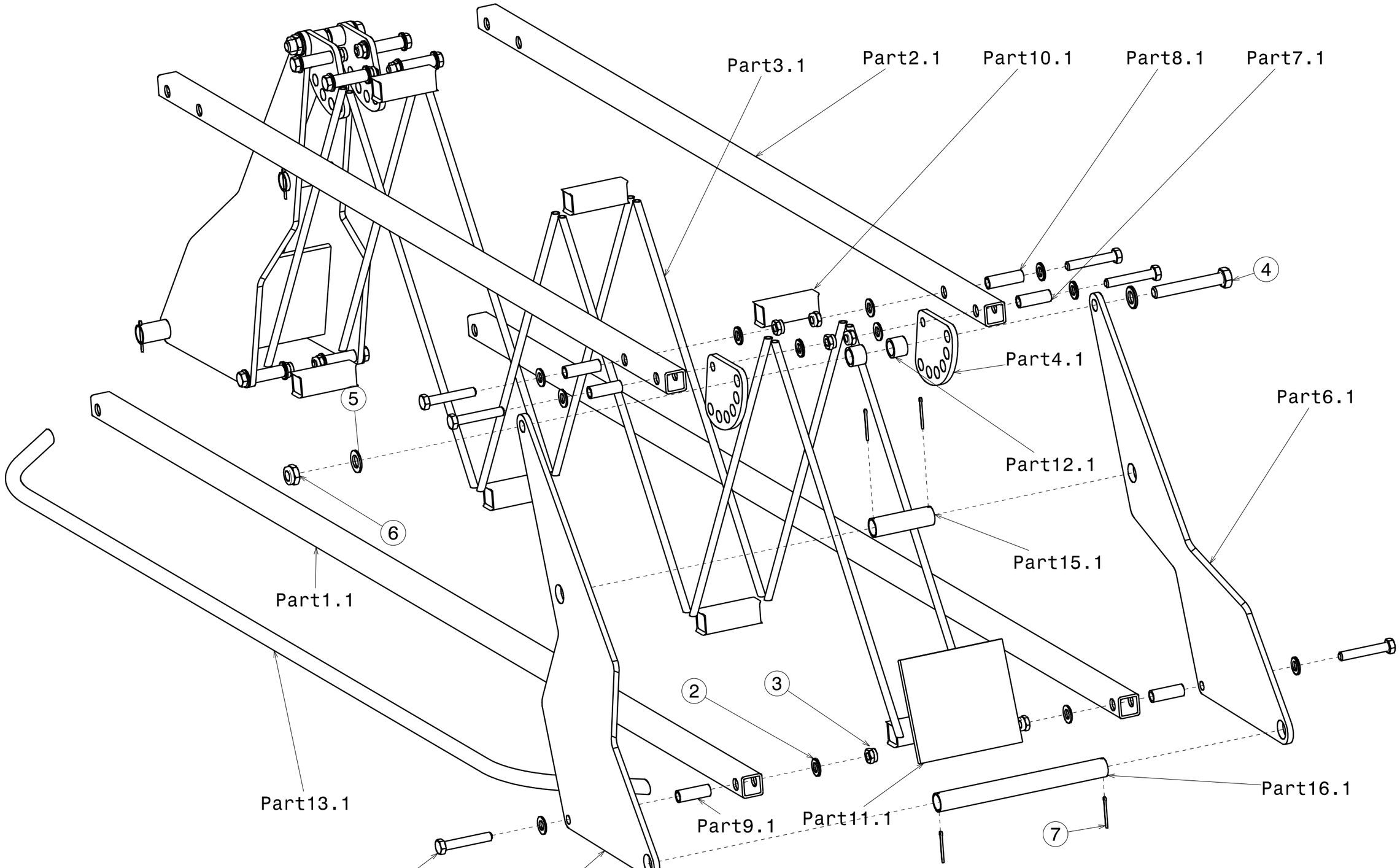
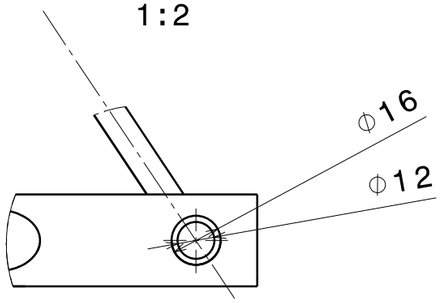
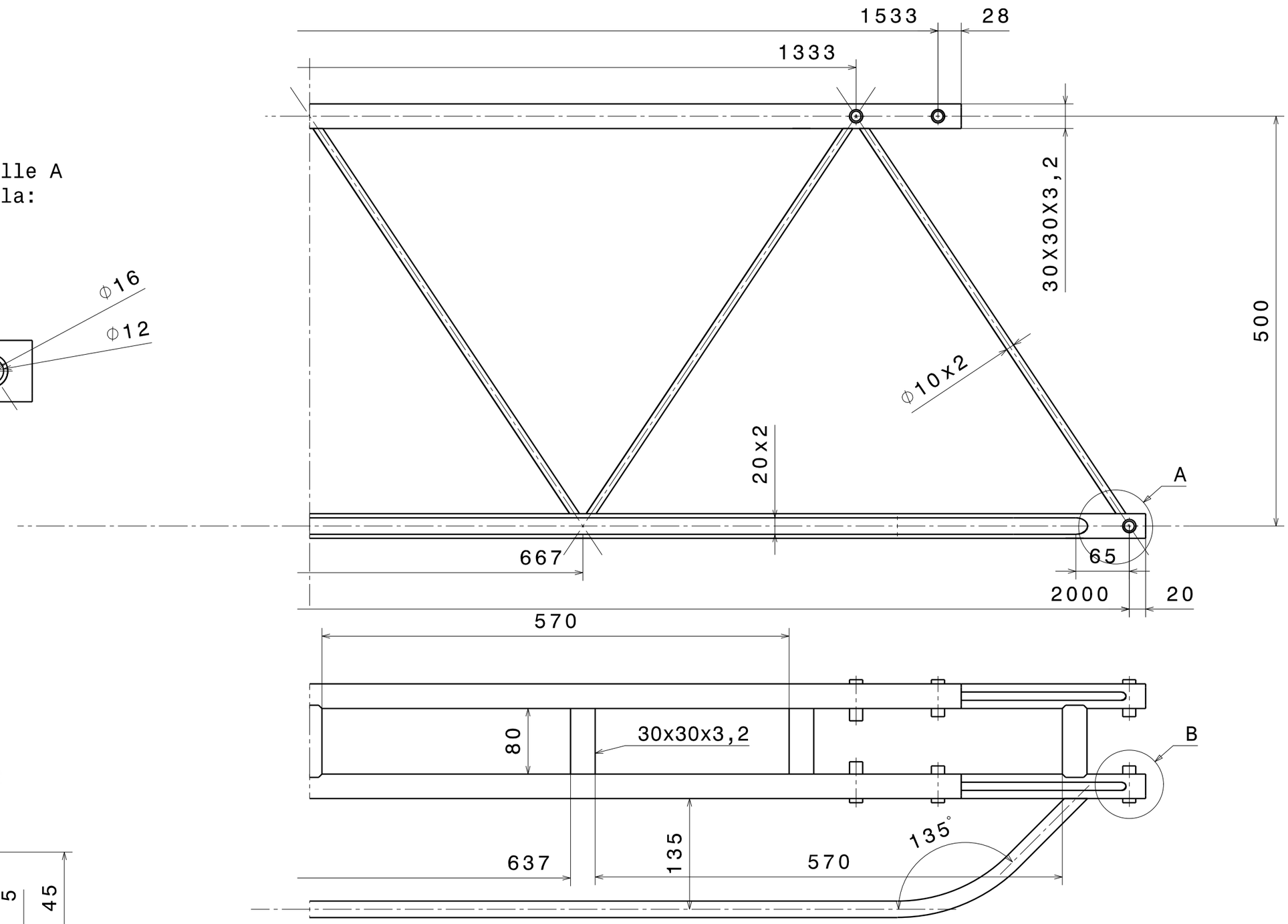


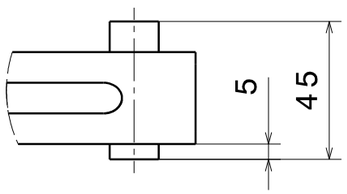
ESCUELA UNIVERSITARIA DE INGENIERIA TECNICA INDUSTRIAL DE ZARAGOZA			
DIBUJADO: A.FERRANDO	FECHA: 20/04/2010	TITULO: Componente 1. Despiece	
REVISADO:	FECHA:	REFERENCIA:	FABRICACION:
DISEÑADO: A.FERRANDO	FECHA: 20/04/2010	ESCALA: 1:5	NUMERO DE PLANO: 01.01.01.01

Detalle A
escala:
1:2





Detalle B
Escala: 1:2

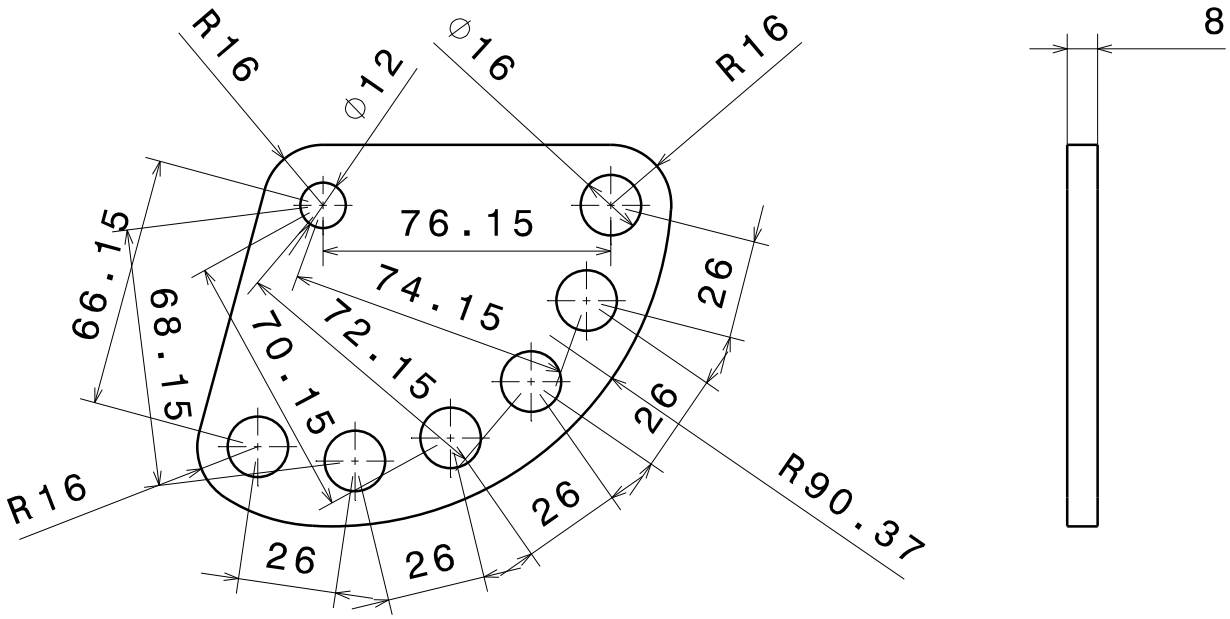


ESCUELA UNIVERSITARIA DE INGENIERIA TECNICA INDUSTRIAL DE ZARAGOZA			
DIBUJADO: A.FERRANDO	FECHA: 20/04/2010	TITULO: Componente 1. Estructura	
REVISADO:	FECHA:	REFERENCIA:	FABRICACION:
DISEÑADO: A.FERRANDO	FECHA: 20/04/2010	ESCALA: 1:5	NUMERO DE PLANO: 01.01.02.01

CANTIDAD	MARCA	DENOMINACION	MATERIAL
8	7	ISO 1234 3,2X29 PASADOR ELASTICO PARTIDO	AISI S21800
2	6	ISO 10511 M16 TUERCA AUTOBLOCANTE	AISI S21800
4	5	ISO 7089 M16 ARANDELA PLANA	AISI S21800
2	4	ISO 4014 M16x100 PERNO CABEZA HEXAGONAL	AISI S21800
12	3	ISO 10511 M12 TUERCA AUTOBLOCANTE	AISI S21800
24	2	ISO 7089 M12 ARANDELA PLANA	AISI S21800
12	1	ISO 4014 M12x70 PERNO CABEZA HEXAGONAL	AISI S21800
2	Part16.1		Acero E-350
2	Part15.1		Acero E-350
1	Part13.1		Acero E-350
4	Part12.1		Acero E-350
2	Part11.1		Acero E-350
7	Part10.1		Acero E-350
4	Part9.1		Acero E-350
4	Part8.1		Acero E-350
4	Part7.1		Acero E-350
2	Part6.1		Acero E-350
2	Part5.1		Acero E-350
4	Part4.1		Acero E-350
12	Part3.1		Acero E-350
2	Part2.1		Acero E-350
2	Part1.1		Acero E-350

ESCUELA UNIVERSITARIA DE INGENIERIA TECNICA INDUSTRIAL DE ZARAGOZA

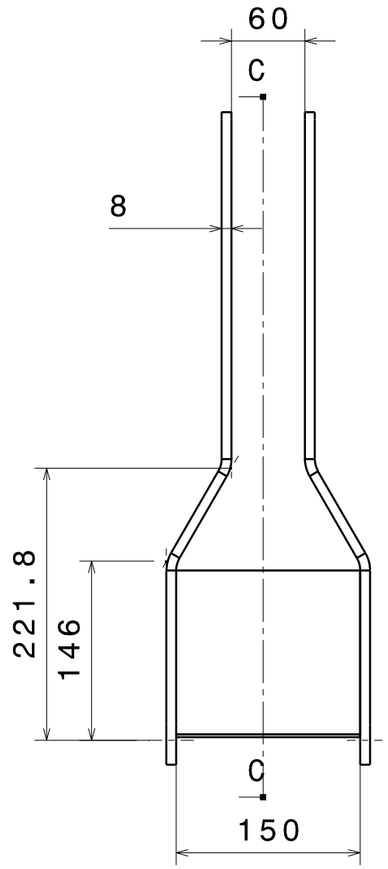
DIBUJADO: A.FERRANDO	FECHA: 20/04/2010	TITULO: Componente 1. lista despiece	
REVISADO:	FECHA:	REFERENCIA:	FABRICACION:
DISEÑADO: A.FERRANDO	FECHA: 20/04/2010	ESCALA:	NUMERO DE PLANO: 01.01.01.02

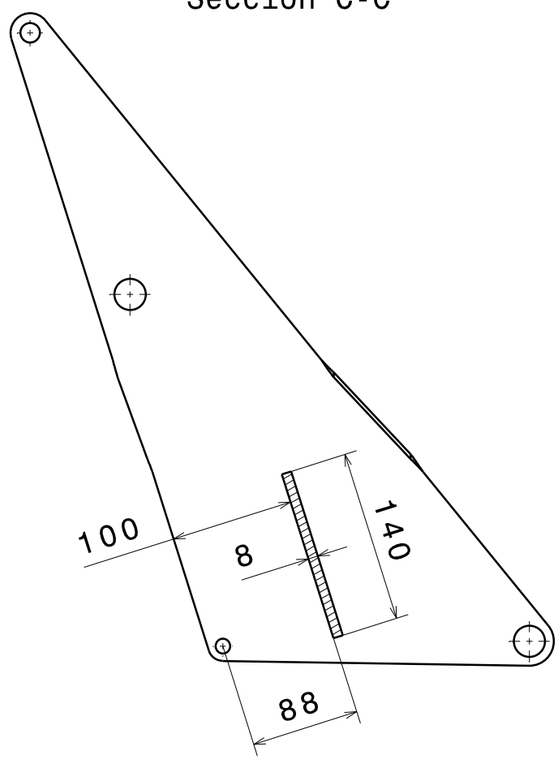


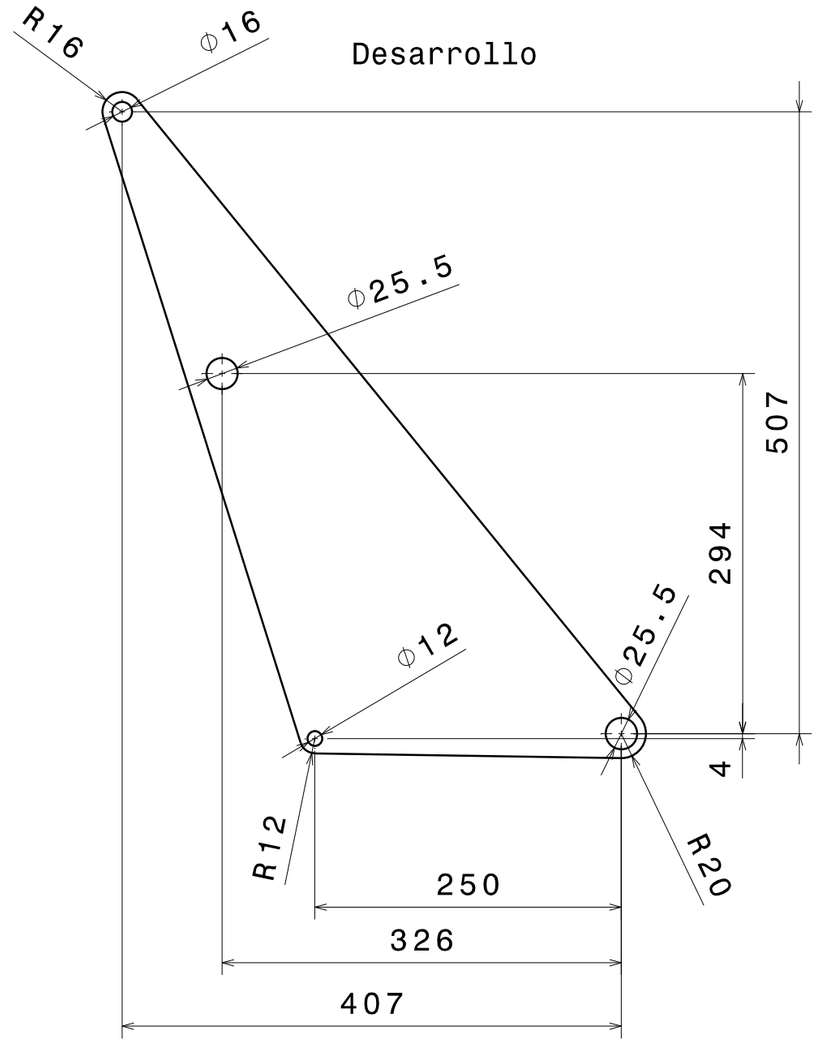
	Part4.1		ACERO E-350
CANTIDAD	MARCA	DENOMINACION	MATERIAL

ESCUELA UNIVERSITARIA DE INGENIERIA TECNICA INDUSTRIAL DE ZARAGOZA

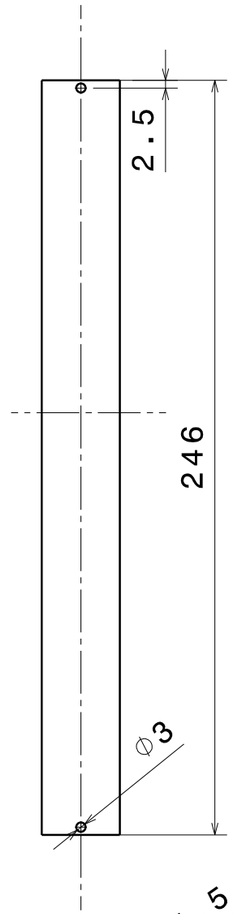
DIBUJADO: A.FERRANDO	FECHA: 20/04/2010	TITULO: PART4.1	
REVISADO:	FECHA:	REFERENCIA:	FABRICACION:
DISEÑADO: A.FERRANDO	FECHA: 20/04/2010	ESCALA: 1:2	NUMERO DE PLANO: 01.01.03.02



