

تمارين محلولة في الرسم الهندسي



إعداد:

المهندس: حسان حمود

المهندس: رامي أنيس

"بسم الله الرحمن الرحيم"

المقدمة

جميع التمارين المحلولة هي من كتاب الرسم الهندسي للمهندس علاء الدين بعاج قسم التمارين العامة

لقد تم بعون الله انهاء الجزء الأول من هذا العمل والذي يحوي على ٦٠ تمرين محلول كاملاً حيث تم رسم المنظور والمساقط والقطاعات المطلوبة لكل تمرين

الصفحة الأولى تحتوي على المنظور للشكل المطلوب وتحتوي الصفحة الثانية على المساقط و القطاعات المطلوبة.

يوجد في الطرف السفلي لكل صفحة مربع يحوي معلومات عن مقياس الرسم رقم التمرين في الكتاب .

تم رسم الجسومات باستخدام برنامج "SOLIDWORKS"

من أجل الحصول على ملفات الرسومات التي تساعد في فهم الشكل بصورة أكبر من خلال تدويره في جميع الاتجاهات ضمن بيئة **SOLIDWORKS** يرجى الاتصال على

الرقم (المهندس : رامي أنيس ٠٩٩٢٥٧٦٣٥٨)

سيتم في الفترة القادمة إعداد القسم الثاني الذي يحوي على بقية التمارين بإذن الله تعالى وإننا نتطلع لملاحظتكم من أجل إنجاحه

نرجو من الله تعالى أن ينال هذا العمل إعجابكم وتجدوا فيه من الفائدة والخير ما نرجوه لكم

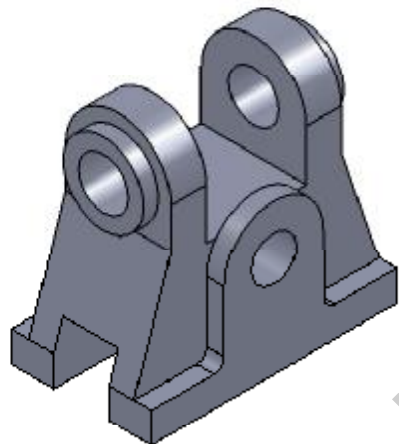
المهندس : رامي أنيس

المهندس : حسان حمود

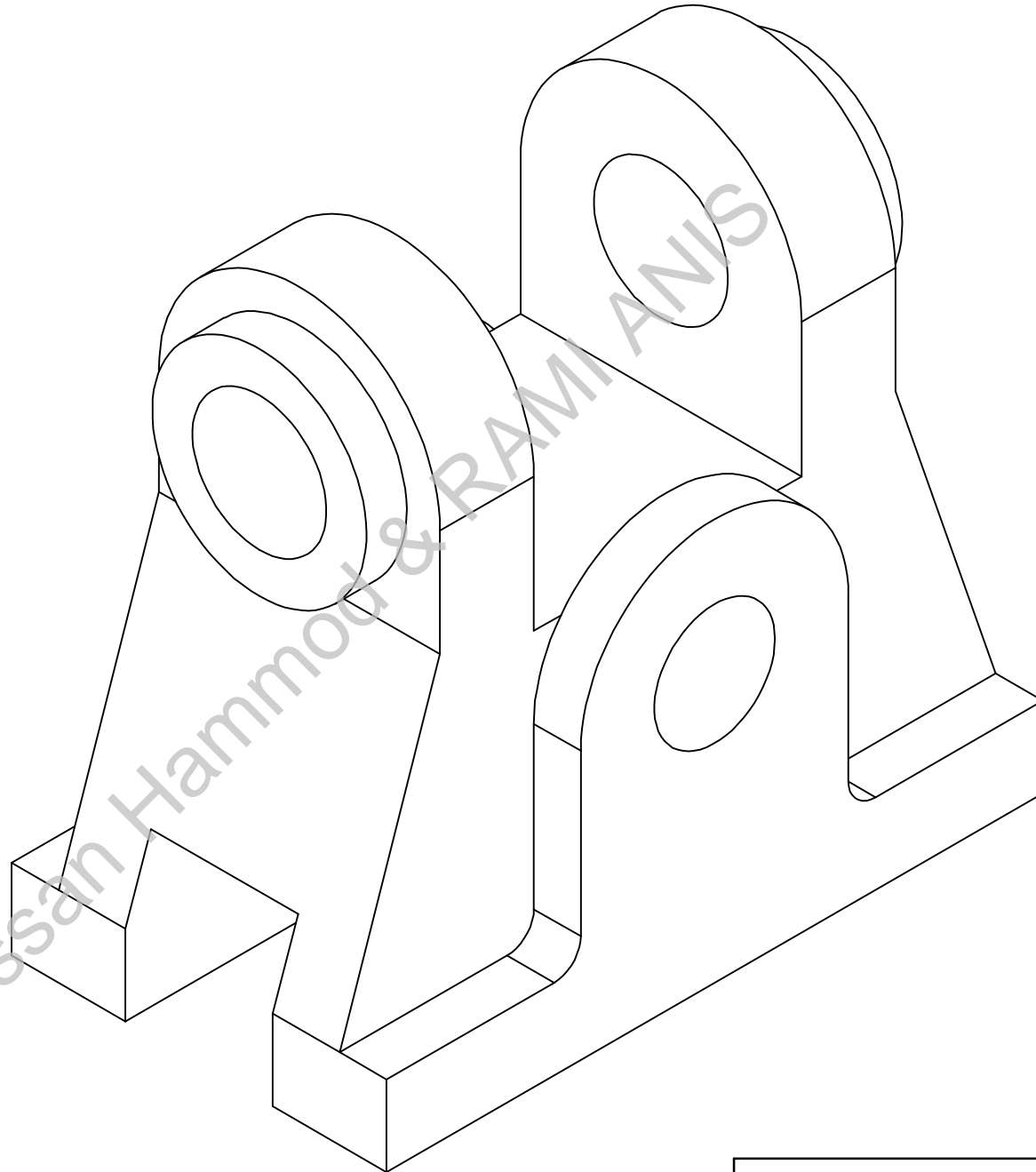
الرسم الهندسي بمثابة اللغة التي يتمكن المهندس من خلالها من التعبير عن أي تصميم على النحو الذي يمكن للآخرين فهمه وتطويره وتصنيعه. ويكون هذا الرسم وفقا لمعايير متفق عليها بالنسبة للشكل والتسمية والمظهر والحجم وما إلى ذلك. ويهدف الرسم الهندسي إلى استيعاب كافة الخواص الهندسية لمكون ما أو منتج ما بشكل واضح بما لا يدع مجالاً للبس. والغاية الأساسية من الرسم الهندسي هي توصيل المعلومات الأساسية التي تمكن المصنّع من إنتاج هذا المكون.

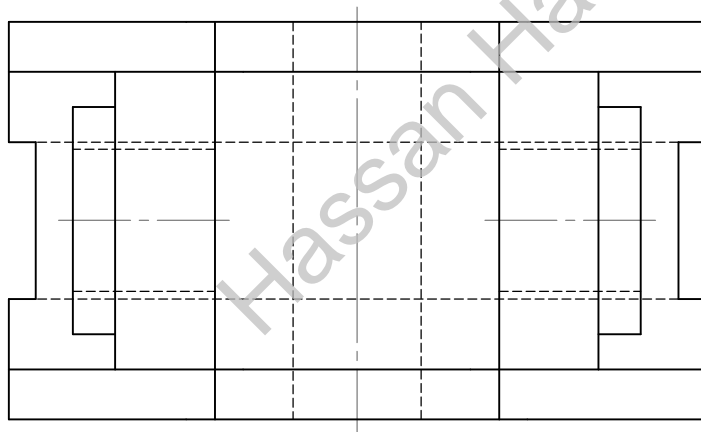
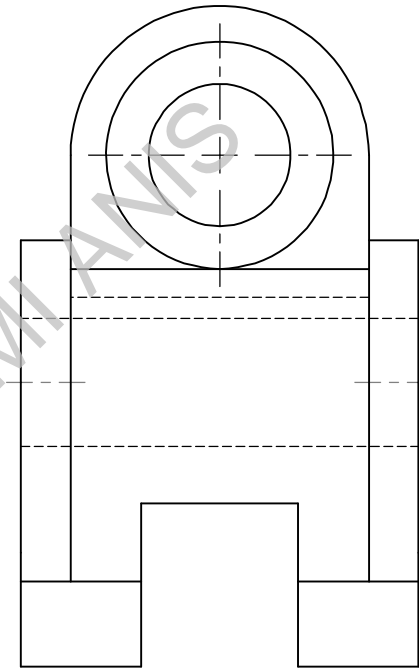
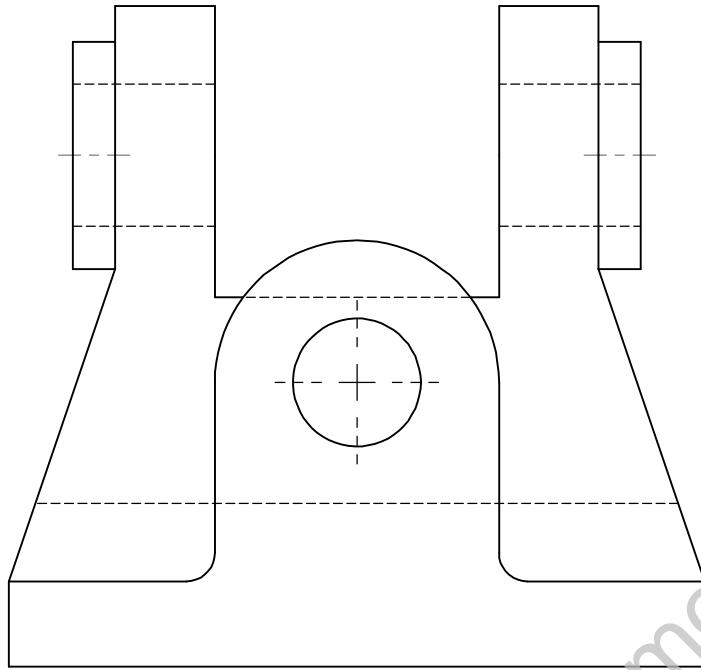
والرسم الهندسي والرسم الميكانيكي أو رسم الآلات هي لغات فنية وهندسية ومثلها أي لغة تستخدم في التفاهم ونقل الأفكار الهندسية بين الناس، سواء كان ذلك عن طريق الكتابة (تحضير رسومات) أو عن طريق القراءة (دراسة رسومات سبق تحضيرها). والرسم الهندسي ليس رسماً كالمعروف بين الناس، فهو يختلف في صورته ونظام تحضيره وما يحويه من بيانات تتصل بالصناعة والتصميم والإنتاج الصناعي، فأية صورة فوتوغرافية لأي قطعة ميكانيكية لا يمكن اعتبارها رسماً ميكانيكياً لعدم فائدتها للصناعة والإنتاج والدراسة الهندسية الأمر الذي يحتاج إلى معرفة المقاسات، والمواد المصنوعة منها.

والرسم الهندسي كلغة له قواعده وأسسها ولا يمارسه إلا من درسه دراسة سليمة ومدى التحصيل فيه يتوقف على المران الكامل والدقة التامة. وتستخدم لغة الرسم بين رجال الصناعة (عمال ومشرفين ومهندسين مخترعين) كوسيلة وهي الوسيلة الوحيدة للتفاهم بينهم على ما يرغبون في إنتاجه وصناعته من منتجات لاستخدامها في حياة الإنسان كما أنها اللغة التي يمكن الاحتفاظ بالمستندات التي تتصل بالاختراعات والتصميمات فيسهل الرجوع إليها عند الحاجة.

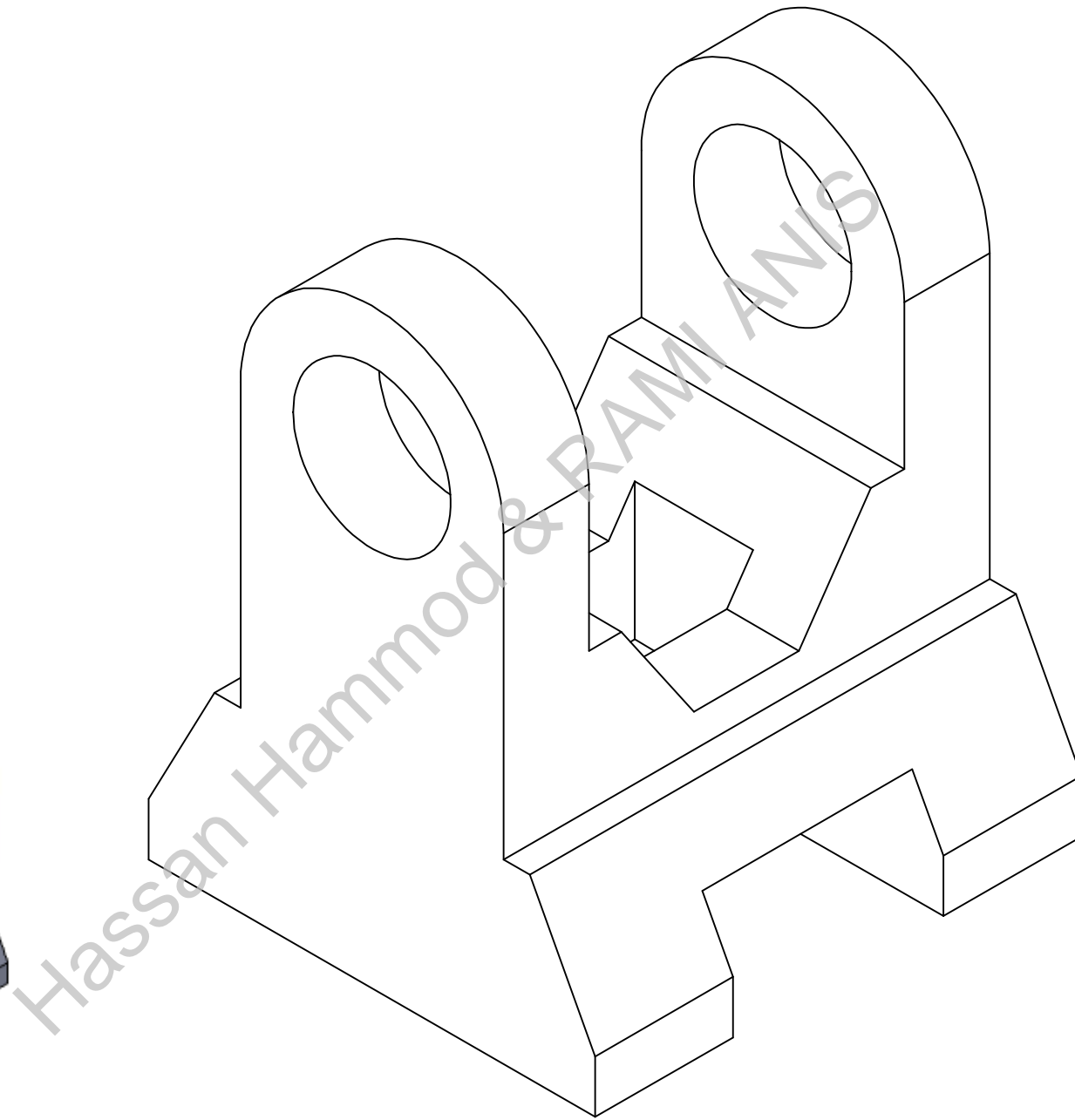
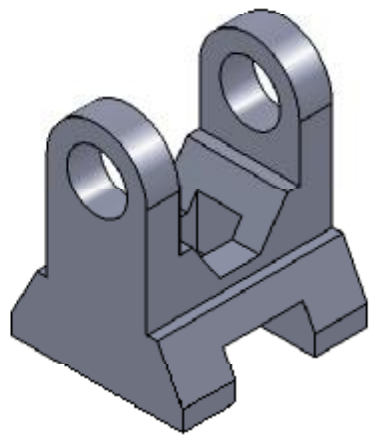


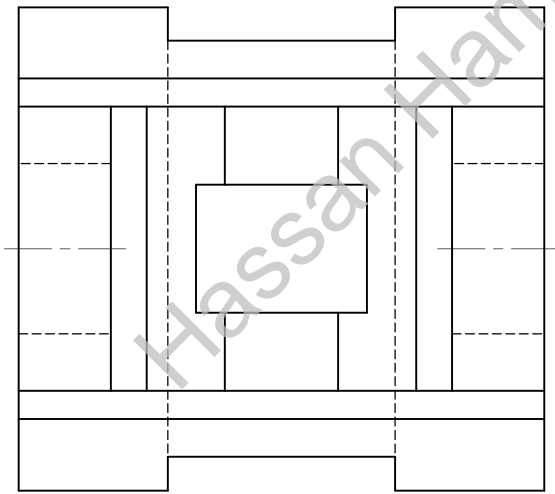
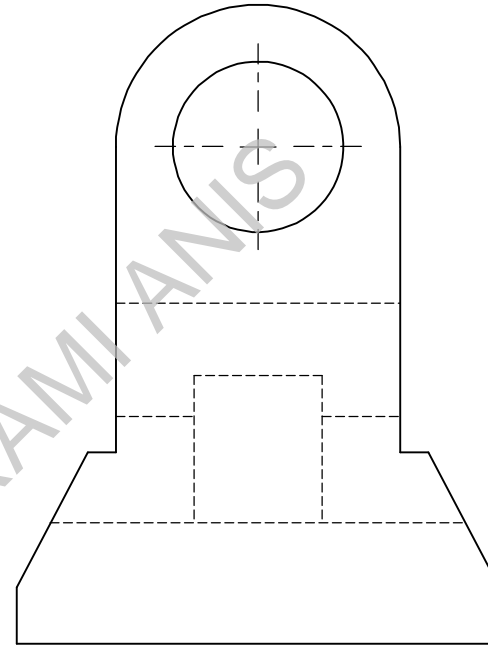
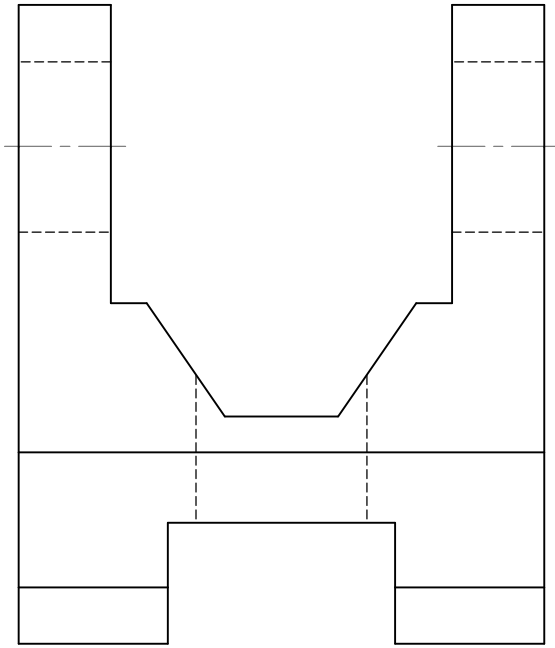
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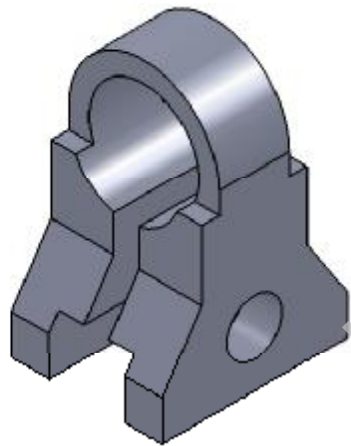


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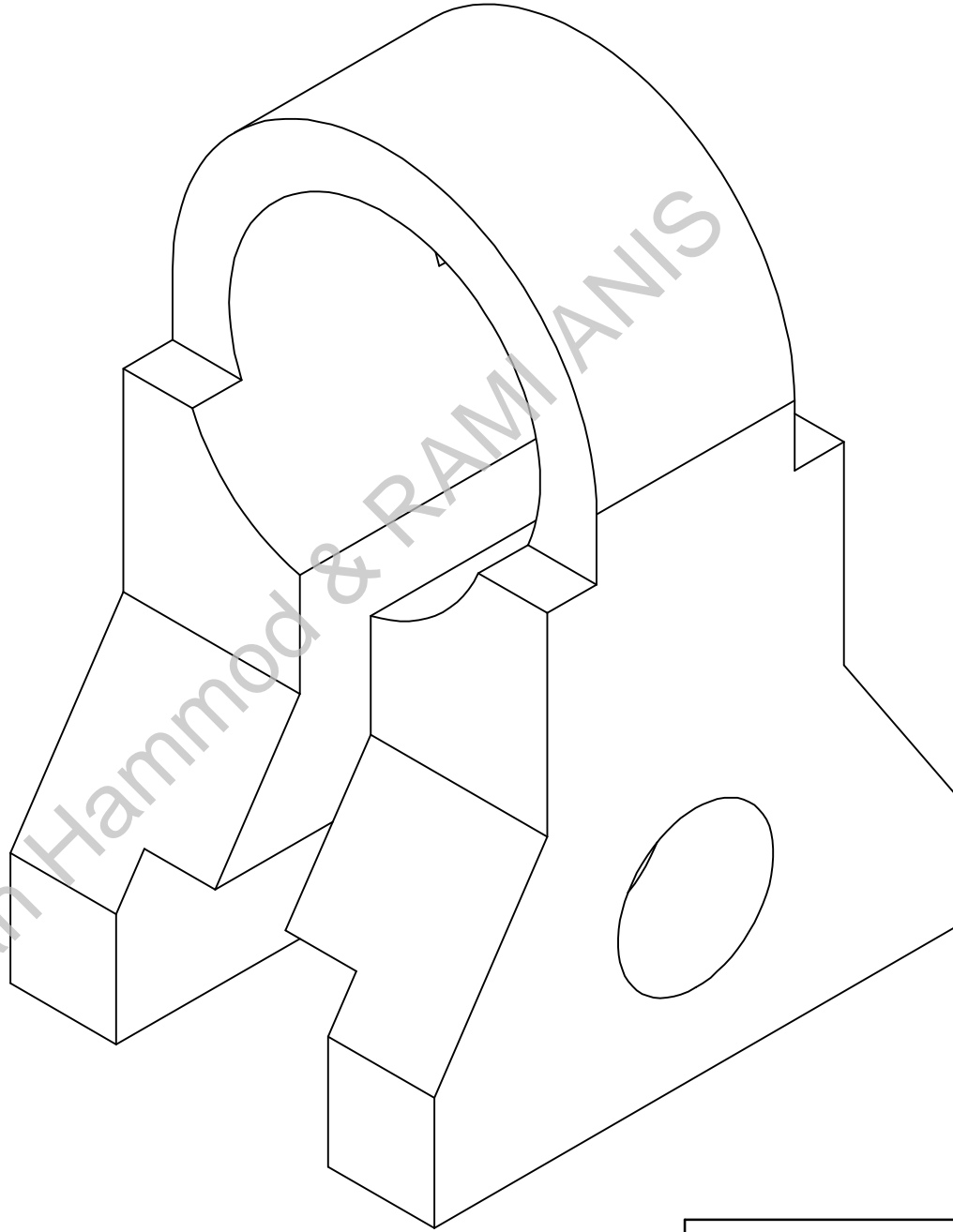


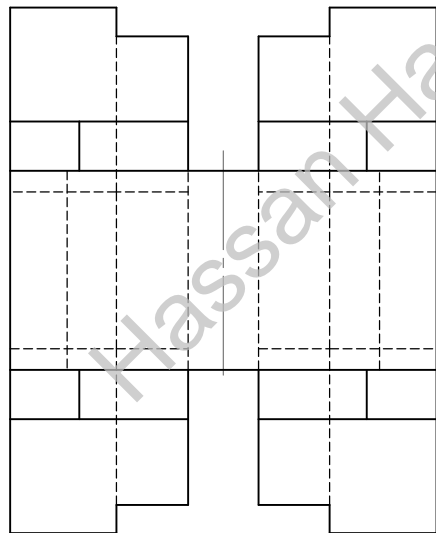
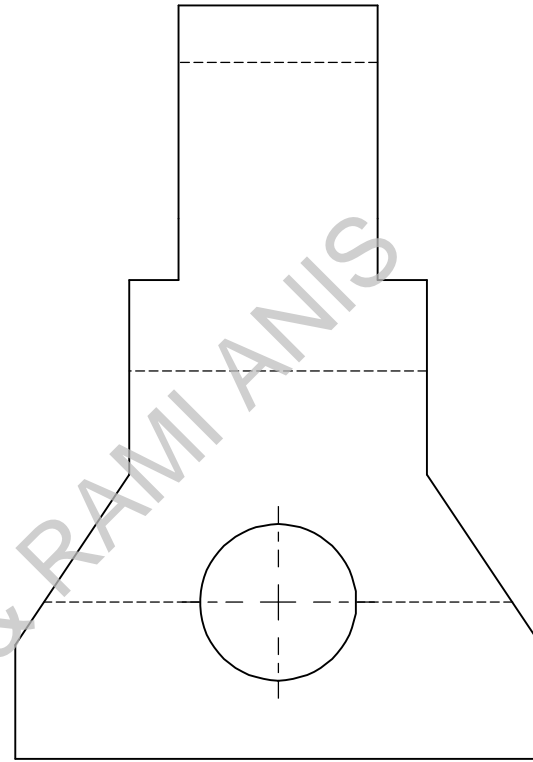
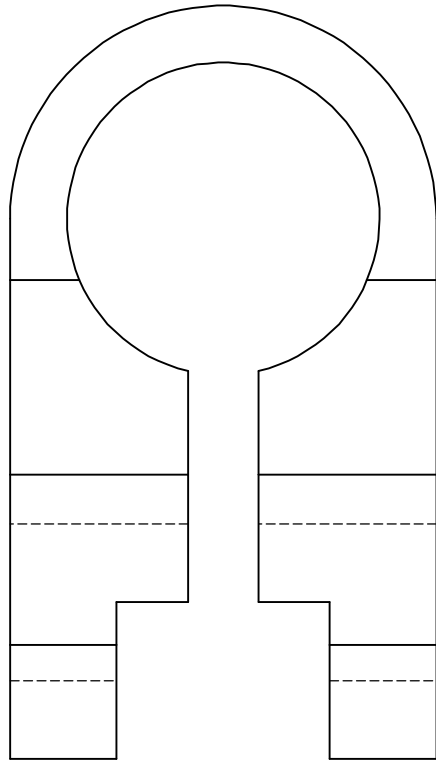


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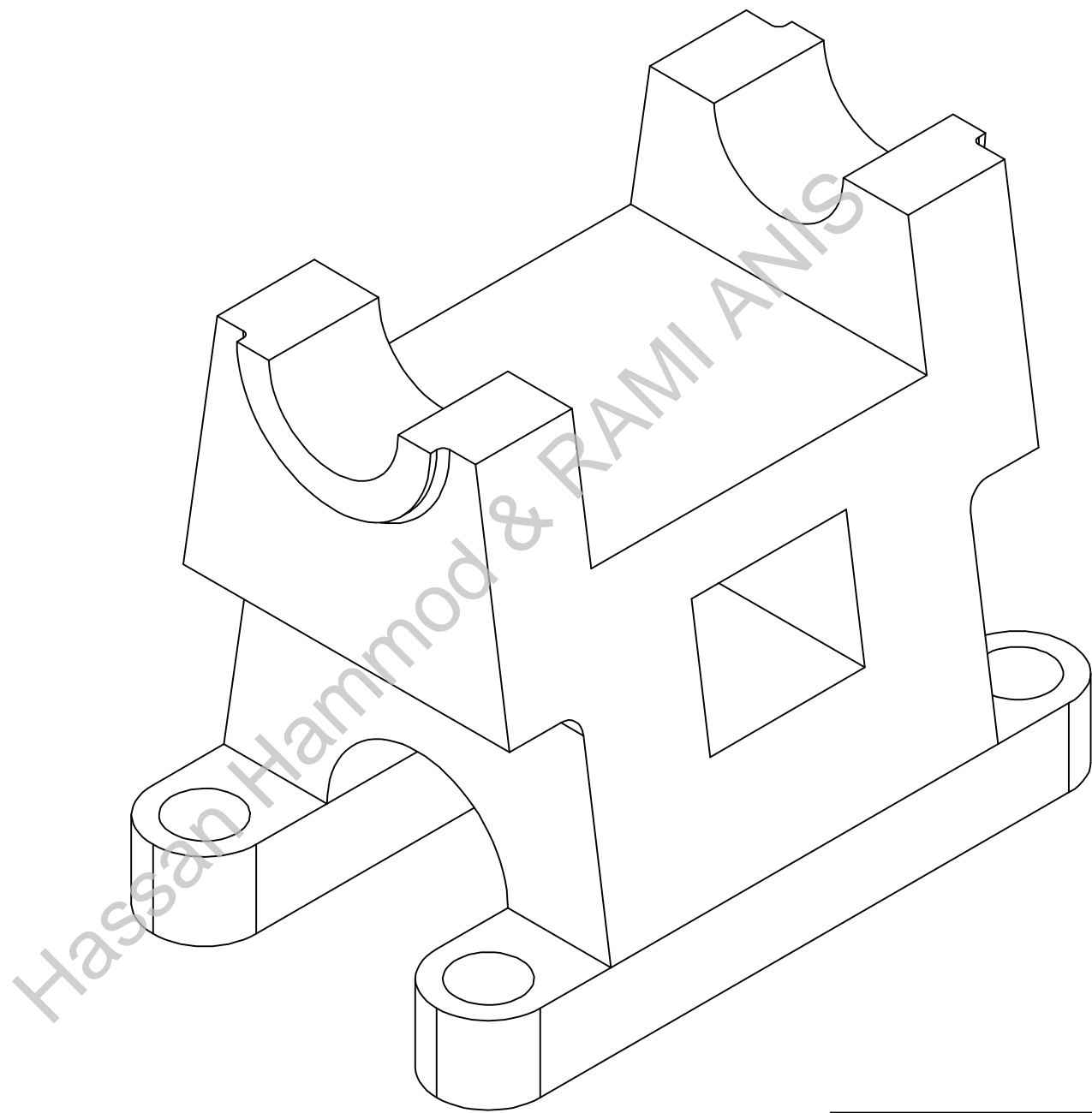
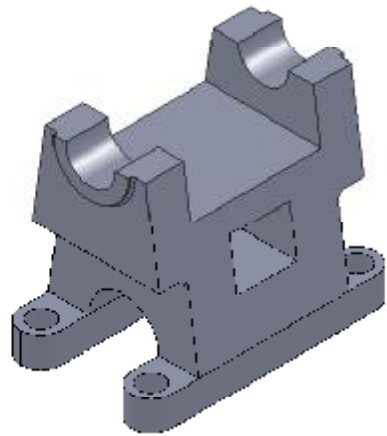




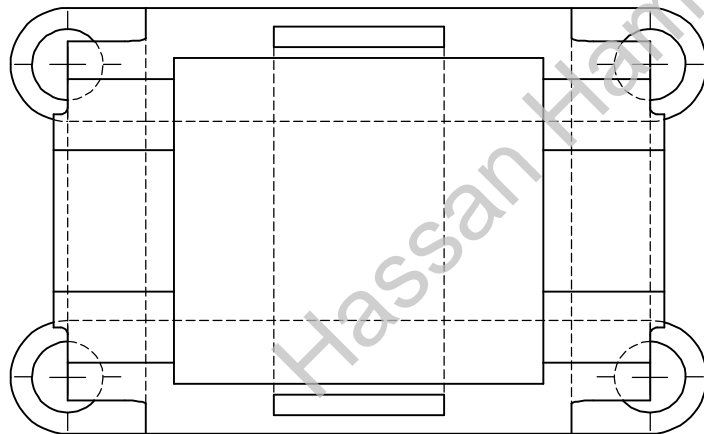
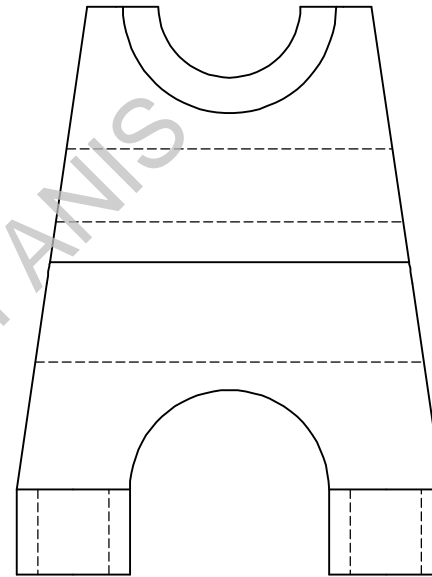
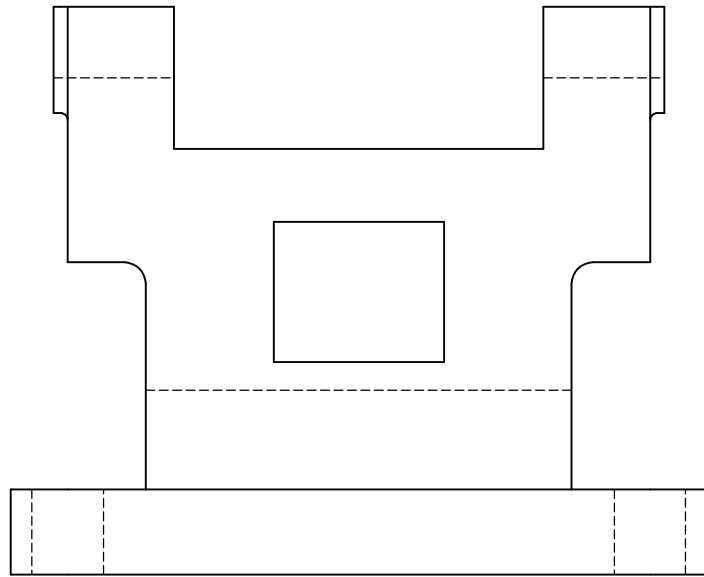
Orientation view

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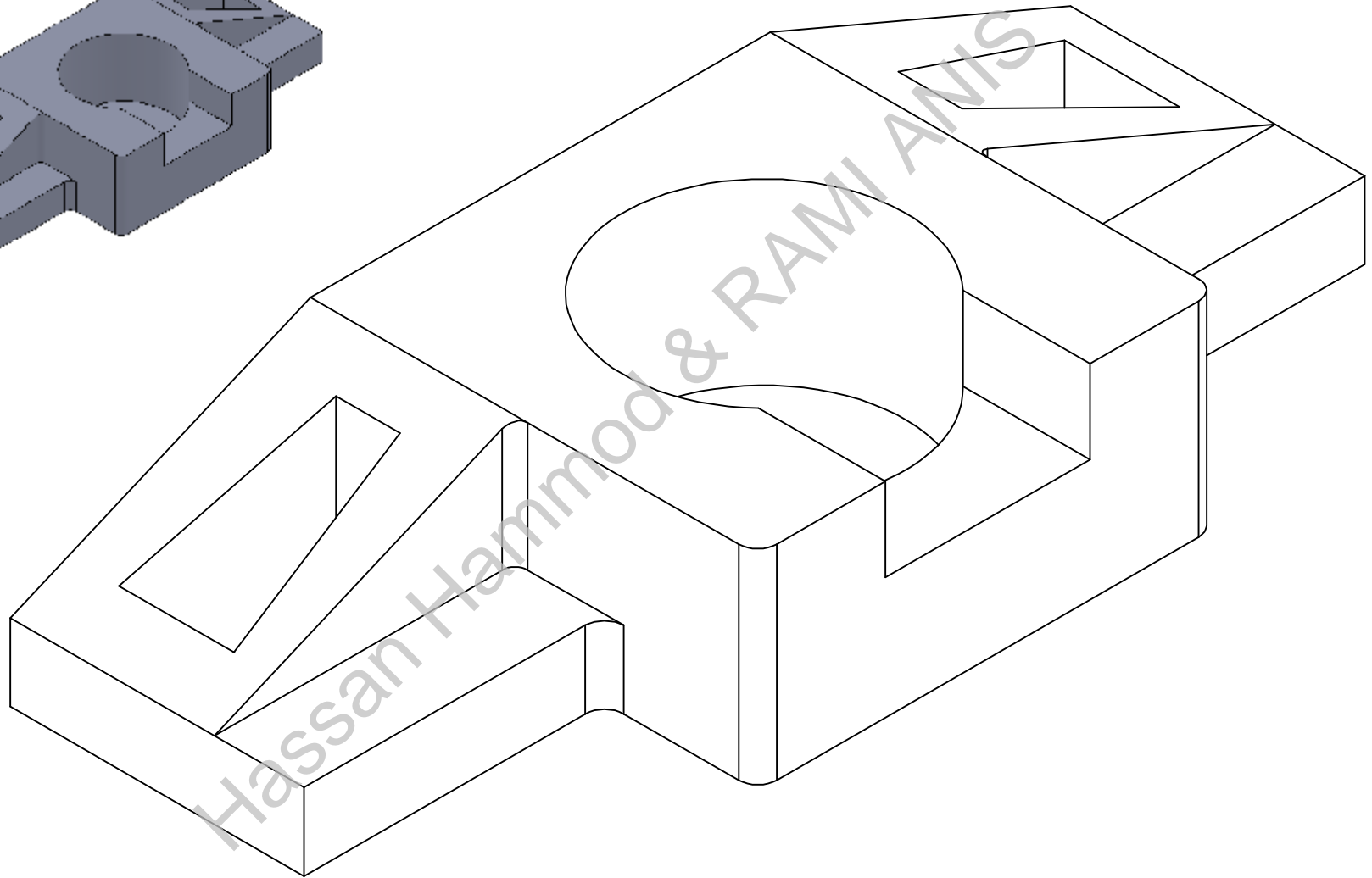
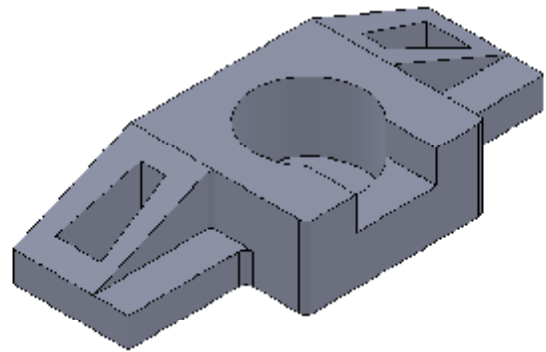
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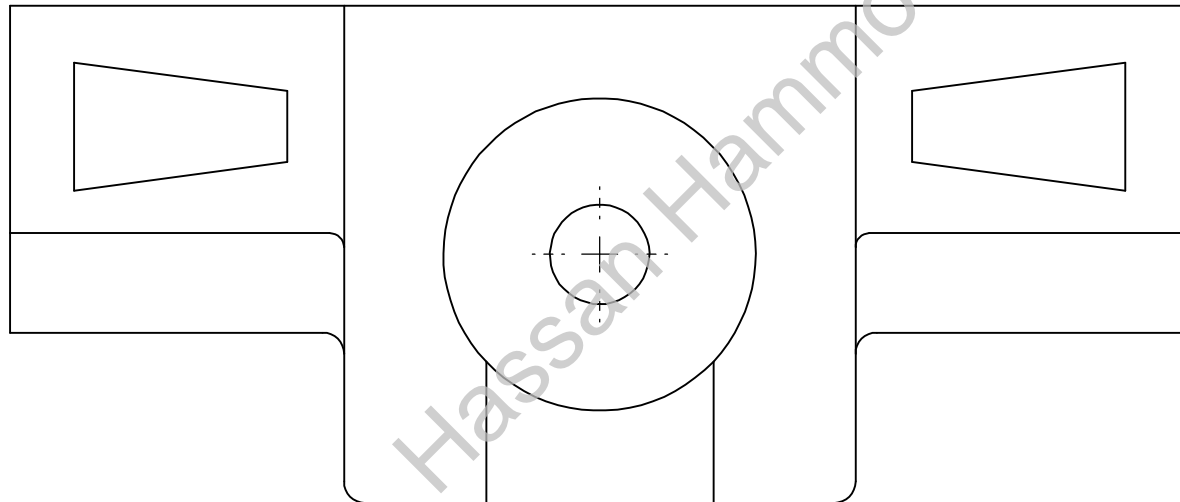
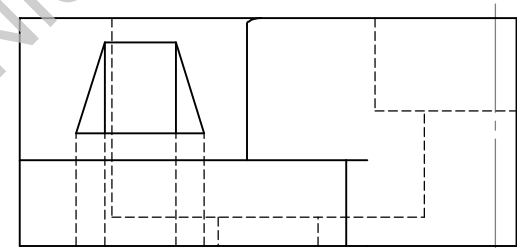
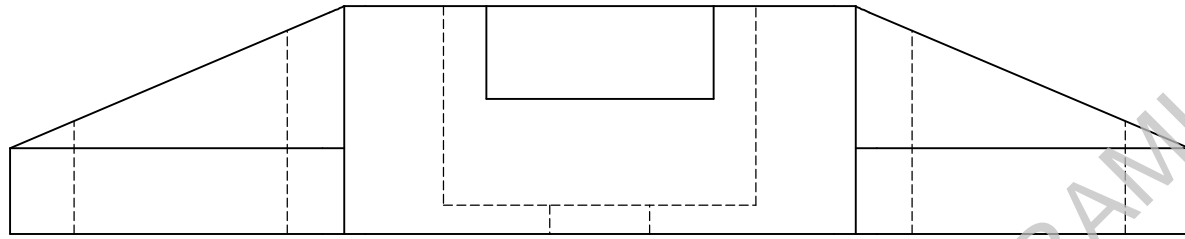


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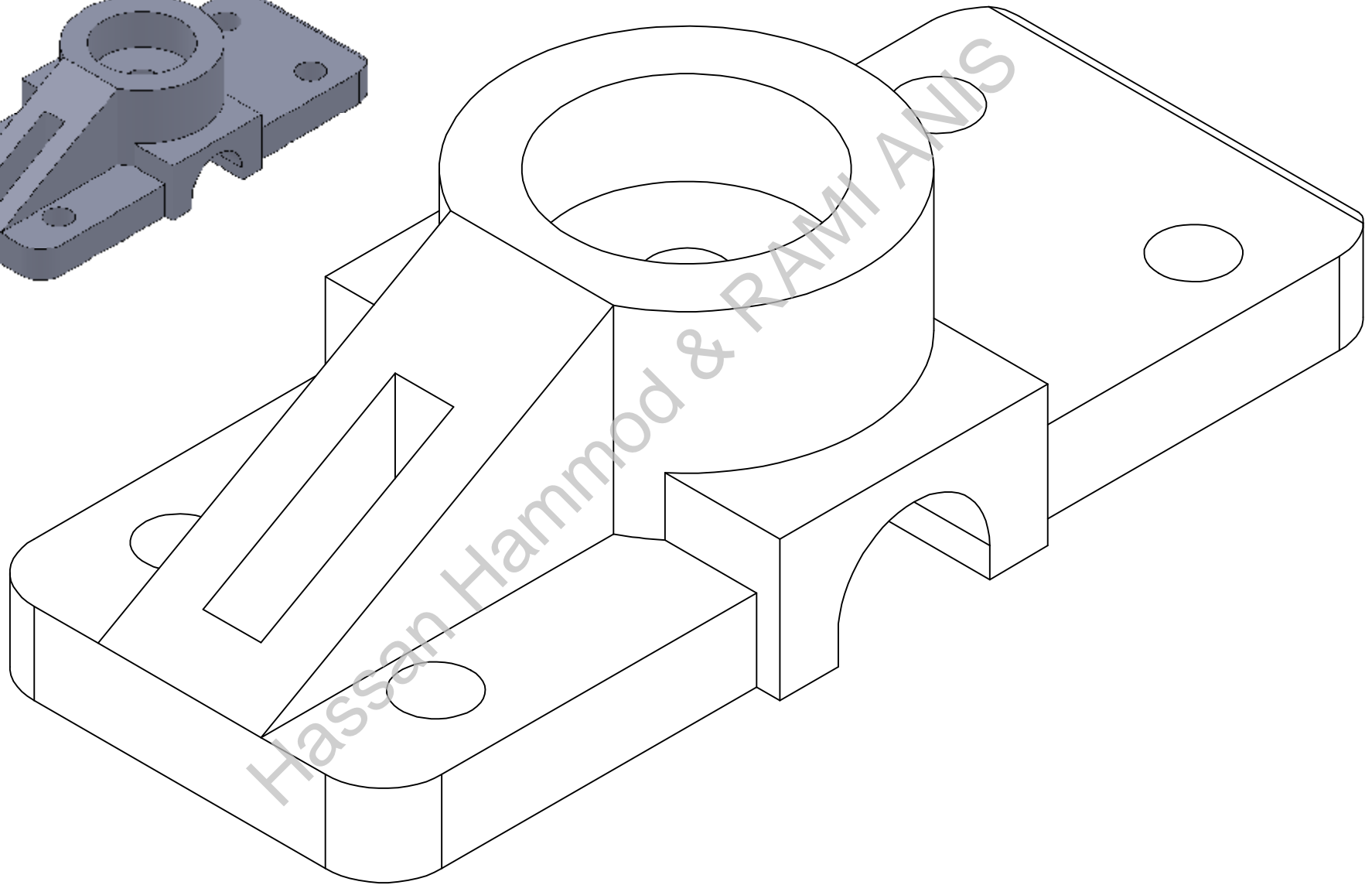
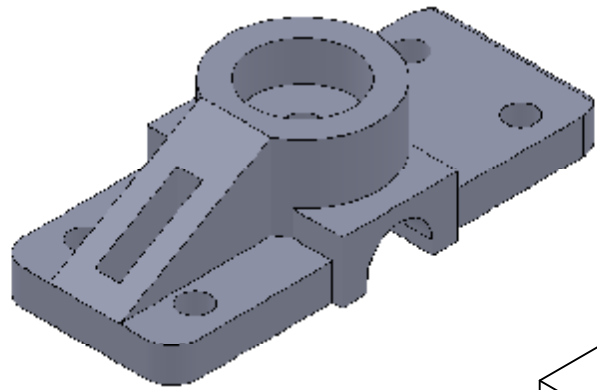


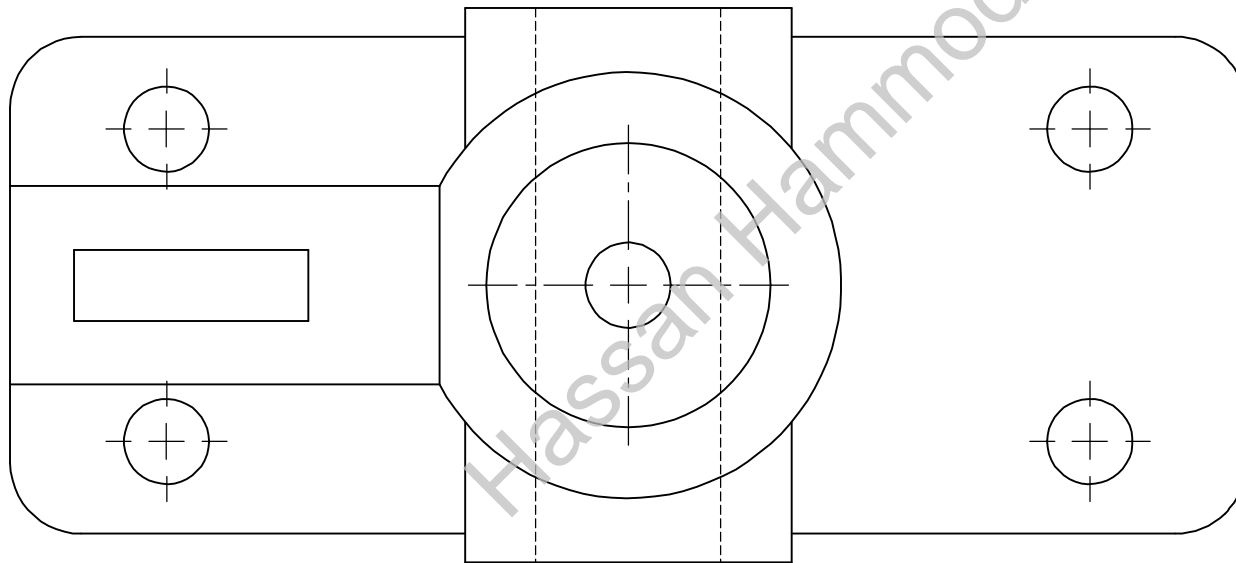
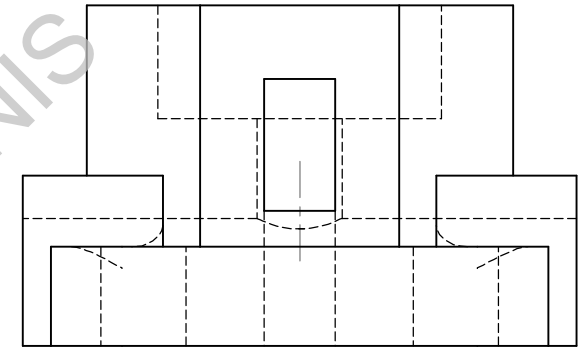
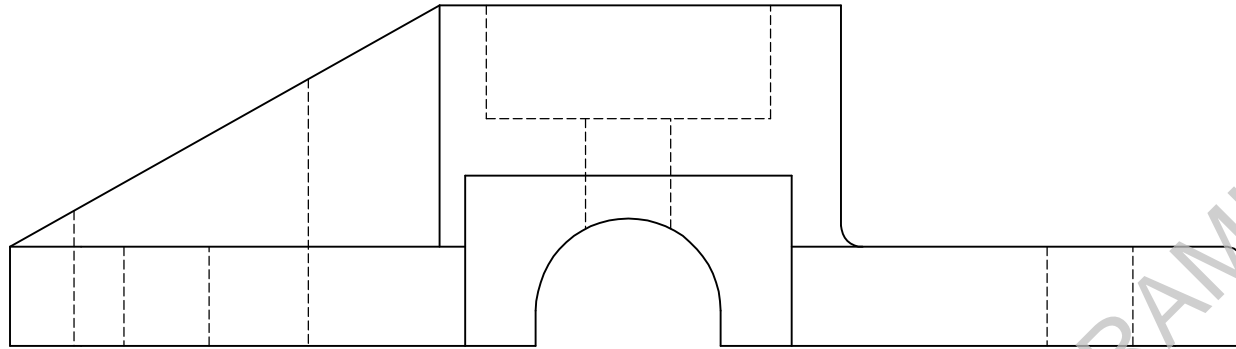
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Orientation view

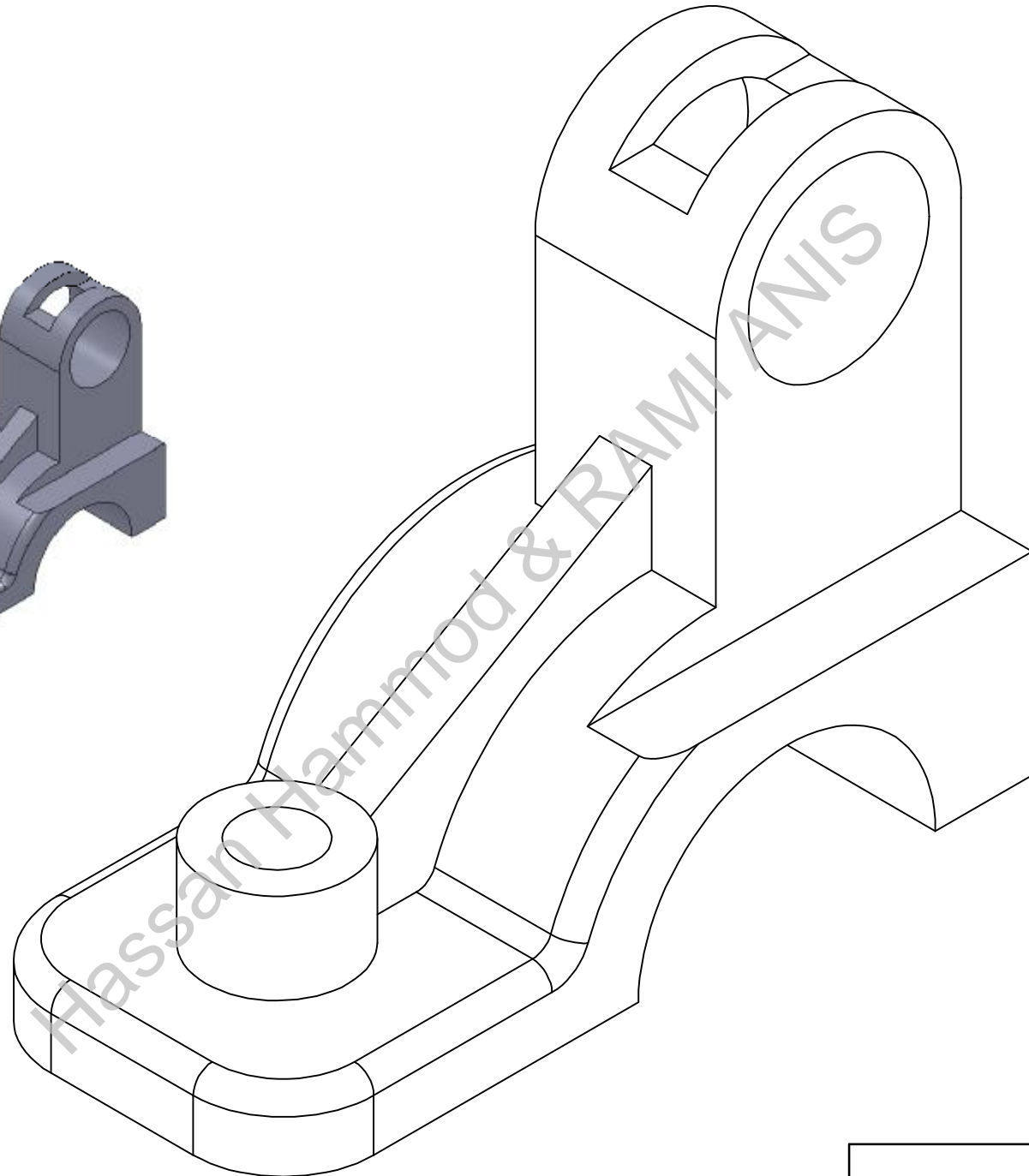
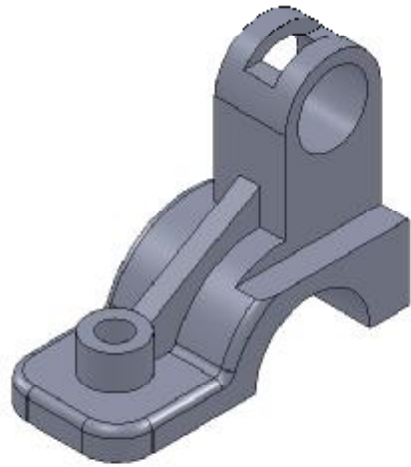
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SCALE: 1:1

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Isometric

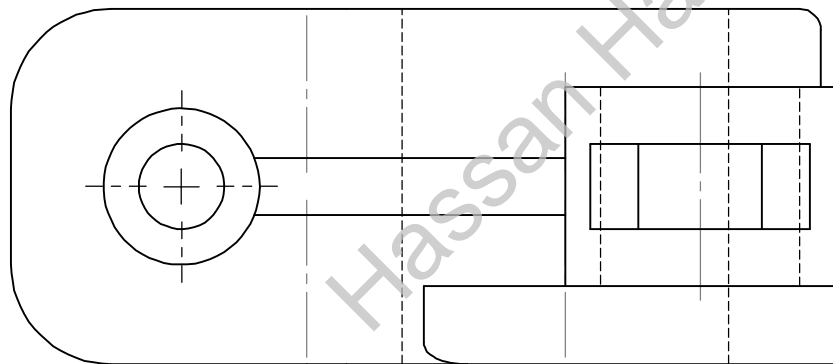
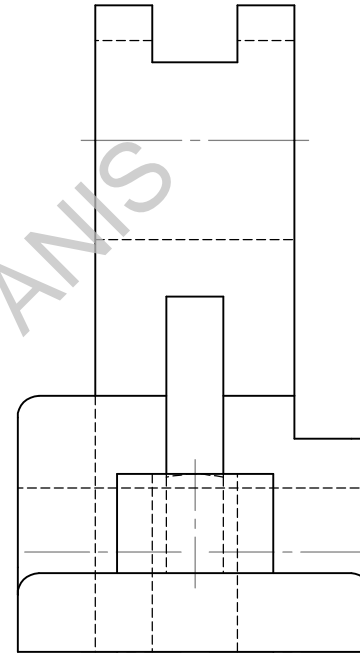
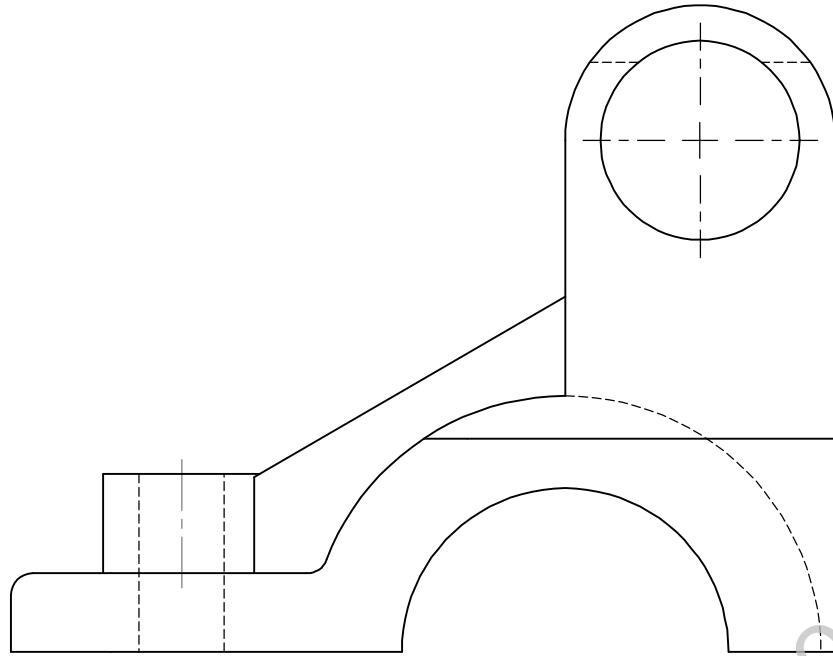
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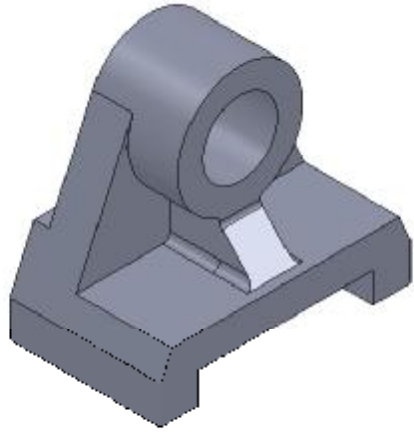


