

CAUTION

Risk:
Tool and/or bedplate damage

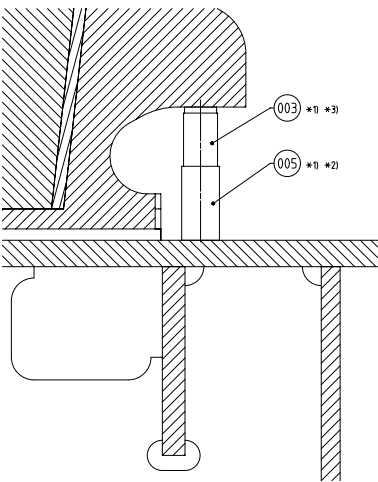
Countermeasure:
Avoid overloading of bedplate areas by observing the appropriate engine alignment/assembly procedure as follows:

- Insert wedges and/or shims in all indicated positions.
- Lift the engine into the engine room and place it on levelled wedges and/or shims (wedges or shims must be inserted as deep as possible below the bedplate to ensure that the support point is as close as possible at the engine monoblock column)
- Apply hydraulic jacks to the protruding bedplate ribs nearby the relevant wedge and/or shim as indicated in the drawing.
- Start with the engine alignment by means of wedges and/or shims. Before adjusting the height of wedges and/or shims lift the engine by the hydraulic jacks. Any height adjustment must be performed in small steps - no more than 1 mm per step. Changes in height larger than the maximum allowance (1mm) require a gradual process where all wedges and/or shims are successively adjusted in stages, to ensure the best possible load distribution.

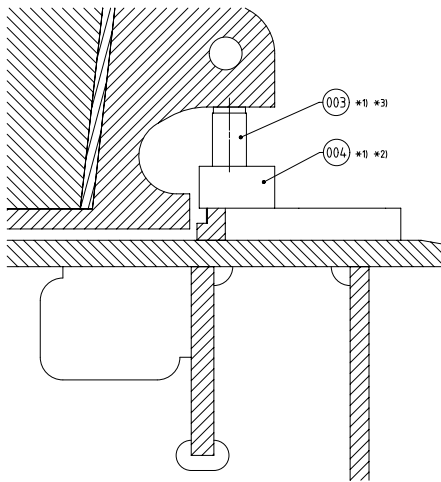
Remarks

- *1) To be provided by the shipyard
- *2) Height depending on the requirement (check thickness in correlation with maximum permissible extension of the hydraulic jack)
- *3) Hydraulic jack proposal
Type: Enerpac RCH-1003
Load at 700 bar: 931 kN

