


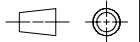
Available executions

Execution No.	Material ID	Cylinder No.	Attribute 1: Alignment tool type	
			SCREWS	WEDGES
001	PAAD215869	5	X	
002	PAAD346519	5		X
003	PAAD180542	6	X	
004	PAAD353044	6		X
005	PAAD276880	7	X	
006	PAAD353123	7		X
007	PAAD286613	8	X	
008	PAAD353218	8		X

NOTE

The above executions can be configured using the Engine Configurator.  
Detailed guidance for the executions is provided within the Marine Installation Manual (MIM). If a specific execution of interest is not shown in the above table, then it may still be under development or not available. For further information or in case of a project-specific request, WinGD must be contacted directly.

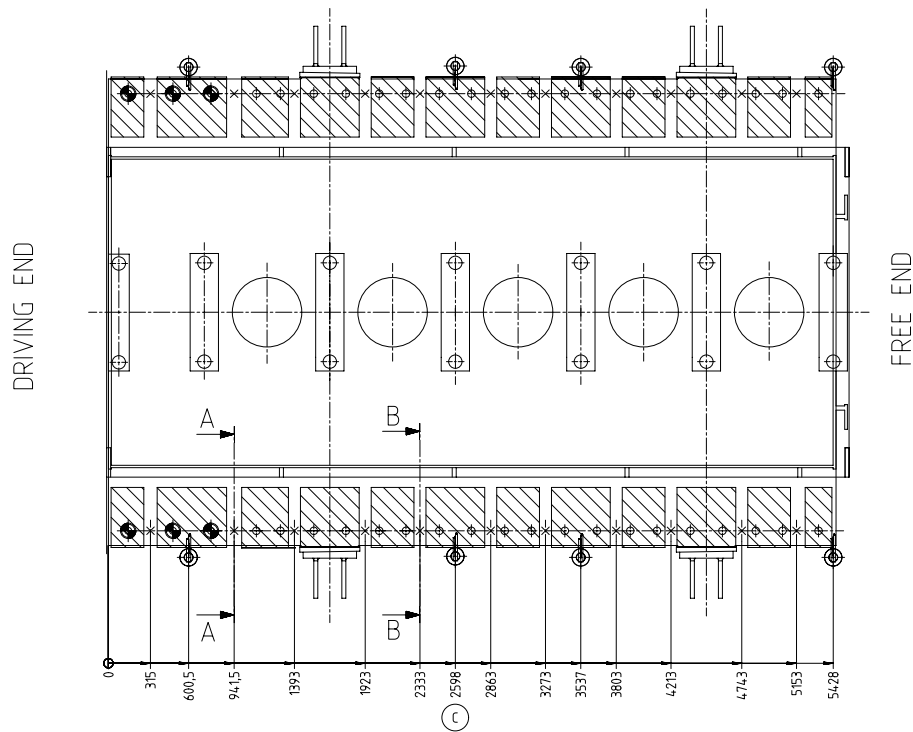
This publication is designed to provide accurate and authoritative information with regard to the subject-matter covered as it was available at the time of printing. However, the publication deals with complicated technical matters suited only for specialists in the area, and the design of the subject-products is subject to regular improvements, modifications and changes. Consequently, the publisher and copyright owner of this publication cannot accept any responsibility or liability for any eventual errors or omissions in this document or for discrepancies arising from the features of any actual item in the respective product being different from those shown in this publication. The publisher and copyright owner shall under no circumstances be held liable for any financial consequential damages or other loss, or any other damage or injury, suffered by any party making use of this publication or the information contained herein.

Prod.	X52 X52DF		X52DF-1.1 X52DF-A-1.0		X52DF-M-1.0								
Change History													
	-	sna102	mhu019	14.03.2023	CNAA003279	new Design					-	-	
	Rev.	Creator	Approver	Approval Date	Change ID	Change Synopsis					Approved	Activity Code	E
 Winterthur Gas & Diesel					TOOL ENGINE ALIGNMENT MIDS master drawing								
separate BOM available					Dimension								
Scale	-		NX	Units [mm] [kg]		Basic Material				Net Weight 0.001			
Copyright Winterthur Gas & Diesel Ltd. All rights reserved. By taking possession of the drawing the recipient recognizes and honours these rights. Neither the whole nor any part of this drawing may be used in any way for construction, fabrication, marketing or any other purpose nor copied in any way nor made accessible to third parties without the previous written consent of Winterthur Gas & Diesel Ltd.				Main Design		Design Group		9710-01		Q-Code XXXXX		Standard WDS	
				Qty per		A4		Item ID		PTAA025303		Drawing Page/s	

SEQ NO	QTY	Item ID	Item Name	Dimension	Standard-ID	Basic Material	Net Weight
001	22	PAAD005430	JACKING SCREW			W-FU-235-N-T	2.3
002	8	PAAD318478	HYDRAULIC JACK				
003	8	PAAD318480	SUPPORT BLOCK				

--	--	--	--	--	--	--	--

Prod.	4 RTX-7 5 X52				5 X52DF 5 X52DF-1.1		5 X52DF-2.1 5 X52DF-A-1.0		5 X52DF-M-1.0							
Change History	C	sj0101	mhu019	12.02.2024	CNAA005240	Drawing updated				4	3					
	B	sde101	mhu019	02.10.2019	EAAD090713	Legacy information. See corresponding ChangeNotice				4	3					
	A	jba039	mhu019	05.01.2017	EAAD087035	Legacy information. See corresponding ChangeNotice				4	-					
	-	20045800	bha009	23.12.2015	EAAD779403	-				-	-					
	Rev.	Creator	Approver	Approval Date	Change ID	Change Synopsis	Approved	Activity Code	E	C						
<div>WIN GD</div> <div>Winterthur Gas &amp; Diesel</div>					TOOL ENGINE ALIGNMENT											
					Alignment with: Jacking Screws											
Bill Of Material					Dimension											
Copyright Winterthur Gas & Diesel Ltd. All rights reserved. By taking possession of the document the recipient recognizes and honours these rights. Neither the whole nor any part of this document may be used in any way for construction, fabrication, marketing or any other purpose nor copied in any way nor made accessible to third parties without the previous written consent of Winterthur Gas & Diesel Ltd.					Units		[m] [kg]		Basic Material		Net Weight		50.6			
					Main Design		Yes		Design Group		9710-01	Q-Code		X X O	Standard	WDS
					Qty per		Engine		A4	Item ID		PAAD215869		BOM Page/s		01/01



CAUTION

Risk:  
Tool and/or bedplate damage

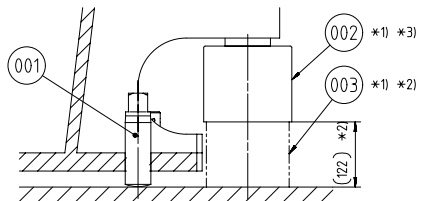
Countermeasure:  
Avoid overloading of jacking screws and/or bedplate areas by observing the appropriate engine alignment/ assembly procedure as follows:

- Lift the engine into the engine room and place it on levelled , temporary blocks, underneath the bedplate beside the jacking screws.
- Screw in all jacking screws until touching the foundation top plate (the full number of jacking screws must be used)
- Apply hydraulic jacks to the protruding bedplate ribs nearby the jacking screws as indicated in the drawing.
- Remove the temporary blocks by slightly lifting the engine with the hydraulic jacks.
- Start with the engine alignment by means of jacking screws. Before turning a jacking screw, reduce its load by use of the hydraulic jacks. Any height adjustment must be performed in small steps - no more than 1 mm per step (equals to 1/2 screw turn, based on 2 mm thread pitch). Changes in height larger than the maximum allowance (1 mm) require a gradual process where all jacking screws are successively adjusted in stages, to ensure the best possible load distribution.

