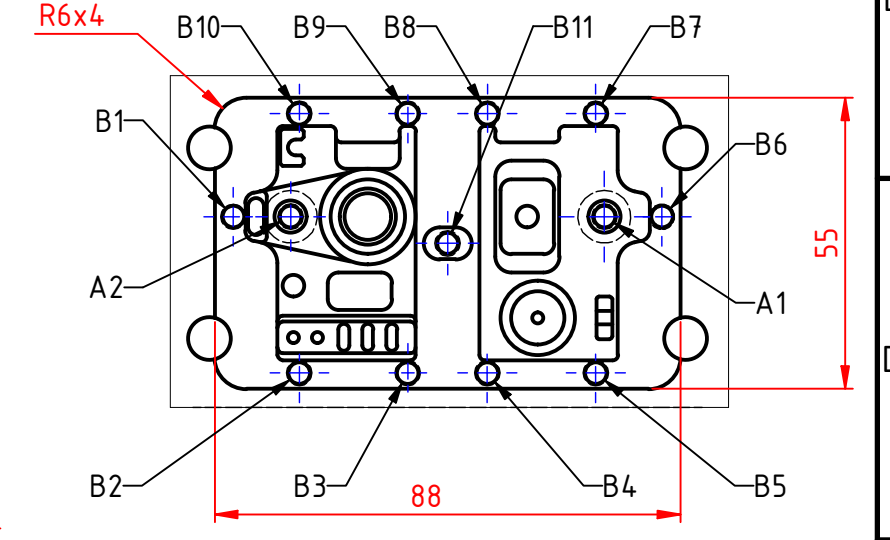
GRINDING (G) CNC (C) POLISHING (P)  
 2. N5 (N4, N3)



SECTION B-B

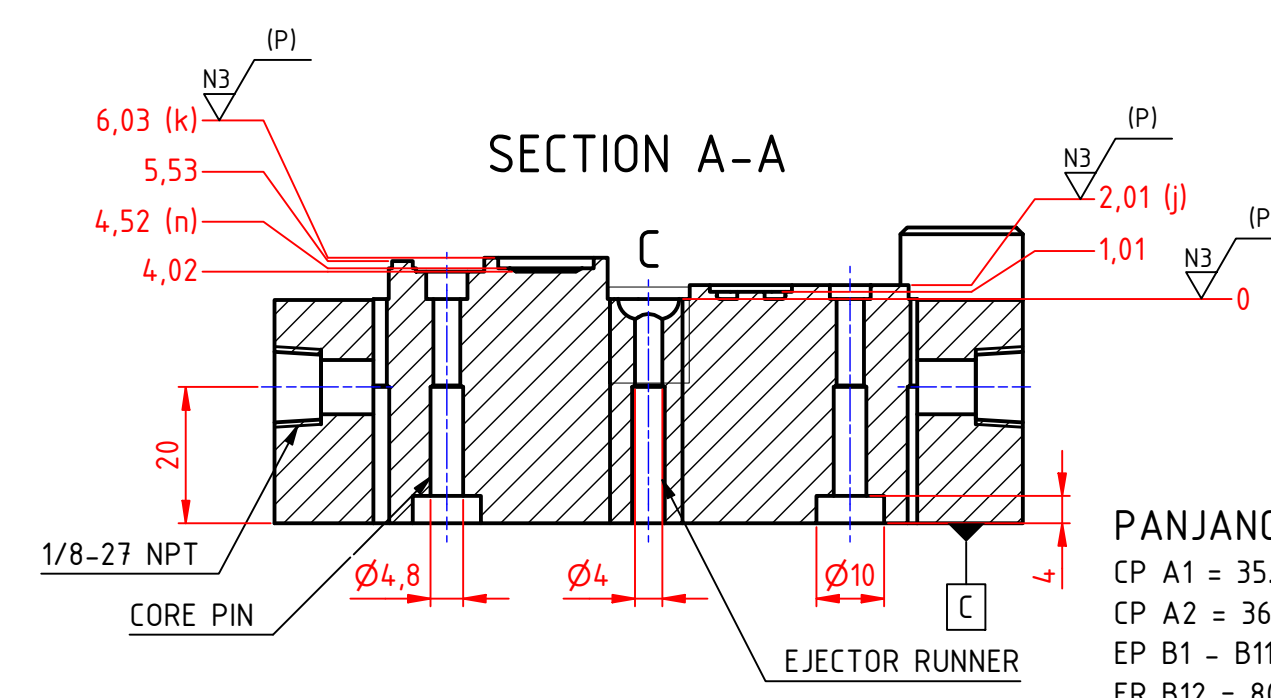


DETAIL A

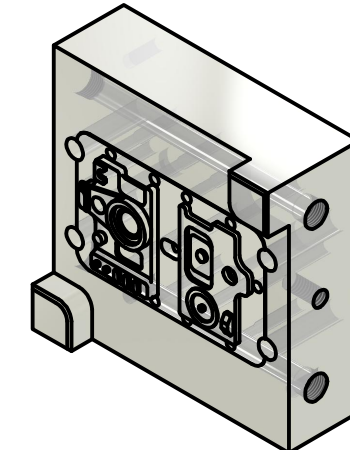
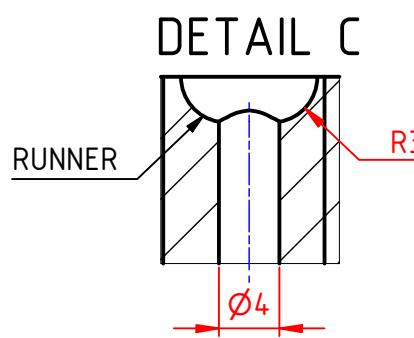


HOLE TABLE				
HOLE	XDIM	YDIM	DESCRIPTION	NAME
A1	29,65	5,03	Ø4,8 -20 DEEPL Ø10 ▽ 4	CP
A2	-29,65	5,03	Ø4,8 -20 DEEPL Ø10 ▽ 4	CP
B1	-40,50	5,00	Ø4,8 -20 DEEP	EP
B2	-28,00	-24,50	Ø4,8 -20 DEEP	EP
B3	-7,50	-24,50	Ø4,8 -20 DEEP	EP
B4	7,50	-24,50	Ø4,8 -20 DEEP	EP
B5	28,00	-24,50	Ø4,8 -20 DEEP	EP
B6	40,50	5,00	Ø4,8 -20 DEEP	EP
B7	28,00	24,50	Ø4,8 -20 DEEP	EP
B8	7,54	24,50	Ø4,8 -20 DEEP	EP
B9	-7,54	24,50	Ø4,8 -20 DEEP	EP
B10	-28,00	24,50	Ø4,8 -20 DEEP	EP
B11	0,00	0,00	Ø4,8 -20 DEEP	ER

SECTION A-A



PANJANG PIN  
 CP A1 = 35,980 mm  
 CP A2 = 36,985 mm  
 EP B1 - B11 = 72,965 mm  
 ER B12 = 80,000 mm



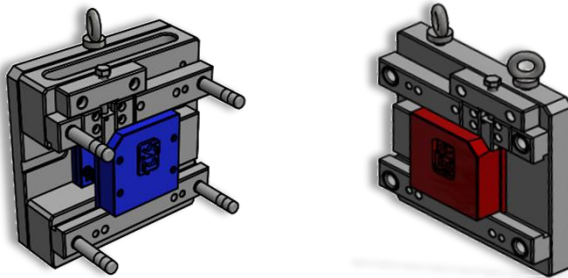
Test Project for LKS XXXI Indonesia Skill.  
 National Competition 2023.  
 Copyright © 2023 Indonesia Skill Competition.  
 All Rights Reserved.

Skill: PLASTIC DIE ENGINEERING  
 Scale: 2 : 1 | Date: 05/07/2023 | Paper: A3  
 Drawn / Design by: Muryanto  
 Description: CORE MOULD

Projektion A  
 ISO 5456-2

Drawing No: -  
 Rev: - | Page: 1/1  
 Appd: | Sign:

**LOMBA KOMPETENSI SISWA  
(LURING)  
SEKOLAH MENENGAH KEJURUAN  
TINGKAT NASIONAL KE- XXXI TAHUN 2023**



**BAHAN**

**BIDANG LOMBA  
PLASTIC DIE ENGINEERING**

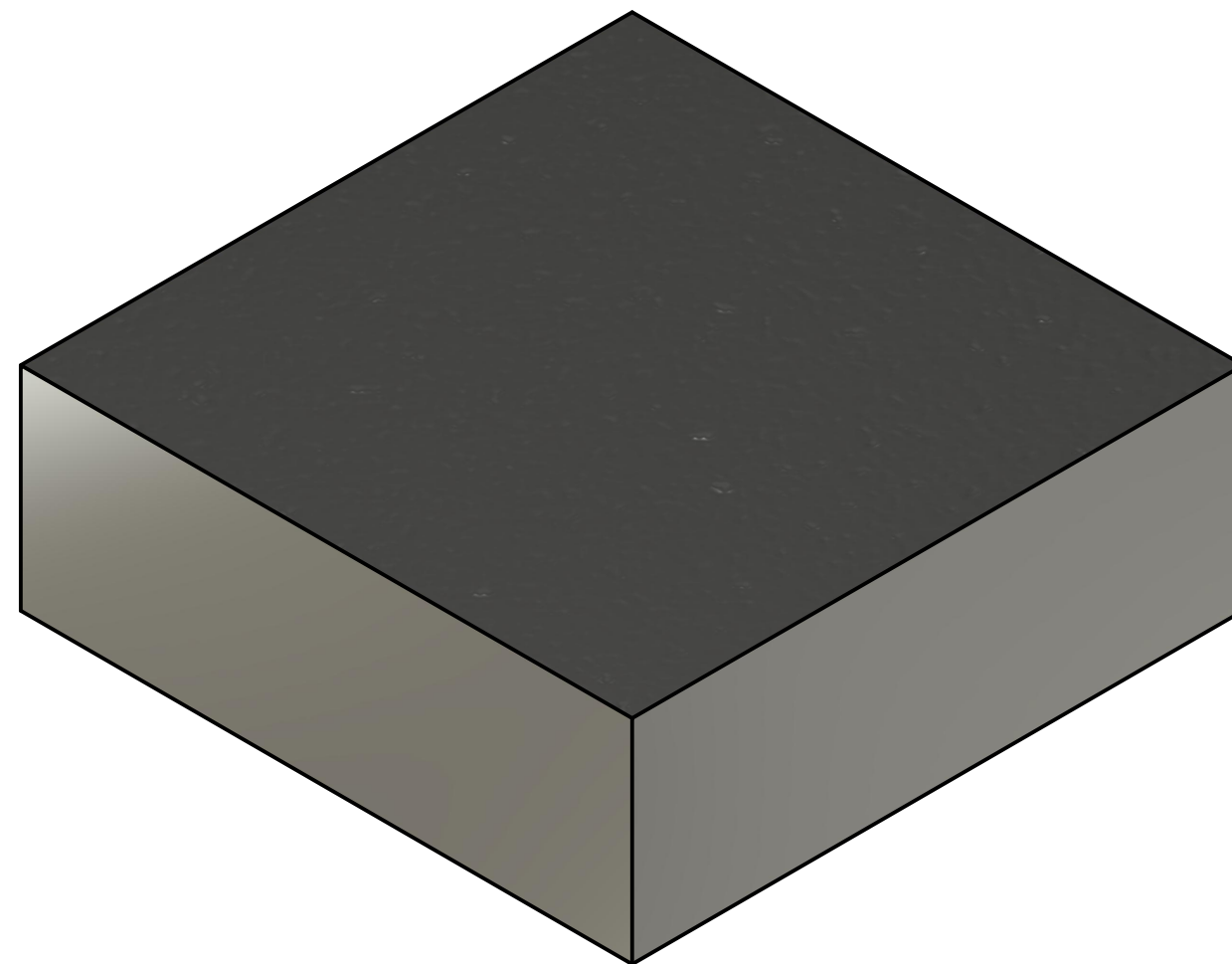
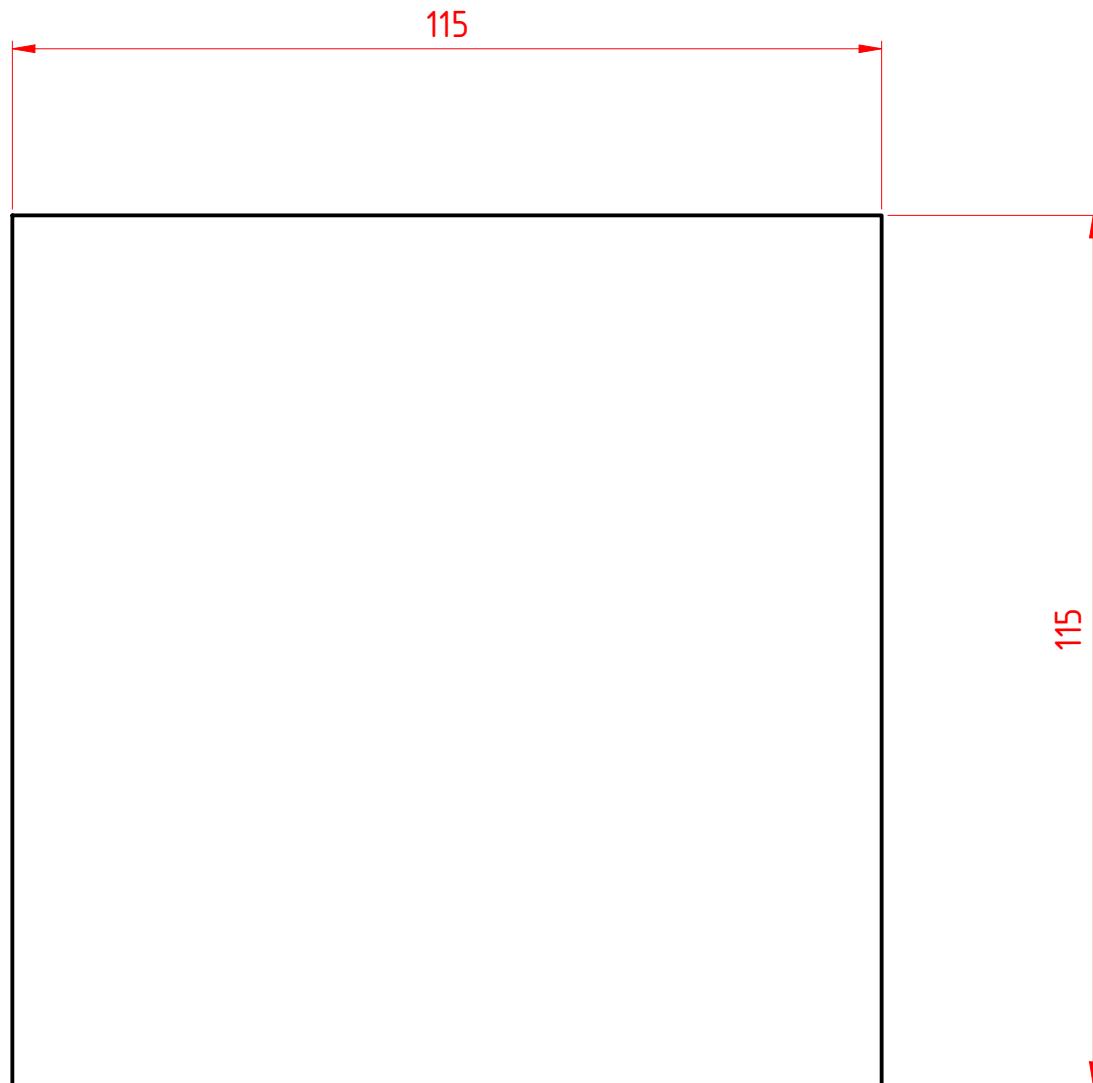