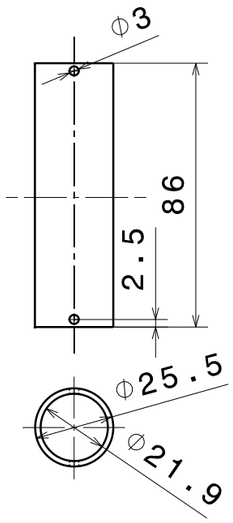




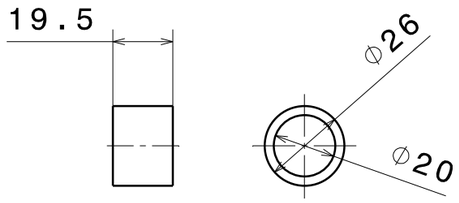
Part16.1
escala: 1:2

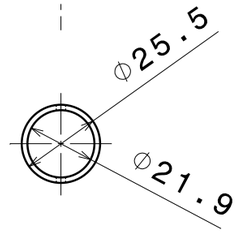


Part15.1
escala 1:2

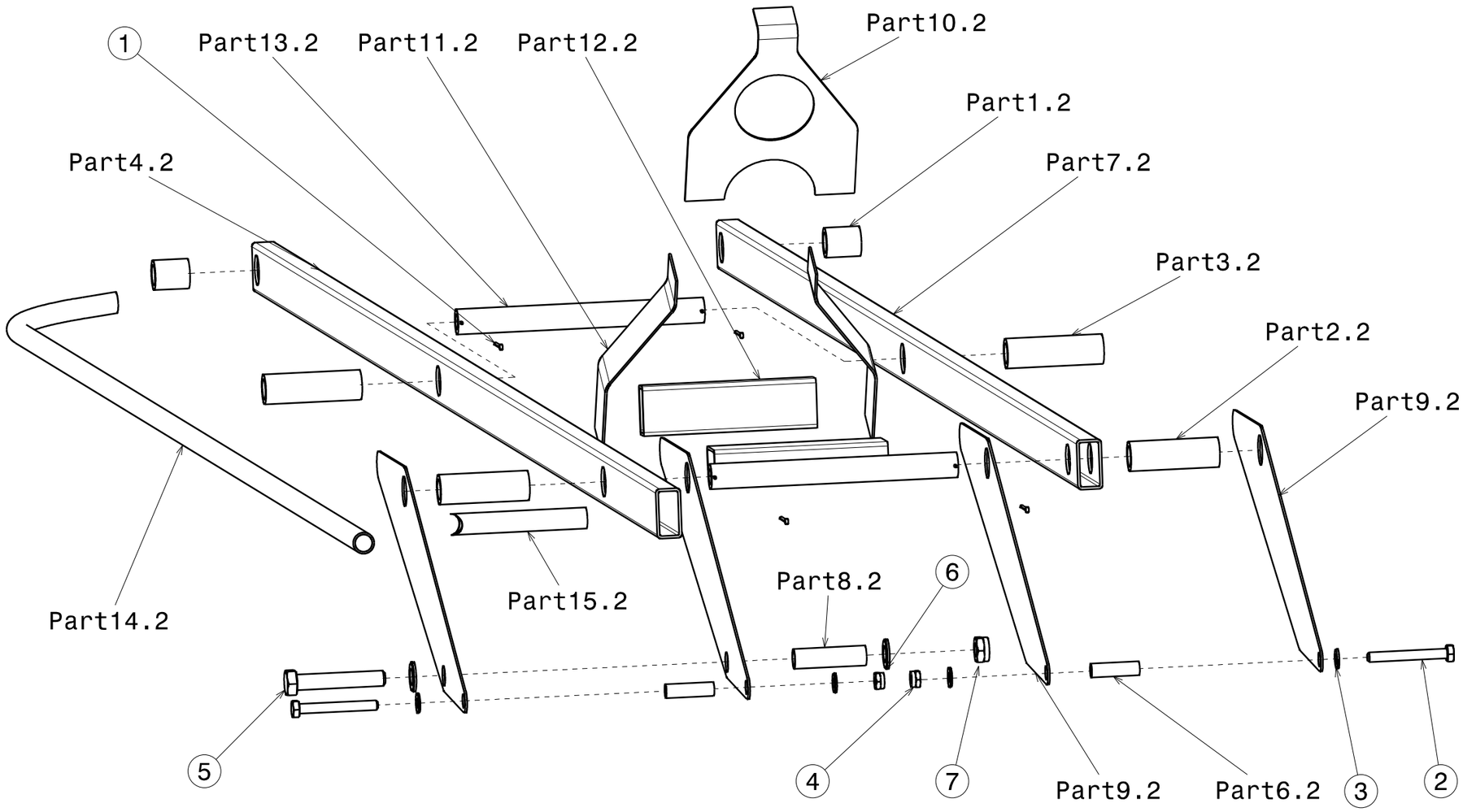


Part12.1
escala: 1:2





ESCUELA UNIVERSITARIA DE INGENIERIA TECNICA INDUSTRIAL DE ZARAGOZA			
DIBUJADO: A.FERRANDO	FECHA: 20/04/2010	TITULO: Componente 1. Piezas	
REVISADO:	FECHA:	REFERENCIA:	FABRICACION:
DISEÑADO: A.FERRANDO	FECHA: 20/04/2010	ESCALA: 1:5	NUMERO DE PLANO: 01.01.03.01



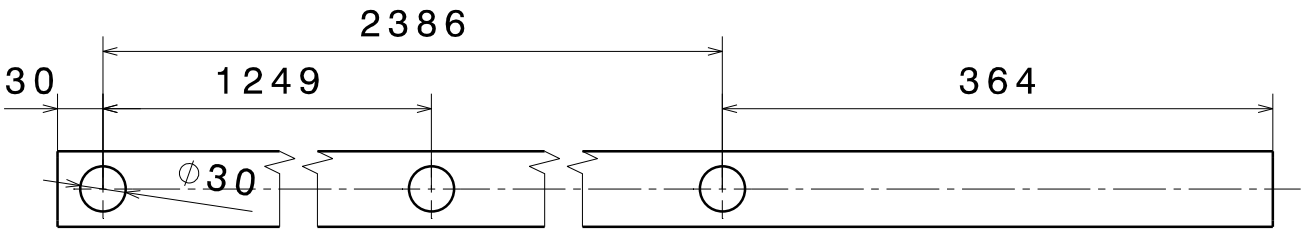
CANTIDAD	MARCA	DENOMINACION	MATERIAL
1	7	ISO 10511 M12 TUERCA AUTOBLOCANTE	AISI S21800
2	6	ISO 7089 M12 ARANDELA PLANA	AISI S21800
1	5	ISO 4014 M12x90 PERNO CABEZA HEXAGONAL	AISI S21800
2	4	ISO 10511 M10 TUERCA AUTOBLOCANTE	AISI S21800
4	3	ISO 7089 M10 ARANDELA PLANA	AISI S21800
2	2	ISO 4014 M10x80 PERNO CABEZA HEXAGONAL	AISI S21800
4	1	ISO 1234 3,2X33,5 PASADOR ELASTICO PARTIDO	AISI S21800
1	Part15.2		Acero E-350
2	Part14.2		Acero E-350
2	Part13.2		Acero E-350
2	Part12.2		Acero E-350
2	Part11.2		Acero E-350
1	Part10.2		Acero E-350
2	Part9.2		Acero E-350

CANTIDAD	MARCA	DENOMINACION	MATERIAL
1	Part8.2		Acero E-350
1	Part7.2		Acero E-350
2	Part6.2		Acero E-350
2	Part5.2		Acero E-350
1	Part4.2		Acero E-350
2	Part3.2		Acero E-350
2	Part2.2		Acero E-350
2	Part1.2		Acero E-350

ESCUELA UNIVERSITARIA DE INGENIERIA TECNICA INDUSTRIAL DE ZARAGOZA

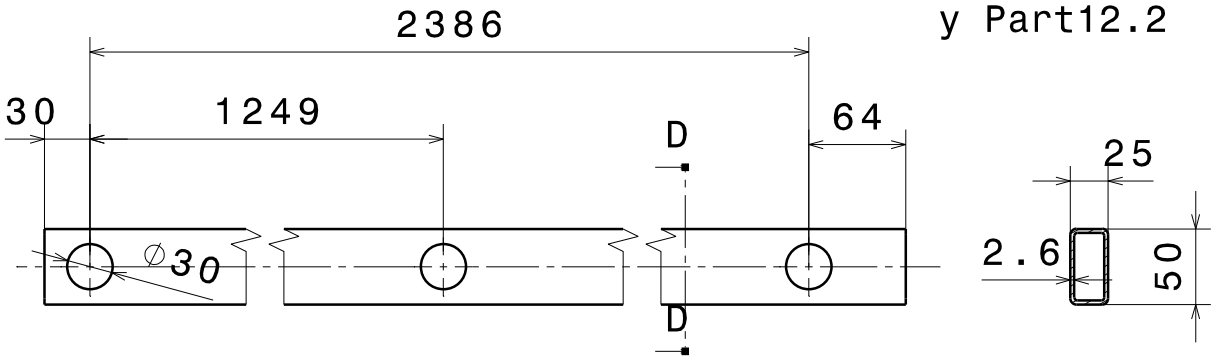
DIBUJADO: A.FERRANDO	FECHA: 25/04/2010	TITULO: Componente 2. Despiece	
REVISADO:	FECHA:	REFERENCIA:	FABRICACION:
DISEÑADO: A.FERRANDO	FECHA: 25/04/2010	ESCALA: 1:5	NUMERO DE PLANO: 01.02.01

Part4.2

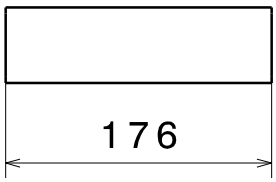


Part 7.2

Seccion D-D
Part4.2, Part7.2
y Part12.2

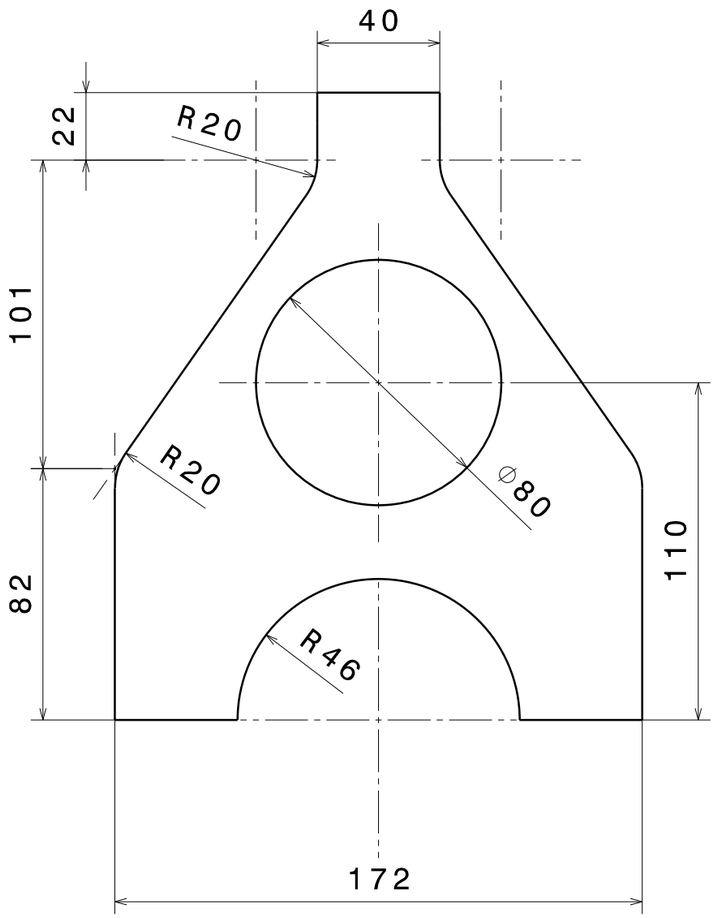


Part12.2

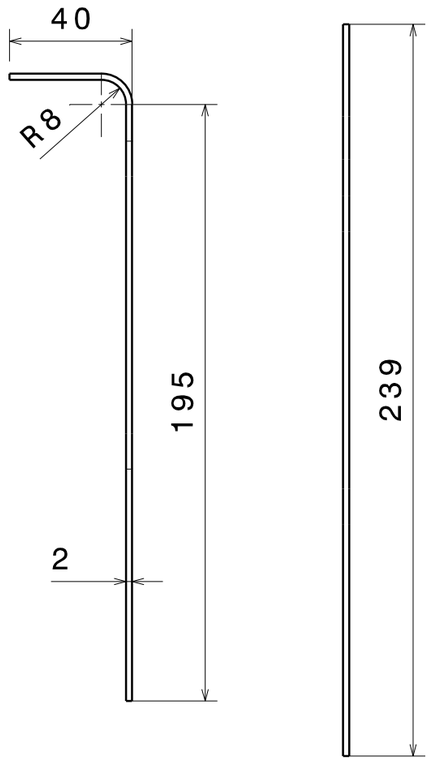


ESCUELA UNIVERSITARIA DE INGENIERIA TECNICA INDUSTRIAL DE ZARAGOZA			
DIBUJADO: A.FERRANDO	FECHA: 25/04/2010	TITULO: Componente 2. Piezas 1	
REVISADO:	FECHA:	REFERENCIA:	FABRICACION:
DISEÑADO: A.FERRANDO	FECHA: 25/04/2010	ESCALA: 1:5	NUMERO DE PLANO: 01.02.03.01