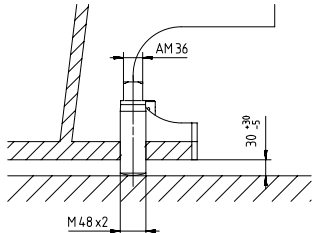
Remarks



- \*1) To be provided by the shipyard
- \*2) Height depending on the requirement (chock thickness in correlation with maximum permissible extension of the hydraulic jack)
- \*3) Hydraulic jack proposal  
Type: Enerpac RCS-1002  
Load at 700 bar: 880 kN

SECTION A-A  
SCALE 1:5



SECTION B-B  
SCALE 1:5

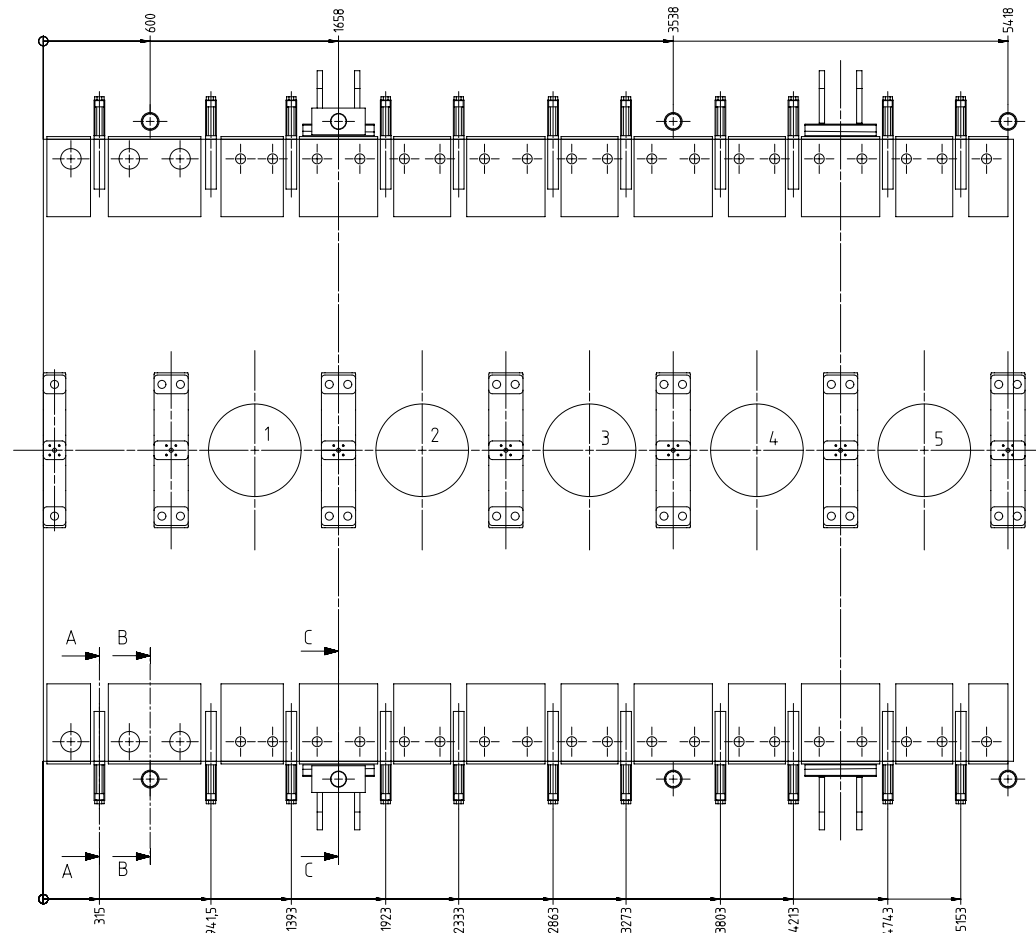
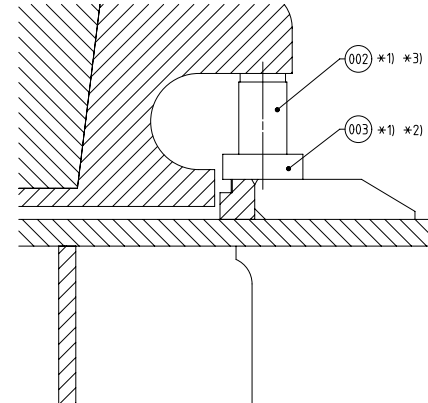
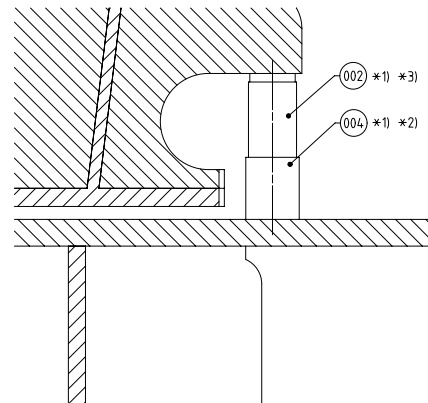
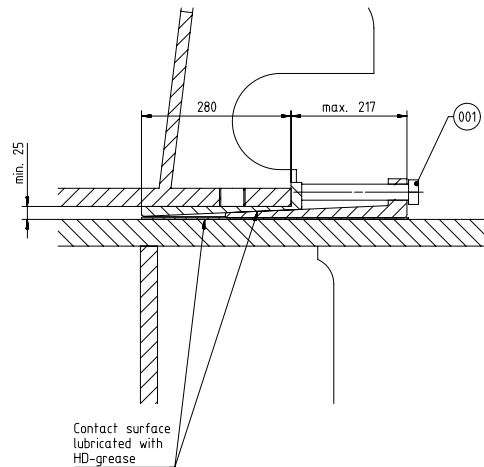


4RTX-7 SX52		SX52DF		SX52DF-2.1 SX52DF-4x1.0		SX52DF-4M-1.0			
Change history	C	sjp001	mmu018	12.02.2024	0MA0005240	Drawing updated		4	3
	B	sde001	mmu019	02.10.2019	EAA0090713	Legacy information. See corresponding ChangeNotice		4	3
	A	ba0039	mmu019	05.01.2017	EAA0087035	Legacy information. See corresponding ChangeNotice		4	-
	-	2004-588	ba009	23.12.2015	EAA0779403	-		-	-
Rev.	Creator	Approver	Approved Date	Change ID	Change Synopsis	Appr. code	Activity Code	E	C
 Winterthur Gas & Diesel					TOOL ENGINE ALIGNMENT Alignment with: Jacking Screws				
separate BOM available					Dimension				
Scale 1:50				Units [mm] [kg]		Basic Material		Net Weight 50.60	
SURFACE PROTECTION SEE GROUP 0344		Copyright Winterthur Gas & Diesel Ltd. All rights reserved. No part of this document may be reproduced or transmitted in any form or by any means electronic or mechanical, including photocopying and recording, or by any information storage or retrieval system, without prior written permission of Winterthur Gas & Diesel Ltd.		Main Design		Design Group		Standard WDS	
TOLERANCING PRINCIPLE ISO8015		cry per		Engine		A1 Item ID		PAAD215869	
GENERAL TOLERANCES ACCORDING TO ISO2768-MK								Drawing Page 1/1	



DRIVING END

FREE END

SECTION A-A  $\varnothing 90^\circ$   
SCALE 1:5SECTION B-B  $\varnothing 90^\circ$   
SCALE 1:5SECTION C-C  $\varnothing 90^\circ$   
SCALE 1:5**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**