**KEMENTERIAN PENDIDIKAN, KEBUDAYAAN, RISET, DAN TEKNOLOGI  
BADAN PENGEMBANGAN TALENTA INDONESIA (BPTI)**

Jalan Gardu, Srengseng Sawah

Website: [www.pusatprestasinasional.kemdikbud.go.id](http://www.pusatprestasinasional.kemdikbud.go.id)

**SRENGSENG SAWAH - JAKARTA**



**Note :**

Raw Material : S45C

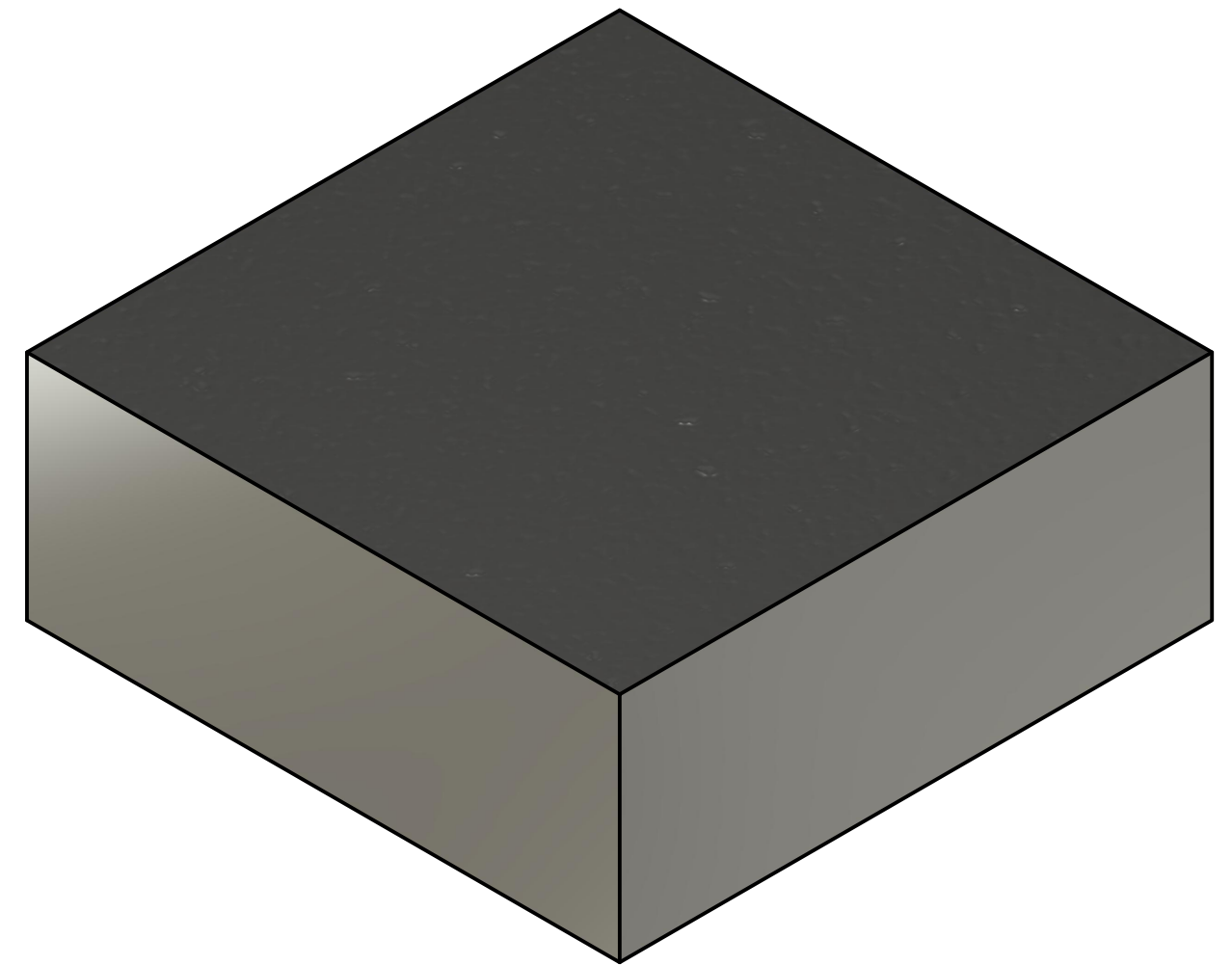
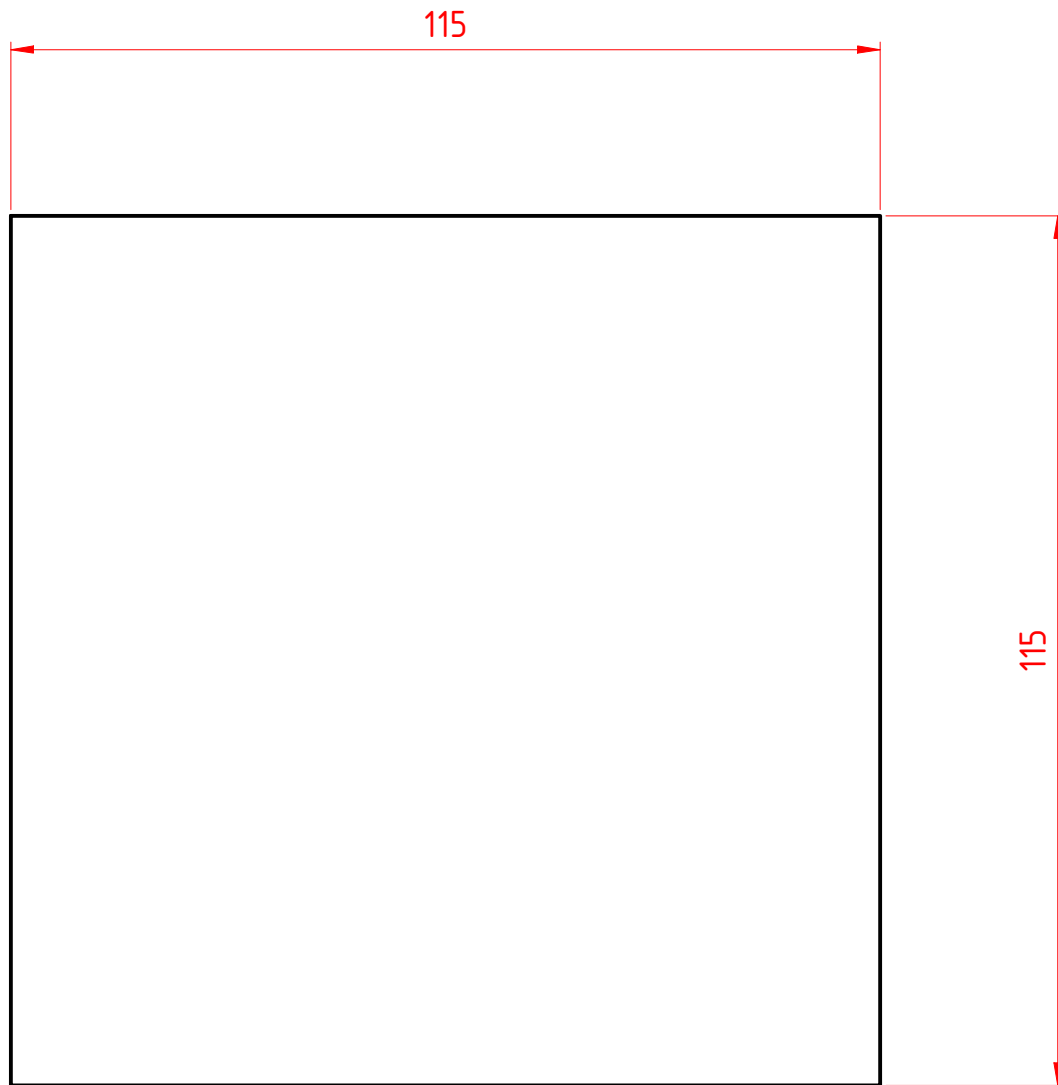
Ukuran Raw material masih +5 mm dari ukuran target

Test Project for the XXXI Indonesia Skill.  
Competition 2023.  
Copyright © 2023 Indonesia Skill Competition.  
All Rights Reserved.



Skill: PLASTIC DIE ENGINEERING		Projection A ISO 5456-2A	
Scale: 1:1	Date: 18-2-2023		
Drawn / Design by: MURYANTO		Drawing No: -	
Description: RAW MATERIAL CAVITY PLATE		Rev: 0	Page: 1/2





**Note :**

Raw Material : S45C

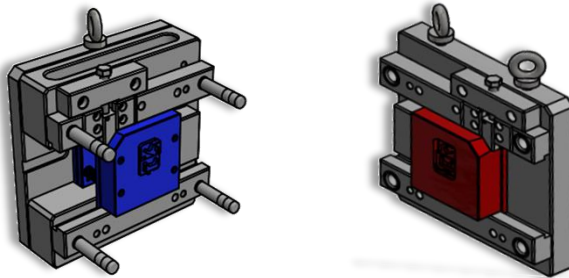
Ukuran Raw material masih +5 mm dari ukuran target

Test Project for the XXXI Indonesia Skill.  
Competition 2023.  
Copyright © 2023 Indonesia Skill Competition.  
All Rights Reserved.



Skill: PLASTIC DIE ENGINEERING		Projection A ISO 5456-2A	
Scale: 1:1	Date: 18-2-2023		
Drawn / Design by: MURYANTO		Drawing No: -	
Description: RAW MATERIAL CORE PLATE		Rev: 0	Page: 2/2