Part10.2

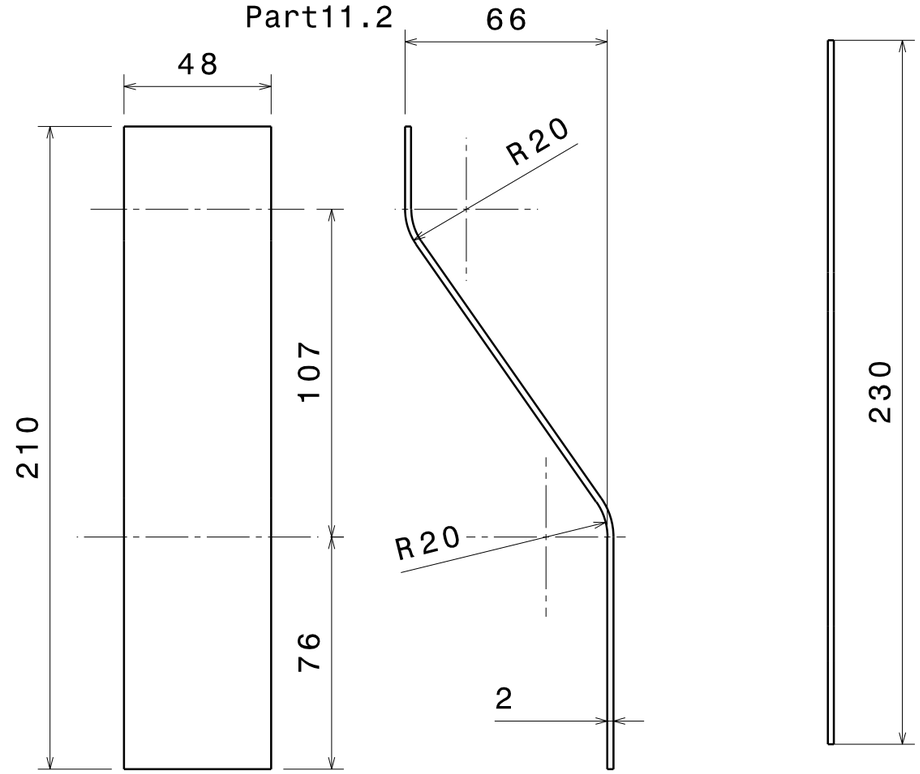


Desarrollo Par10.2



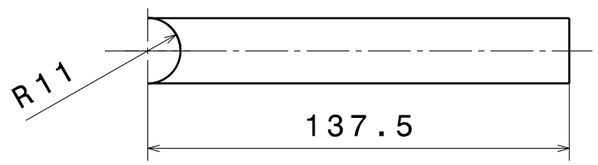
Part11.2

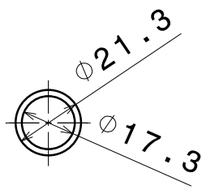
Desarrollo Part11.2



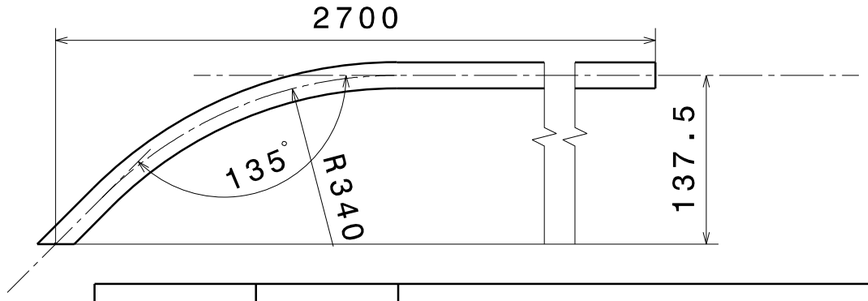
Part14.2
escala: 1:5

Part15.2

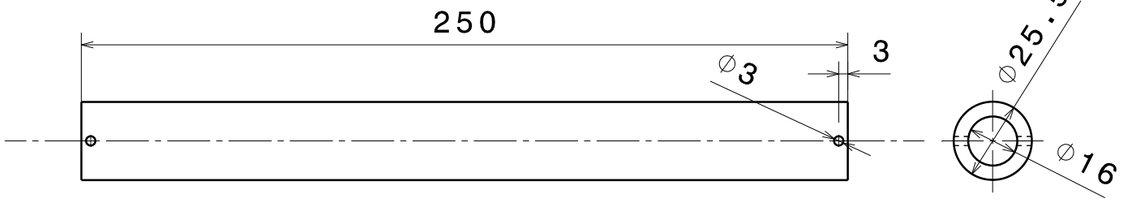




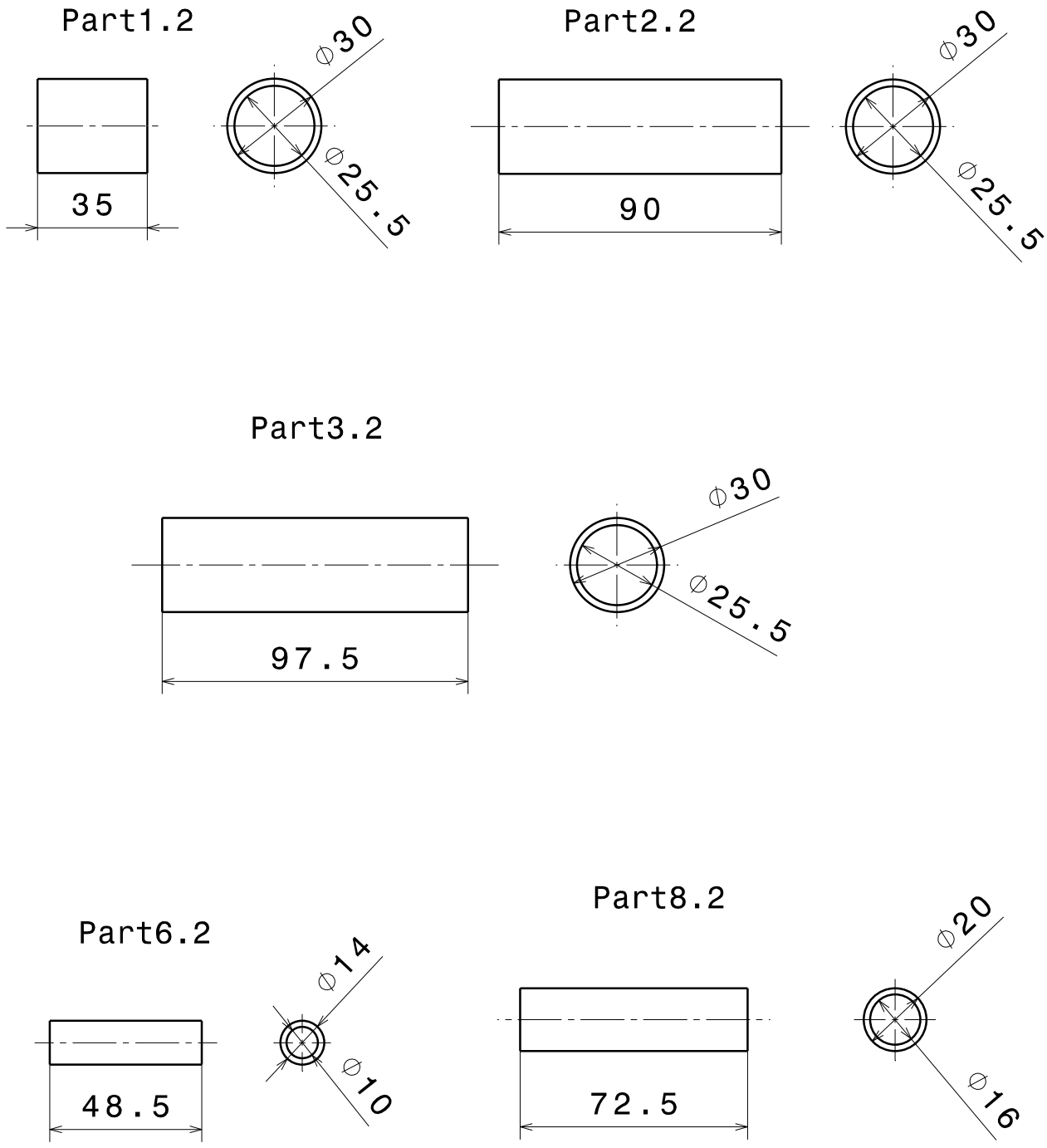
Seccion igual
que Part14.2



Part13.2



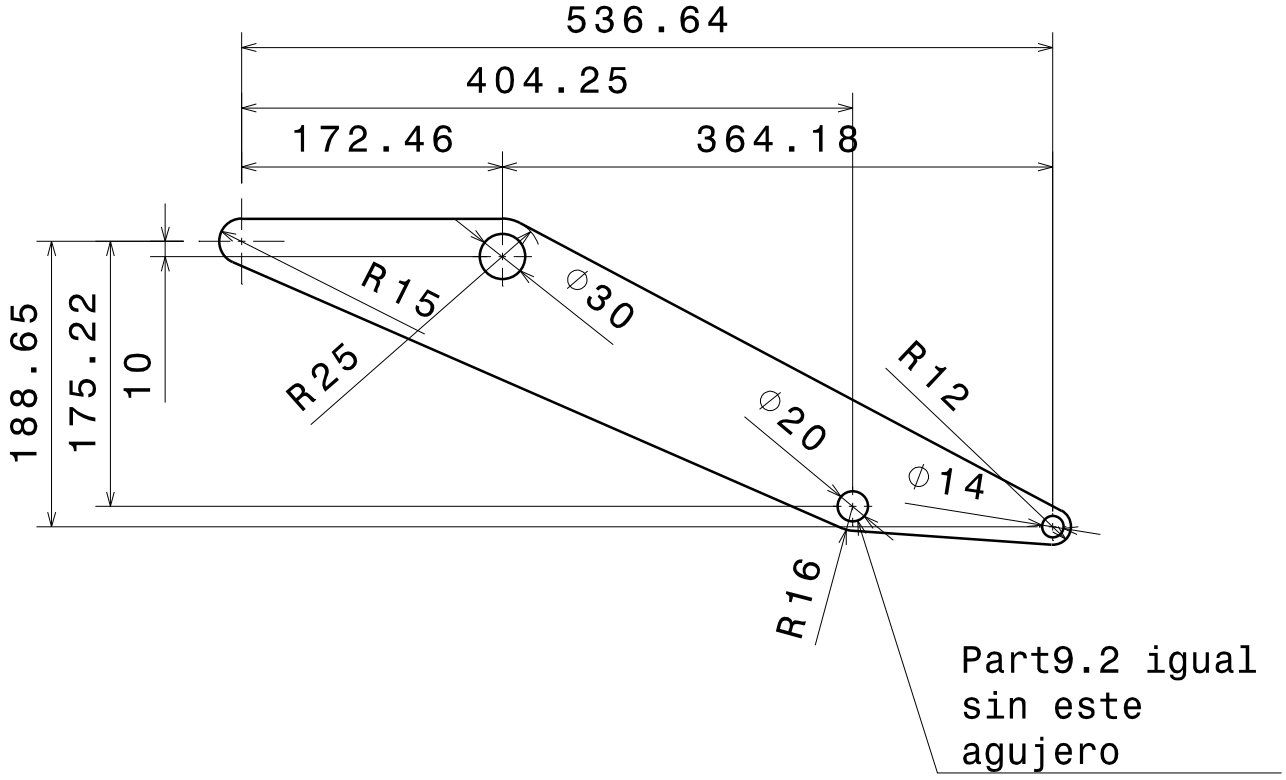
			Acero E-350
CANTIDAD	MARCA	DENOMINACION	MATERIAL
ESCUELA UNIVERSITARIA DE INGENIERIA TECNICA INDUSTRIAL DE ZARAGOZA			
DIBUJADO: A.FERRANDO	FECHA: 25/04/2010	TITULO: Componente 2. Piezas 2	
REVISADO:	FECHA:	REFERENCIA:	FABRICACION:
DISEÑADO: A.FERRANDO	FECHA: 25/04/2010	ESCALA: 1:2	NUMERO DE PLANO: 01.02.03.02



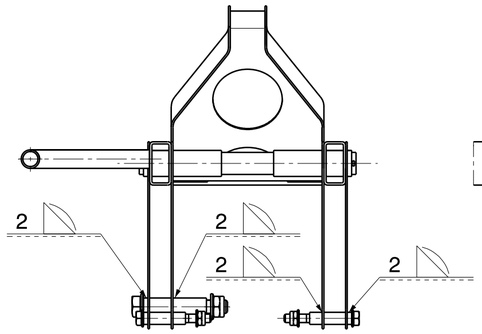
ESCUELA UNIVERSITARIA DE INGENIERIA TECNICA INDUSTRIAL DE ZARAGOZA

DIBUJADO: A.FERRANDO	FECHA: 25/04/2010	TITULO: Componente 2. Piezas 3	
REVISADO:	FECHA:	REFERENCIA:	FABRICACION:
DISEÑADO: A.FERRANDO	FECHA: 25/04/2010	ESCALA: 1:2	NUMERO DE PLANO: 01.02.03.03

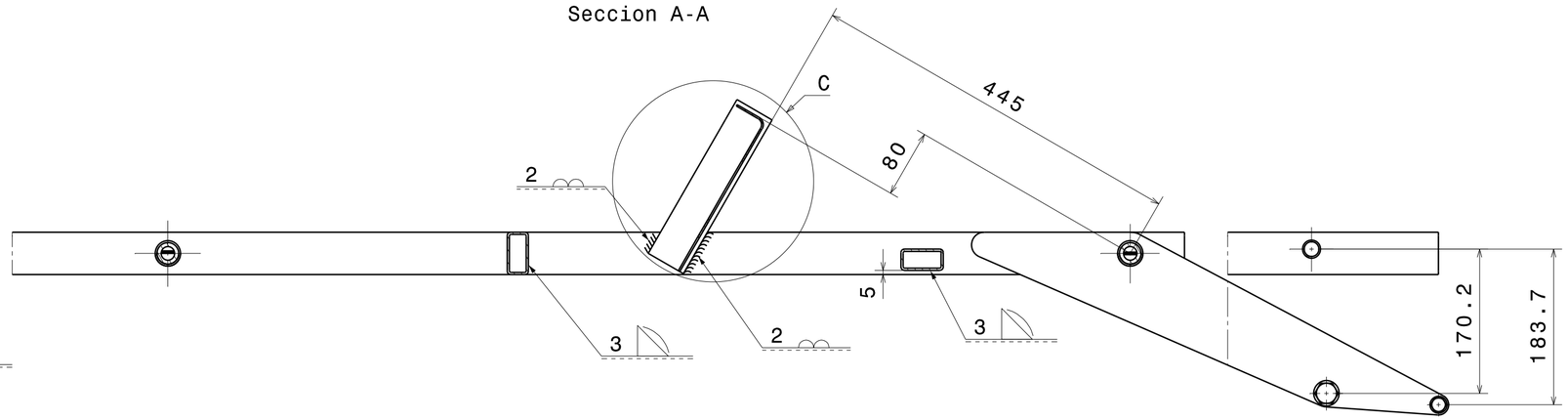
Part5.2
escala: 1:5

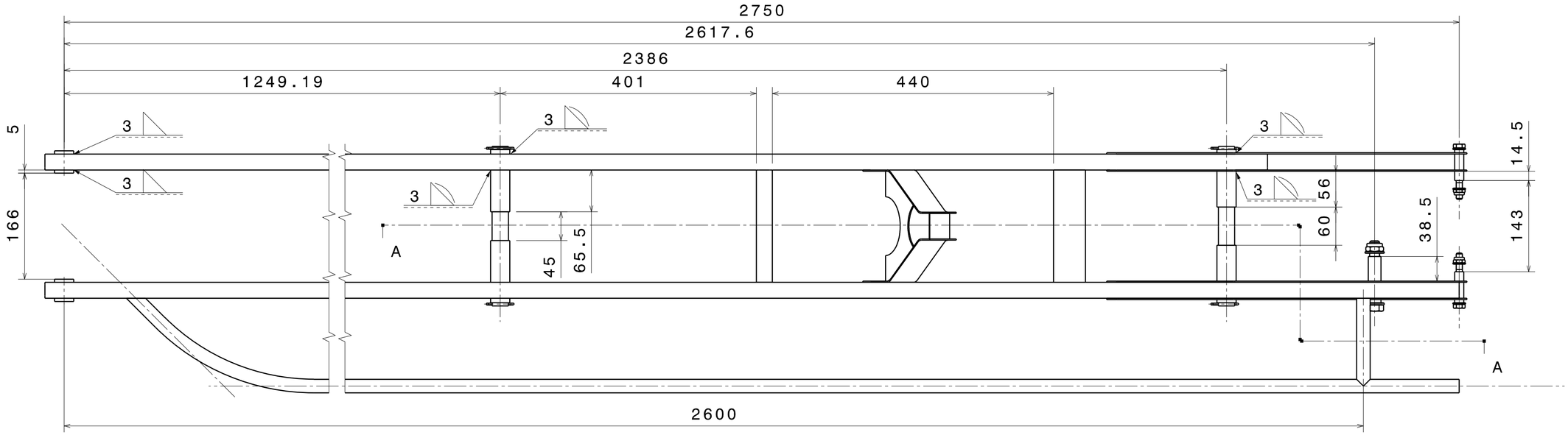


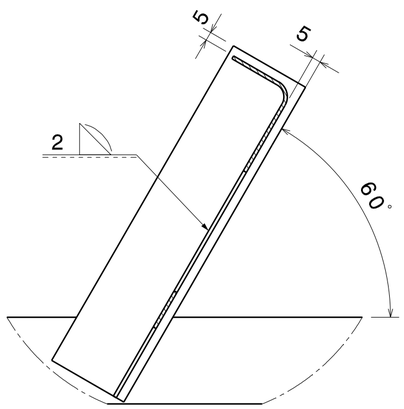
ESCUELA UNIVERSITARIA DE INGENIERIA TECNICA INDUSTRIAL DE ZARAGOZA			
DIBUJADO: A.FERRANDO	FECHA: 25/04/2010	TITULO: Componente 2. Piezas 4	
REVISADO:	FECHA:	REFERENCIA:	FABRICACION:
DISEÑADO: A.FERRANDO	FECHA: 25/04/2010	ESCALA: 1:5	NUMERO DE PLANO: 01.02.03.04



Seccion A-A





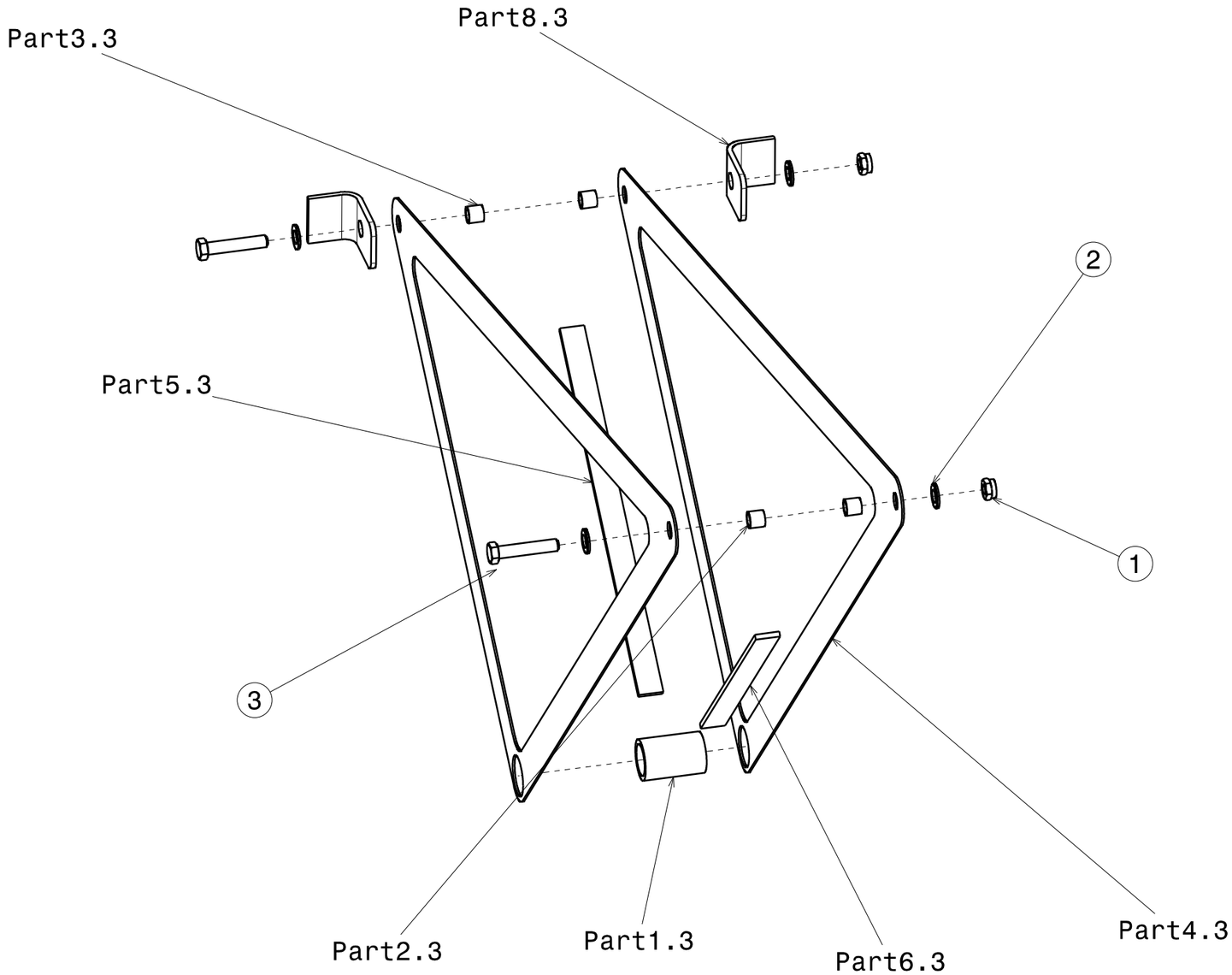


Detalle C
escala: 2:5

			Acero E-350
CANTIDAD	MARCA	DENOMINACION	MATERIAL

ESCUELA UNIVERSITARIA DE INGENIERIA TECNICA INDUSTRIAL DE ZARAGOZA

DIBUJADO: A.FERRANDO	FECHA: 25/04/2010	TITULO: Componente 2. Soldadura y montaje	
REVISADO:	FECHA:	REFERENCIA:	FABRICACION:
DISEÑADO: A.FERRANDO	FECHA: 25/04/2010	ESCALA: 1:5	NUMERO DE PLANO: 01.02.02

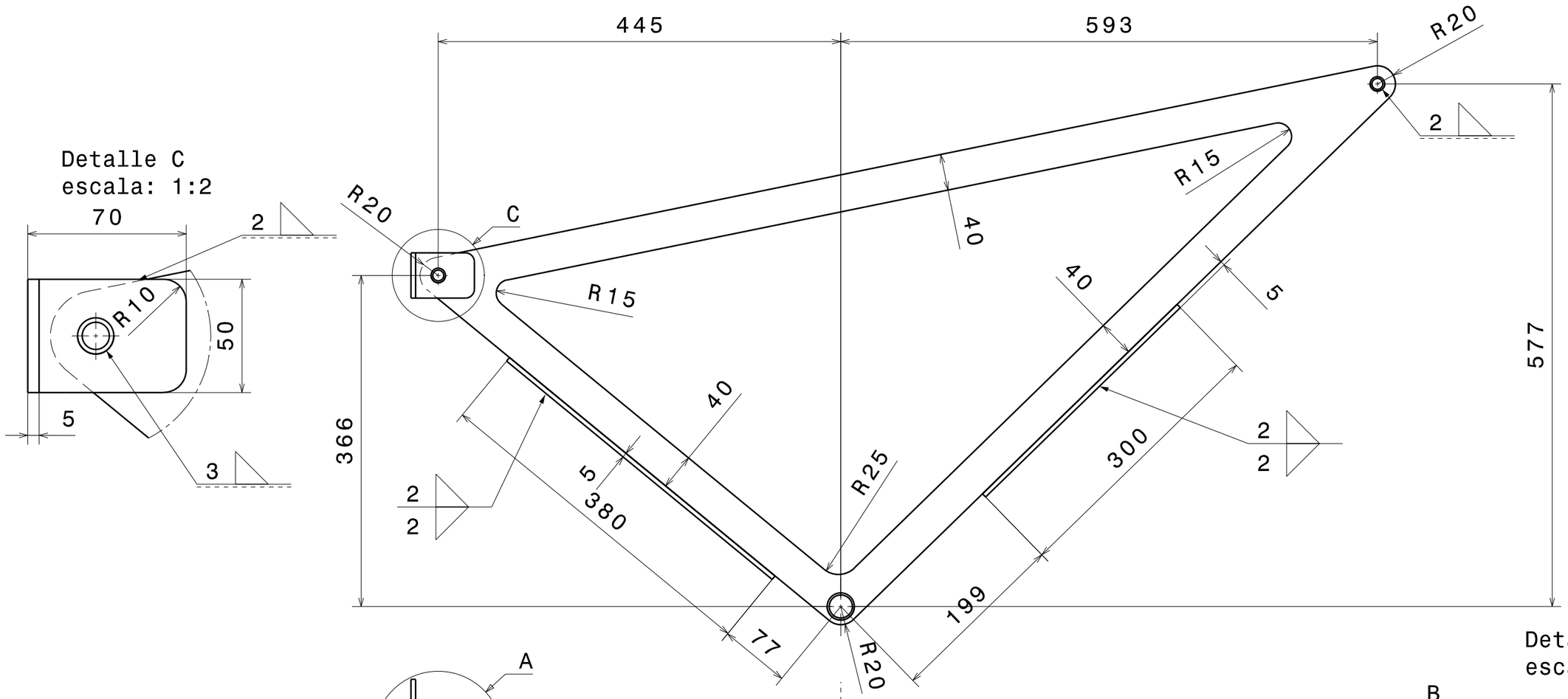


CANTIDAD	MARCA	DENOMINACION	MATERIAL
1	Part5.3		Acero E-350
2	Part4.3		Acero E-350
2	Part3.3		Acero E-350
2	Part2.3		Acero E-350
1	Part1.3		Acero E-350

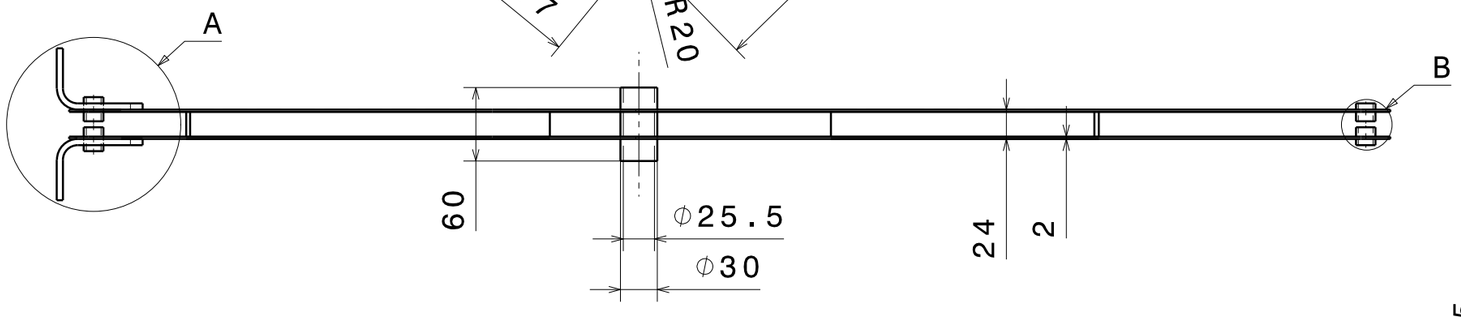
CANTIDAD	MARCA	DENOMINACION	MATERIAL
2	3	ISO 4017 M12x60 TORNILLO CABEZA HEXAGONAL	AISI S21800
4	2	ISO 7089 M12 ARANDELA PLANA	AISI S21800
2	1	ISO 4032 M12 TUERCA	AISI S21800
2	Part8.3		Acero E-350
1	Part6.3		Acero E-350

ESCUELA UNIVERSITARIA DE INGENIERIA TECNICA INDUSTRIAL DE ZARAGOZA

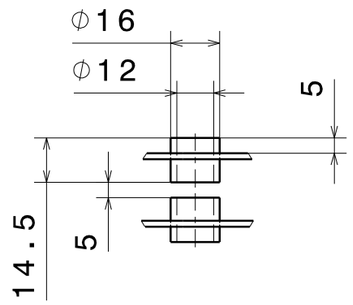
DIBUJADO: A.FERRANDO	FECHA: 06/02/2010	TITULO: Componente 3. Despiece	
REVISADO:	FECHA:	REFERENCIA:	FABRICACION:
DISEÑADO: A.FERRANDO	FECHA: 06/02/2010	ESCALA: 1:5	NUMERO DE PLANO: 01.03.01.