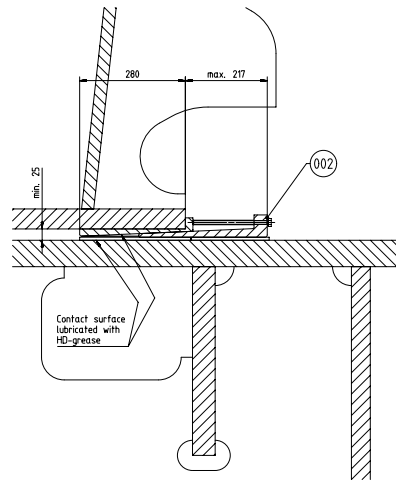
SECTION A-A $\odot 90^\circ$
SCALE 1:5



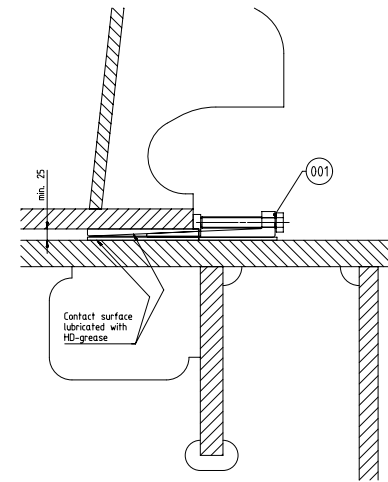
SECTION B-B $\odot 90^\circ$
SCALE 1:5



SECTION C-C $\odot 90^\circ$
SCALE 1:5



SECTION D-D $\odot 90^\circ$
SCALE 1:5



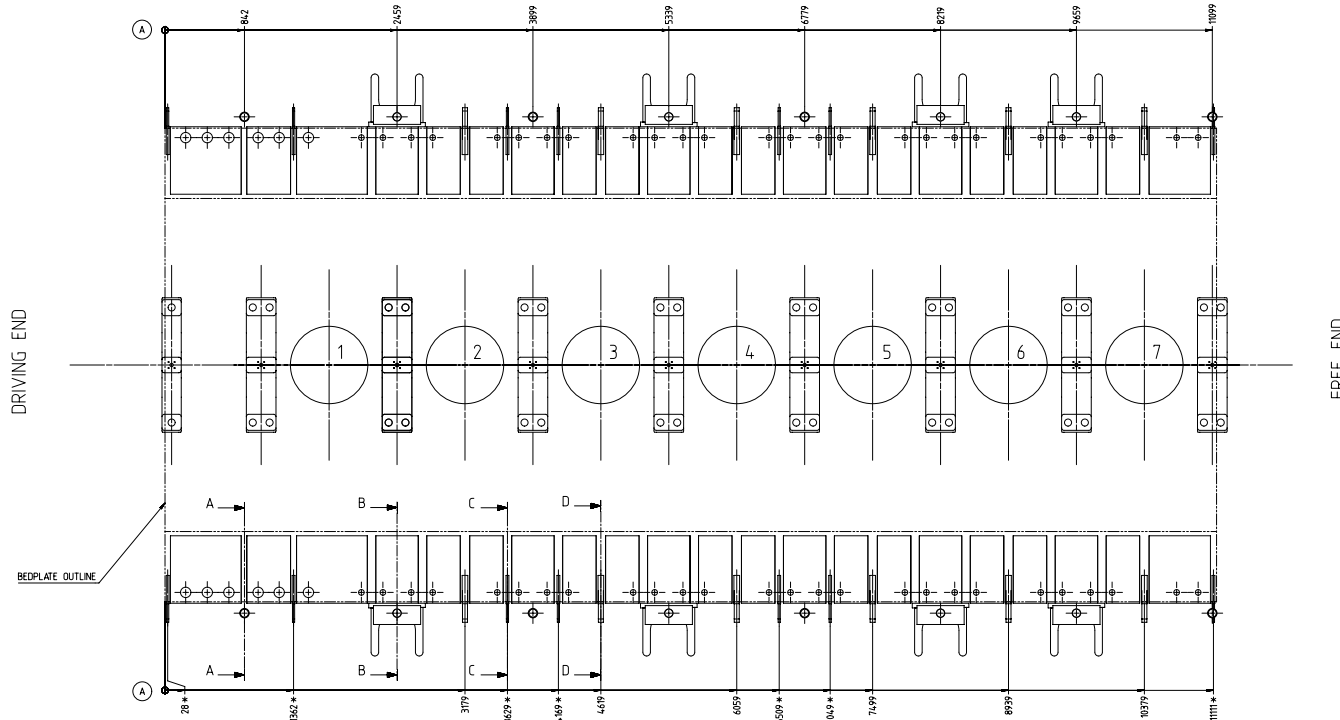
* Shows narrow type wedge

NO	DESCRIPTION	QTY	UNIT	WEIGHT
05	PAAD38480 SUPPORT BLOCK			
04	PAAD38479 SUPPORT PLATE			
14	PAAD38478 HYDRAULIC JACK			
10	W6X82-2.0 WEDGE			
12	W6X82DF-1.0 WEDGE			

PER ENGINE	Material ID	Material Name	Quantity	Weight
	003	SHIM		
	005	SHIM		
	004	SHIM		
	002	WEDGE		
	001	WEDGE		

WINCO
TOOL ENGINE ALIGNMENT
Engine Alignment: WEDGES
Werkzeug Motorausrichtung

Scale: 1:50
Date: 19.02.2021
Drawing Group: 1710-01
Drawing No: DAAD14.0320



CAUTION

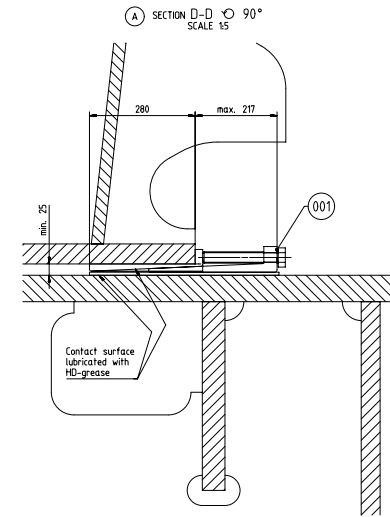
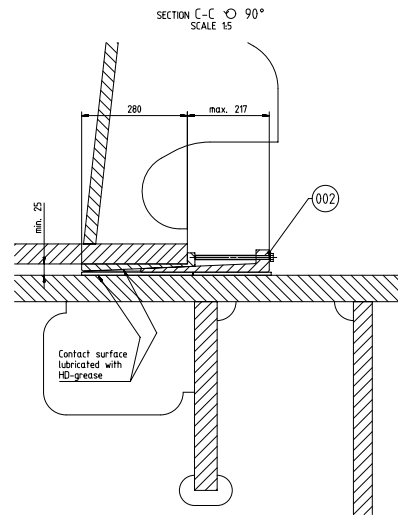
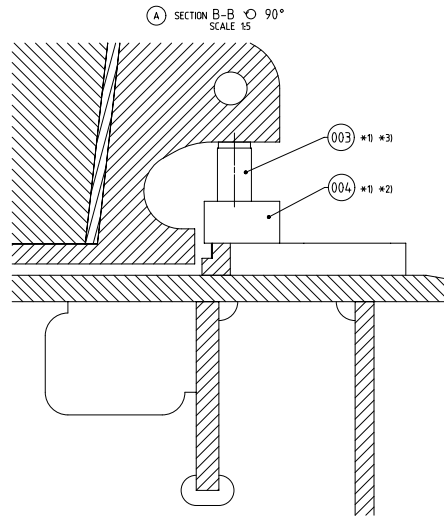
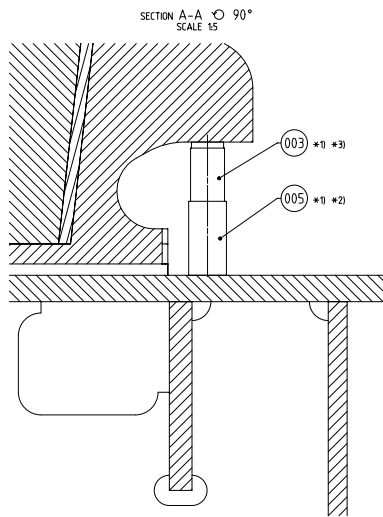
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Tool and/or bedplate damage

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- *3) Hydraulic jack proposal
Type: Enerpac RCH-1003
Load at 700 bar: 931 kN