**LOMBA KOMPETENSI SISWA  
(LURING)  
SEKOLAH MENENGAH KEJURUAN  
TINGKAT NASIONAL KE- XXXI TAHUN 2023**



**UNIT DIE**

**BIDANG LOMBA  
PLASTIC DIE ENGINEERING**

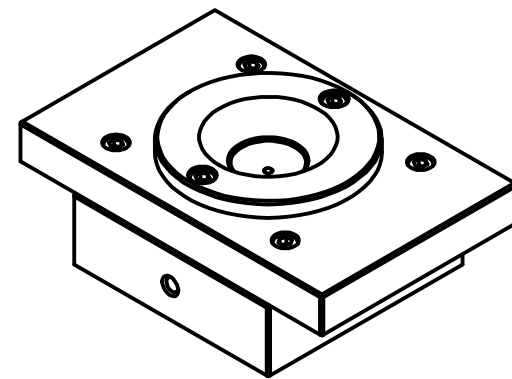
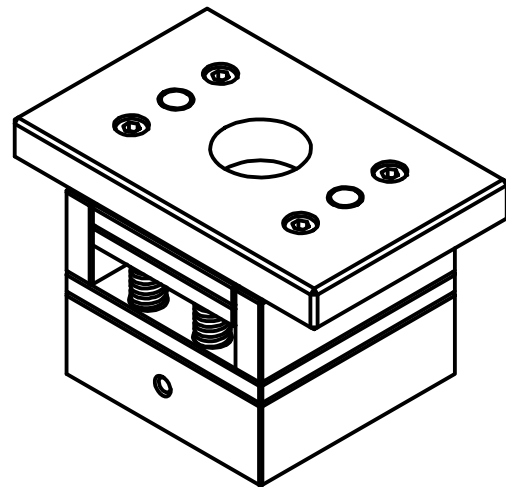
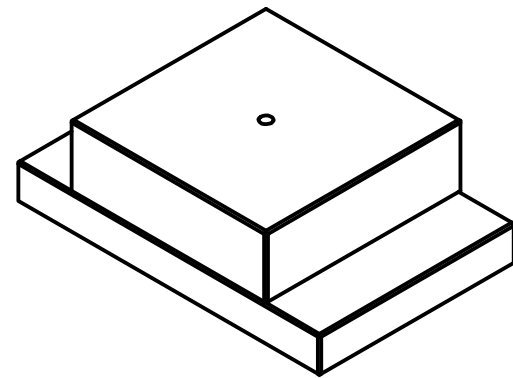
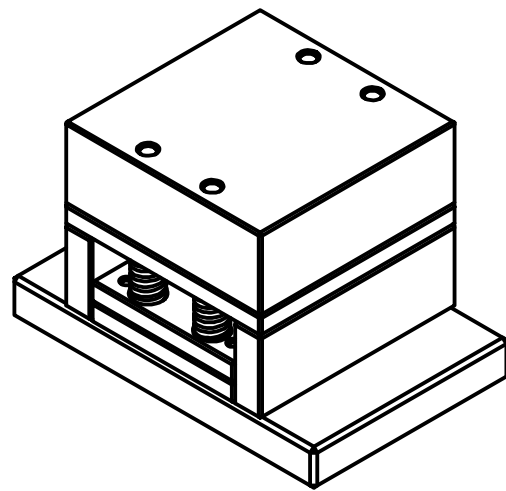
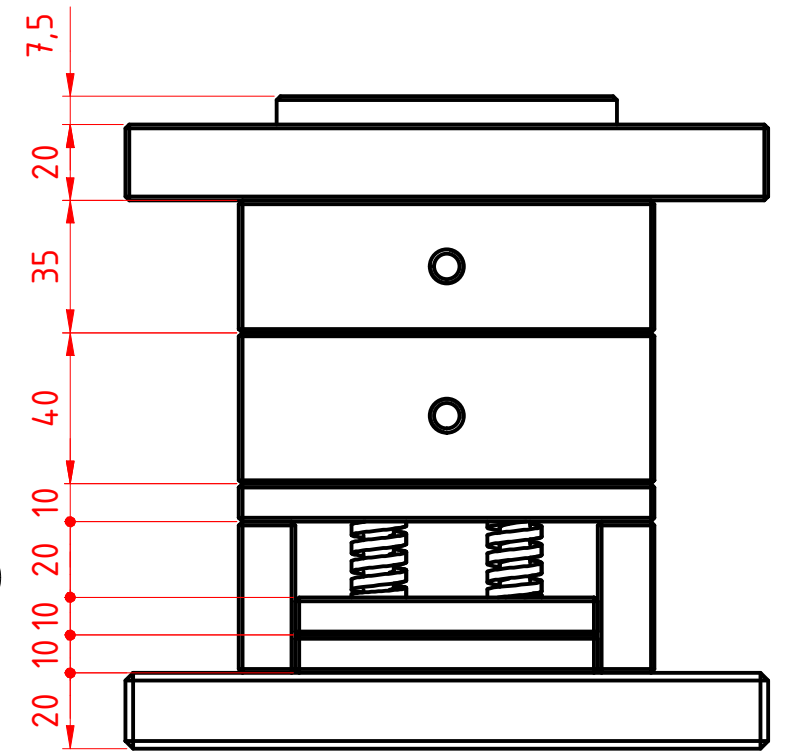
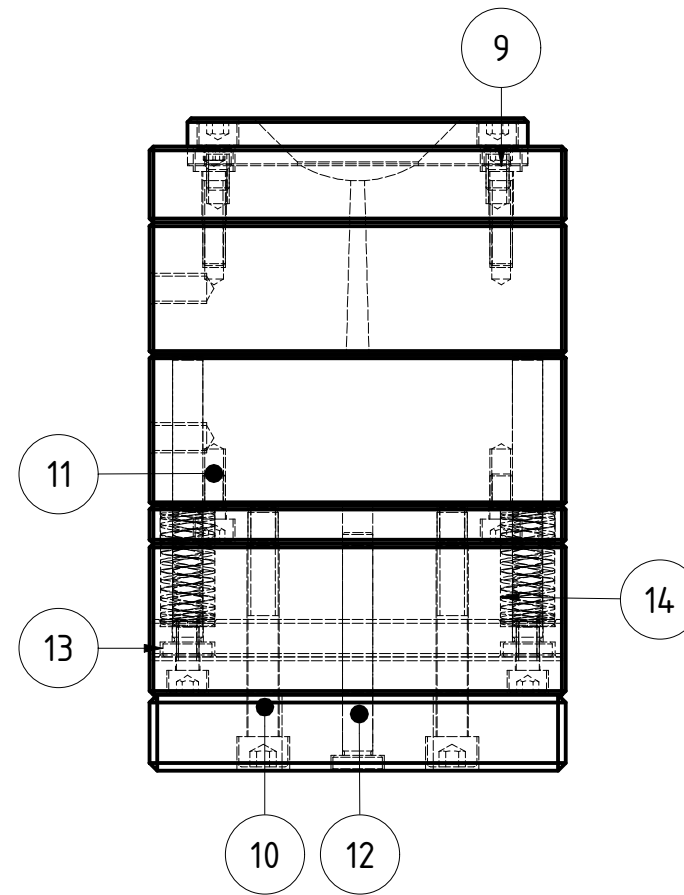
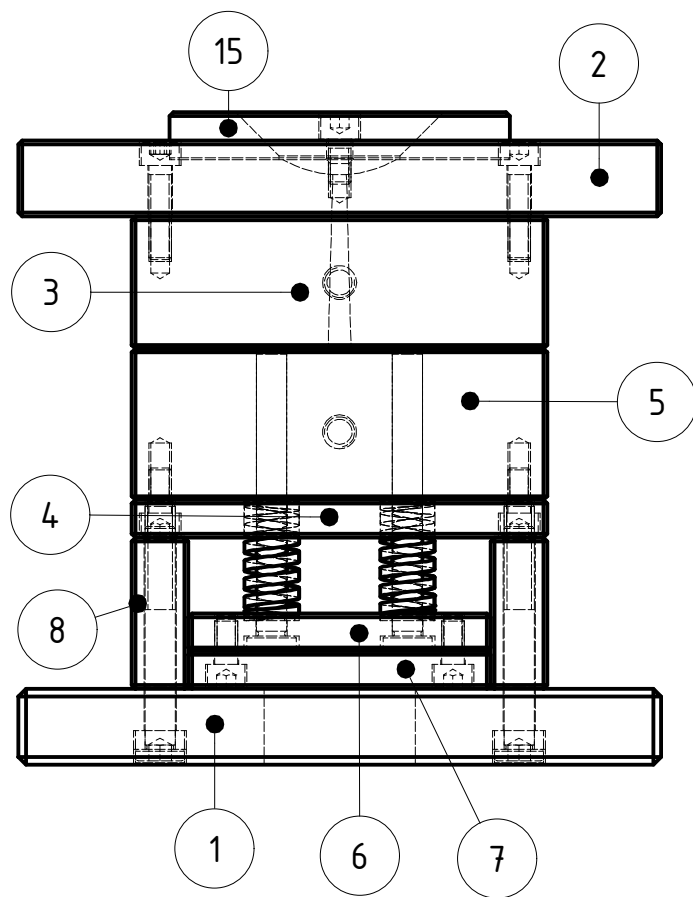
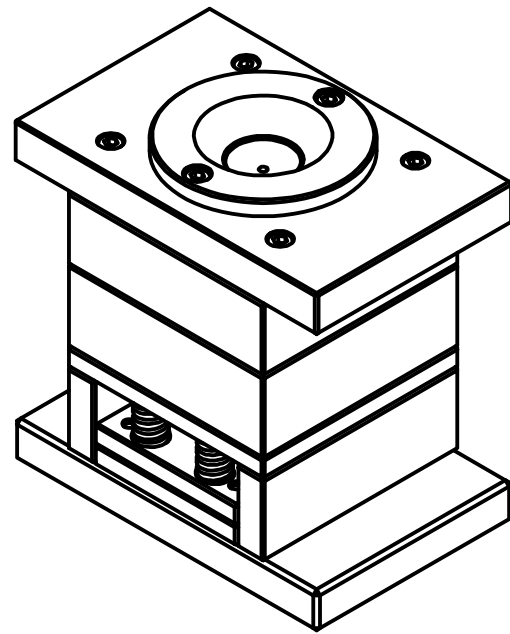


**KEMENTERIAN PENDIDIKAN, KEBUDAYAAN, RISET, DAN TEKNOLOGI  
BADAN PENGEMBANGAN TALENTA INDONESIA (BPTI)**

Jalan Gardu, Srengseng Sawah

Website: [www.pusatprestasinasional.kemdikbud.go.id](http://www.pusatprestasinasional.kemdikbud.go.id)

**SRENGSENG SAWAH - JAKARTA**



Core Mould

Cavity Mould

PARTS LIST

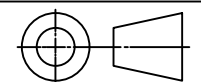
ITEM	PART NUMBER	SIZE	MATERIAL	QTY
1	ADAPTOR BASE	170 x 110 x 20	S50C/S45C	1
2	ADAPTOR CAVITY	170 x 110 x 20	S50C/S45C	1
3	CAVITY PLATE	110 x 110 x 35	S50C/S45C	1
4	CORE BACK PLATE	110 x 110 x 10	S50C/S45C	1
5	CORE PLATE	110 x 110 x 40	S50C/S45C	1
6	EJECTOR RETAINER PLATE	110 x 80 x 10	S50C/S45C	1
7	RETAINER PLATE	110 x 80 x 10	S50C/S45C	1
8	STRIPER	110 x 40 x 15	S50C/S45C	2
9	Hexagon Socket Head Cap Screw	ISO 4762 - M6 x 25	Stainless Steel, 440C	4
10	Hexagon Socket Head Cap Screw	ISO 4762 - M8 x 60	Stainless Steel, 440C	4
11	Hexagon Socket Head Cap Screw	ISO 4762 - M6 x 12	Stainless Steel, 440C	10
12	Return Pin	Return Pin N 8x63	MISUMI	2
13	Return Pin	Return Pin N 8x79	MISUMI	4
14	Rectangular wire die spring yellow colour extra load	358-16-32	Generic	4
15	Locating Ring	646-90-32-12.5	ANFOR XC 38 TS	1

Test Project for the XXXI Indonesia Skills.  
 Competition 2023.  
 Copyright © 2023 Indonesia Skills Competition.  
 All Rights Reserved.



Skill: PLASTIC DIE ENGINEERING

Projection A  
 ISO 5456-2A



Scale: 1:2      Date: 18-2-2023      Paper: A3

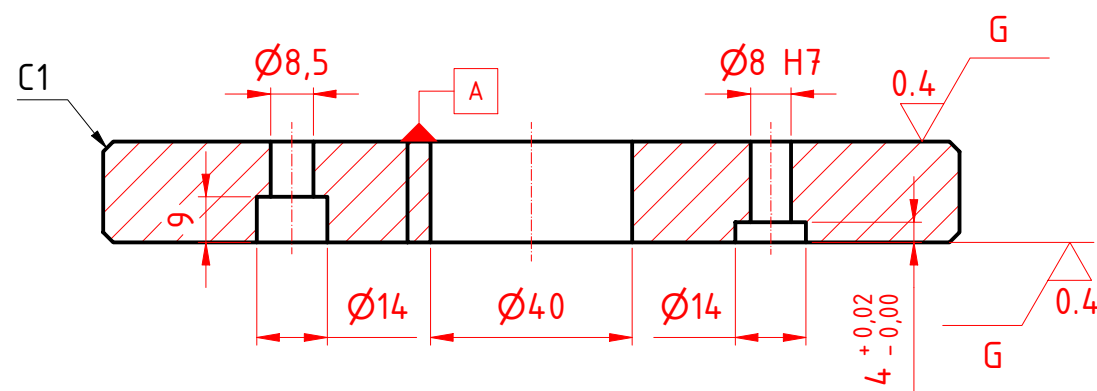
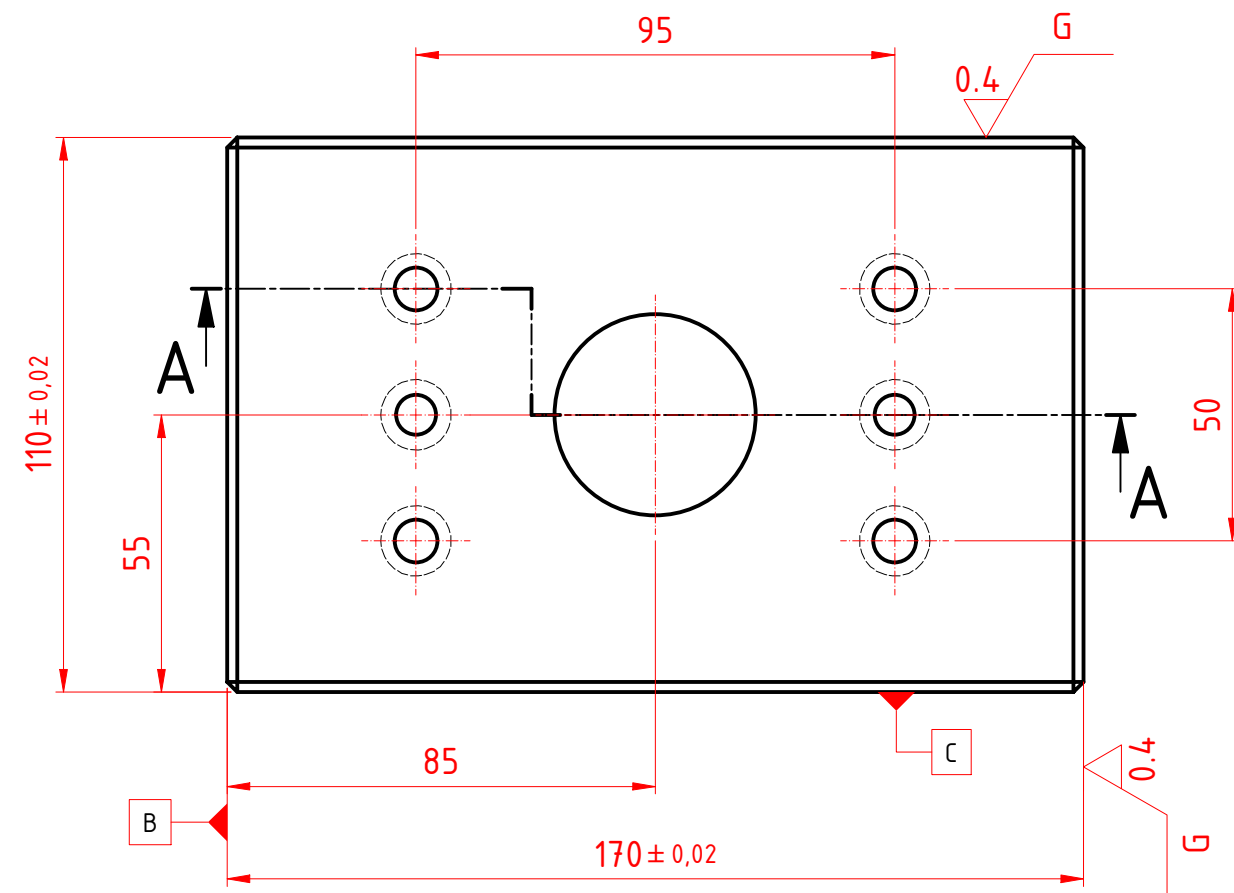
Drawn / Design by: MURYANTO