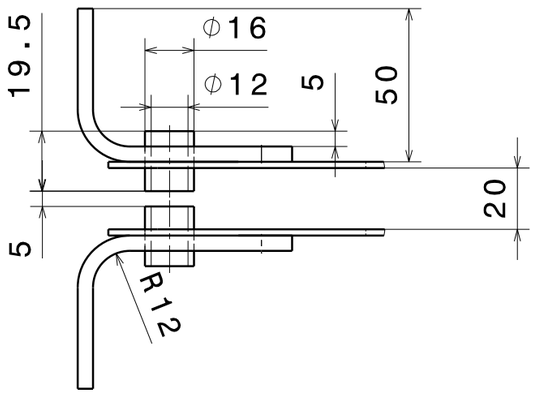
Detalle C
escala: 1:2



Detalle B
escala: 1:2

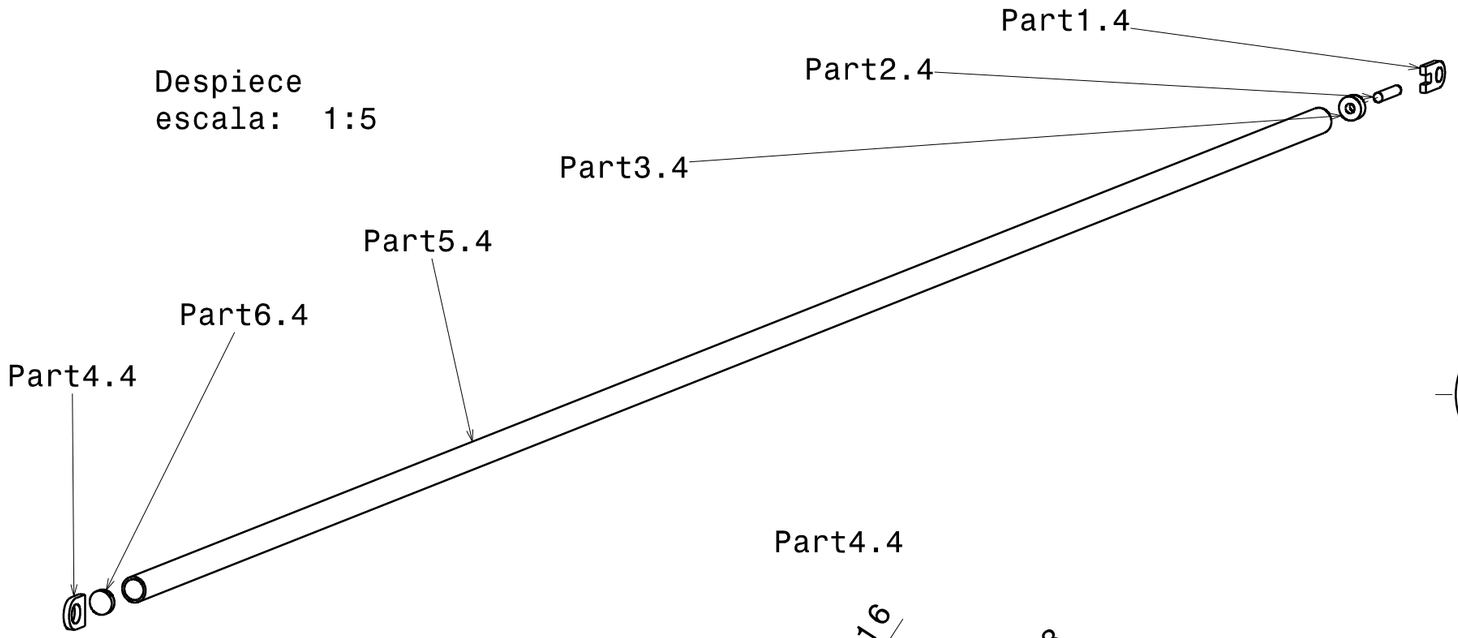


Detalle A
escala 1:2

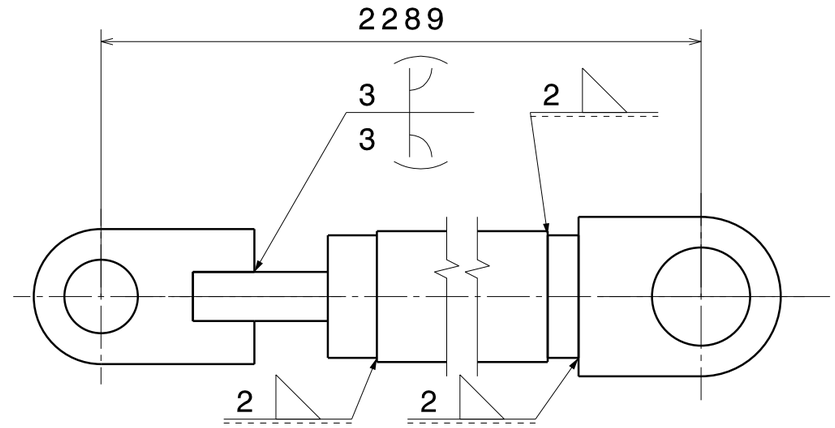


			Acero E-350
CANTIDAD	MARCA	DENOMINACION	MATERIAL
ESCUELA UNIVERSITARIA DE INGENIERIA TECNICA INDUSTRIAL DE ZARAGOZA			
DIBUJADO: A.FERRANDO	FECHA: 06/02/2010	TITULO: Componente 3.	
REVISADO:	FECHA:	REFERENCIA:	FABRICACION:
DISEÑADO: A.FERRANDO	FECHA: 06/02/2010	ESCALA: 1:5	NUMERO DE PLANO: 01.03.02.

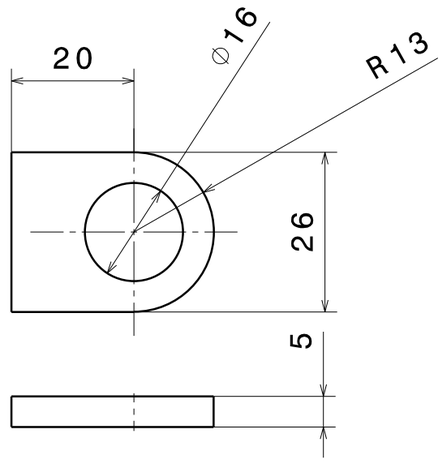
Despiece
escala: 1:5



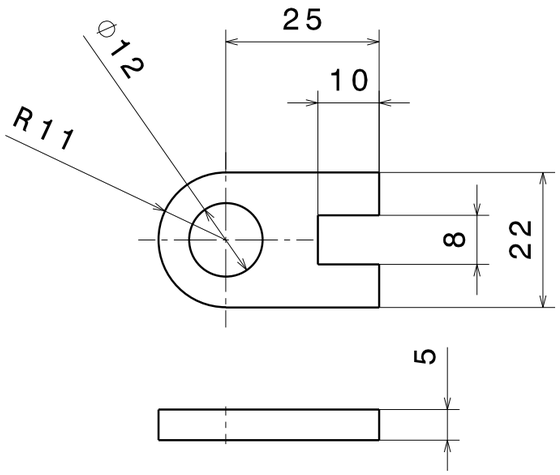
Montaje y soldadura



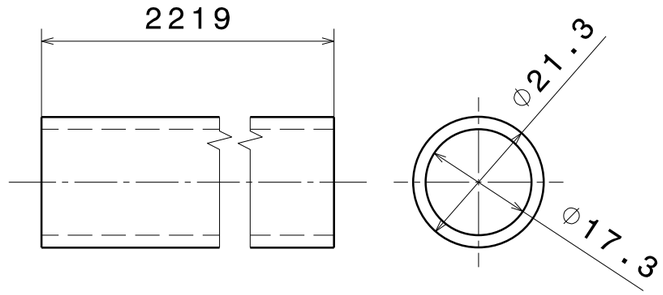
Part4.4



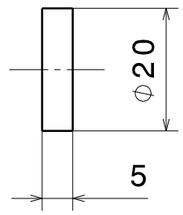
Part1.4



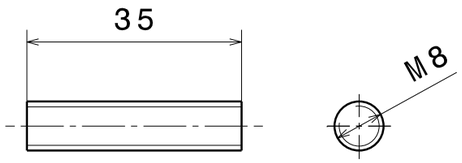
Part5.4



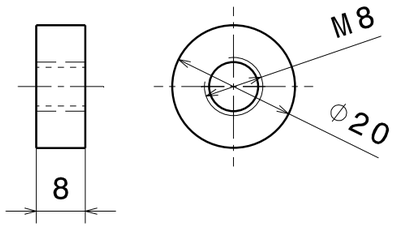
Part6.4



Part2.4



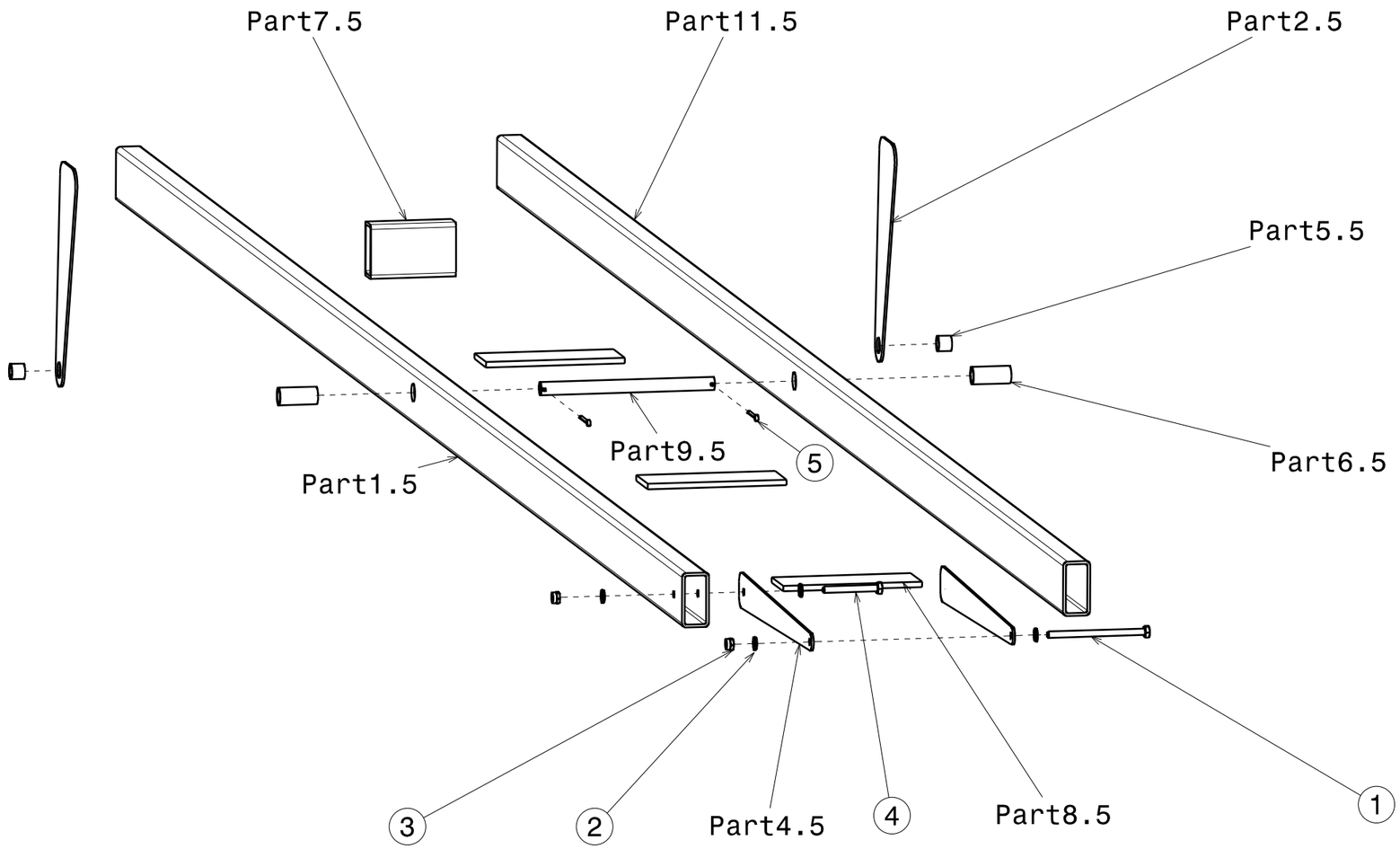
Part3.4



CANTIDAD	MARCA	DENOMINACION	MATERIAL
1	Part6.4		Acero E-3501
1	Part5.4		Acero E-3501
1	Part4.4		Acero E-3501
1	Part3.4		Acero E-3501
1	Part2.4		Acero E-3501
1	Part1.4		Acero E-3501

ESCUELA UNIVERSITARIA DE INGENIERIA TECNICA INDUSTRIAL DE ZARAGOZA

DIBUJADO: A.FERRANDO	FECHA: 03/02/2010	TITULO: Componente 4	
REVISADO:	FECHA:	REFERENCIA:	FABRICACION:
DISEÑADO: A.FERRANDO	FECHA: 03/02/2010	ESCALA: 1:1	NUMERO DE PLANO: 01.04.01

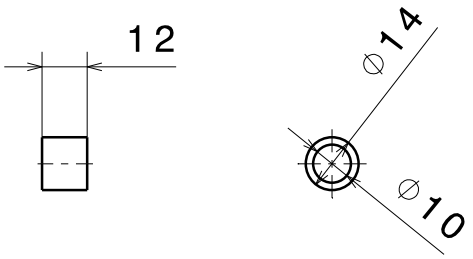


CANTIDAD	MARCA	DENOMINACION	MATERIAL
2	5	ISO 1234 3,2X29 PASADOR ELASTICO PARTIDO	AISI S21800
1	4	ISO 4014 M6x50 PERNO CABEZA HEXAGONAL	AISI S21800
2	3	ISO 10511 M6 TUERCA AUTOBLOCANTE	AISI S21800
4	2	ISO 7089 M6 ARANDELA PLANA	AISI S21800
1	1	ISO 4014 M6x90 PERNO CABEZA HEXAGONAL	AISI S21800
1	Part11.5		Acero E-350
1	Part9.5		Acero E-350
3	Part8.5		Acero E-350
1	Part7.5		Acero E-350
2	Part6.5		Acero E-350
2	Part5.5		Acero E-350
2	Part4.5		Acero E-350
2	Part2.5		Acero E-350
1	Part1.5		Acero E-350

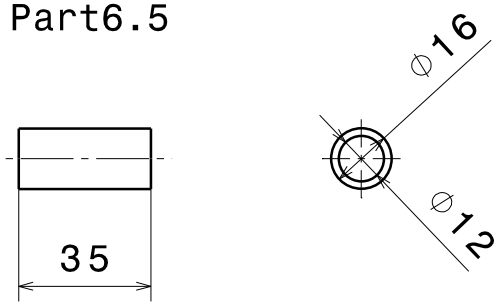
ESCUELA UNIVERSITARIA DE INGENIERIA TECNICA INDUSTRIAL DE ZARAGOZA

DIBUJADO: A.FERRANDO	FECHA: 24/04/2010	TITULO: Componente 5. Despiece	
REVISADO:	FECHA:	REFERENCIA:	FABRICACION:
DISEÑADO: A.FERRANDO	FECHA: 24/04/2010	ESCALA: 1:5	NUMERO DE PLANO: 01.05.01

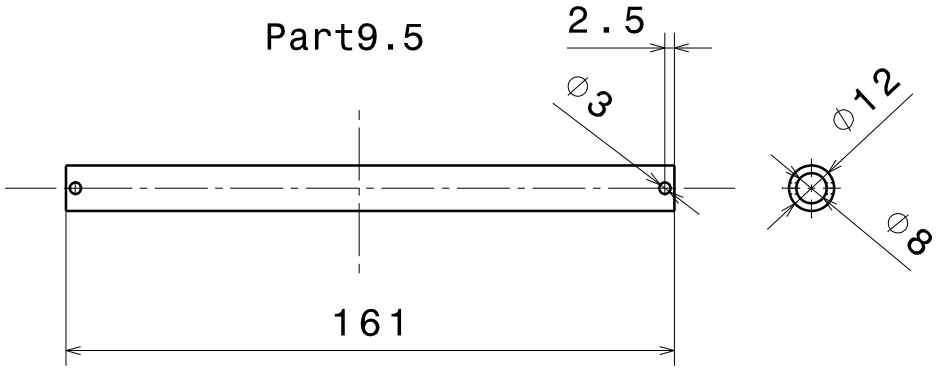
Part5.5



Part6.5

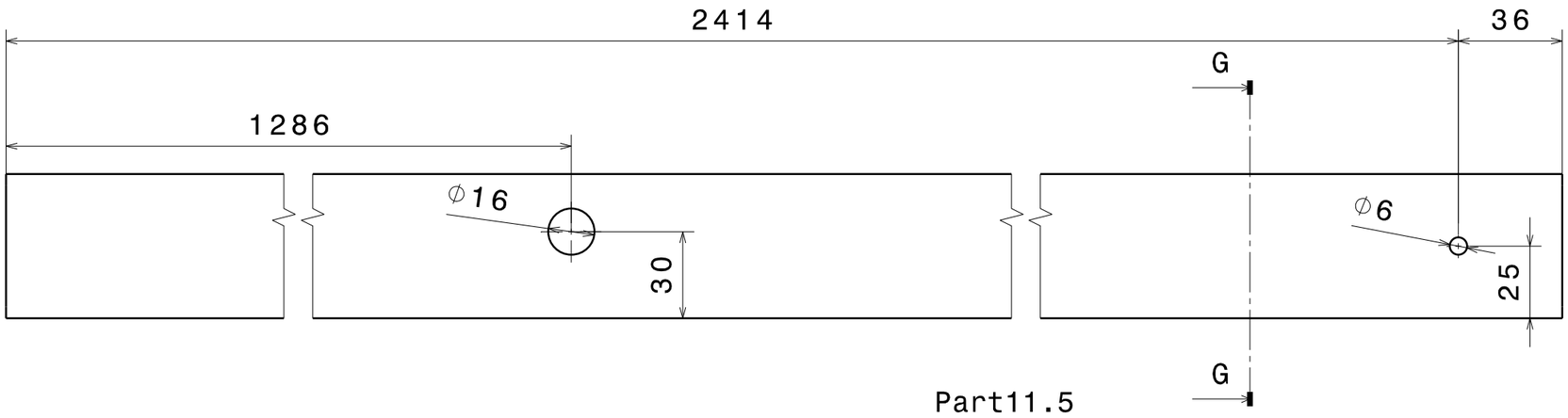


Part9.5

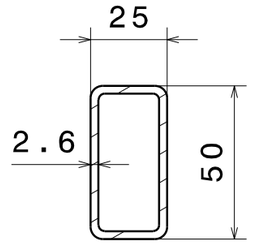


ESCUELA UNIVERSITARIA DE INGENIERIA TECNICA INDUSTRIAL DE ZARAGOZA			
DIBUJADO: A.FERRANDO	FECHA: 24/04/2010	TITULO: Componente 5. Piezas 2	
REVISADO:	FECHA:	REFERENCIA:	FABRICACION:
DISEÑADO: A.FERRANDO	FECHA: 24/04/2010	ESCALA: 1:2	NUMERO DE PLANO: 01.05.03.02

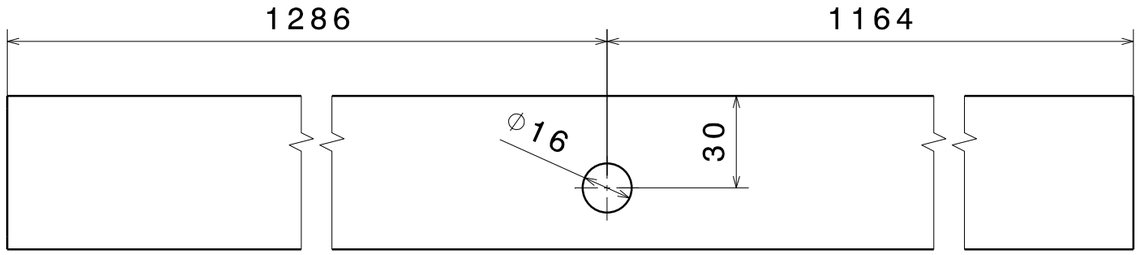
Part1.5



Seccion G-G
Perfiles Part1.5, Part7.5
y Part11.5



Part11.5



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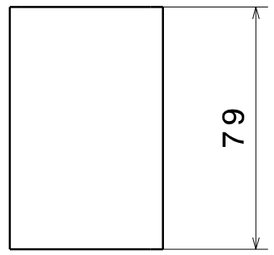
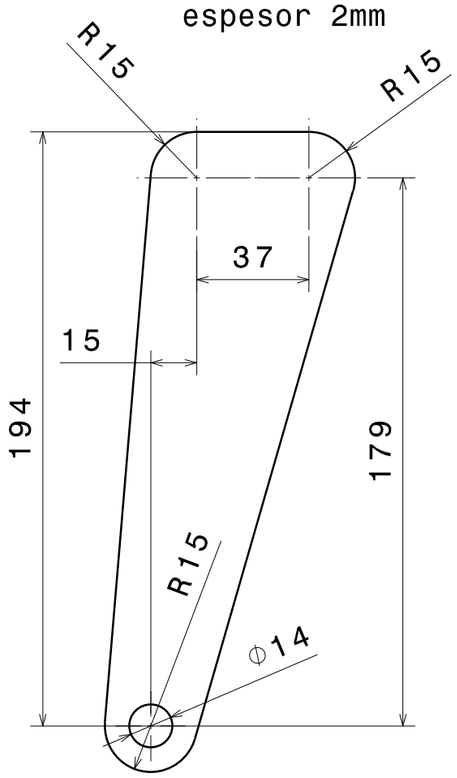
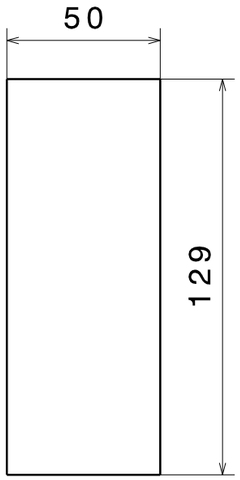