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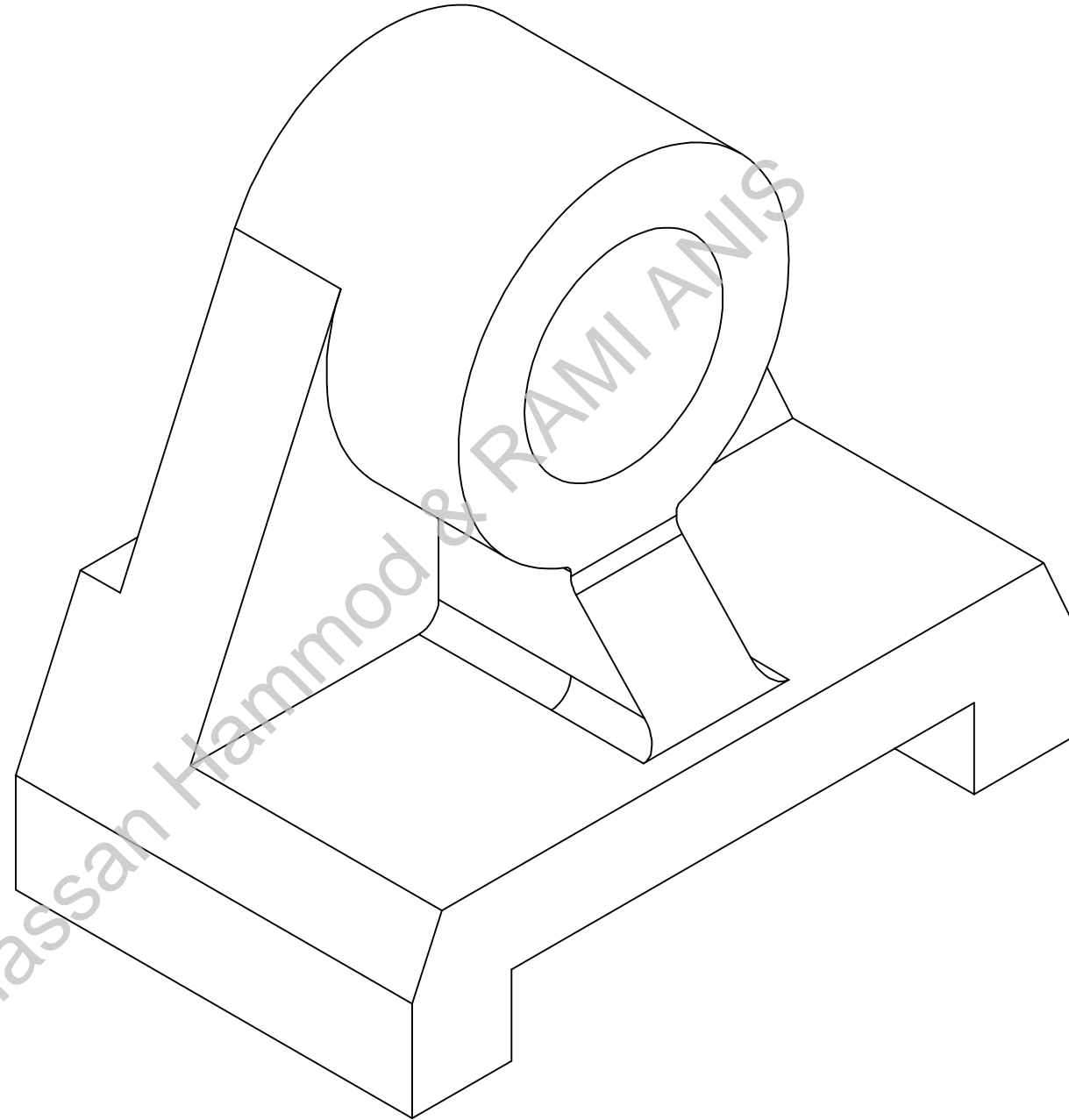
Orientation view

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SCALE: 1:1



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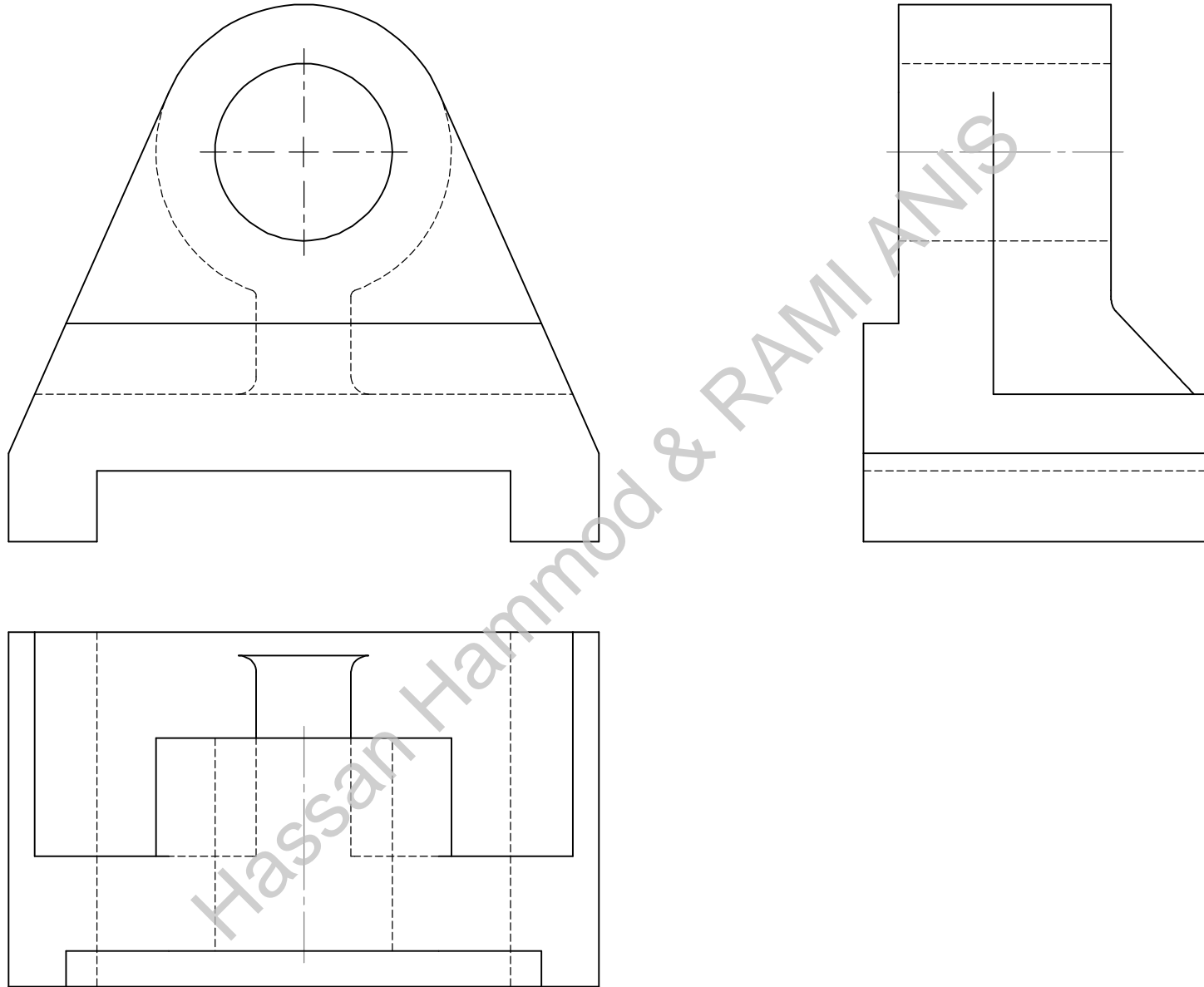
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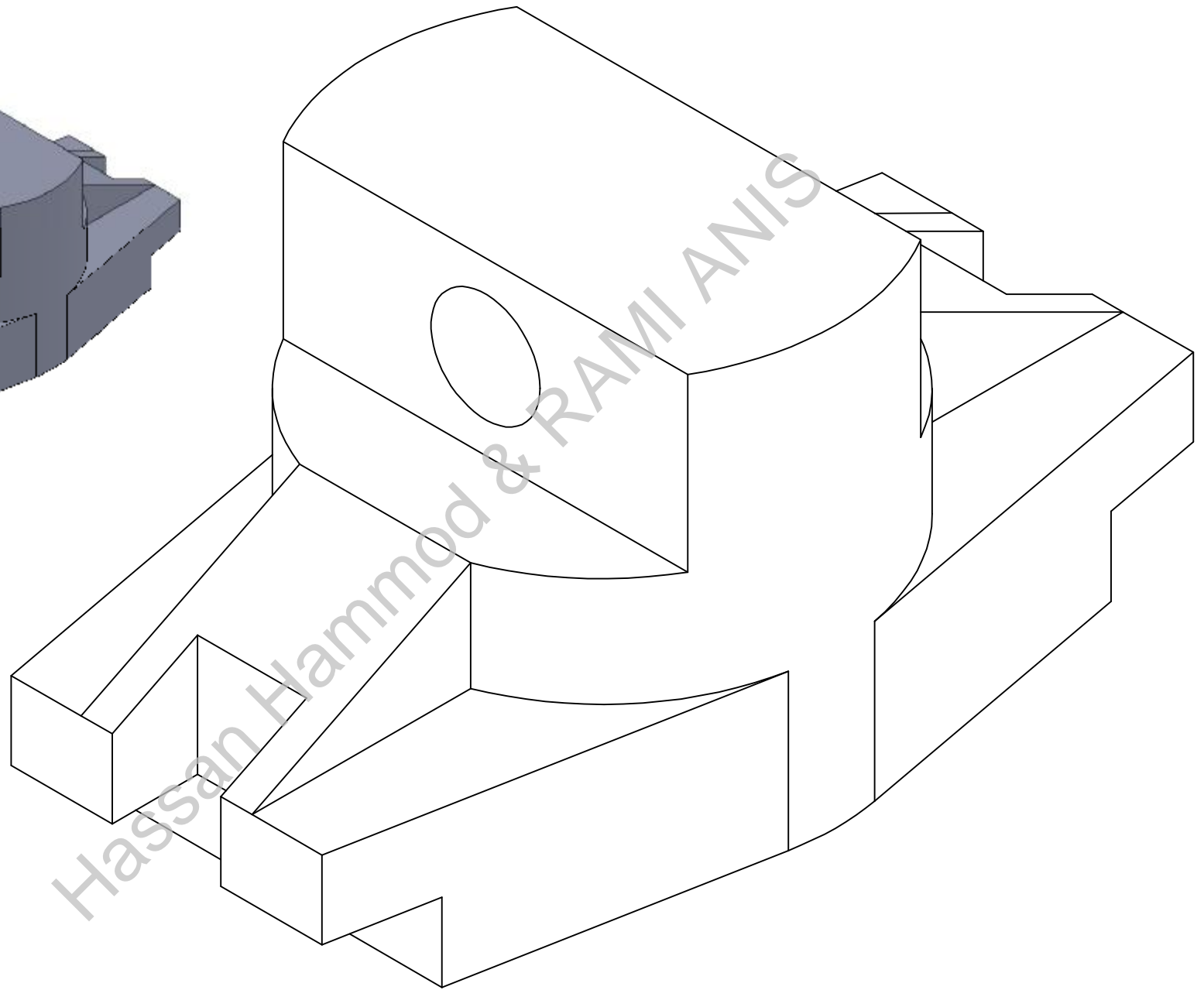
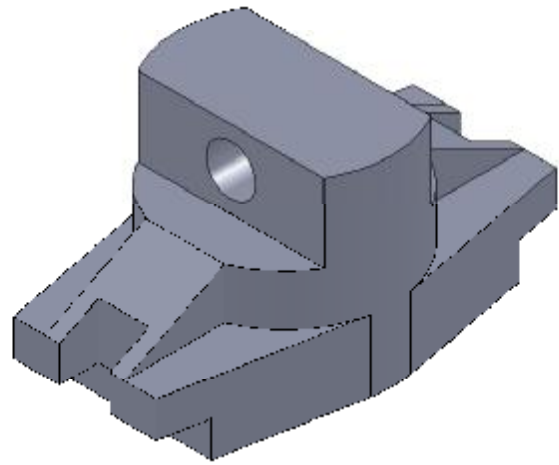
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Isometric

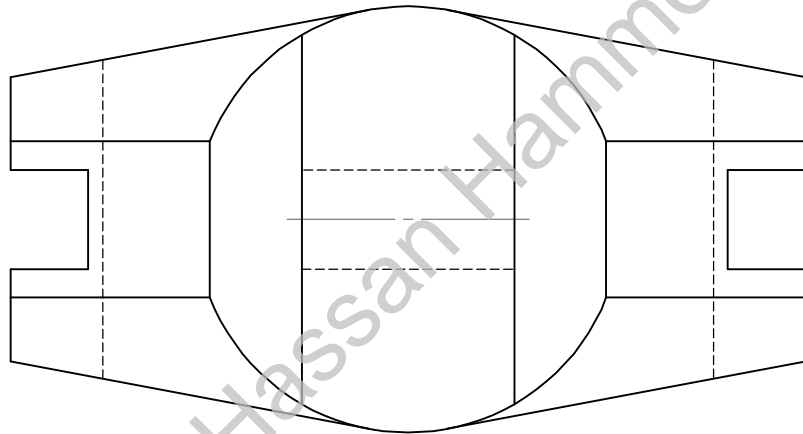
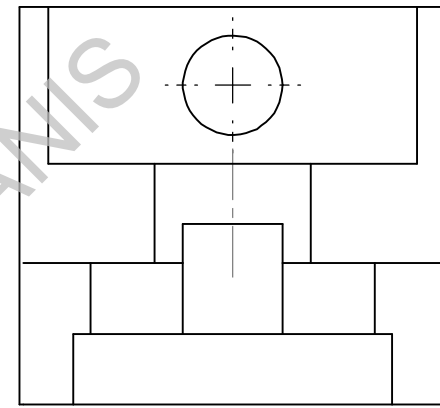
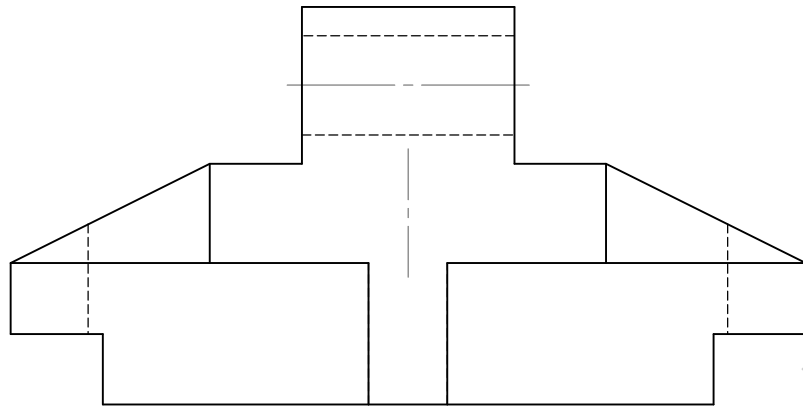
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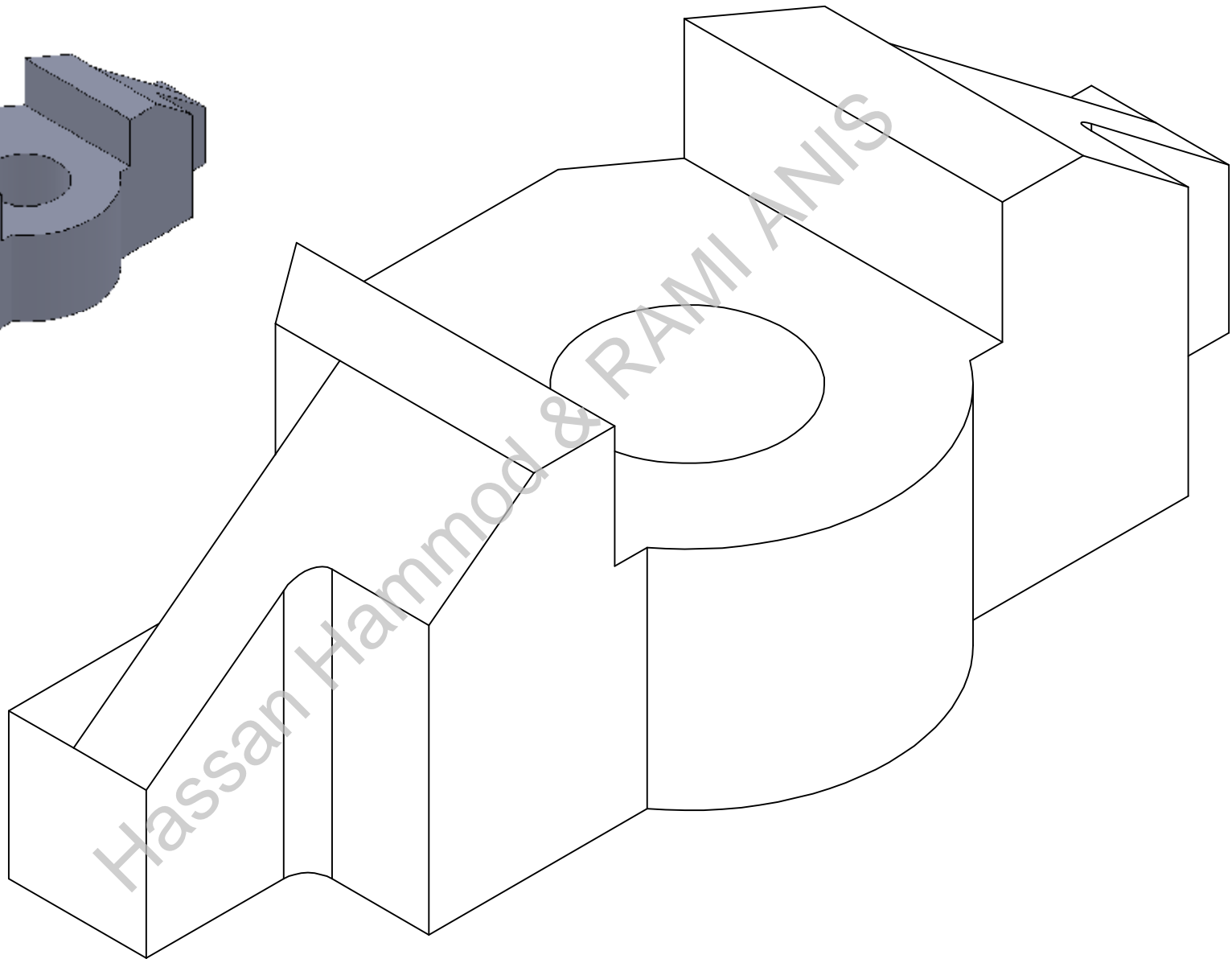
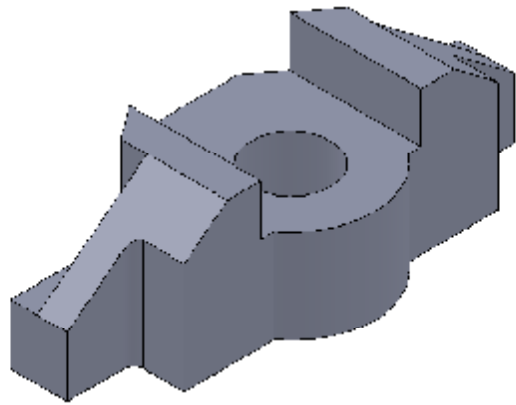
Eng Rami Anis - Eng Hassan Hammod

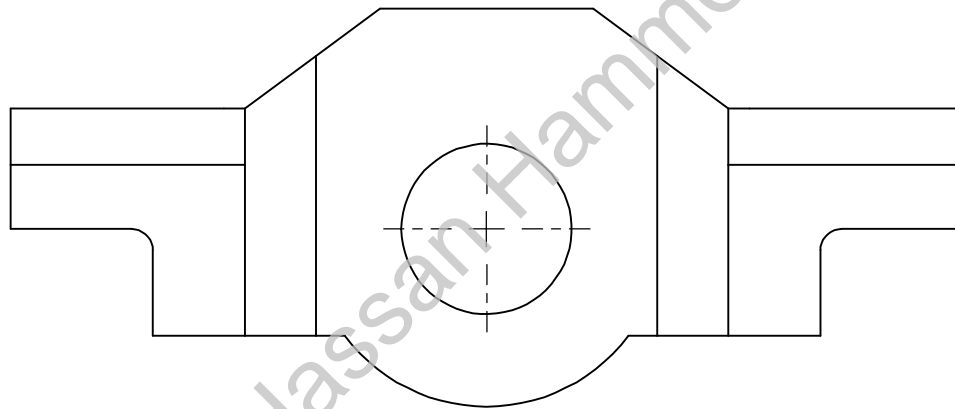
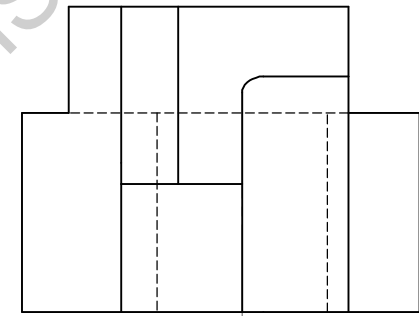
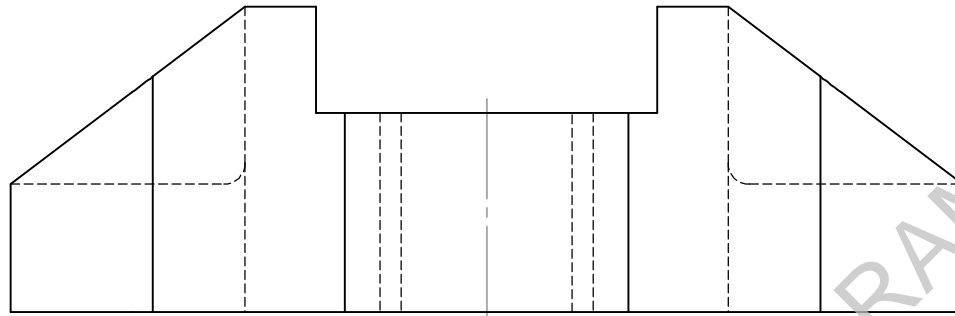
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h.hammod@hotmail.com

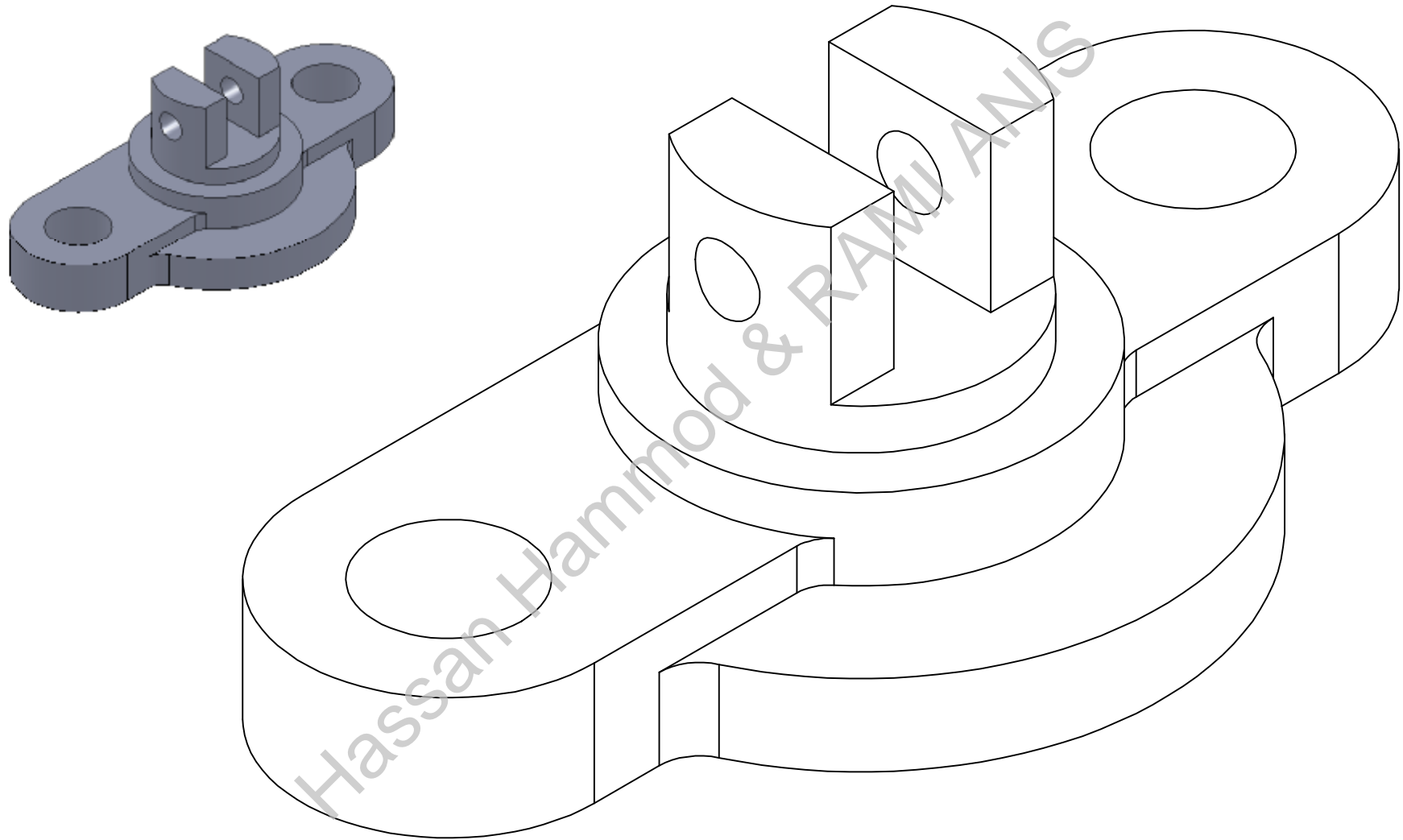


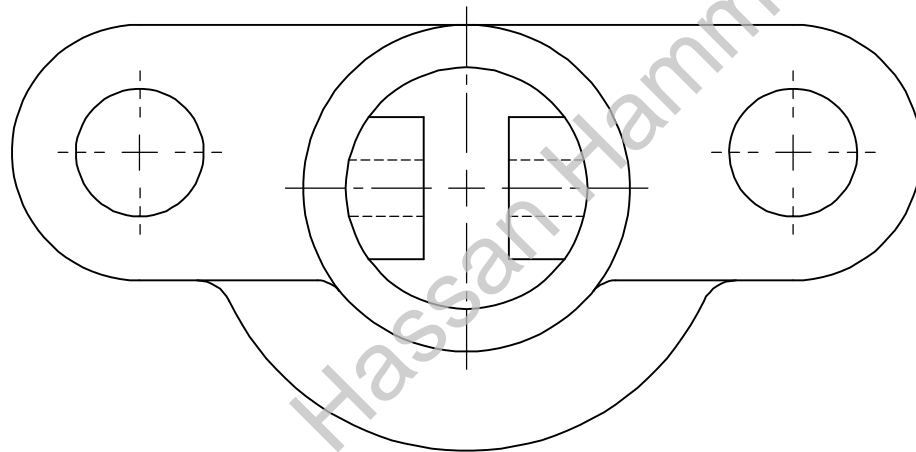
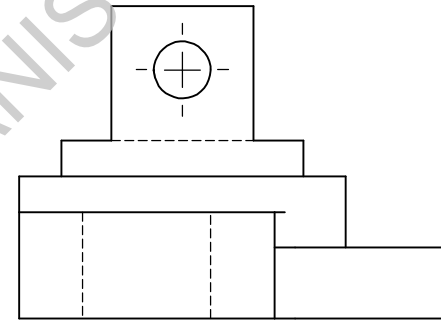
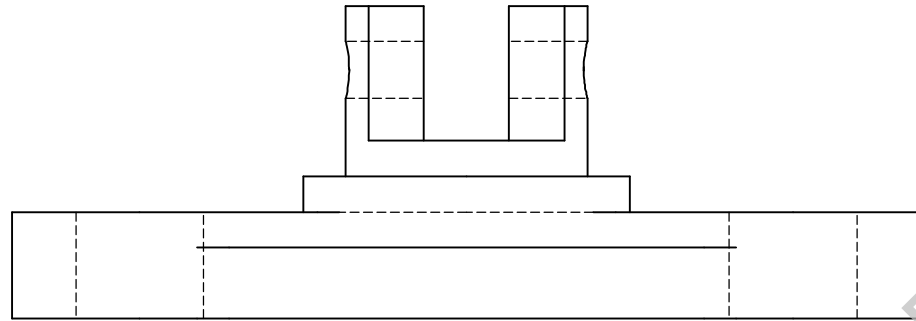
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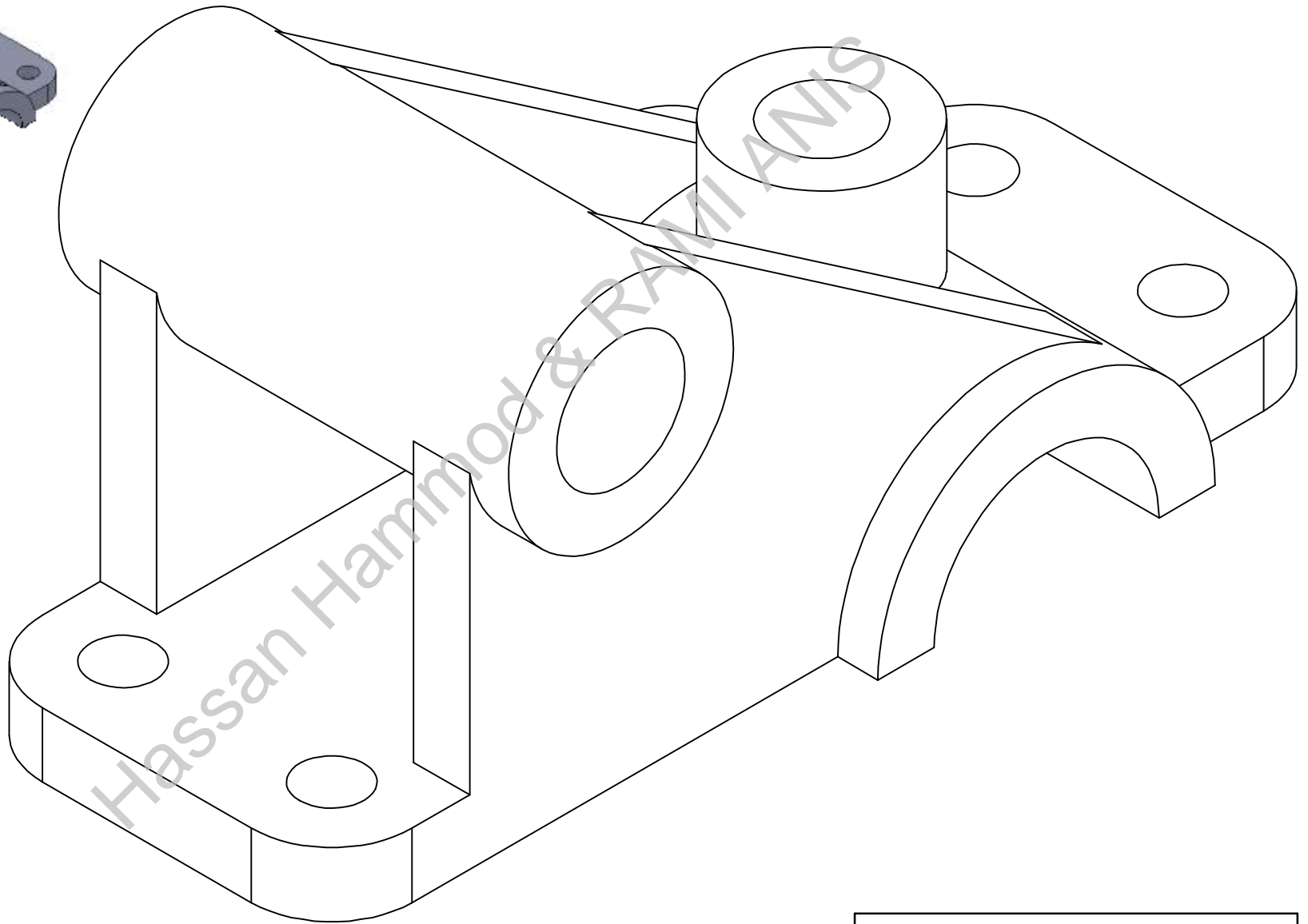
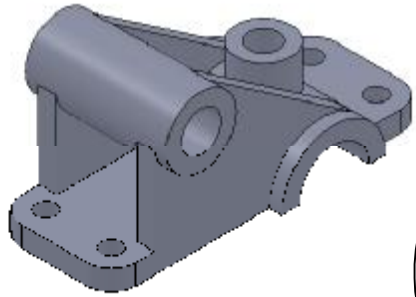


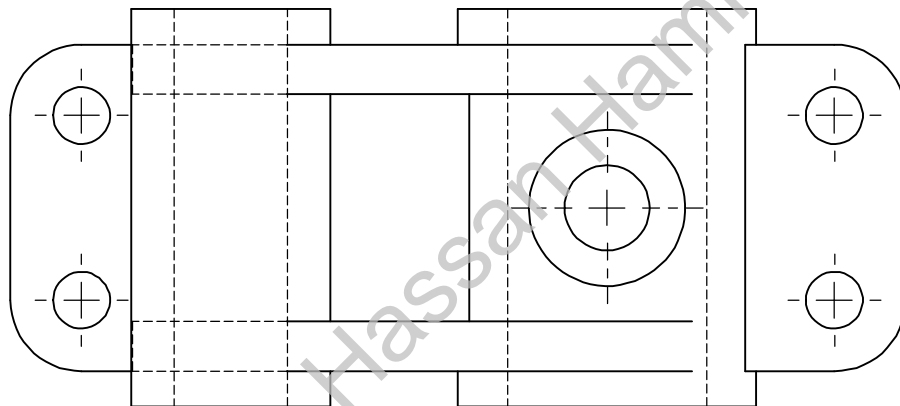
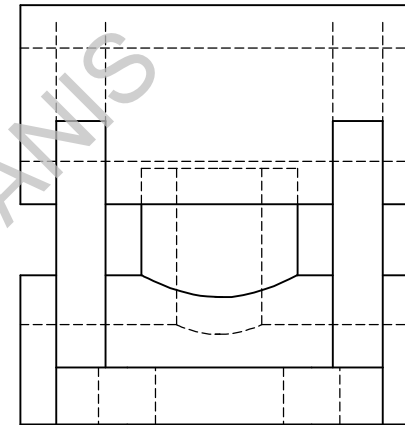
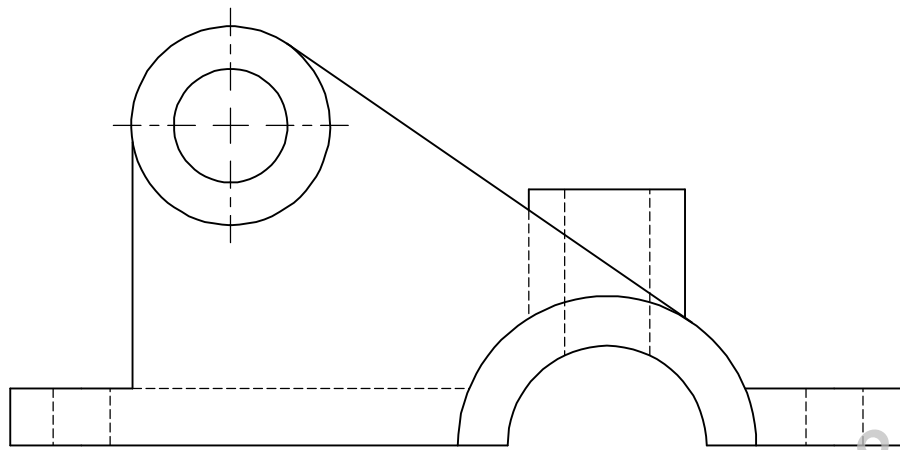
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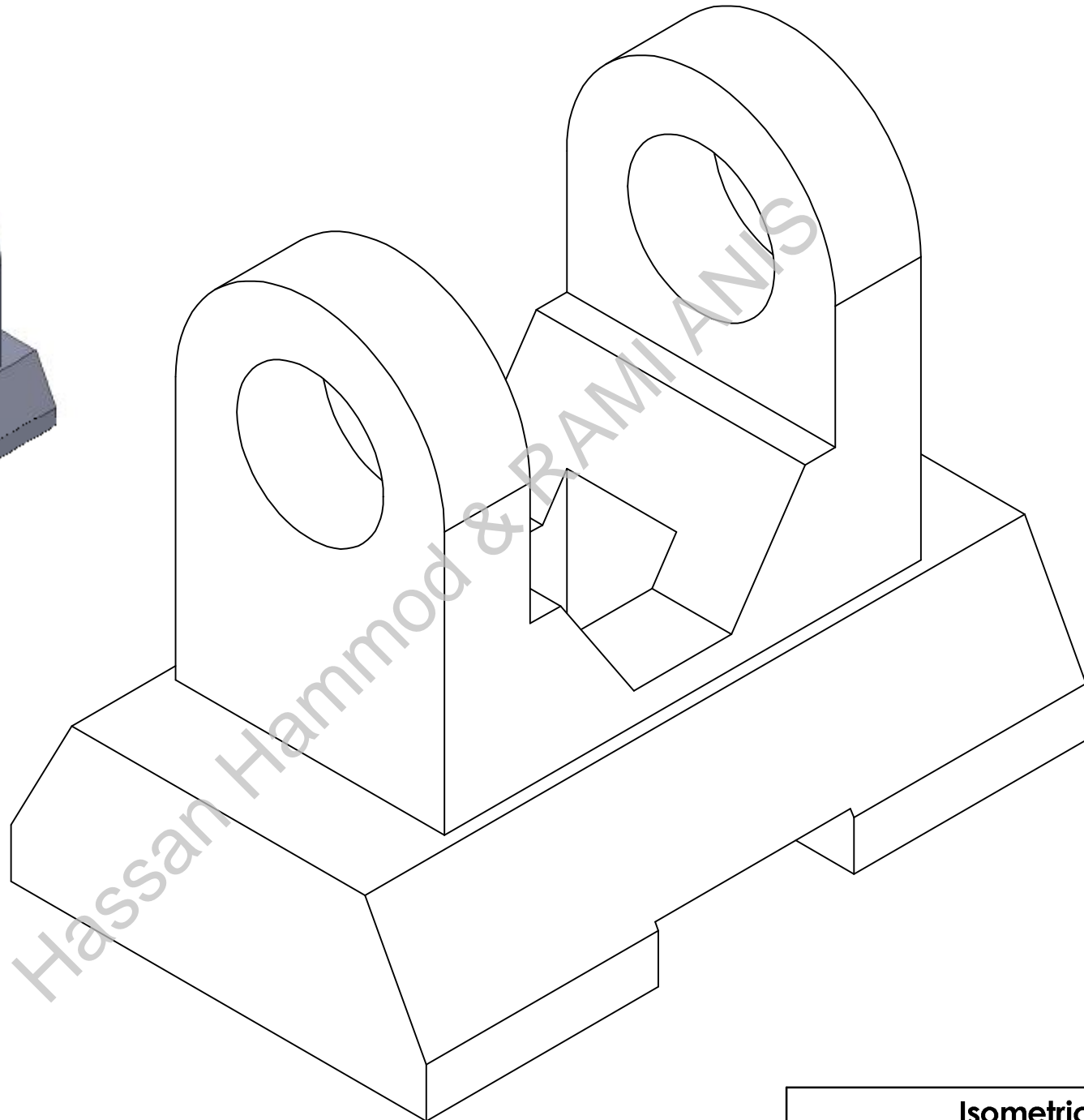
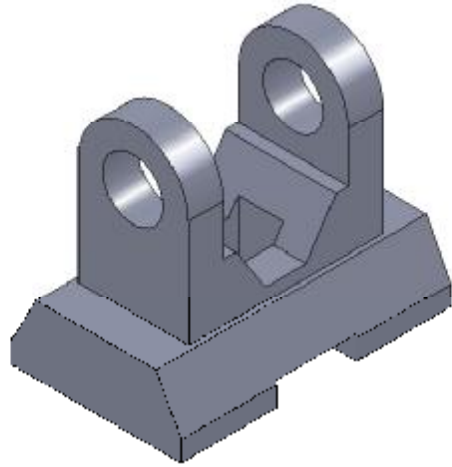




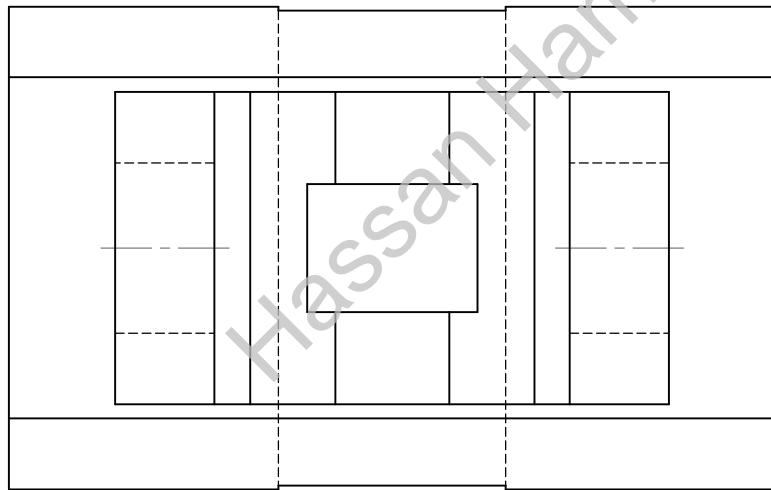
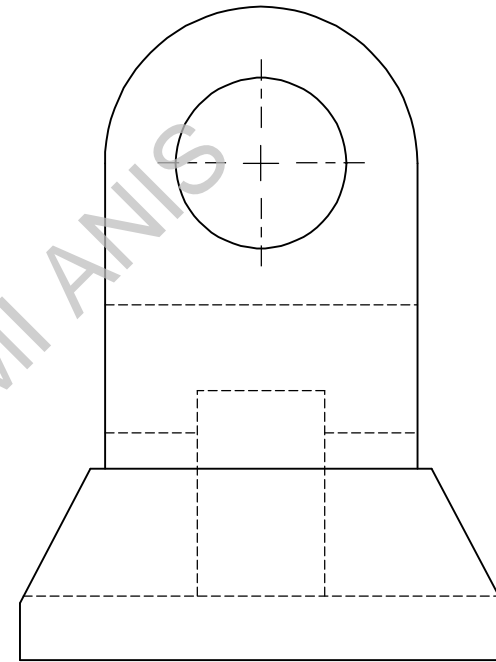
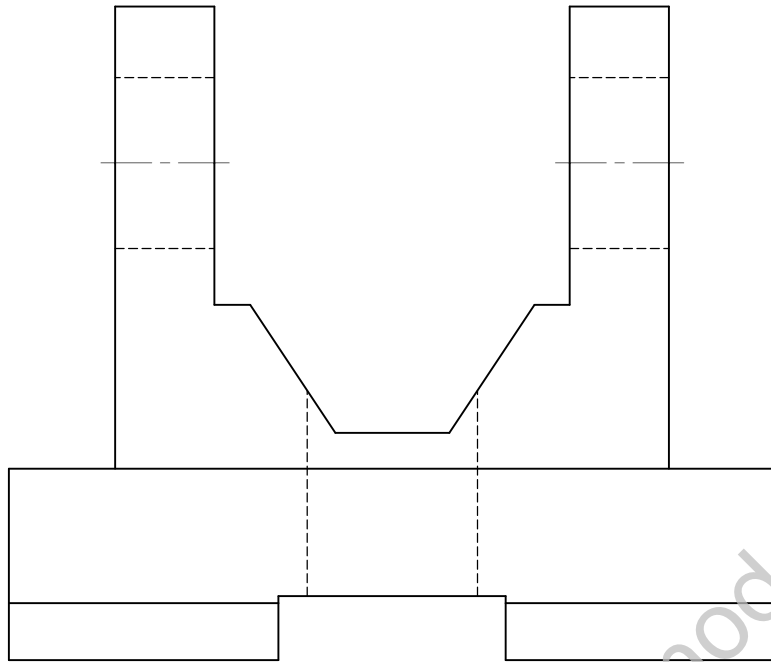
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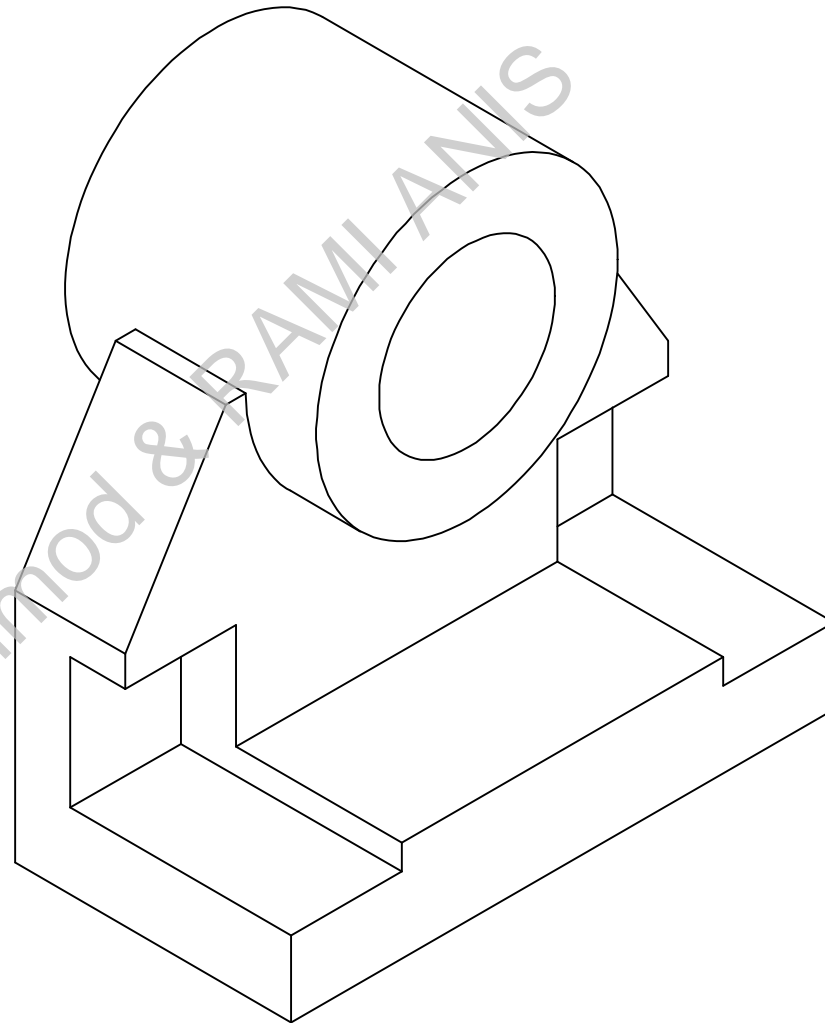
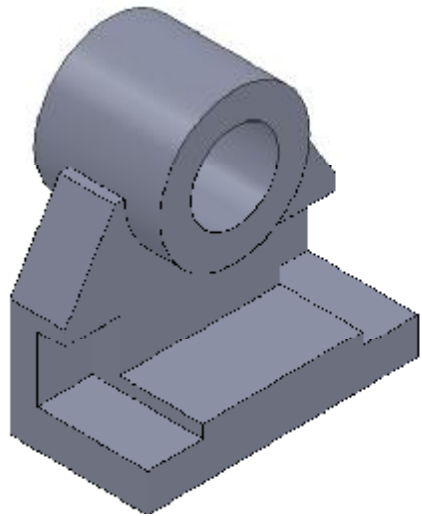


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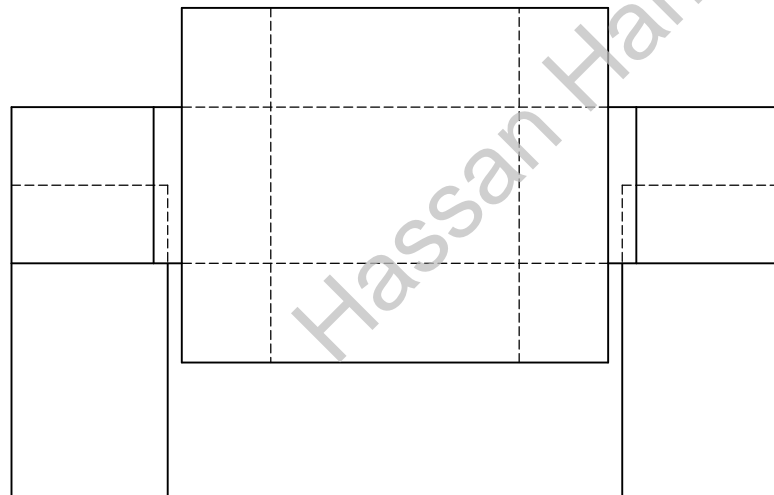
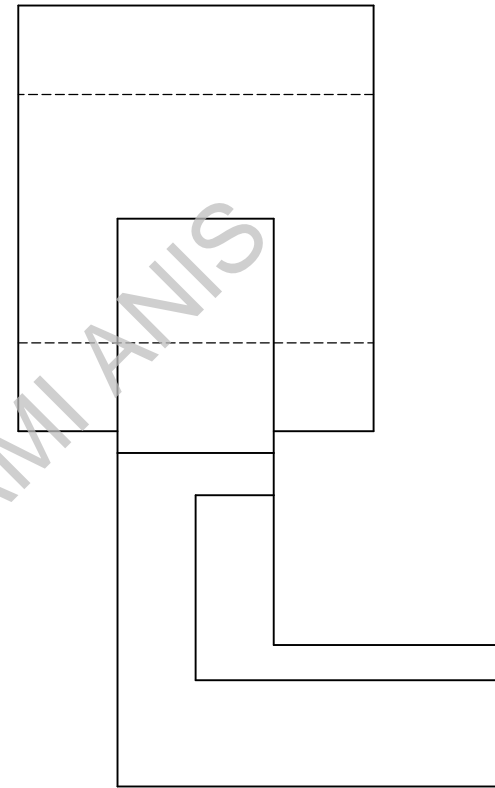
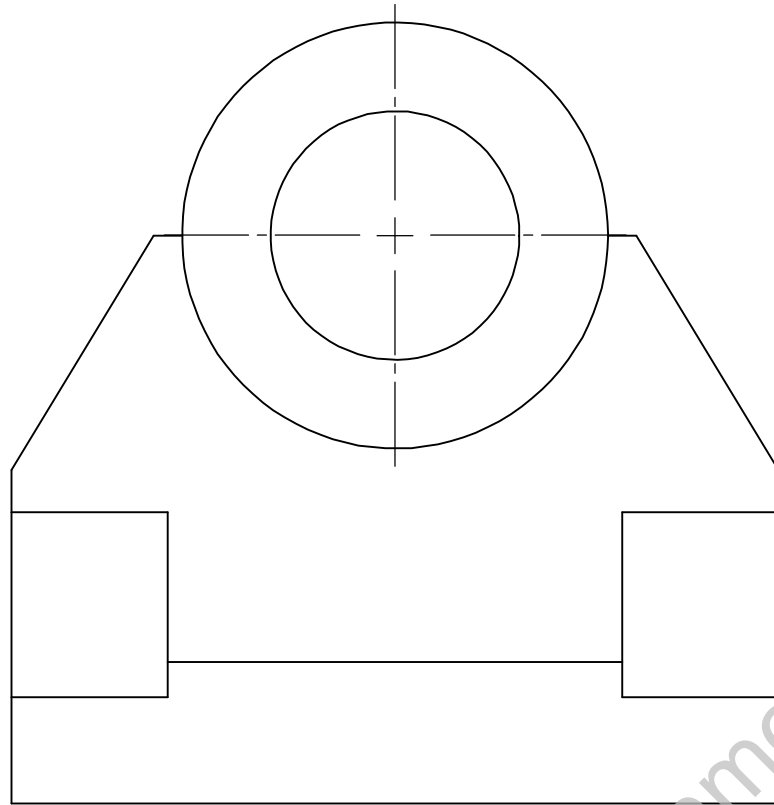
Orientation view

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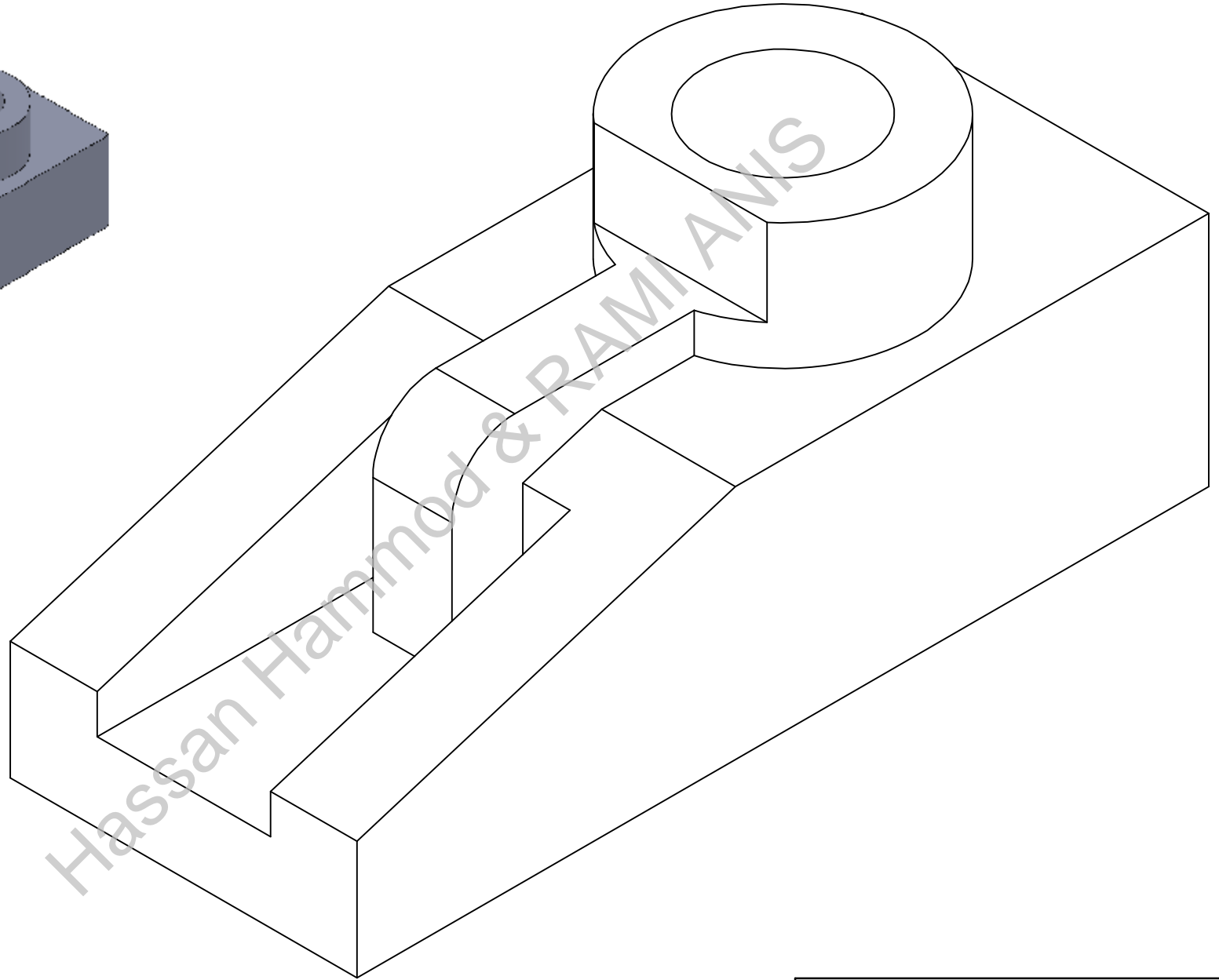
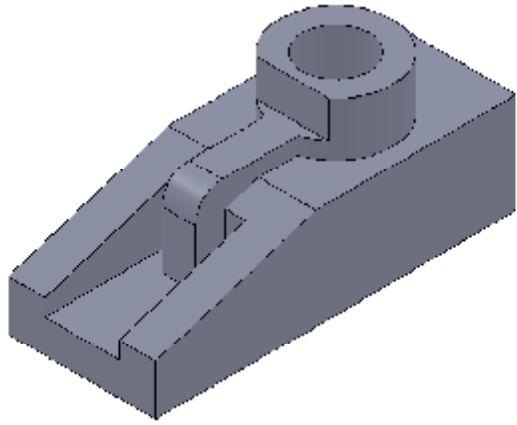
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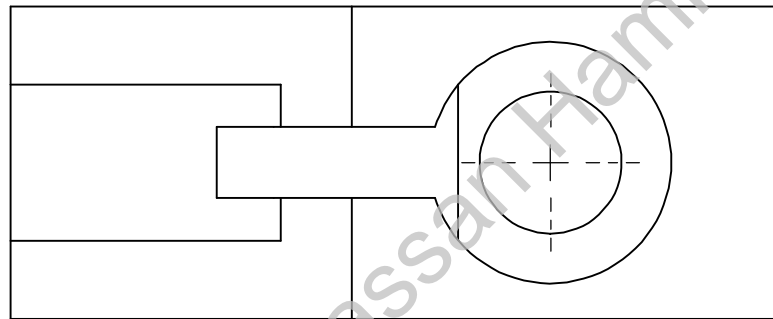
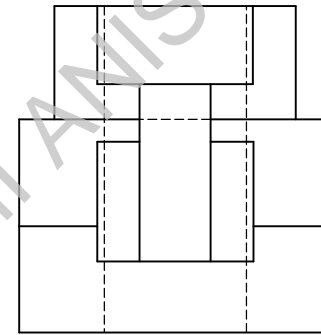
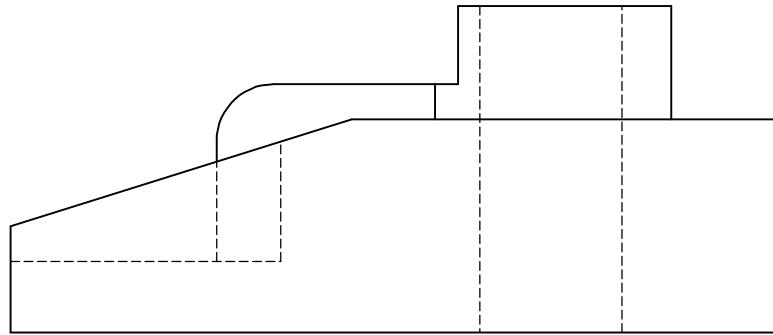
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SCALE: 2:1