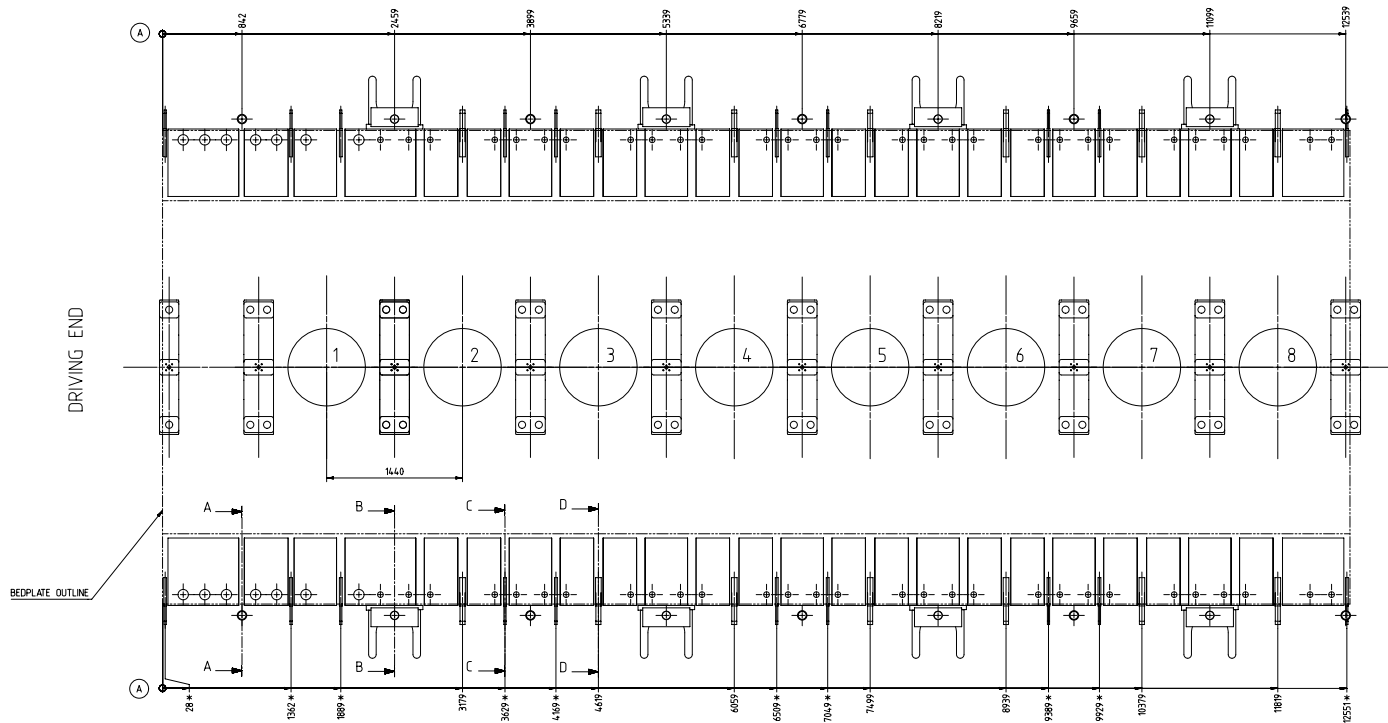


* Shows narrow type wedge

NO	DESCRIPTION	QTY	UNIT	WEIGHT
05	PAAD38480 SUPPORT BLOCK			
08	PAAD38479 SUPPORT PLATE			
16	003 PAAD38478 HYDRAULIC JACK			
14	002 107424.344.200 WEDGE			
12	001 107245.895.200 WEDGE			

PER ENGINE	NO	Material ID	Material Name	Quantity	Unit	Weight
	003	PAAD38478	HYDRAULIC JACK			3,36
	002	107424.344.200	WEDGE			7,51
	001	107245.895.200	WEDGE			7,51

NO	DESCRIPTION	QTY	UNIT	WEIGHT
001	TOOL ENGINE ALIGNMENT			
002	Engine Alignment: WEDGES			
003	Werkzeug Motorausrichtung			



CAUTION

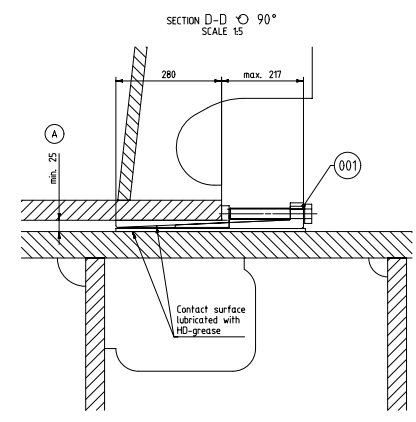
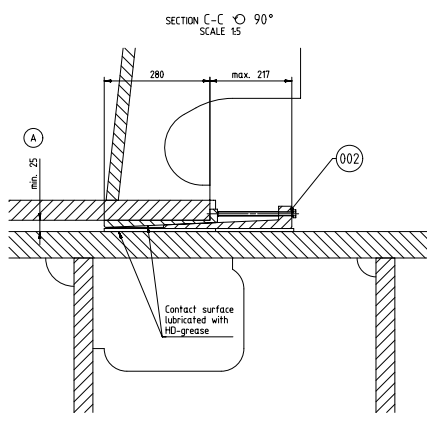
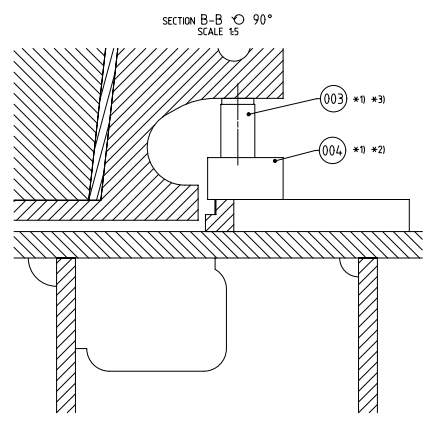
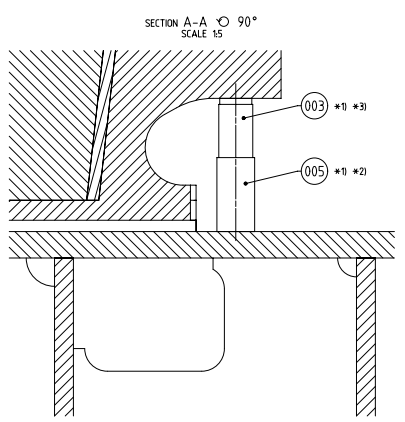
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Remarks