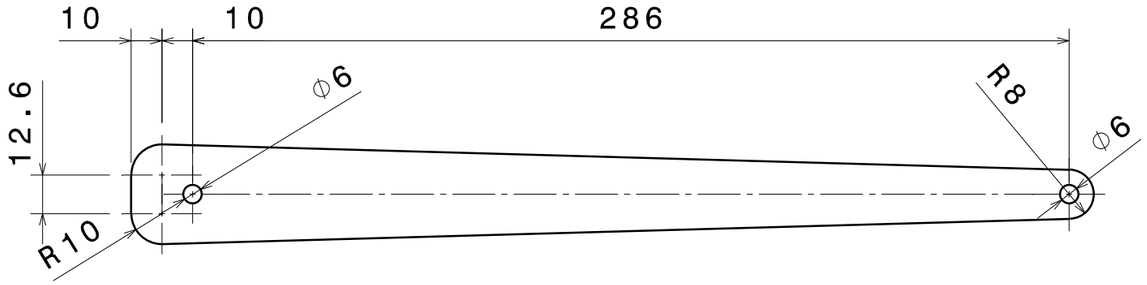
Part2.5
espesor 2mm



Part8.5
espesor 5mm

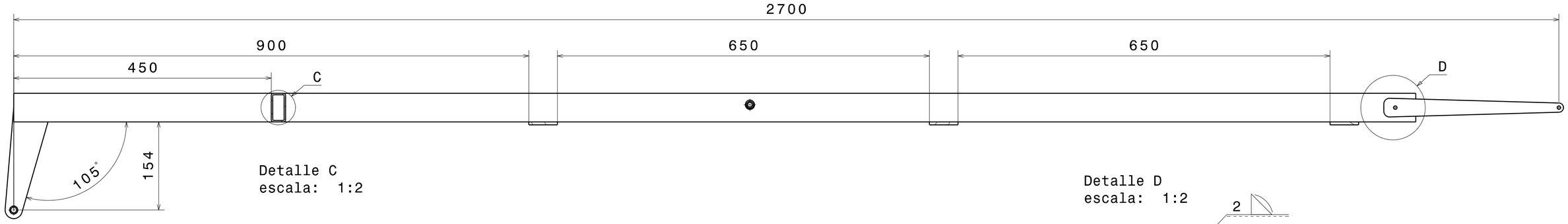


Part4.5
espesor 2mm

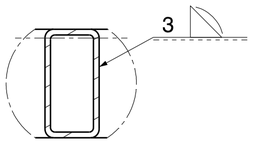


			Acero E-350
CANTIDAD	MARCA	DENOMINACION	MATERIAL
ESCUELA UNIVERSITARIA DE INGENIERIA TECNICA INDUSTRIAL DE ZARAGOZA			
DIBUJADO: A.FERRANDO	FECHA: 24/04/2010	TITULO: Componente 5. Piezas	
REVISADO:	FECHA:	REFERENCIA:	FABRICACION:
DISEÑADO: A.FERRANDO	FECHA: 24/04/2010	ESCALA: 1:2	NUMERO DE PLANO: 01.05.03

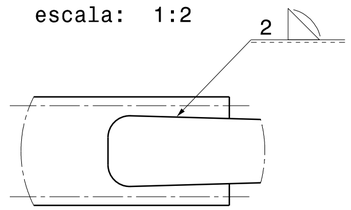
Seccion F-F

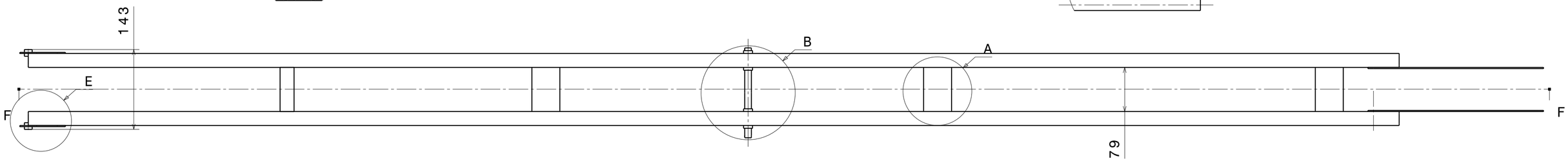


Detalle C
escala: 1:2

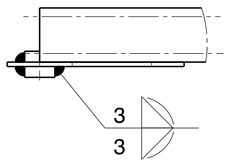


Detalle D
escala: 1:2

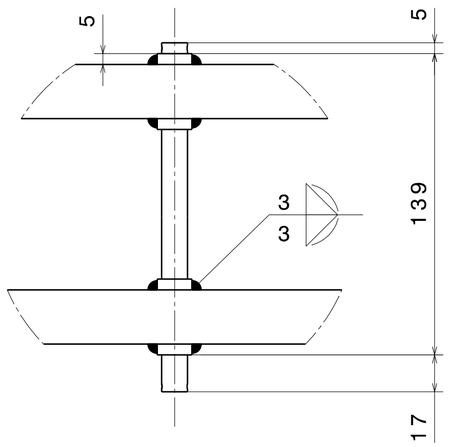




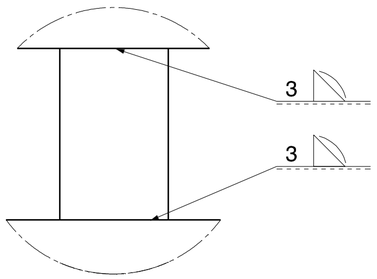
Detalle E
escala: 1:2



Detalle B
escala: 1:2



Detalle A
escala: 1:2



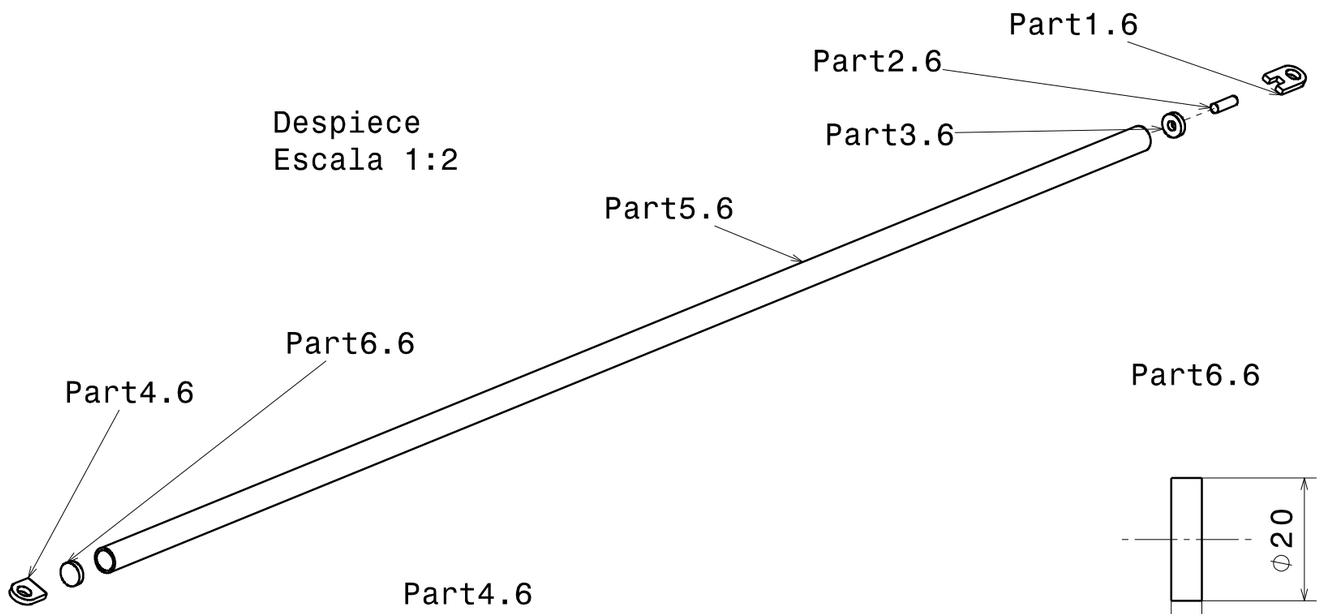
CANTIDAD	MARCA	DENOMINACION	MATERIAL

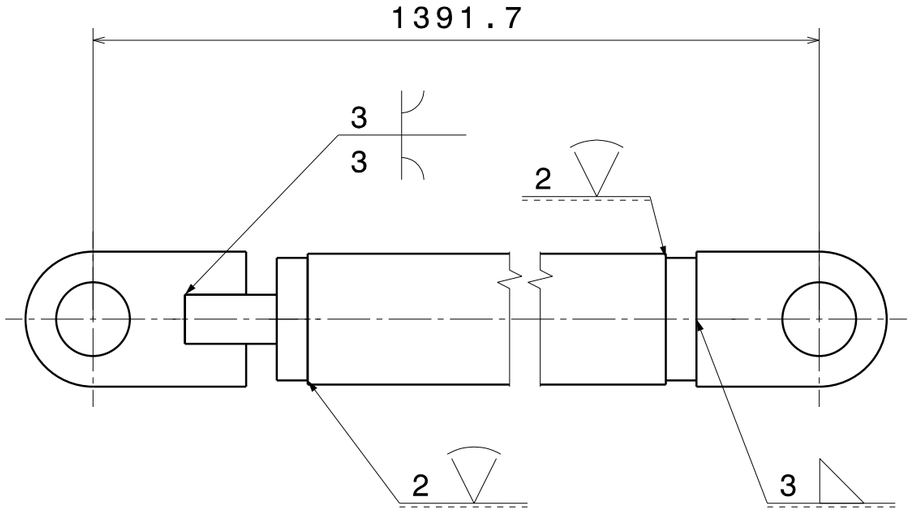
ESCUELA UNIVERSITARIA DE INGENIERIA TECNICA INDUSTRIAL DE ZARAGOZA

DIBUJADO: A.FERRANDO	FECHA: 24/04/2010	TITULO: Componente 5. Soldadura y montaje	
REVISADO:	FECHA:	REFERENCIA:	FABRICACION:
DISEÑADO: A.FERRANDO	FECHA: 24/04/2010	ESCALA: 1:5	NUMERO DE PLANO: 01.05.02

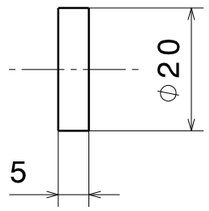
Componente 6. Montaje

Despiece
Escala 1:2

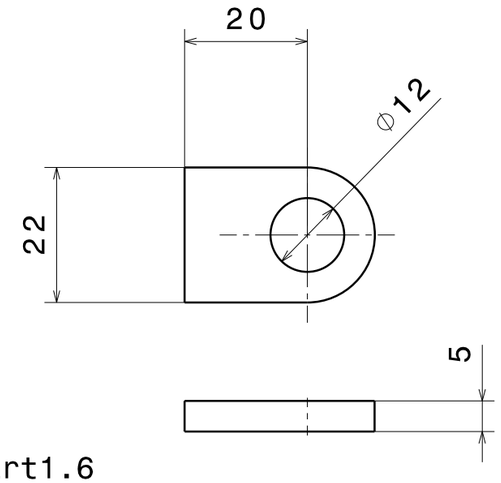




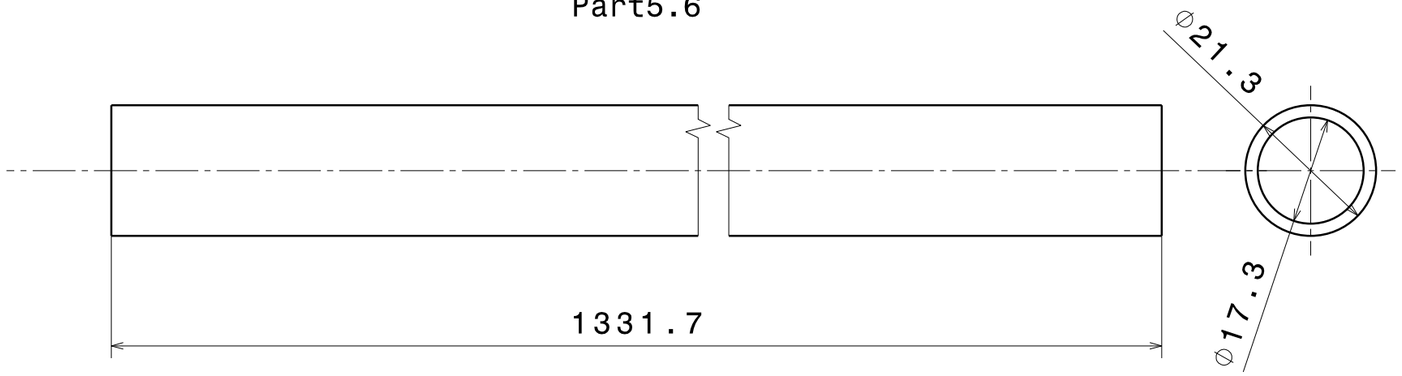
Part6.6



Part4.6

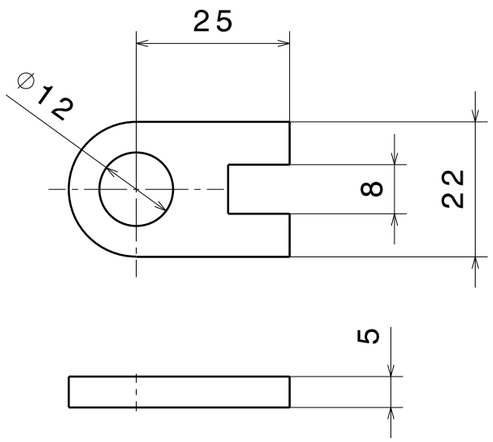


Part5.6

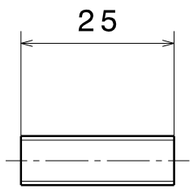


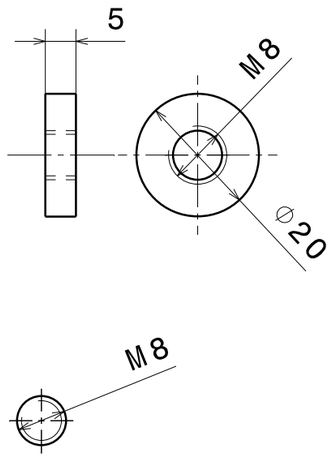
Part1.6

Part3.6



Part2.6

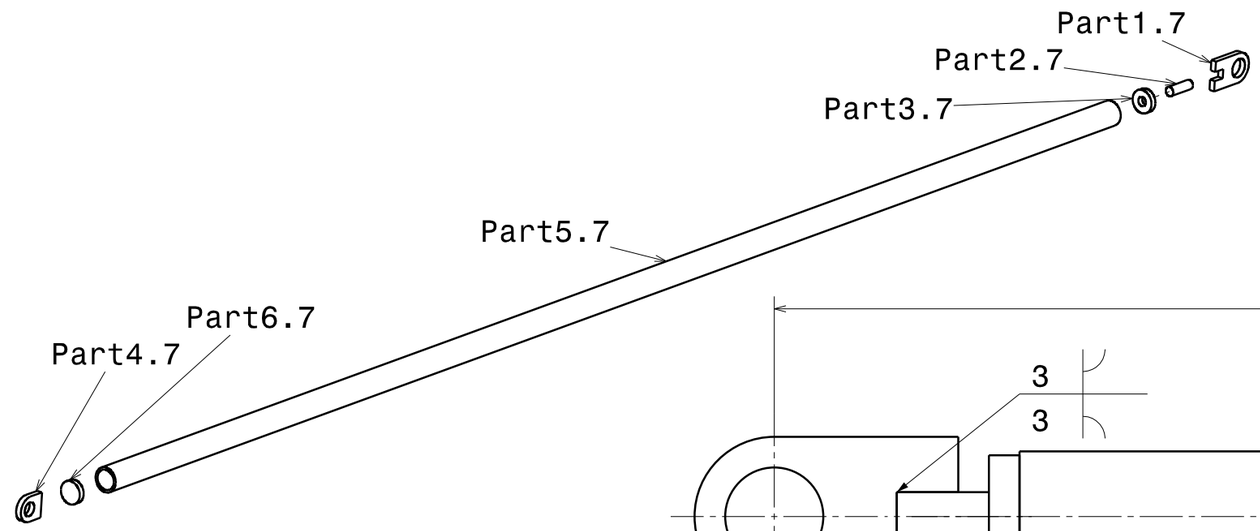




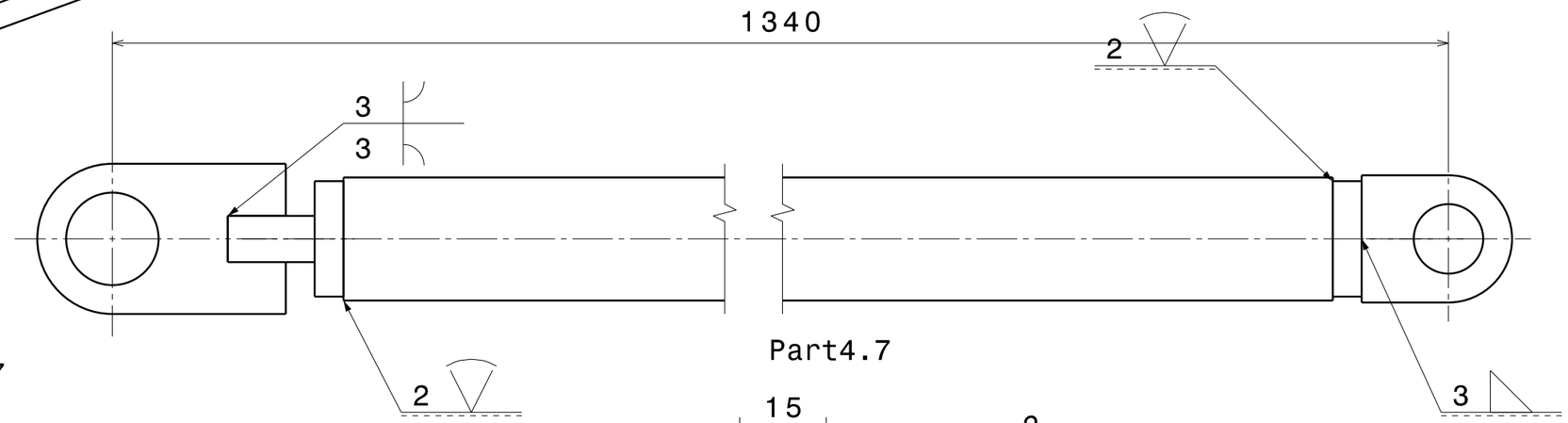
CANTIDAD	MARCA	DENOMINACION	MATERIAL
1	Part6.6		Acero E-350
1	Part5.6		Acero E-350
1	Part4.6		Acero E-350
1	Part3.6		Acero E-350
1	Part2.6		Acero E-350
1	Part1.6		Acero E-350

ESCUELA UNIVERSITARIA DE INGENIERIA TECNICA INDUSTRIAL DE ZARAGOZA

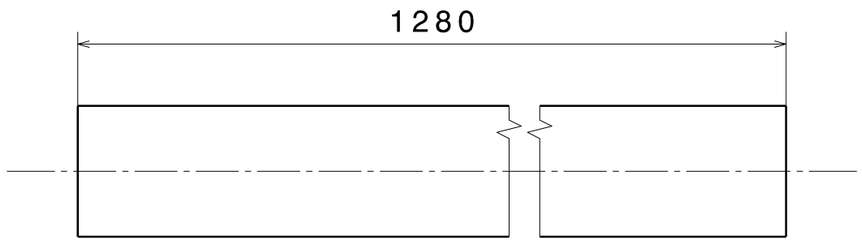
DIBUJADO: A.FERRANDO	FECHA: 23/04/2010	TITULO: Componente 6	
REVISADO:	FECHA:	REFERENCIA:	FABRICACION:
DISEÑADO: A.FERRANDO	FECHA: 23/04/2010	ESCALA: 1:1	NUMERO DE PLANO: 01.06.01

