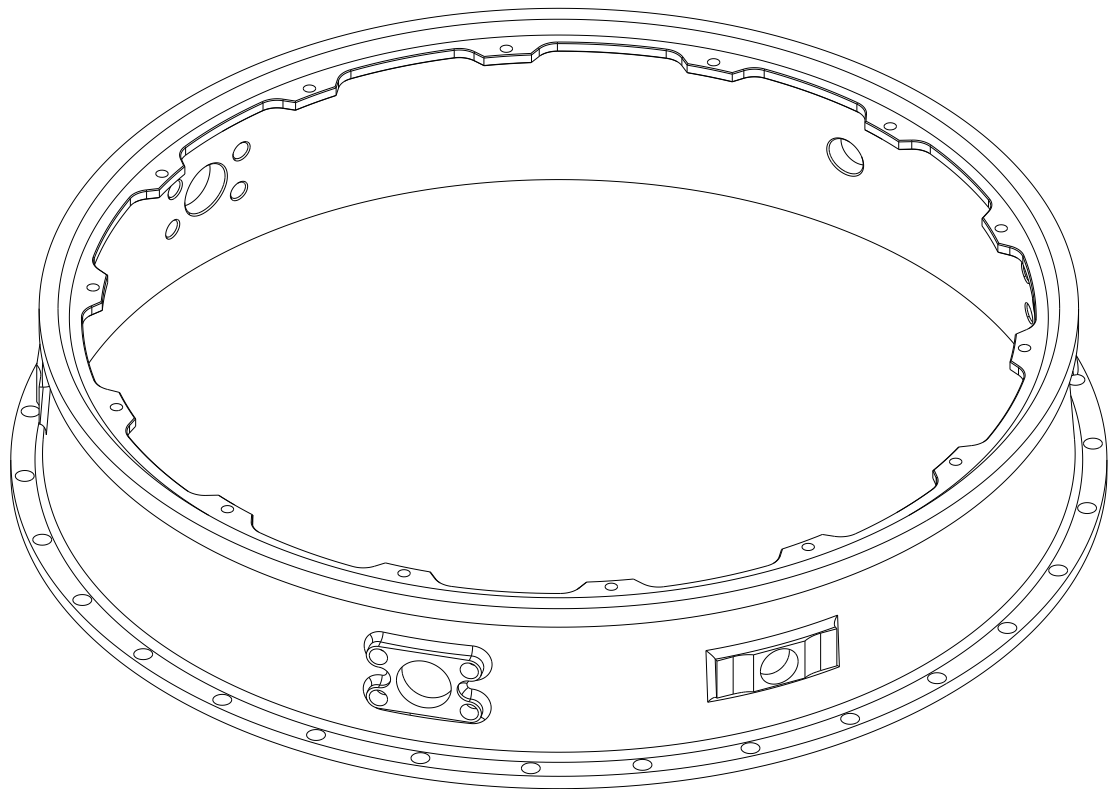
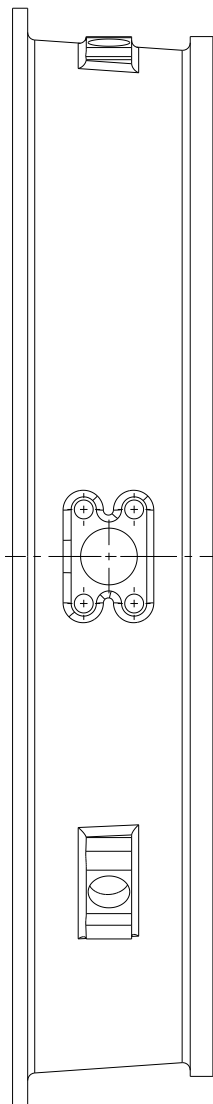