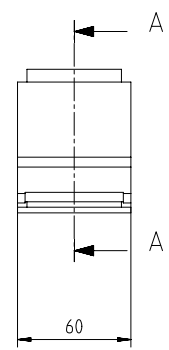
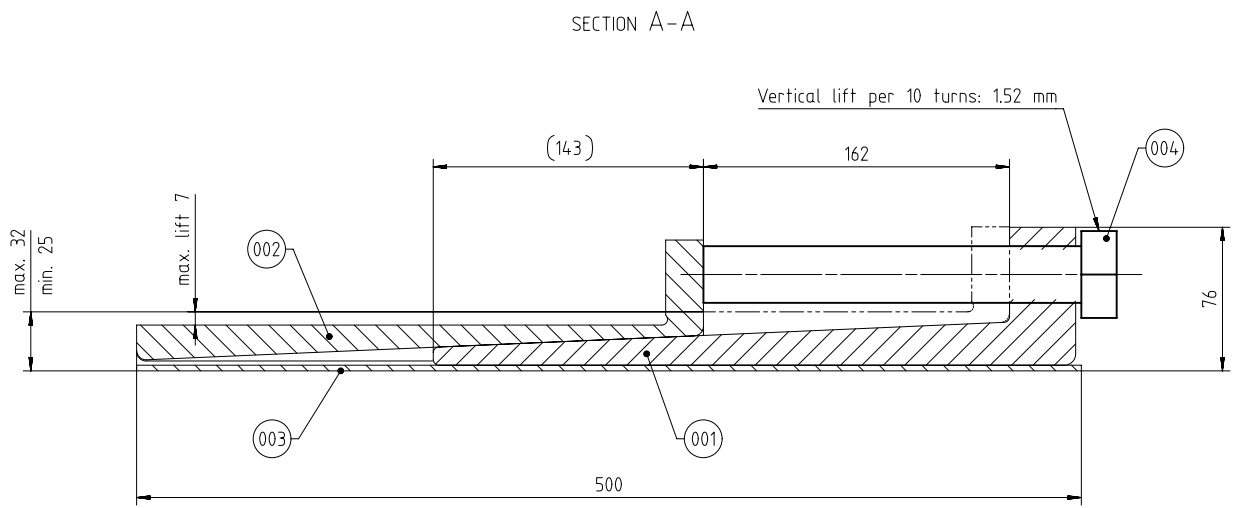
- *1) To be provided by the shipyard
- *2) Height depending on the requirement (check thickness in correlation with maximum permissible extension of the hydraulic jack)
- *3) Hydraulic jack proposal
Type: Enerpac RCH-1003
Load at 700 bar: 931 kN



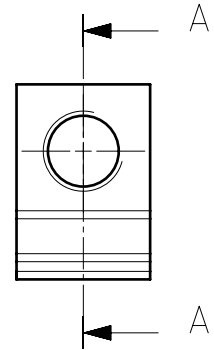
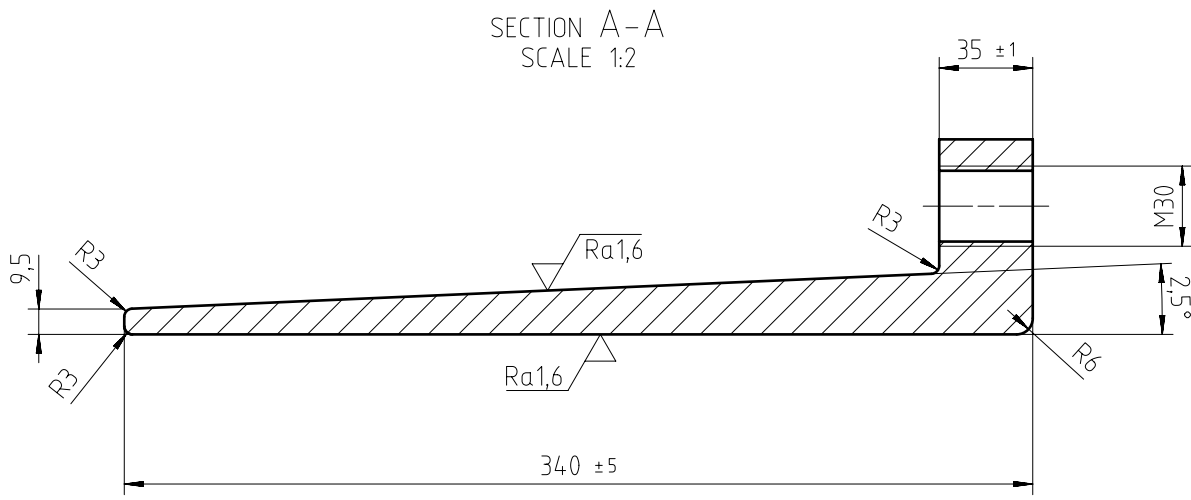
* Shows narrow type wedge

ITEM	QTY	DESCRIPTION	UNIT	WEIGHT
10	005	PAAD384.80 SUPPORT BLOCK		
8	004	PAAD384.79 SUPPORT PLATE		
18	003	PAAD384.78 HYDRAULIC JACK		
20	002	07424.344.200 WEDGE		
14	001	07245.895.200 WEDGE NARROW TYPE	07424.346	3,36
			07245.895	7,51