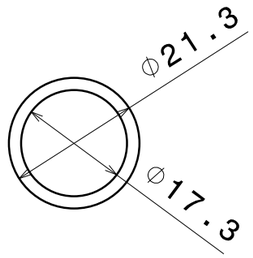


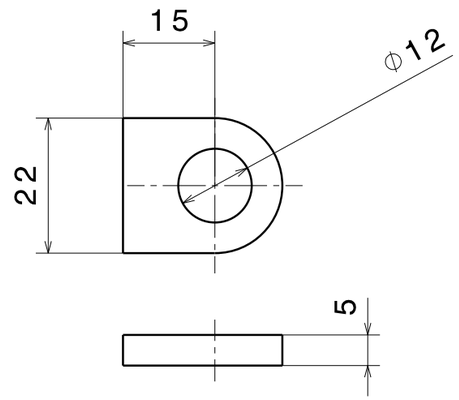
Componente 7. Montaje



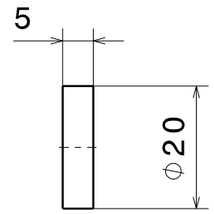
Part5.7



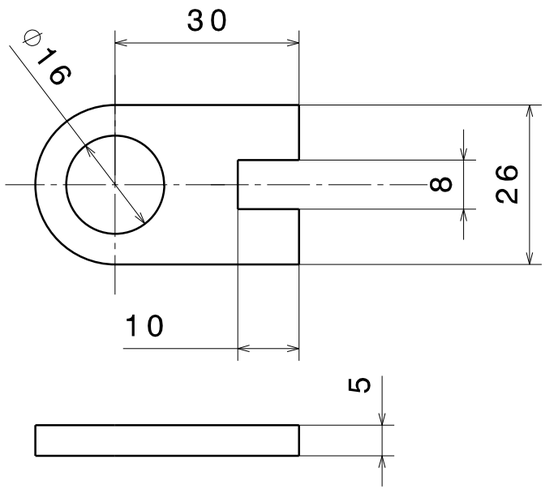




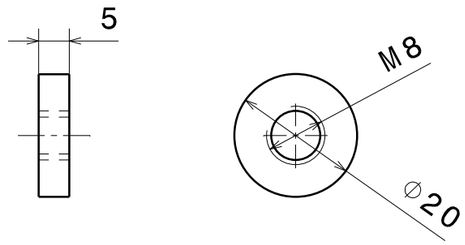
Part6.7



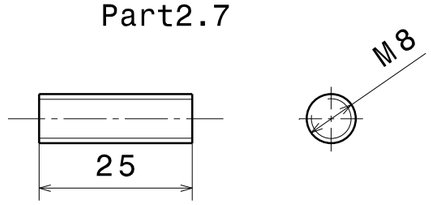
Part1.7



Part3.7



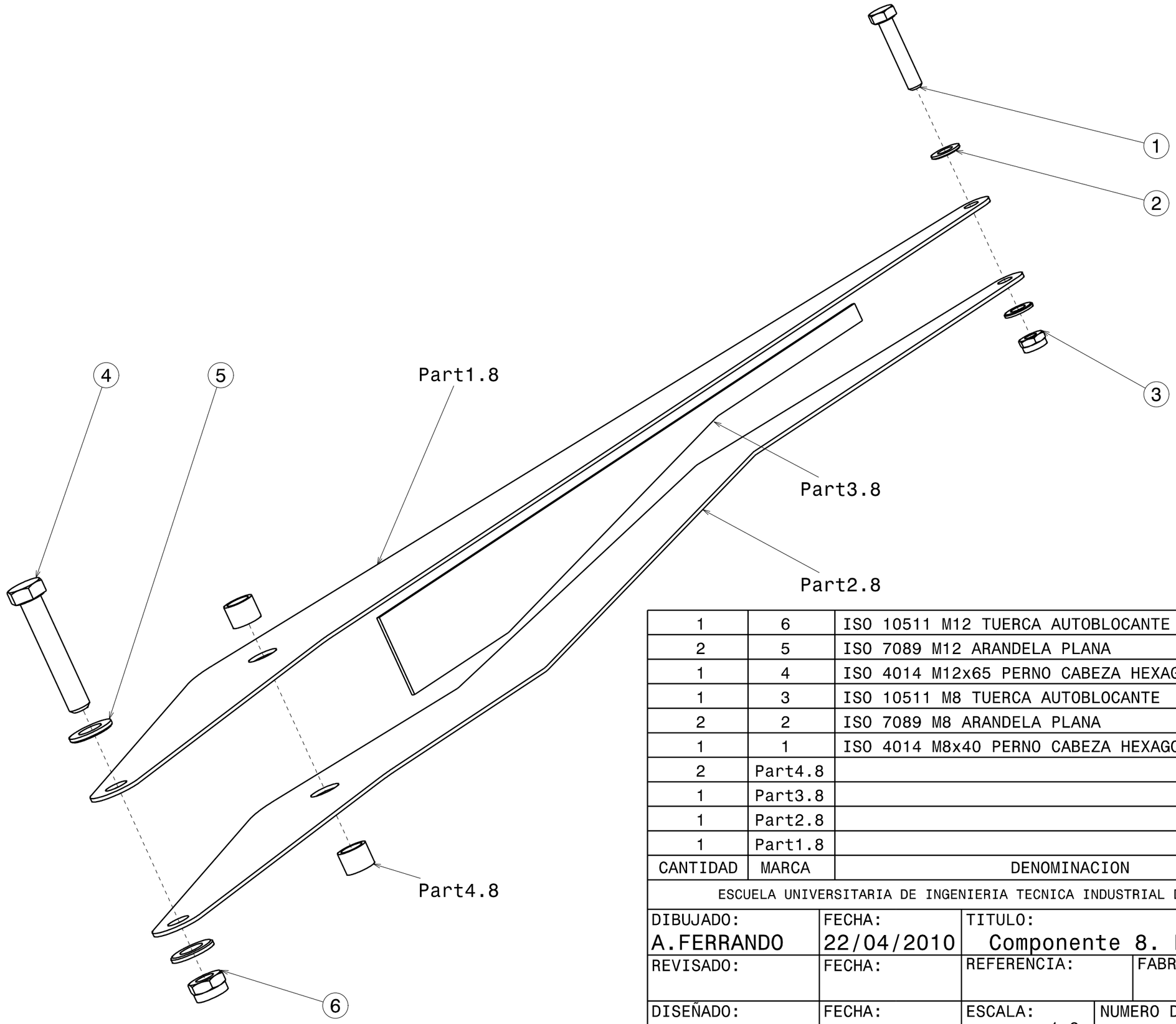
Part2.7



CANTIDAD	MARCA	DENOMINACION	MATERIAL
1	Part6.7		Acero E-350
1	Part5.7		Acero E-350
1	Part4.7		Acero E-350
1	Part3.7		Acero E-350
1	Part2.7		Acero E-350
1	Part1.7		Acero E-350

ESCUELA UNIVERSITARIA DE INGENIERIA TECNICA INDUSTRIAL DE ZARAGOZA

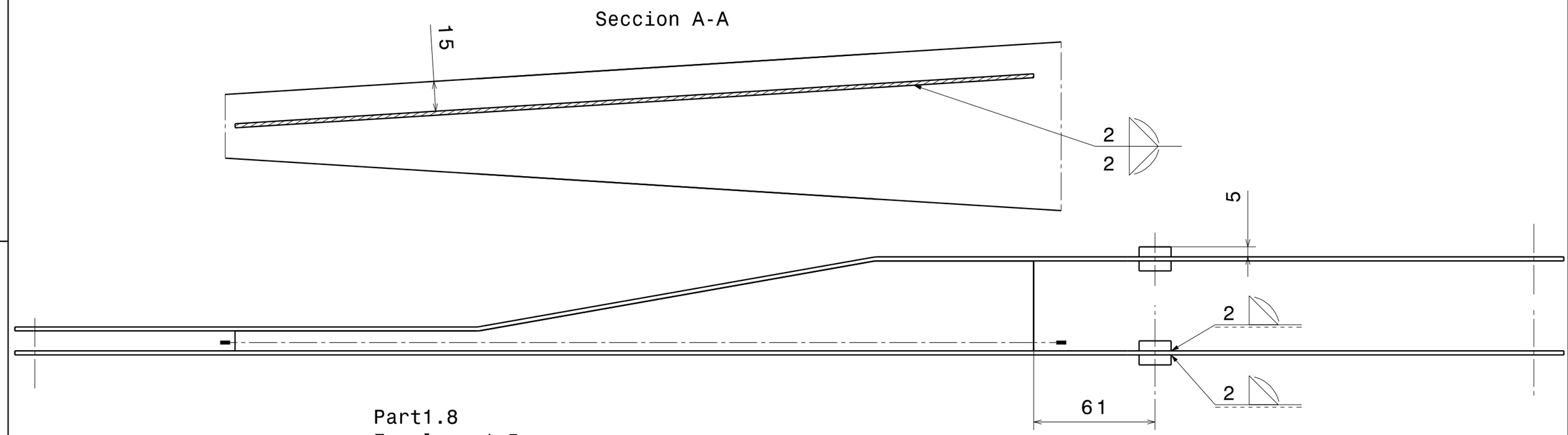
DIBUJADO: A.FERRANDO	FECHA: 22/04/2010	TITULO: Componente 7	
REVISADO:	FECHA:	REFERENCIA:	FABRICACION:
DISEÑADO: A.FERRANDO	FECHA: 22/04/2010	ESCALA: 1:1	NUMERO DE PLANO: 01.07.01



CANTIDAD	MARCA	DENOMINACION	MATERIAL
1	6	ISO 10511 M12 TUERCA AUTOBLOCANTE	AISI S21800
2	5	ISO 7089 M12 ARANDELA PLANA	AISI S21800
1	4	ISO 4014 M12x65 PERNO CABEZA HEXAGONAL	AISI S21800
1	3	ISO 10511 M8 TUERCA AUTOBLOCANTE	AISI S21800
2	2	ISO 7089 M8 ARANDELA PLANA	AISI S21800
1	1	ISO 4014 M8x40 PERNO CABEZA HEXAGONAL	AISI S21800
2	Part4.8		Acero E-350
1	Part3.8		Acero E-350
1	Part2.8		Acero E-350
1	Part1.8		Acero E-350

ESCUELA UNIVERSITARIA DE INGENIERIA TECNICA INDUSTRIAL DE ZARAGOZA

DIBUJADO: A.FERRANDO	FECHA: 22/04/2010	TITULO: Componente 8. Despiece	
REVISADO:	FECHA:	REFERENCIA:	FABRICACION:
DISEÑADO: A.FERRANDO	FECHA: 22/04/2010	ESCALA: 1:2	NUMERO DE PLANO: 01.08.01



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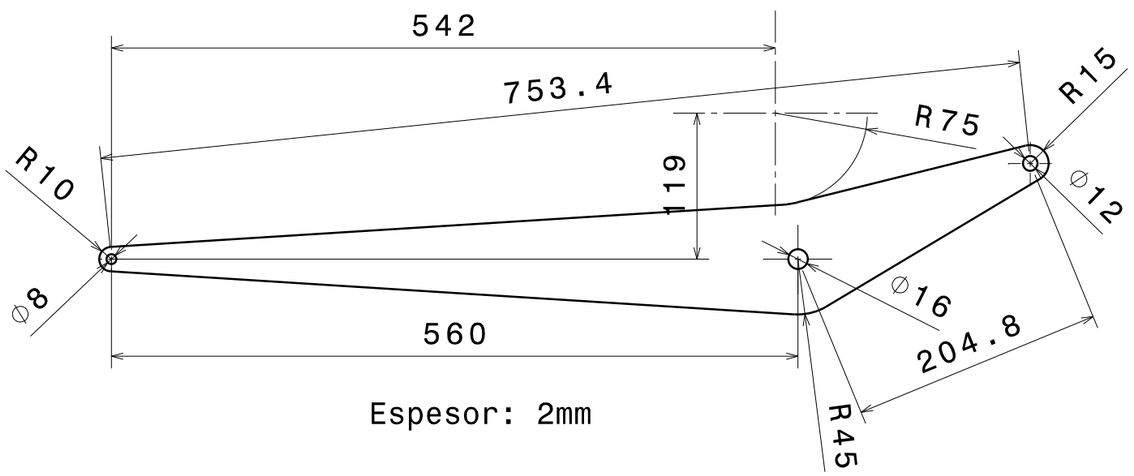
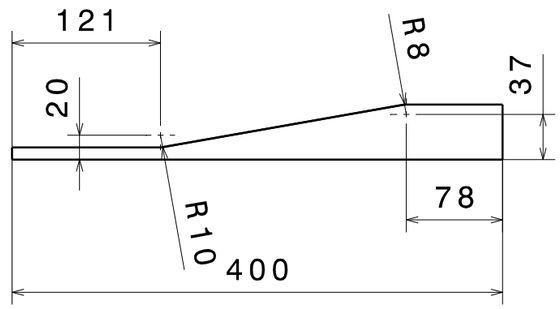
Escala: 1:5

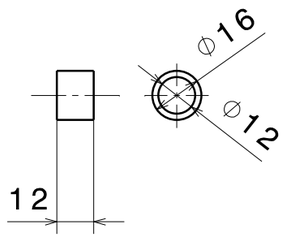


Espesor: 2mm

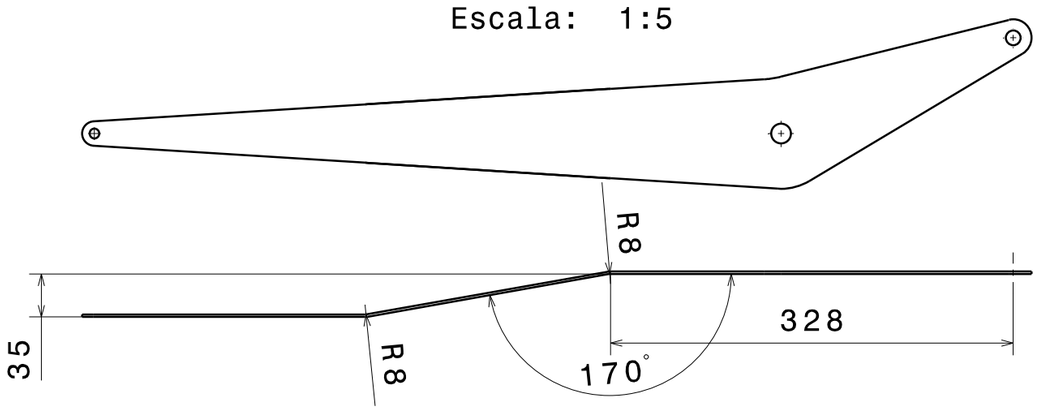
Part3.8
Escala: 1:5



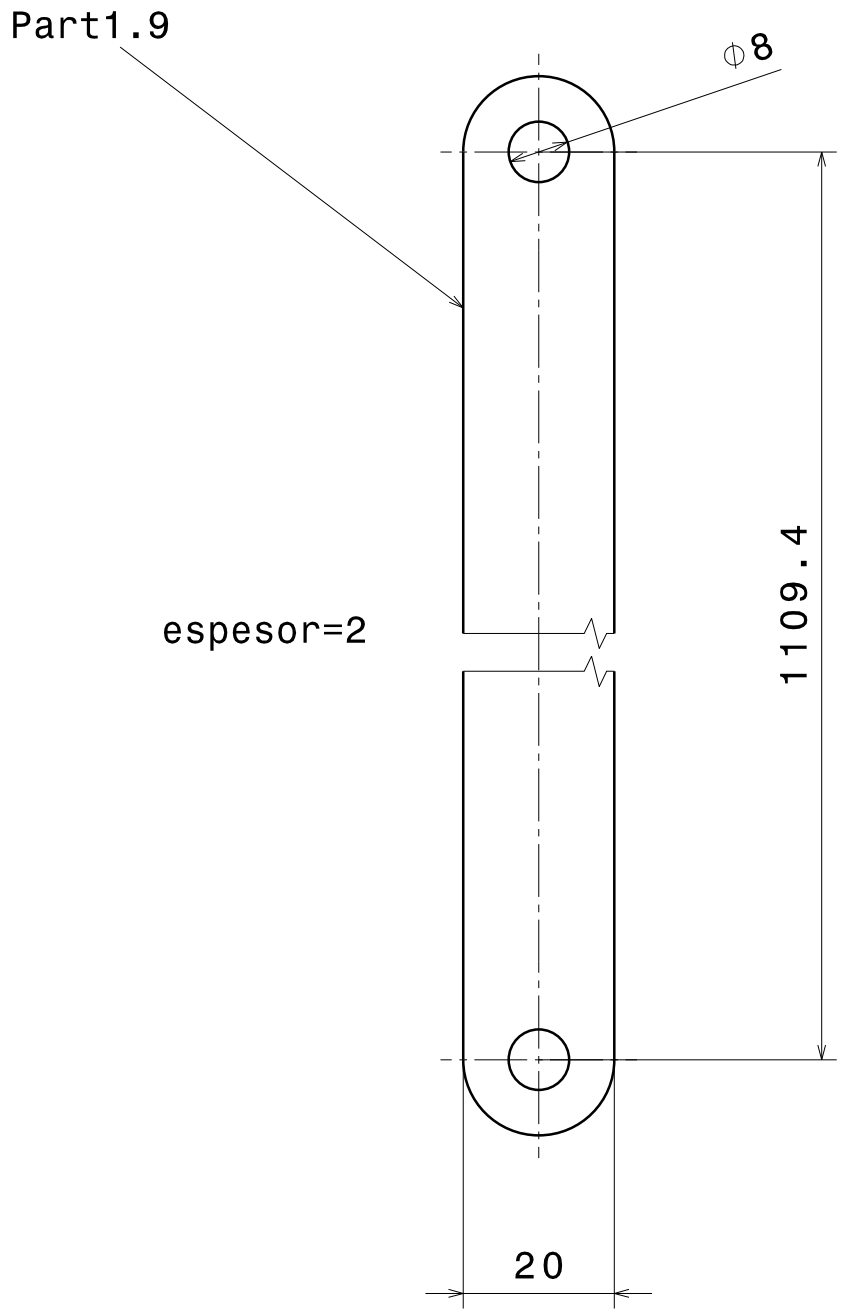
Part4.8



Part2.8
Escala: 1:5



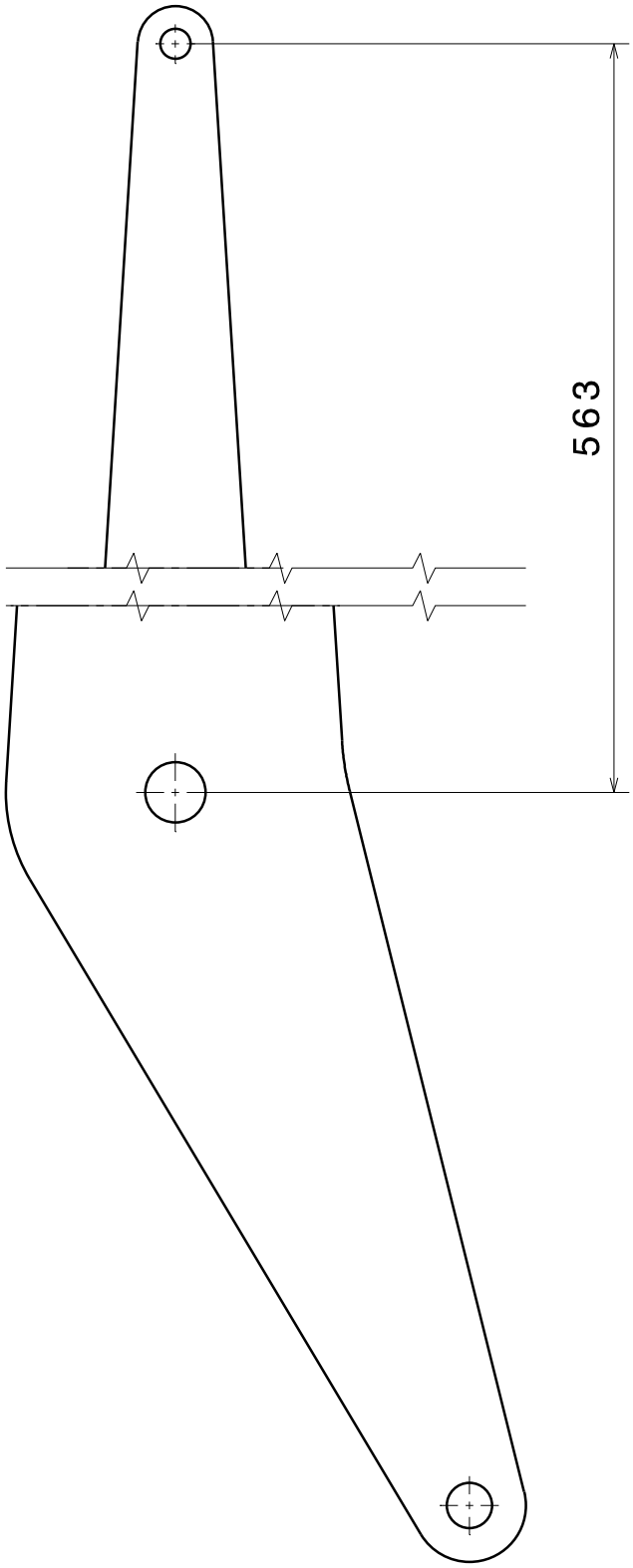
			Acero E-350
CANTIDAD	MARCA	DENOMINACION	MATERIAL
ESCUELA UNIVERSITARIA DE INGENIERIA TECNICA INDUSTRIAL DE ZARAGOZA			
DIBUJADO: A.FERRANDO	FECHA: 02/02/2010	TITULO: Componente 8. Montaje y piezas	
REVISADO:	FECHA:	REFERENCIA:	FABRICACION:
DISEÑADO: A.FERRANDO	FECHA: 02/02/2010	ESCALA: 1:2	NUMERO DE PLANO: 01.08.02.01