Drawing No: -

Description: ASSEMBLY

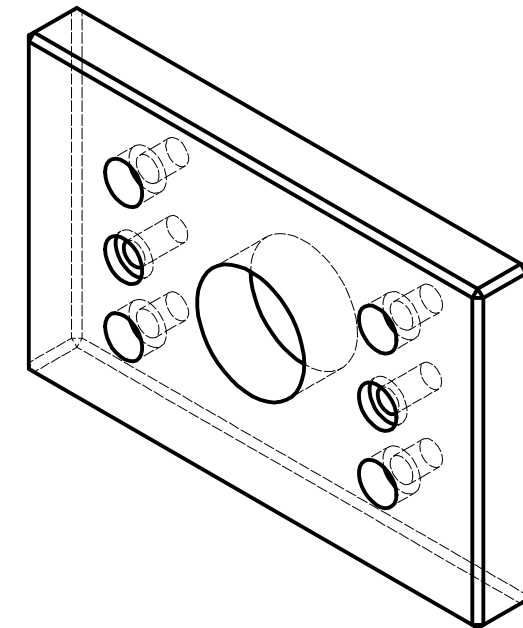
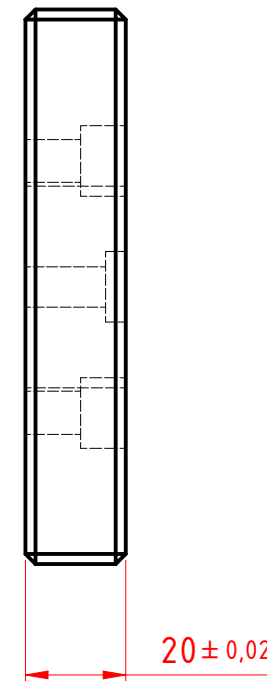
Rev: 0

Page: 1/10



SECTION A-A

7.  $\sqrt{3.2}$  (  $\sqrt{0.8}$  Reaming,  $\sqrt{3.2}$  Grinding )

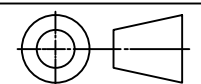


Test Project for the XXXI Indonesia Skills.  
Competition 2023.  
Copyright © 2023 Indonesia Skills Competition.  
All Rights Reserved.



Skill: PLASTIC DIE ENGINEERING

Projection A  
ISO 5456-2A



Scale: 1:1

Date: 18-2-2023

Paper: A3

Drawn / Design by: MURYANTO

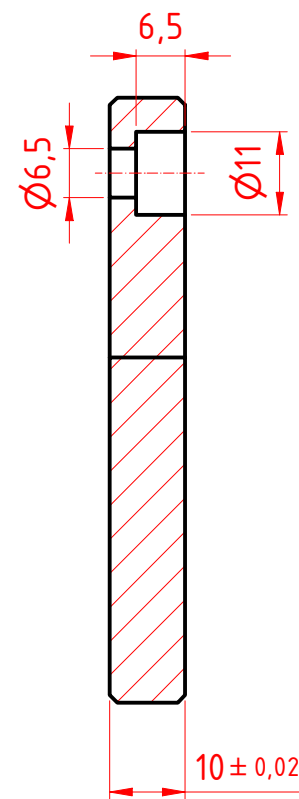
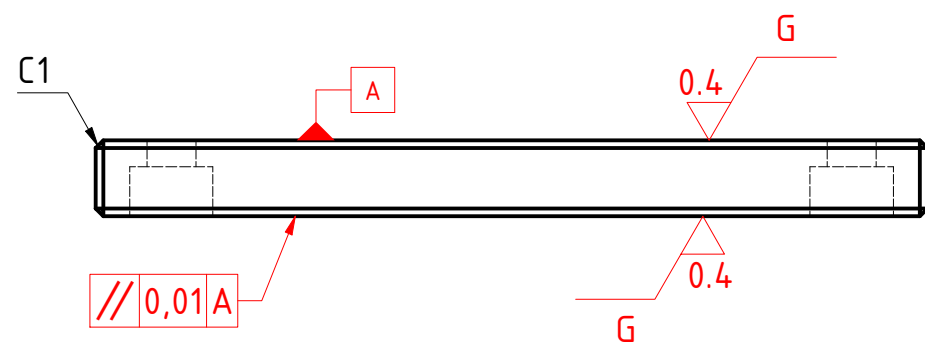
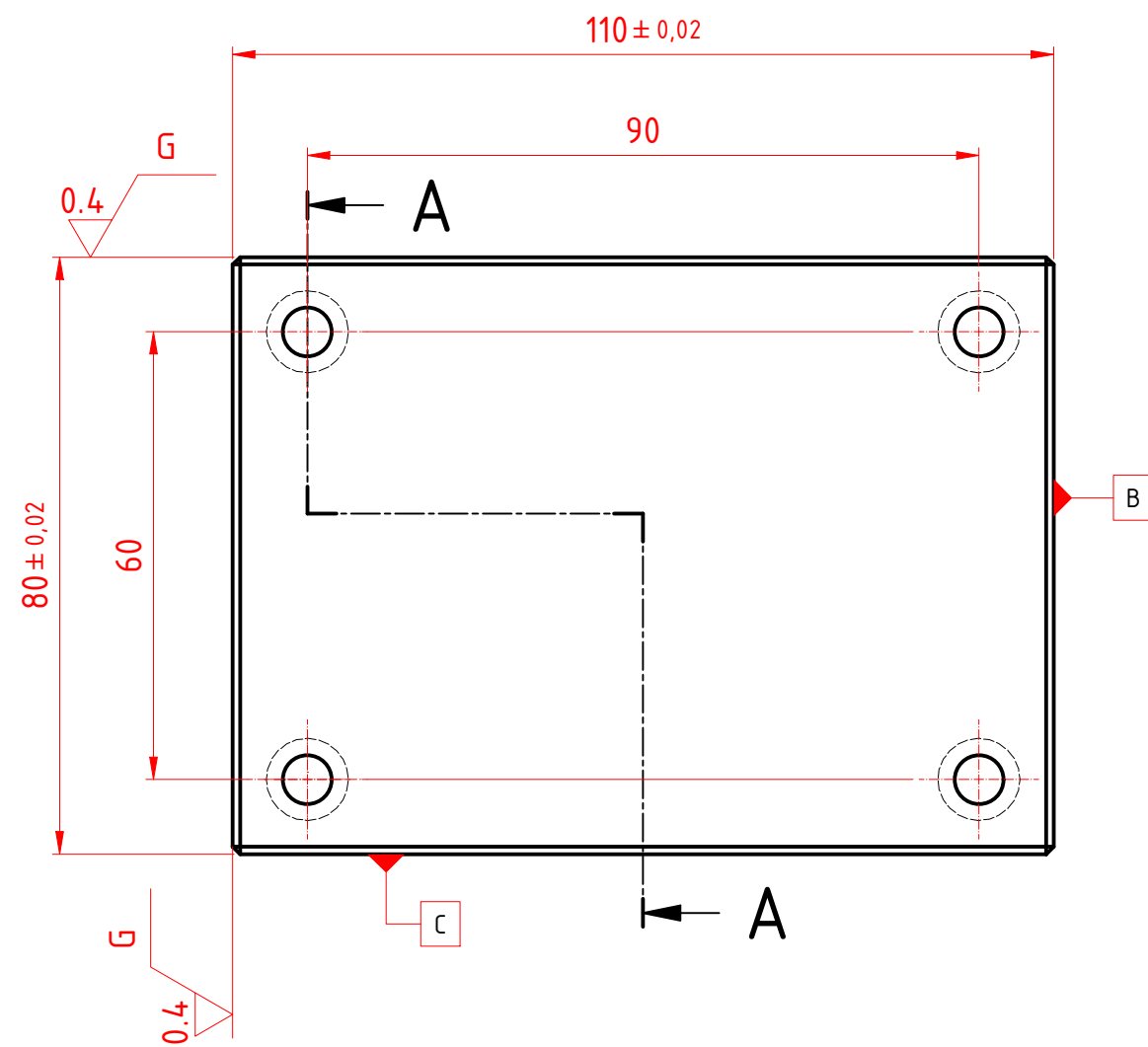
Drawing No: -

Description: ADAPTOR BASE

Rev: 0

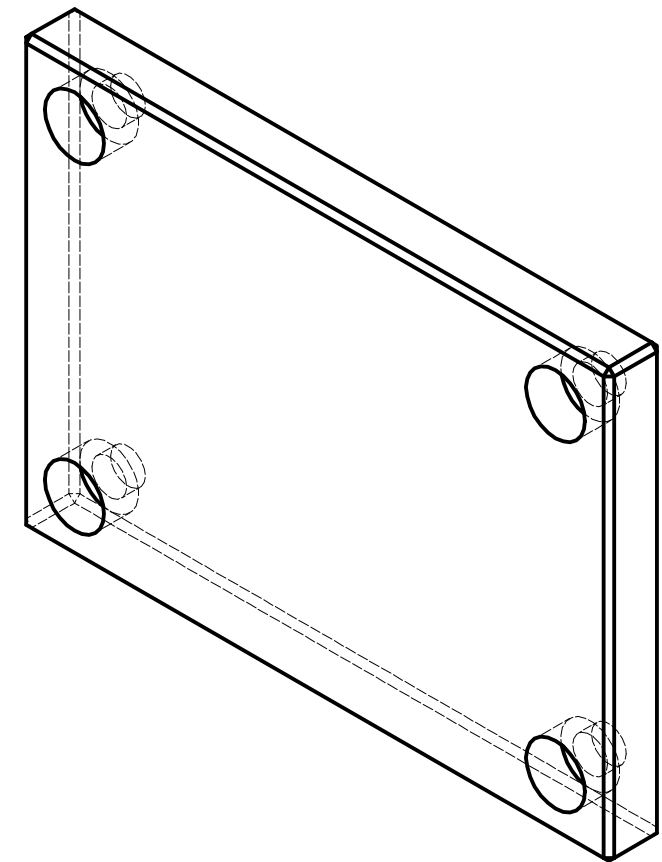
Page: 8/10





SECTION A-A

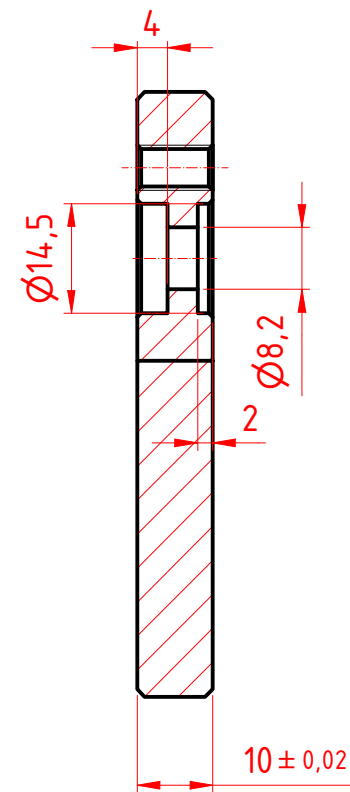
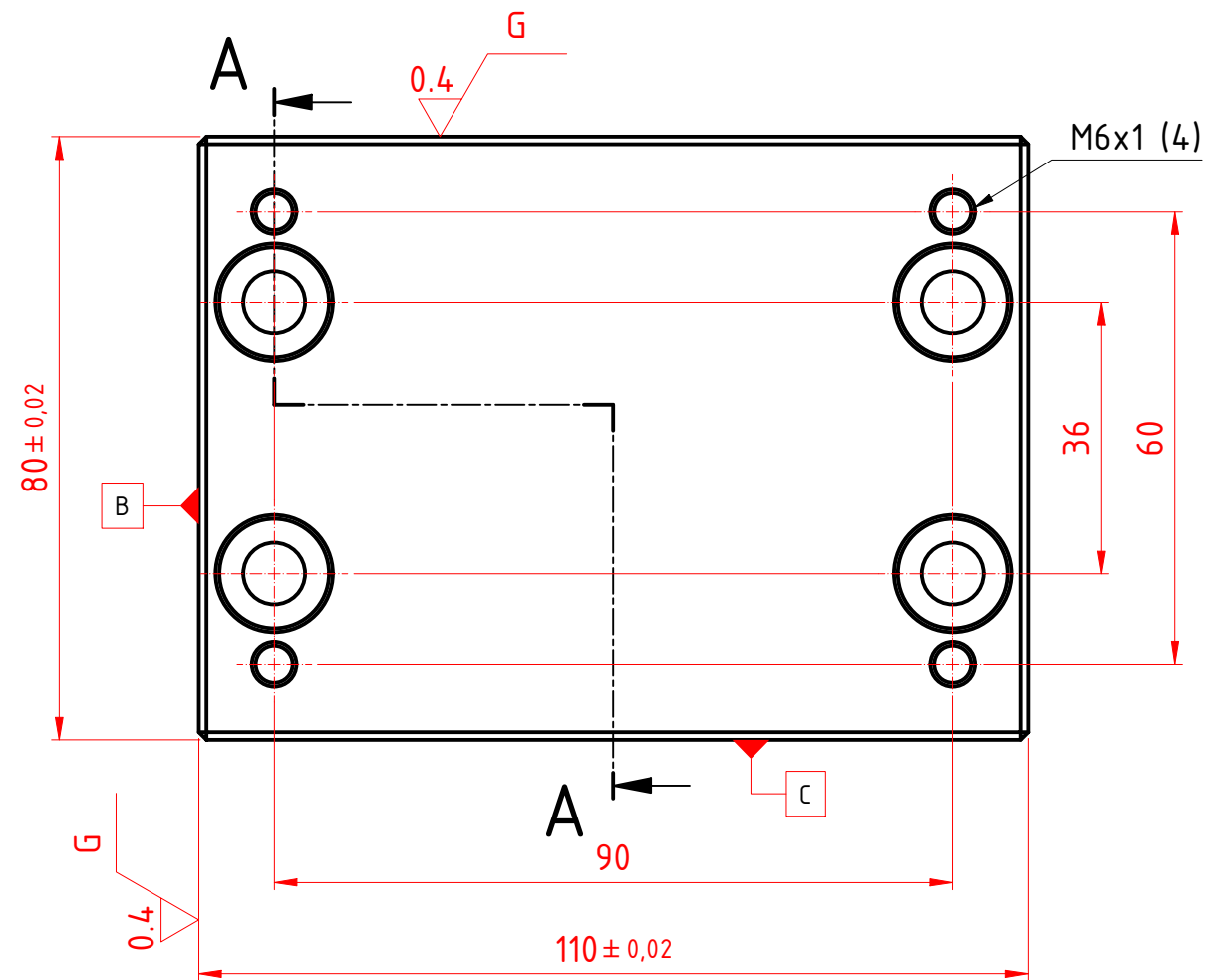
5.  $R_a 3,2$  (  $R_a 0,8$  Reaming,  $R_a 3,2$  Grinding )



Test Project for the XXXI Indonesia Skills.  
Competition 2023.  
Copyright © 2023 Indonesia Skills Competition.  
All Rights Reserved.