WINCO
TOOL ENGINE ALIGNMENT
Engine Alignment: WEDGES
Werkzeug Motorausrichtung



1	004	015.151.048.701	HEXAGON HEAD SCREW M30x200	ISO 4017	8,8	1,21						
1	003	107.245.898.001	PLATE	107.245.898	W-FU-235-JR	1,0						
1	002	107.246.894.001	KEY	107.246.894	W-FU-235-JR	3,0						
1	001	107.246.895.001	KEY	107.246.895	W-FU-235-JR	3,3						
QTY	SEQ NO	Material ID	Material Name	Dimension, Occ	Standard or Drawing	Basic Material Material Standard	Weight GR./NET					
Free space for ill.						Q-Code XXXXXX Standard ISO; JIS	Main Drw.					
Modif.	B	EAAD014493	05.02.2002	C	7-73552	19.10.2009	D	EAAD084635	27.06.2013	E	EAAD091472	11.11.2019
	Number	Drawn date	Number	Drawn date	Number	Drawn date	Number	Drawn date	Number	Drawn date		
			Product W-2S		WEDGE Schraeger Keil							
Units	mm kg	NX			Basic Material				Net Weight 8,51			
SURFACE PROTECTION SEE GROUP 034.4		Made	10.07.1996 D.Scheffler		Scale	1:2		Size	A2		Page	1/1
TOLERANCING PRINCIPLE ISO8015		Chkd			Design Group				Material ID		107.245.895.200	
GENERAL TOLERANCES ACCORDING TO ISO2768-mK		Appd	30.08.1996 WCH001 Service User		9710-01		Drawing ID		107.245.895		Rev. E	



Ra50 (
 Ra1,6
)

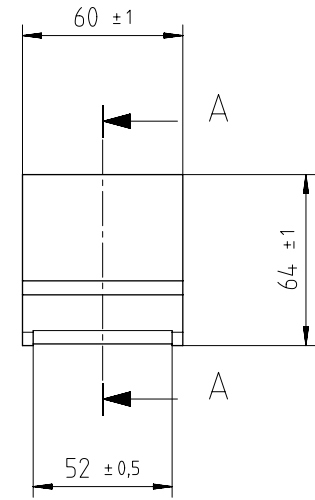
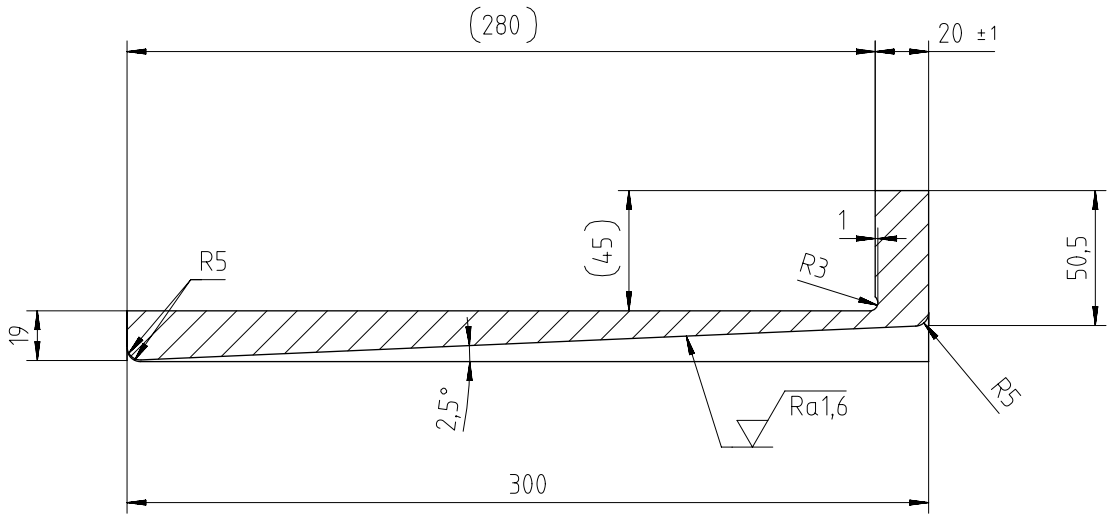
Free space for lic.	Q-Code XXXXXX							Main Drw.		
	Standard ISO; JIS									
Modif.	(A) 7-73.552	19.10.2009	(B) EAAD091472	04.11.2019						
	Number	Drawn date	Number	Drawn date	Number	Drawn date	Number	Drawn date		
 Winterthur Gas & Diesel			Product W-2S		KEY Keil					
Units	mm kg	NX		Basic Material	W-FU-235-JR			Net Weight 3,3		
SURFACE PROTECTION SEE GROUP 0344			Made	16.05.2001	D.ADMINISTRATOR		Scale 1:2	Size A3	Page 1/1	Material ID 107.246.895.001
TOLERANCING PRINCIPLE ISO8015			Chkd			Design Group	9710-01		Drawing ID 107.246.895	Rev. B
GENERAL TOLERANCES ACCORDING TO ISO2768-mK			Appd	27.12.2001		WDMS2				