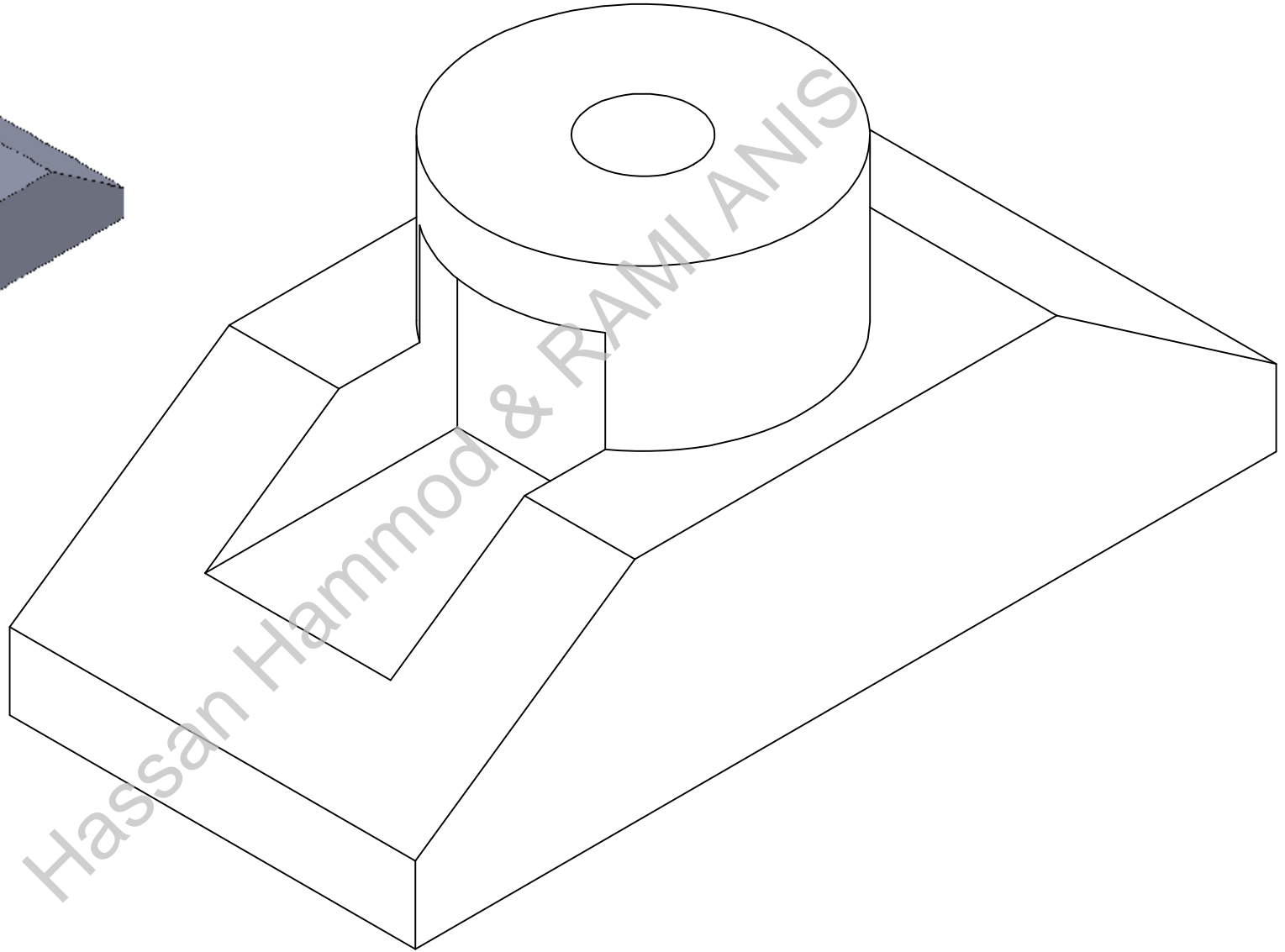
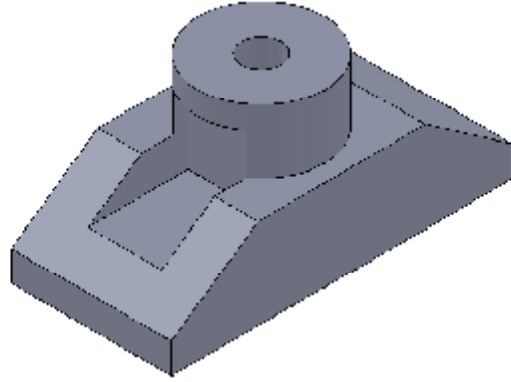
Eng Rami Anis - Eng Hassan Hammod

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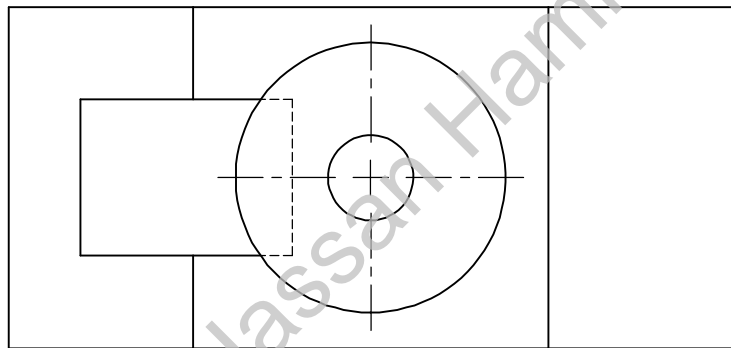
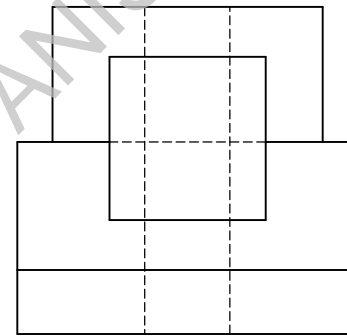
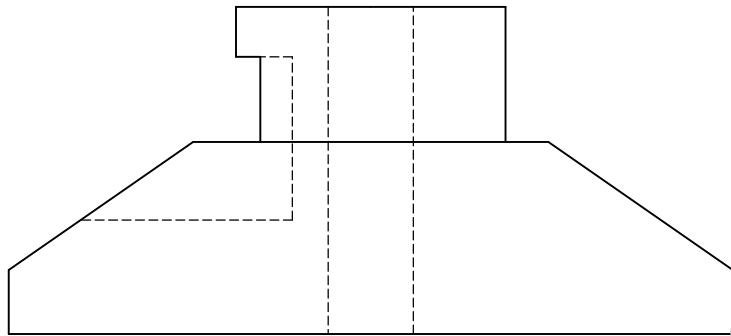
h.hammod@hotmail.com



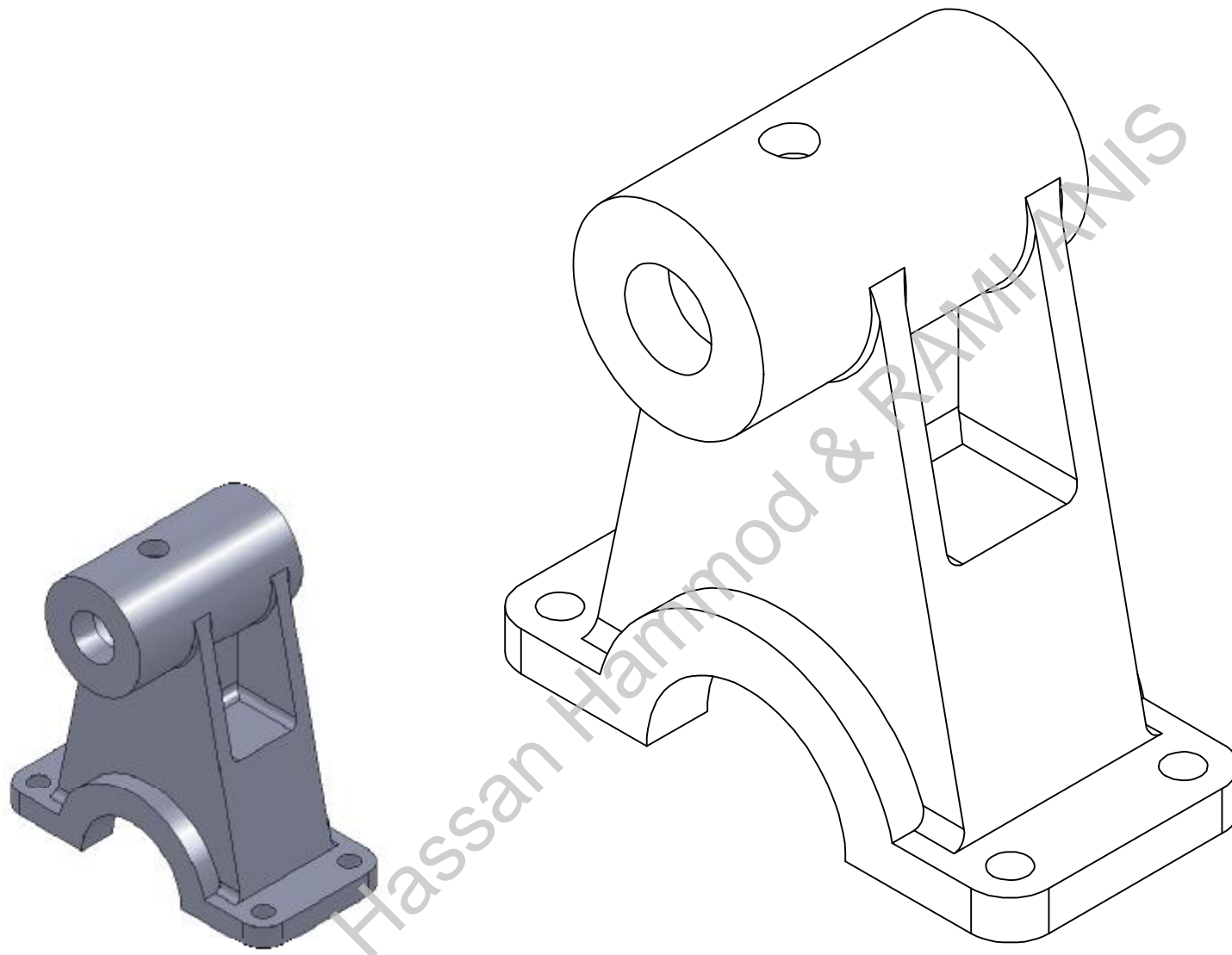
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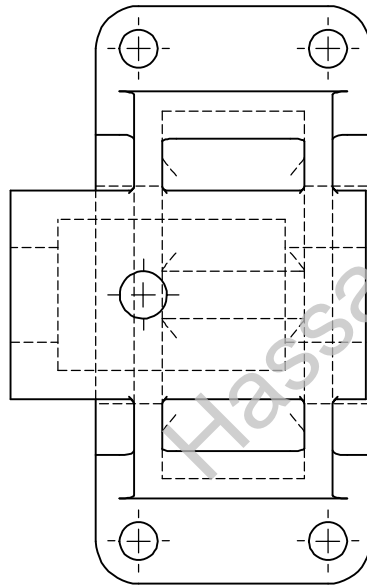
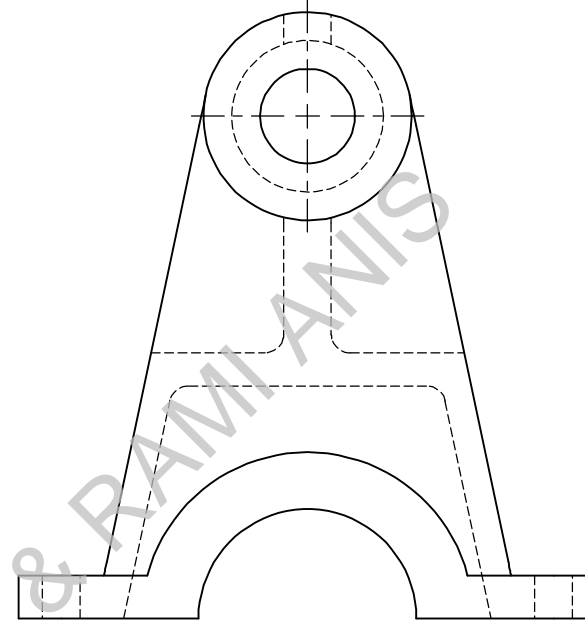
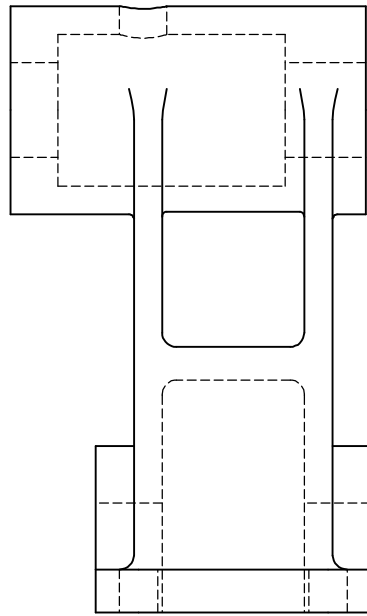


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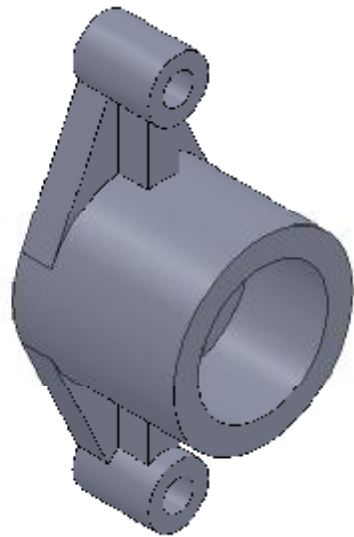


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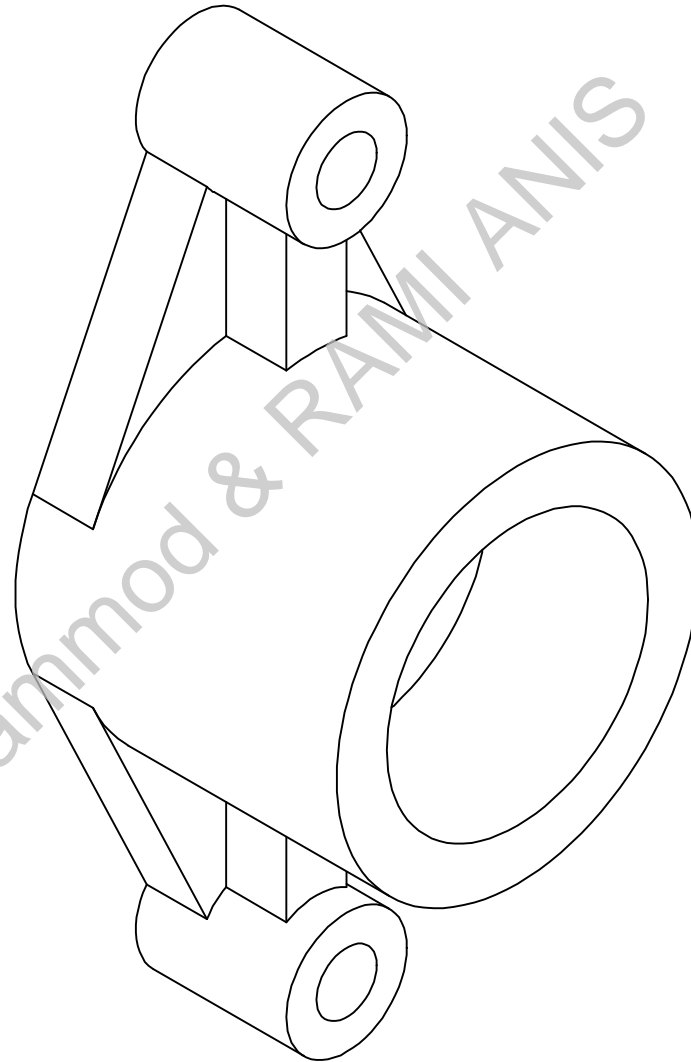


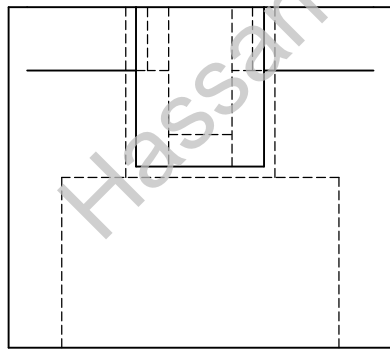
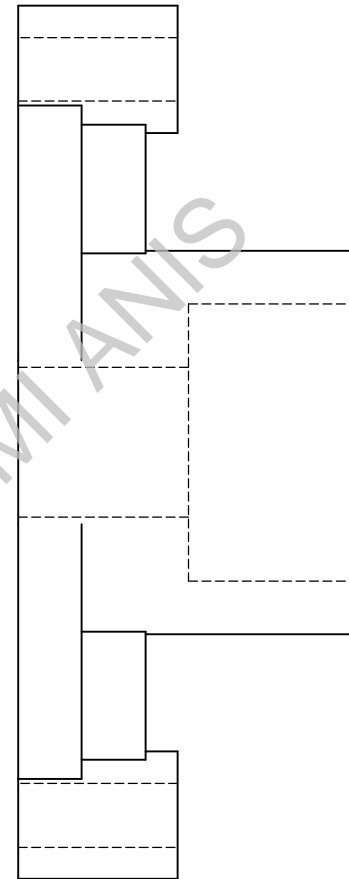
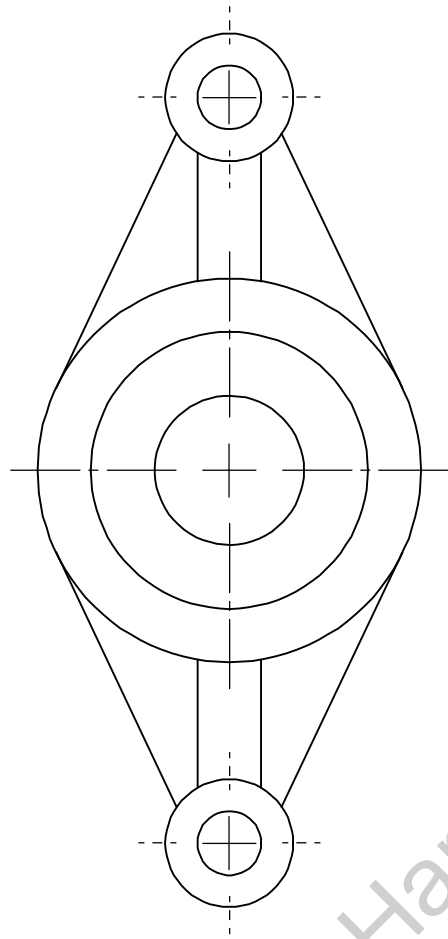


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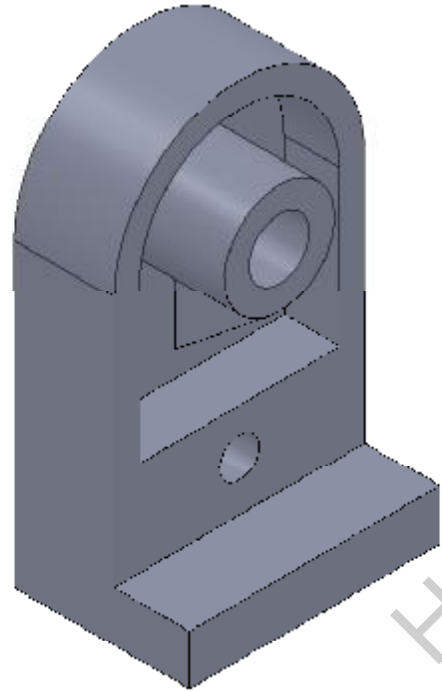


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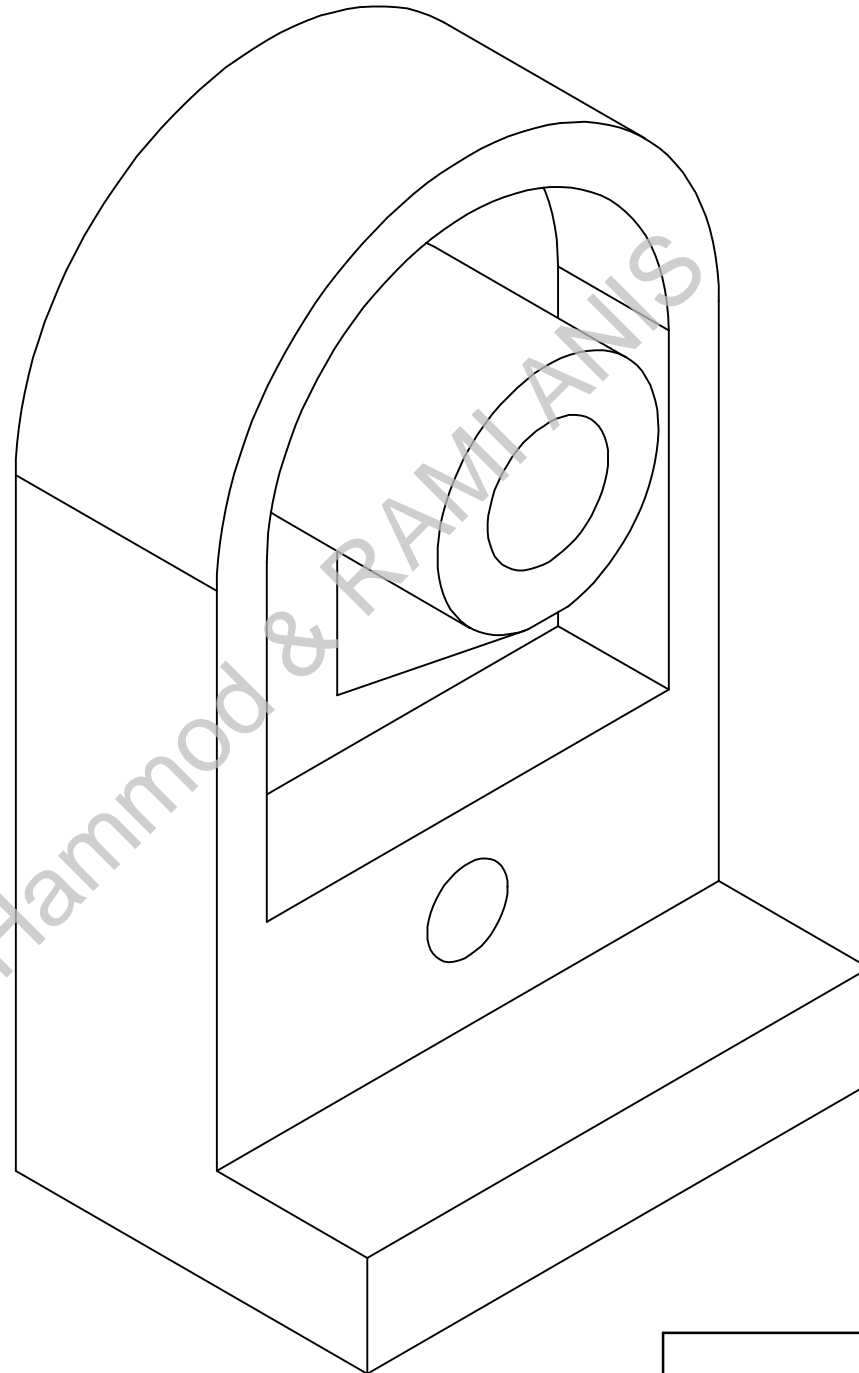




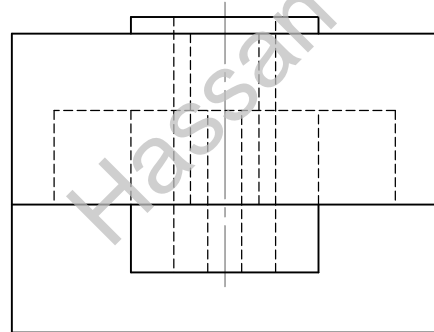
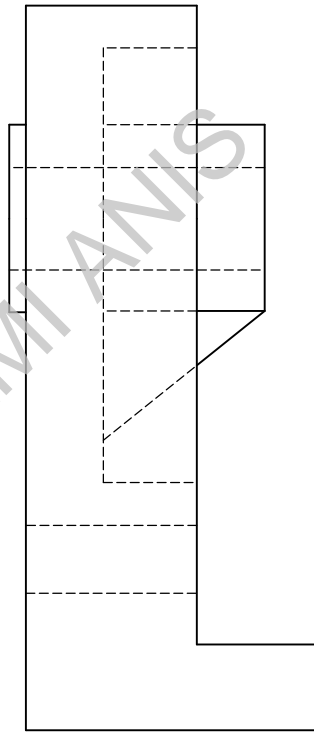
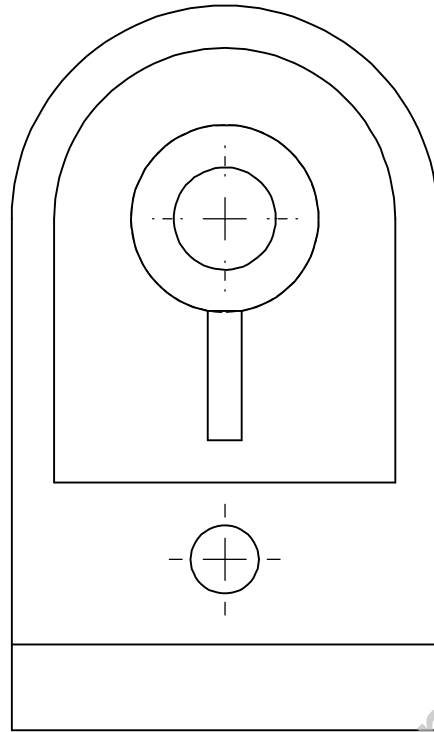
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Isometric

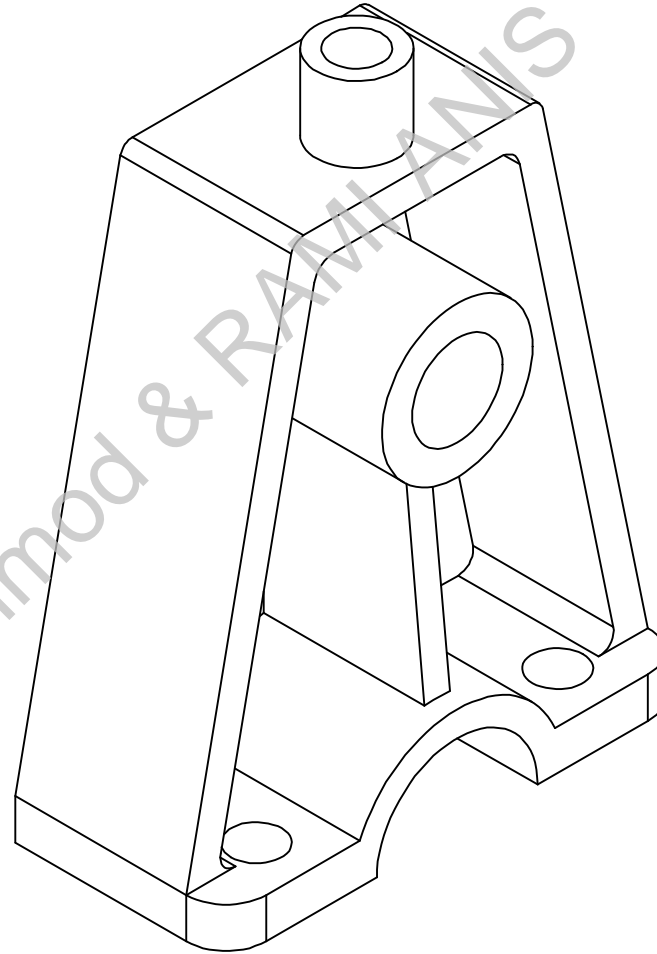
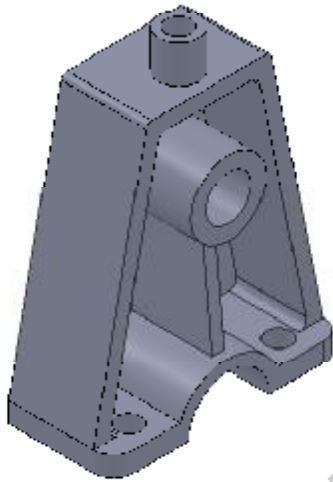


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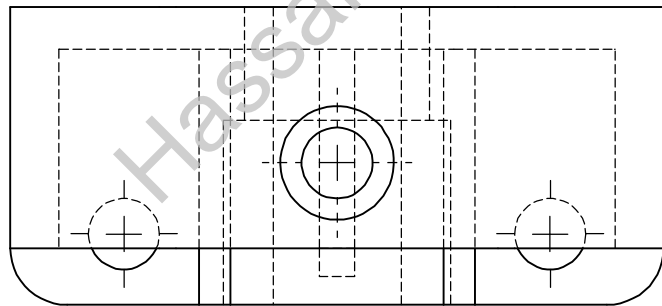
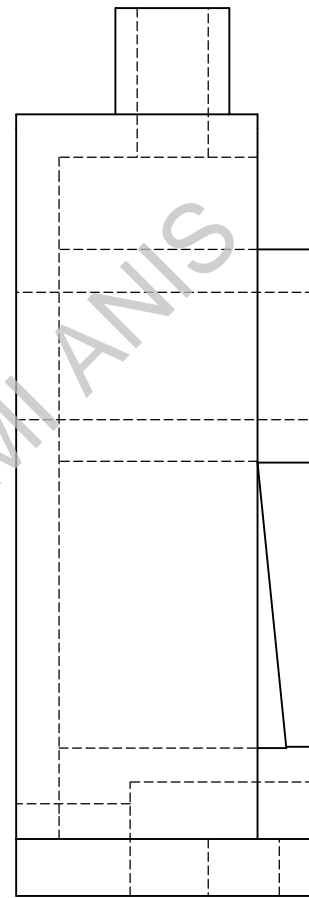
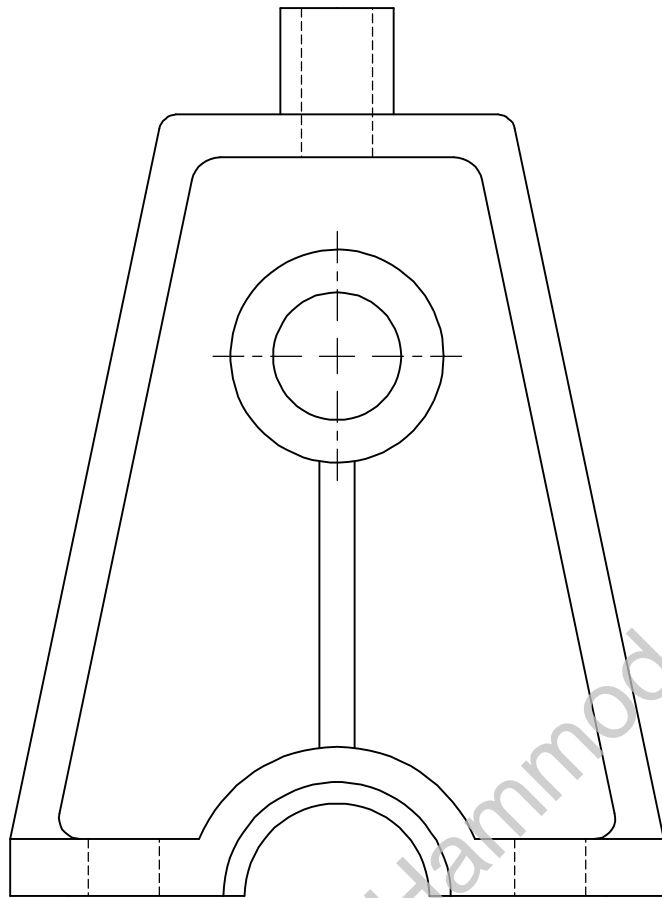
Orientation view

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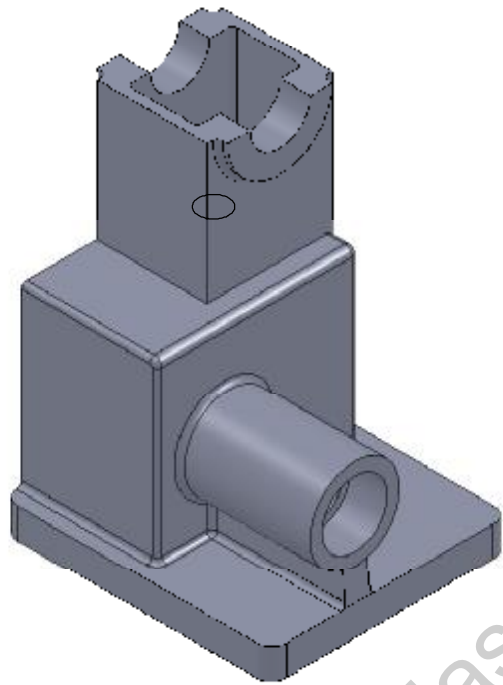
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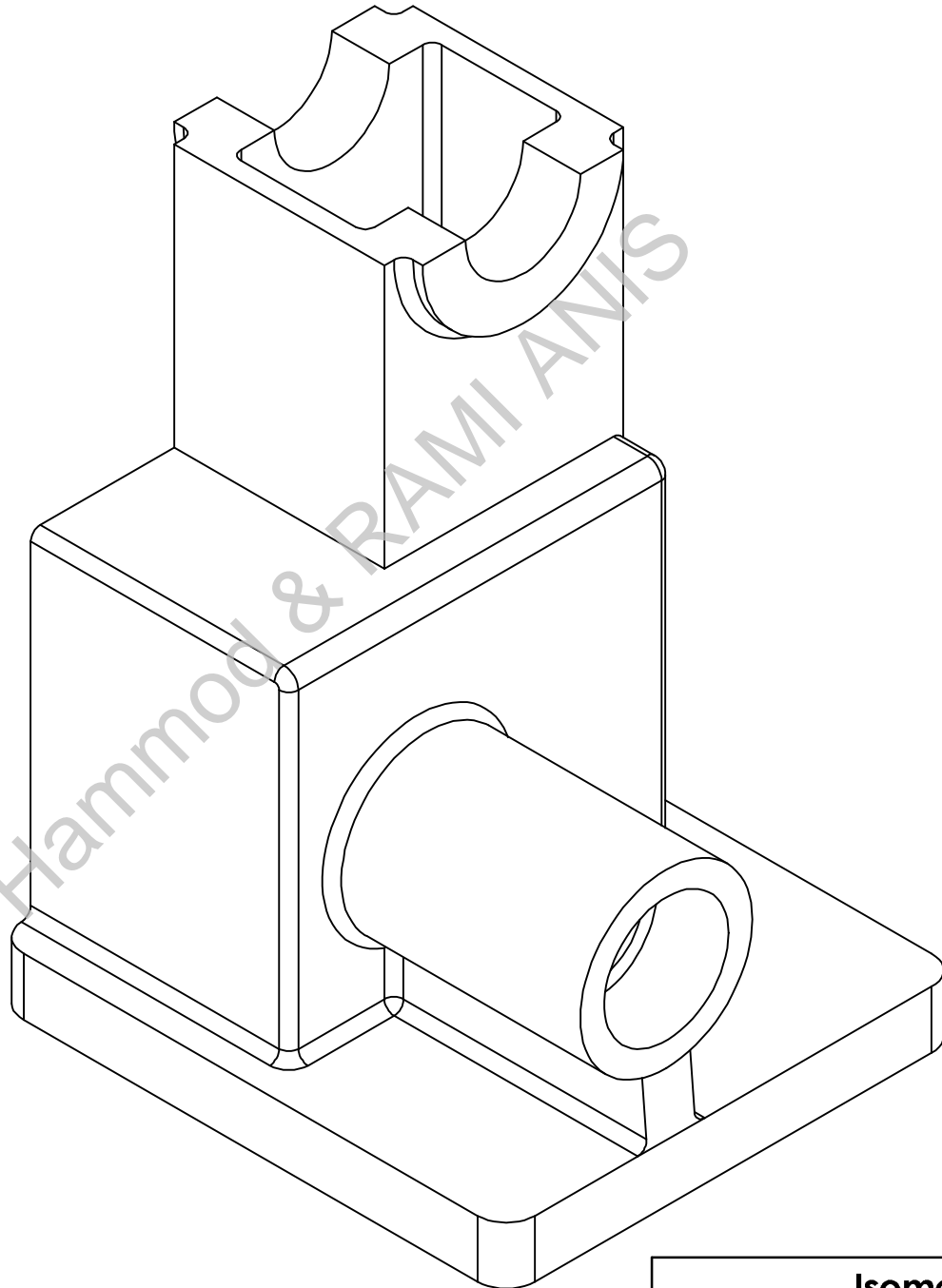
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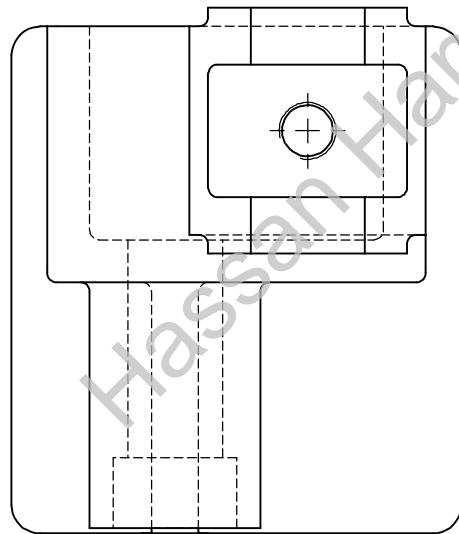
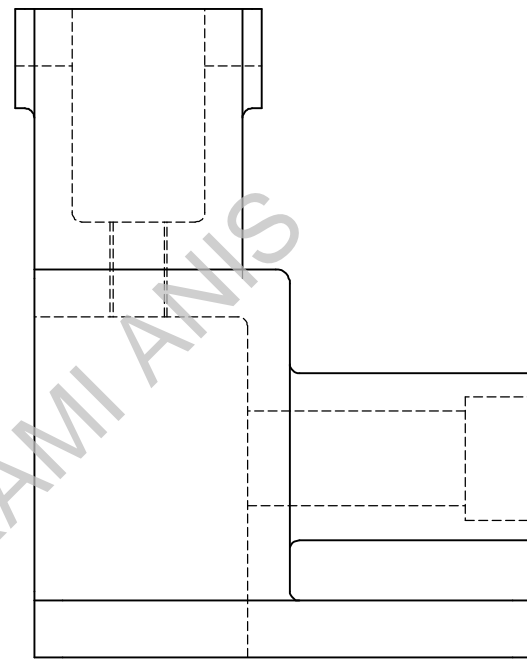
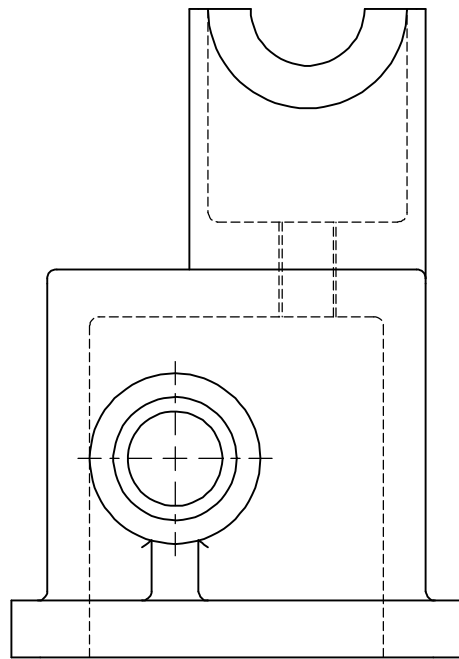


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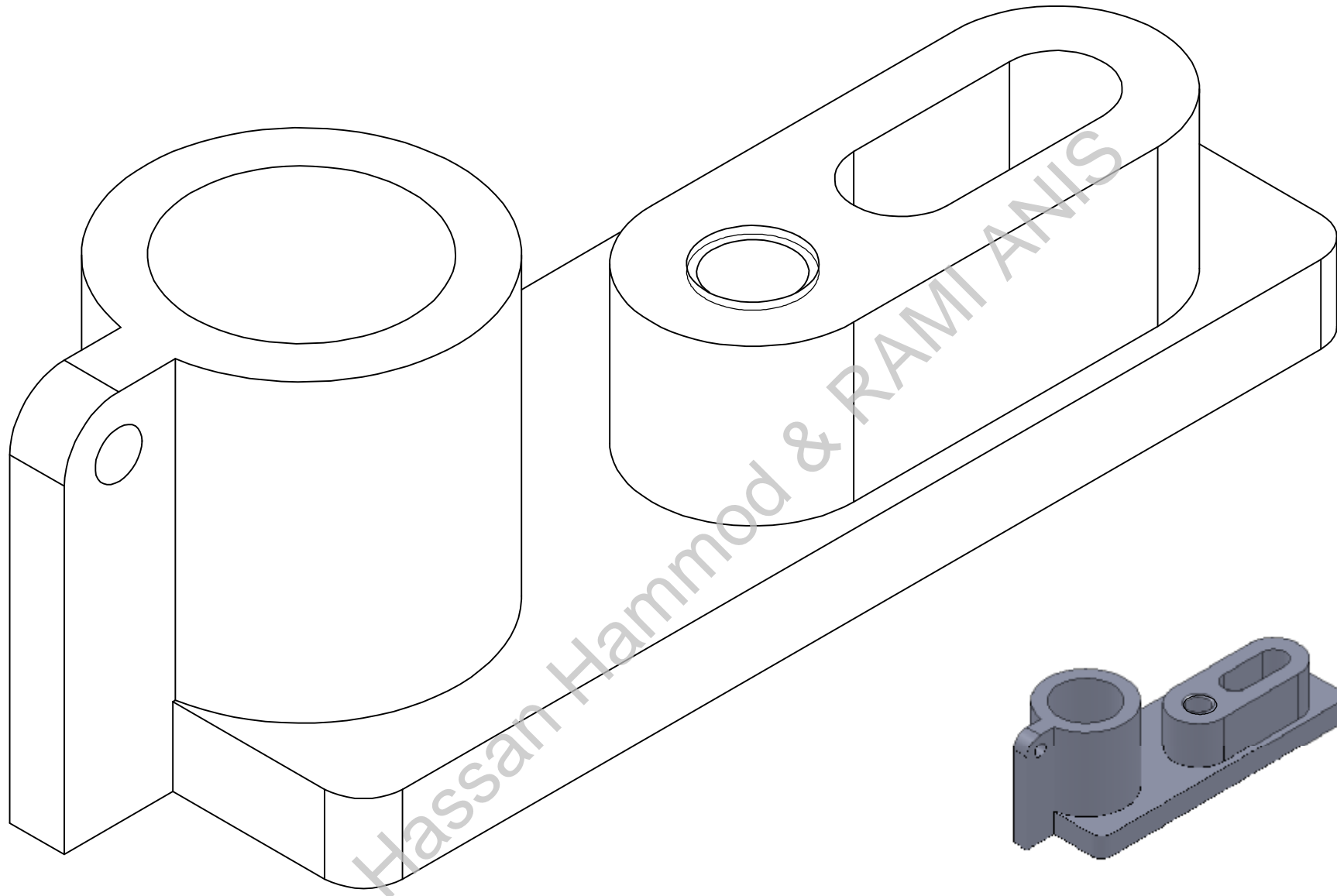


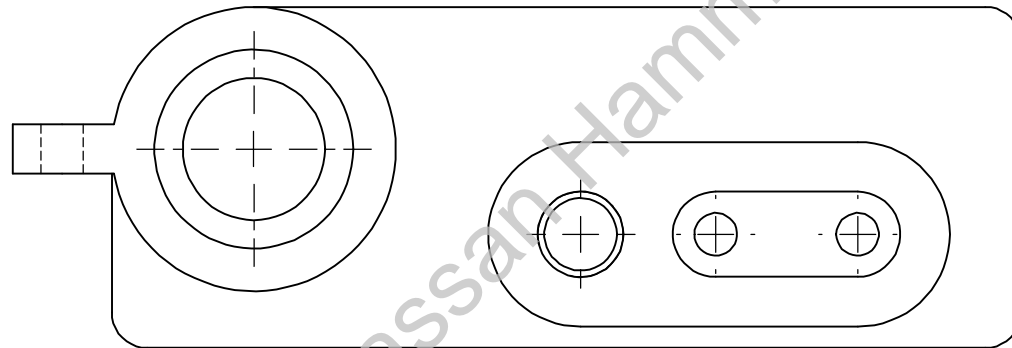
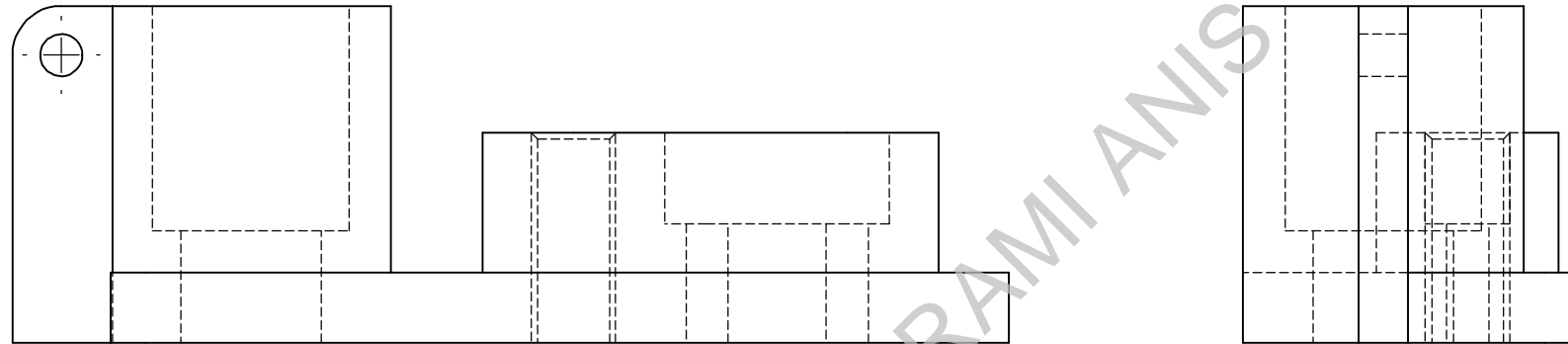
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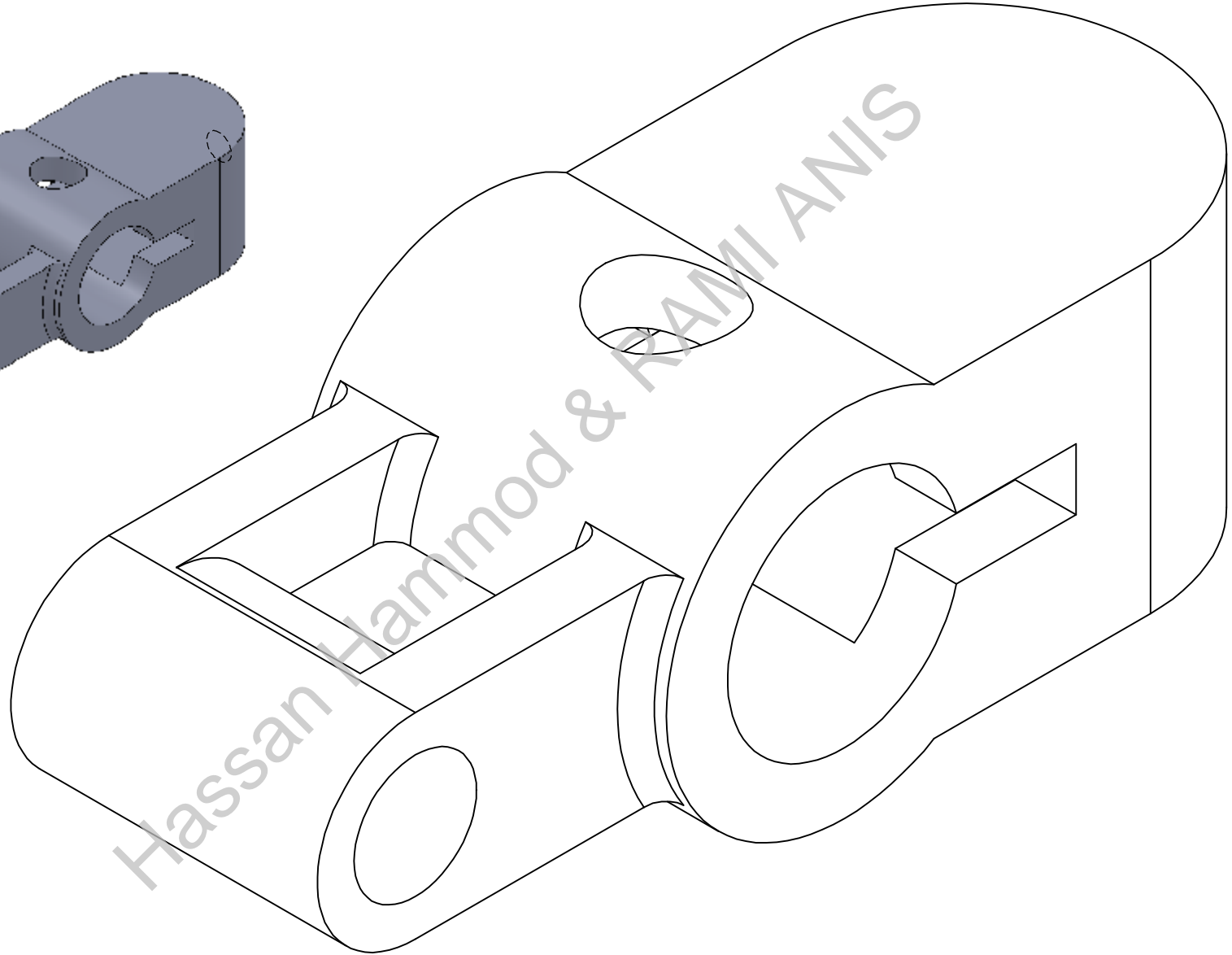
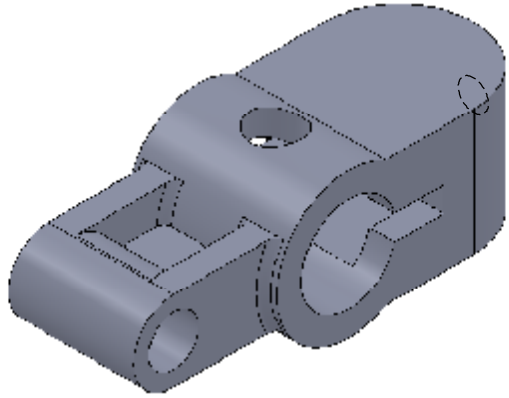


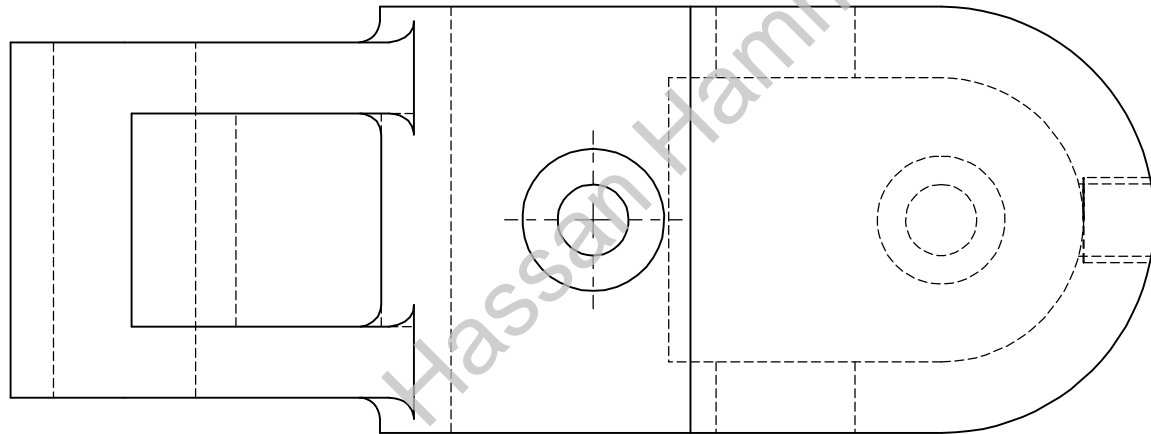
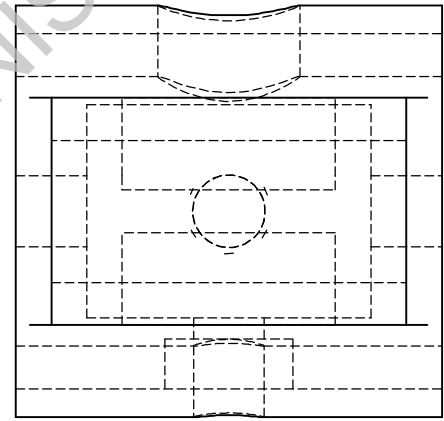
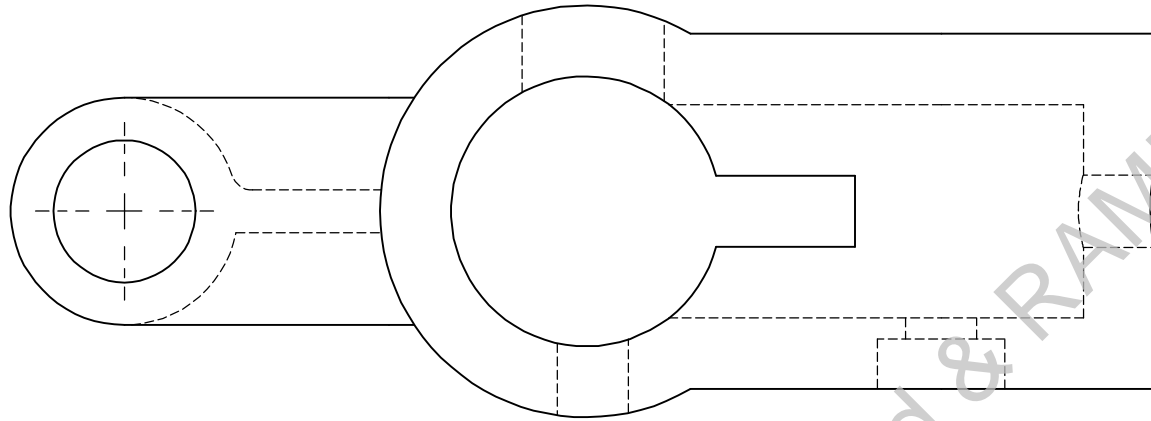
Hassan Hammod & RAMI ANIS



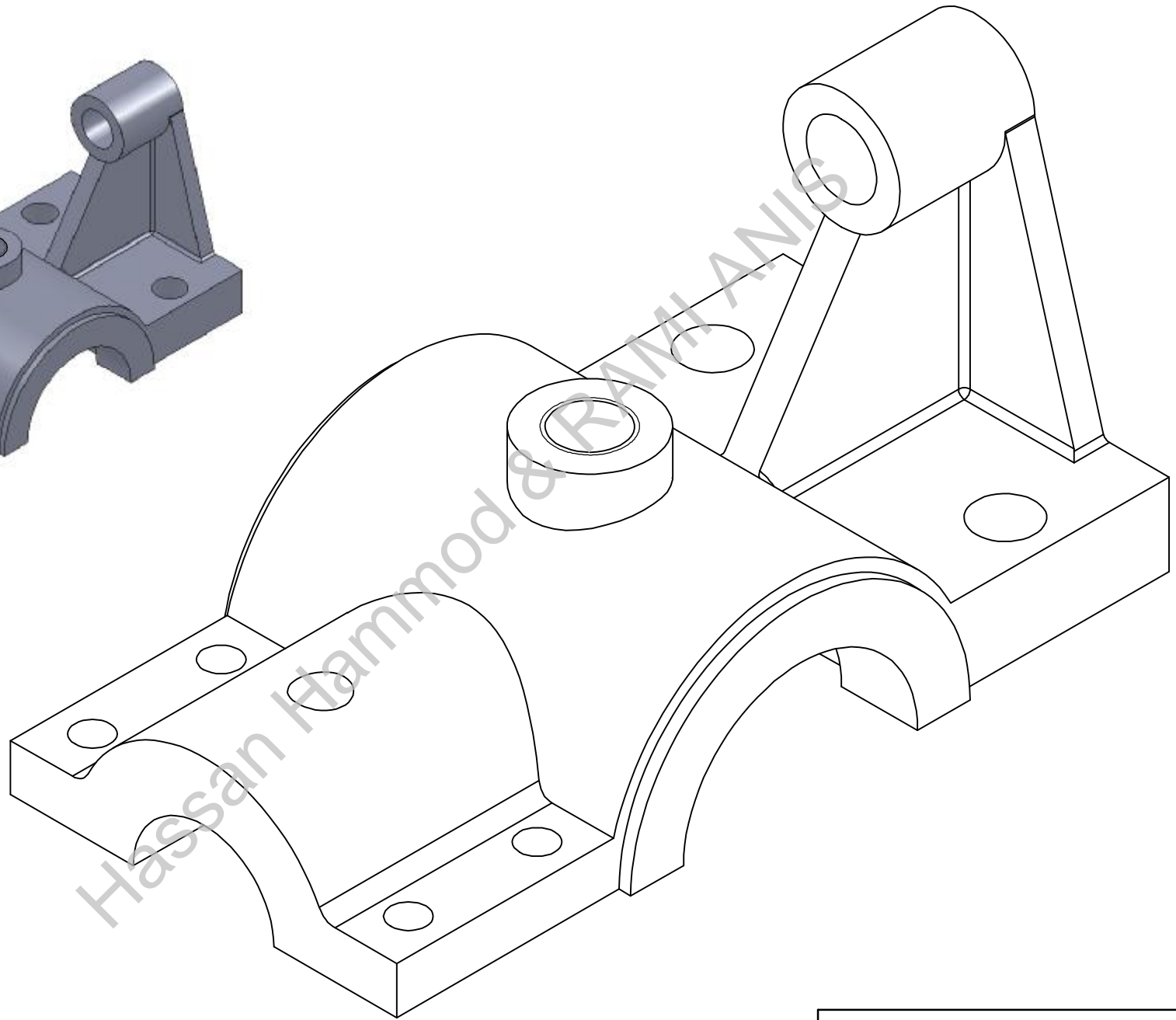
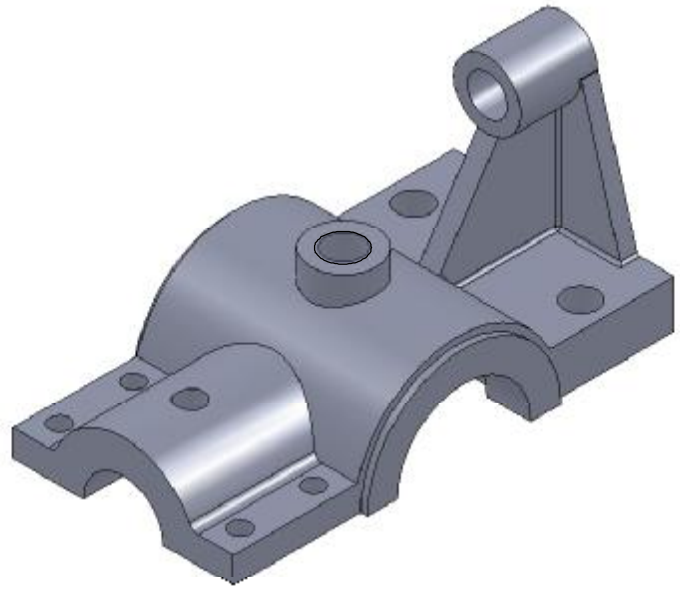