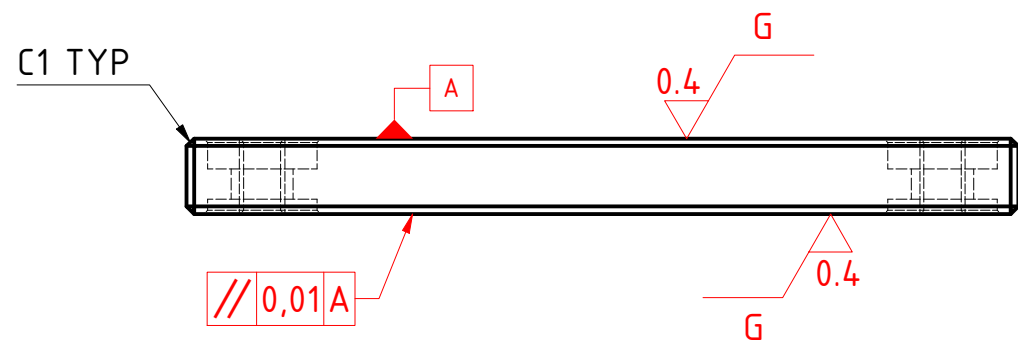
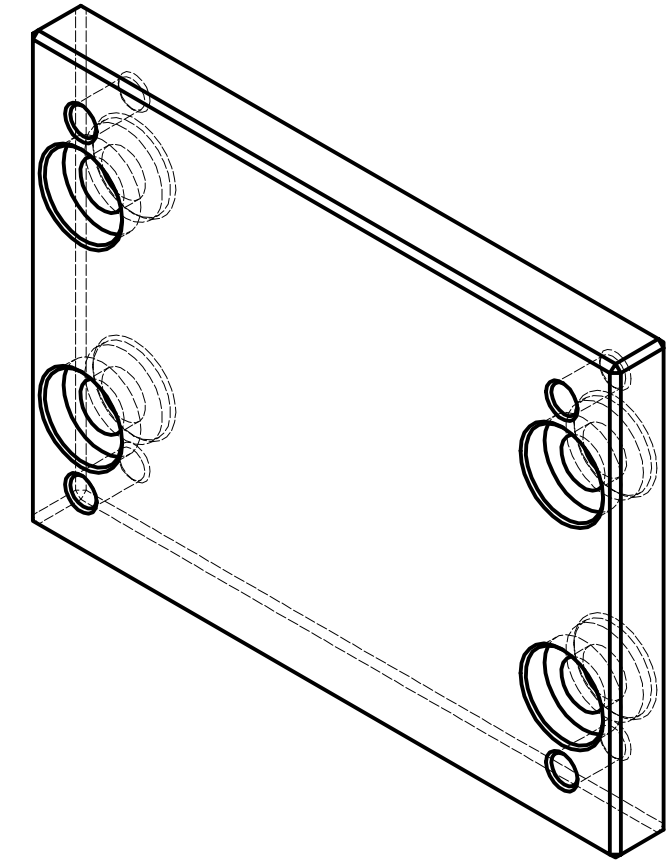


Skill: PLASTIC DIE ENGINEERING			Projection A ISO 5456-2A	
Scale: 1:1	Date: 18-2-2023	Paper: A3		
Drawn / Design by: MURYANTO			Drawing No: -	
Description: EJECTOR RETAINER PLATE			Rev: 0	Page: 6/10



SECTION A-A

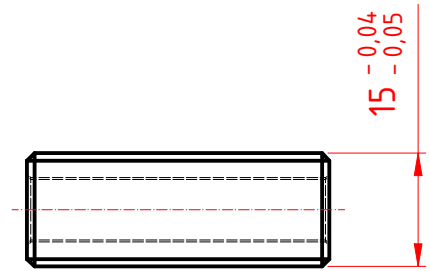
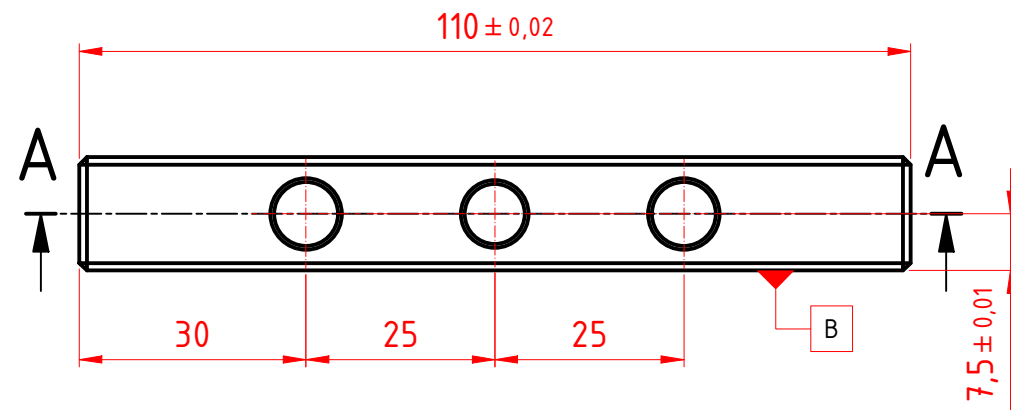
6.  $\sqrt[3.2]{}$  (  $\sqrt[0.8]{}$  Reaming ,  $\sqrt[3.2]{}$  Grinding )



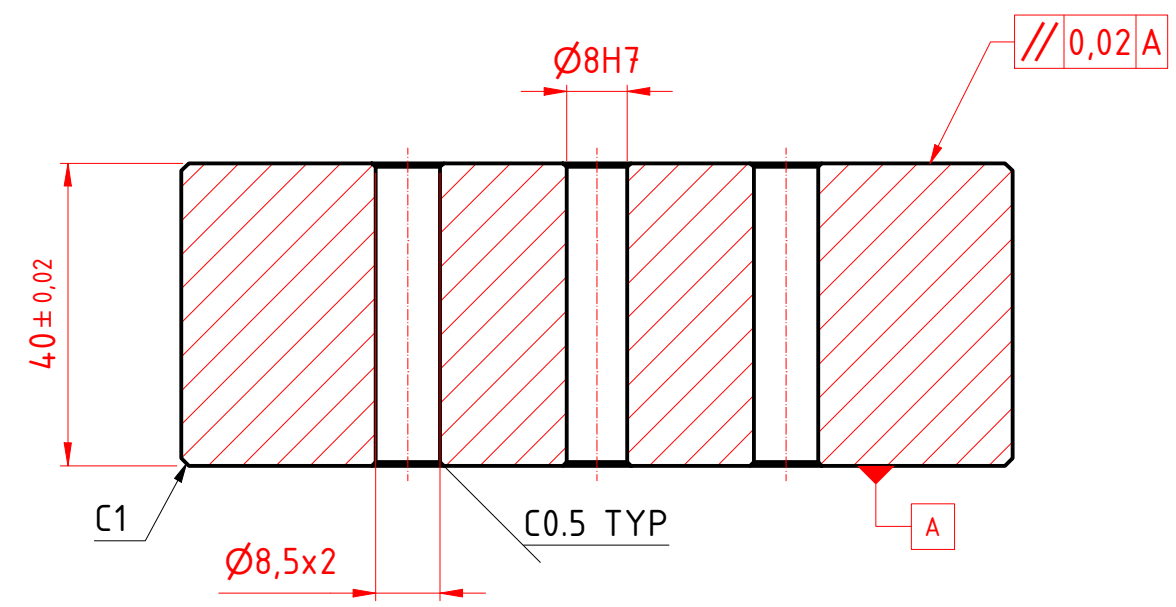
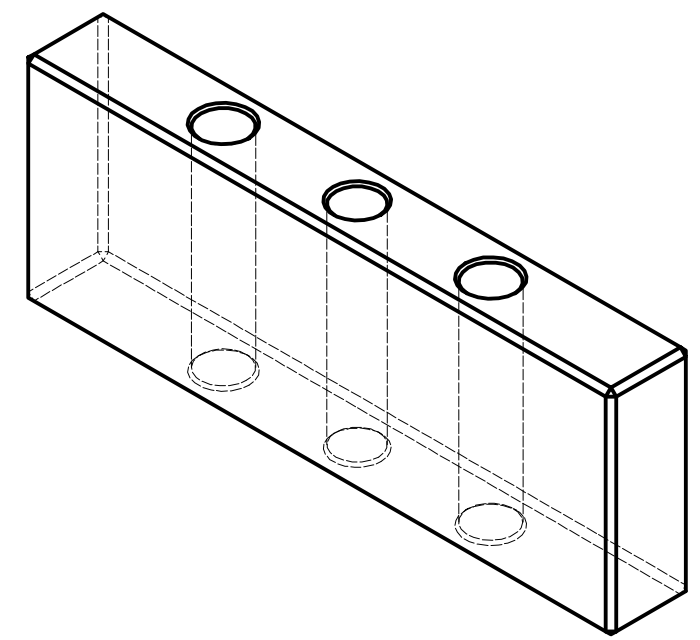
Test Project for the XXXI Indonesia Skills.  
Competition 2023.  
Copyright © 2023 Indonesia Skills Competition.  
All Rights Reserved.



Skill: PLASTIC DIE ENGINEERING			Projection A ISO 5456-2A	
Scale: 1:1	Date: 18-2-2023	Paper: A3		
Drawn / Design by: MURYANTO			Drawing No: -	
Description: EJECTOR PLATE			Rev: 0	Page: 7/10



8.  $\sqrt{3.2}$  (  $\sqrt{0.8}$  Reaming ,  $\sqrt{3.2}$  Grinding )