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SECTION A-A
SCALE 1:2



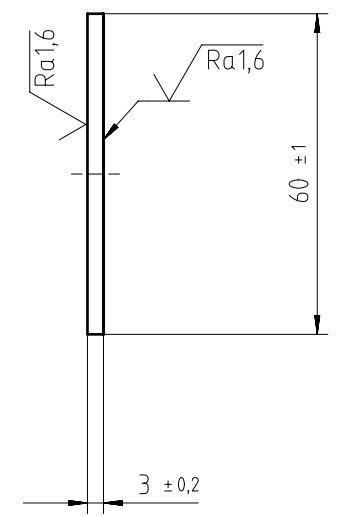
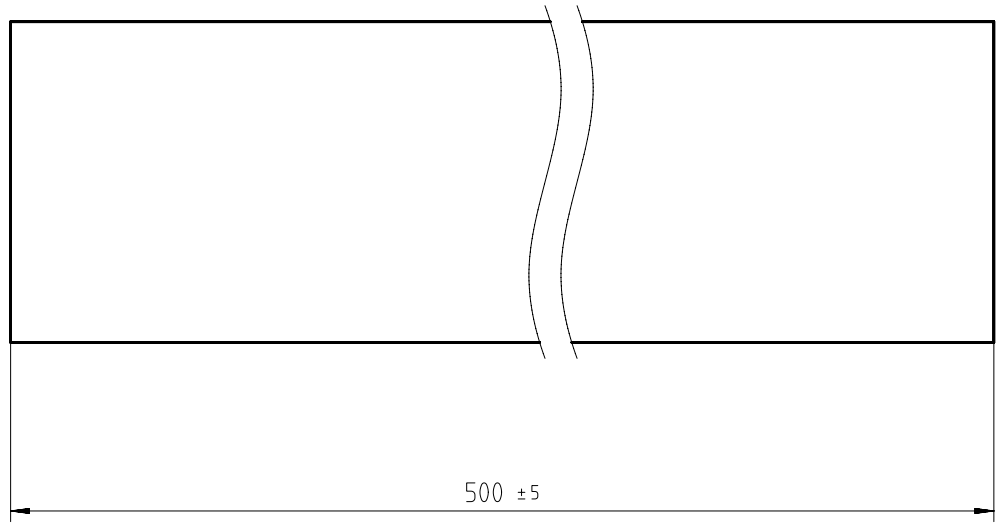
$\sqrt{Ra50}$ ($\sqrt{Ra1,6}$)

Free space for lic.								Q-Code XXXXXX	Main Drw.
								Standard ISO; JIS	
Modif.	(A) 7-73.552	19.10.2009	(B) EAAD091472	05.11.2019					
	Number	Drawn date	Number	Drawn date	Number	Drawn date	Number	Drawn date	
 Winterthur Gas & Diesel			Product W-2S		KEY				
					Keil				
Units	mm kg	NX		Basic Material	W-FU-235-JR			Net Weight 3	
SURFACE PROTECTION SEE GROUP 0344		Made	16.05.2001 D.ADMINISTRATOR		Scale	1:2	Size	A3	
TOLERANCING PRINCIPLE ISO8015		Chkd			Design Group	9710-01		Page 1/1	
GENERAL TOLERANCES ACCORDING TO ISO2768-mK		Appd	27.12.2001 WDMS2		Material ID	107.246.894.001		Rev. B	
					Drawing ID	107.246.894			

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DIM - DIMENSIONAL DRAWING - Confidential

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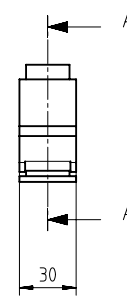
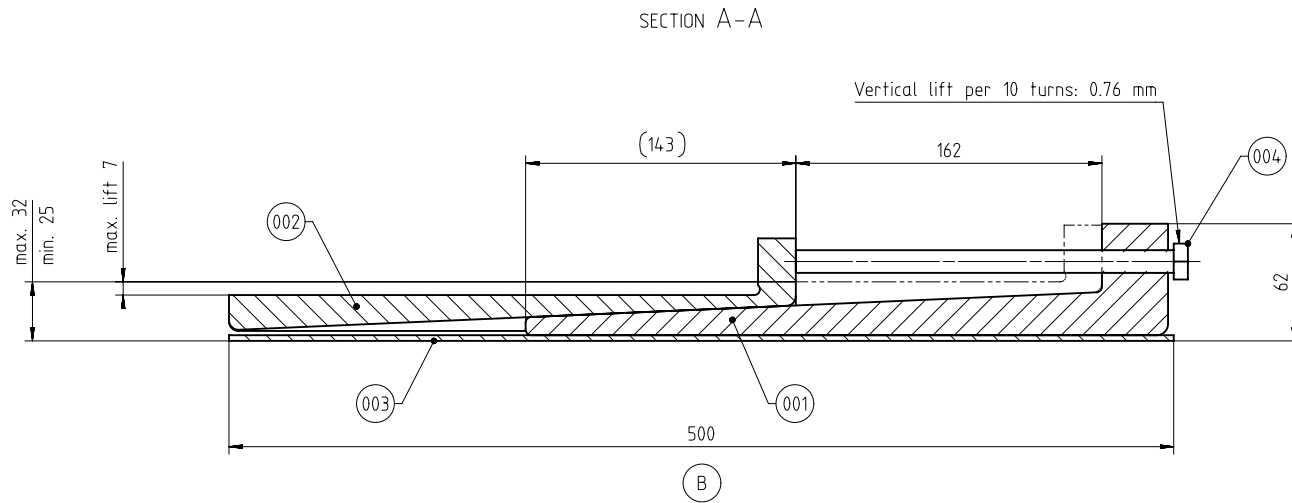
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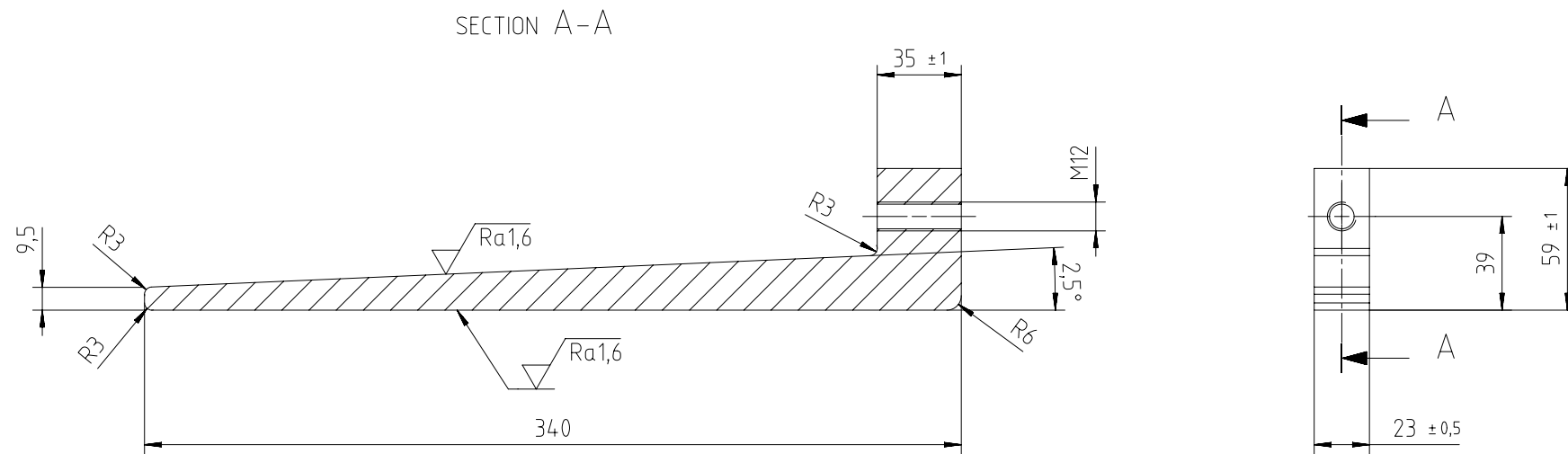
$\sqrt{Ra50}$ ($\sqrt{Ra1,6}$)