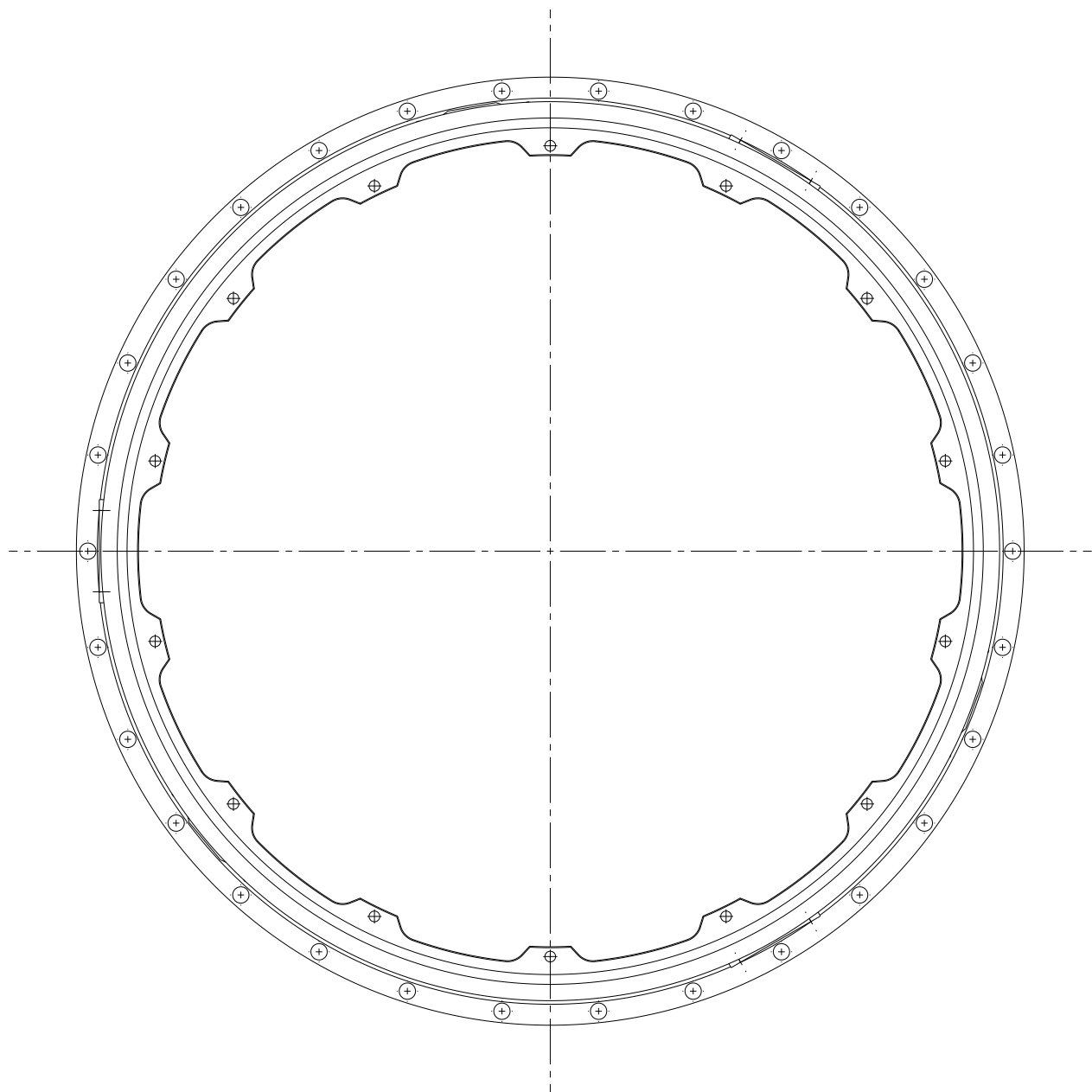