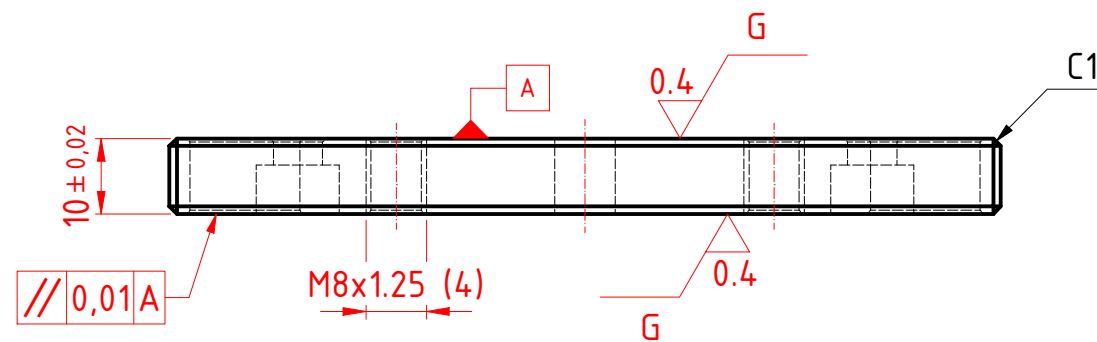
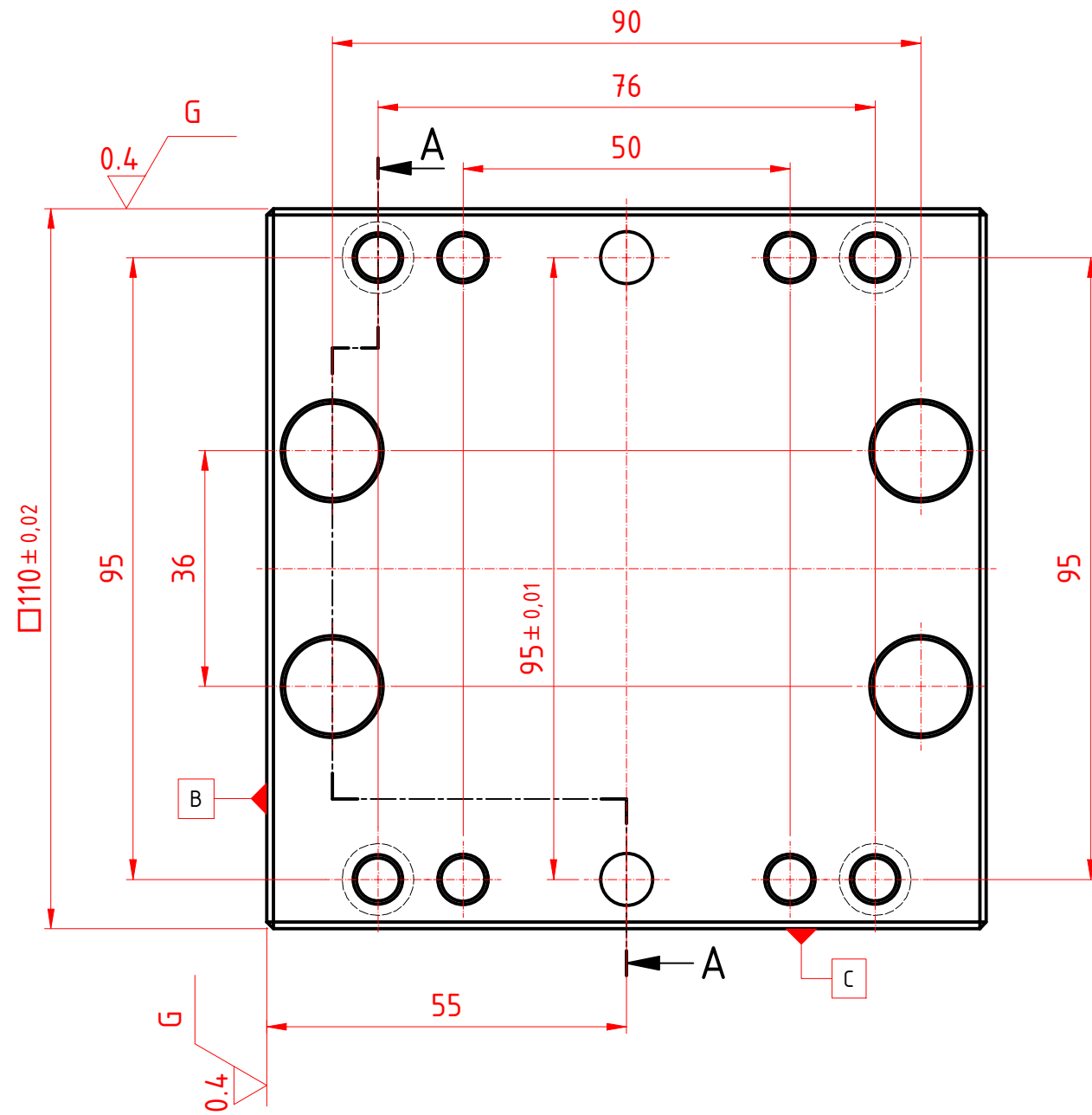


SECTION A-A

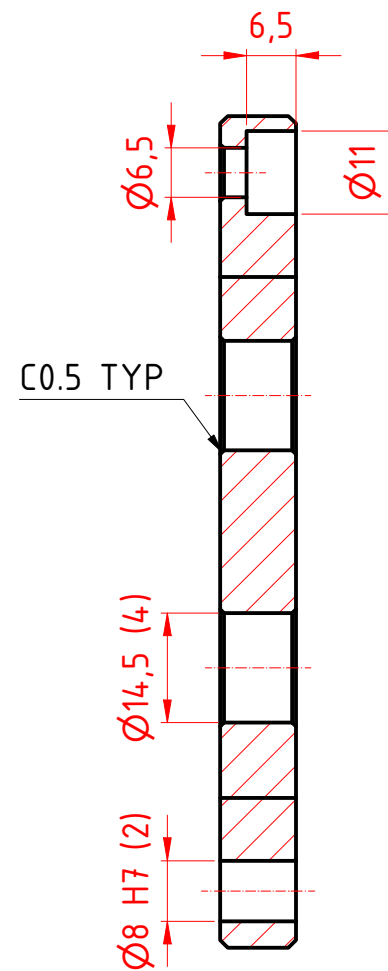
Test Project for the XXXI Indonesia Skills.  
 Competition 2023.  
 Copyright © 2023 Indonesia Skills Competition.  
 All Rights Reserved.



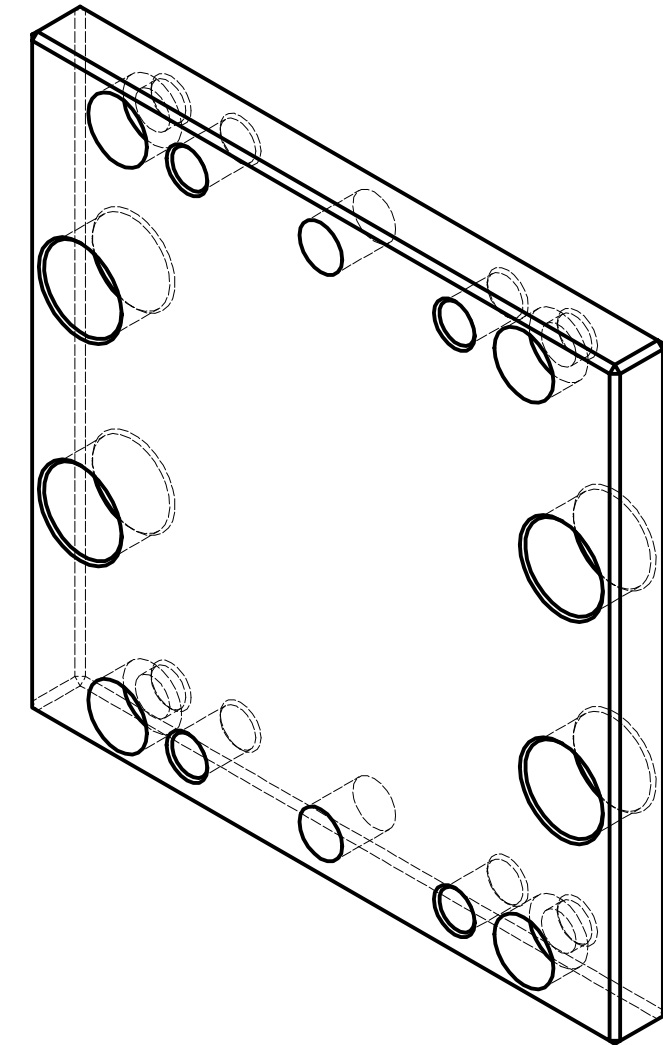
Skill: PLASTIC DIE ENGINEERING			Projection A ISO 5456-2A	
Scale: 1:1	Date: 18-2-2023	Paper: A3		
Drawn / Design by: MURYANTO			Drawing No: -	
Description: STRIPPER			Rev: 0	Page: 9/10



SECTION A-A



4.  $\sqrt{3.2}$  (  $\sqrt{0.8}$  Reaming ,  $\sqrt{3.2}$  Grinding )

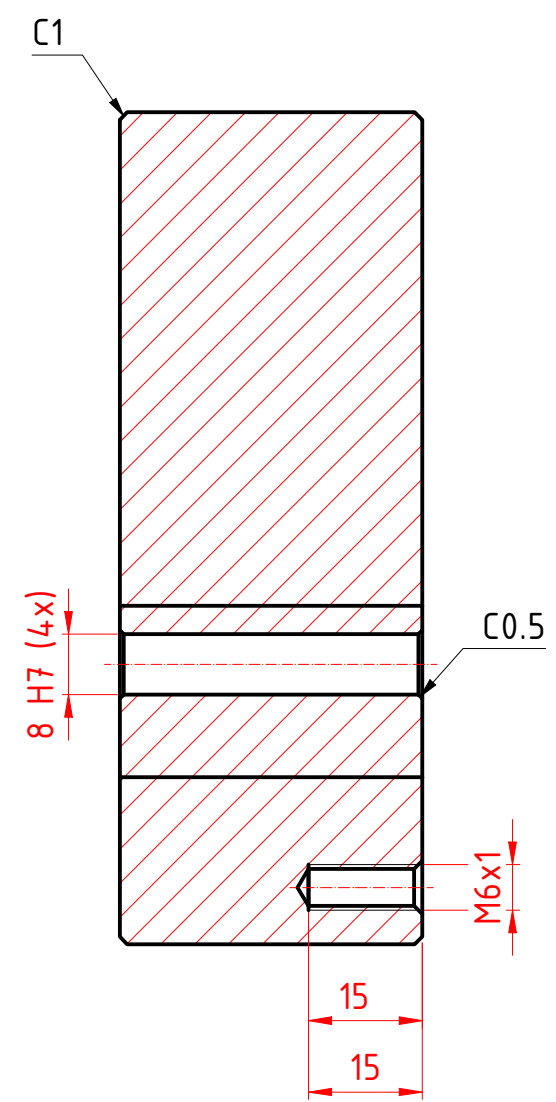
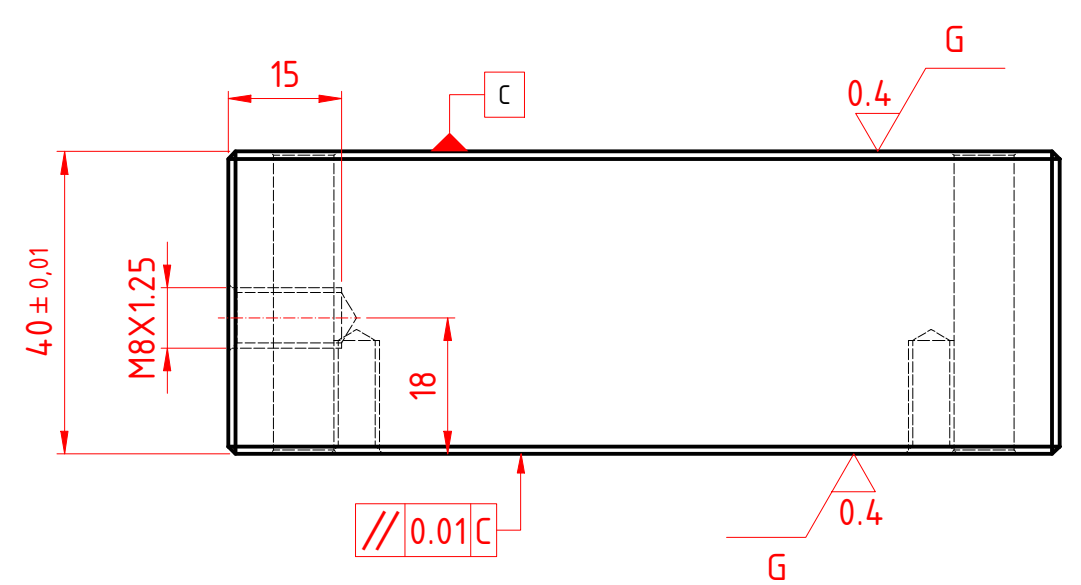
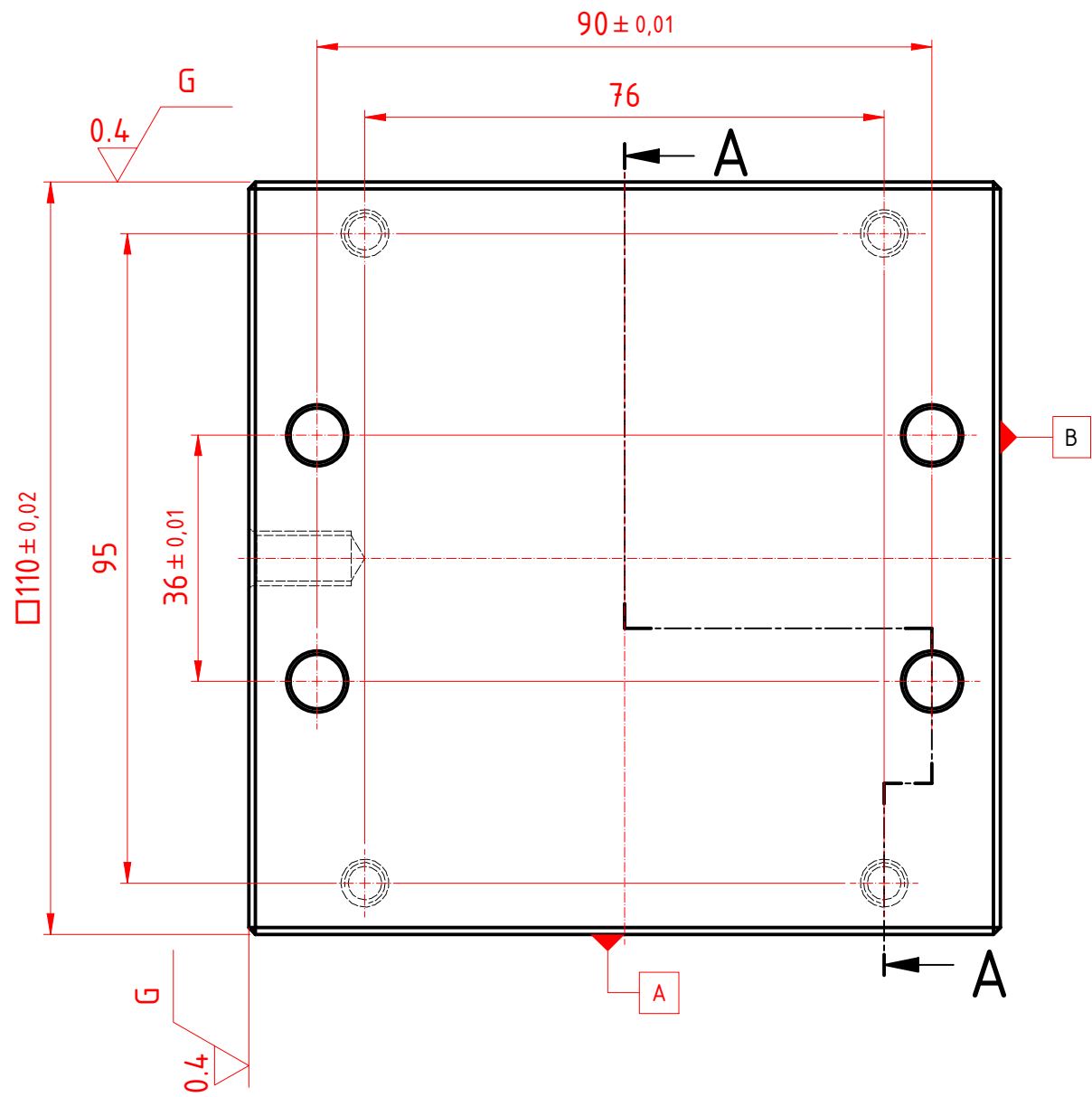


Test Project for the XXXI Indonesia Skills Competition 2023.  
Copyright © 2023 Indonesia Skills Competition.  
All Rights Reserved.