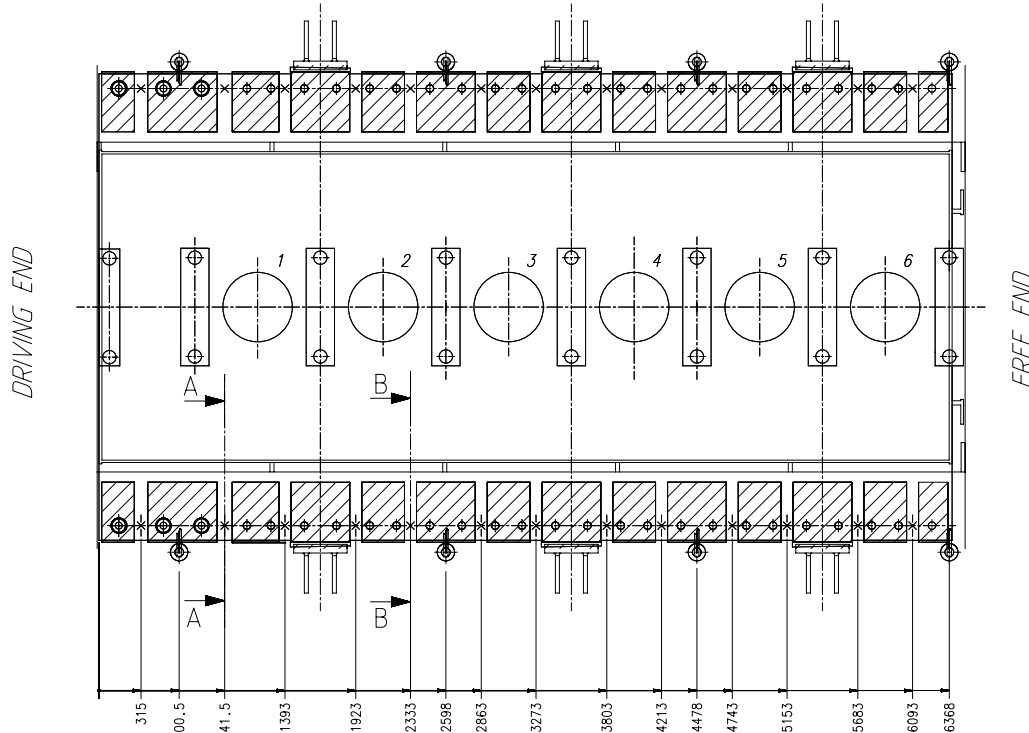
- \*1) To be provided by the shipyard
- \*2) Height depending on the requirement (check thickness in correlation with maximum permissible extension of the hydraulic jack)
- \*3) Hydraulic jack proposal  
Type: Enerpac RCS-1002  
Load at 700 bar: 887 kN

Part		5X52		5X52DF-1.1		5X52DF-A-1.0	
Change History		5X52		5X52DF-1.1		5X52DF-A-1.0	
A	sjp101	rehu019	18.04.2024	CHAA005392	Drawing Updated	4	3
B	dk0021	rehu019	19.12.2019	EAAD785317	-	-	-
Rev	Creator	Approver	Approved Date	Change ID	Change Synopsis	Approval	Activity Code
<b>WIN GD</b> Winterthur Gas & Diesel		<b>TOOL ENGINE ALIGNMENT</b> Alignment with: Wedges					
separate BOM available		Dimension		Units [mm] [kg]		Basic Material	
Scale 1:15		NX		Main Design		Net Weight	
SURFACE PROTECTION SEE GROUP 0344		Yes		Design Group		187.2	
TOLERANCING PRINCIPLE ISO8015		Engine		9710-01		Standard	
GENERAL TOLERANCES ACCORDING TO ISO2768-mK		A1		Item ID		WDS	
				PAAD346519		Drawing Page 6	
				1/1			

SEQ NO	QTY	Item ID	Item Name	Dimension	Standard-ID	Basic Material	Net Weight
001	26	PAAD005430	JACKING SCREW			W-FU-235-N-T	2.3
002	8	PAAD318478	HYDRAULIC JACK				
003	8	PAAD318480	SUPPORT BLOCK				

--	--	--	--	--	--	--	--

Prod.	6 X52 6 X52DF				6 X52DF-1.1 6 X52DF-2.1		6 X52DF-A-1.0 6 X52DF-M-1.0					
Change History	C	sj0101	mhu019	18.04.2024	CNAA005392	Drawing updated				4	3	
	B	sde101	mhu019	02.10.2019	EAAD090713	Legacy information. See corresponding ChangeNotice				4	3	
	A	jba039	mhu019	05.01.2017	EAAD087035	Legacy information. See corresponding ChangeNotice				4	-	
	-	wwa008	bha009	16.01.2015	EAAD778076	-				-	-	
	Rev.	Creator	Approver	Approval Date	Change ID	Change Synopsis	Approved	Activity Code	E	C		
<div>WIN GD</div> <div>Winterthur Gas &amp; Diesel</div>					TOOL ENGINE ALIGNMENT							
					Alignment With: Jacking Screws							
Bill Of Material					Dimension							
Copyright Winterthur Gas & Diesel Ltd. All rights reserved. By taking possession of the document the recipient recognizes and honours these rights. Neither the whole nor any part of this document may be used in any way for construction, fabrication, marketing or any other purpose nor copied in any way nor made accessible to third parties without the previous written consent of Winterthur Gas & Diesel Ltd.					Units [m] [kg]		Basic Material			Net Weight 59.8		
					Main Design Yes		Design Group 9710-01		Q-Code X X O		Standard WDS	
					Qty per Engine		A4	Item ID PAAD180542		BOM Page/s 01/01		



#### CAUTION

Risk:  
Tool and/or bedplate damage

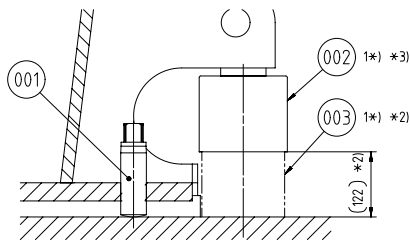
Countermeasure:  
Avoid overloading of jacking screws and/or bedplate areas by observing the appropriate engine alignment/ assembly procedure as follows:

- Lift the engine into the engine room and place it on levelled, temporary blocks, underneath the bedplate beside the jacking screws.
- Screw in all jacking screws until touching the foundation top plate (the full number of jacking screws must be used)
- Apply hydraulic jacks to the protruding bedplate ribs nearby the jacking screws as indicated in the drawing.
- Remove the temporary blocks by slightly lifting the engine with the hydraulic jacks.
- Start with the engine alignment by means of jacking screws. Before turning a jacking screw, reduce its load by use of the hydraulic jacks. Any height adjustment must be performed in small steps - no more than 1 mm per step (equals to 1/2 screw turn, based on 2 mm thread pitch). Changes in height larger than the maximum allowance (1 mm) require a gradual process where all jacking screws are successively adjusted in stages, to ensure the best possible load distribution.