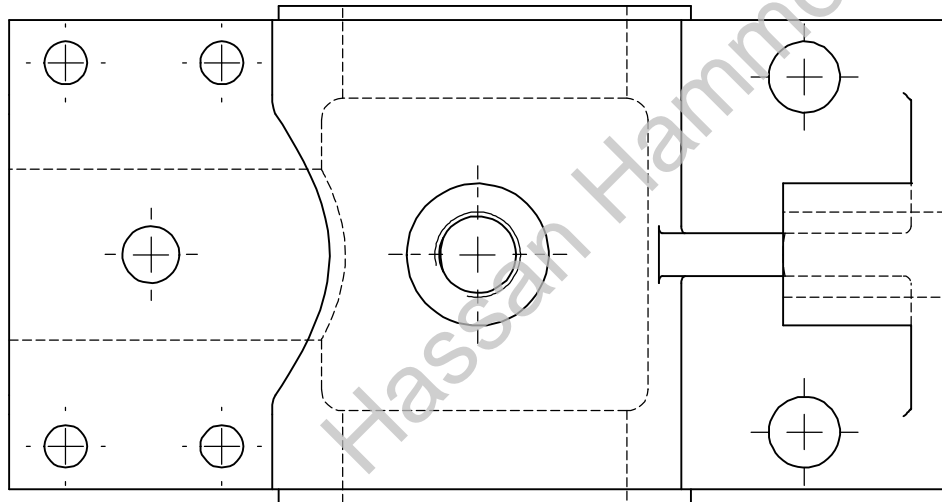
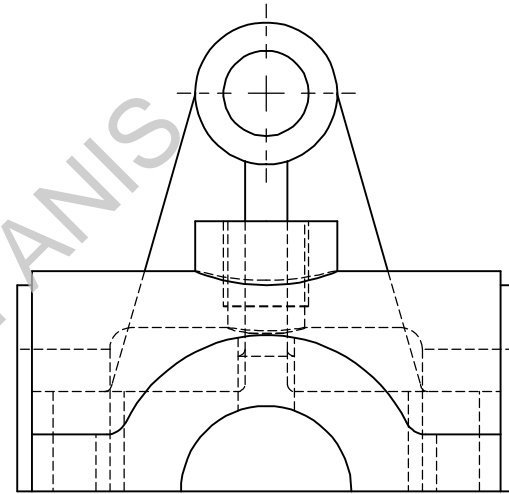
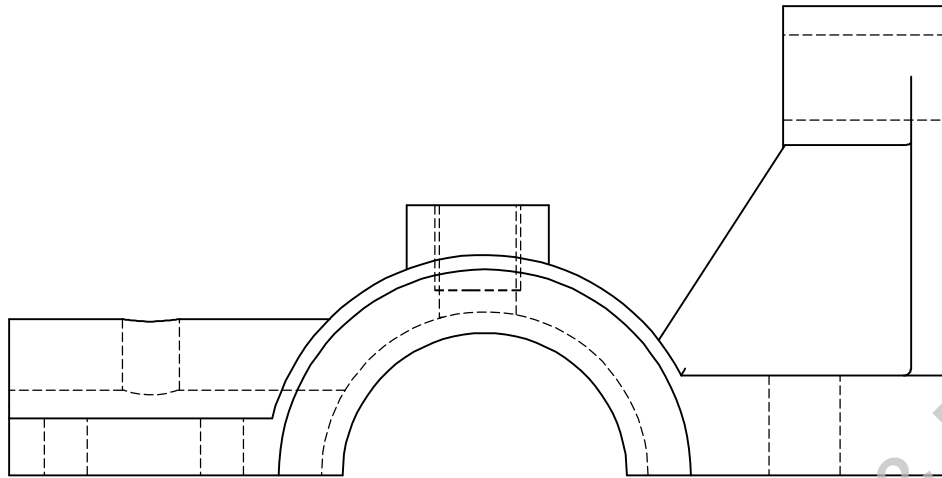
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Orientation view

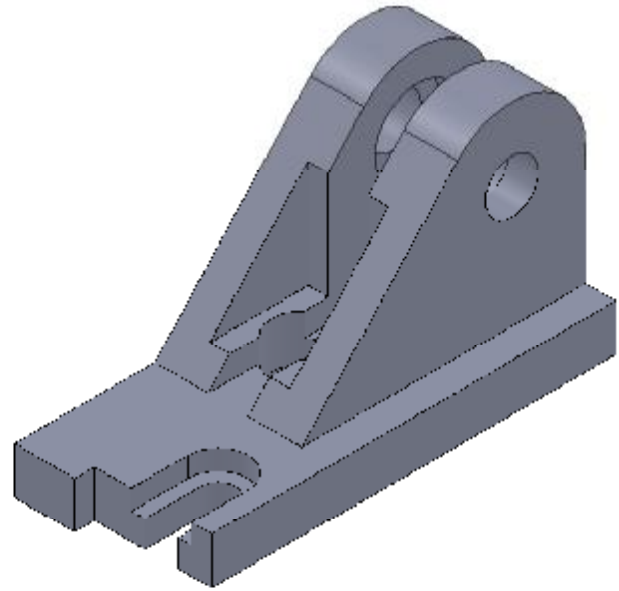
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SCALE: 1:1

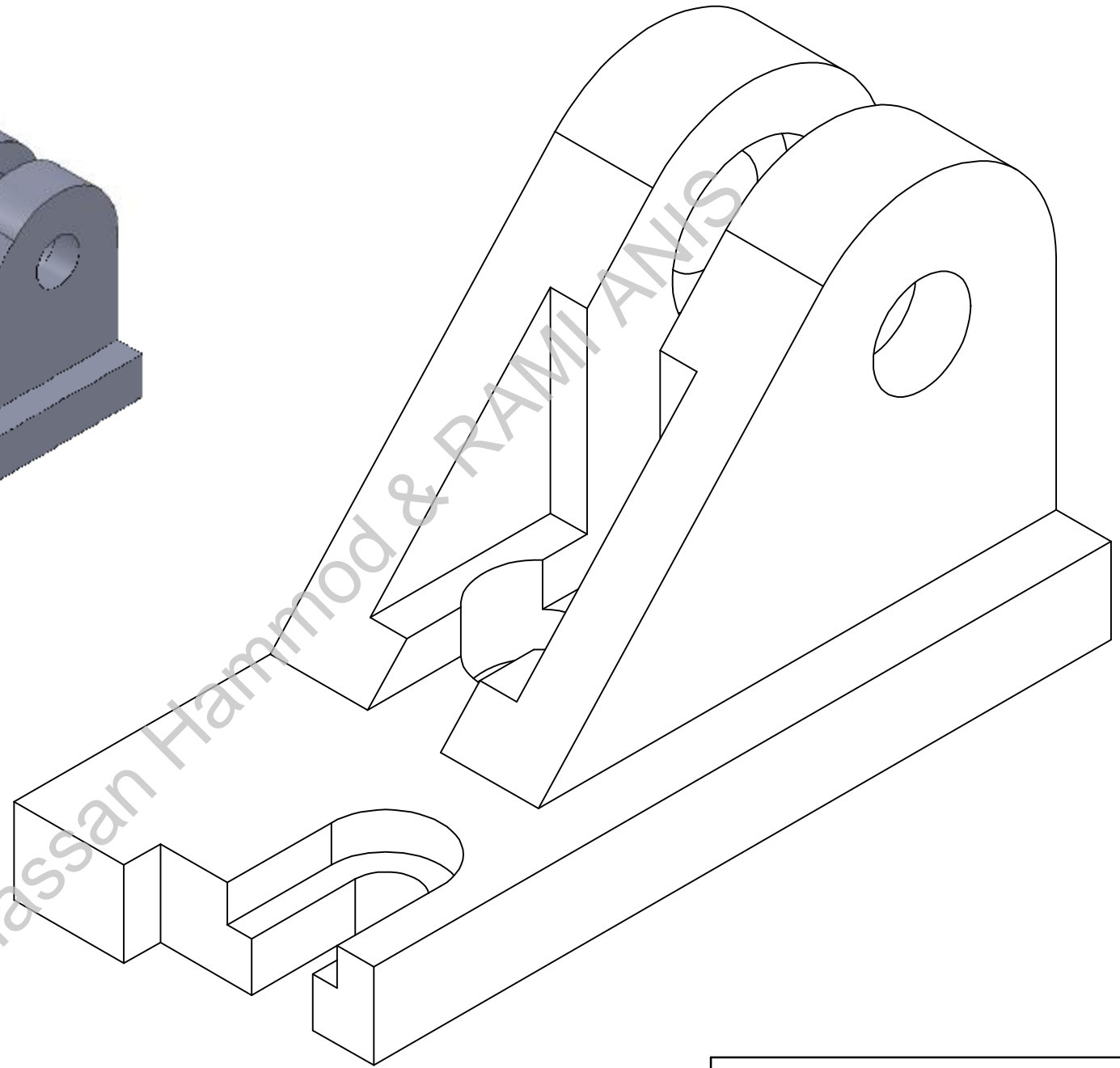
Eng Rami Anis - Eng Hassan Hammod

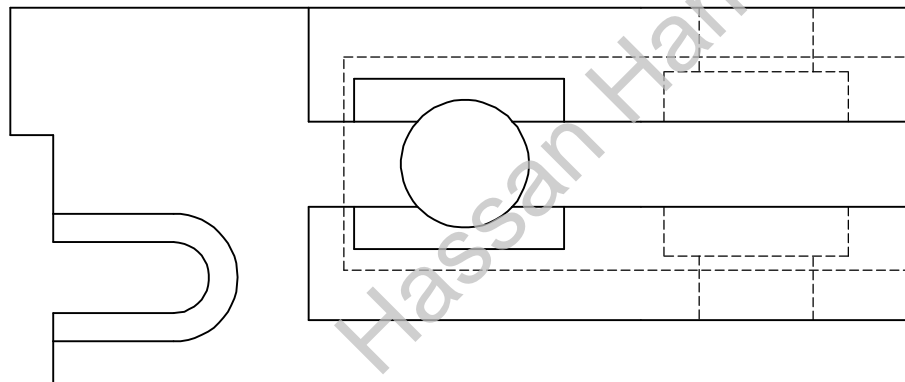
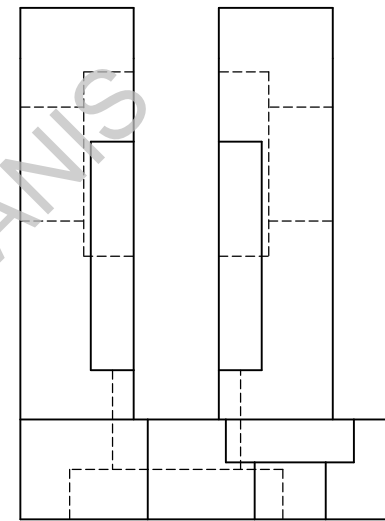
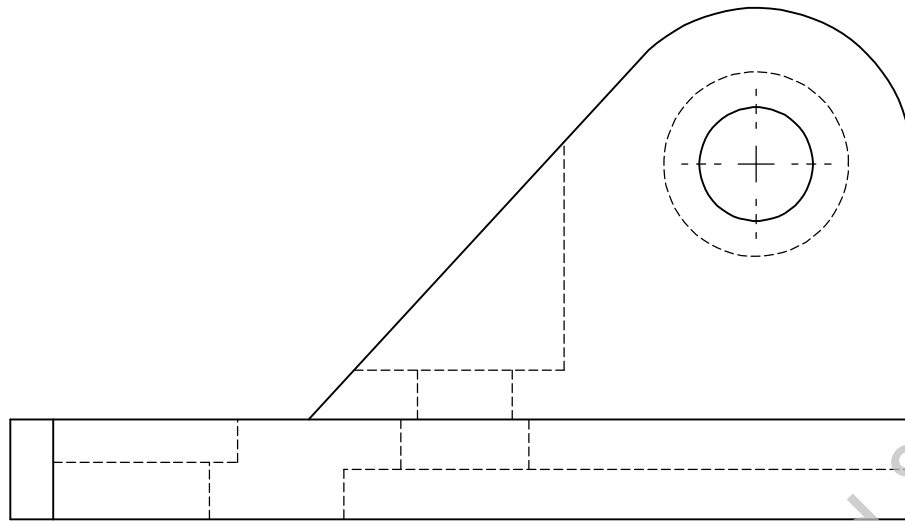
anisrami@hotmail.com

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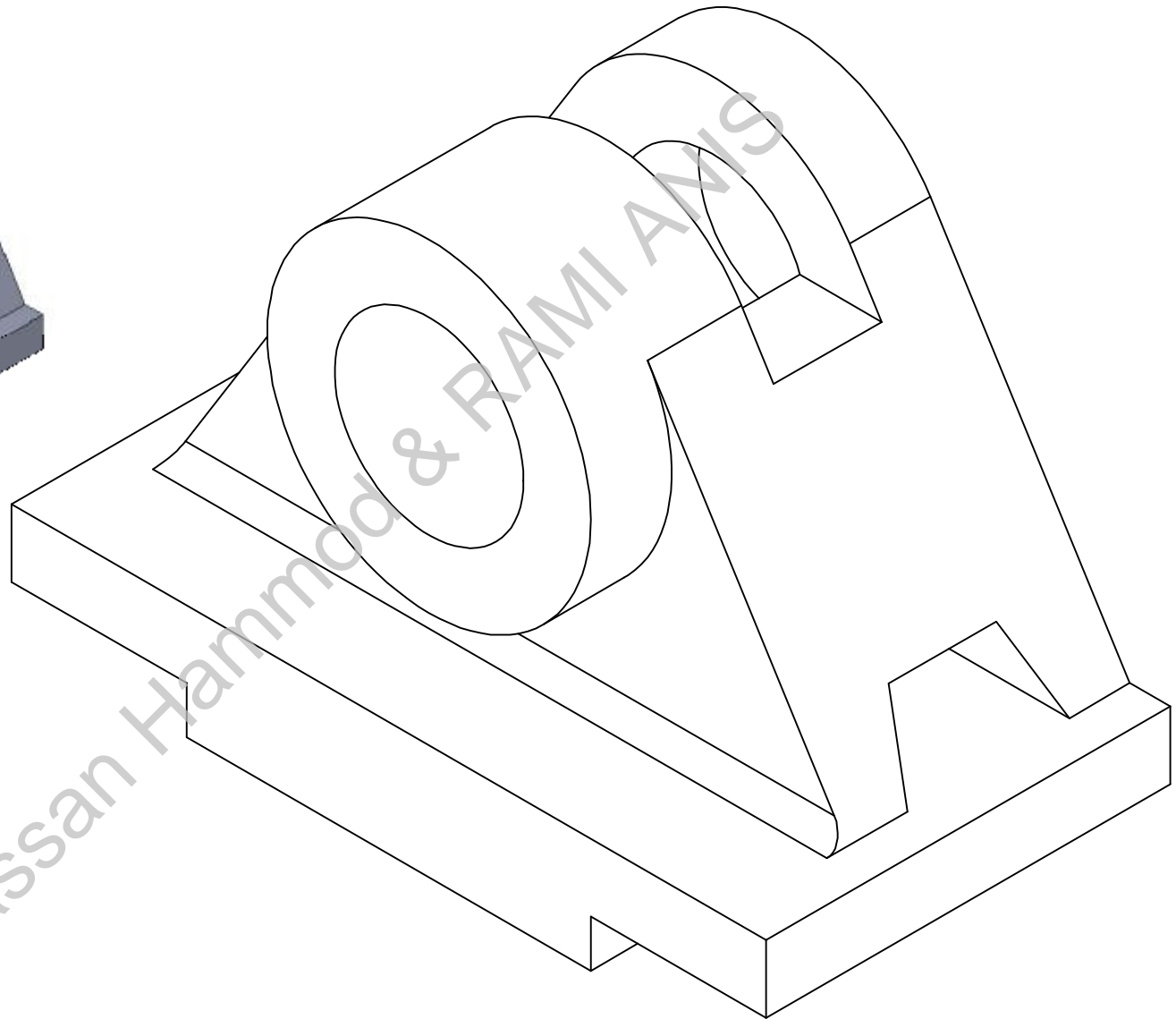
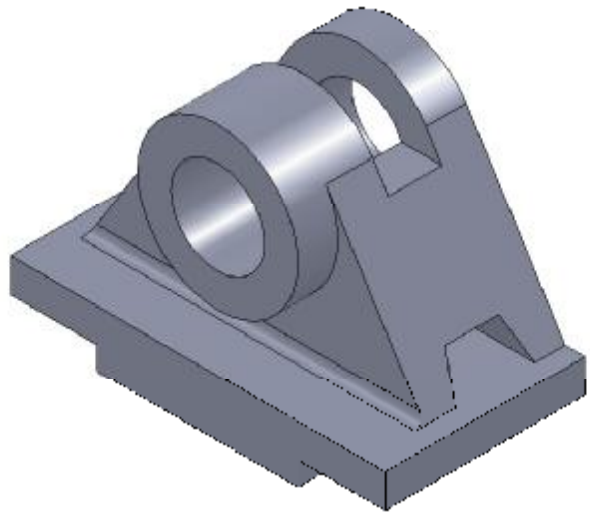


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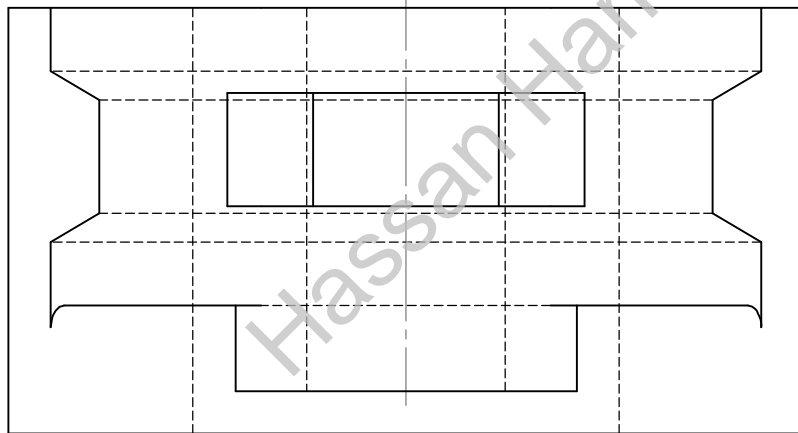
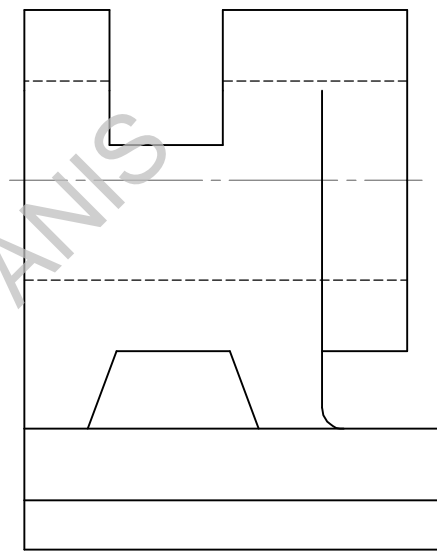
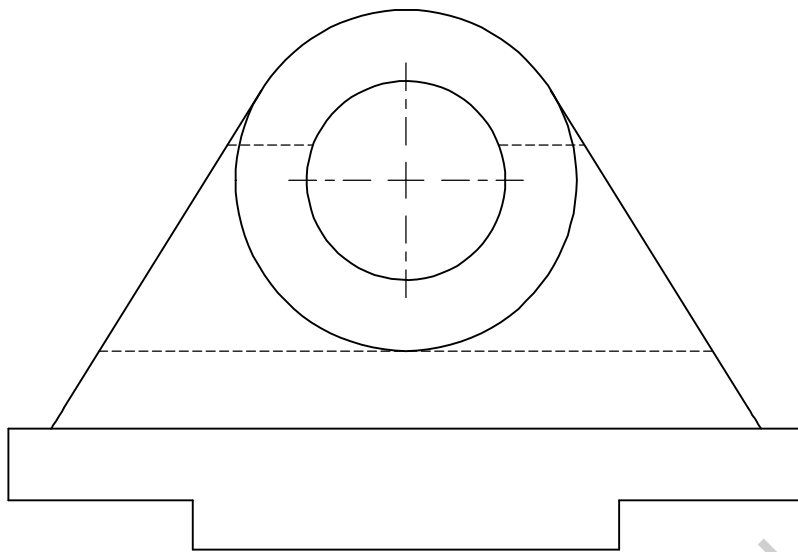




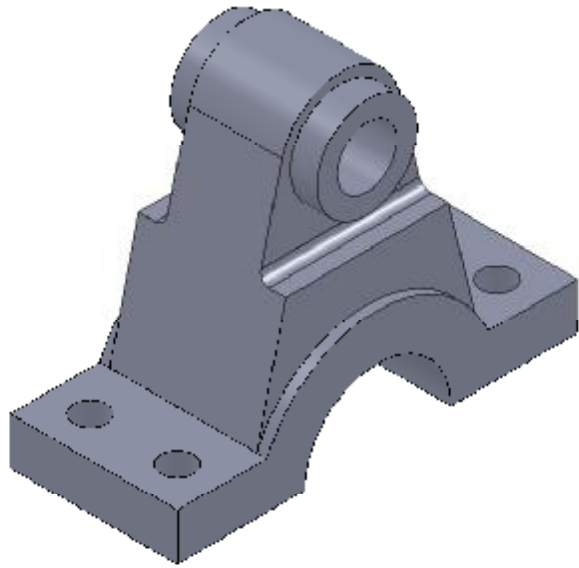
Hassan Hammod & RAMI ANIS



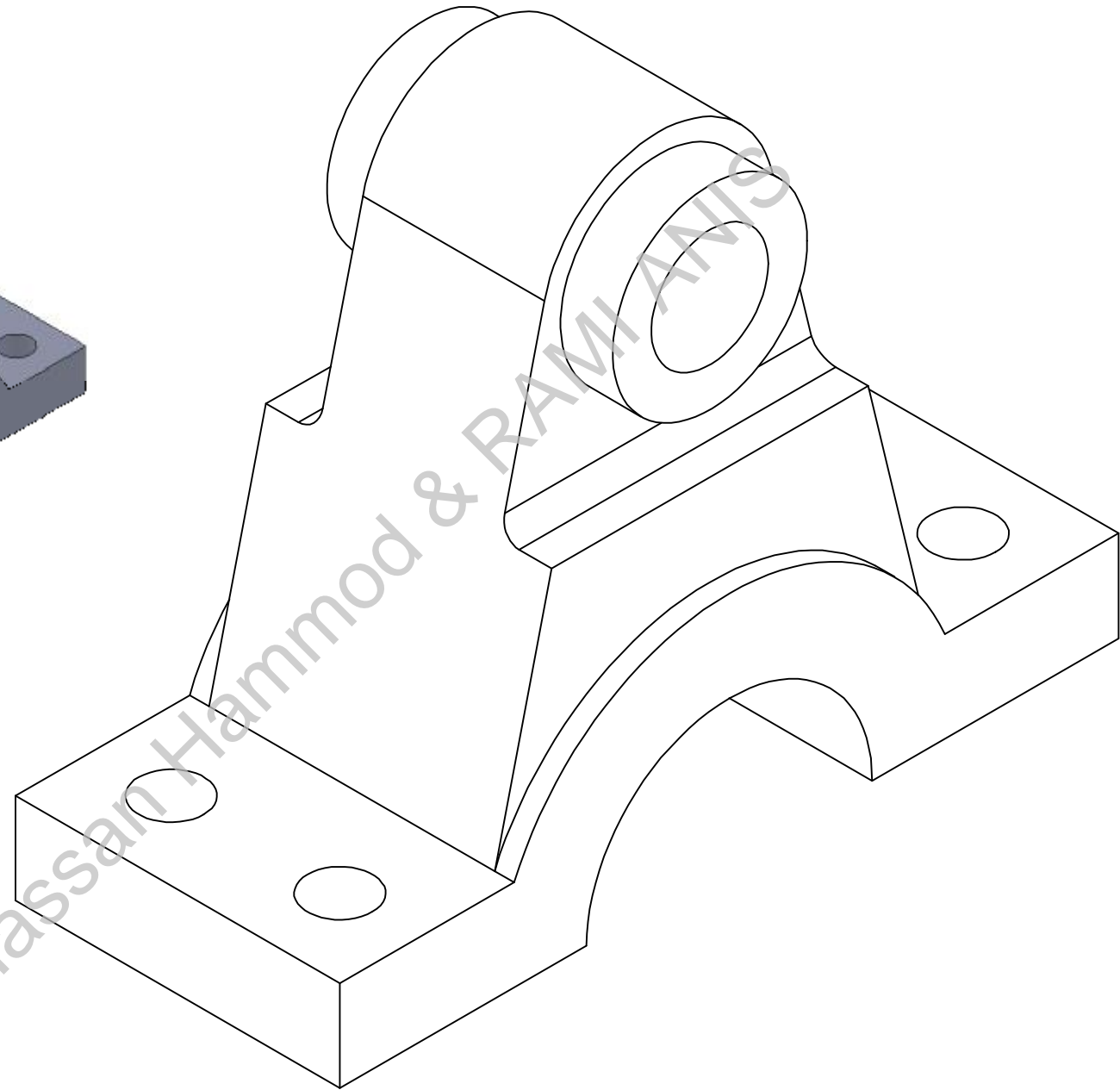
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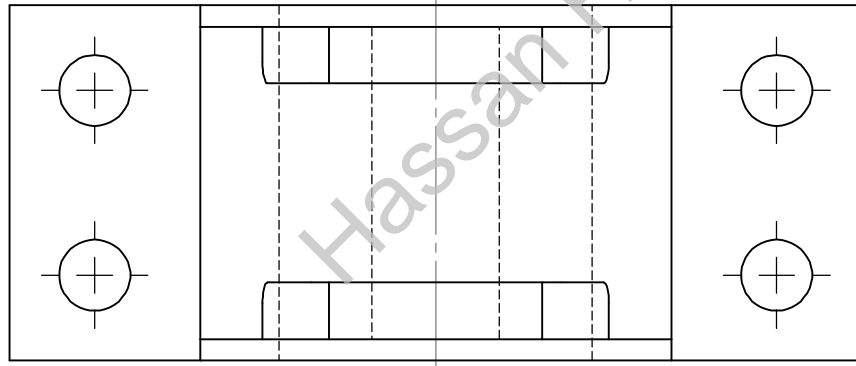
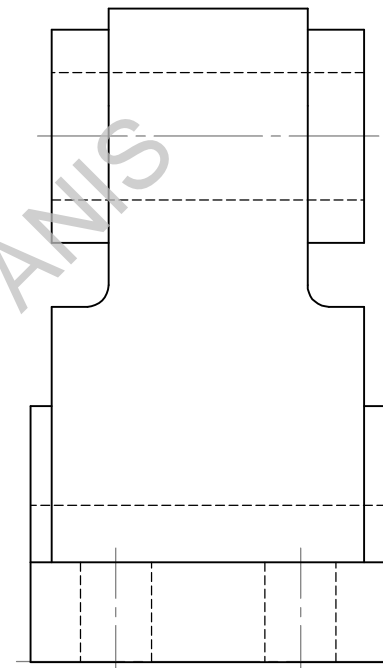
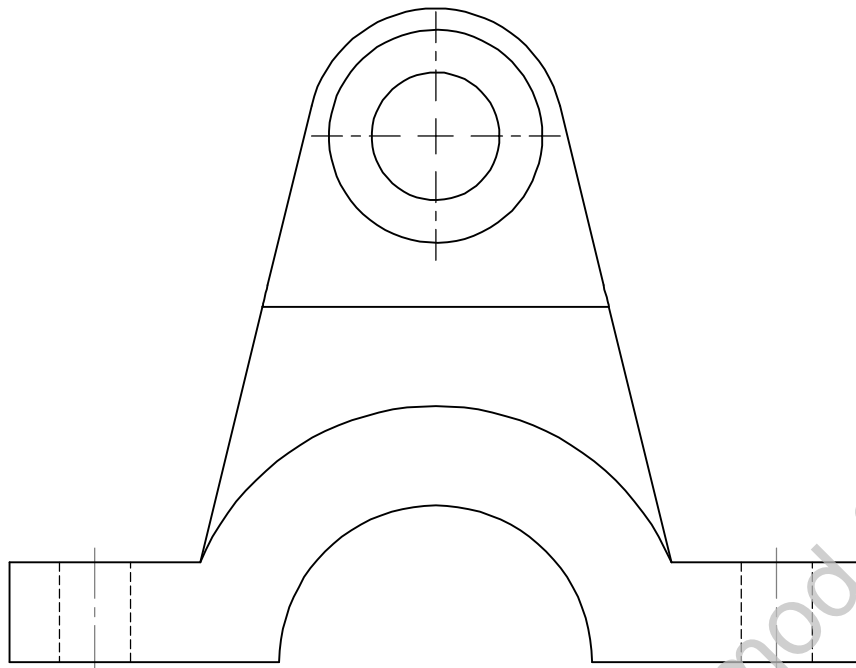


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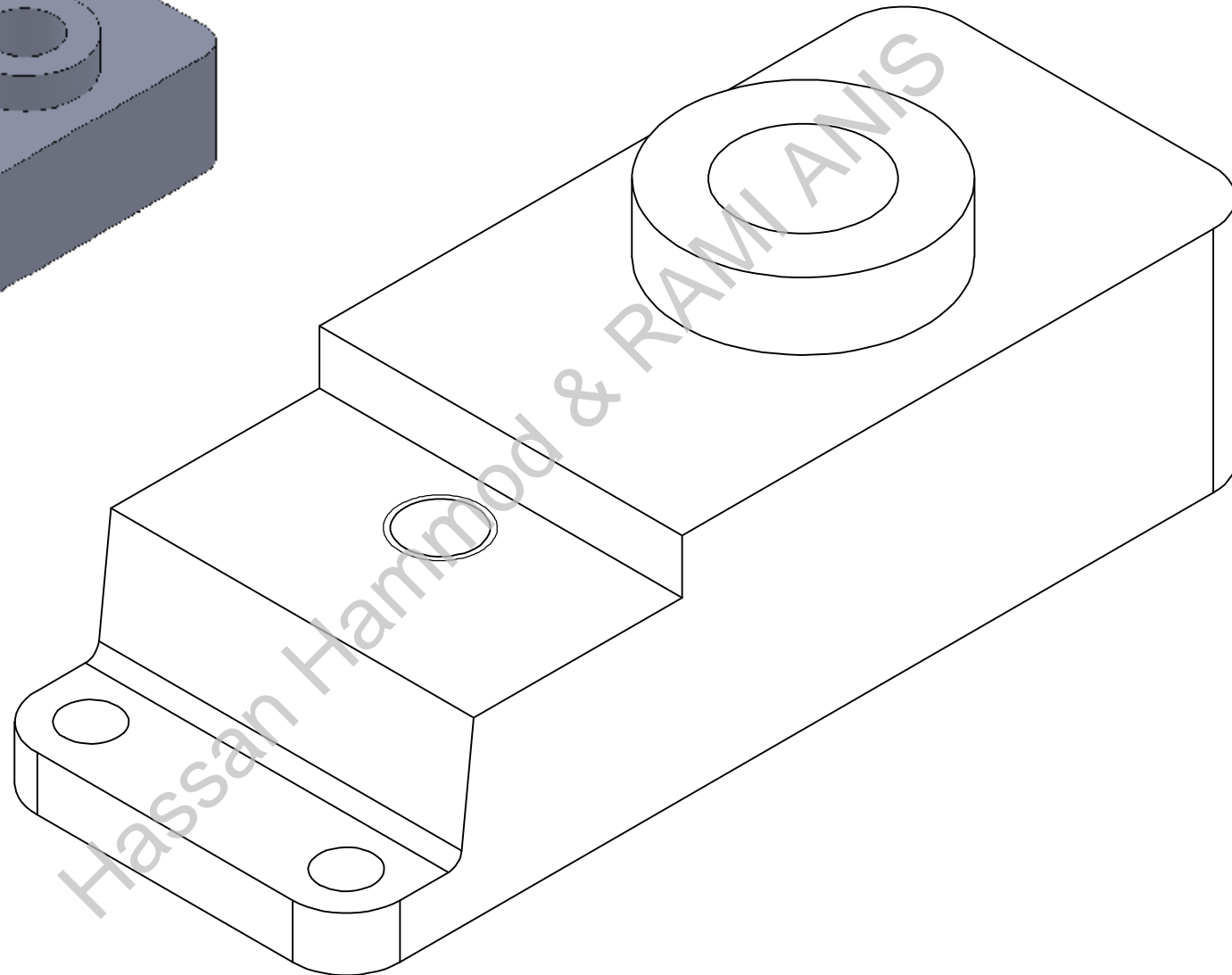
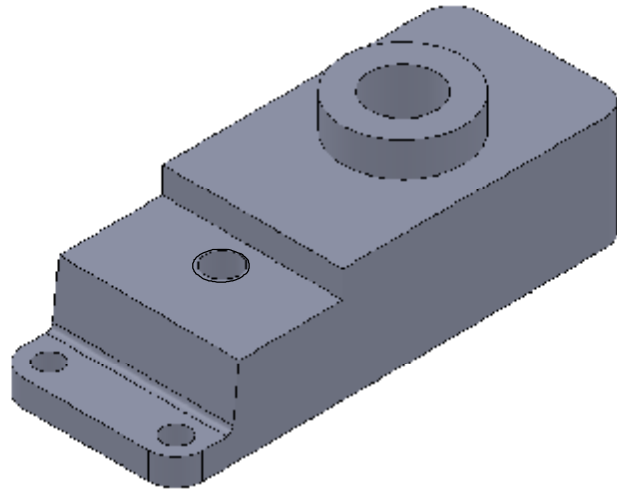


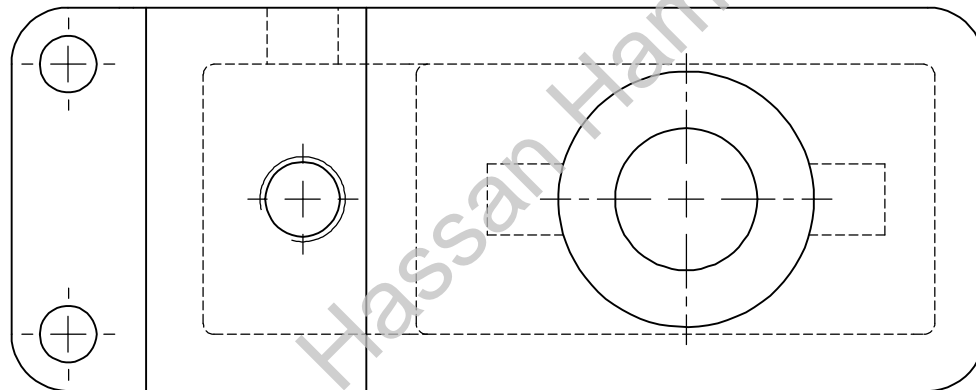
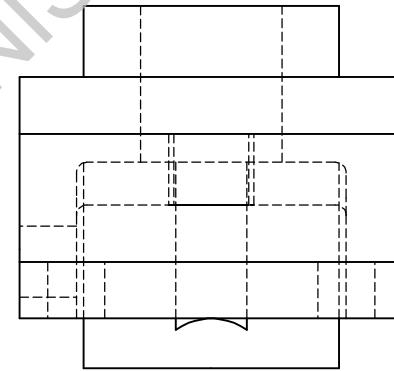
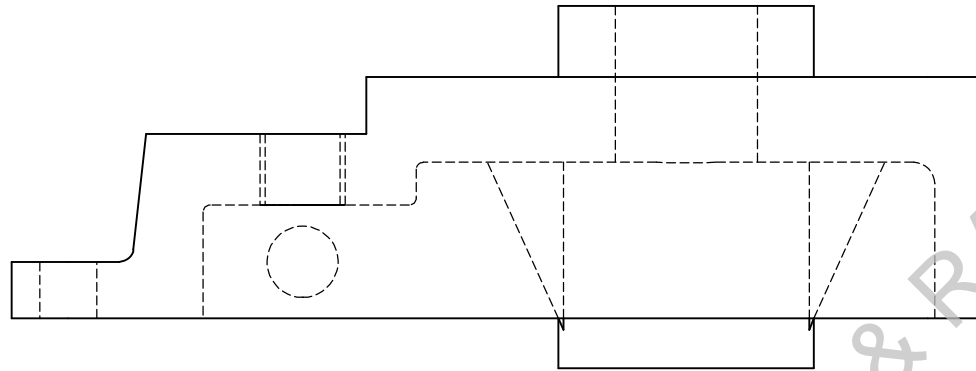
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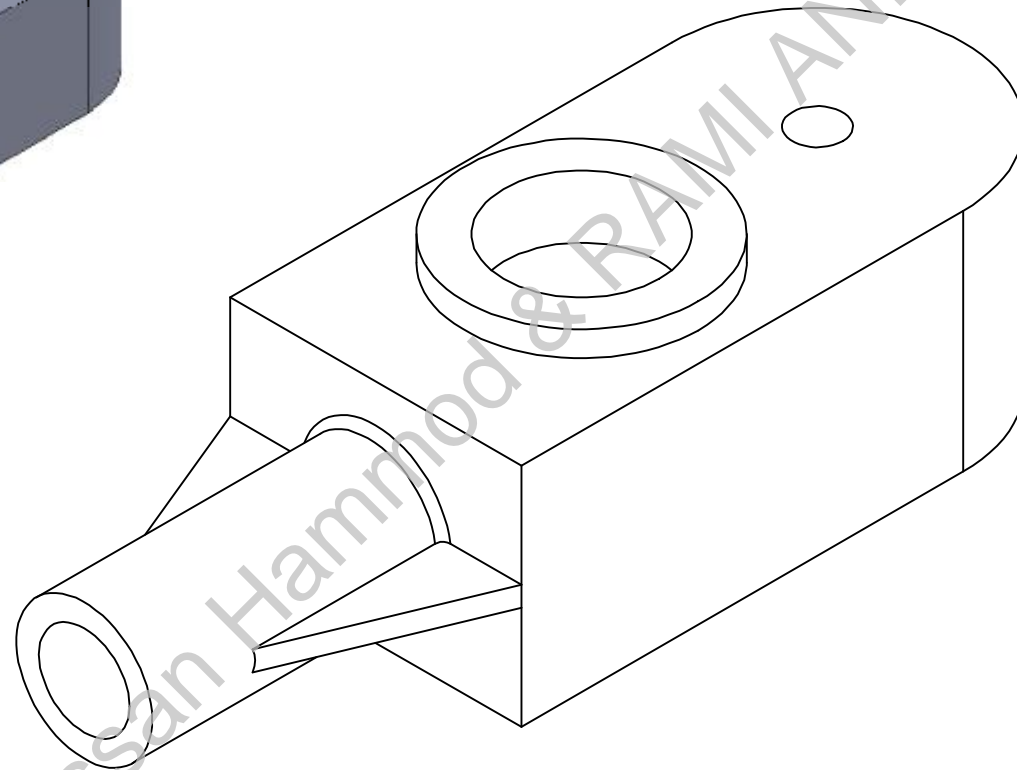
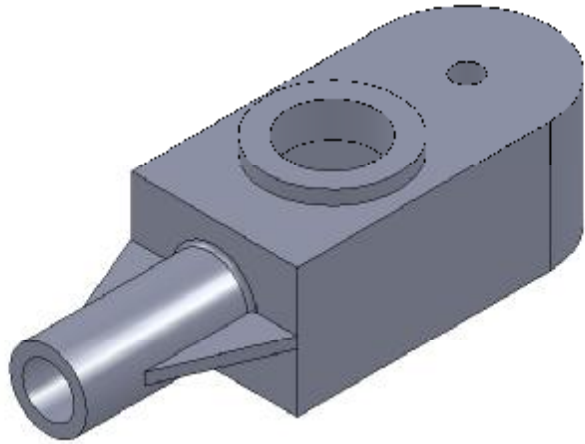


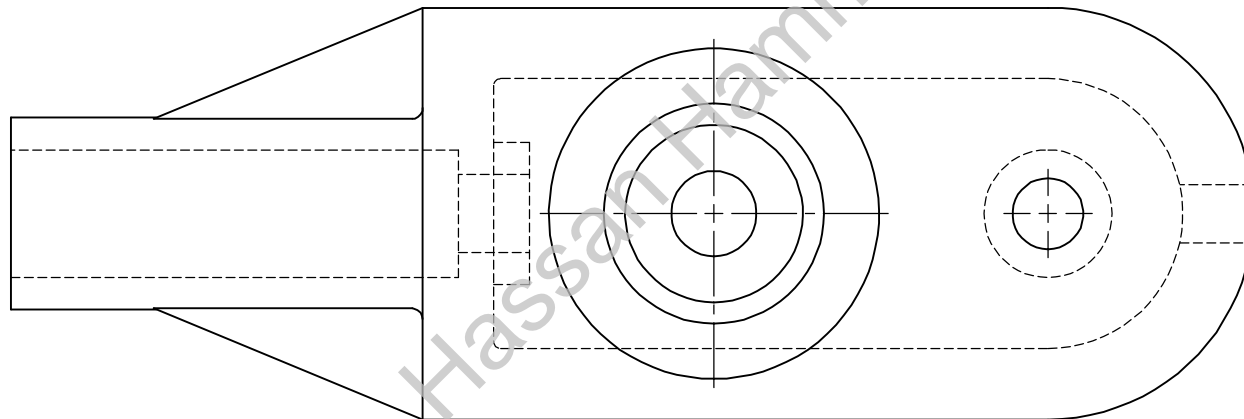
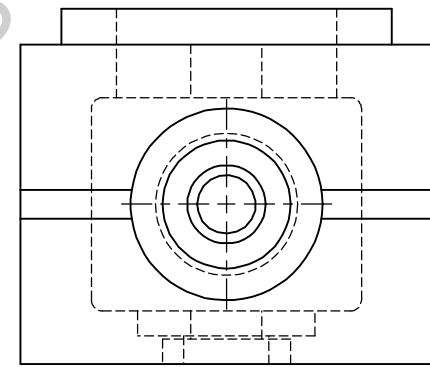
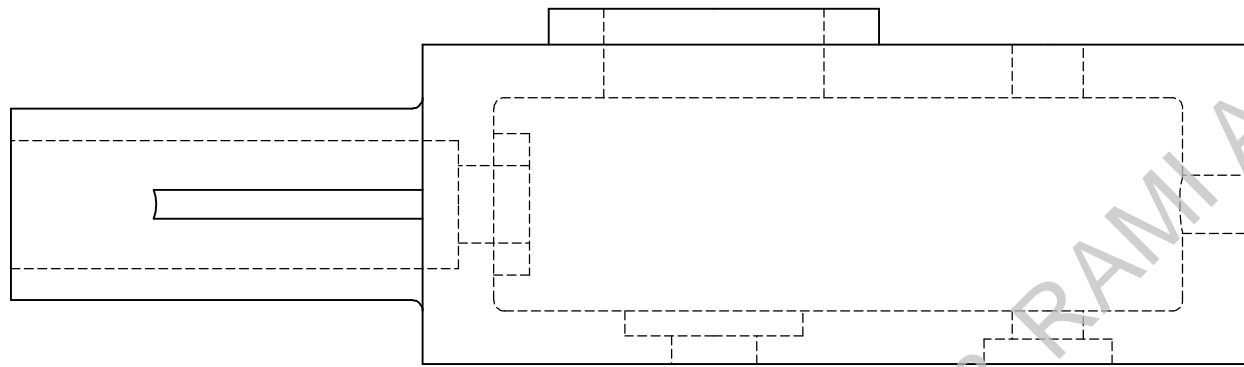
Hassan Hammoud & RAMI ANIS





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Orientation view

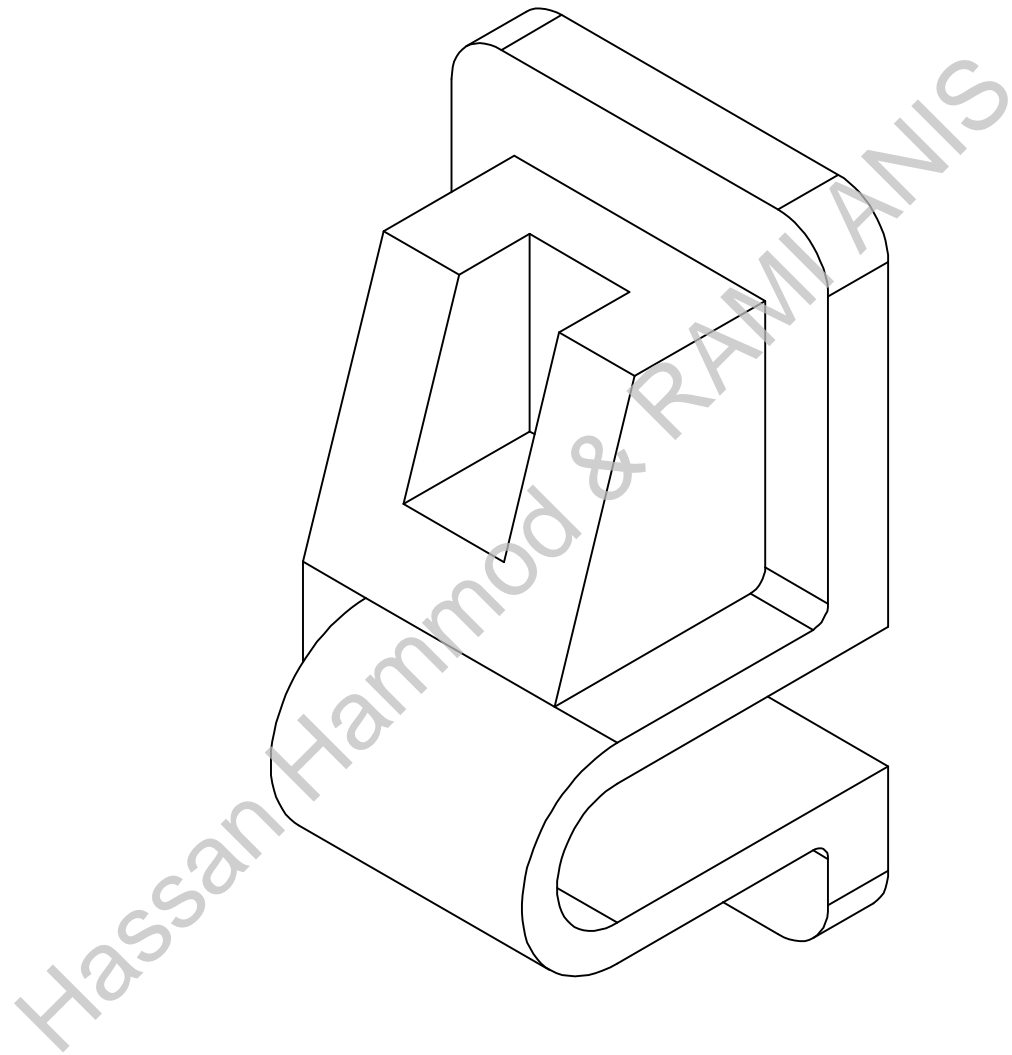
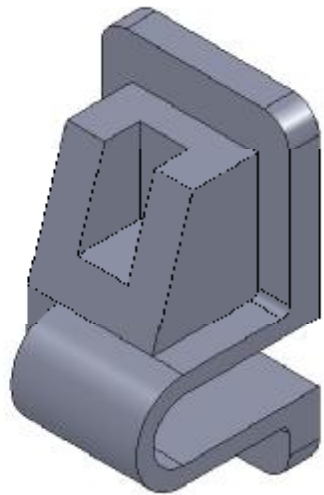
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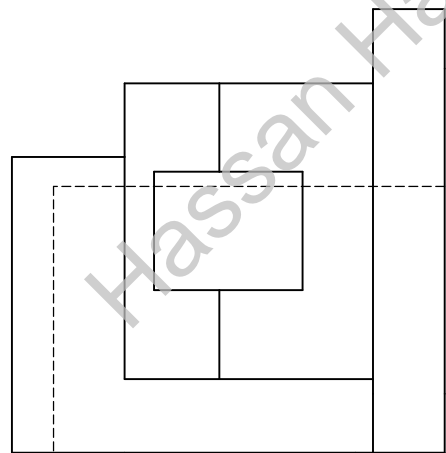
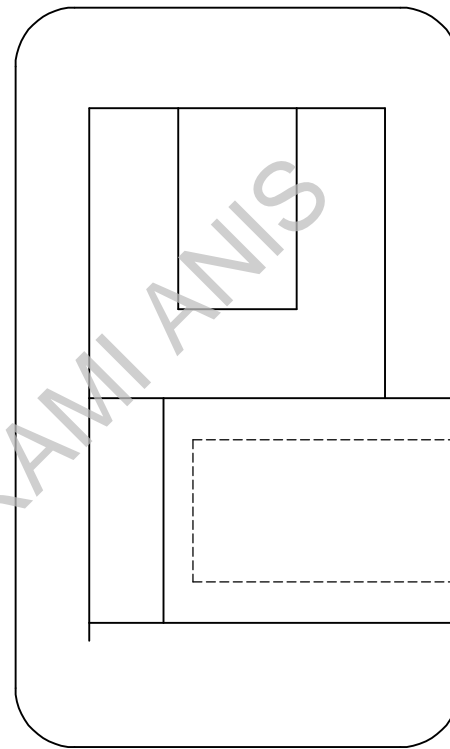
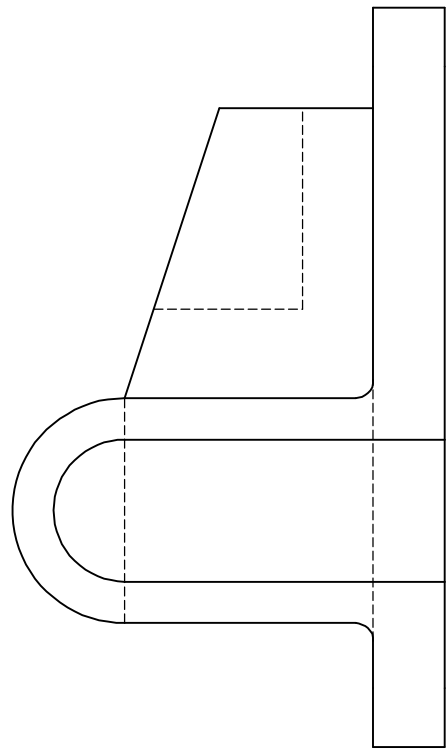
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Eng Rami Anis - Eng Hassan Hammod

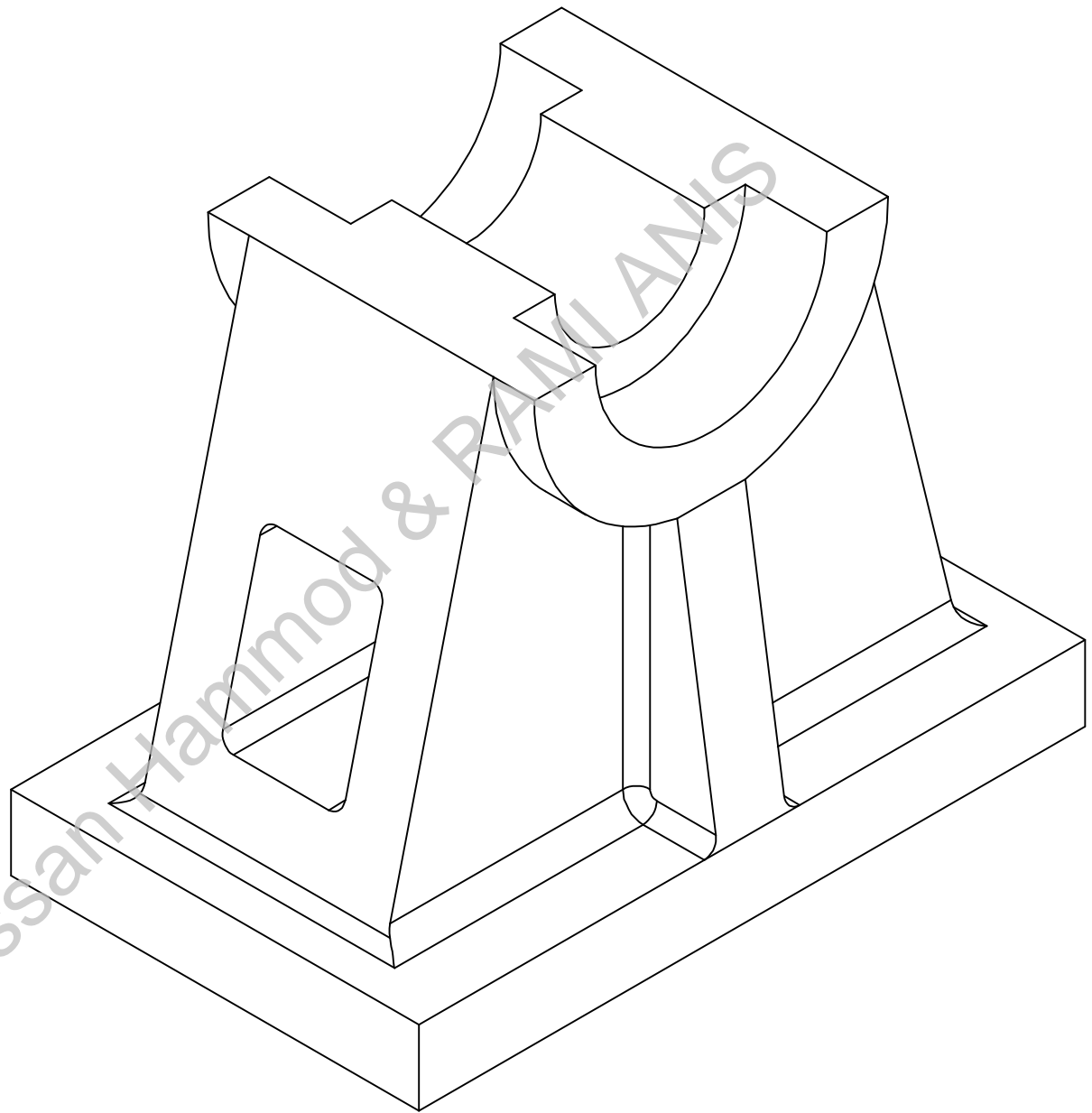
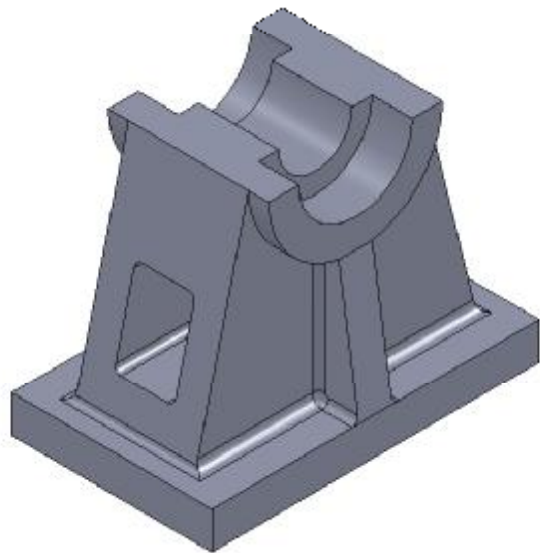
anisrami@hotmail.com

h.hammod@hotmail.com

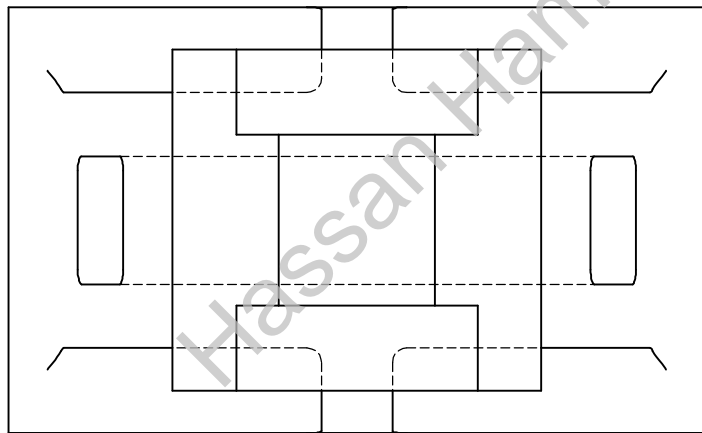
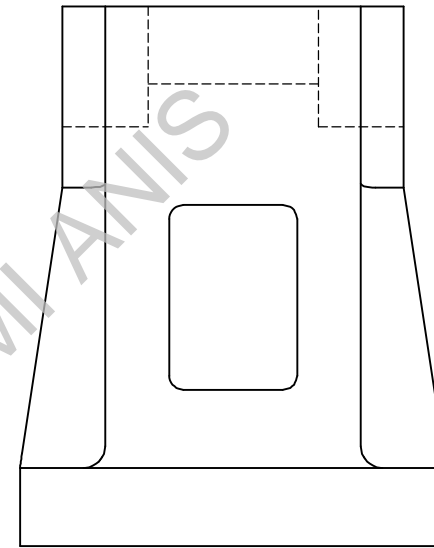
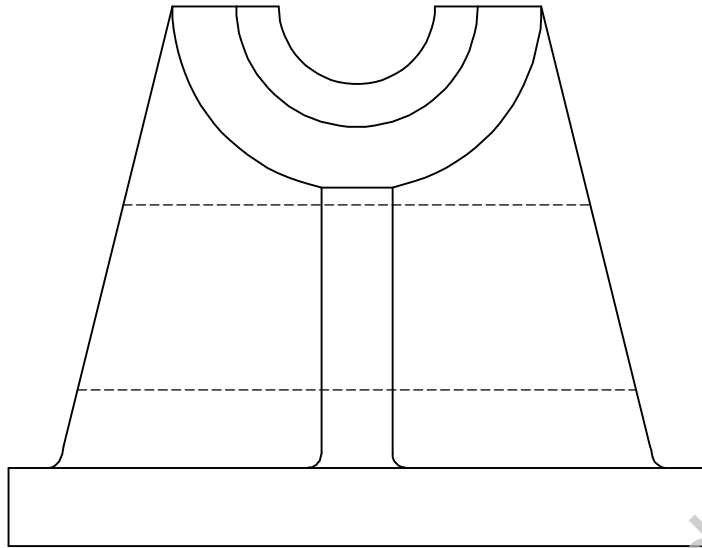




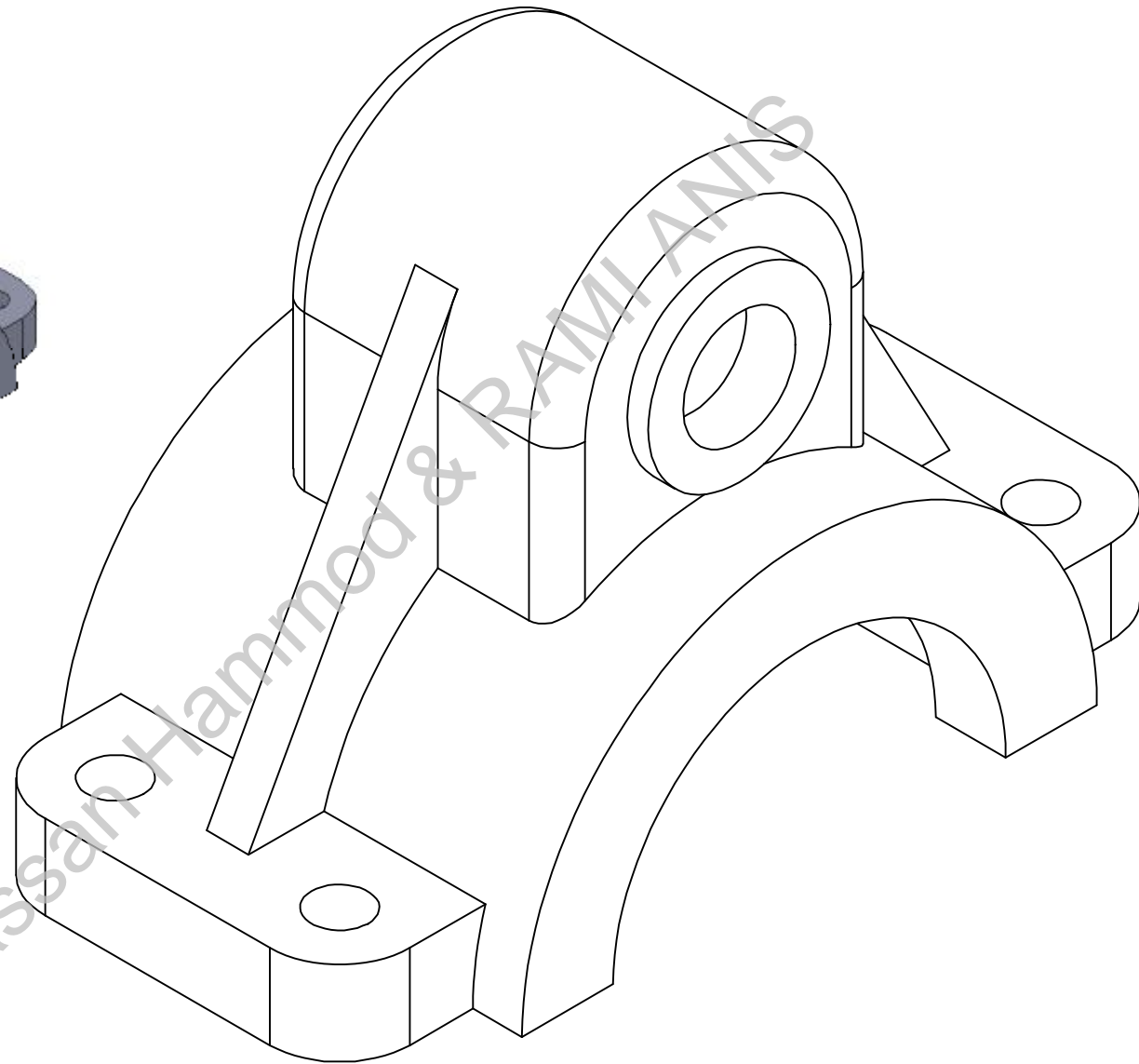
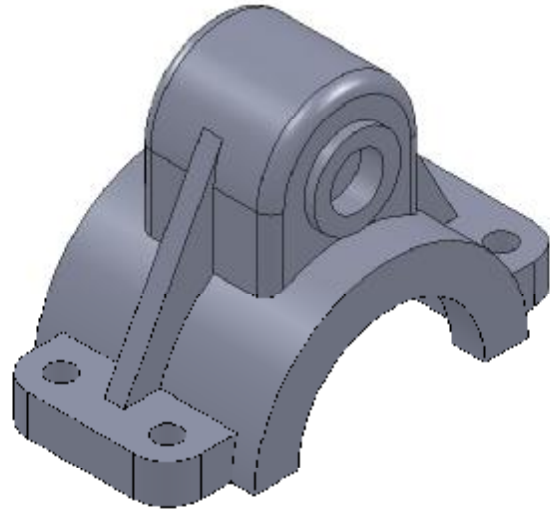
Hassan Hammod & RAMI ANIS