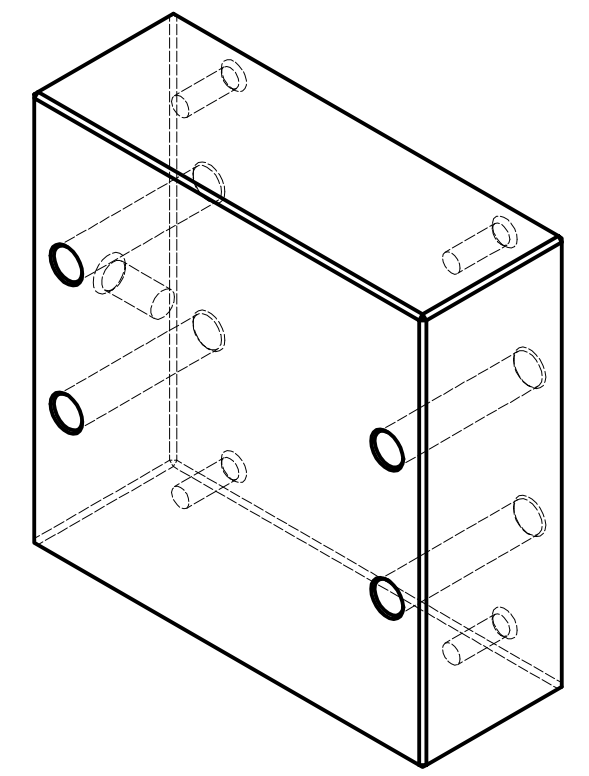
Skill: PLASTIC DIE ENGINEERING			Projection A ISO 5456-2A	
Scale: 1:1	Date: 18-2-2023	Paper: A3		
Drawn / Design by: MURYANTO			Drawing No: -	
Description: ADAPTOR CORE			Rev: 0	Page: 6/10





SECTION A-A

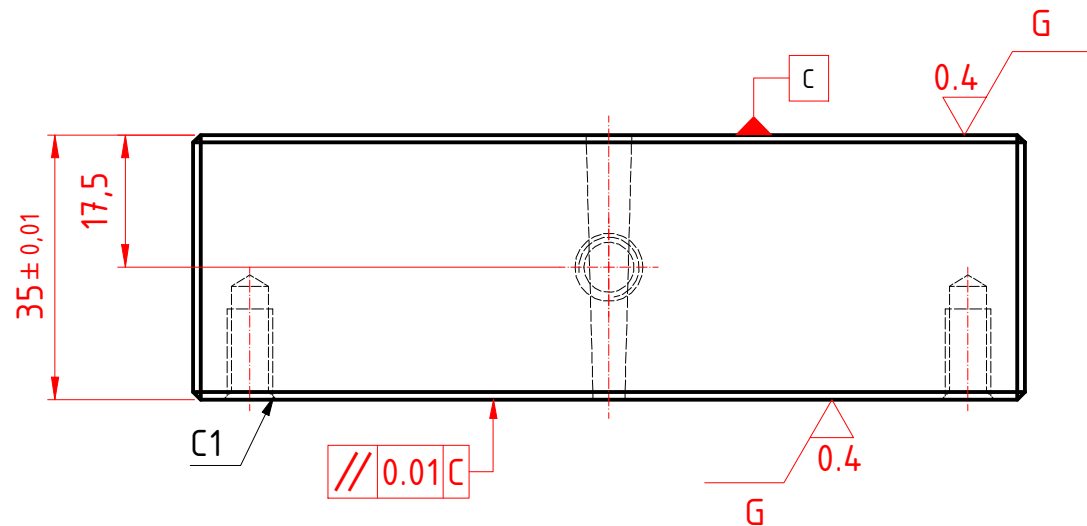
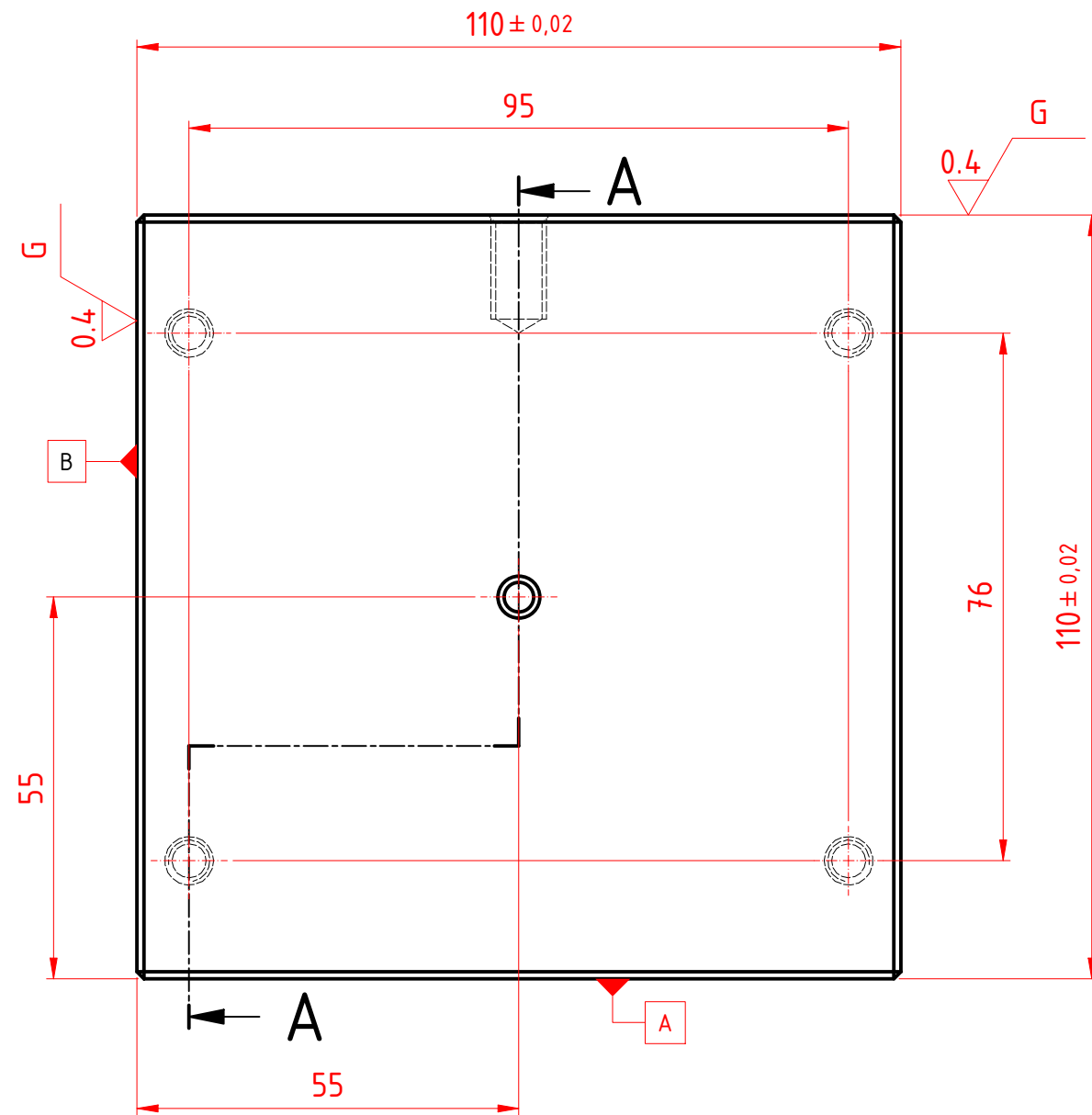
3.  $\sqrt{3.2}$  (  $\sqrt{0.8}$  Reaming ,  $\sqrt{3.2}$  Grinding )



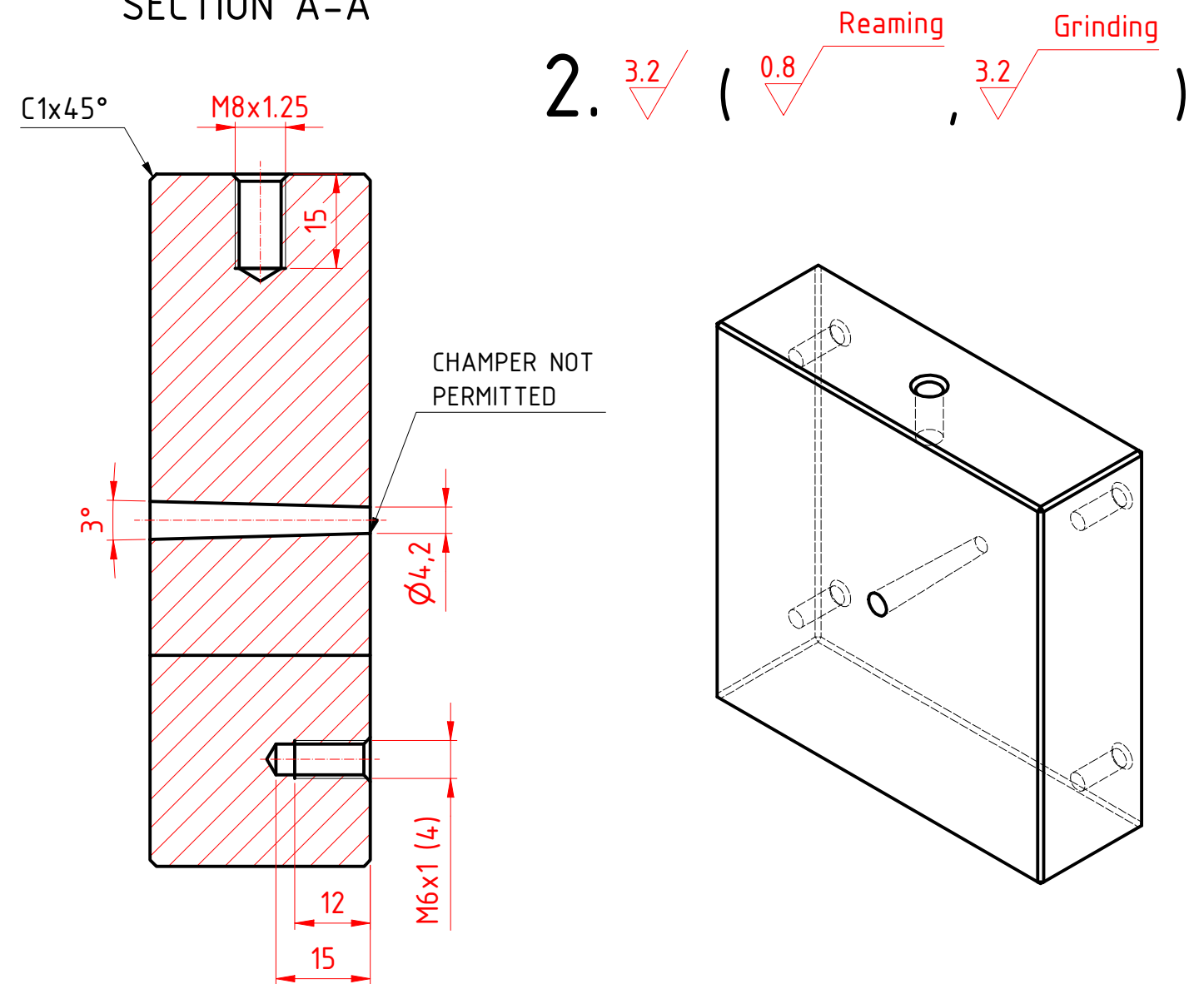
Test Project for the XXXI Indonesia Skills.  
Competition 2023.  
Copyright © 2023 Indonesia Skills Competition.  
All Rights Reserved.