1	Part1.9		Aluminio 3003
CANTIDAD	MARCA	DENOMINACION	MATERIAL

ESCUELA UNIVERSITARIA DE INGENIERIA TECNICA INDUSTRIAL DE ZARAGOZA

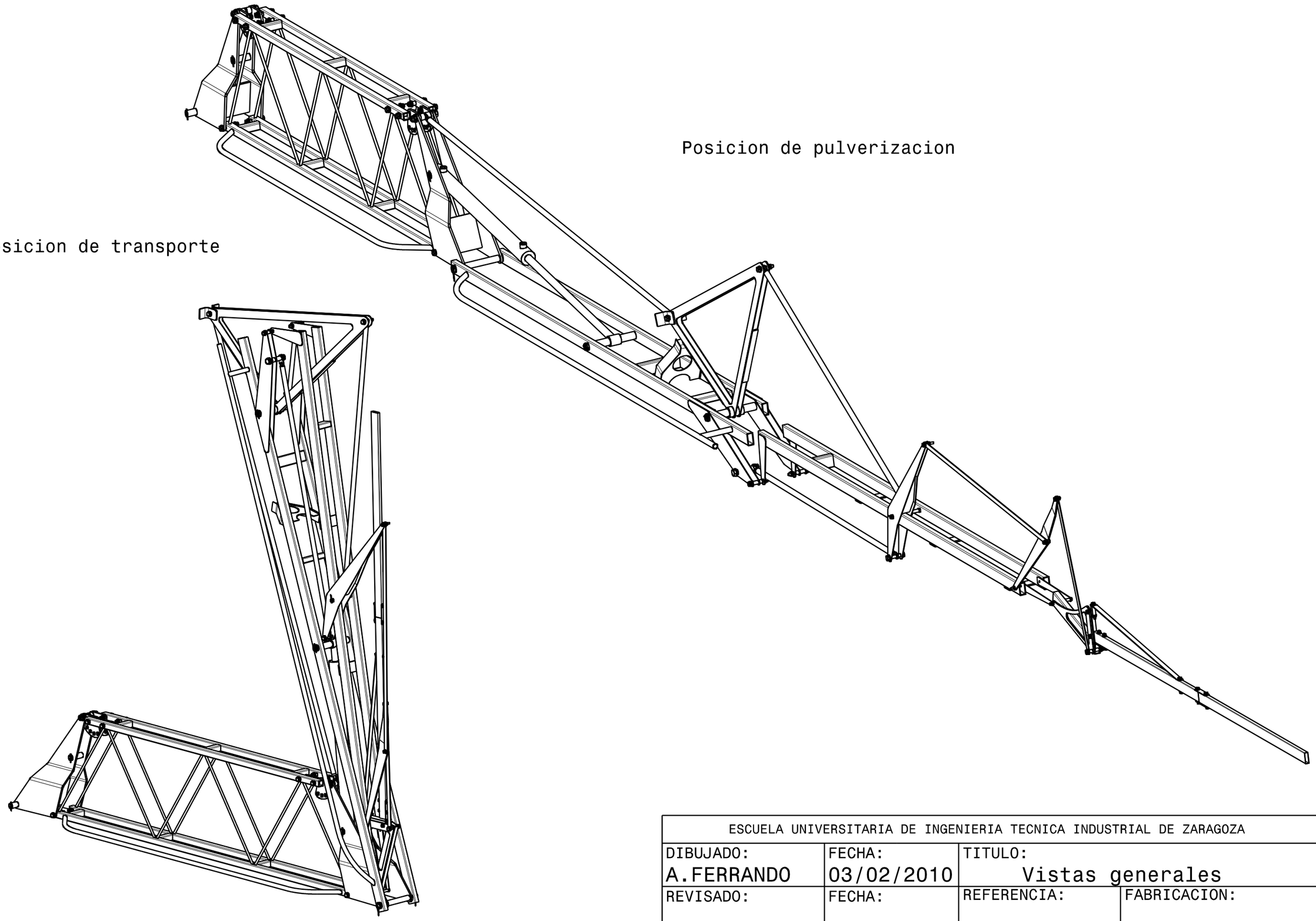
DIBUJADO: A.FERRANDO	FECHA: 26/04/2010	TITULO: Componente 9	
REVISADO:	FECHA:	REFERENCIA:	FABRICACION:
DISEÑADO: A.FERRANDO	FECHA: 26/04/2010	ESCALA: 1:1	NUMERO DE PLANO: 01.09.01



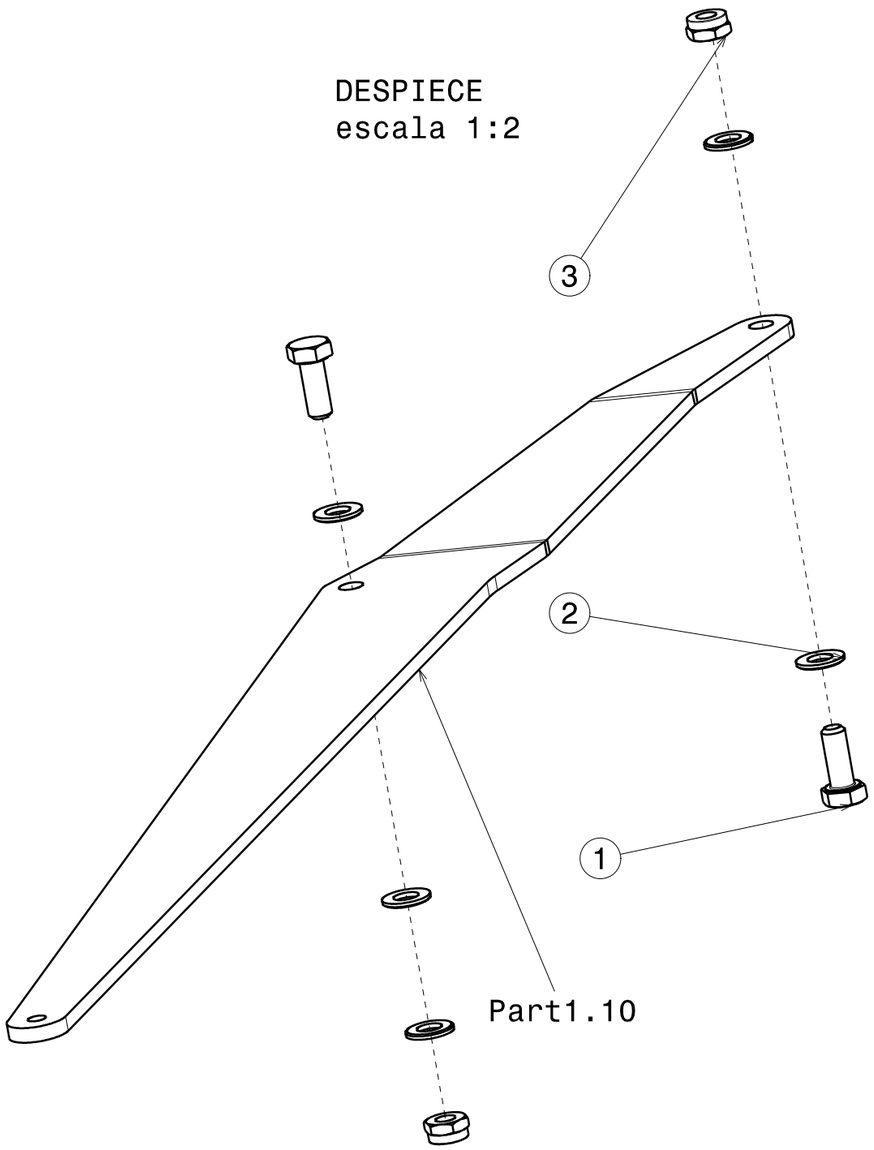
CANTIDAD	MARCA	DENOMINACION	MATERIAL

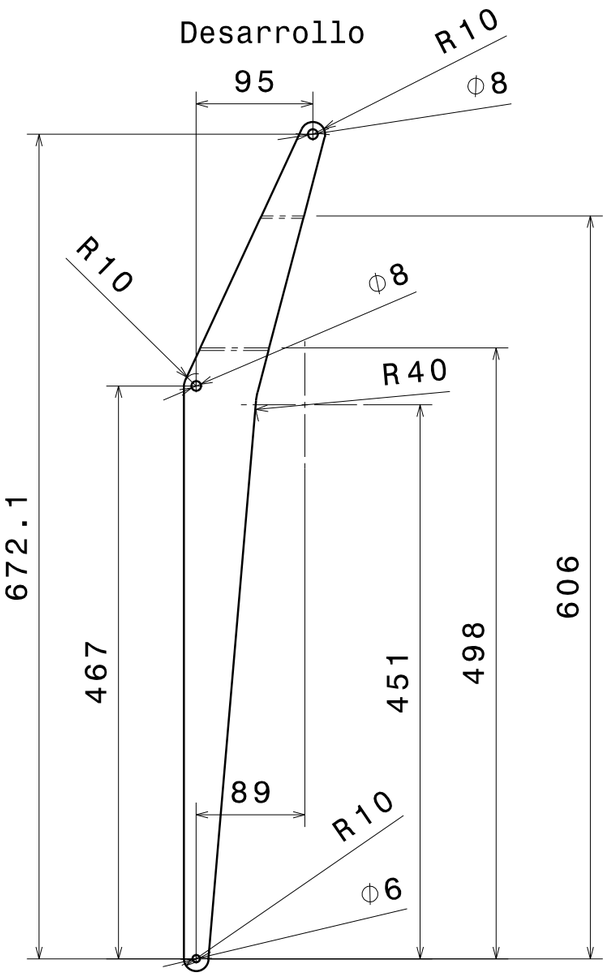
ESCUELA UNIVERSITARIA DE INGENIERIA TECNICA INDUSTRIAL DE ZARAGOZA

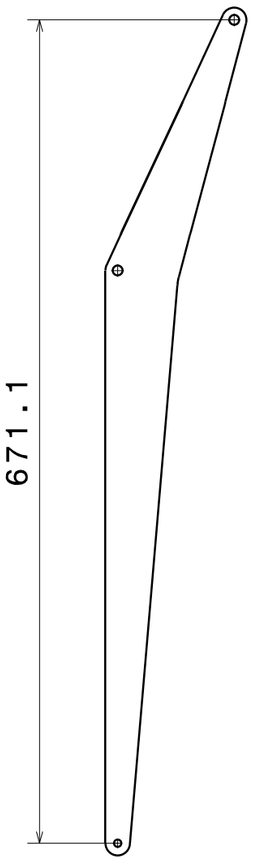
DIBUJADO: A.FERRANDO	FECHA: 02/02/2010	TITULO: Desarrollo Part2.8	
REVISADO:	FECHA:	REFERENCIA:	FABRICACION:
DISEÑADO: A.FERRANDO	FECHA: 02/02/2010	ESCALA: 1:2	NUMERO DE PLANO: 01.08.02.02

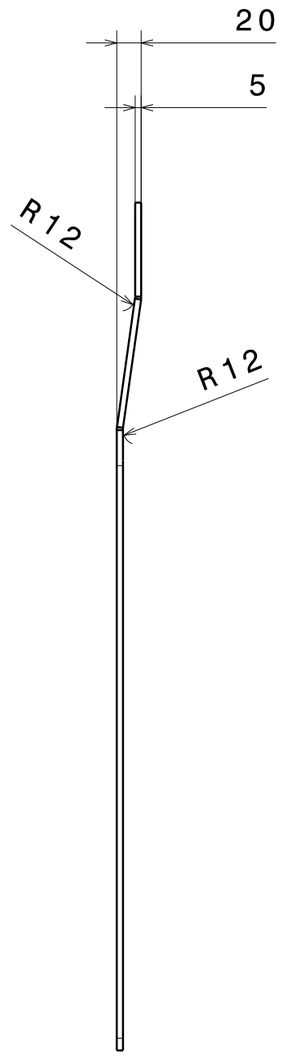


ESCUELA UNIVERSITARIA DE INGENIERIA TECNICA INDUSTRIAL DE ZARAGOZA			
DIBUJADO: A.FERRANDO	FECHA: 03/02/2010	TITULO: Vistas generales	
REVISADO:	FECHA:	REFERENCIA:	FABRICACION:
DISEÑADO: A.FERRANDO	FECHA: 03/02/2010	ESCALA:	NUMERO DE PLANO: 01.00







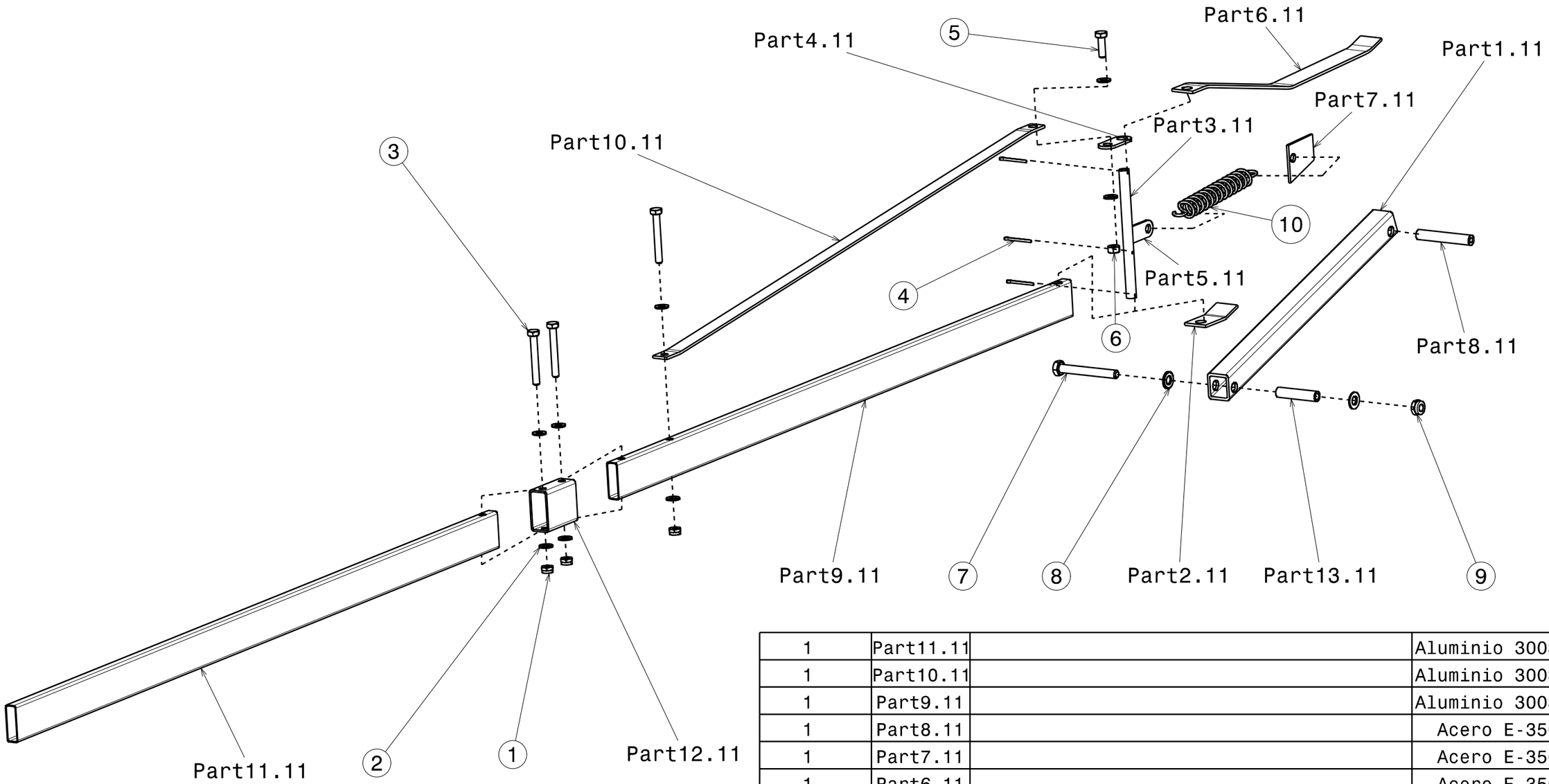


CANTIDAD	MARCA	DENOMINACION	MATERIAL
2	3	ISO 10511 M8 TUERCA AUTOBLOCANTE	Aisi S-21800
5	2	ISO 7089 M8 ARANDELA PLANA	Aisi S-21800
2	1	ISO 2017 M8x20 TORNILLO CABEZA HEXAGONAL	Aisi S-21800

CANTIDAD	MARCA	DENOMINACION	MATERIAL
1	Part1.12		Acero E-350

ESCUELA UNIVERSITARIA DE INGENIERIA TECNICA INDUSTRIAL DE ZARAGOZA

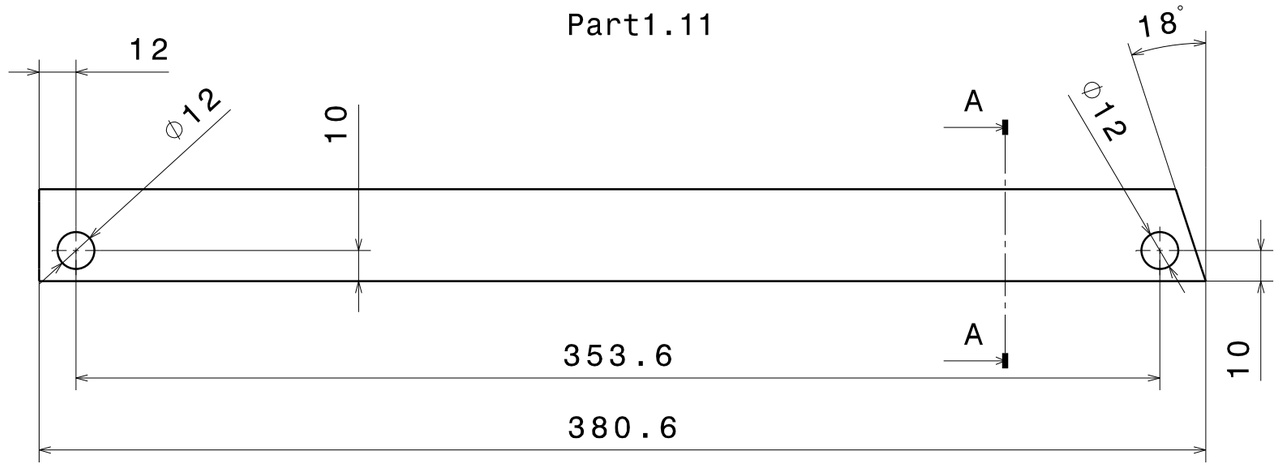
DIBUJADO: A.FERRANDO	FECHA: 22/04/2010	TITULO: Componente 10	
REVISADO:	FECHA:	REFERENCIA:	FABRICACION:
DISEÑADO: A.FERRANDO	FECHA: 22/04/2010	ESCALA: 1:5	NUMERO DE PLANO: 01.10.01

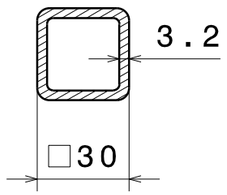


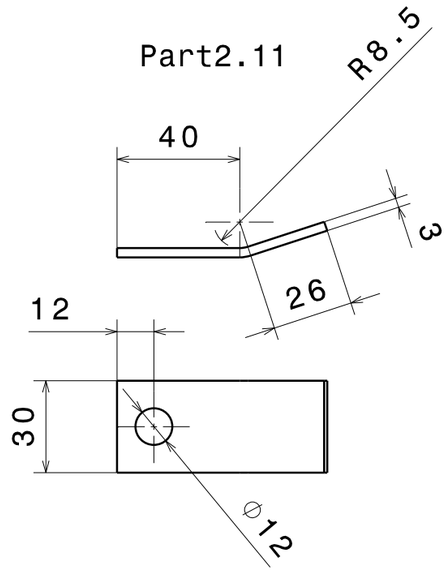
CANTIDAD	MARCA	DENOMINACION	MATERIAL
1	10	Muelle de traccion	Acero E-350
1	9	ISO 10511 M10 TUERCA AUTOBLOCANTE	AISI S21800
1	8	ISO 7089 M10 ARANDELA PLANA	AISI S21800
1	7	ISO 4014 M10x80 PERNO CABEZA HEXAGONAL	AISI S21800
2	6	ISO 10511 M8 TUERCA	AISI S21800
1	5	ISO 4014 M8x50 TORNILLO CABEZA HEXAGONAL	AISI S21800
2	4	ISO 1234 3,2X33,5 PASADOR ELASTICO PARTIDO	AISI S21800
4	3	ISO 4014 M8x60 PERNO CABEZA HEXAGONAL	AISI S21800
2	2	ISO 7089 M8 ARANDELA PLANA	AISI S21800
4	1	ISO 10511 M8 TUERCA AUTOBLOCANTE	AISI S21800
1	Part13.11		Acero E-350
1	Part12.11		Aluminio 3003
1	Part11.11		Aluminio 3003
1	Part10.11		Aluminio 3003
1	Part9.11		Aluminio 3003
1	Part8.11		Acero E-350
1	Part7.11		Acero E-350
1	Part6.11		Acero E-350
1	Part5.11		Acero E-350
1	Part4.11		Acero E-350
1	Part3.11		Acero E-350
1	Part2.11		Acero E-350
1	Part1.11		Acero E-350
CANTIDAD	MARCA	DENOMINACION	MATERIAL