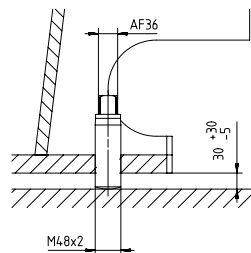
#### Remarks


- \*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 RCS-1002  
Load at 700 bar: 880 kN

SECTION A-A  
SCALE 1:5



SECTION B-B  
SCALE 1:5



Change history	Rev	6X52 6X52DF			6X52DF-Z-1.1 6X52DF-Z-2.1			6X52DF-A-1.0 6X52DF-A-1.0							
	C	sjp001	mmu010	18.04.2024	CH0005382	Drawing updated						4	3		
	B	sde001	mmu010	02.10.2019	EAA0090713	Legacy information. See corresponding ChangeNotice						4	3		
	A	ba0039	mmu010	05.01.2017	EAA0087035	Legacy information. See corresponding ChangeNotice						4	-		
	-	wa0008	bha009	16.01.2015	EAA0778076							-	-		
Rev		Creator	Approver	Approved Date	Change ID	Change Synopsis			Appr. name		Activity Code	E	C		
<div><div><div>WINNER Winterthur Gas &amp; Diesel</div></div><div><div>TOOL ENGINE ALIGNMENT</div><div>Alignment With: Jacking Screws</div></div></div>															
separate BOM available						Dimension									
Scale 1:50						Units [mm] [kg]		Basic Material				Net Weight 59.80			
SURFACE PROTECTION SEE GROUP 0344						Main Design		Yes		Design Group 9710-01		Q-Code X X 0		Standard WDS	
TOLERANCING PRINCIPLE ISO8015						Qty per		Engine		A1		Item ID PAAD180542		Drawing Page 6	
GENERAL TOLERANCES ACCORDING TO ISO2768-mK														1/1	

SEQ NO	QTY	Item ID	Item Name Dimension	Standard-ID	Basic Material	Net Weight
001	26	107.245.895.200	WEDGE			8.51
002	8	PAAD318478	HYDRAULIC JACK			
003	8	PAAD318480	SUPPORT BLOCK			

Prod.	6 X52 6 X52DF	6 X52DF-1.1 6 X52DF-2.1	6 X52DF-A-1.0 6 X52DF-M-1.0
-------	------------------	----------------------------	--------------------------------



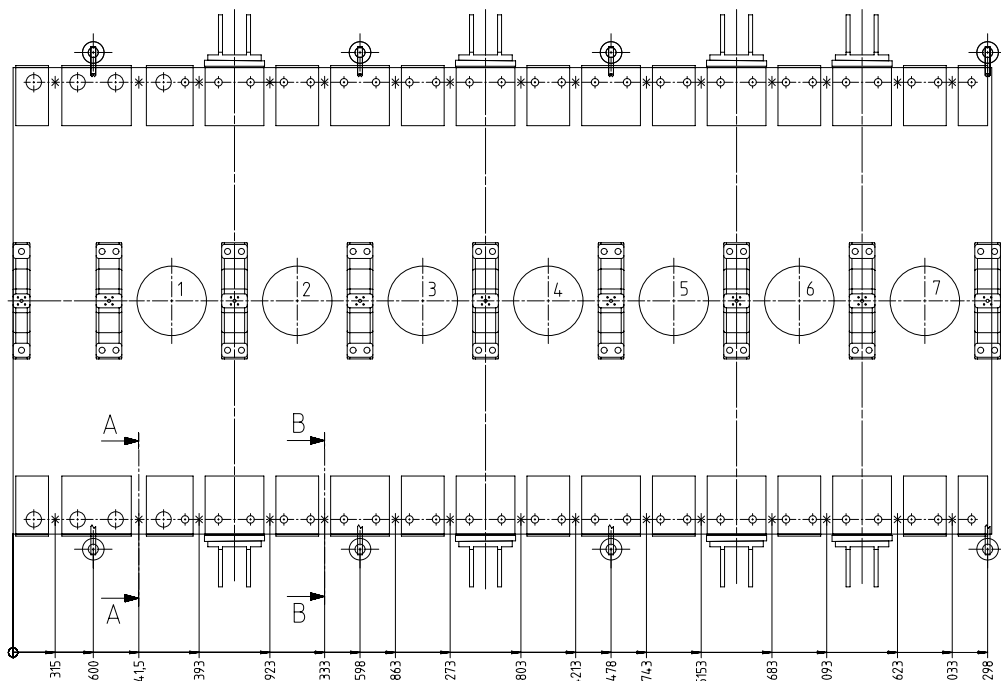
Bill Of Material	Dimension								
Copyright Winterthur Gas & Diesel Ltd. All rights reserved. By taking possession of the document the recipient recognizes and honours these rights. Neither the whole nor any part of this document may be used in any way for construction, fabrication, marketing or any other purpose nor copied in any way nor made accessible to third parties without the previous written consent of Winterthur Gas & Diesel Ltd.	Units	[m] [kg]	Basic Material				Net Weight	221.3	
	Main Design	Yes	Design Group		9710-01	Q-Code	X X O	Standard	WDS
	Qty per	Engine	A4	Item ID	PAAD353044			BOM Page/s	01/01







DRIVING END



FREE END

## CAUTION

Risk:  
Tool and/or bedplate damage

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

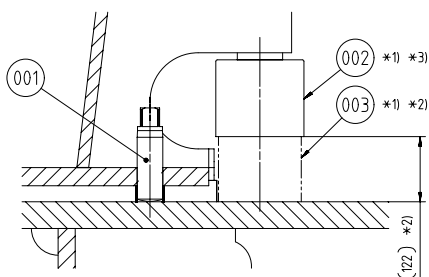
- Lift the engine into the engine room and place it on levelled , temporary blocks, underneath the bedplate beside the jacking screws.
- Screw in all jacking screws until touching the foundation top plate (the full number of jacking screws must be used)
- Apply hydraulic jacks to the protruding bedplate ribs nearby the jacking screws as indicated in the drawing.
- Remove the temporary blocks by slightly lifting the engine with the hydraulic jacks.
- Start with the engine alignment by means of jacking screws. Before turning a jacking screw, reduce its load by use of the hydraulic jacks. Any height adjustment must be performed in small steps - no more than 1 mm per step (equals to 1/2 screw turn, based on 2 mm thread pitch). Changes in height larger than the maximum allowance (1 mm) require a gradual process where all jacking screws 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 (chock thickness in correlation with maximum permissible extension of the hydraulic jack)
- \*3) Hydraulic jack proposal  
Type: Enerpac RCS-1002  
Load at 700 bar: 880 kN