Skill: PLASTIC DIE ENGINEERING			Projection A ISO 5456-2A	
Scale: 1:1	Date: 18-2-2023	Paper: A3		
Drawn / Design by: MURYANTO			Drawing No: -	
Description: CORE PLATE			Rev: 0	Page: 4/10



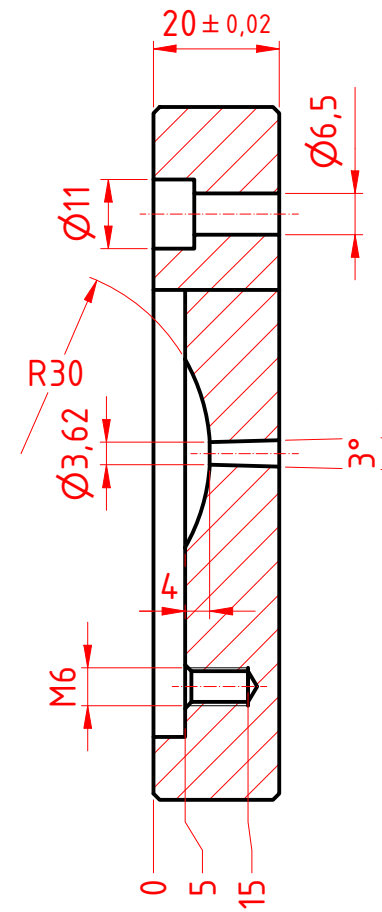
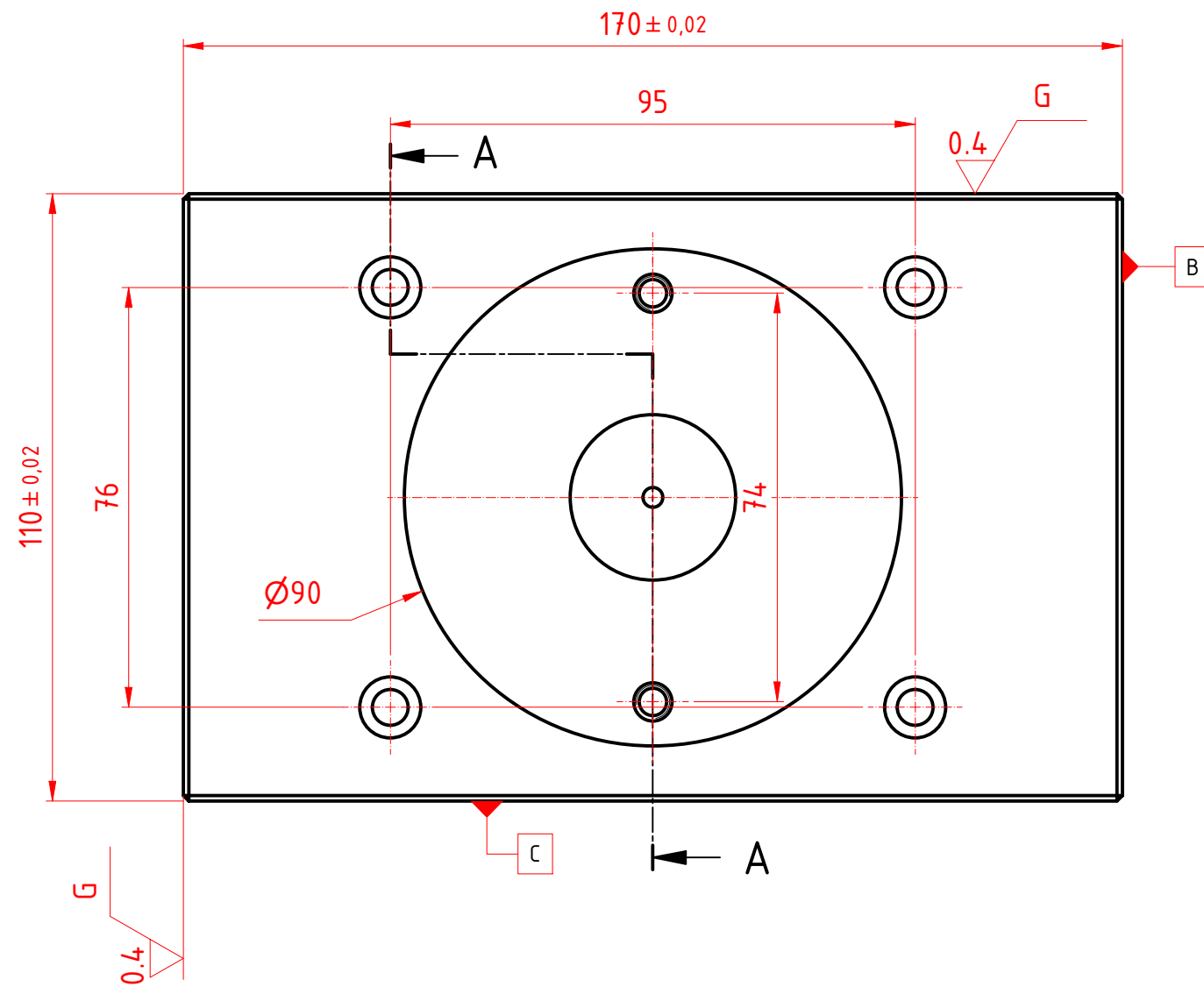
SECTION A-A



Test Project for the XXXI Indonesia Skills.  
Competition 2023.  
Copyright © 2023 Indonesia Skills Competition.  
All Rights Reserved.

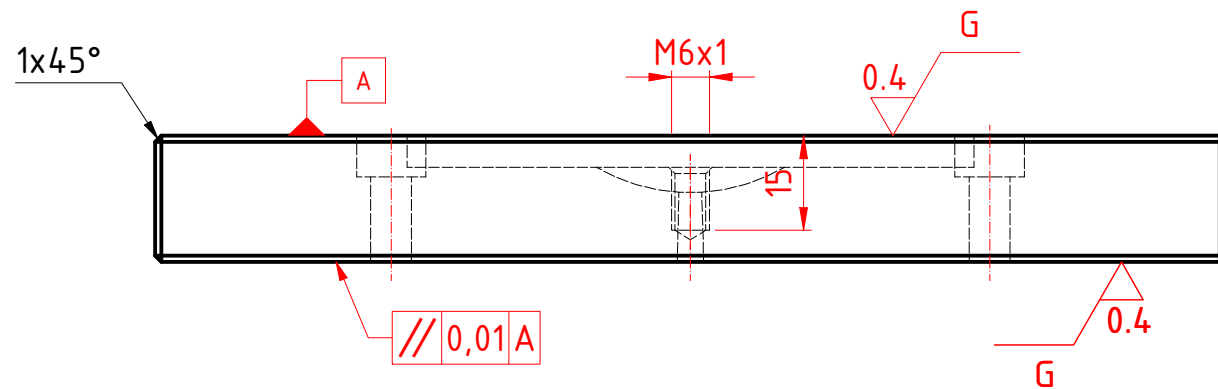
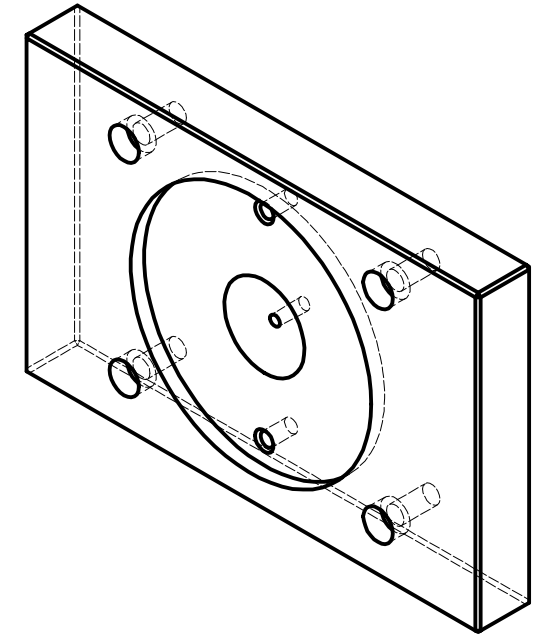


Skill: PLASTIC DIE ENGINEERING			Projection A ISO 5456-2A	
Scale: 1:1	Date: 18-2-2023	Paper: A3		
Drawn / Design by: MURYANTO			Drawing No: -	
Description: CAVITY PLATE			Rev: 0	Page: 3/10



SECTION A-A

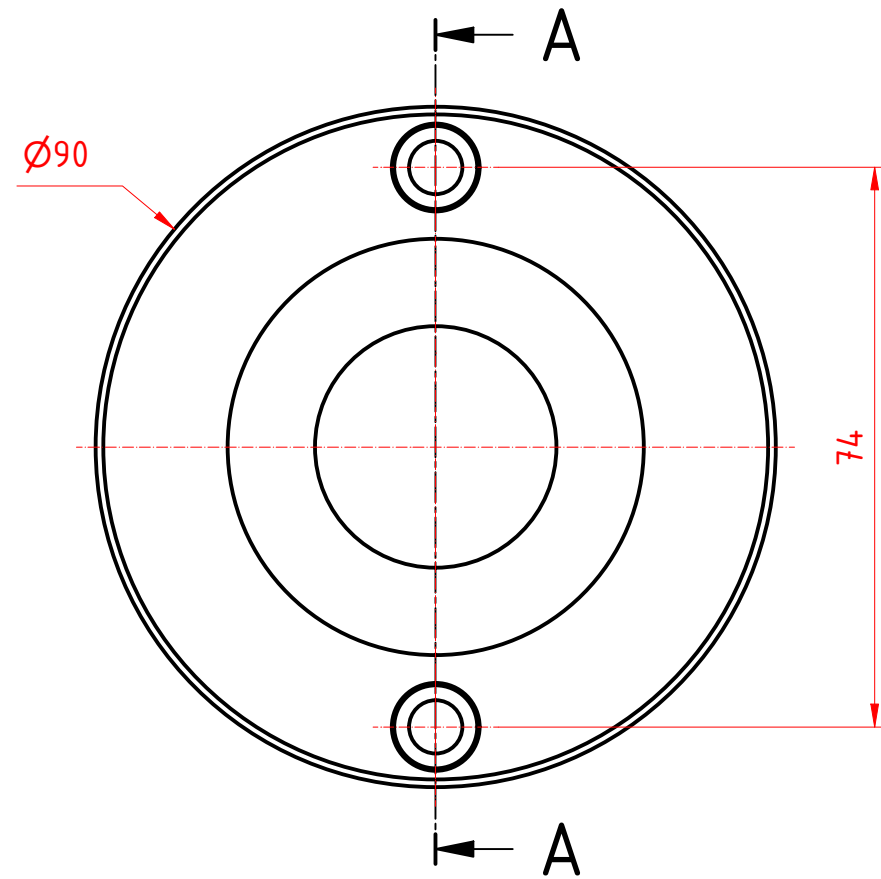
1.  $\sqrt{3.2}$  (  $\sqrt{0.8}$  Reaming ,  $\sqrt{3.2}$  Grinding )



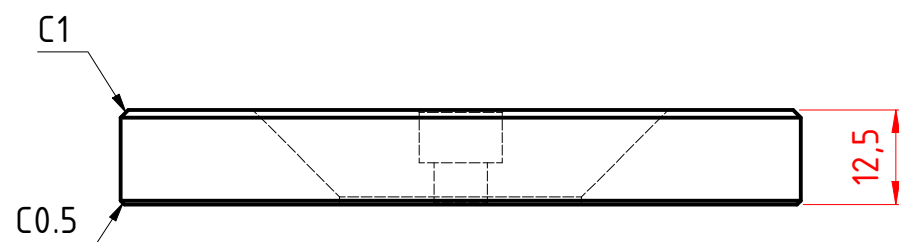
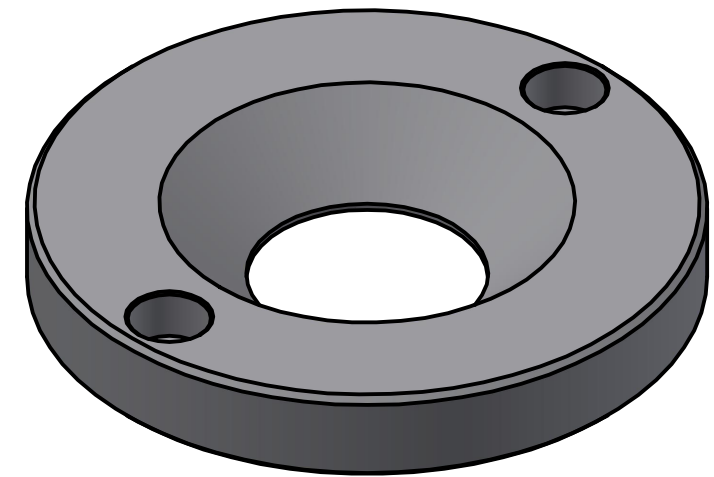
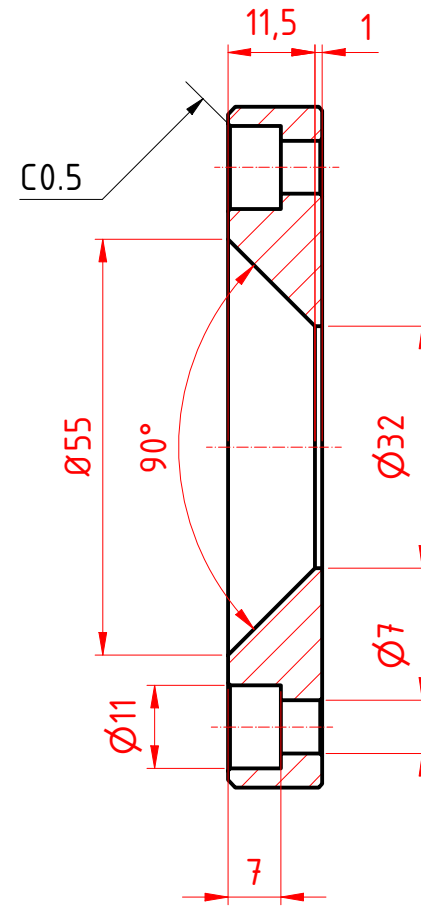
Test Project for the XXXI Indonesia Skills.  
 Competition 2023.  
 Copyright © 2023 Indonesia Skills Competition.  
 All Rights Reserved.



Skill: PLASTIC DIE ENGINEERING			Projection A ISO 5456-2A	
Scale: 1:1	Date: 18-2-2023	Paper: A3		
Drawn / Design by: MURYANTO			Drawing No: -	
Description: ADAPTOR CAVITY			Rev: 0	Page: 2/10



SECTION A-A



Test Project for the XXXI Indonesia Skills.  
 Competition 2023.  
 Copyright © 2023 Indonesia Skills Competition.  
 All Rights Reserved.



Skill: PLASTIC DIE ENGINEERING			Projection A ISO 5456-2A	
Scale: 1:1	Date: 18-2-2023	Paper: A3		
Drawn / Design by: MURYANTO			Drawing No: -	
Description: LOCATING RING			Rev: 0	Page: 10/10



worldskills  
Indonesia



BALAI PENGEMBANGAN TALENTA INDONESIA (BPTI)

**PUSAT PRESTASI NASIONAL**

Jalan Gardu, Srengseng Sawah, Kota Jakarta Selatan, Jakarta 12640

Website : [www.pusatprestasinasional.kemdikbud.go.id](http://www.pusatprestasinasional.kemdikbud.go.id)