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	Number	Drawn date	Number	Drawn date	Number	Drawn date	Number	Drawn date	
			Product W-2S		PLATE Blech				
Units	mm kg	NX		Basic Material	W-FU-235-JR			Net Weight 1	
SURFACE PROTECTION SEE GROUP 0344		Made	11.07.1996 D. Schaeffler		Scale	1:1		Size A3	
TOLERANCING PRINCIPLE ISO8015		Chkd			Design Group	Page 1/1			
GENERAL TOLERANCES ACCORDING TO ISO2768-mK		Appd	22.07.1996 MLU011 Lüthi		9710-01	Drawing ID 107.245.898		Material ID 107.245.898.001	
					Rev.	B			

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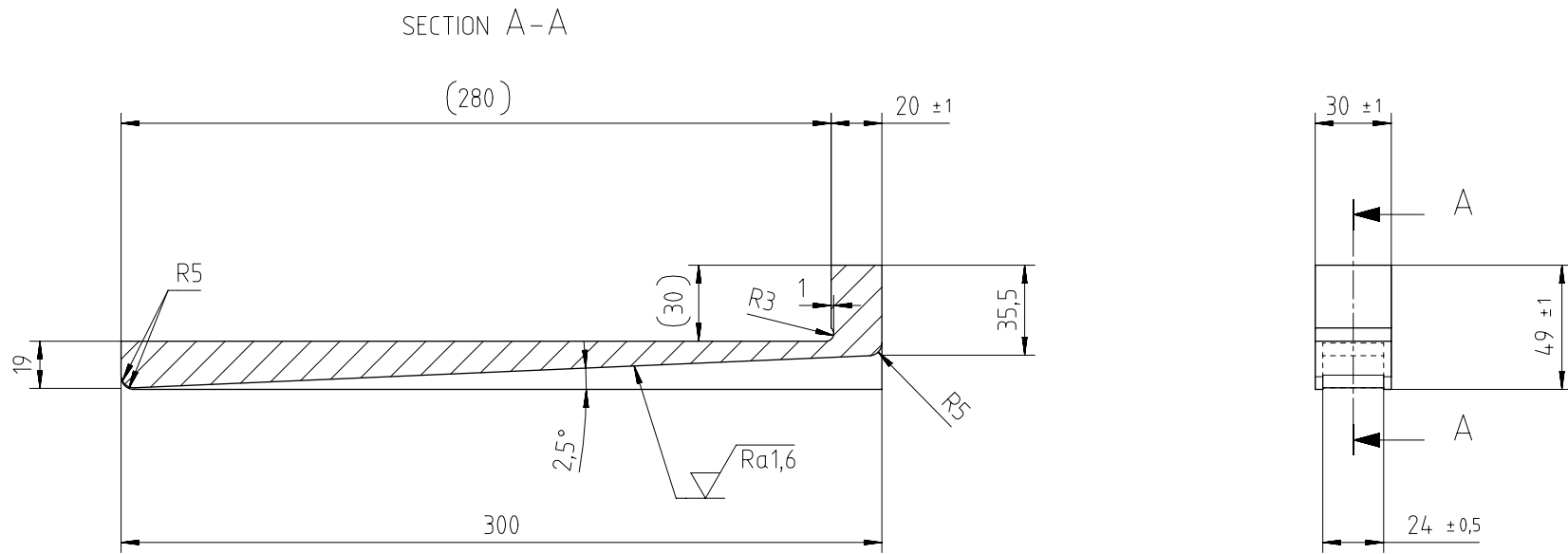
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1	003	FAAD34.3262	PLATE	DAAD1234.06	W-FU-235-JR	0,4	
1	002	107.424.348.001	KEY	107.424.348	W-FU-235-JR	1,5	
1	001	107.424.347.001	KEY	107.424.347	W-FU-235-JR	1,7	
QTY	SEQ NO	Material ID	Material Name	Dimension, Occ	Standard or Drawing	Basic Material Material Standard	Weight GR./NET
Free space for ill.						Q-Code XXXXXX Standard ISO; JIS	Main Drw.
Modif.	A EAAD084635 27.06.2013		B EAAD091472 06.11.2019				
	Number	Drawn date	Number	Drawn date	Number	Drawn date	Number
			Product W-2S		WEDGE		
					Schraeger Keil		
Units	mm kg	NX			Basic Material	W-FU-235-JR	Net Weight 3,8
SURFACE PROTECTION SEE GROUP 034.4		Made	05.08.2009	jba029	J.BAUMANN	Scale	1:2
TOLERANCING PRINCIPLE ISO8015		Chkd			Design Group	Size	A2
GENERAL TOLERANCES ACCORDING TO ISO2768-mK		Appd	28.09.2009	JBA029	Baumann	Page	1/1
					9710-01	Material ID	107.424.346.200
						Drawing ID	107.424.346
						Rev.	B