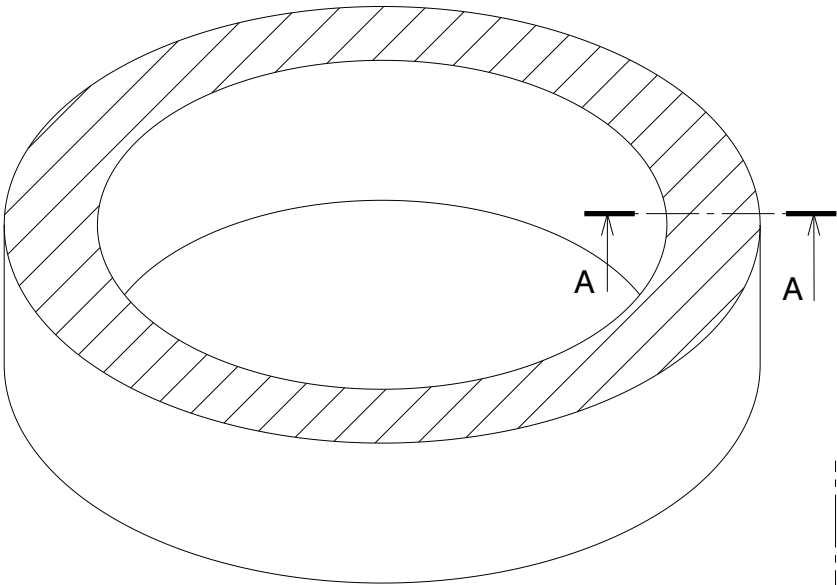
Isometric View
Scale: (1:2)