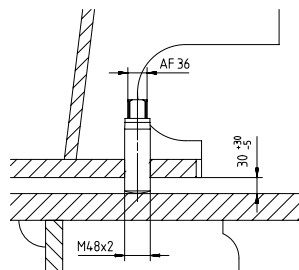
## SECTION A-A

SCALE 1:5





## SECTION B-B

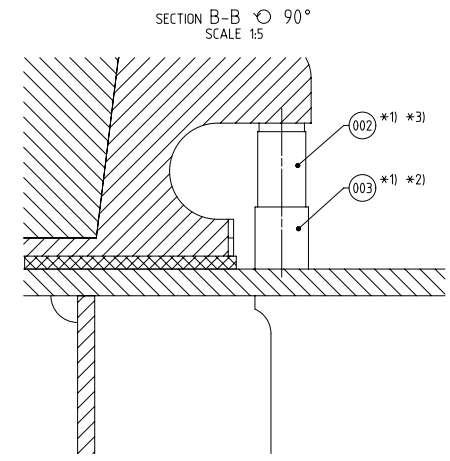
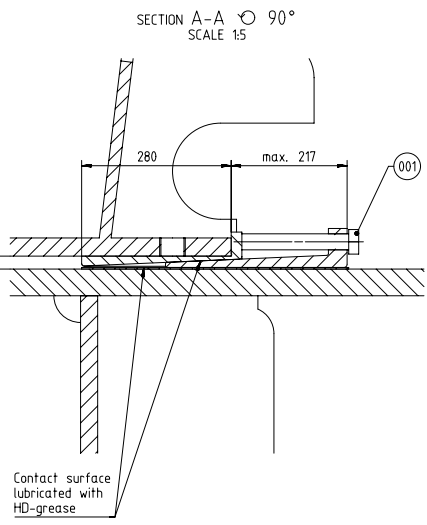
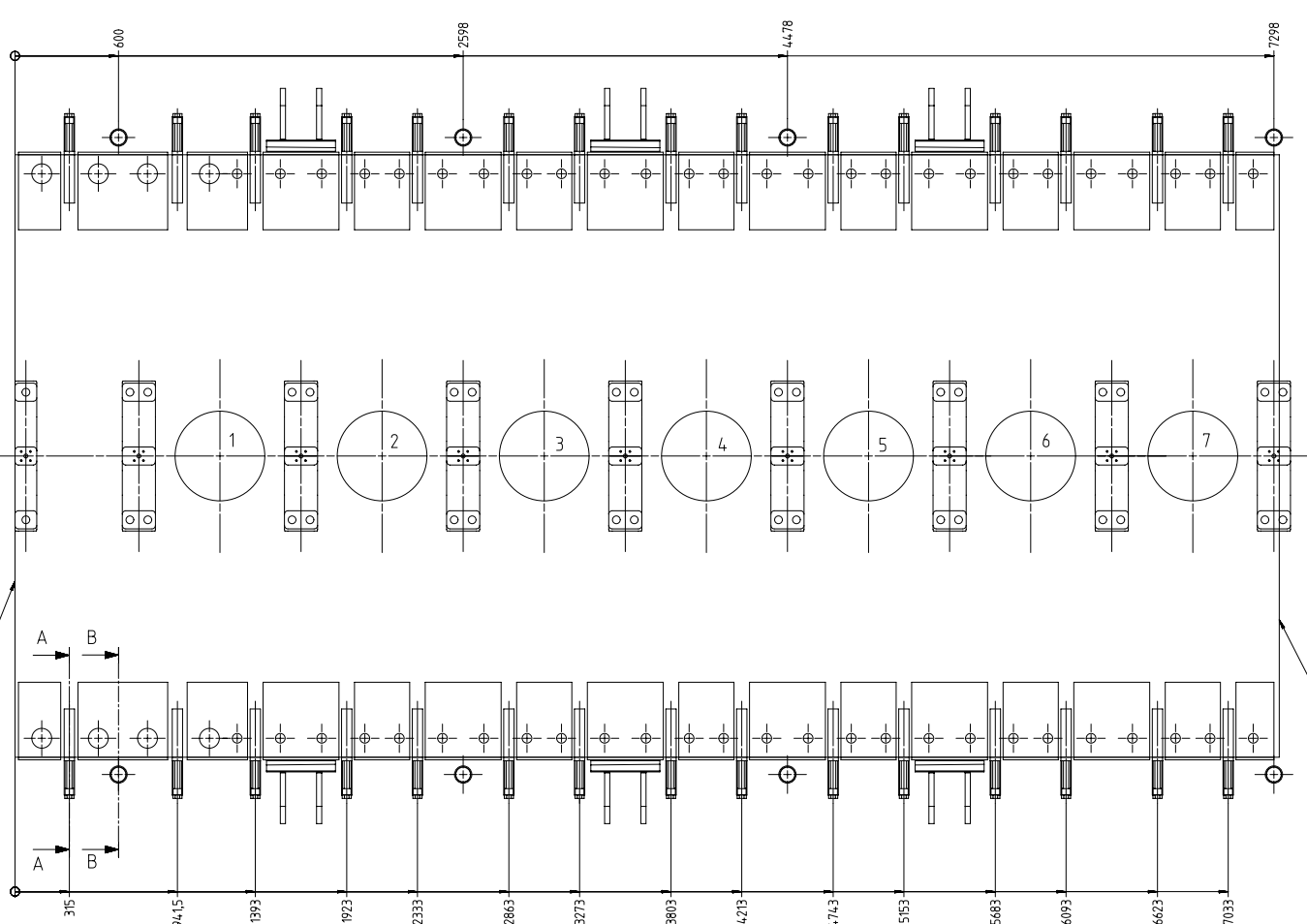
SCALE 1:5



SURFACE PROTECTION SEE GROUP 0344  
TOLERANCING PRINCIPLE ISO8015  
GENERAL TOLERANCES ACCORDING TO ISO2768-mK

7XS2		7XS2DF		7XS2DF-1.1		7XS2DF-A-1.0		7XS2DF-A-1.0					
7XS2		7XS2DF		7XS2DF-1.1		7XS2DF-1.1		7XS2DF-A-1.0					
Change History	B	sja001	mhu019	19.04.2024	CHMA005392	Drawing Updated			4	3			
	A	sde001	mhu019	02.10.2019	EAA0090713	Legacy information. See corresponding ChangeNotice			4	3			
	-	dki0021	hdo002	12.10.2017	EAA0781895	-			-	-			
Rev	Creator	Approver	Approved Date	Change ID	Change Synopsis		Approved	Activity Code	E	G			
 Winterthur Gas & Diesel				TOOL ENGINE ALIGNMENT Alignment With: Jacking Screws									
separate BOM available				Dimension									
Scale 1:25  NX				Units [mm] [kg]				Basic Material		Net Weight 69.00			
Copyright Winterthur Gas & Diesel AG. All rights reserved. The copyright of this drawing lies exclusively with Winterthur Gas & Diesel AG. No part of this drawing may be copied or reproduced in any form or by any means, electronic or mechanical, including photocopying, recording, or by any information storage and retrieval system, without prior written permission from Winterthur Gas & Diesel AG. The use of this drawing for any other purpose than the intended one is prohibited. The user assumes full responsibility for the correct use of this drawing. The user is responsible for the correct interpretation and application of the drawing. The user is responsible for the correct interpretation and application of the drawing. The user is responsible for the correct interpretation and application of the drawing.				Main Design		Design Group		9710-01		Standard			
				Yes		O-Code		X X 0		Standard		wds	
				Qty		Engine		A1		Item ID		PAAD276880	





**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 RCS-1002  
Load at 700 bar: 887 kN

SURFACE PROTECTION SEE GROUP 0344		TOLERANCING PRINCIPLE ISO8015		GENERAL TOLERANCES ACCORDING TO ISO2768-mK	
Scale 1:15		Units [mm] [kg]		Basic Material	
Main Design		Yes		Design Group	
Engine		A1		Item ID	
9710-01		Q-Code X X 0		Standard	
PAAD353123		Drawing Page		1/1	



DRIVING END

FREE END

### CAUTION

Risk:  
Tool and/or bedplate damage

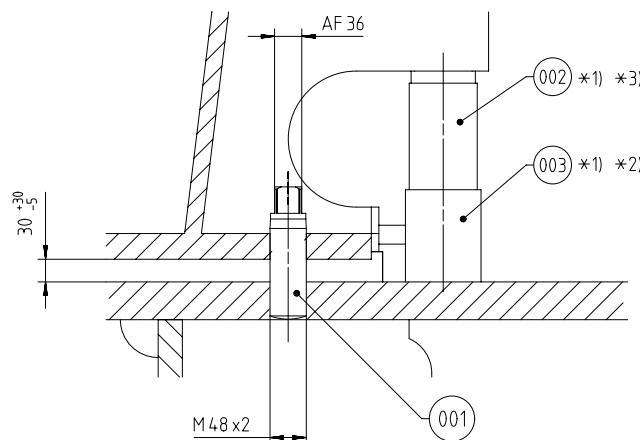
Countermeasure:  
Avoid overloading of bedplate areas by observing the appropriate engine alignment/assembly procedure as follows:



- 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-1002  
Load at 700 bar: 880 kN

A-A 1:5



Prod.	8X52DF		8X52DF-1,1 8X52DF-2,1		8X52DF-A-1,0 8X52DF-M-1,0										
Change History	B	sj0101	mhu019	18.04.2024	QNA005392	Drawing Updated		4	3						
	A	dk1021	mhu019	06.12.2019	EAAD091472	Legacy information. See corresponding ChangeNotice		4	-						
	-	sde101	mhu019	03.05.2018	EAAD782607	-		-	-						
	Rev.	Creator	Approver	Approval Date	Change ID	Change Synopsis	Approved	Activity Code	E	C					
<div> Winterthur Gas &amp; Diesel</div>					TOOL ENGINE ALIGNMENT Alignment With: Jacking Screws										
separate BOM available					Dimension										
Scale 1:25				NX		Units [mm] [kg]		Basic Material		Net Weight 78.20					
<small>Copyright Winterthur Gas &amp; Diesel Ltd. All rights reserved. By taking possession of the drawing the recipient recognizes and guarantees these rights. Neither the whole nor any part of this drawing may be used in any way for construction, fabrication, marketing or any other purpose not covered in any way nor made accessible to third parties without the previous written consent of Winterthur Gas &amp; Diesel Ltd.</small>						Main Design		Yes		Design Group 9710-01		Q-Code X X 0		Standard WDS	
Qty per		Engine		A2		Item ID		PAAD286613		Drawing Page/s		1/1			

SURFACE PROTECTION SEE GROUP 0344

TOLERANCING PRINCIPLE ISO8015

GENERAL TOLERANCES ACCORDING TO ISO2768-mK

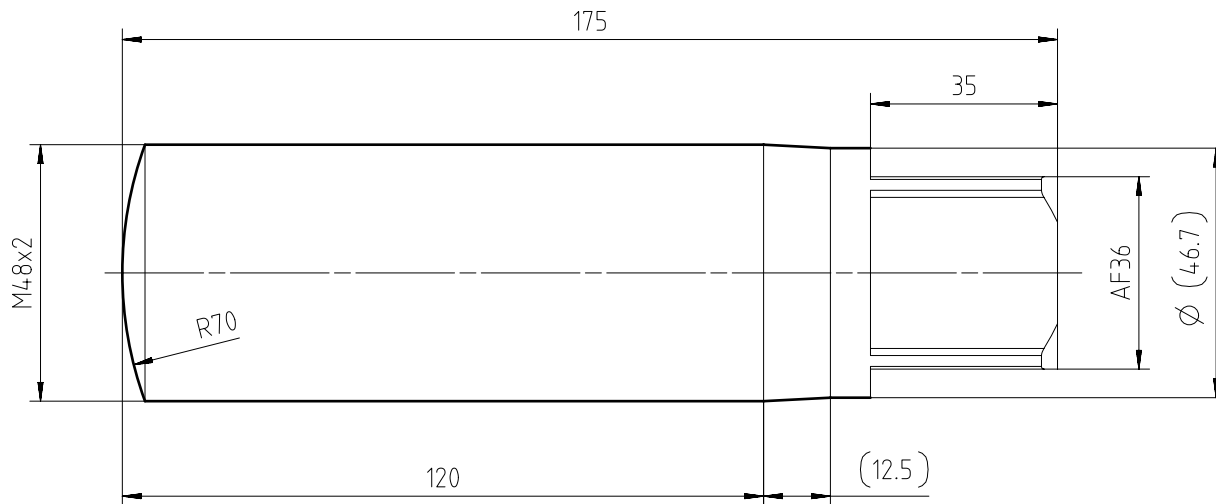
Copyright Winterthur Gas & Diesel Ltd. All rights reserved.  
By taking possession of the drawing the recipient recognizes and assumes these rights. Neither the whole nor any part of this drawing may be used in any way for construction, fabrication, marketing or any other purpose nor copied in any way nor made accessible to third parties without the previous written consent of Winterthur Gas & Diesel Ltd.



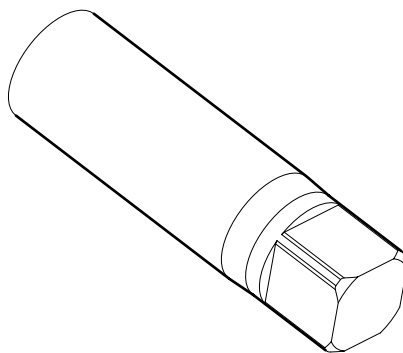




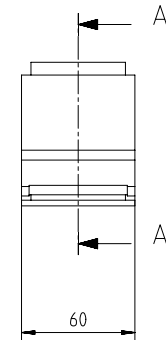
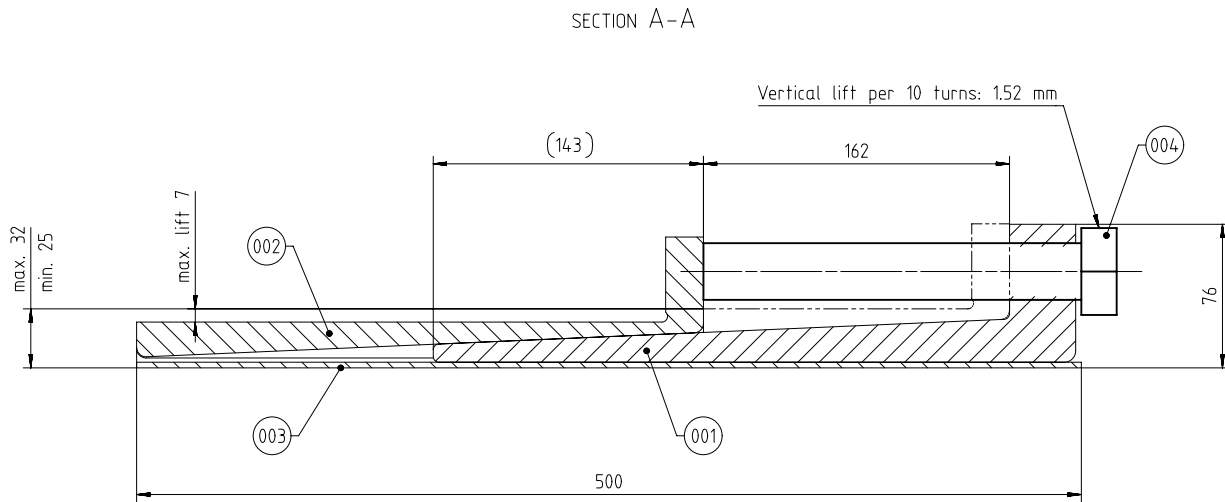
ROLLED THREAD