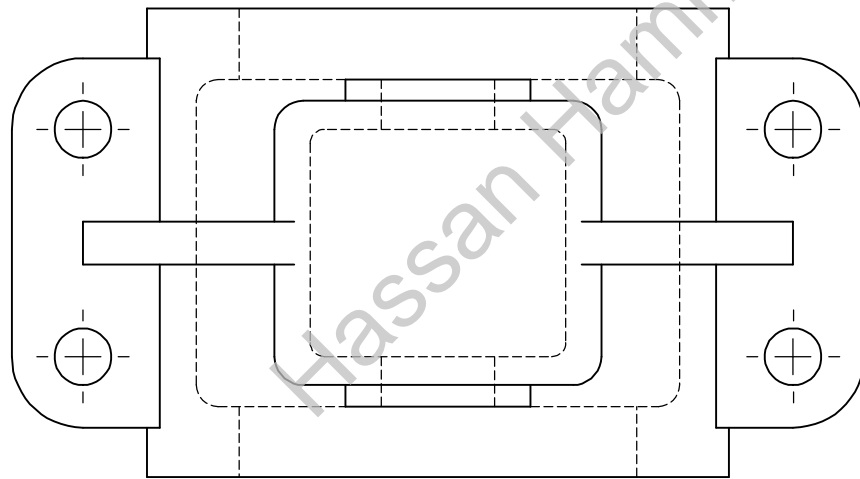
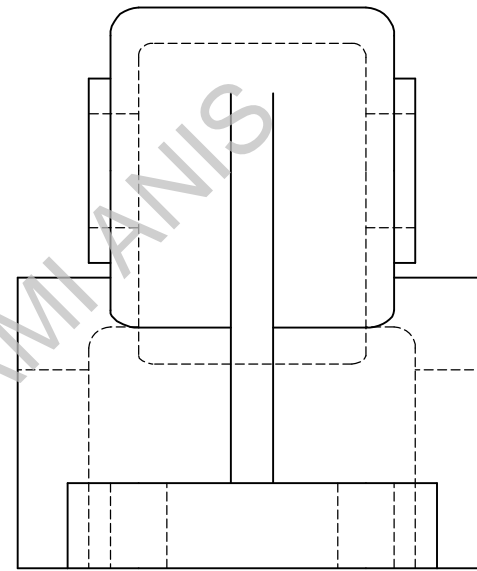
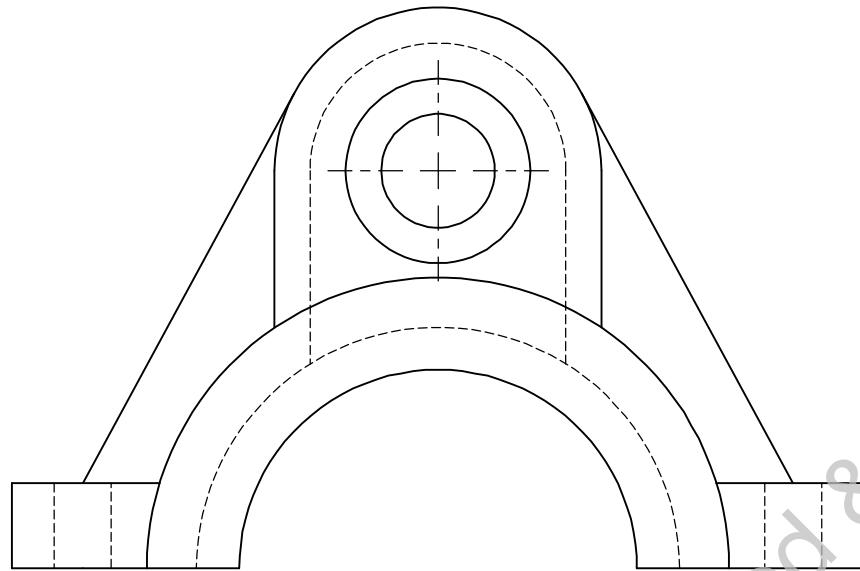
Hassan Hammod & RAMI ANIS



Hassan Hammod & RAMI ANIS



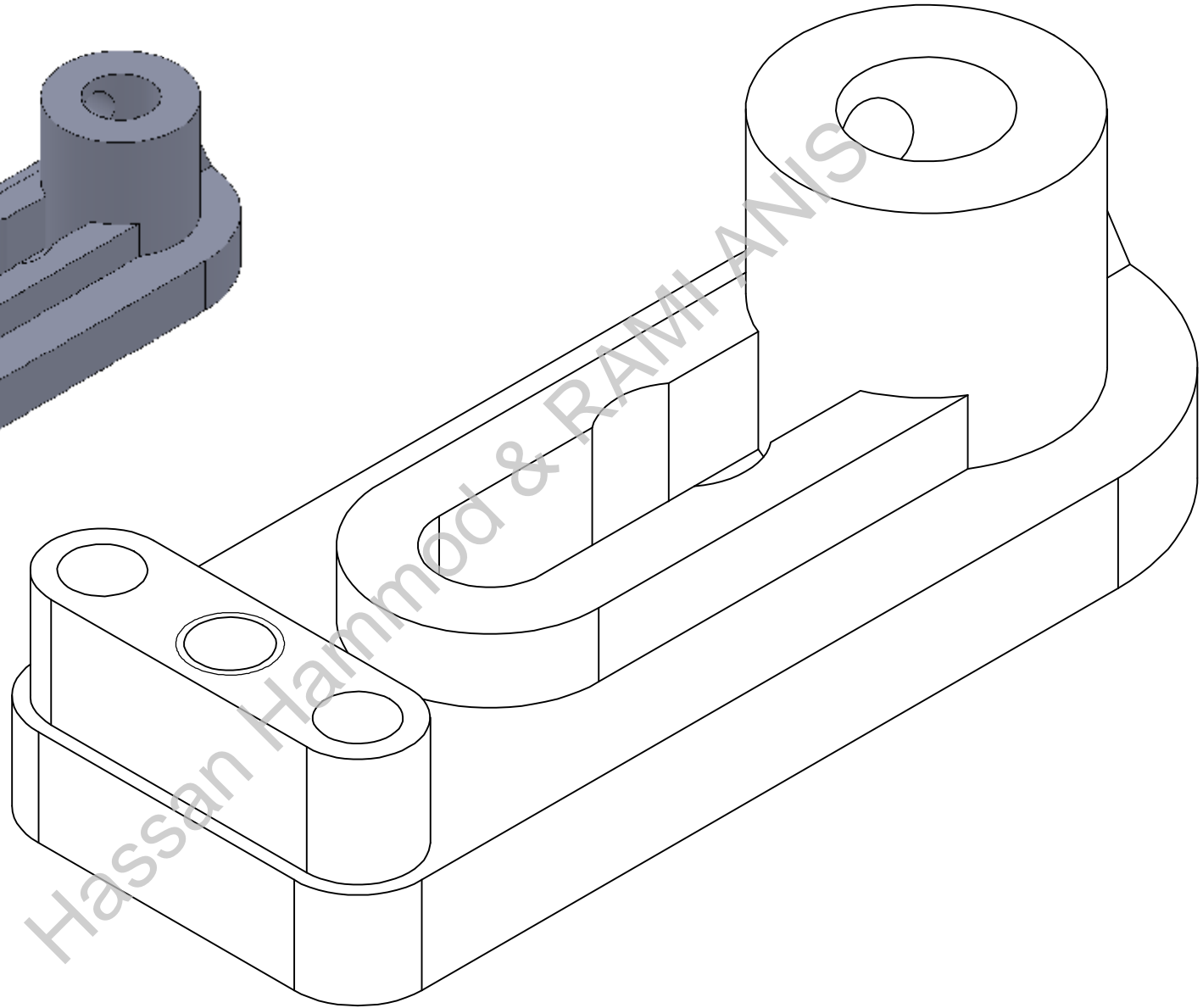
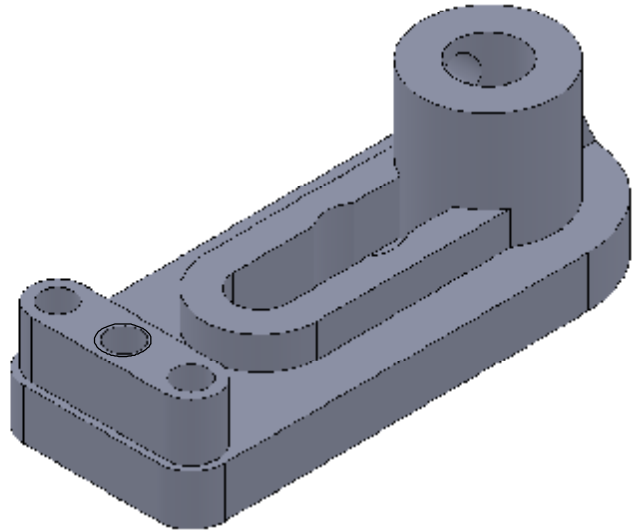
Hassan Hammod & RAMI ANIS

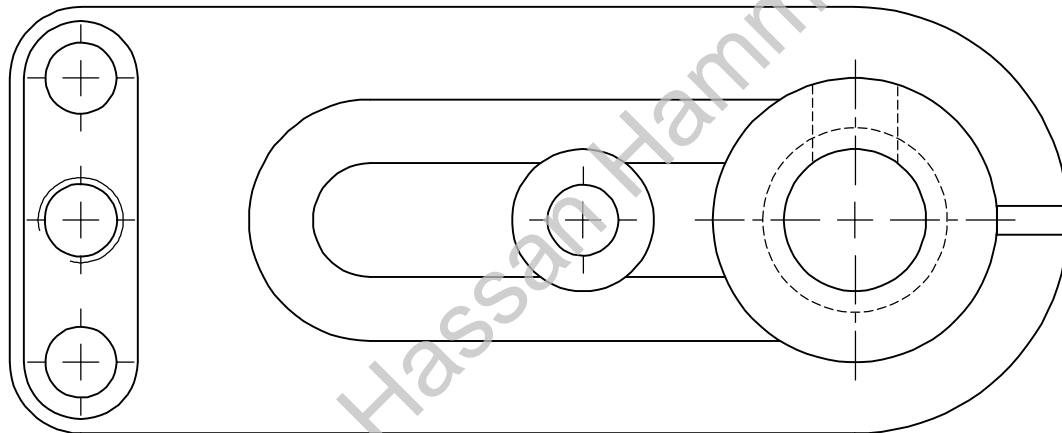
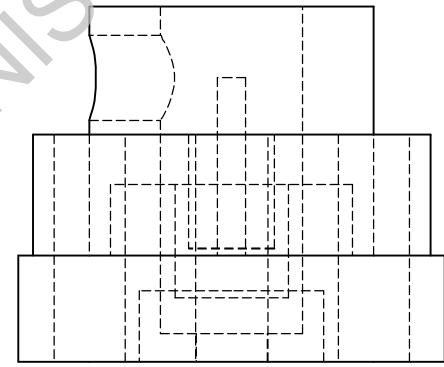
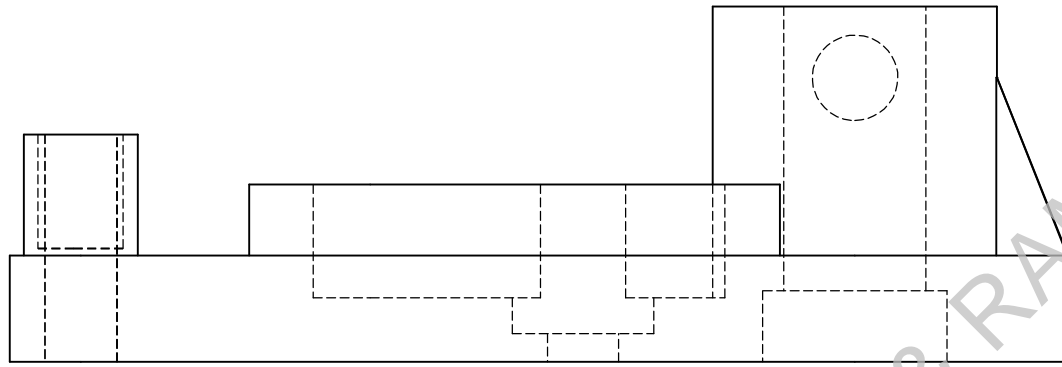


Orientation view

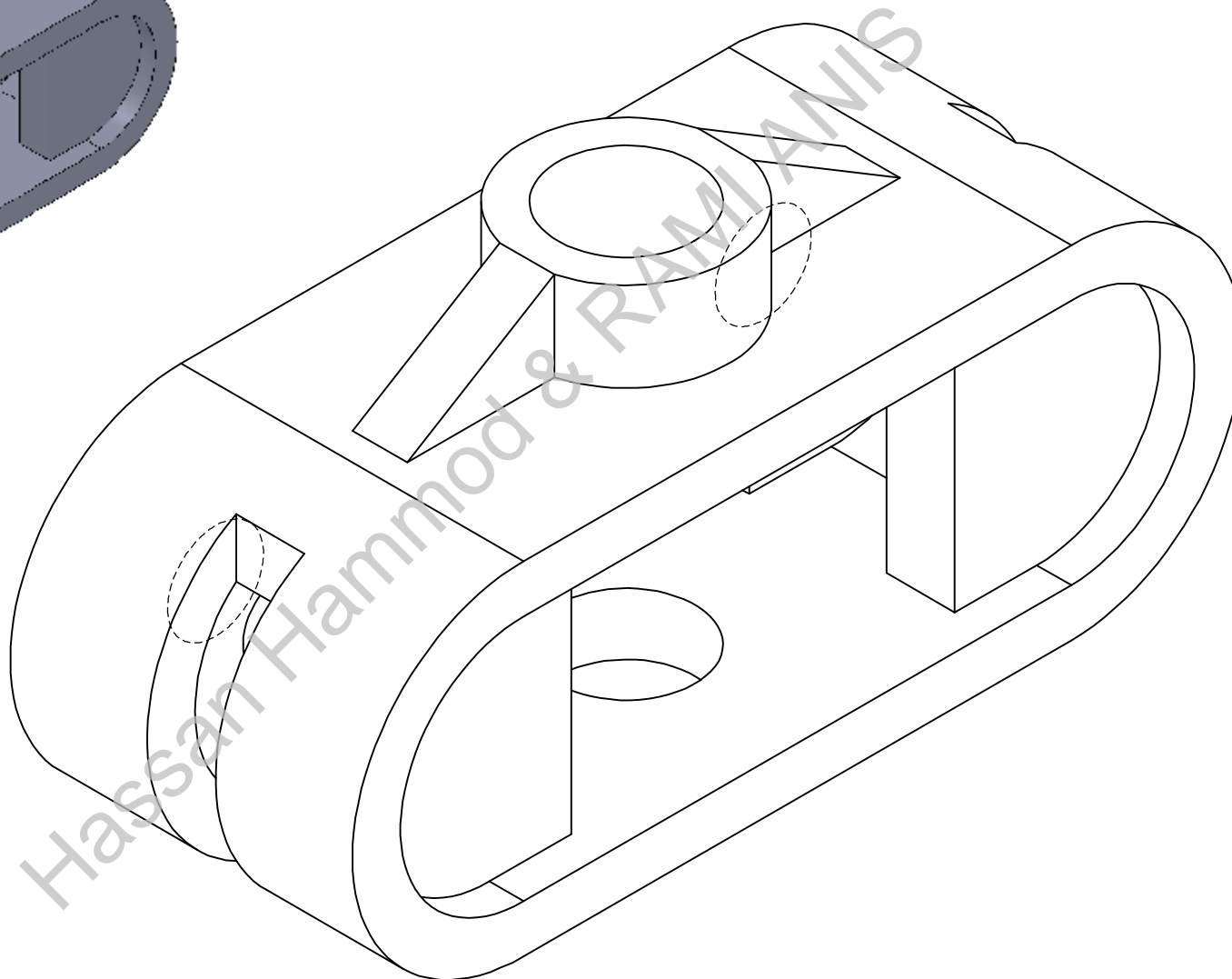
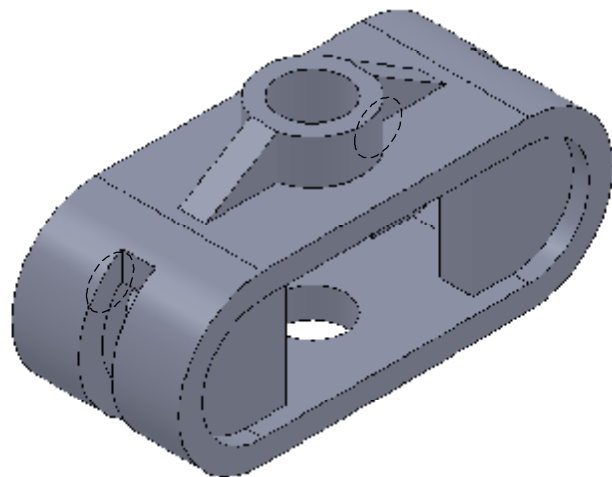
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SCALE: 1:1

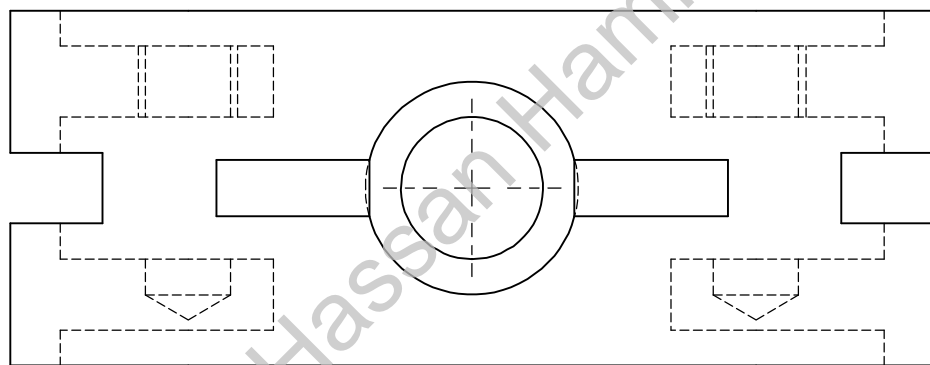
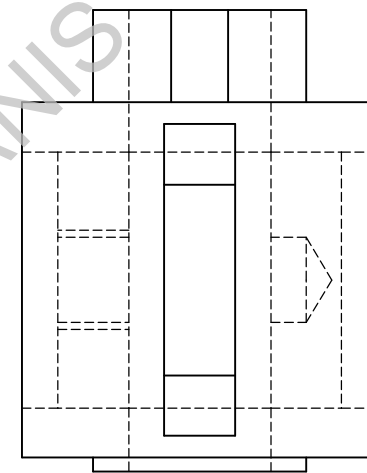
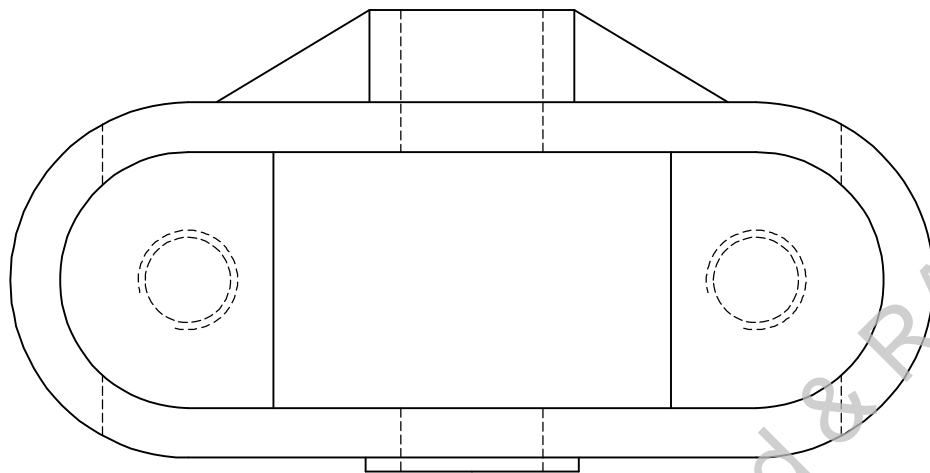




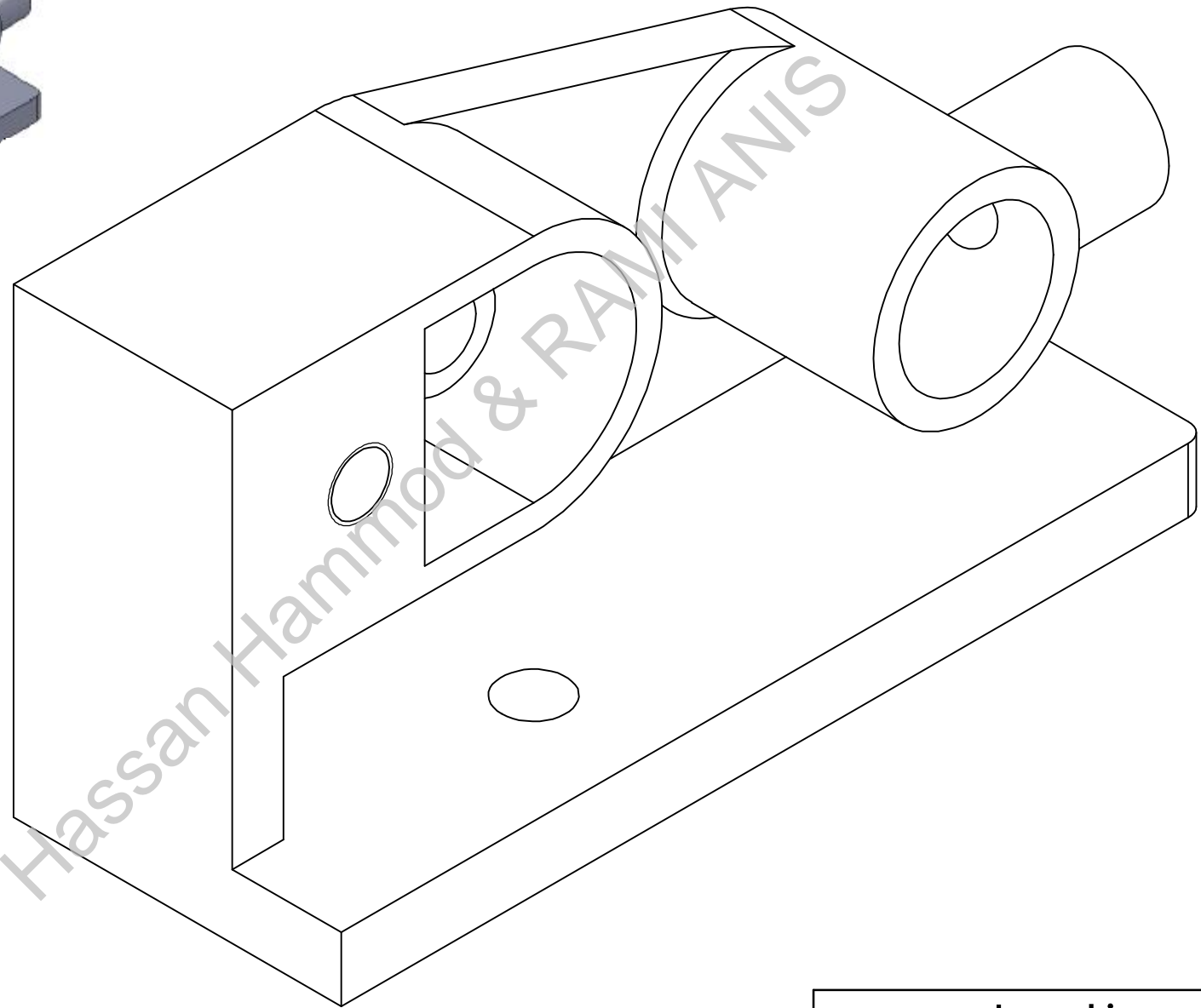
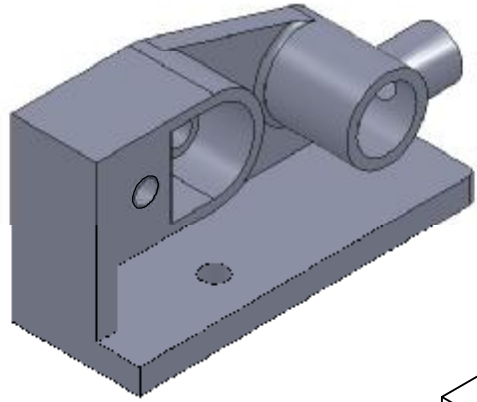
Hassan Hammod & RAMI ANIS

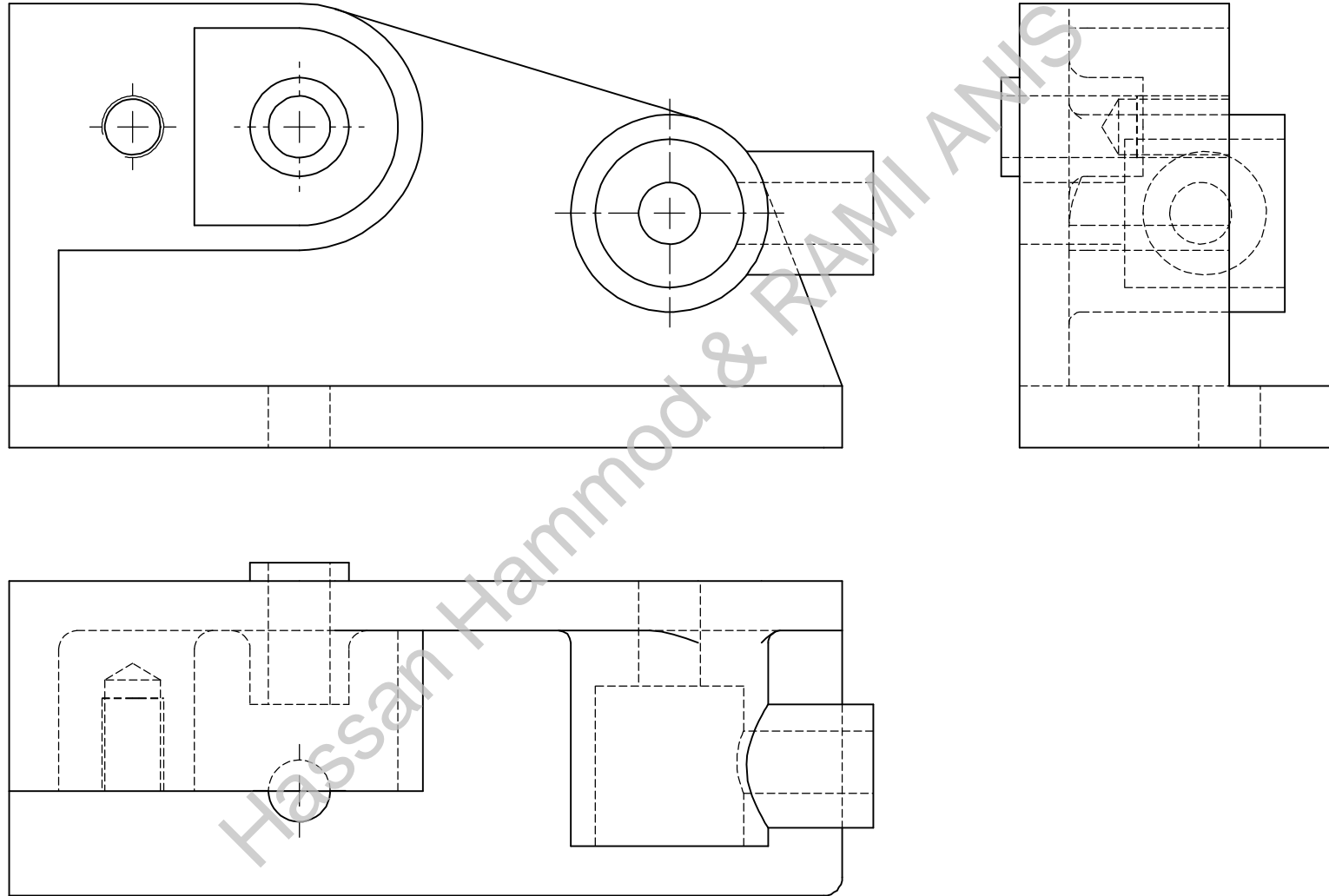


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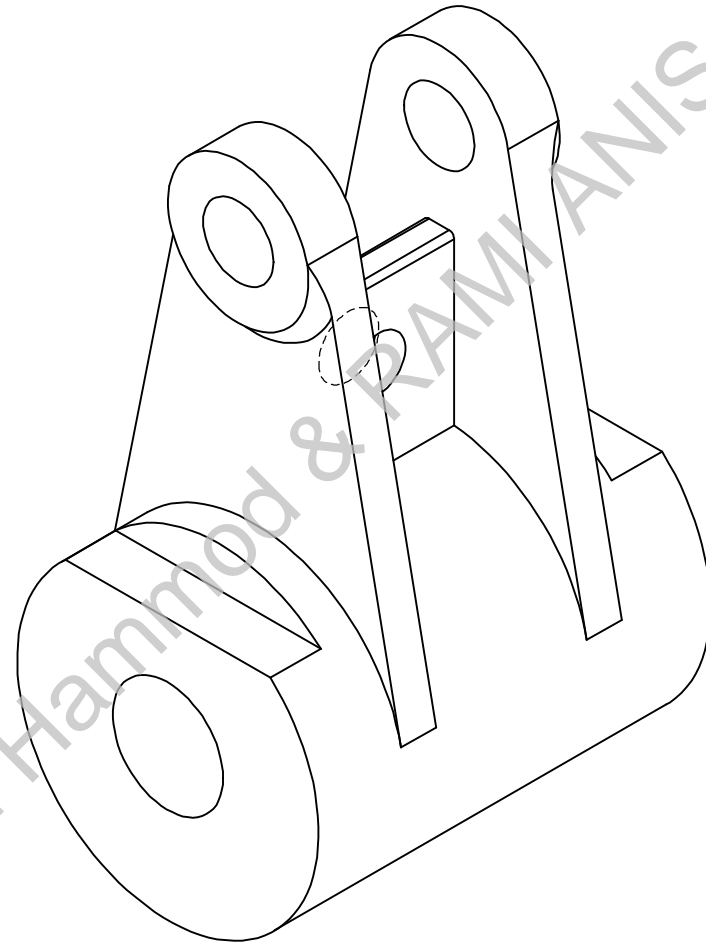
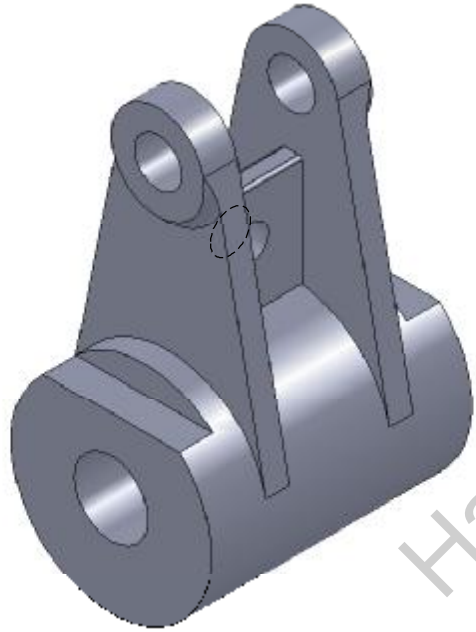


Hassan Hammod & RAMI ANIS

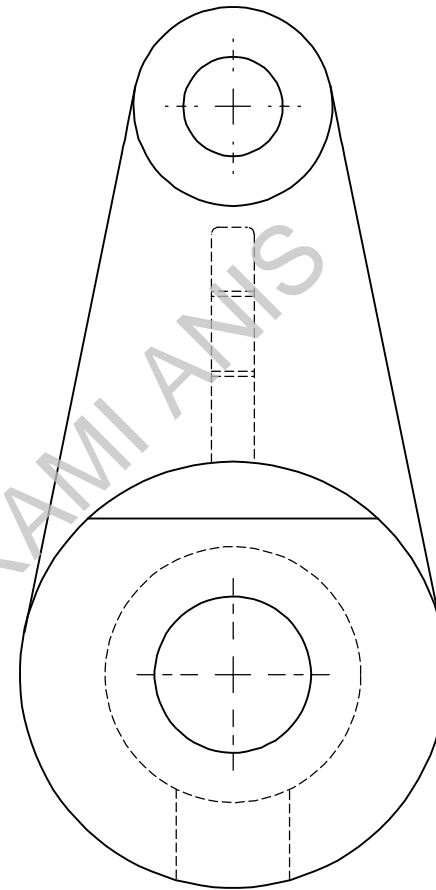
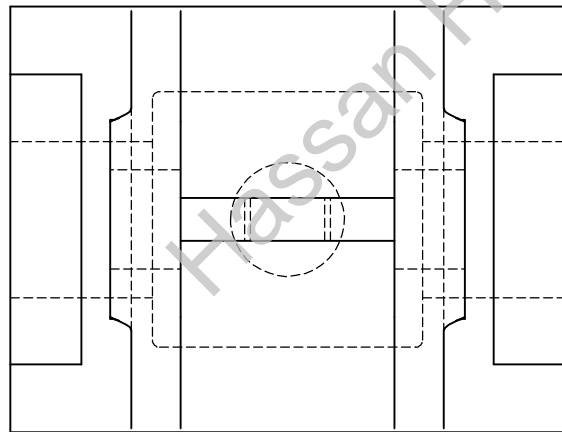
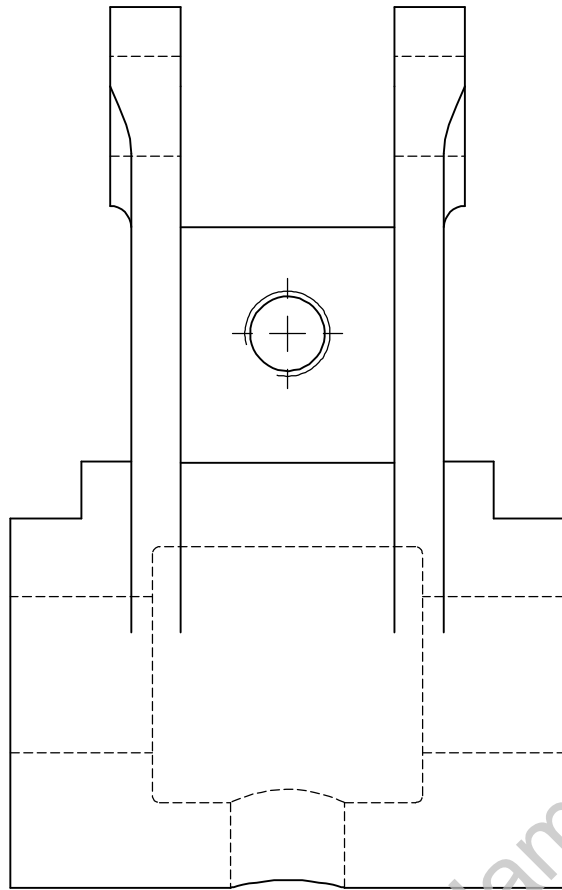


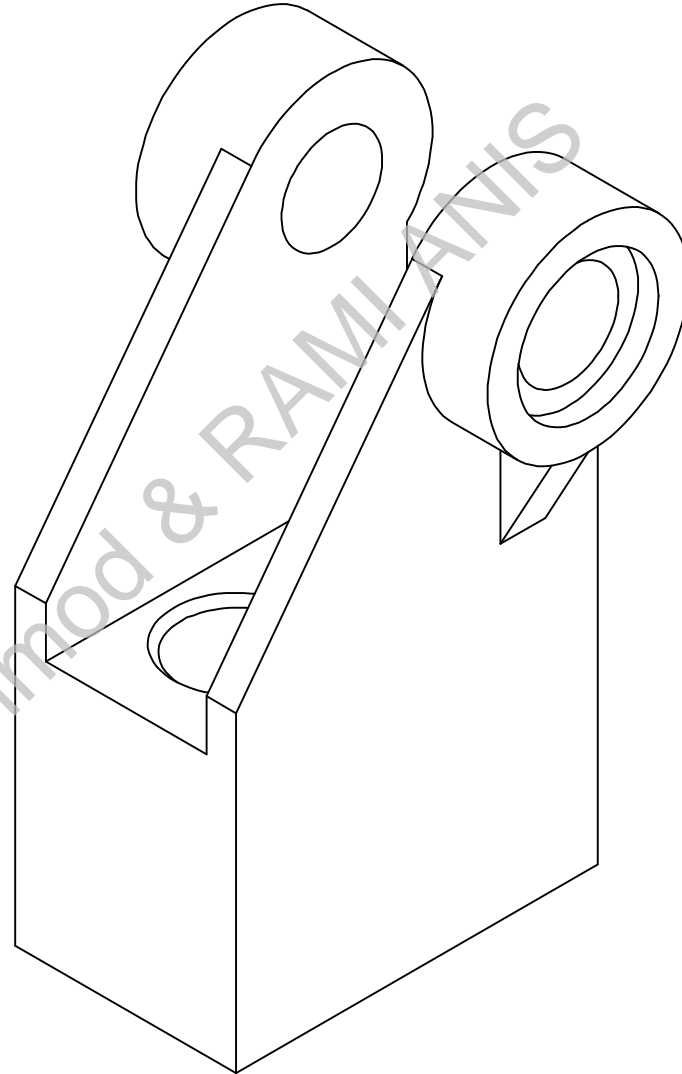
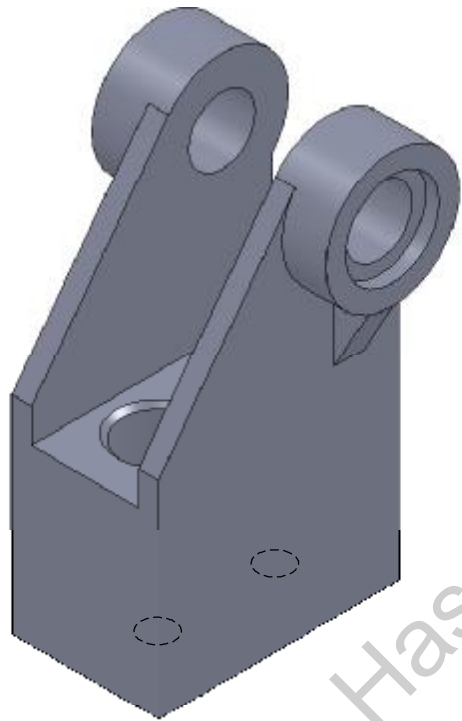


Hassan Hammod & RAMI ANIS

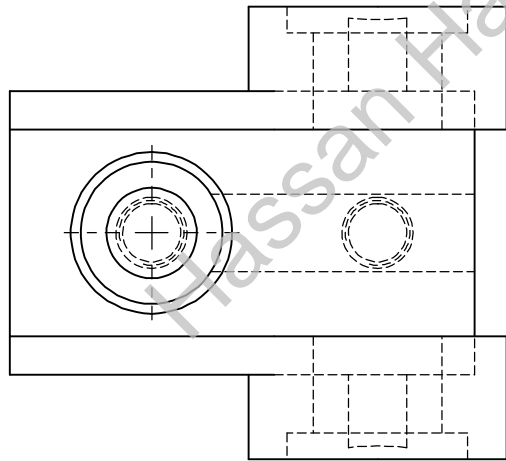
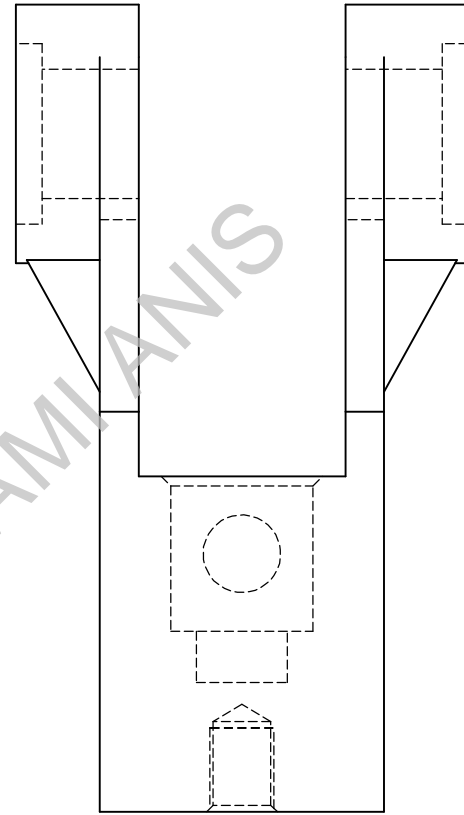
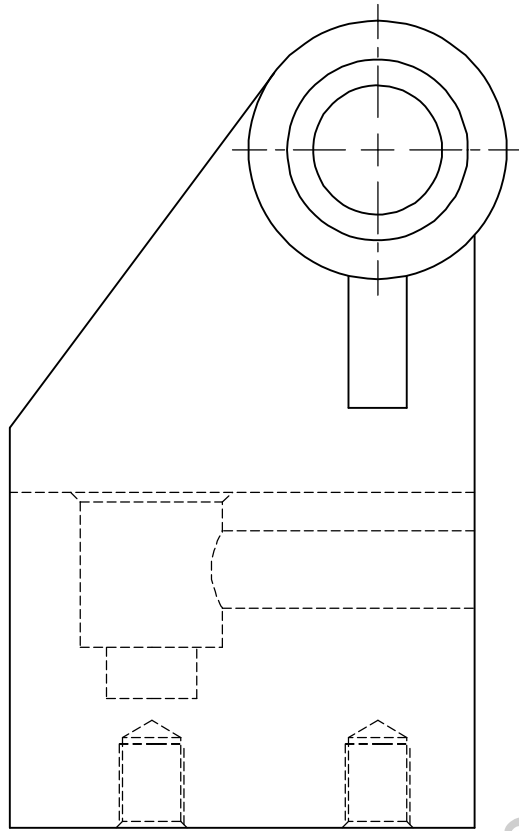


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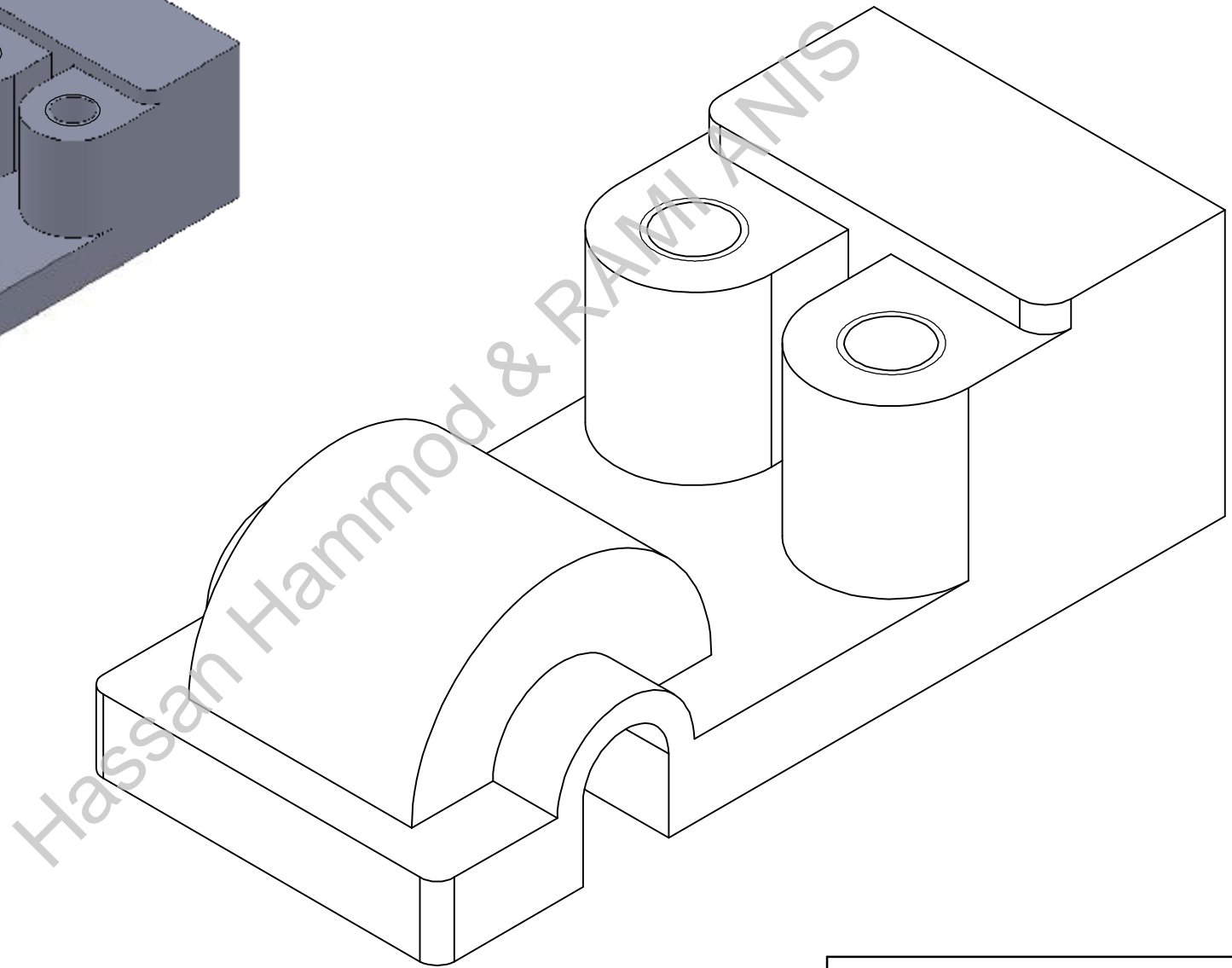
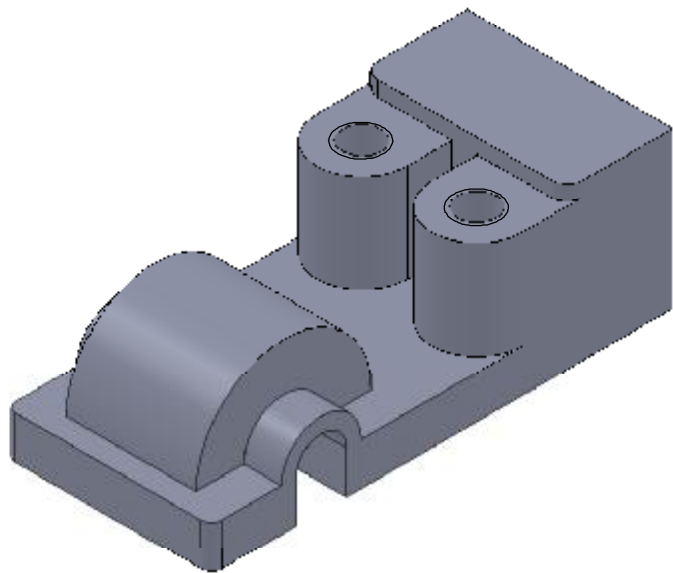


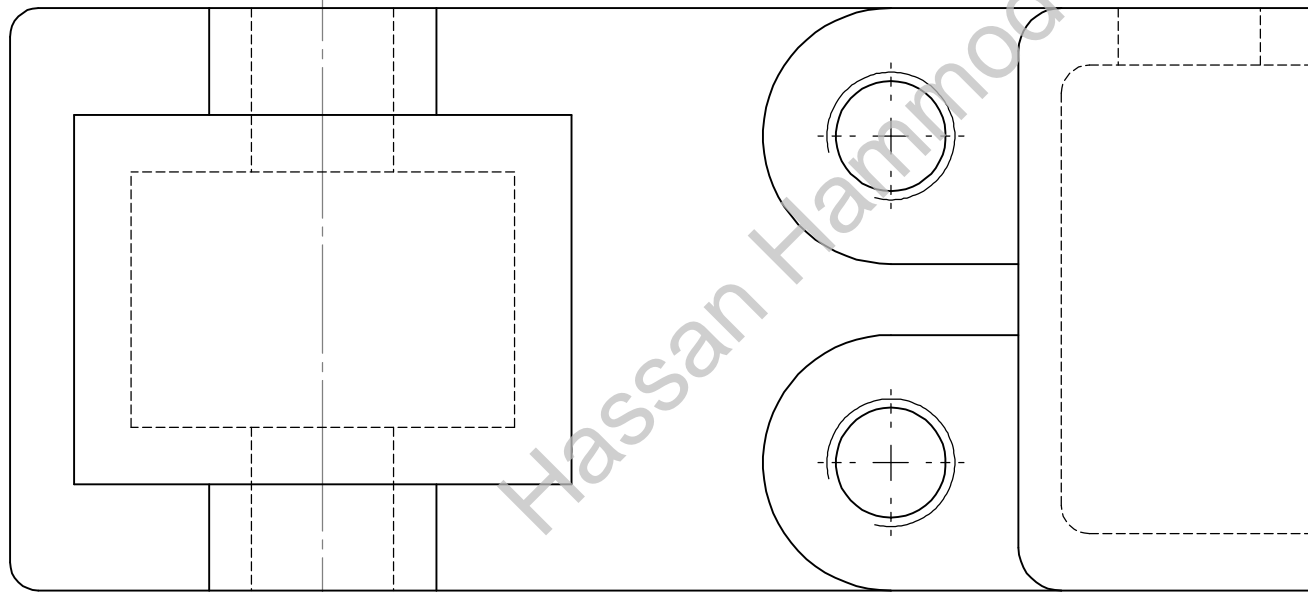
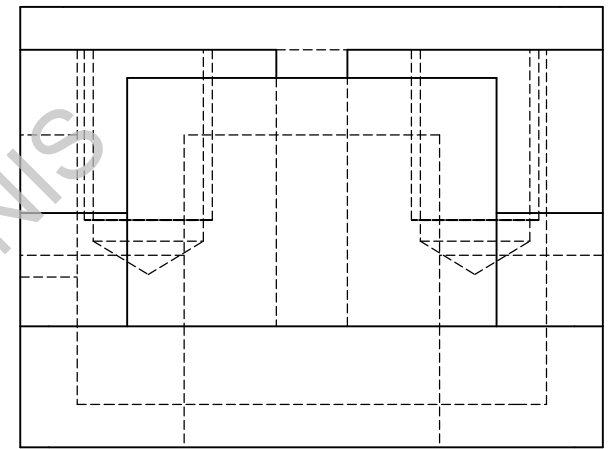
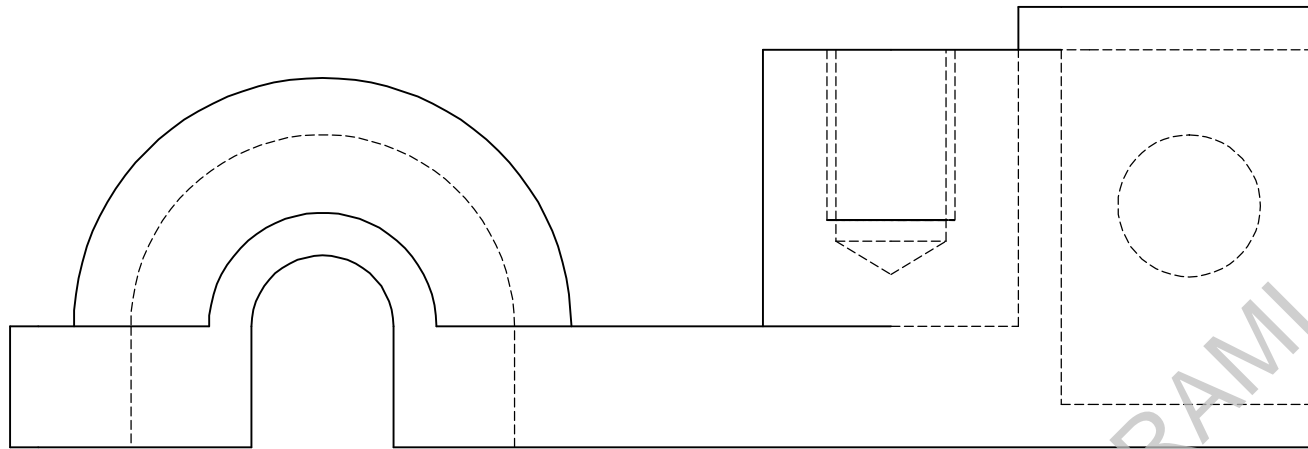
Hassan Hammod & RAMI ANIS

Orientation view

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SCALE: 10:11



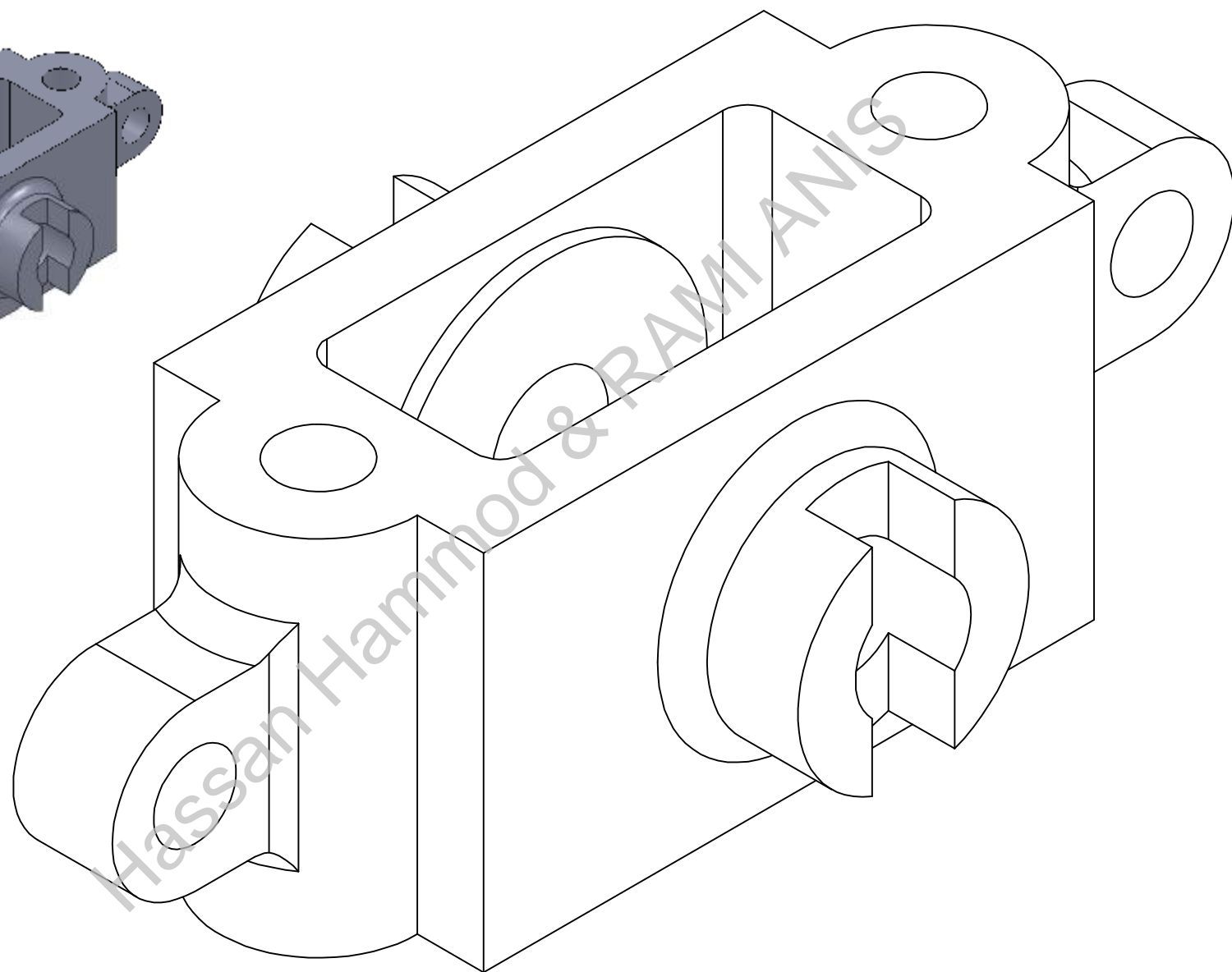
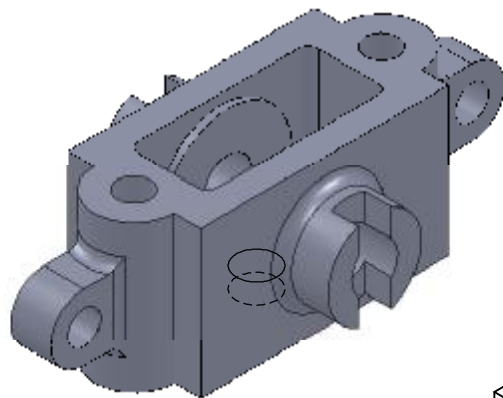