MACHINE: 5-Axis Vertical M/C
with Turning function

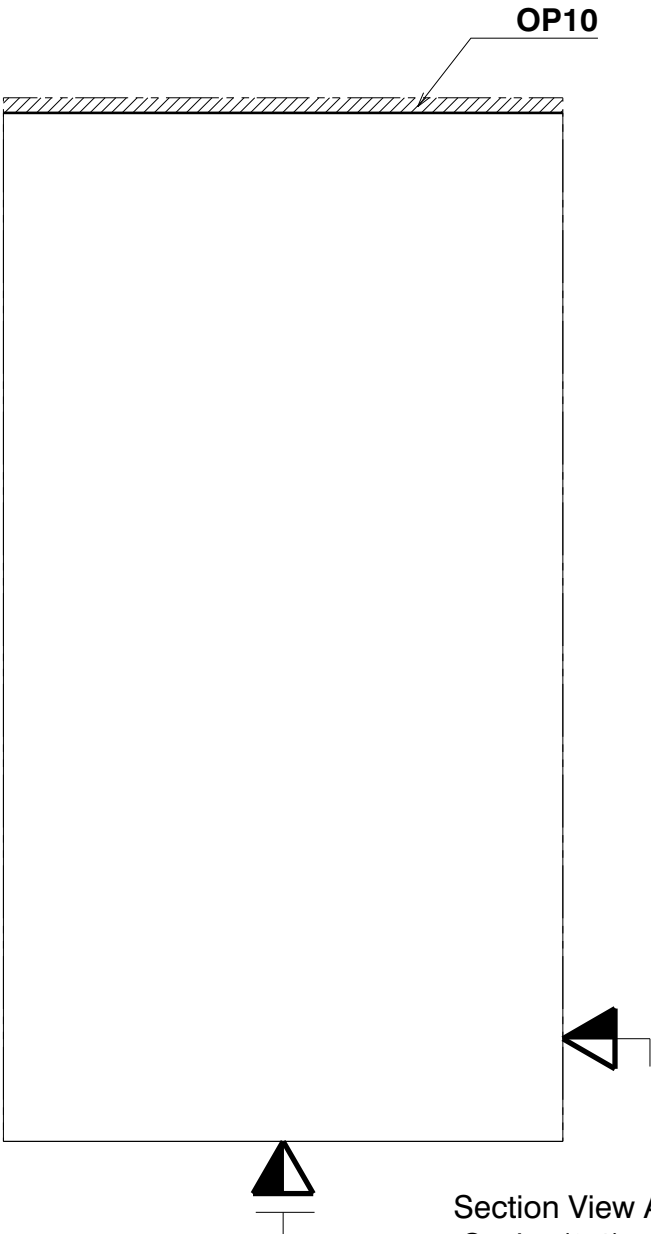
WORKPIECE: HPC Engine Case

WORKPIECE MATERIAL: Inconel 718

Unspecified Tolerances	Draw			Customer:	Member HPC Group Tungaloy		
	Design			Designation:			
Dim.s: -.-	Check			LAYOUT-HPC ENGINE CASE		Dwg.No.	
Angles: -.-	Appr.			Process	Layout.	Page 1	Rev. No.
	Scale			Lead Drawing		Of 1	
	© 2026 Tungaloy Corporation - Copyrights Notice			-.-		Reg.No.	A3L