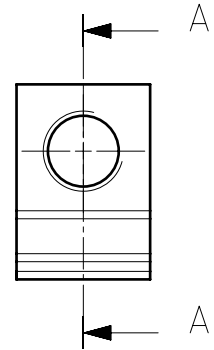
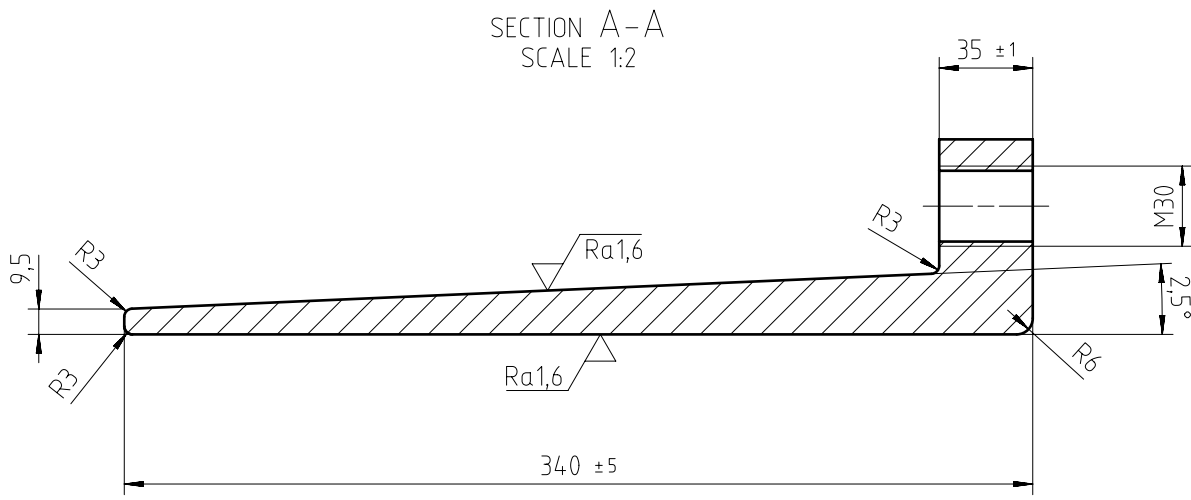
M 1:2





Free space for lic.								Q-Code XXXXXX	Main Drw.							
								Standard ISO; JIS								
Modif.	A	EAAD087035	22.11.2016													
		Number	Drawn date		Number	Drawn date		Number	Drawn date							
<b>WIN GD</b> Winterthur Gas & Diesel		Product W-2S		JACKING SCREW Abdrueckschraube												
Units	mm kg	NX				Basic Material		W-FU-235-N-T		Net Weight 2,3						
SURFACE PROTECTION SEE GROUP 0344		Made	04.06.2010	jba029	Baumann		Scale	1:1	Size	A3	Page	1/1	Material	PAAD005430		
TOLERANCING PRINCIPLE ISO8015		Chkd	15.06.2010	wwr001		Wroblewski		Design Group	9710-01		Drawing	ID		DAAD006054	Rev.	A
GENERAL TOLERANCES ACCORDING TO ISO2768-mK		Appd	17.06.2010	dst009		Strödecke										

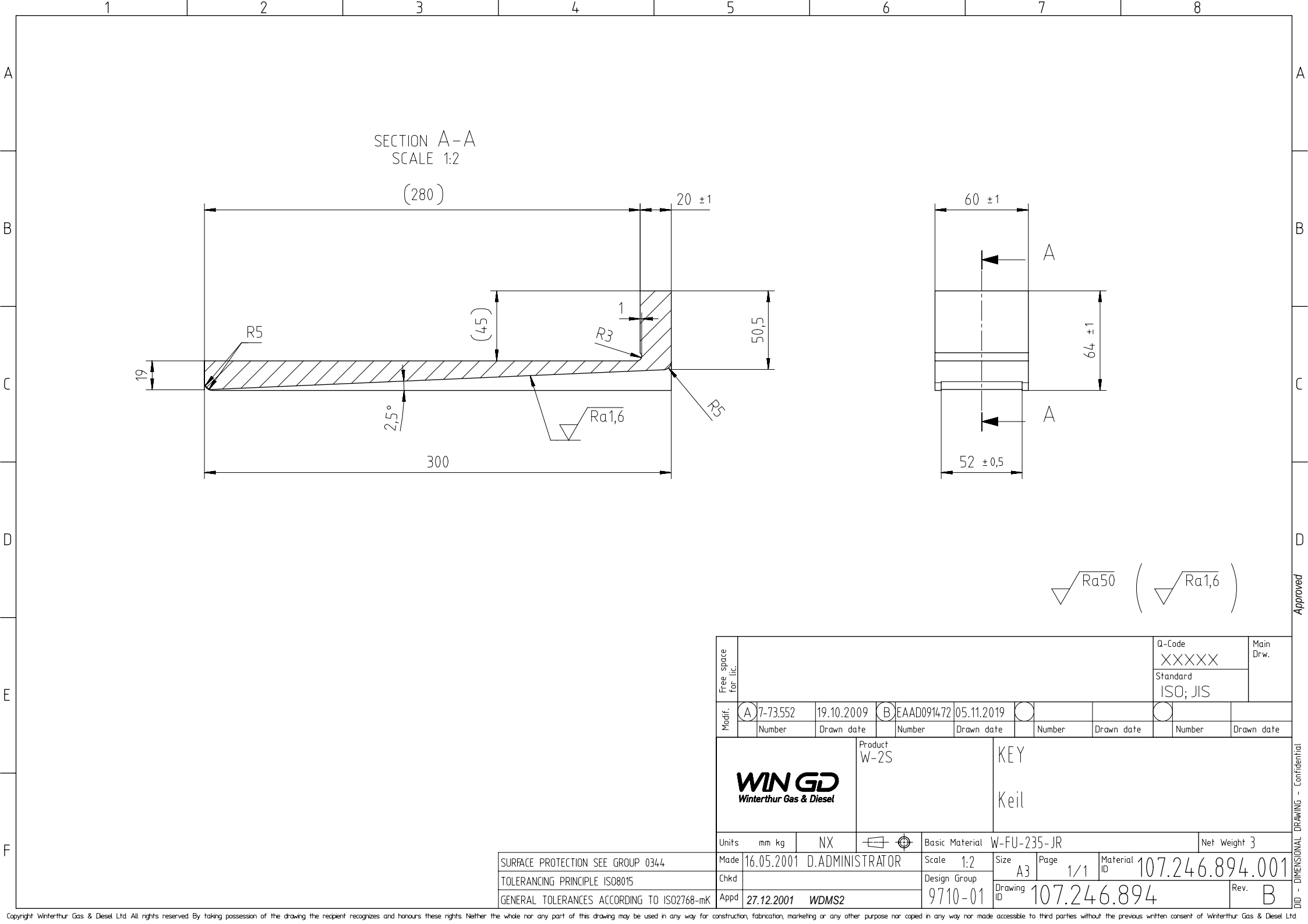


1	004	015.151.048.701	HEXAGON HEAD SCREW M30x200		ISO 4017	8.8	1,21						
1	003	107.245.898.001	PLATE		107.245.898	W-FU-235-JR	1,0						
1	002	107.246.894.001	KEY		107.246.894	W-FU-235-JR	3,0						
1	001	107.246.895.001	KEY		107.246.895	W-FU-235-JR	3,3						
QTY	SEQ NO	Material ID	Material Name		Standard or Drawing	Basic Material Material Standard	Weight GR./NET						
Free space for lic.						Q-Code XXXXXX	Main Drw.						
						Standard ISO; JIS							
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		
<b>WIN GD</b> Winterthur Gas & Diesel			Product W-2S			WEDGE  Schraeger Keil							
Units		mm kg		NX				Basic Material				Net Weight 8,51	
Made		10.07.1996		D.Scheffler		Scale 1:2		Size A2		Page 1/1		Material ID 107.245.895.200	
Chkd						Design Group							
Appd		30.08.1996		WCH001 Service User		9710-01		Drawing ID 107.245.895				Rev. E	