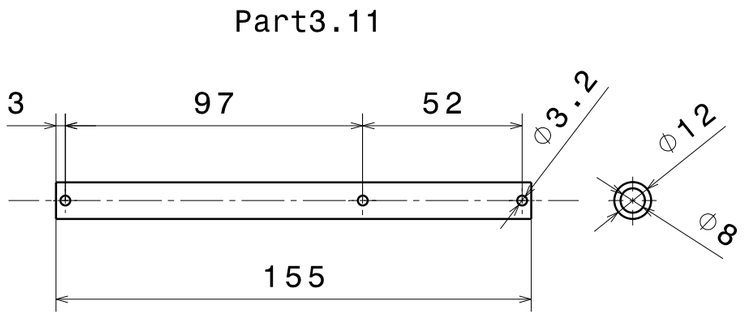
ESCUELA UNIVERSITARIA DE INGENIERIA TECNICA INDUSTRIAL DE ZARAGOZA

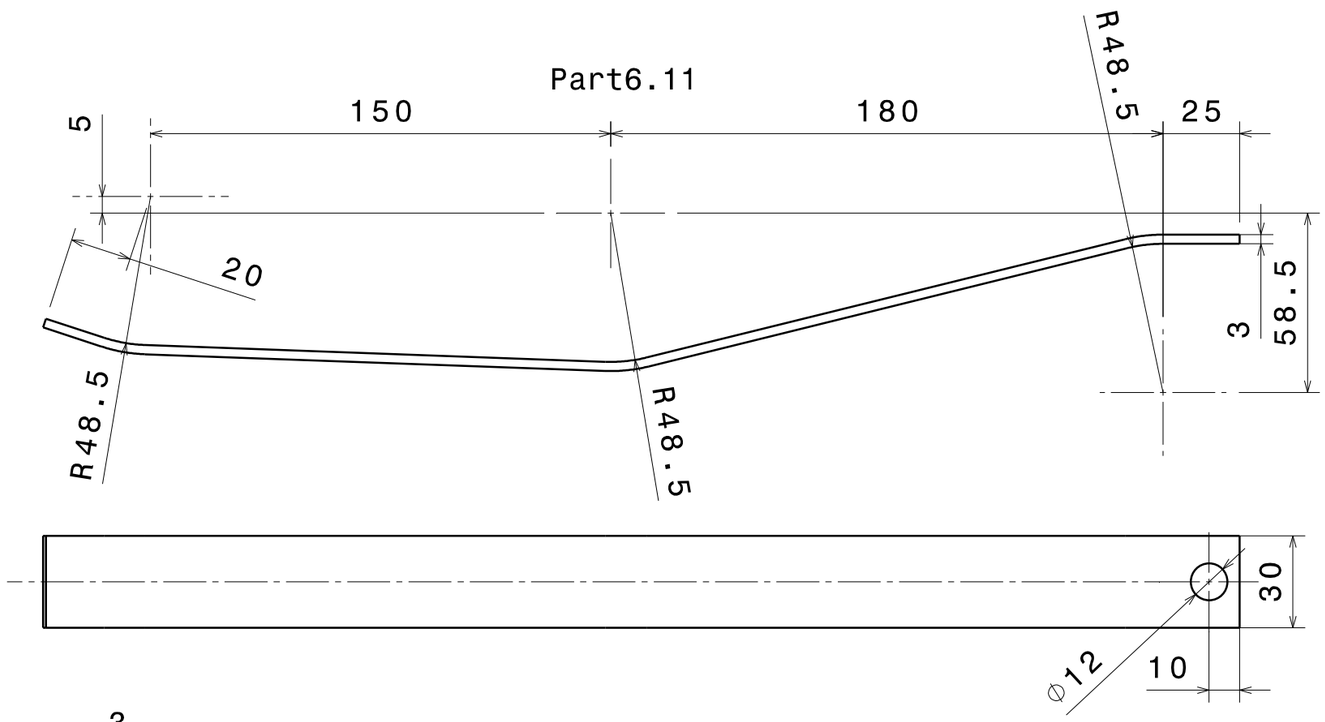
DIBUJADO: A.FERRANDO	FECHA: 27/04/2010	TITULO: Componente 11. Despiece	
REVISADO:	FECHA:	REFERENCIA:	FABRICACION:
DISEÑADO: A.FERRANDO	FECHA: 27/04/2010	ESCALA: 1:5	NUMERO DE PLANO: 01.11.01

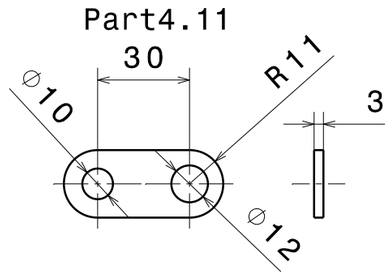


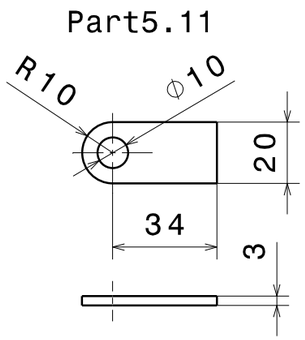


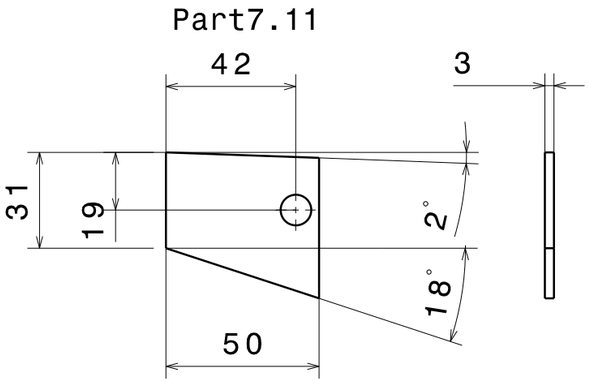






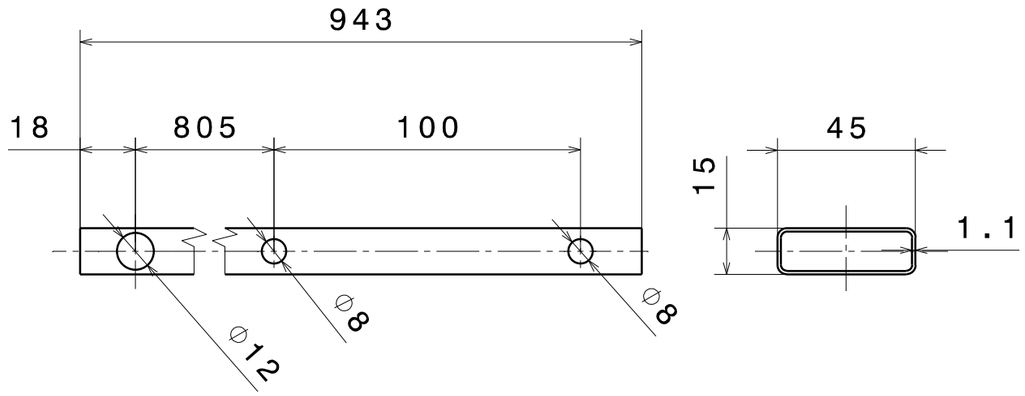




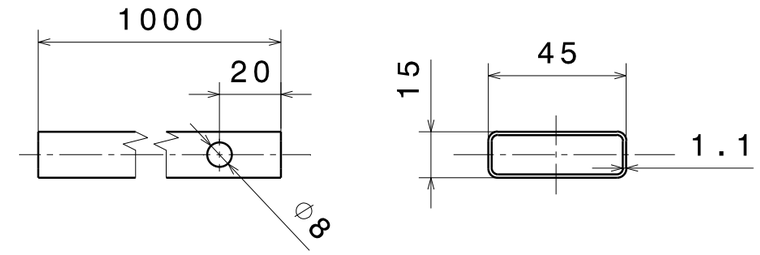


ESCUELA UNIVERSITARIA DE INGENIERIA TECNICA INDUSTRIAL DE ZARAGOZA			
DIBUJADO: A.FERRANDO	FECHA: 27/04/2010	TITULO: Componente 11. Piezas 1	
REVISADO:	FECHA:	REFERENCIA:	FABRICACION:
DISEÑADO: A.FERRANDO	FECHA: 27/04/2010	ESCALA: 1:2	NUMERO DE PLANO: 01.11.03

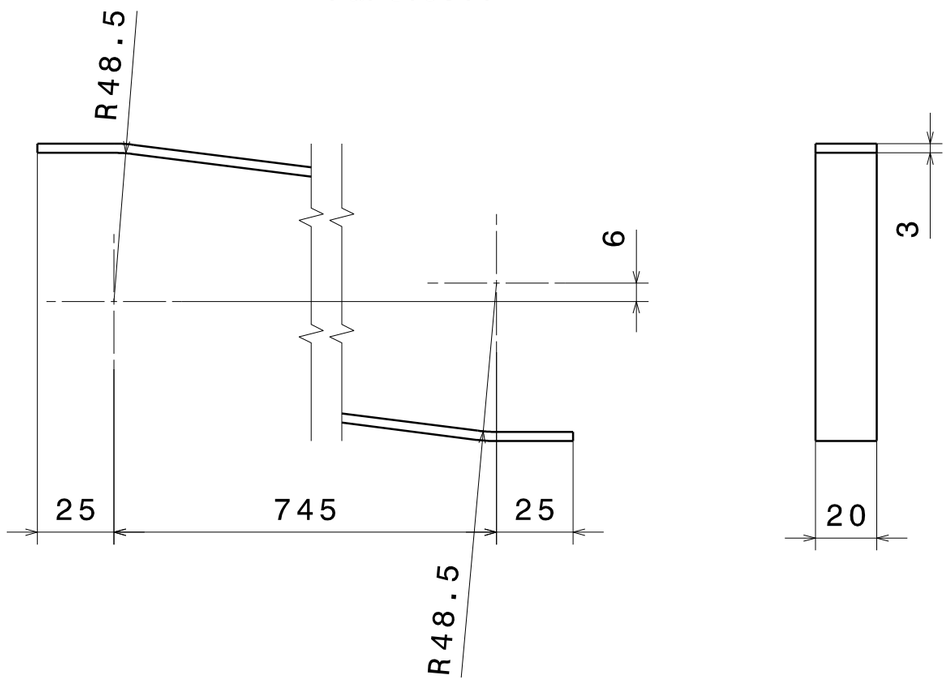
Part9.11



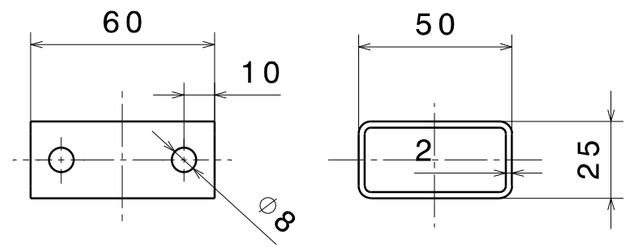
Part11.11



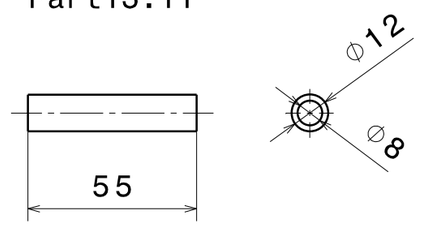
Part10.11



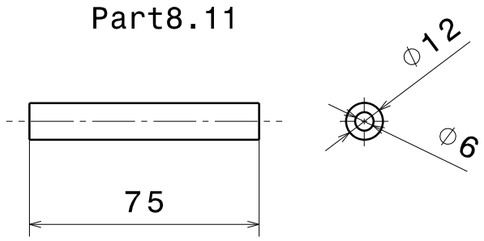
Part12.11



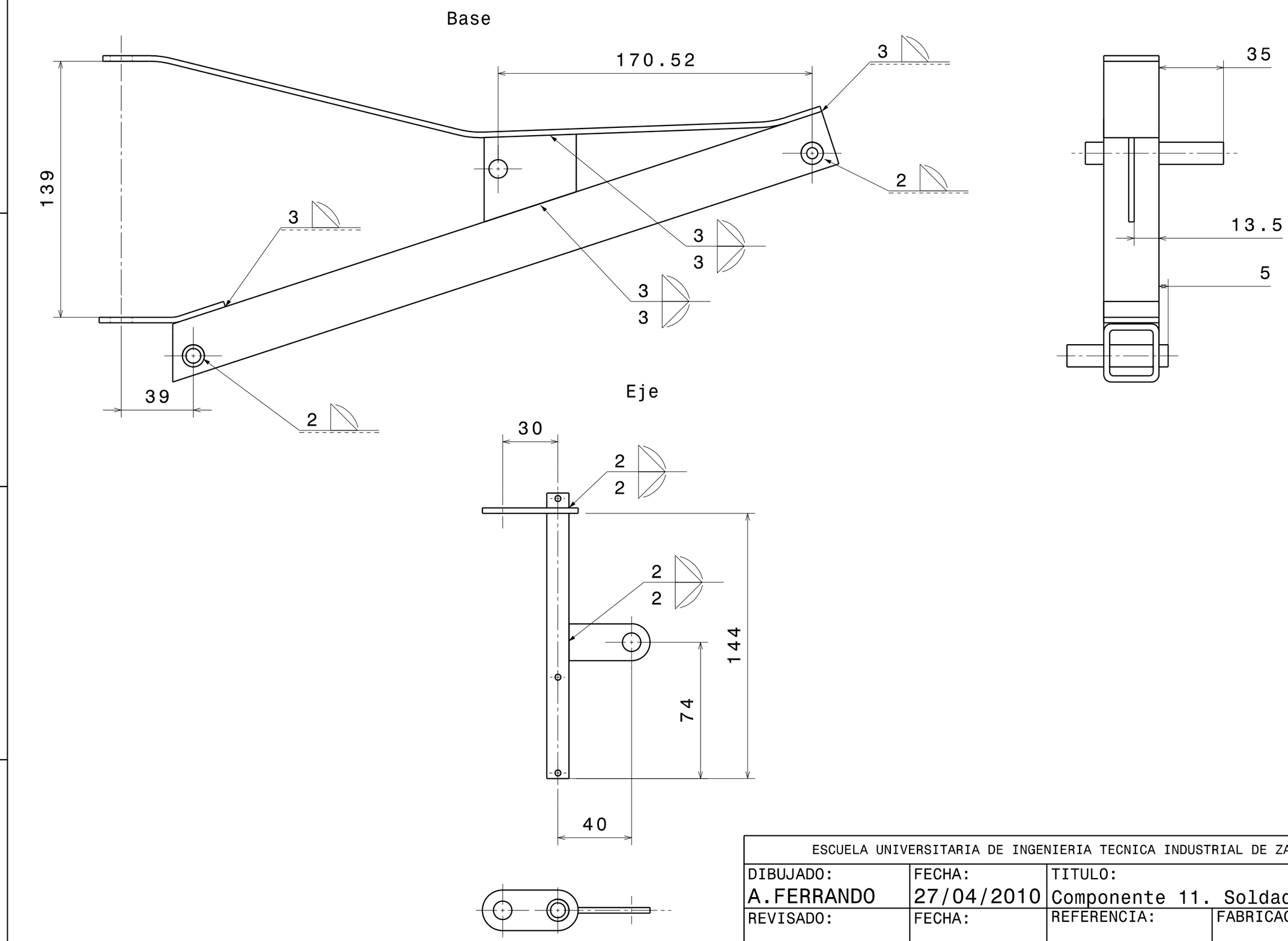
Part13.11



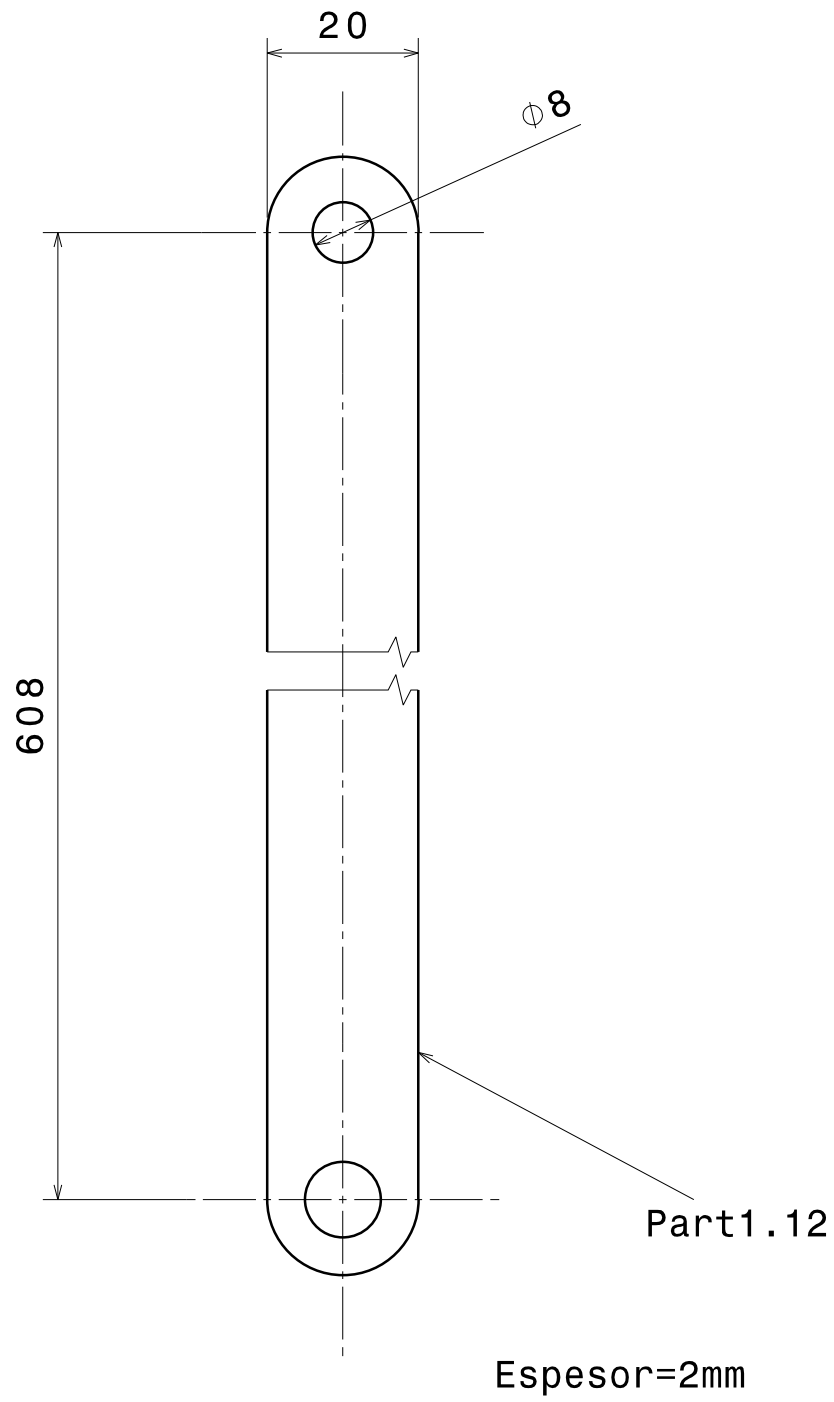
Part8.11



ESCUELA UNIVERSITARIA DE INGENIERIA TECNICA INDUSTRIAL DE ZARAGOZA			
DIBUJADO: A.FERRANDO	FECHA: 27/04/2010	TITULO: Componente 11. Piezas 2	
REVISADO:	FECHA:	REFERENCIA:	FABRICACION:
DISEÑADO: A.FERRANDO	FECHA: 27/04/2010	ESCALA: 1:2	NUMERO DE PLANO: 01.11.04



ESCUELA UNIVERSITARIA DE INGENIERIA TECNICA INDUSTRIAL DE ZARAGOZA			
DIBUJADO: A.FERRANDO	FECHA: 27/04/2010	TITULO: Componente 11. Soldadura y montaje	
REVISADO:	FECHA:	REFERENCIA:	FABRICACION:
DISEÑADO: A.FERRANDO	FECHA: 27/04/2010	ESCALA: 1:2	NUMERO DE PLANO: 01.11.02



	Part1.12		ALUMINIO 3003
CANTIDAD	MARCA	DENOMINACION	MATERIAL

ESCUELA UNIVERSITARIA DE INGENIERIA TECNICA INDUSTRIAL DE ZARAGOZA

DIBUJADO: A.FERRANDO	FECHA: 20/04/2010	TITULO: Componente 12	
REVISADO:	FECHA:	REFERENCIA:	FABRICACION:
DISEÑADO: A.FERRANDO	FECHA: 20/04/2010	ESCALA: 1:5	NUMERO DE PLANO: 01.12.01