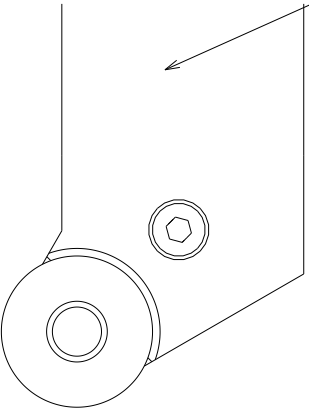


Isometric View
Scale: (1:3)



Section View A-A
Scale: (2:1)

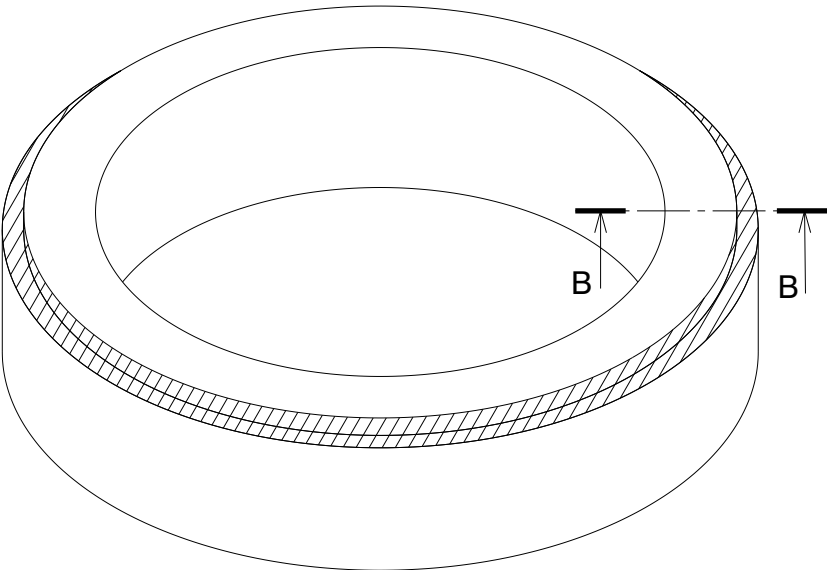
OP10
Roughing for Forged Skin
PRGCL3232P20
RCMT2006M0-RS AH8015



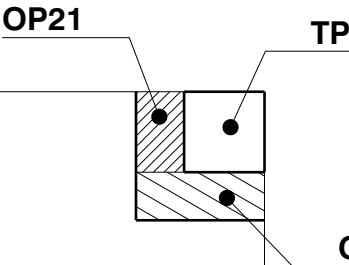
AH8000

AFT Rough Turning

JAW STOP WORK REST VACUUM CHUCK TAILSTOCK CENTER SPRING LOADED CENTER						Unspecified Tolerances	Draw			Customer:		Tungaloy Dwg.No.			
						Dim.s: -.-	Design			Designation:					
						Angles: -.-	Check			LAYOUT-HPC ENGINE CASE		Process	Layout.	Page 1	Rev.
							Appr.			Concept				Of 1	No.
				Scale		-.-		Reg.No.							
				© 2026 Tungaloy Corporation - Copyrights Notice				A3L							

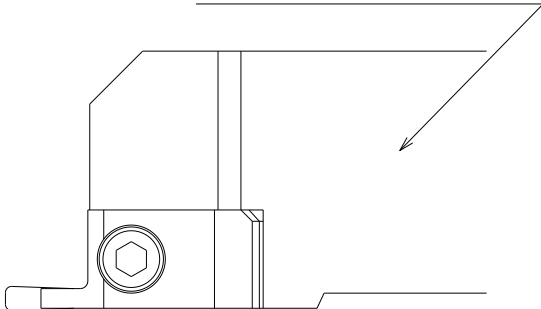


Isometric View
Scale: (1:3)