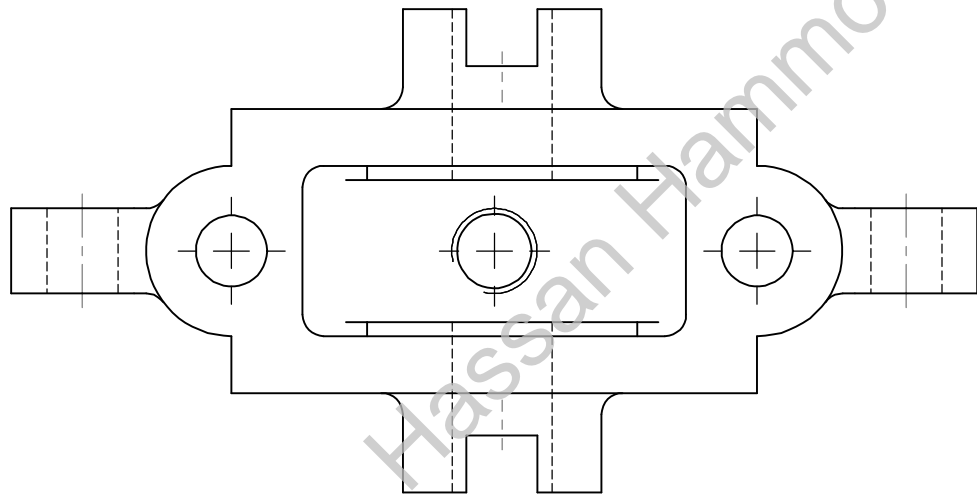
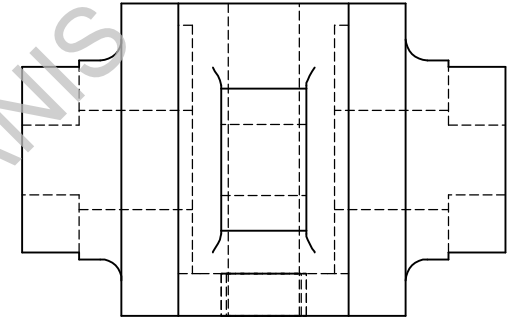
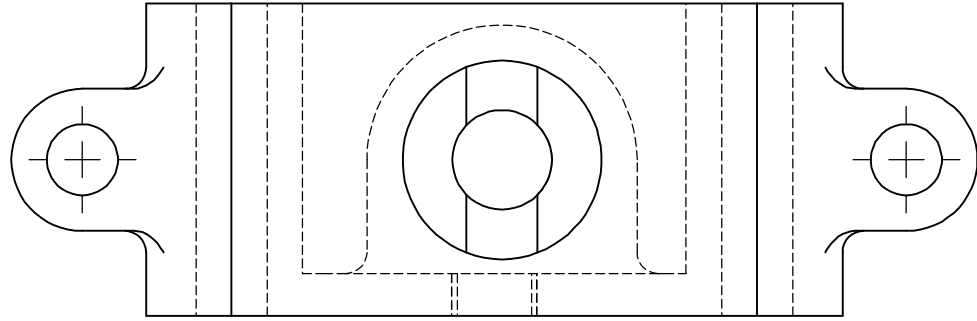
Hassan Hammoud & RAMI ANIS

Orientation view

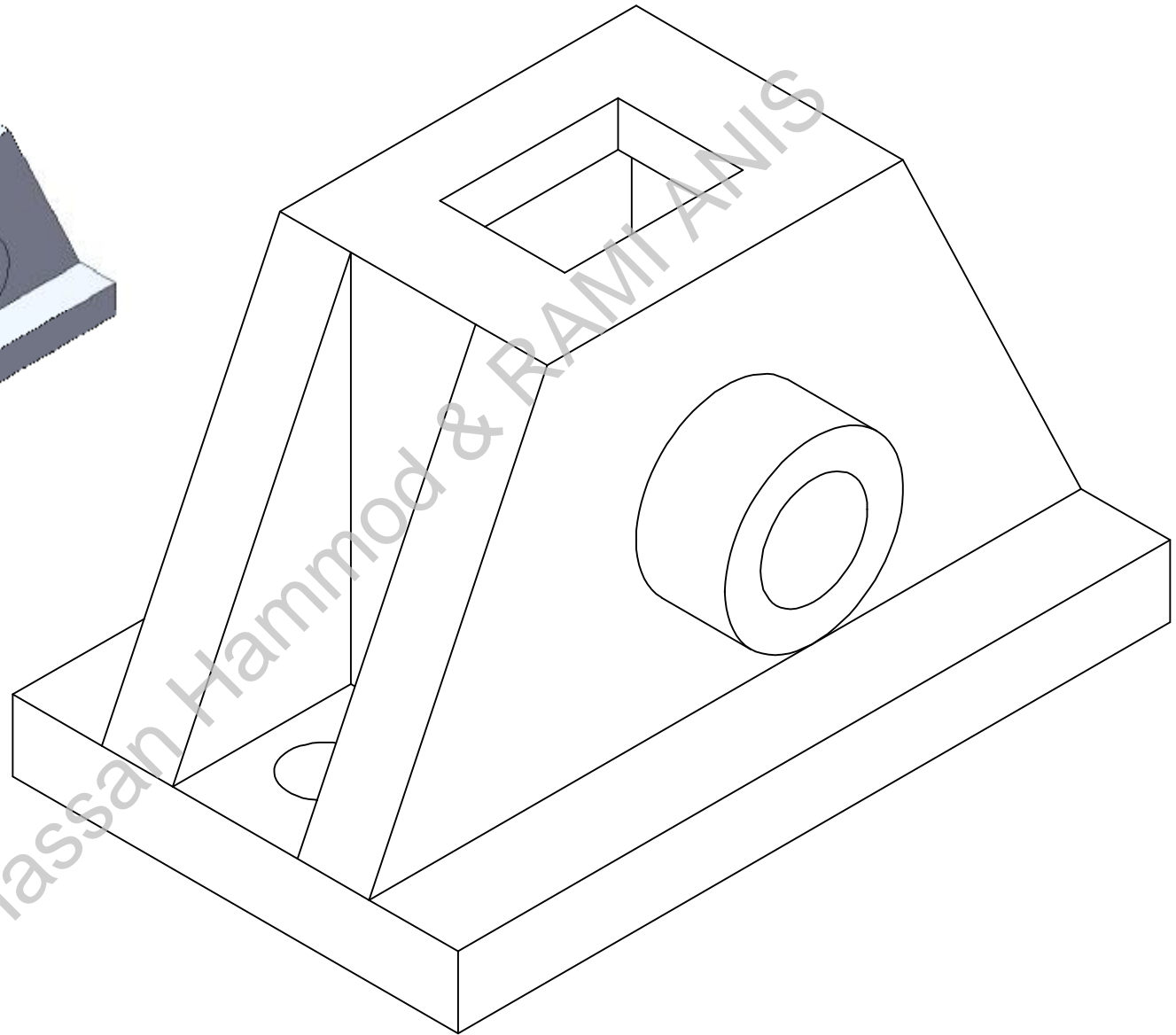
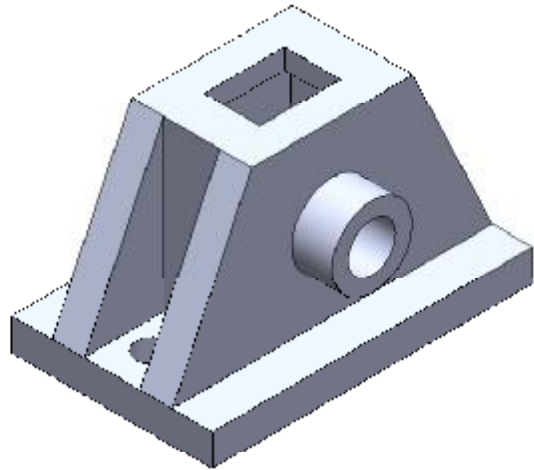
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SCALE: 1:1

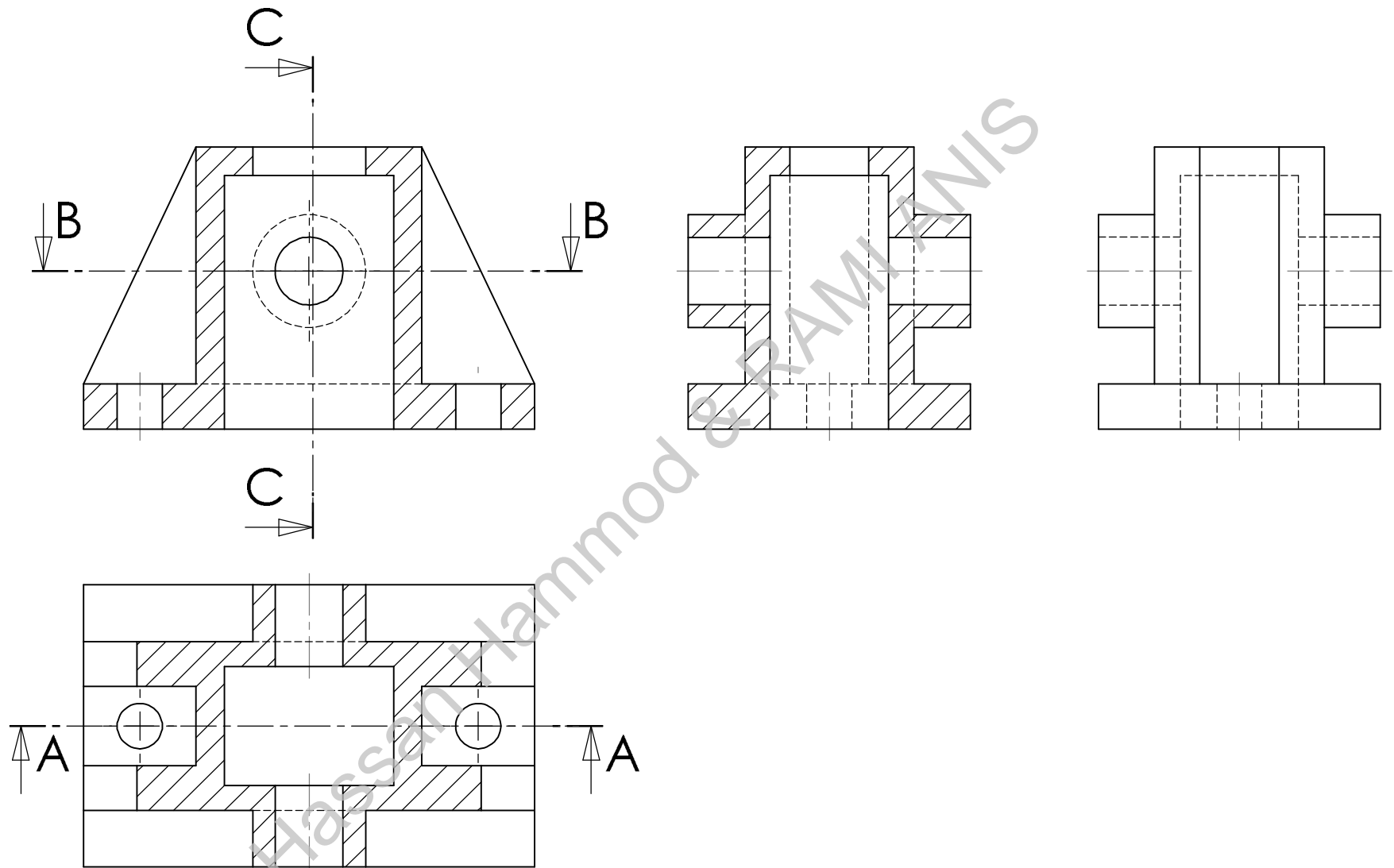


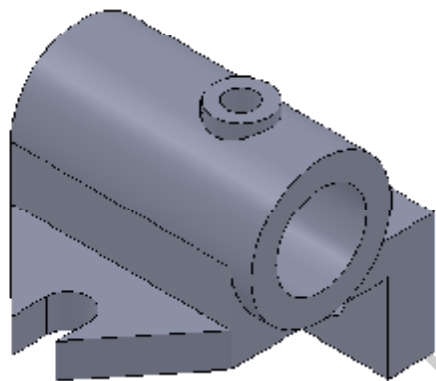


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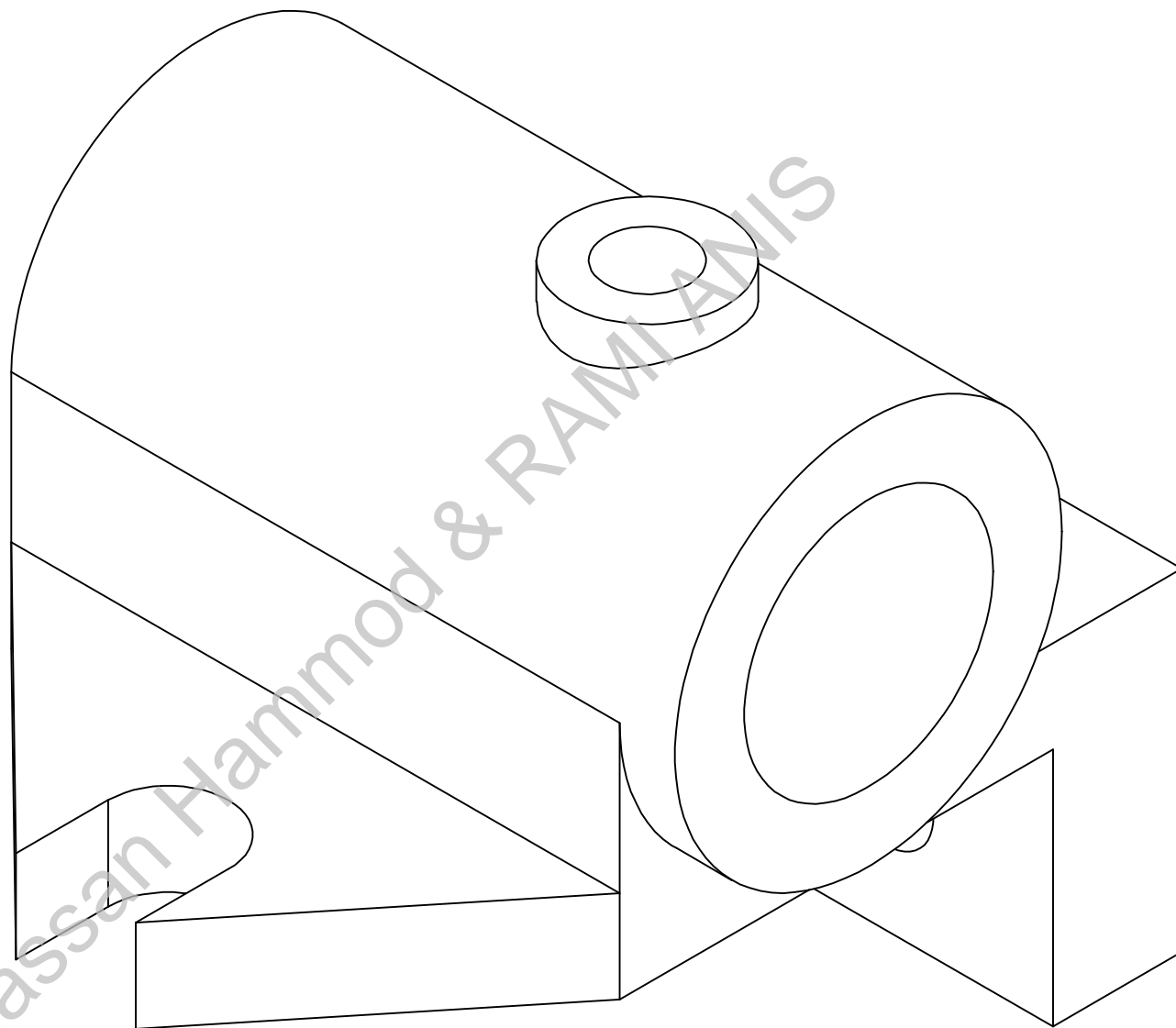


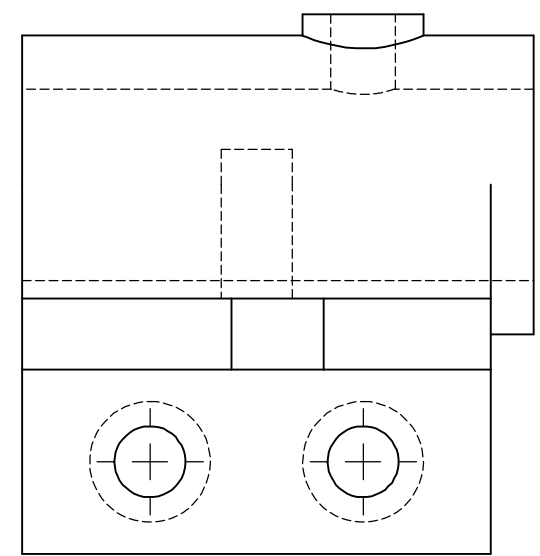
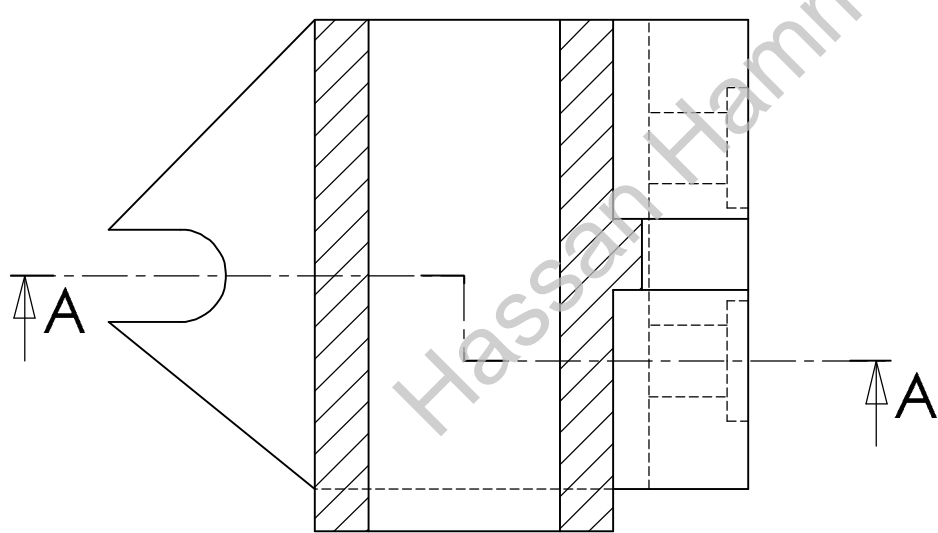
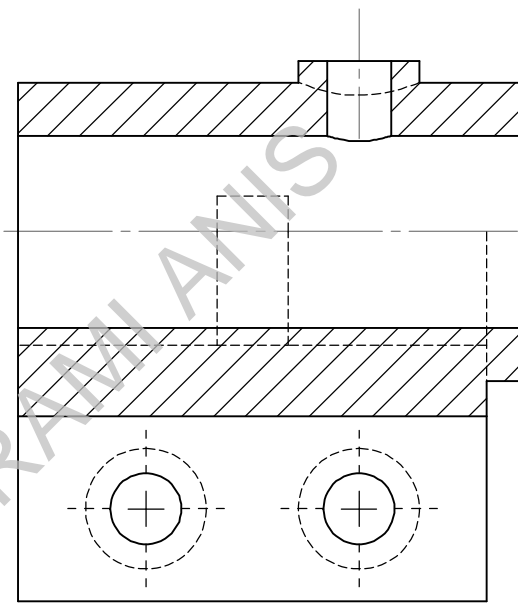
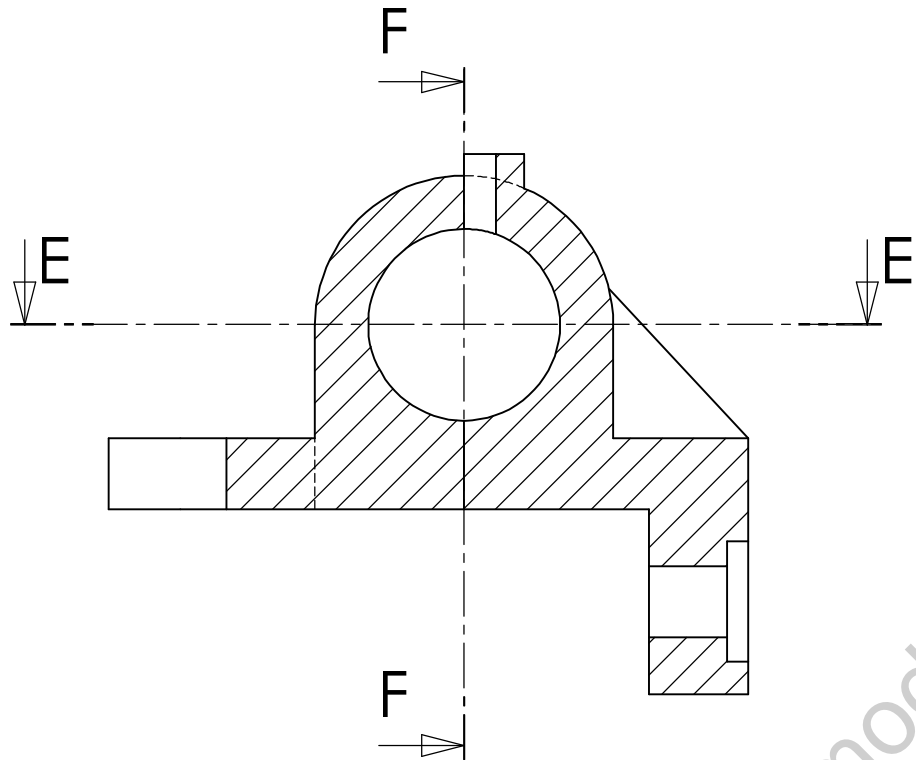
Hassan Hammod & RAMI ANIS



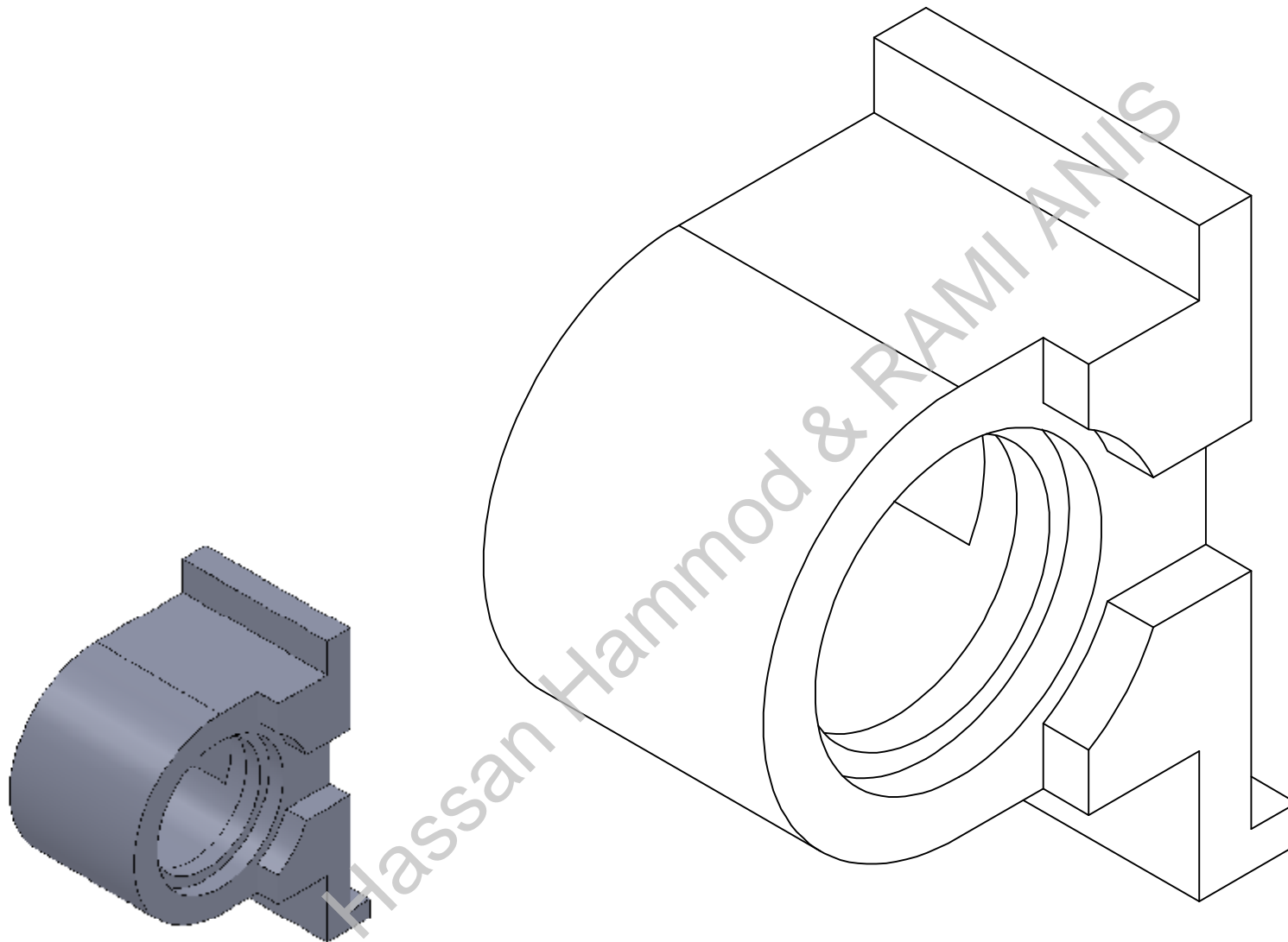


Hassan Hammod & RAMI ANIS





Hassan Hammod & Rami Anis



Isometric

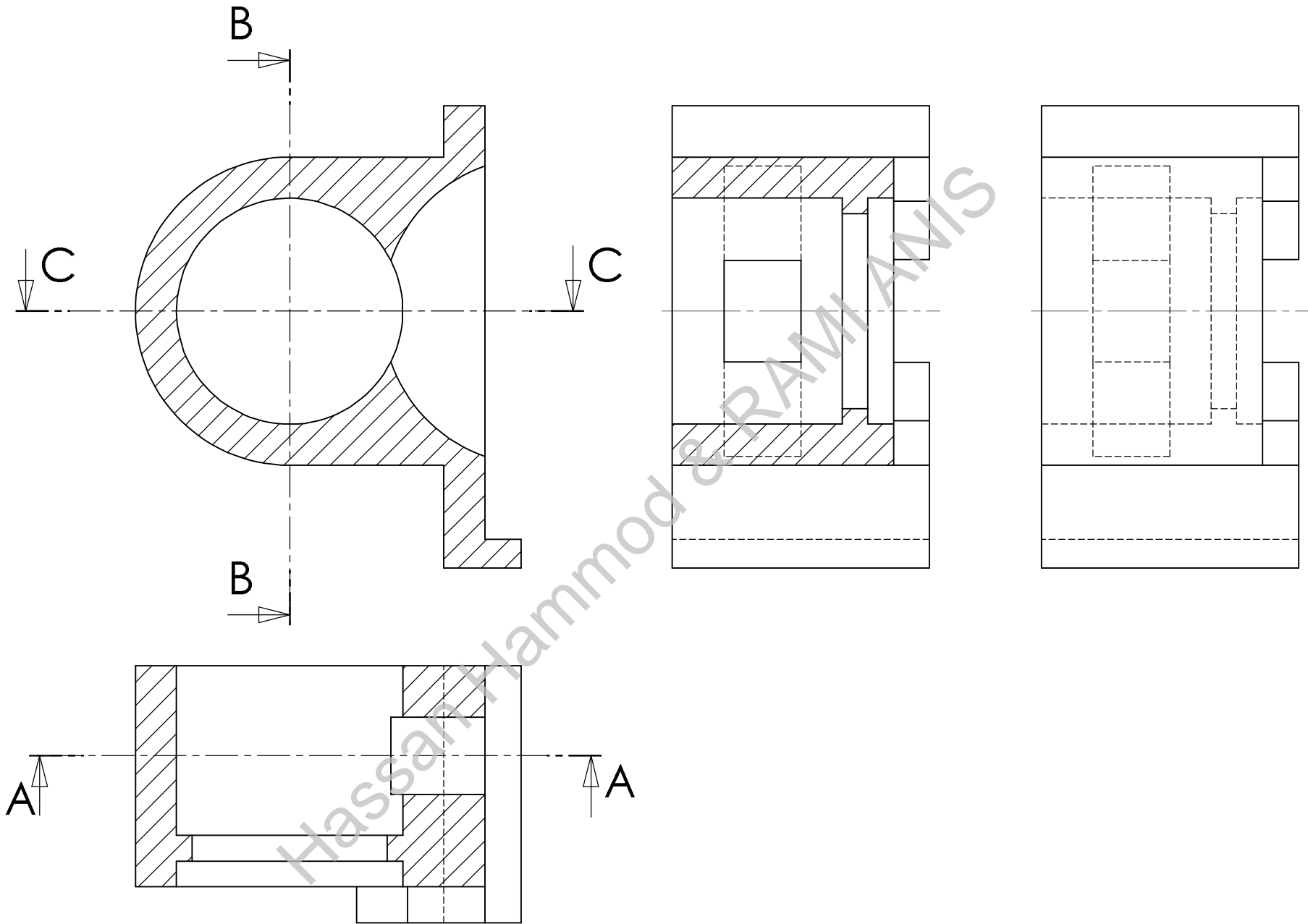
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SCALE: 1.5

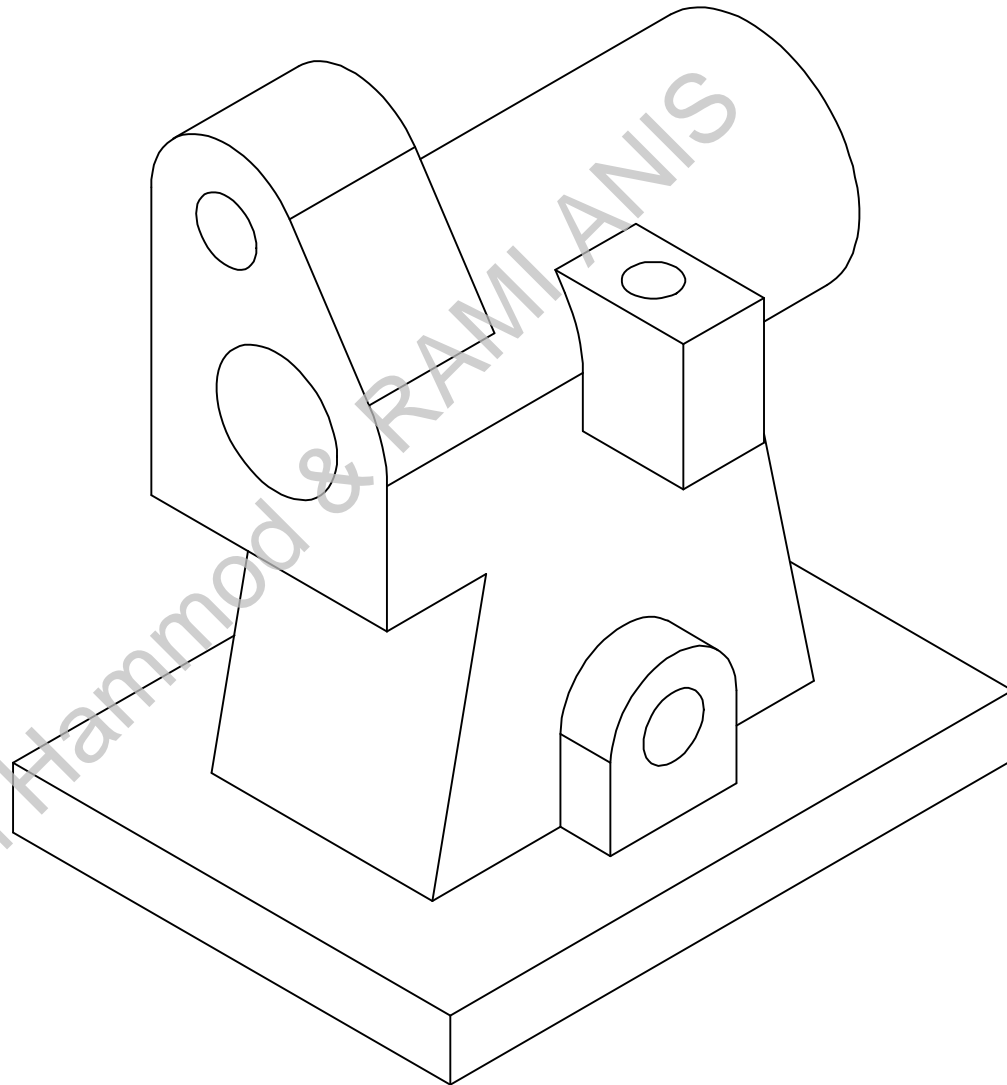
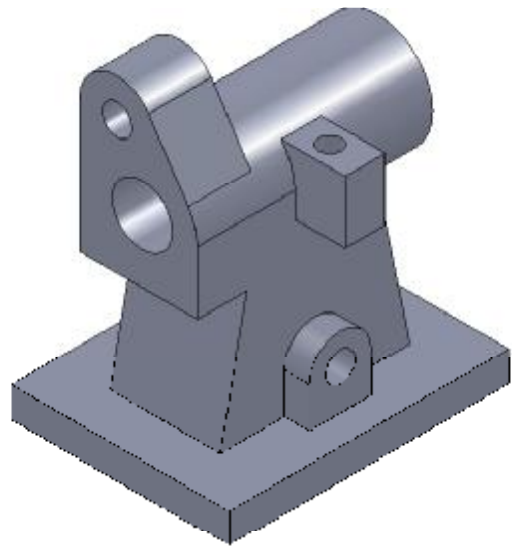
Eng Rami Anis - Eng Hassan Hammod

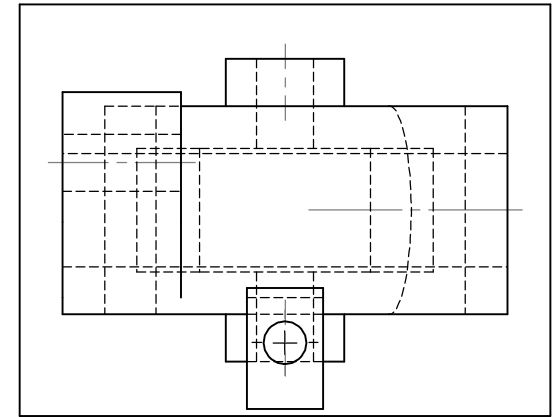
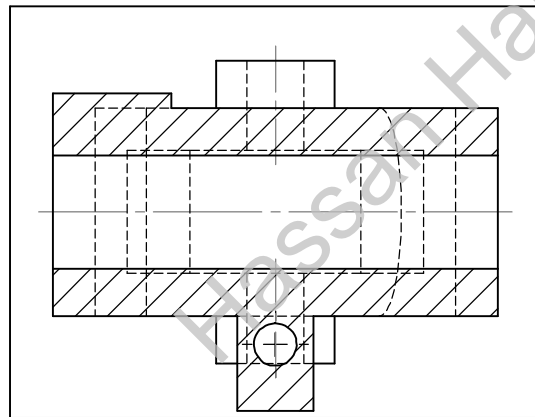
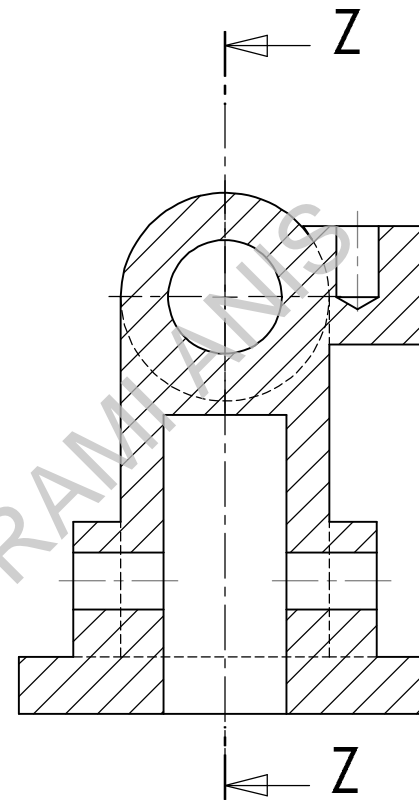
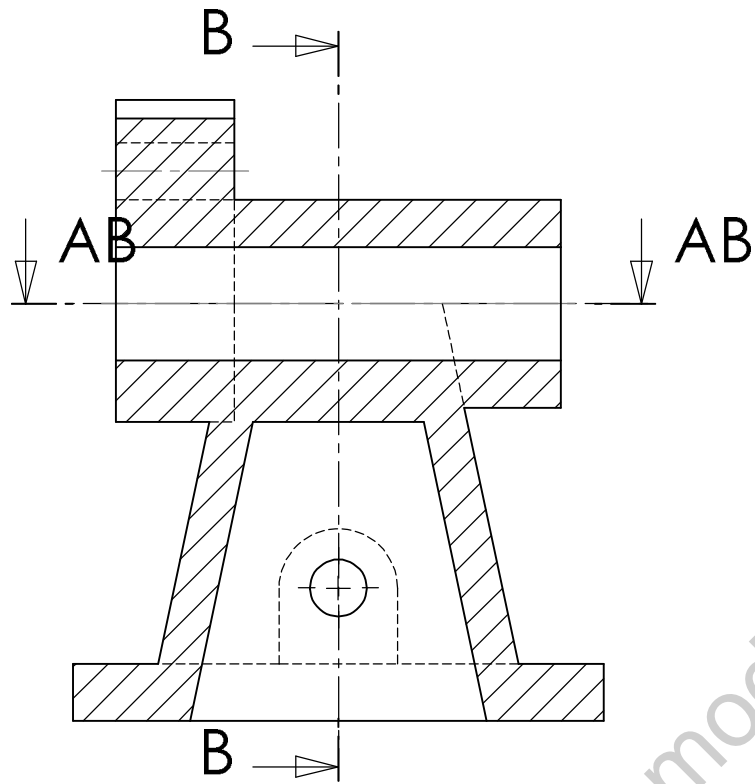
anisrami@hotmail.com

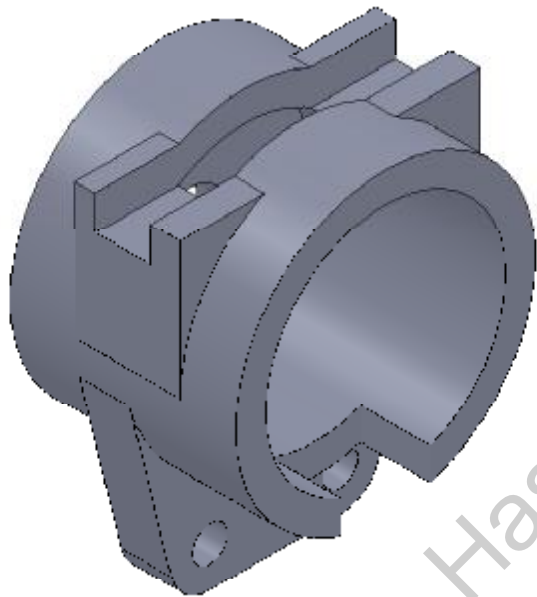
h.hammod@hotmail.com



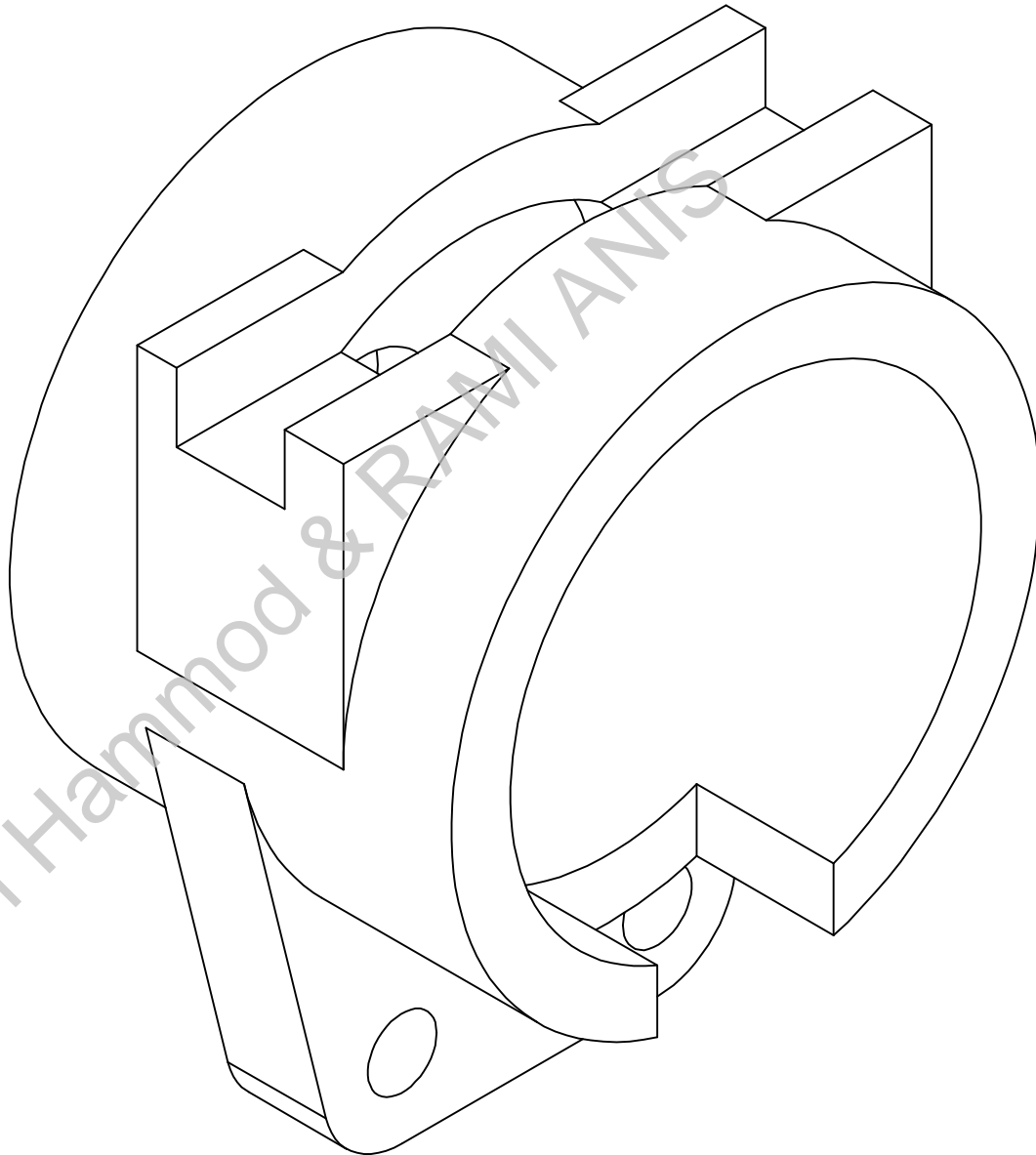
Hassan Hammod & RAMI ANIS

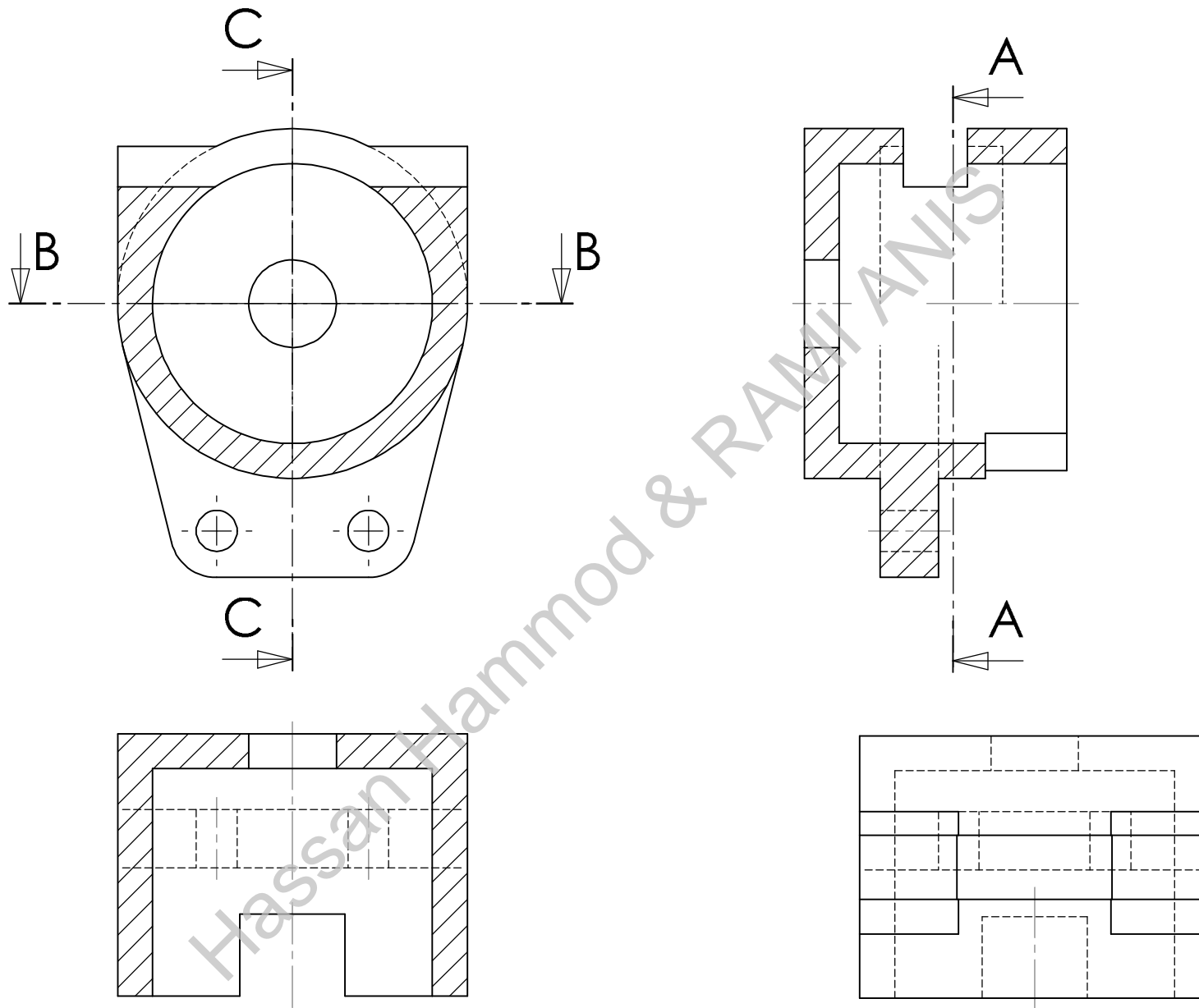




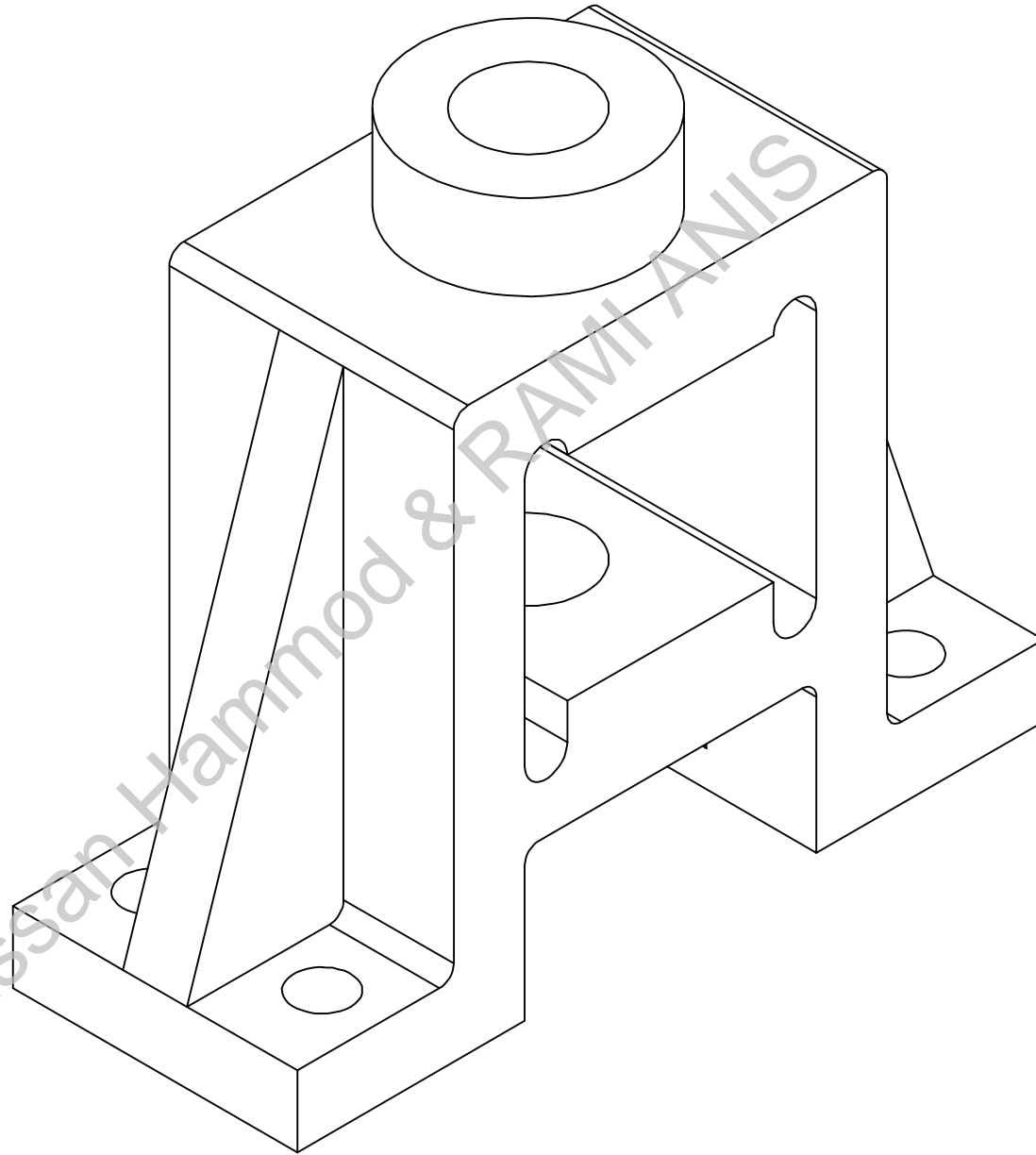
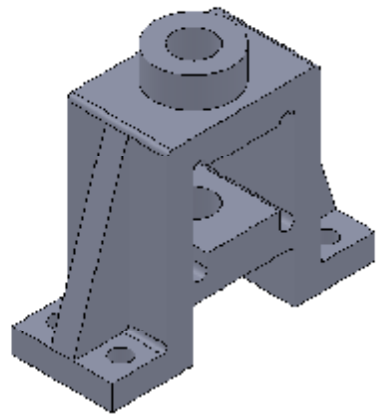


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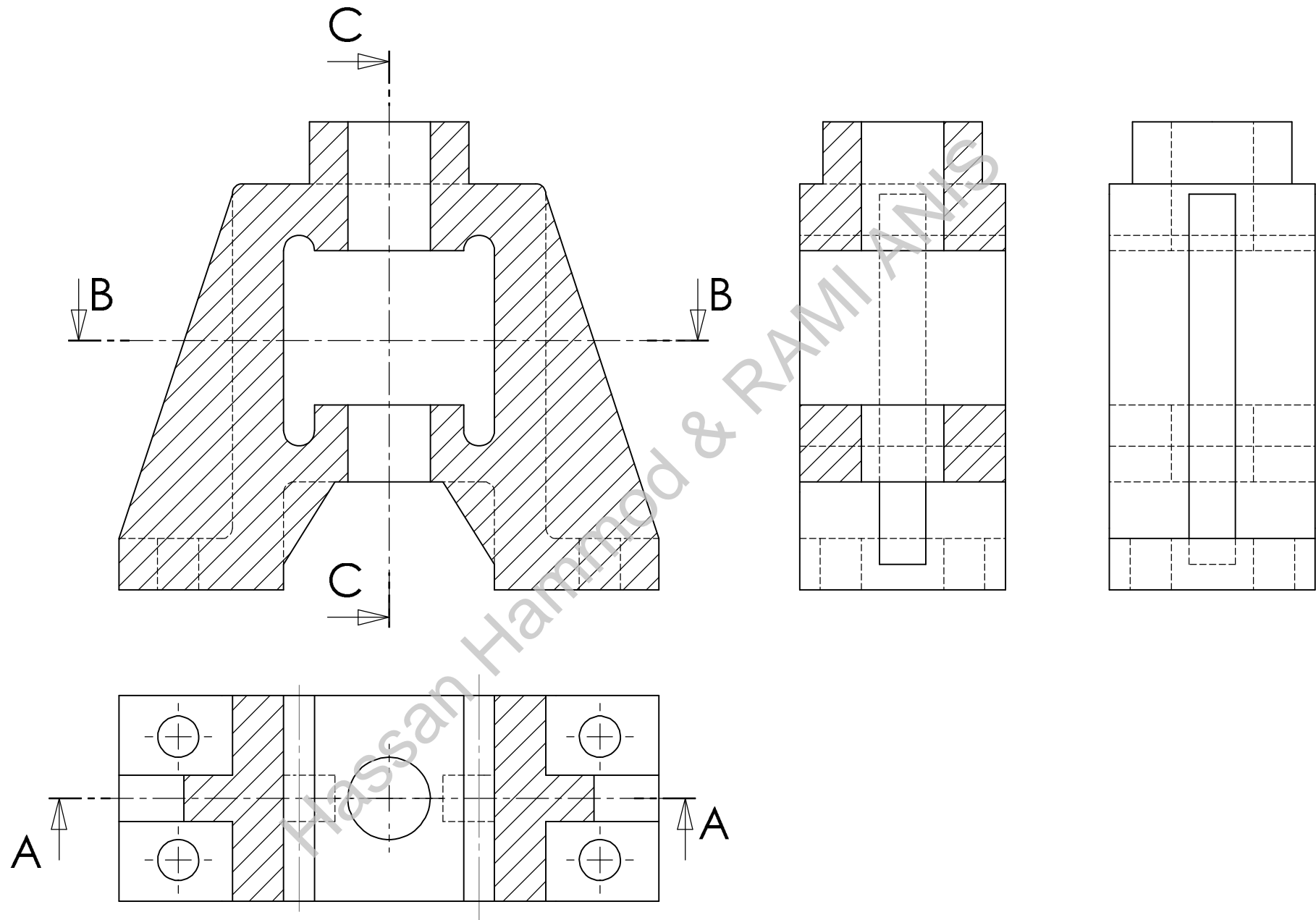


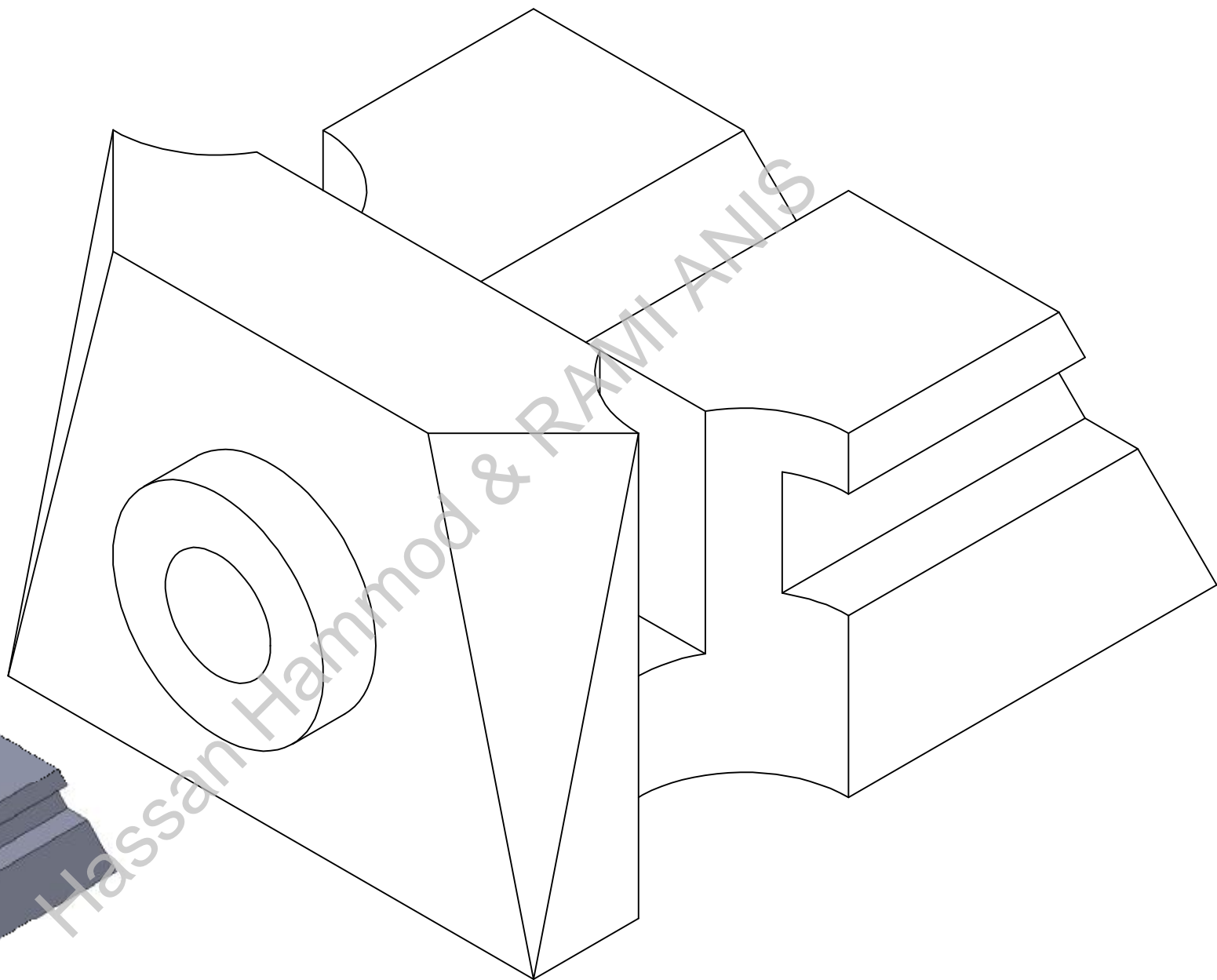
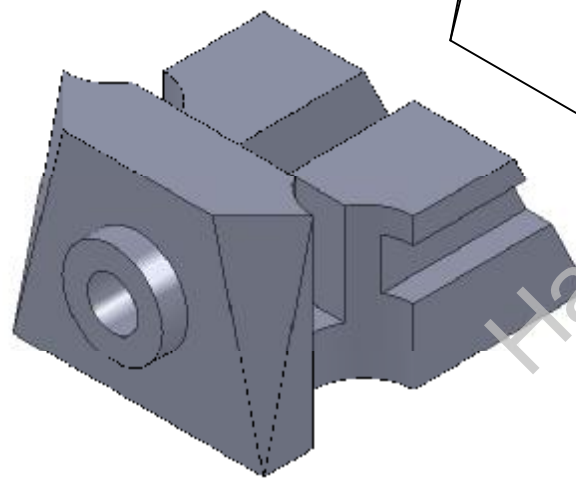