$\sqrt{Ra50}$ ($\sqrt{Ra1,6}$)

Free space for lic.	Q-Code XXXXXX								Main Drw.
	Standard ISO; JIS								
Modif.	A	EAAD091472	05.11.2019						
	Number	Drawn date		Number	Drawn date		Number	Drawn date	Number
 Winterthur Gas & Diesel		Product W-2S			KEY Keil				
Units	mm kg	NX		Basic Material		W-FU-235-JR			Net Weight 1,7
SURFACE PROTECTION SEE GROUP 0344		Made	05.08.2009 J.BAUMANN		Scale	1:2		Size	A3
TOLERANCING PRINCIPLE ISO8015		Chkd			Design Group	9710-01		Page	1/1
GENERAL TOLERANCES ACCORDING TO ISO2768-mK		Appd	28.09.2009 JBA029 Baumann		Material ID	107.424.347.001			Rev.
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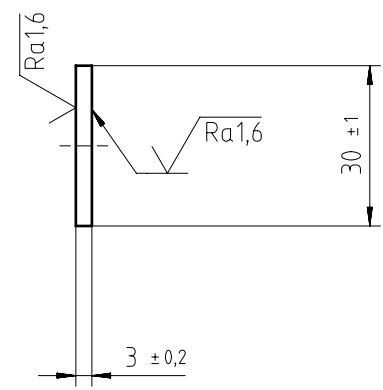
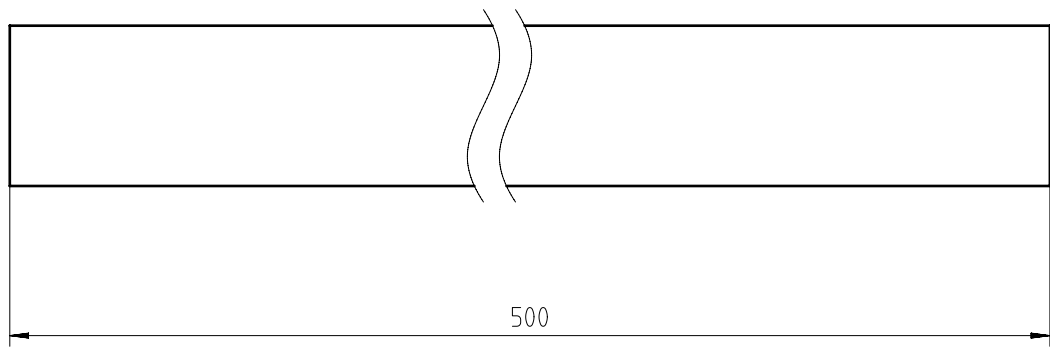
$\sqrt{Ra50}$ ($\sqrt{Ra1,6}$)

Free space for lic.									Q-Code XXXXXX	Main Drw.				
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Modif.	A	EAAD091472	06.11.2019	○	○	○	○	○	○	○				
	Number	Drawn date	Number	Drawn date	Number	Drawn date	Number	Drawn date	Number	Drawn date				
WIN GD Winterthur Gas & Diesel		Product W-2S		KEY Keil										
Units	mm kg	NX			Basic Material	W-FU-235-JR			Net Weight 1,5					
SURFACE PROTECTION SEE GROUP 0344		Made	05.08.2009 J.BAUMANN		Scale	1:2		Size	A3	Page	1/1	Material ID	107.424.348.001	
TOLERANCING PRINCIPLE ISO8015		Chkd			Design Group		9710-01		Drawing ID		107.424.348		Rev.	A
GENERAL TOLERANCES ACCORDING TO ISO2768-mK		Appd	28.09.2009 JBA029 Baumann											

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$\sqrt{Ra50}$ ($\sqrt{Ra1,6}$)

Free space for lic.								Q-Code XXXXXX	Main Drw.
								Standard ISO; JIS	
Modif.	○		○		○		○		
	Number	Drawn date	Number	Drawn date	Number	Drawn date	Number	Drawn date	
WIN GD Winterthur Gas & Diesel		Product W-2S		PLATE Blech					
Units	mm kg	NX		Basic Material	W-FU-235-JR			Net Weight 0,4	
SURFACE PROTECTION SEE GROUP 0344		Made	06.11.2019 dki021 DH.Kim		Scale	1:1		Size A3	
TOLERANCING PRINCIPLE ISO8015		Chkd	26.11.2019 jpi101 Pickup		Design Group	1/1			
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						Drawing ID	DAAD123406		
						Rev.	-		

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MIDS - WinGD X82/-2.0/DF-1.0 - ENGINE TOOL ALIGNMENT (DG9710-01)

TRACK CHANGES

DATE	SUBJECT	DESCRIPTION
2019-11-12	DRAWING SET	First web upload
2020-02-07	DAAD123024 DAAD123095 107.245.895 107.246.895 107.246.894 107.245.898 107.424.346 107.424.347 107.424.348 DAAD123406	Main drgs – new revision Wedge assembly parts drgs – new revision
2021-05-18	DAAD140320	New drawing set for 6cyl. engine execution - added

DISCLAIMER

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