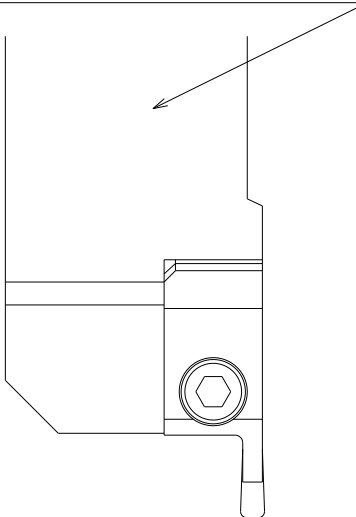
Section View B-B
Scale: (2:1)

OP20
Grooving forged skin
GTWPR3232-H
GBVR-VGW4-3T09
VGW4125-2EM04X SX9



SX9 SiAlON Ceramics

OP21
Face grooving forged skin
GTWPR3232-H
GBVR-VGW4-3T09-005 (Special)
VGW4125-2EM04X SX9

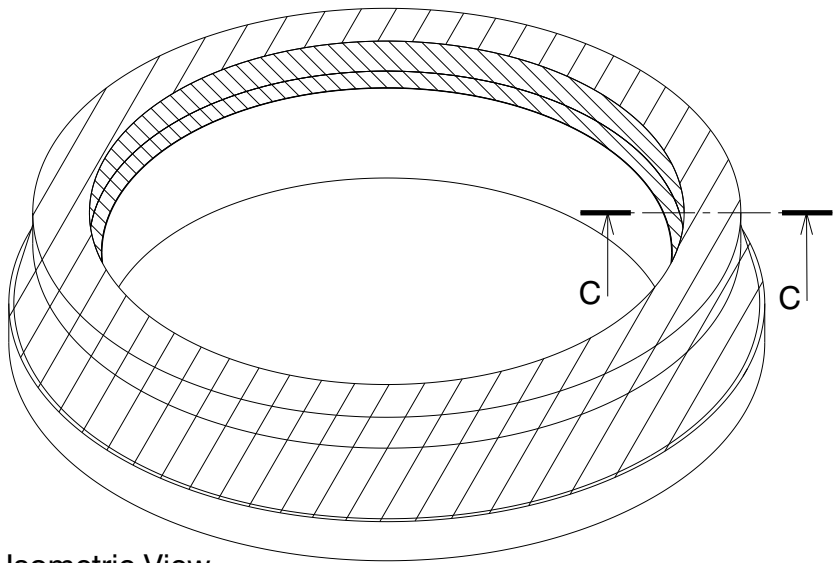


SX9 SiAlON Ceramics

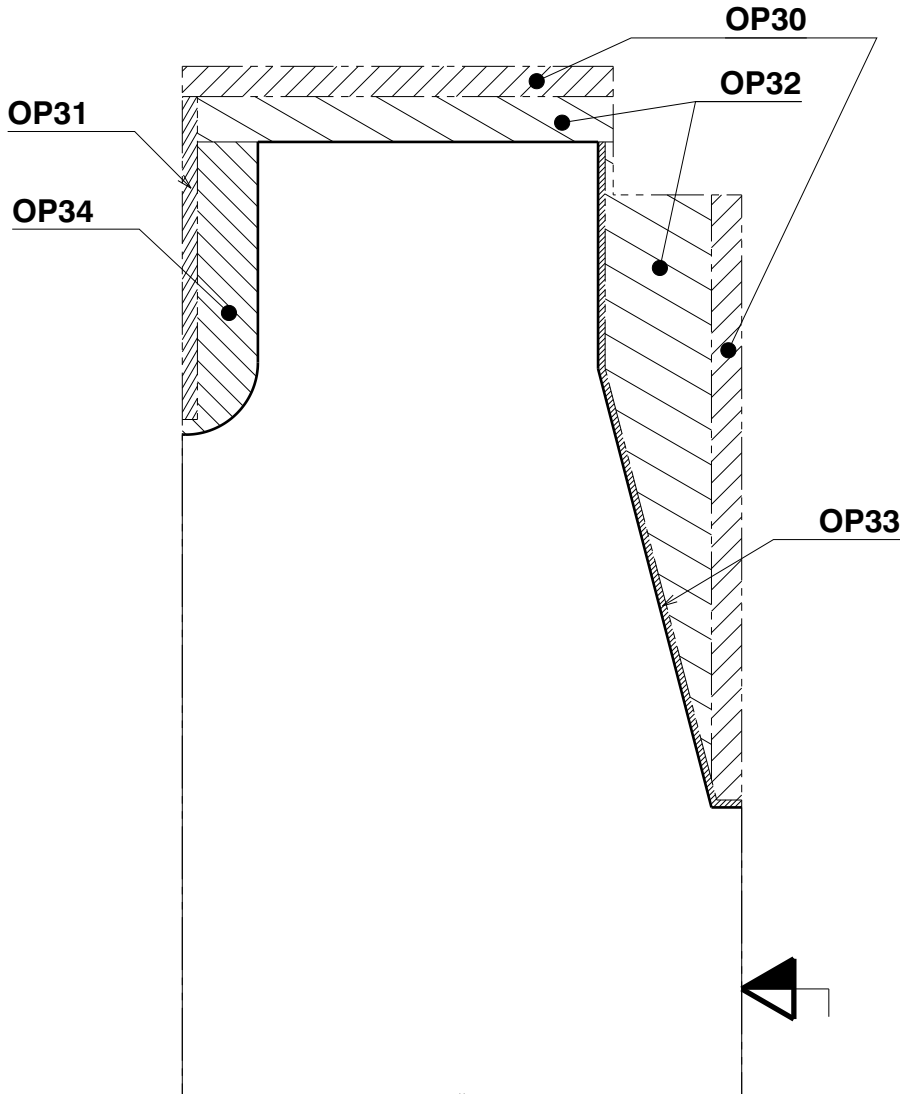
Test Piece Cut off

JAW	STOP	WORK REST	VACUUM CHUCK	TAILSTOCK CENTER	SPRING LOADED CENTER

Unspecified Tolerances	Draw			Customer:		
Dim.s: -.-	Design			Designation:		
Angles: -.-	Check			LAYOUT-HPC ENGINE CASE	Dwg.No.	
	Appr.			Process	Page 1	Rev. No.
	Scale			Concept	Of 1	
				-.-	Reg.No.	
		© 2026 Tungaloy Corporation - Copyrights Notice				A3L



Isometric View
Scale: (1:3)

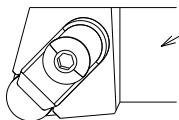


Section View C-C
Scale: (2:1)