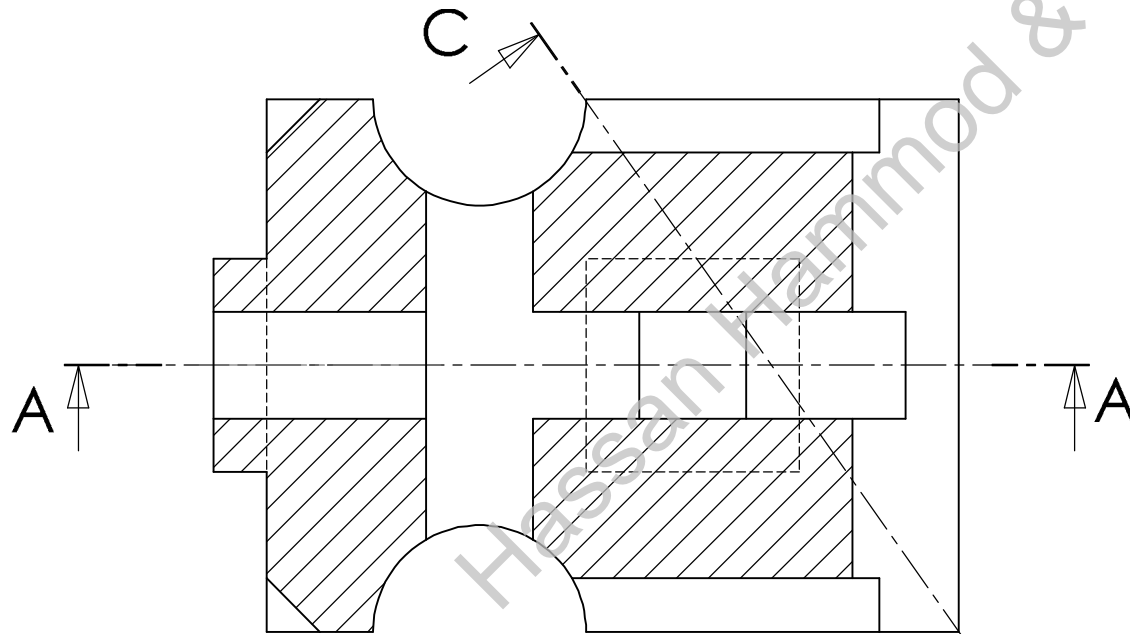
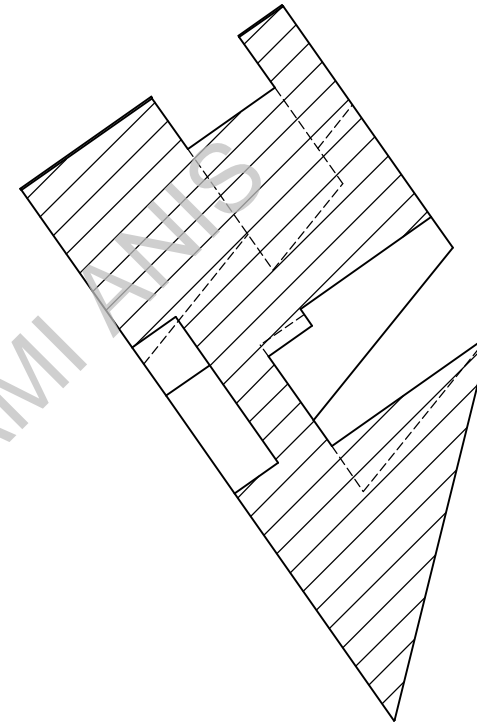
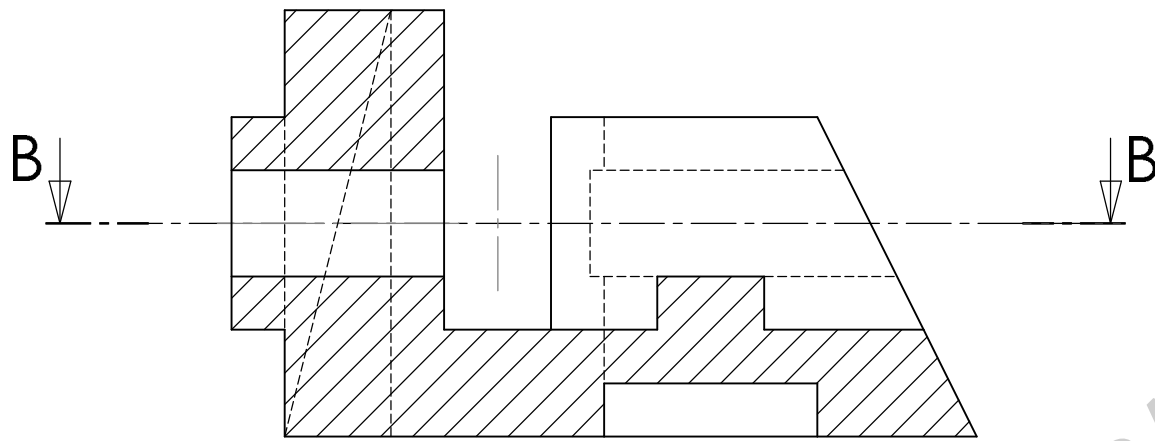
Hassan Hammod & RAMI ANIS



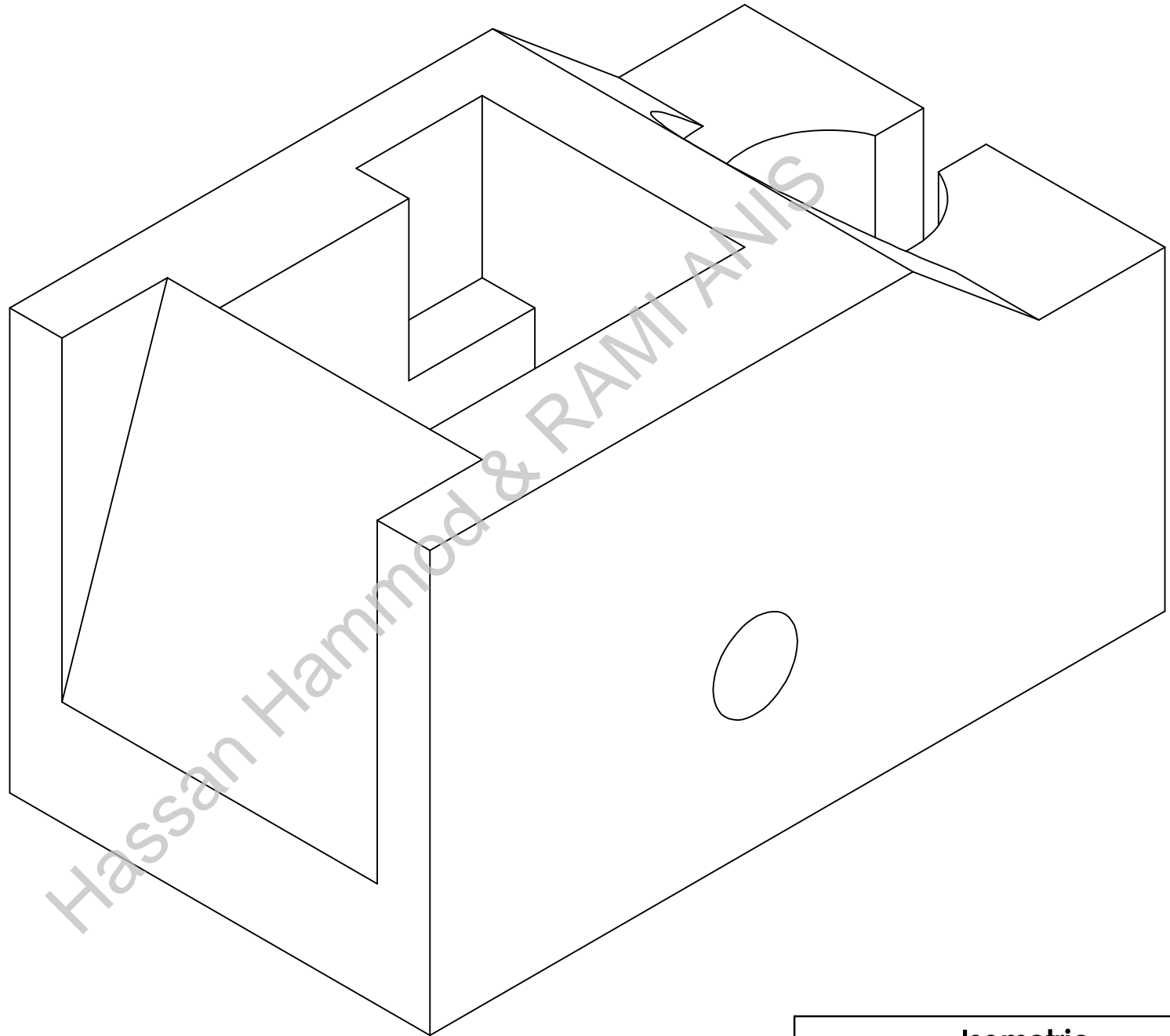
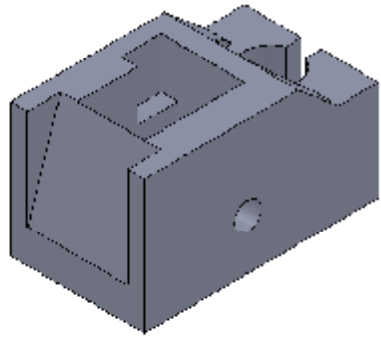
Hassan Hammod & RAMI ANIS



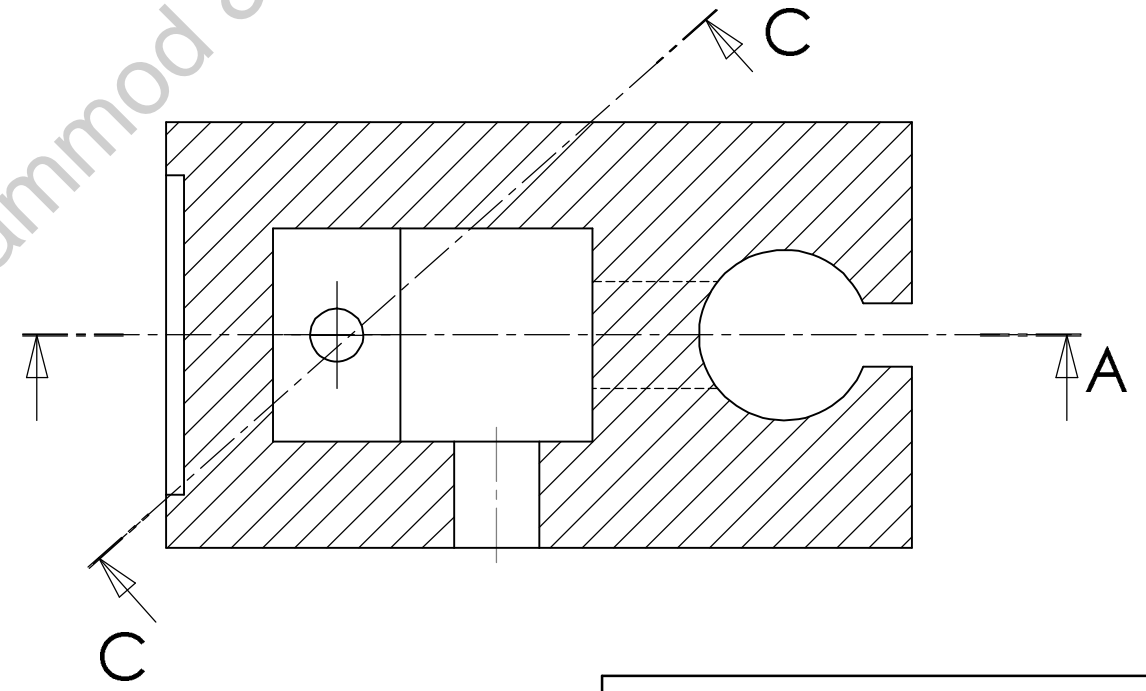
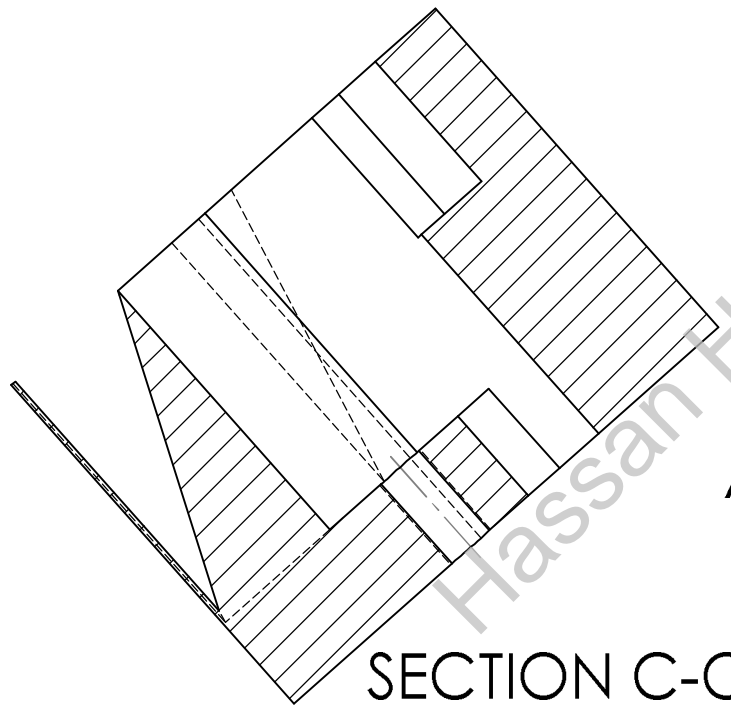
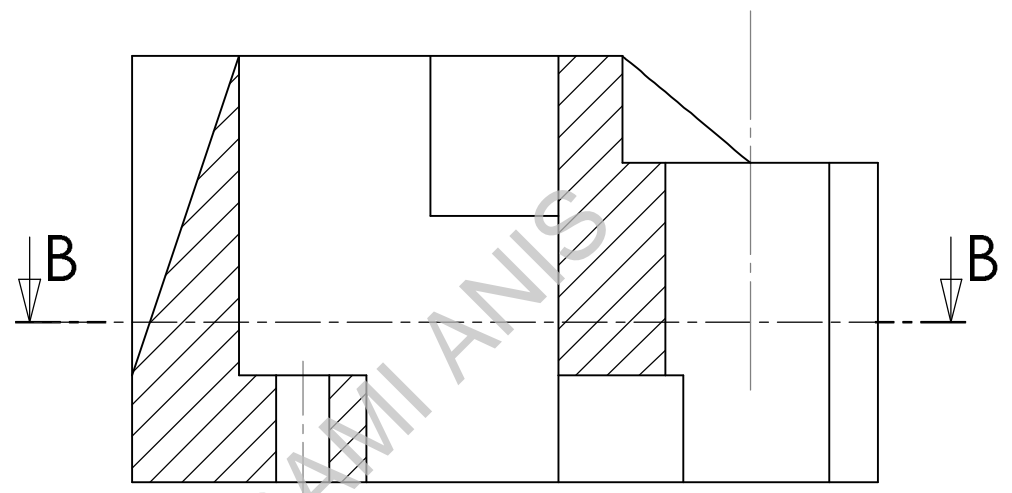
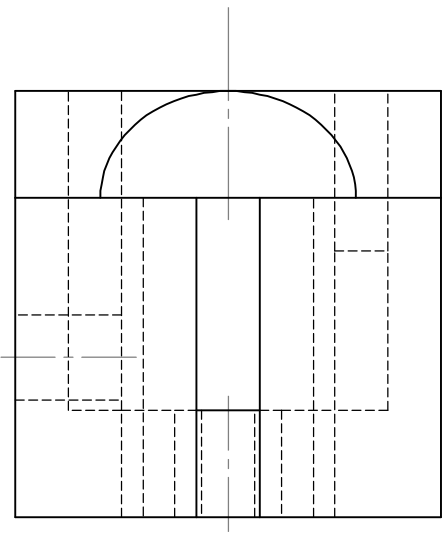




SECTION C-C
SCALE 3 : 2

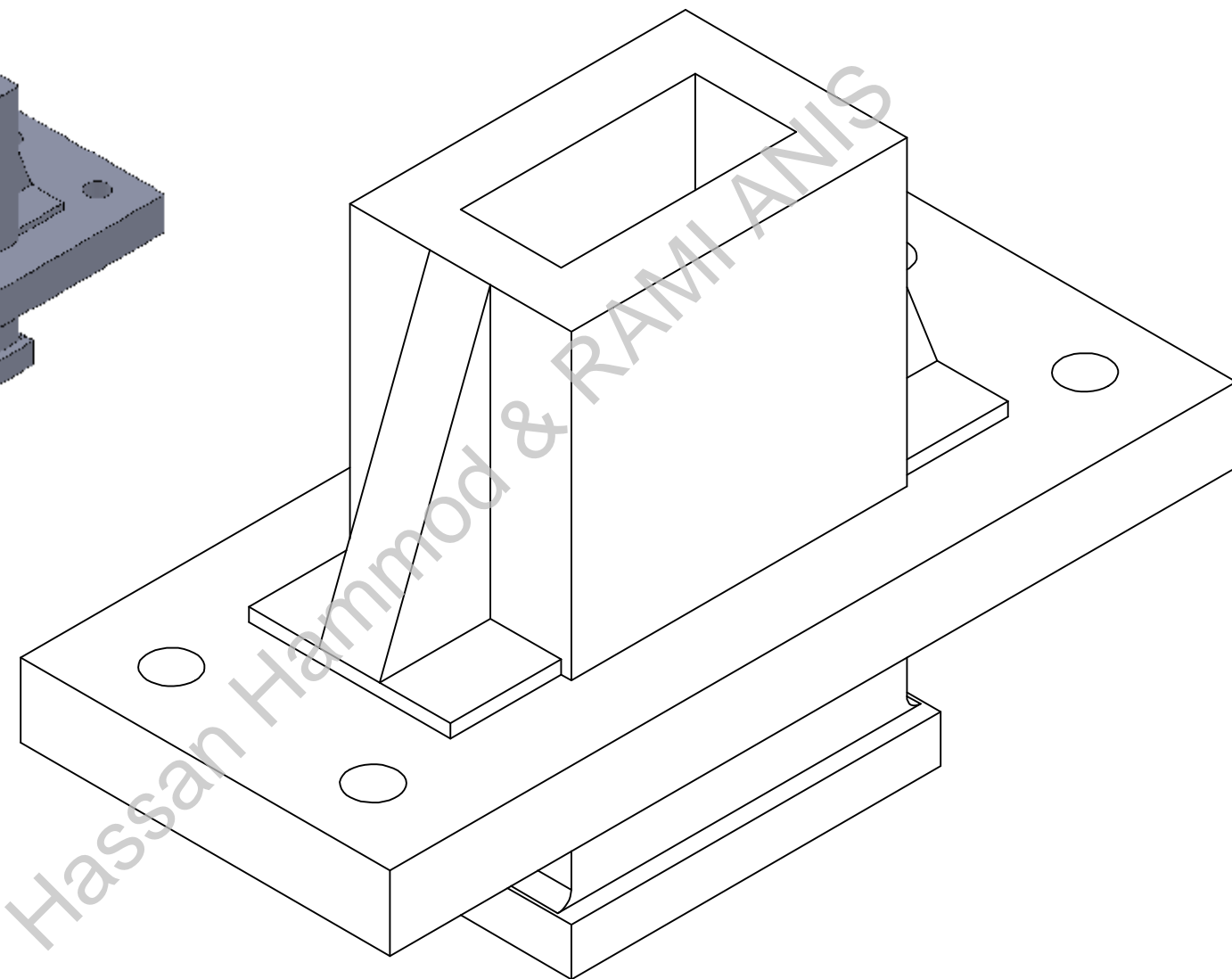
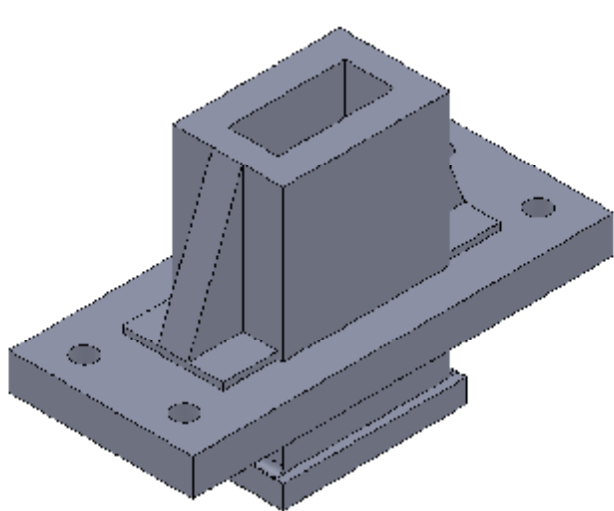


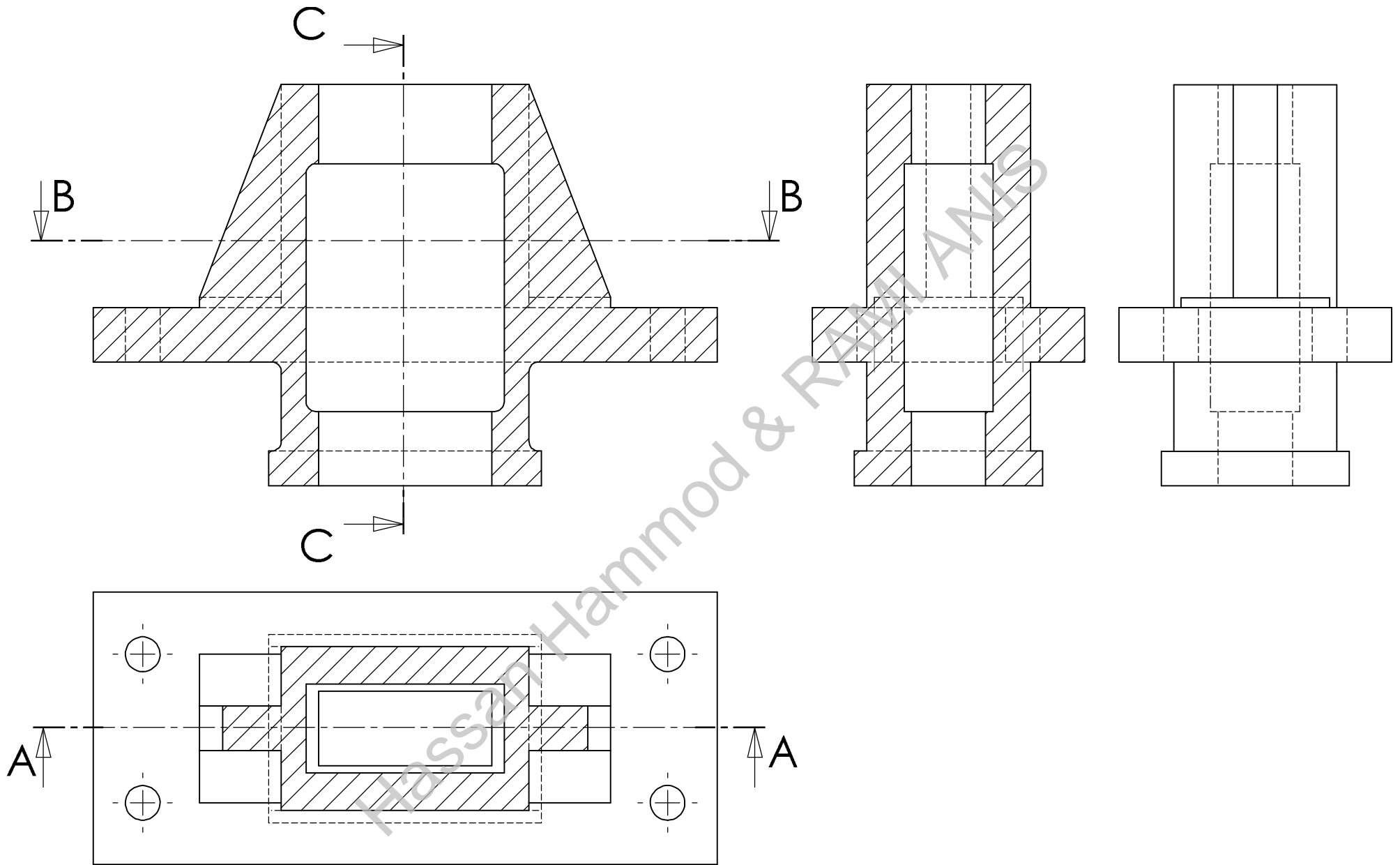
Hassan Hammed & RAMI ANIS

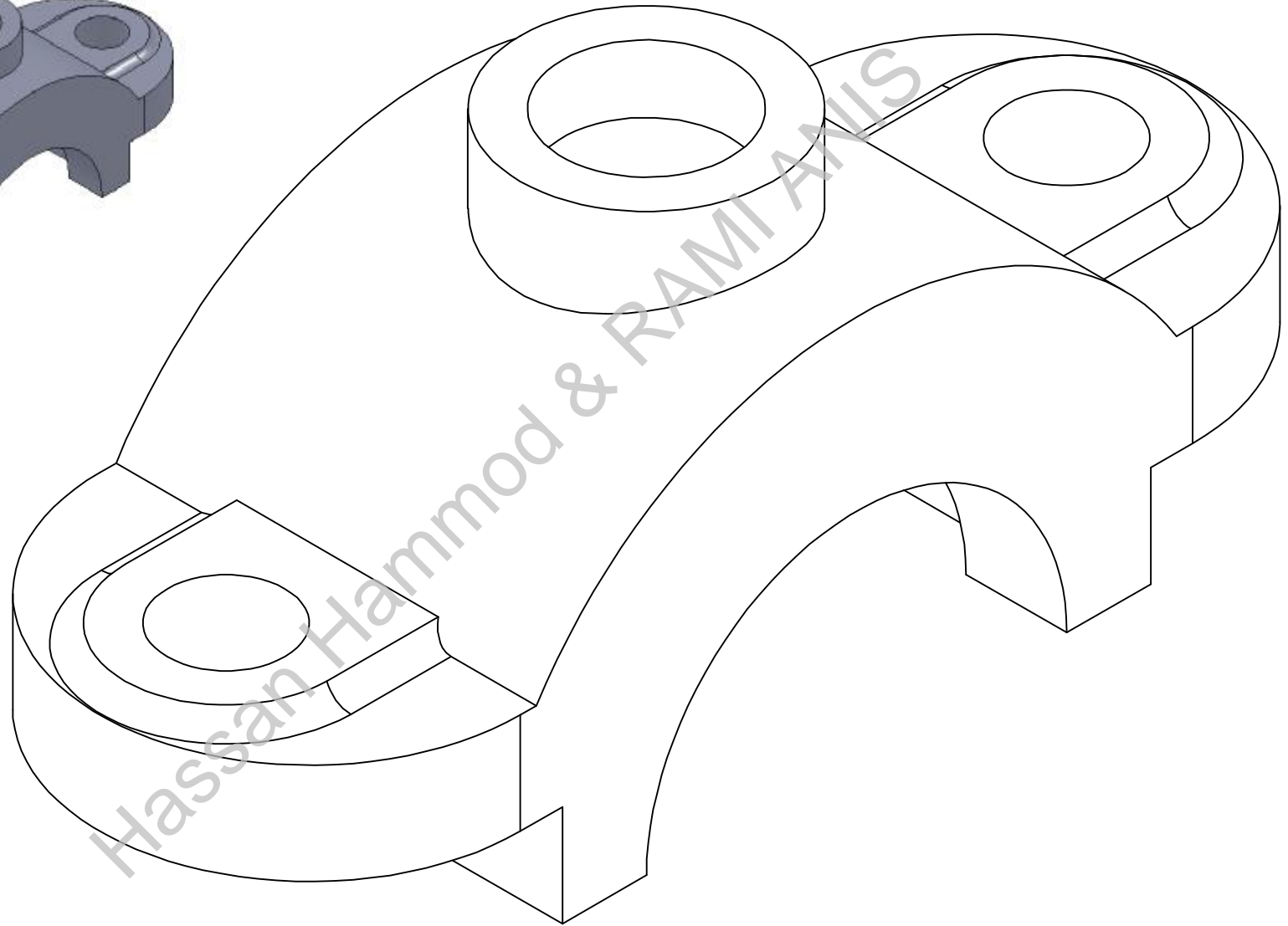
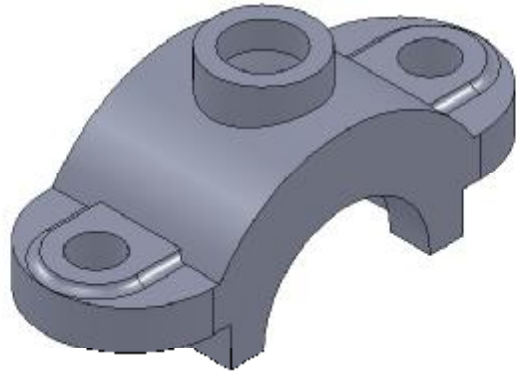


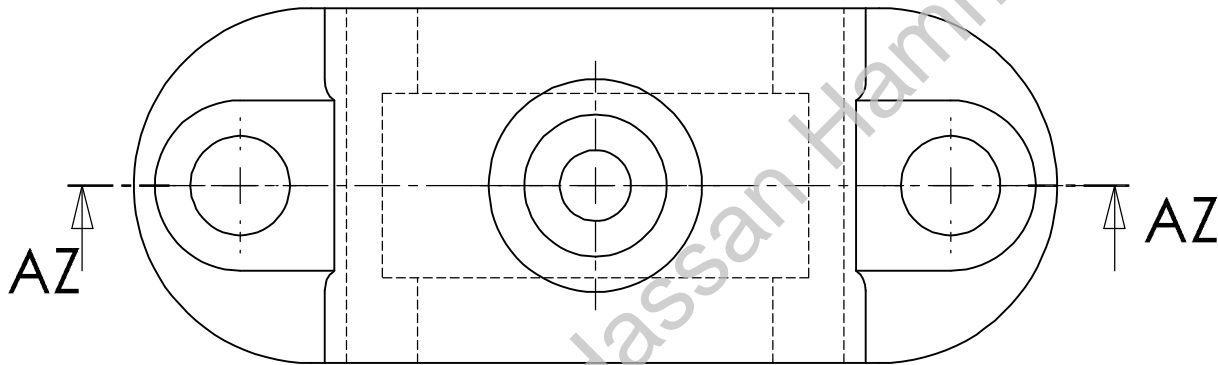
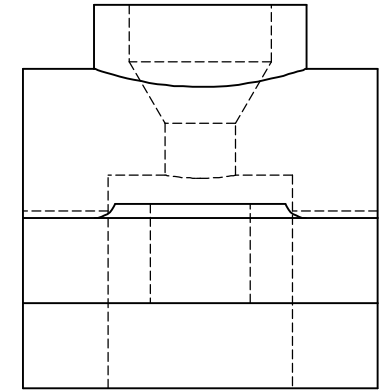
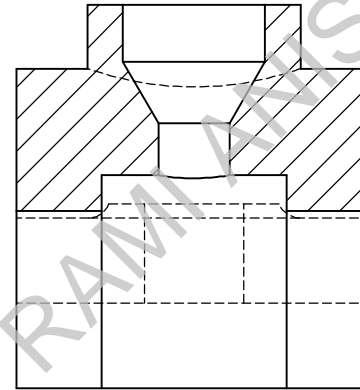
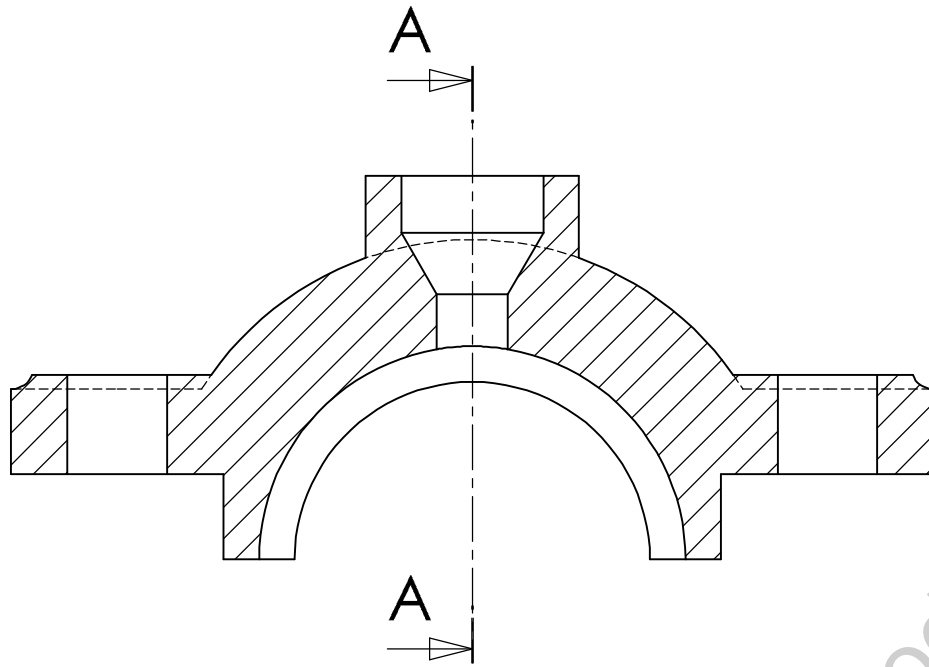
SECTION C-C
SCALE 3 : 2

Orientation view

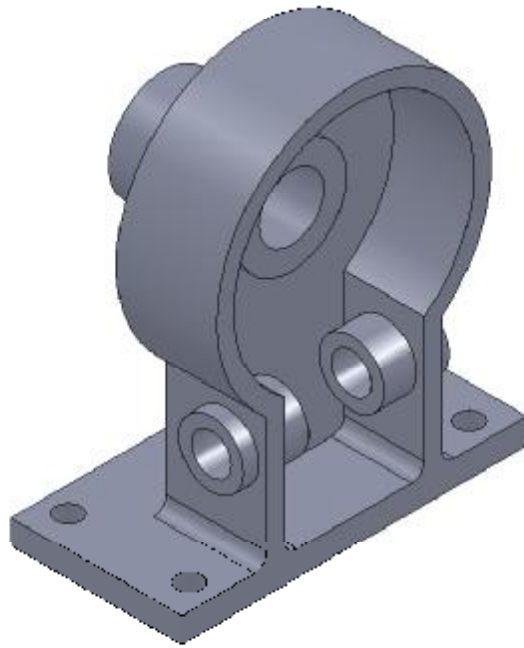




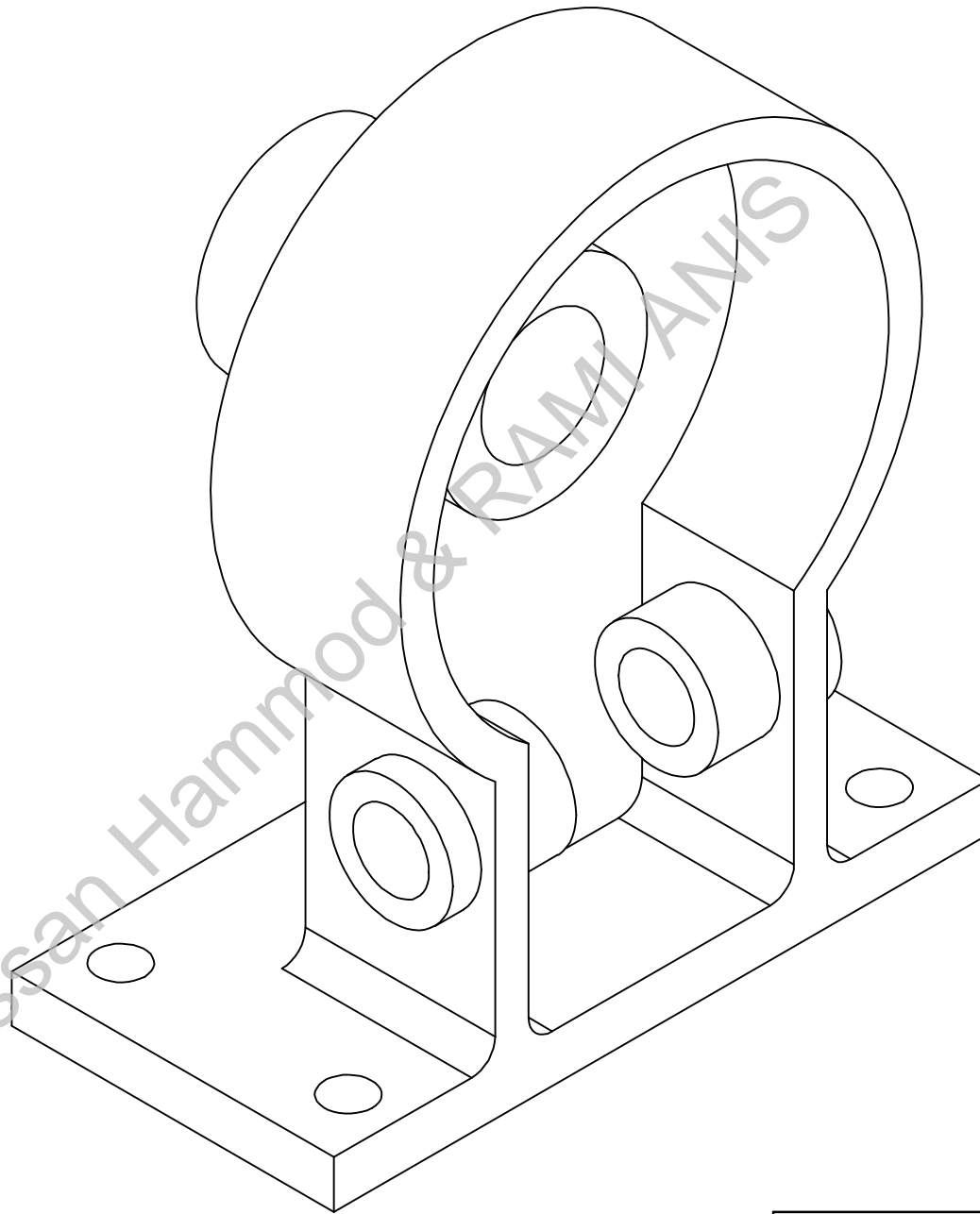




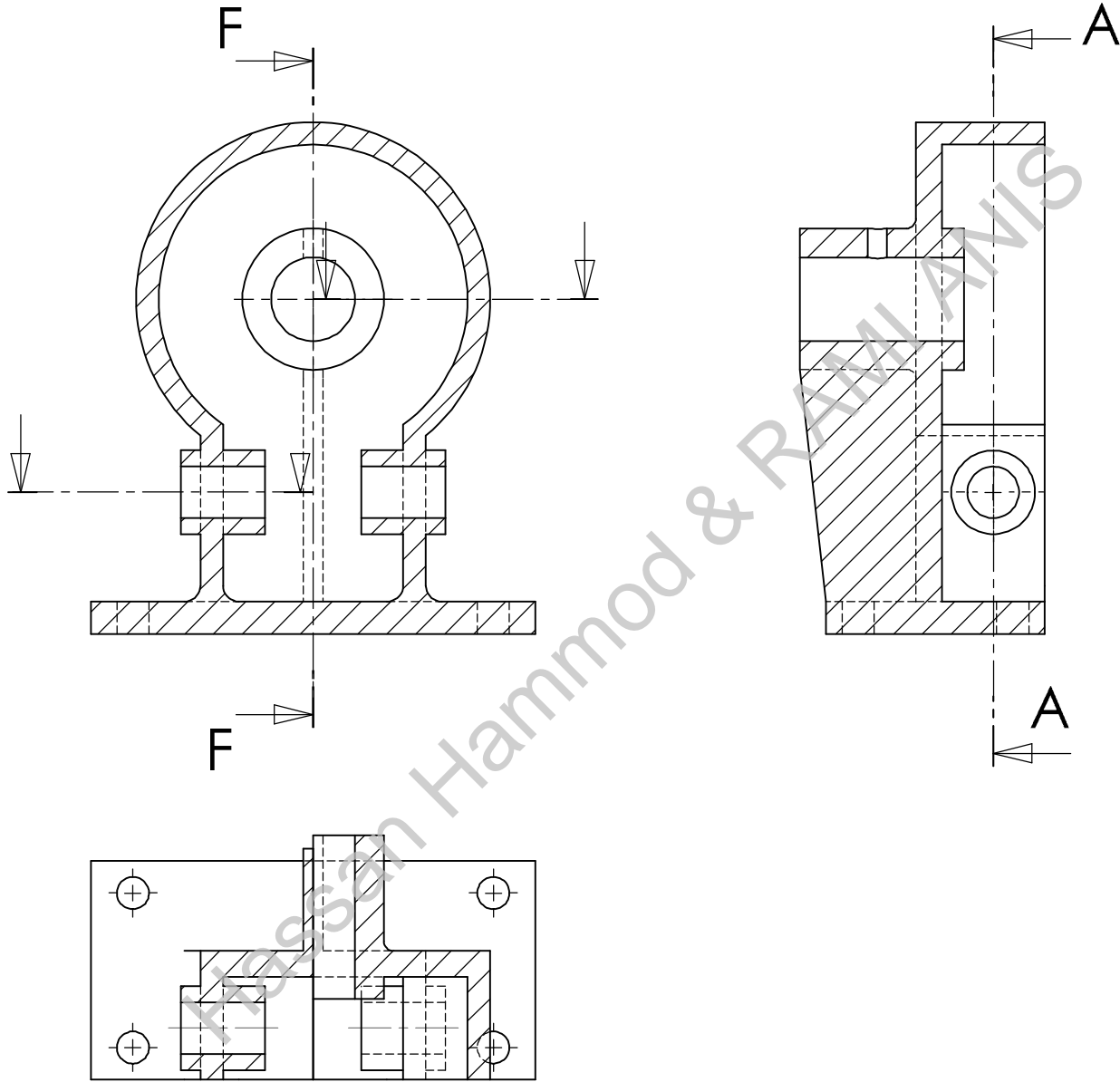
Hassan Hammod & RAMI ANIS

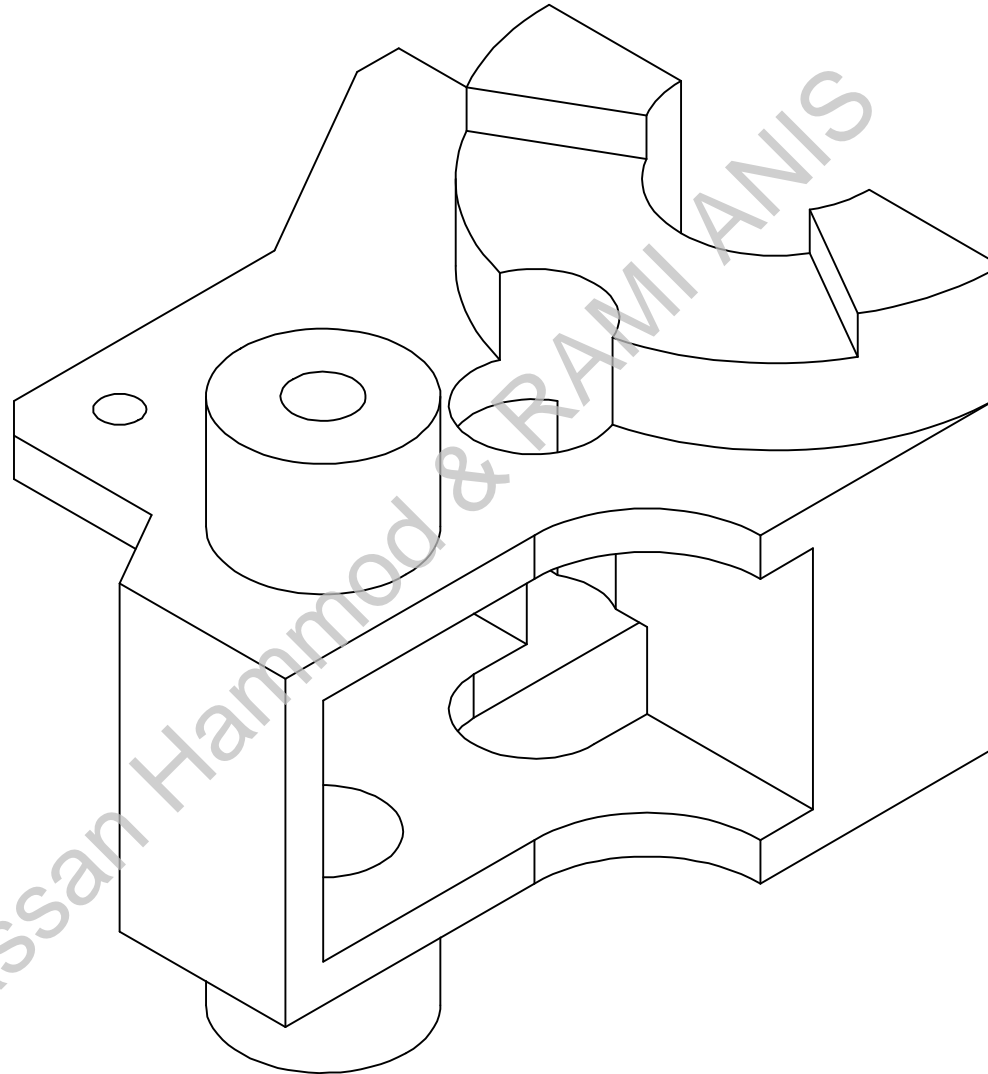
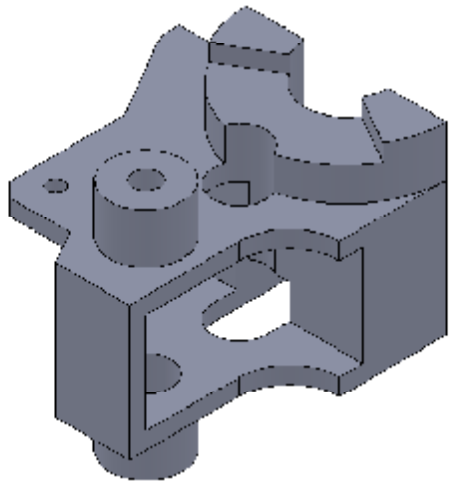


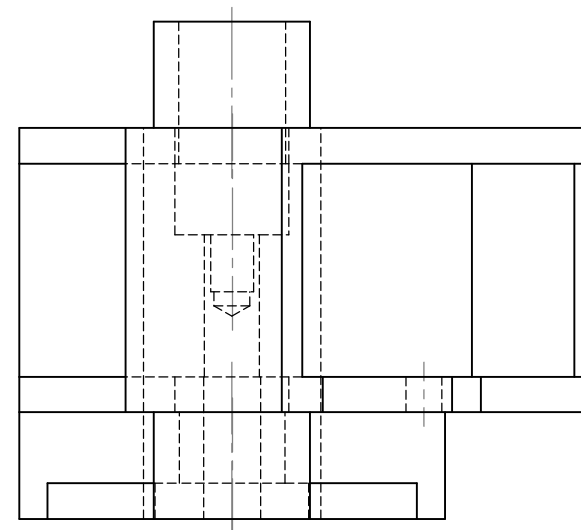
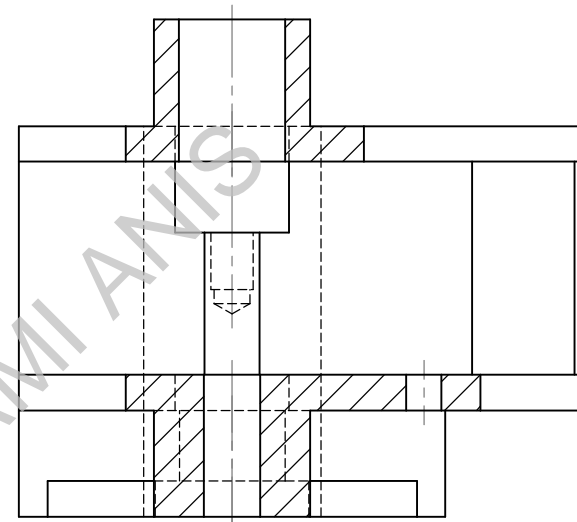
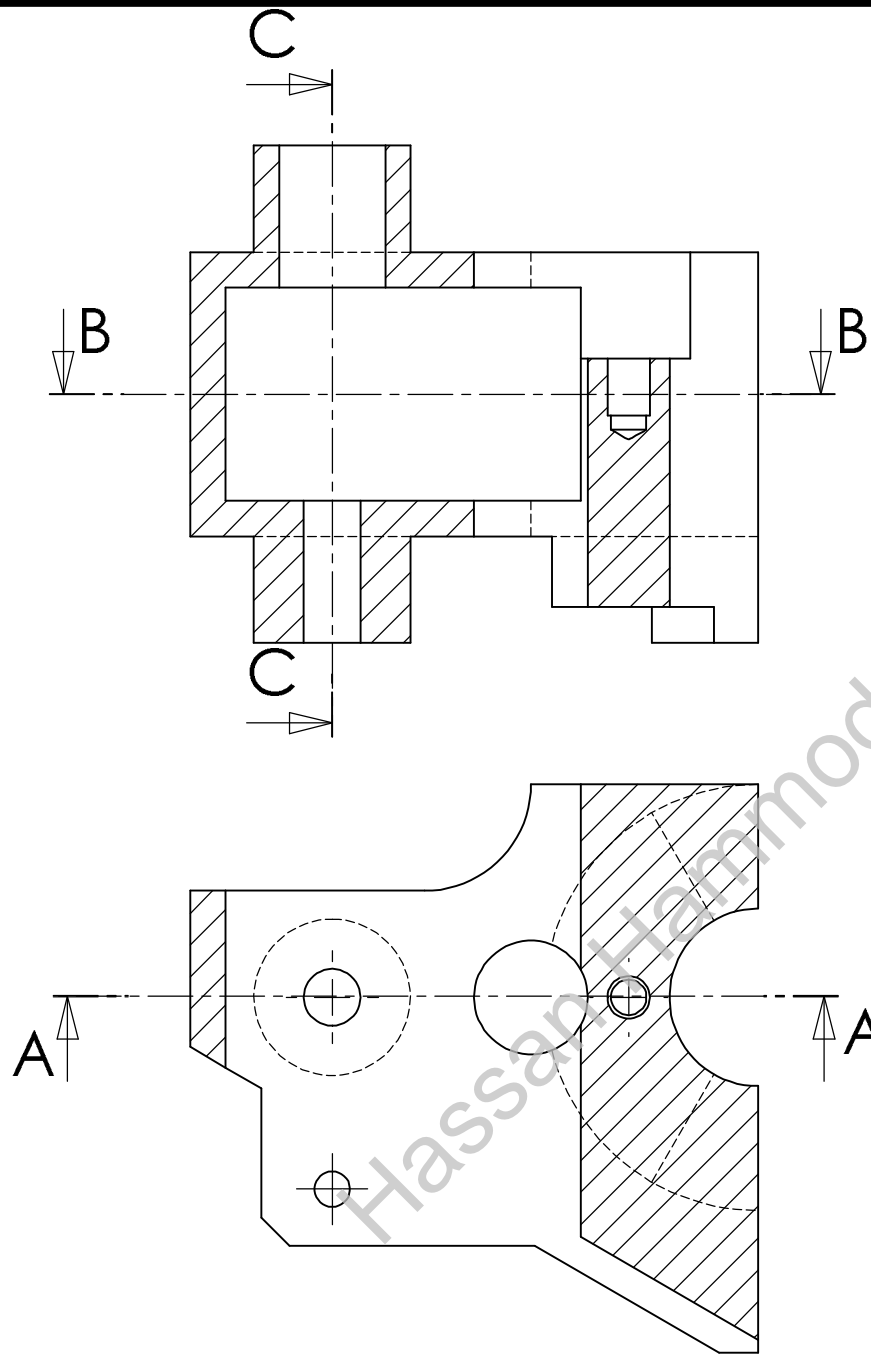
Hassan Hammoud & RAMI ANIS



Isometric



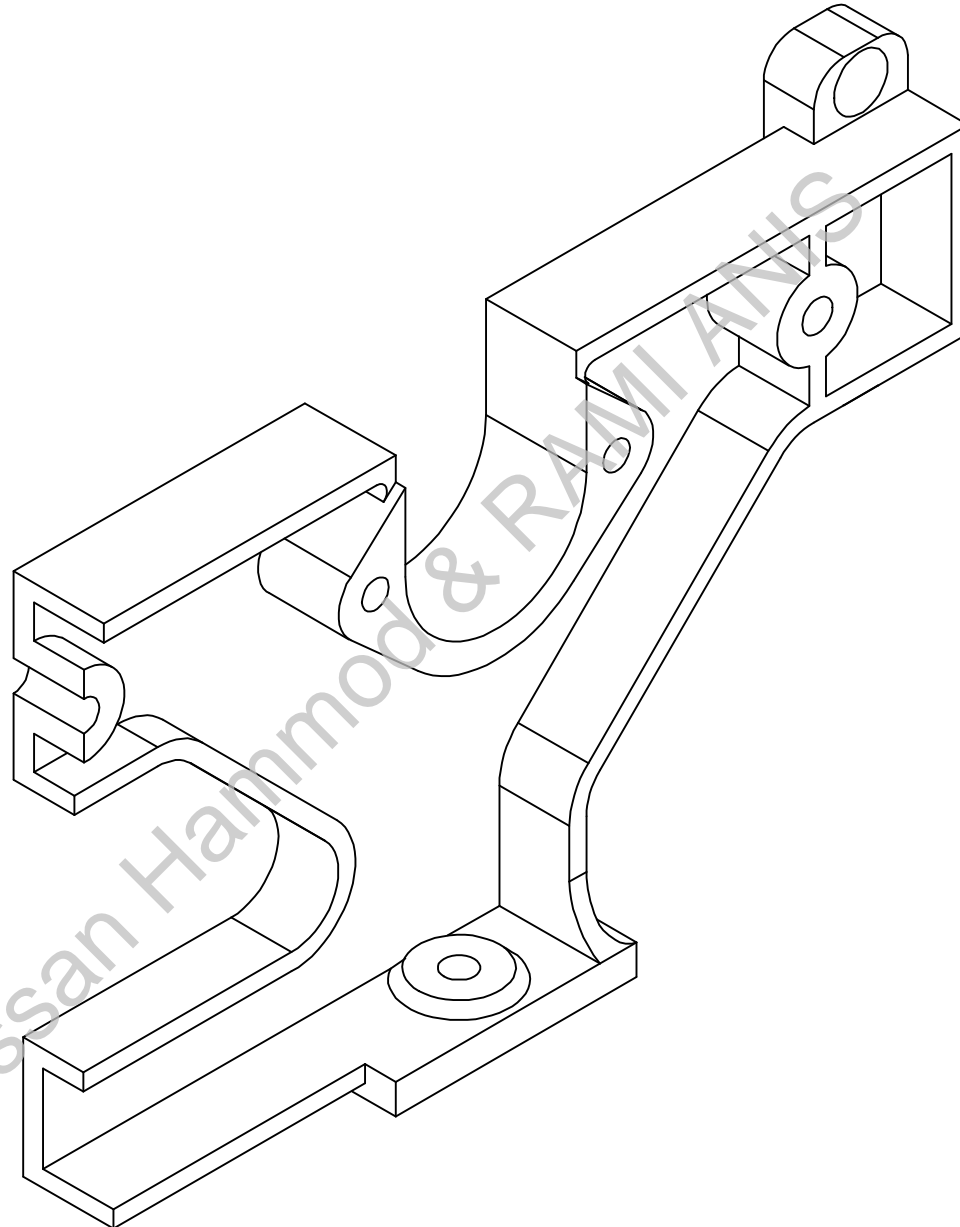
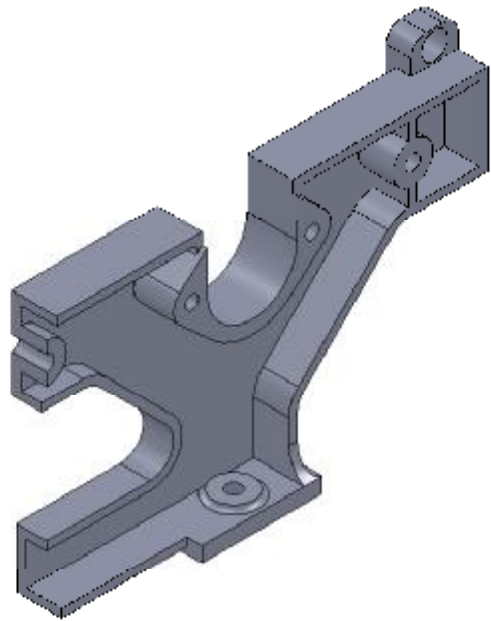




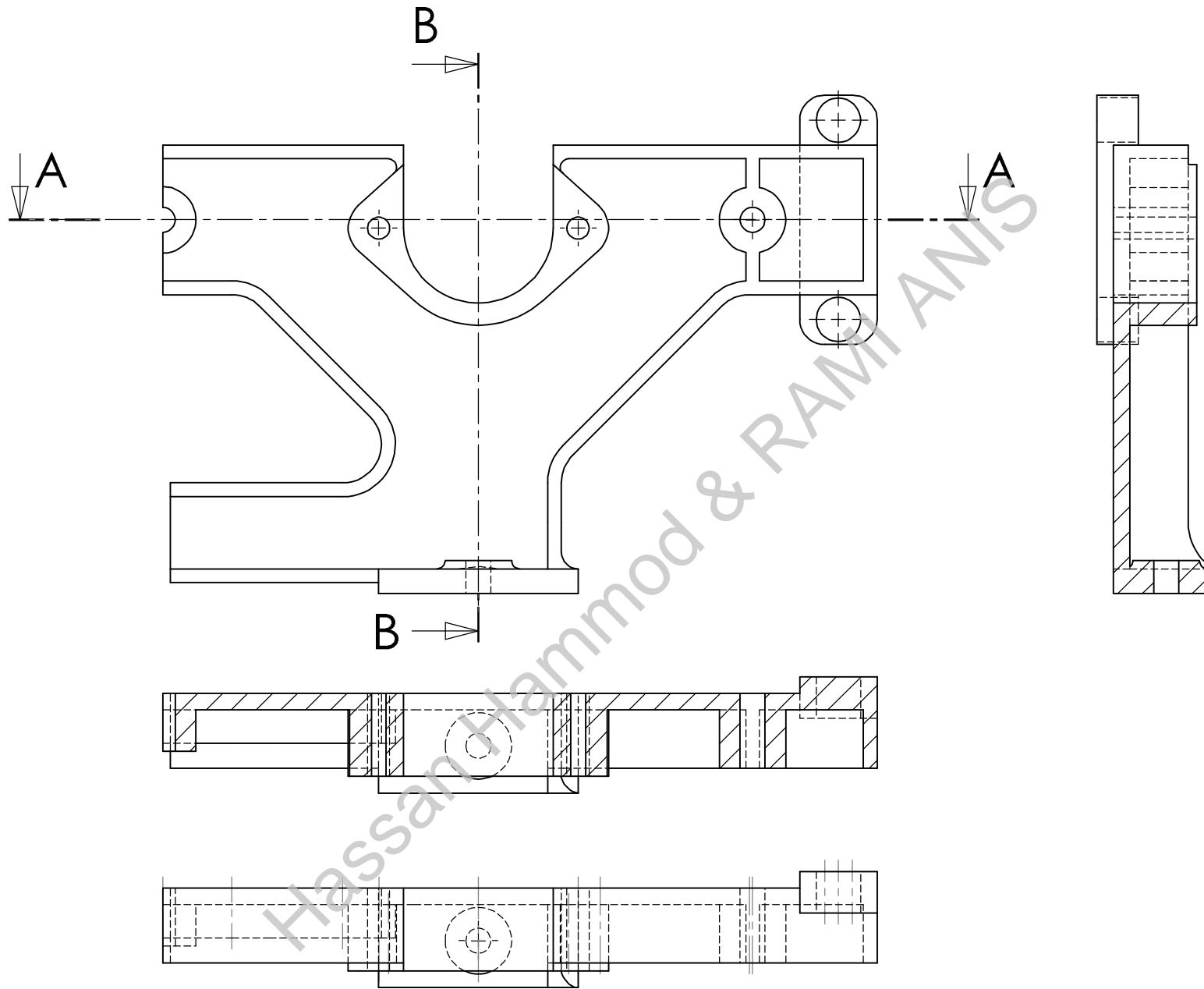
Orientation view

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SCALE: 1:1



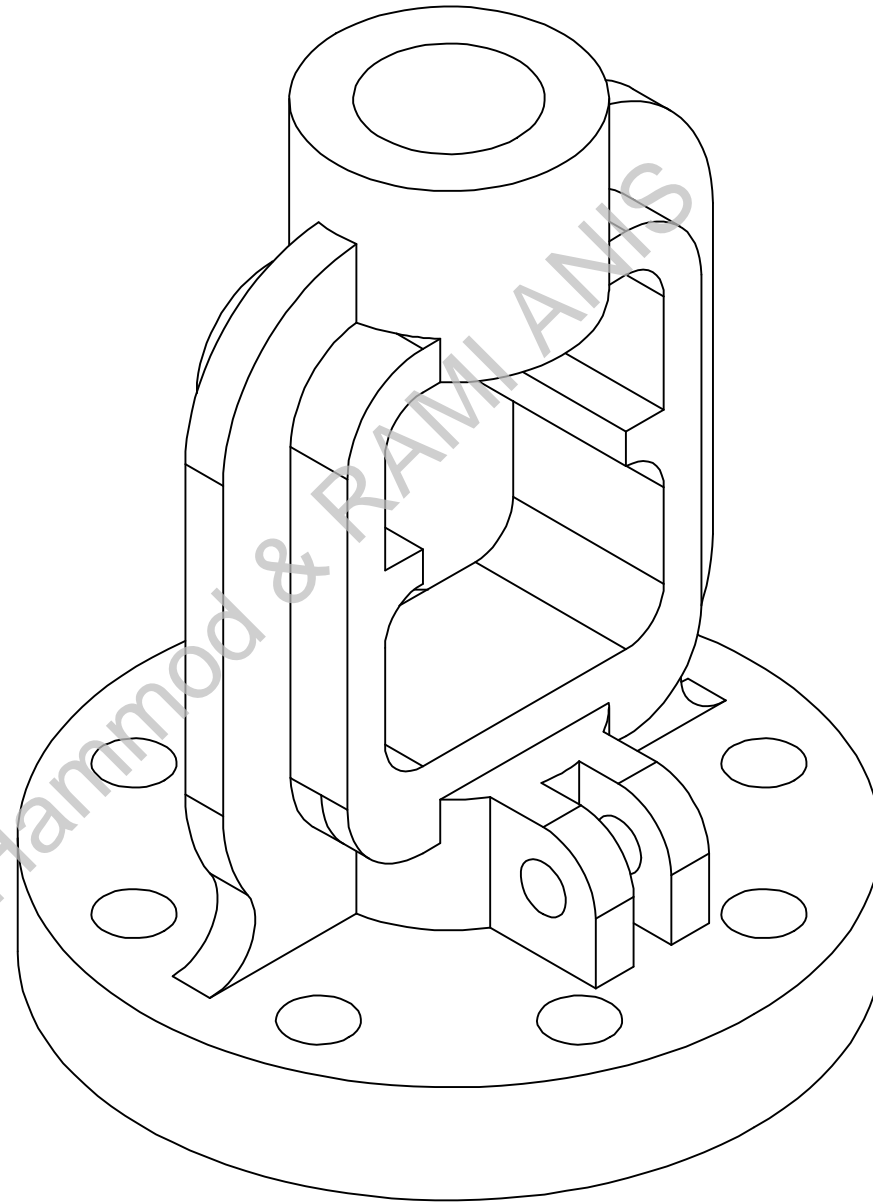
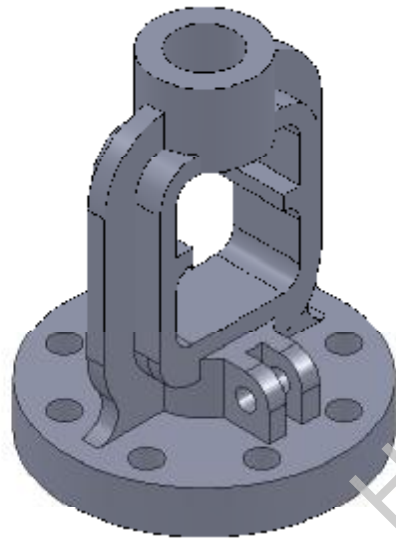
Hassan Hammoud & RAMI ANIS