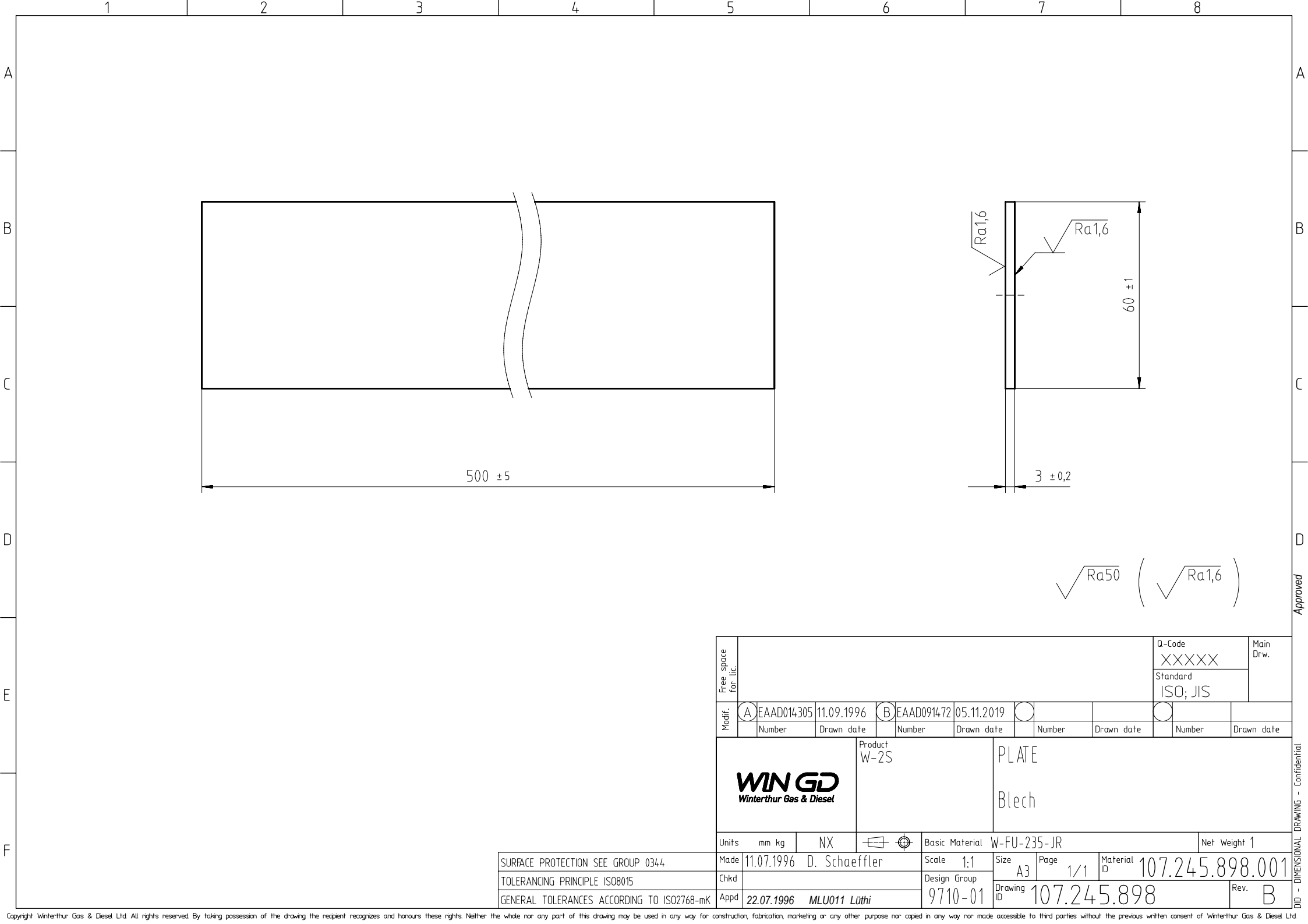



$\sqrt{Ra50}$  (  $\sqrt{Ra1,6}$  )

Free space for lic.								Q-Code XXXXXX	Main Drw.					
								Standard ISO; JIS						
Modif.	A	7-73.552	19.10.2009	B	EAAD091472	04.11.2019								
		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										



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
<b>WIN GD</b> 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		Drawing ID	107.246.894		Rev. B
							Material 107.246.894.001		



Free space for lic.								Q-Code	Main Drw.			
								XXXXXX				
								Standard ISO; JIS				
Modif.	A	EAAD014305	11.09.1996	B	EAAD091472	05.11.2019						
	Number		Drawn date	Number		Drawn date	Number		Drawn date	Number	Drawn date	
<b>WIN GD</b> <i>Winterthur Gas &amp; Diesel</i>			Product W-2S			PLATE  Blech						
Units	mm kg	NX				Basic Material W-FU-235-JR				Net Weight 1		
Made	11.07.1996 D. Schaeffler					Scale 1:1		Size A3	Page 1/1	Material ID 107.245.898.001		
Chkd						Design Group		Drawing ID 107.245.898			Rev. B	
Appd	22.07.1996 MLU011 Lüthi					9710-01						

## MIDS - TOOL-ENGINE-ALIGNMENT (DG9710-01)

WinGD X52 /X52DF/X52DF-1.1/X52DF-A-1.0/X52DF-M-1.0

### TRACK CHANGES

DATE	SUBJECT	DESCRIPTION
2017-02-15	DRAWING SET	First web upload
2017-08-08	DAAD074045	Main drg. - new drawing revision
2017-08-08	DAAD062536	Main drg. - new revision
2017-10-17	DAAD093280	Main drg. – new for 7 cyl. engine version
2018-05-03	DAAD097346	Main drg.– new for 8 cyl. engine version
2019-10-03	DAAD074045 DAAD062536 DAAD093280	Main drgs – new revision
2019-12-19	DAAD125392	Main drg, 5cyl with wedges – new execution added
2020-09-11	DAAD128844 DAAD128894 DAAD128966	Main drgs, 6,7,8 cyl with wedges – added
2024-02-15	PAAD215869-C	New revision
2024-05-02	PAAD286613-B PAAD346519-A PAAD353044-A PAAD353123-A PAAD353218-A PAAD180542-C PAAD276880-B	New revisions

### DISCLAIMER

© Copyright by Winterthur Gas & Diesel Ltd.

All rights reserved. No part of this document may be reproduced or copied in any form or by any means (electronic, mechanical, graphic, photocopying, recording, taping or other information retrieval systems) without the prior written permission of the copyright owner.

THIS PUBLICATION IS DESIGNED TO PROVIDE AN ACCURATE AND AUTHORITATIVE INFORMATION WITH REGARD TO THE SUBJECT-MATTER COVERED AS WAS AVAILABLE AT THE TIME OF PRINTING. HOWEVER, THE PUBLICATION DEALS WITH COMPLICATED TECHNICAL MATTERS SUITED ONLY FOR SPECIALISTS IN THE AREA, AND THE DESIGN OF THE SUBJECT-PRODUCTS IS SUBJECT TO REGULAR IMPROVEMENTS, MODIFICATIONS AND CHANGES. CONSEQUENTLY, THE PUBLISHER AND COPYRIGHT OWNER OF THIS PUBLICATION CAN NOT ACCEPT ANY RESPONSIBILITY OR LIABILITY FOR ANY EVENTUAL ERRORS OR OMISSIONS IN THIS BOOKLET OR FOR DISCREPANCIES ARISING FROM THE FEATURES OF ANY ACTUAL ITEM IN THE RESPECTIVE PRODUCT BEING DIFFERENT FROM THOSE SHOWN IN THIS PUBLICATION. THE PUBLISHER AND COPYRIGHT OWNER SHALL UNDER NO CIRCUMSTANCES BE HELD LIABLE FOR ANY FINANCIAL CONSEQUENTIAL DAMAGES OR OTHER LOSS, OR ANY OTHER DAMAGE OR INJURY, SUFFERED BY ANY PARTY MAKING USE OF THIS PUBLICATION OR THE INFORMATION CONTAINED HEREIN.