JAW	STOP	WORK REST	VACUUM CHUCK	TAILSTOCK CENTER	SPRING LOADED CENTER

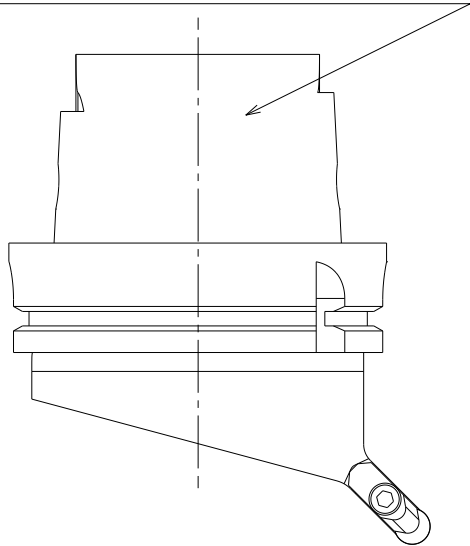
FWD Rough Turning

OP30
Roughing OD forged skin
C55R-45
RNGN120700T00520 SX5



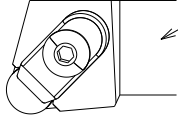
SX5 SiAlON Ceramics

OP31
Roughing ID forged skin
HSK100-VRAOR-M09-002 (Special)
RPGX090700T00520 SX5



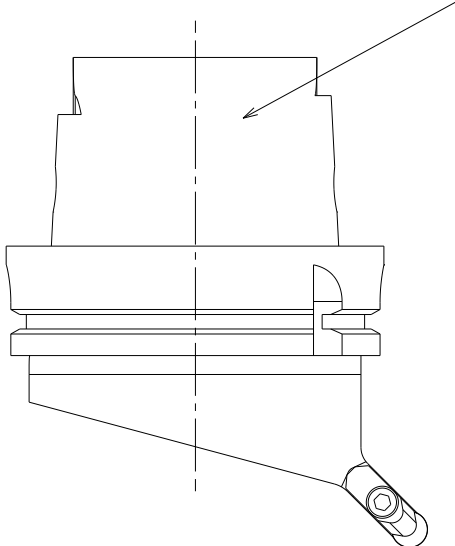
SX5 SiAlON Ceramics

OP32
Roughing OD skin
C55R-45
RNGN120700T00520 JX3



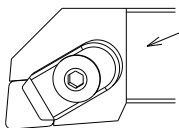
JX3 BIDE MICS

OP34
Roughing ID skin
HSK100-VRAOR-M09-002 (Special)