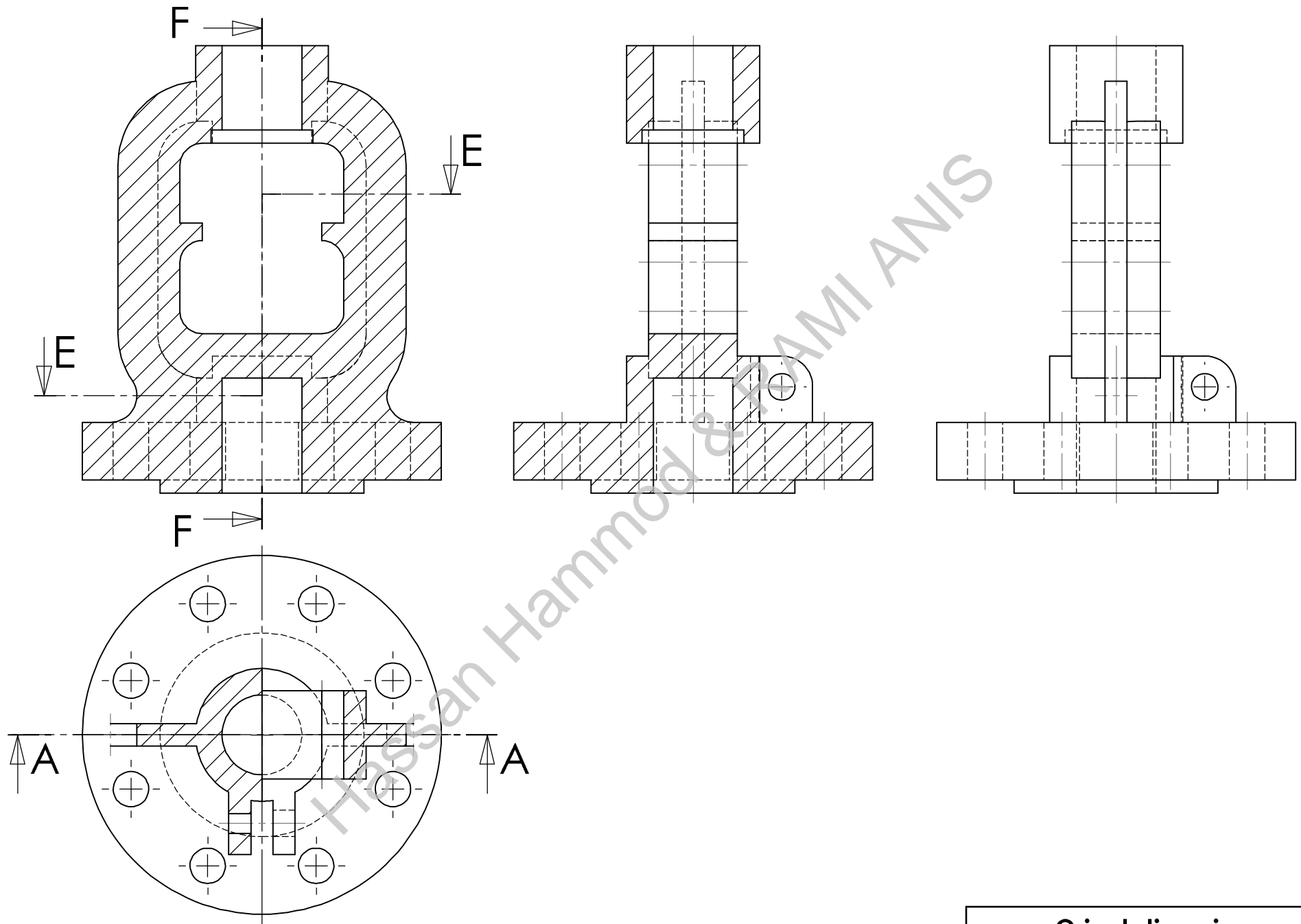


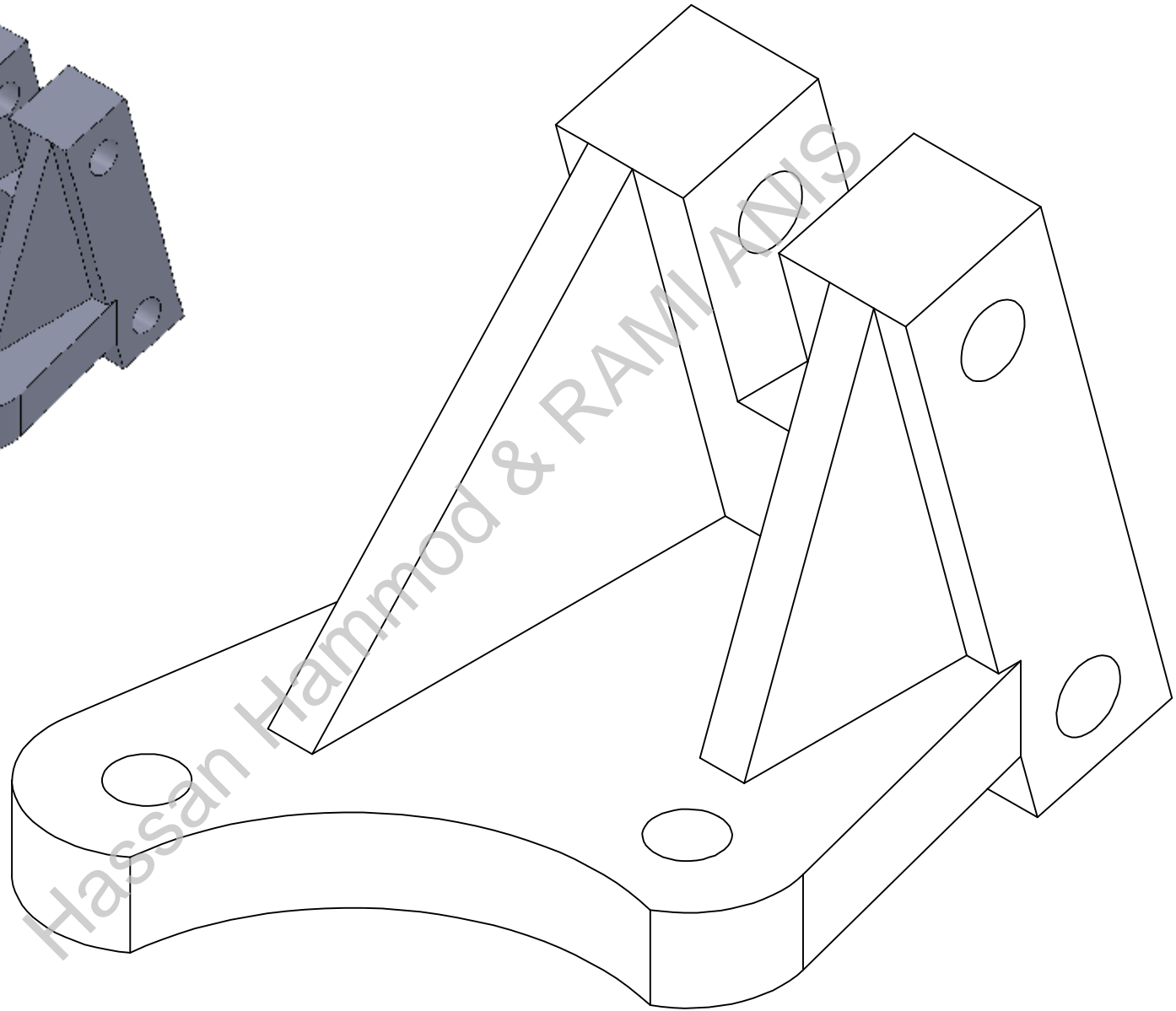
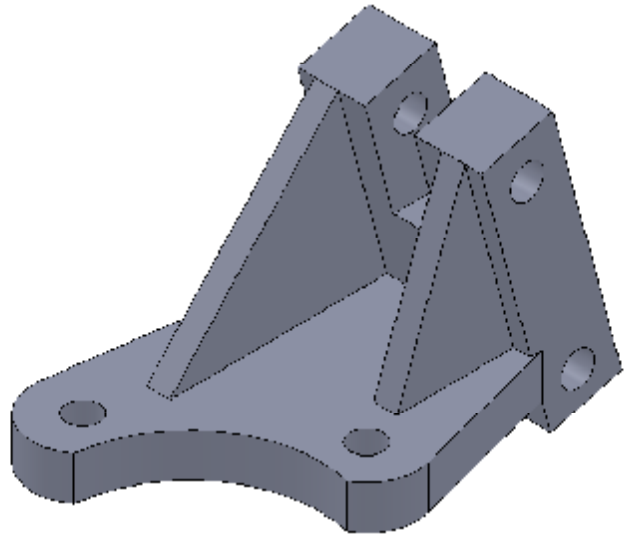
Orientation view

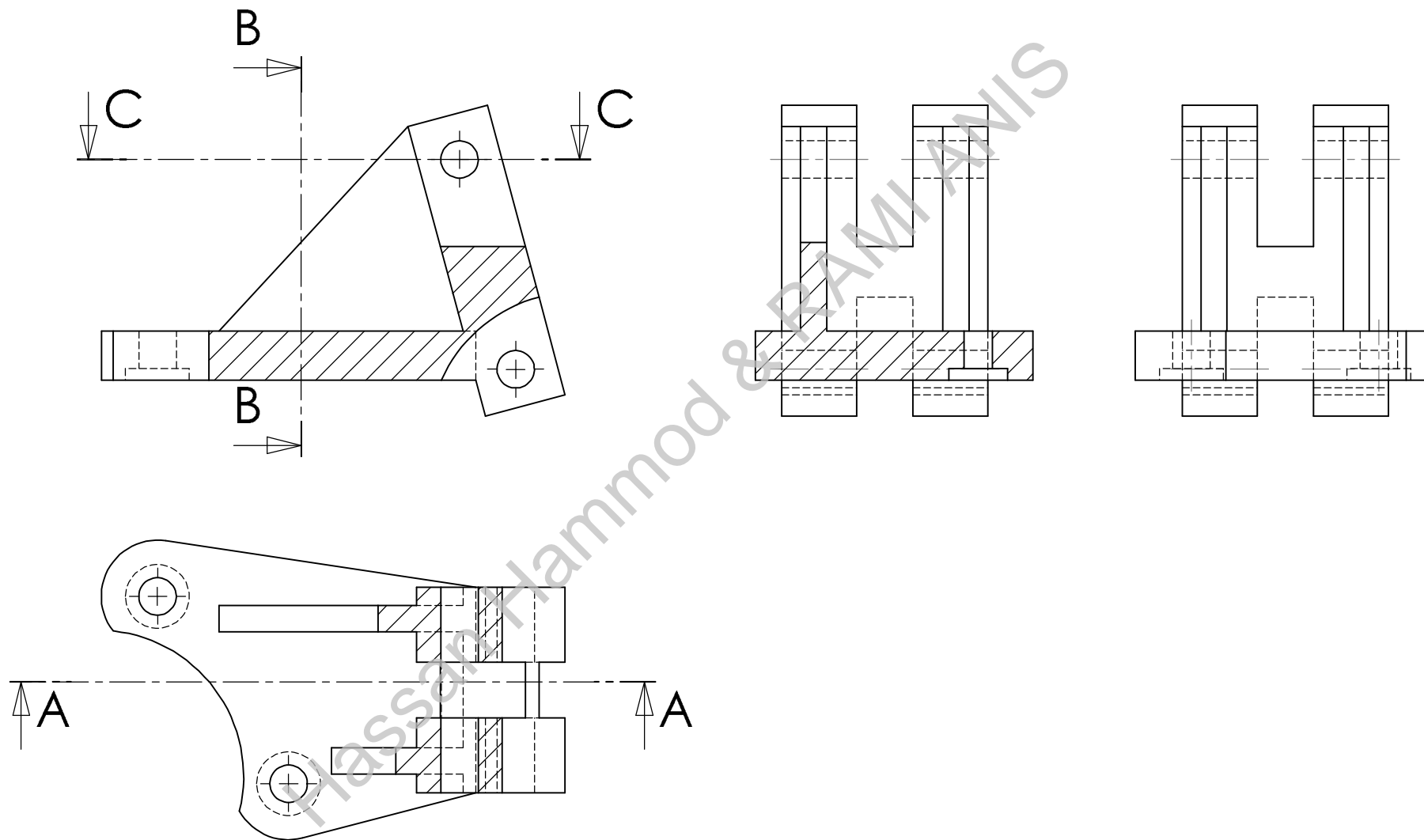
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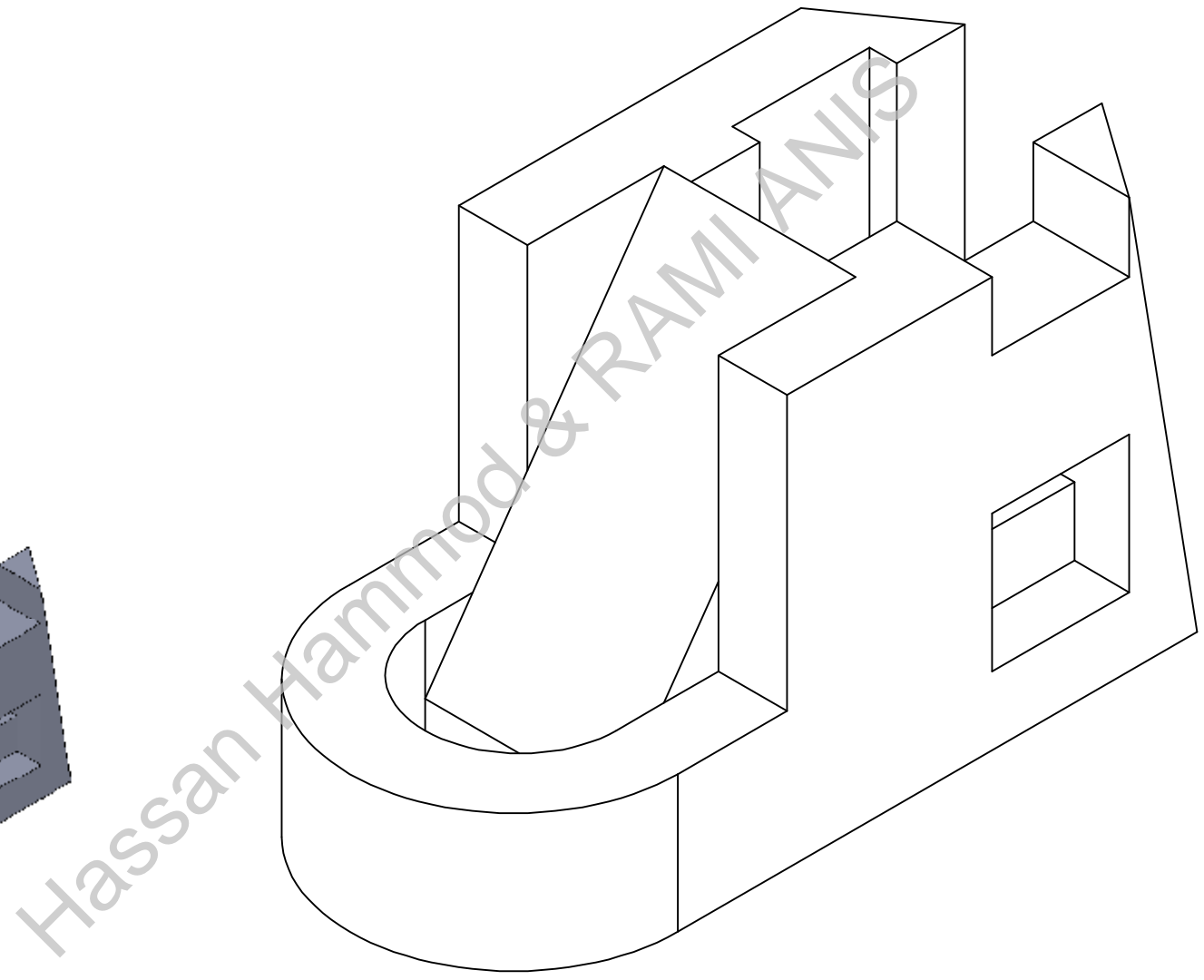
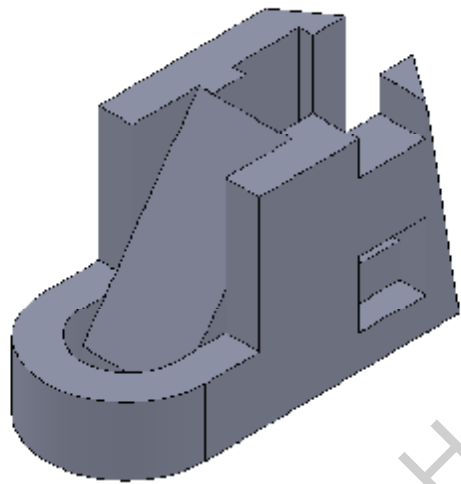
SCALE: 1:2

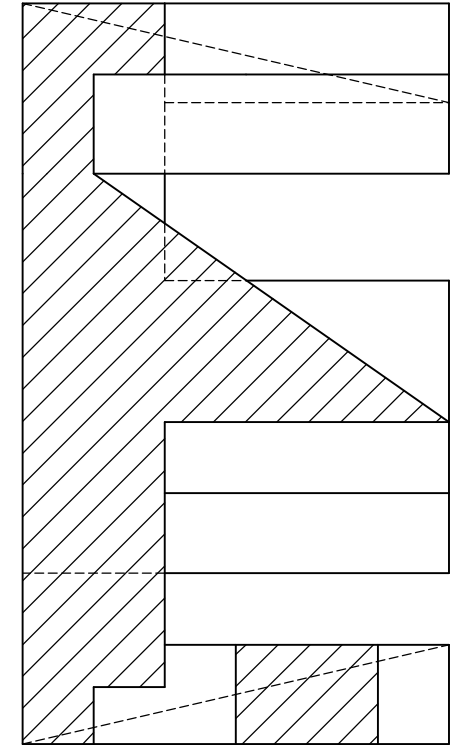
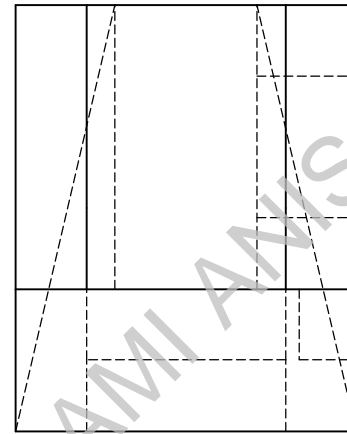
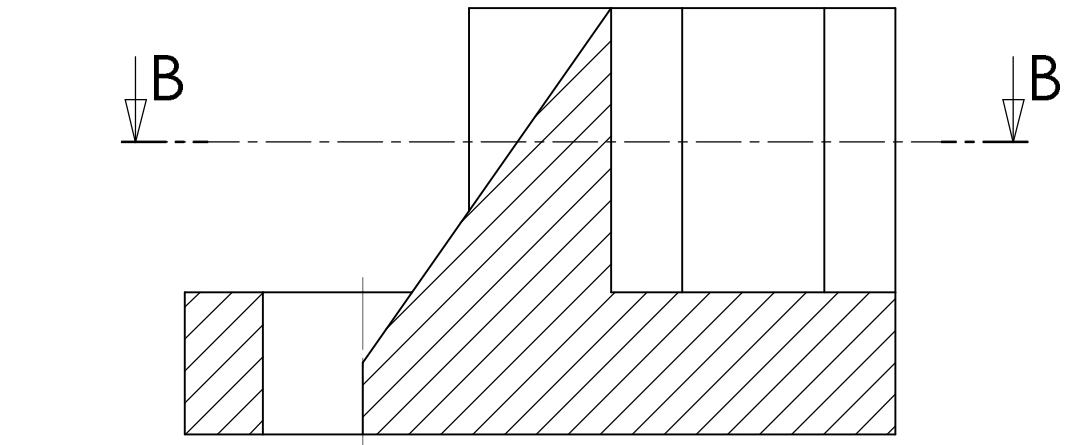




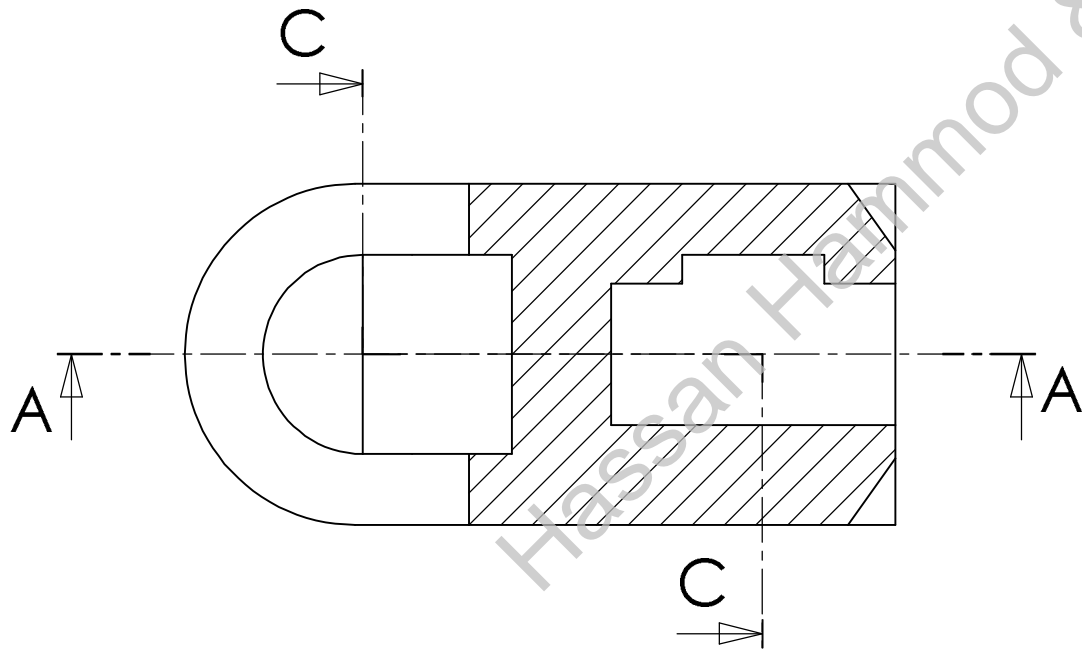


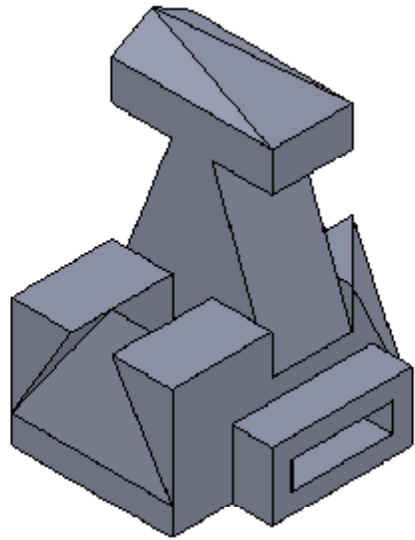




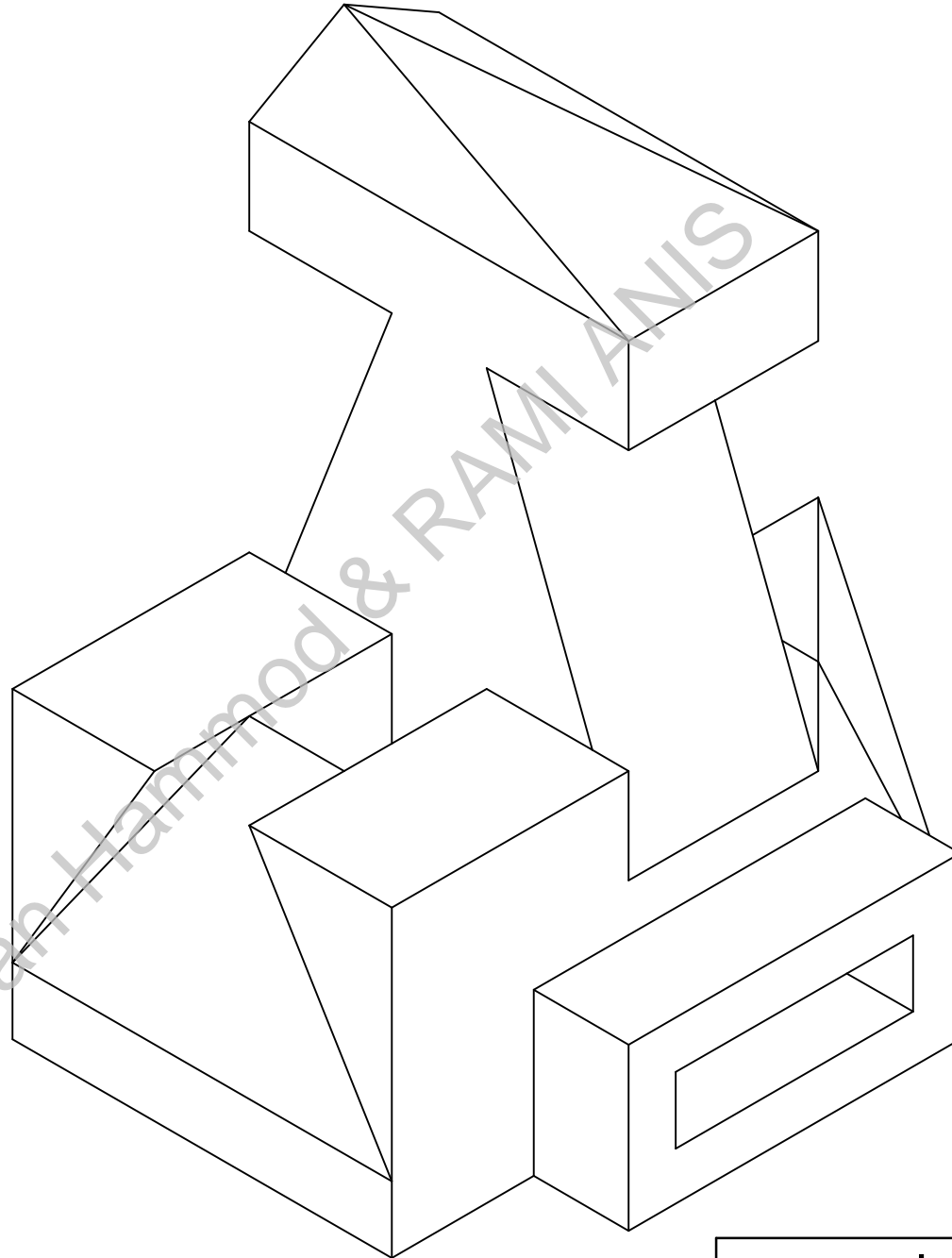


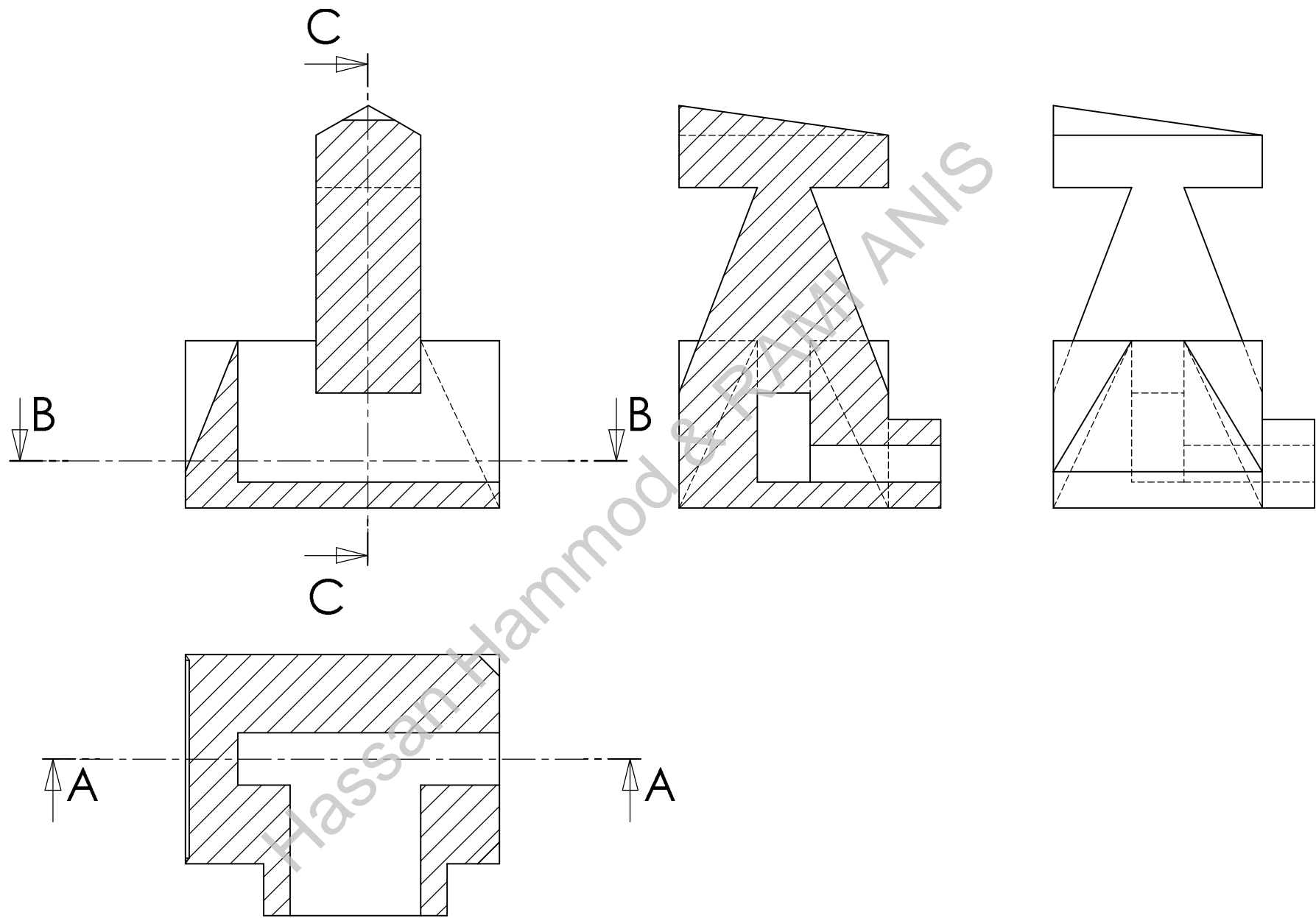
SECTION C-C
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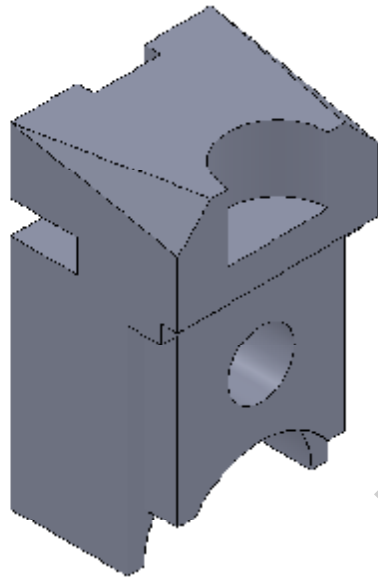




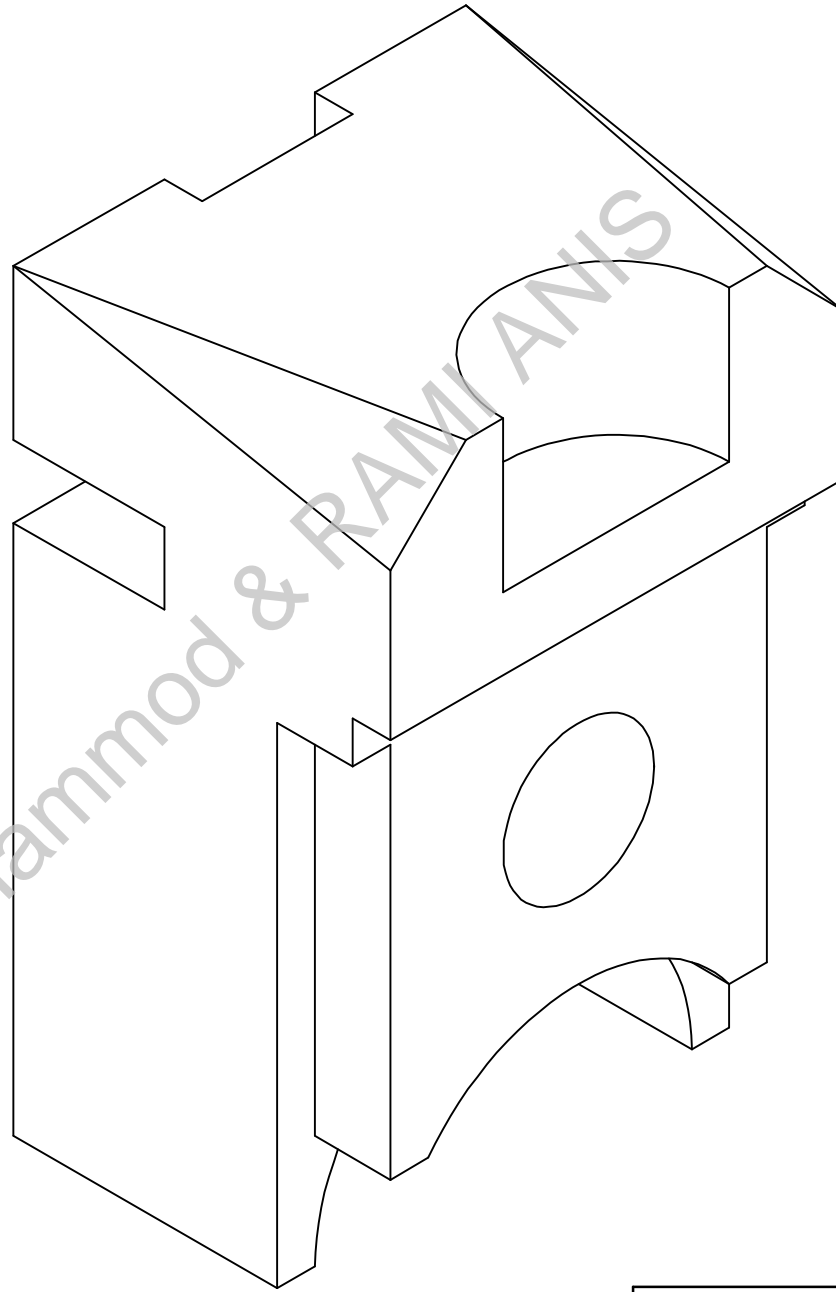
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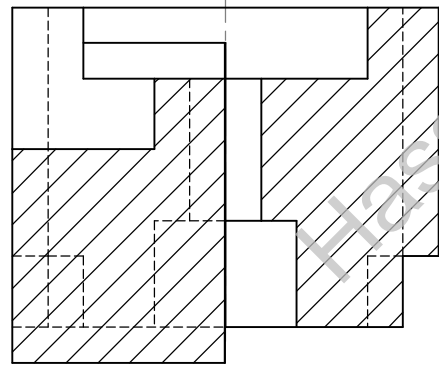
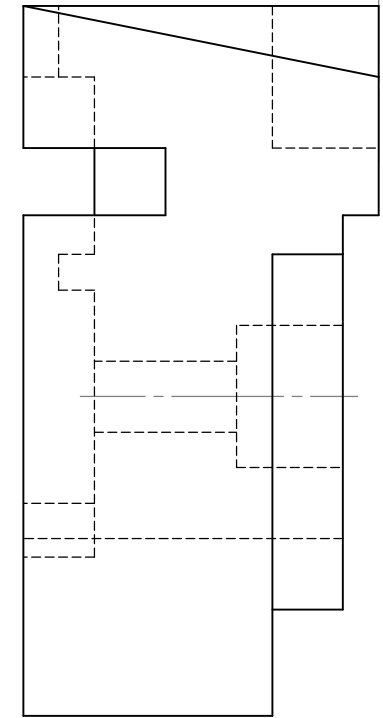
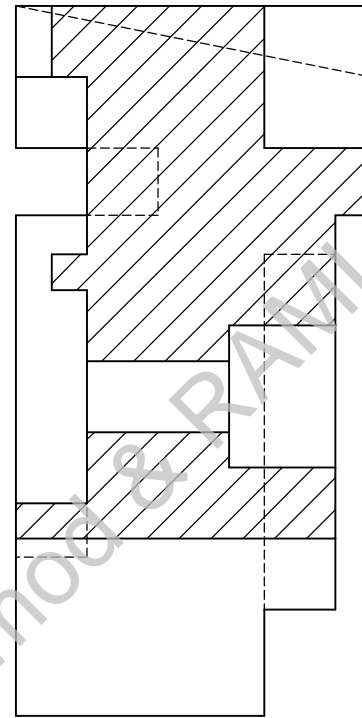
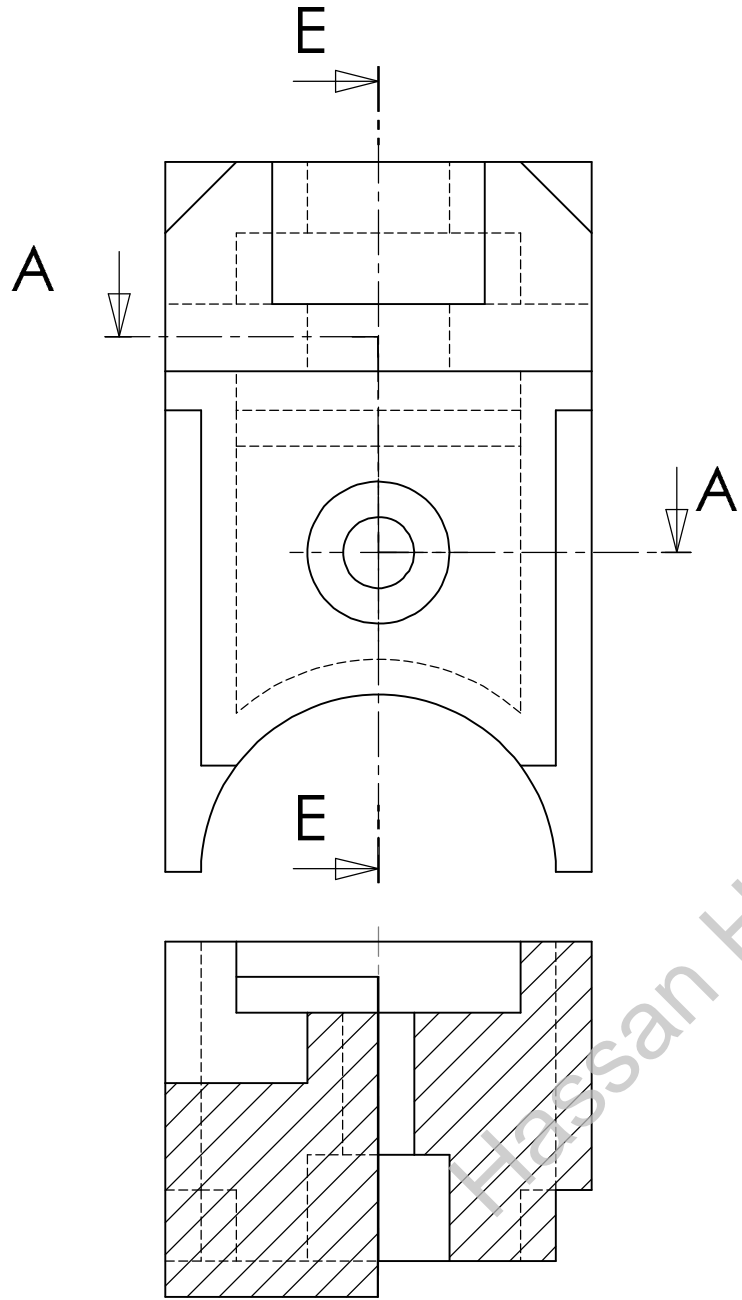




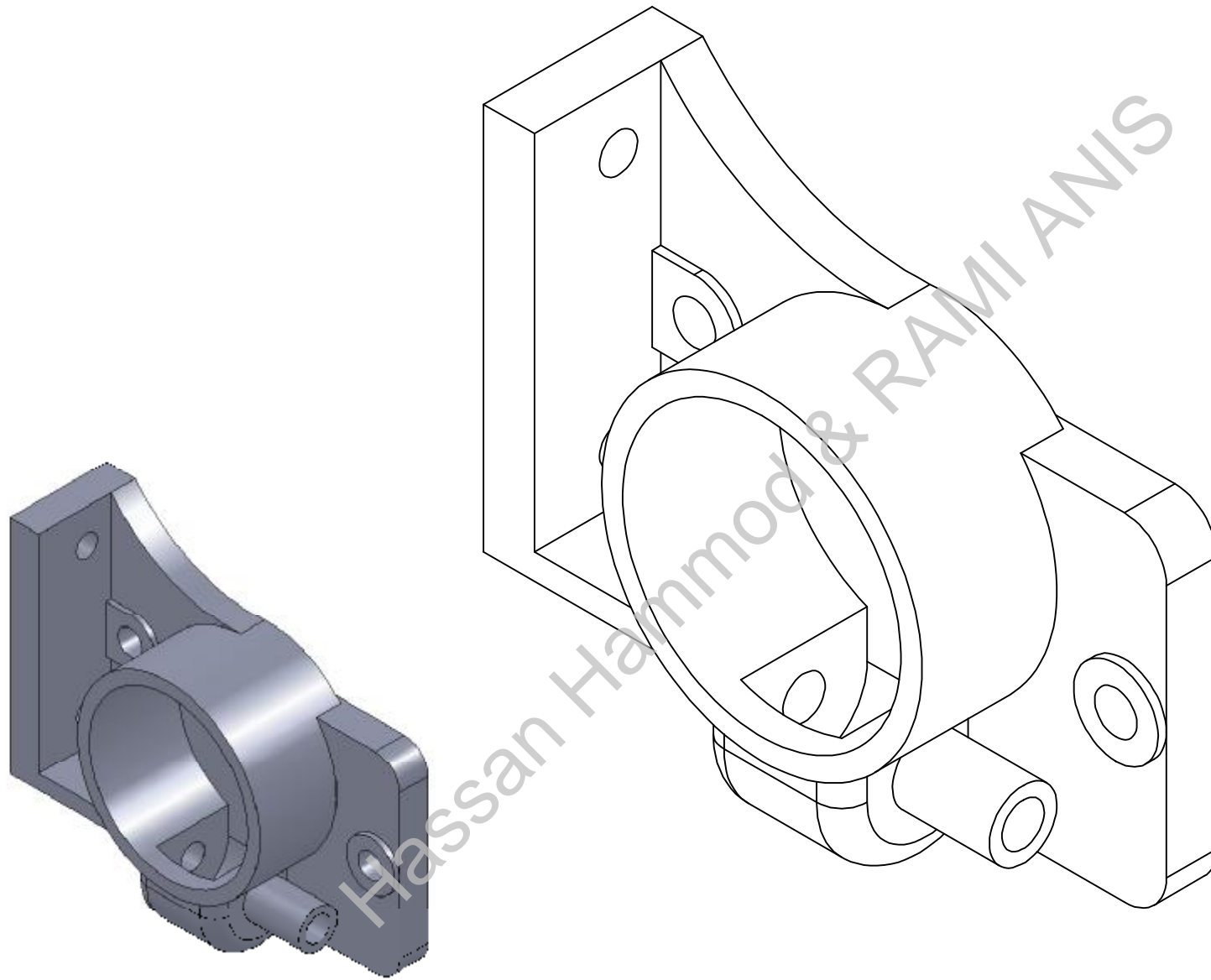


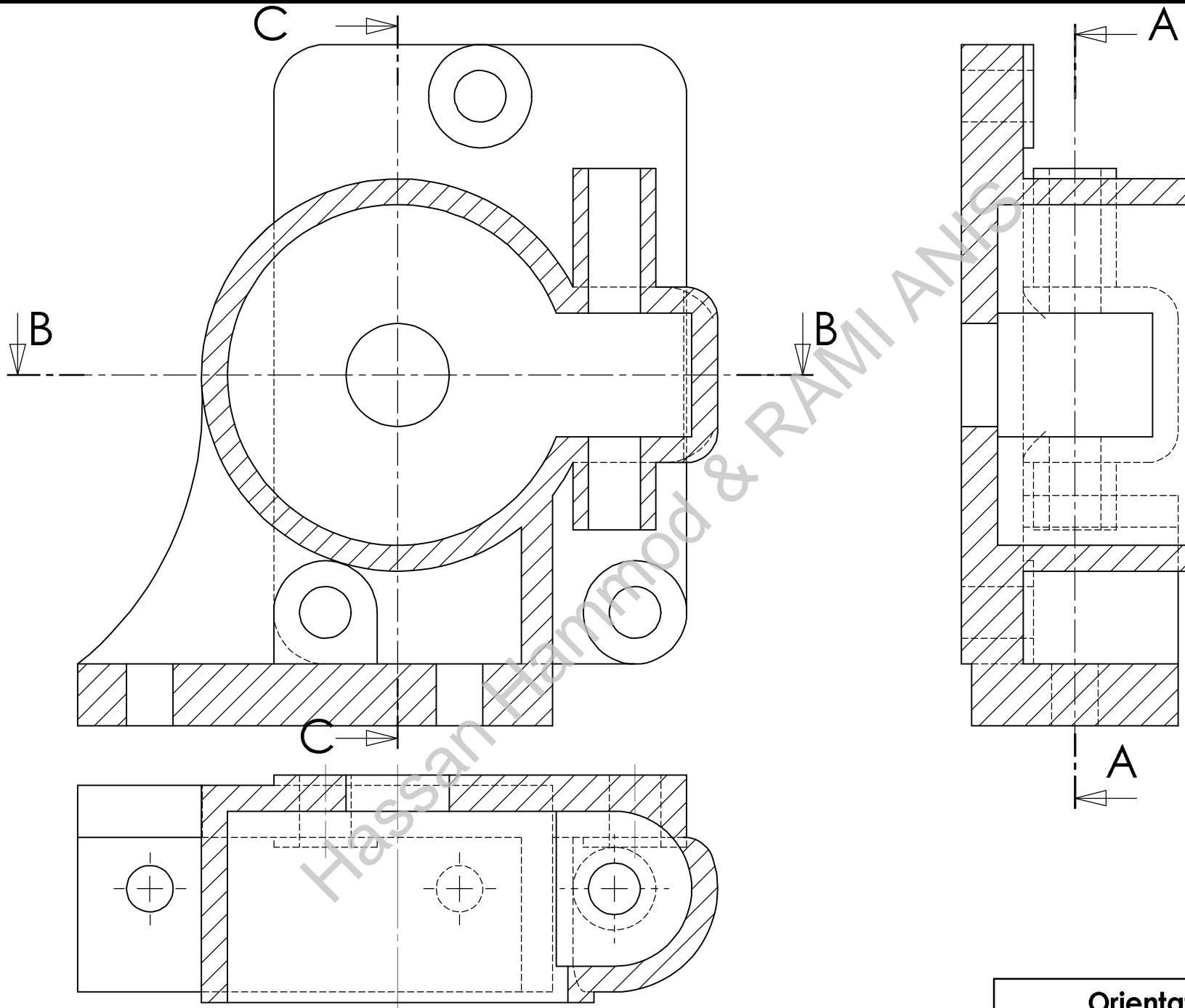
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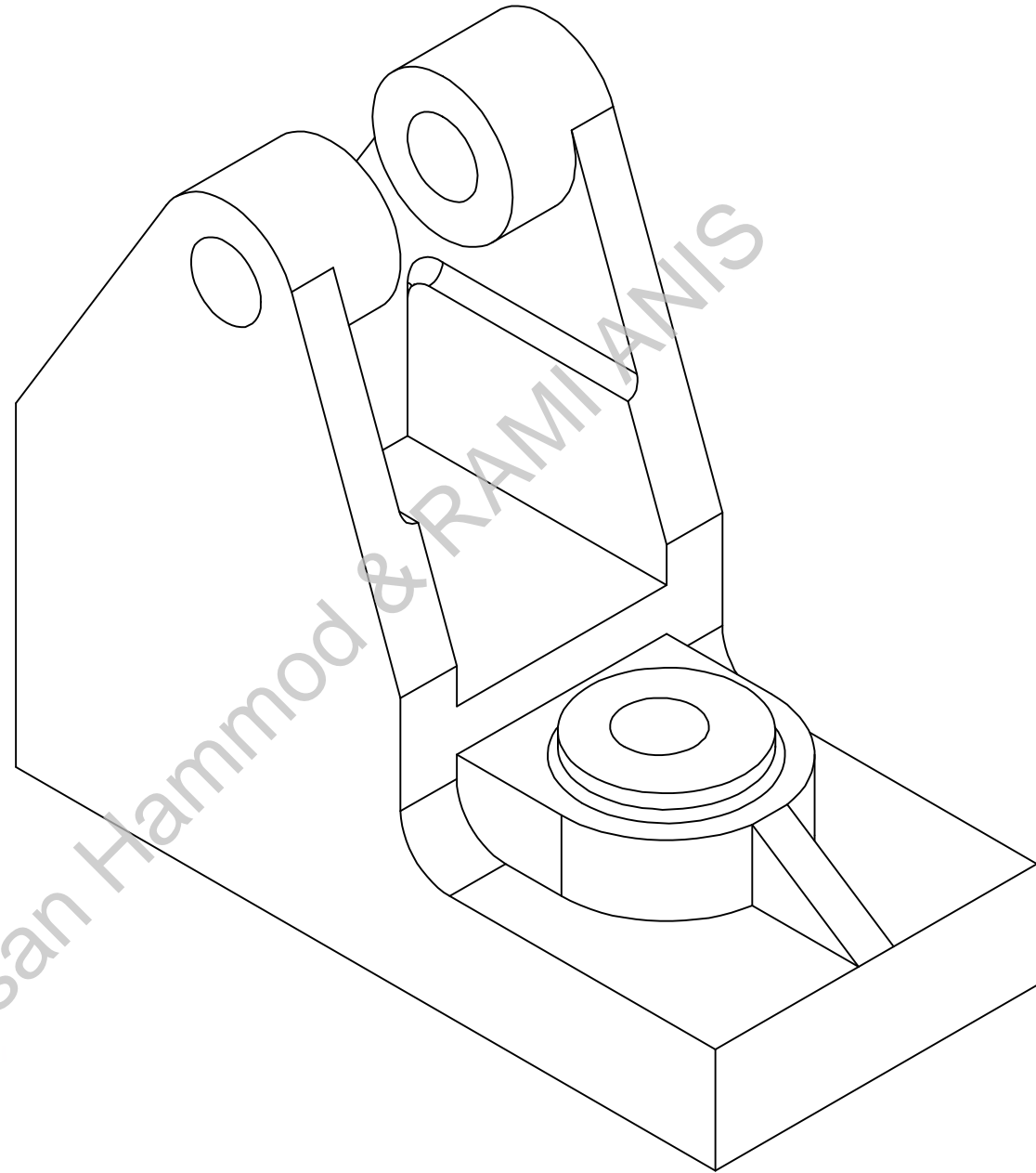
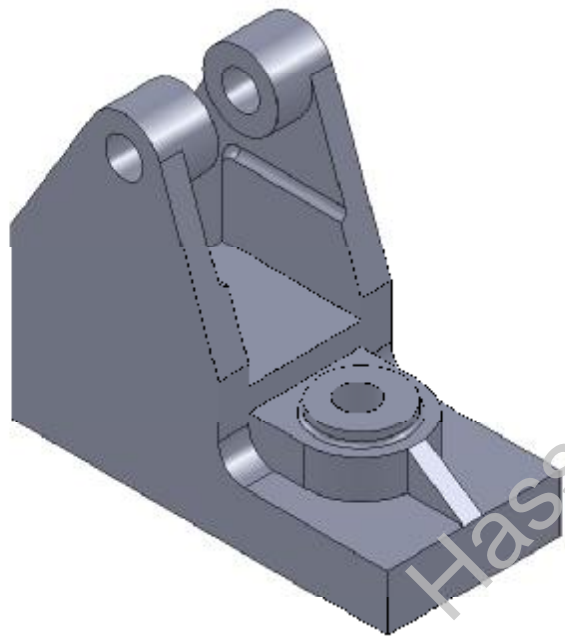




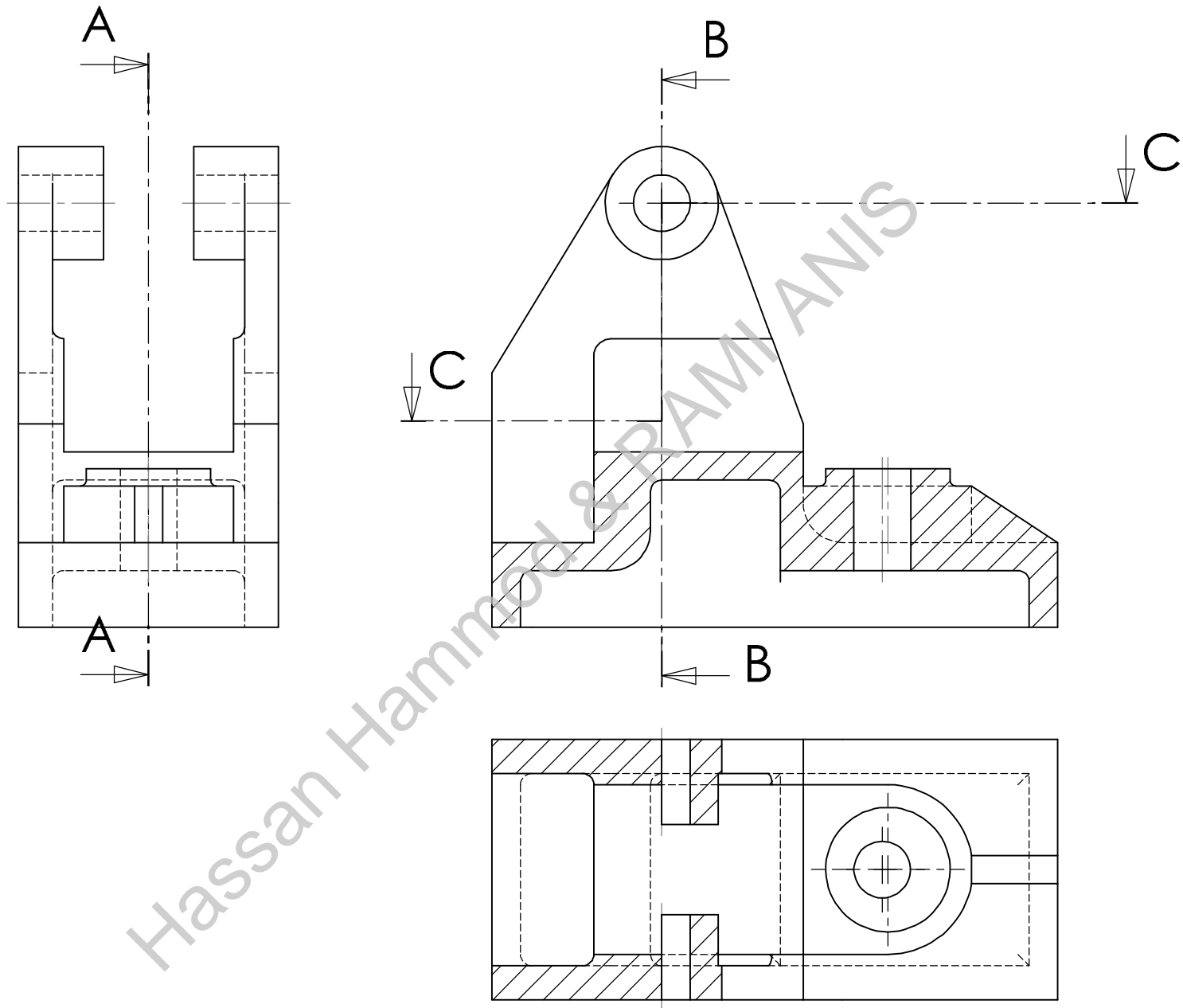
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