RPGX090700T00520 JX3



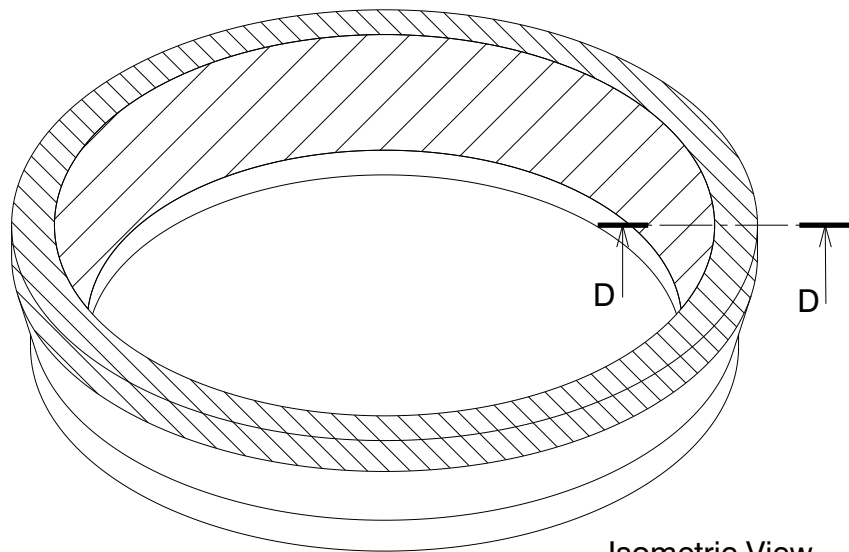
JX3 BIDE MICS

OP33
Roughing OD remaining mat.
C31R-45
CNGN120716T00520 JX3

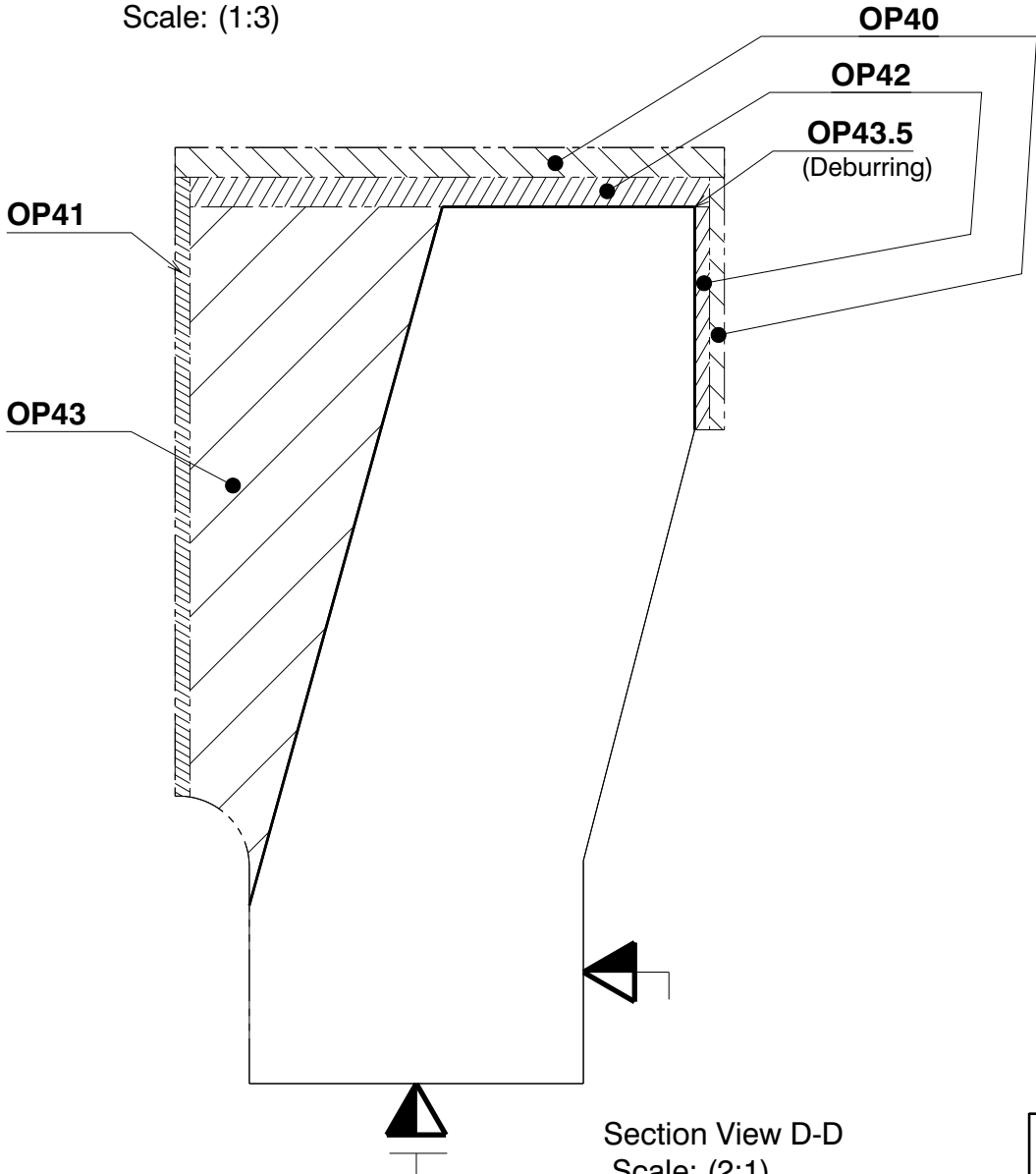


JX3 BIDE MICS

Unspecified Tolerances	Draw			Customer:		
Dim.s:	Design			Designation:		
Angles:	Check			LAYOUT-HPC ENGINE CASE	Dwg.No.	
	Appr.			Process	Page 1	Rev. No.
	Scale			Concept	Of 1	
					Reg.No.	
						A3L



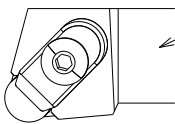
Isometric View
Scale: (1:3)



Section View D-D
Scale: (2:1)

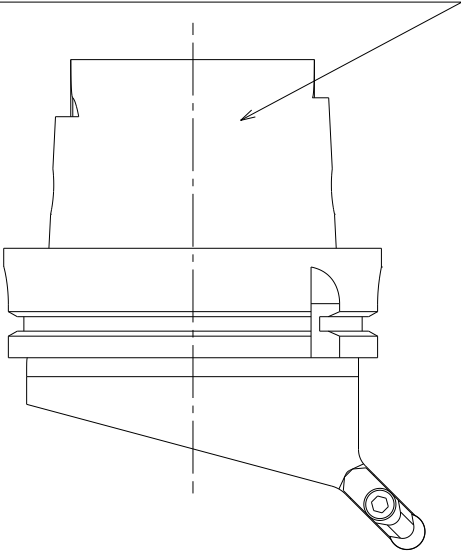
JAW	STOP	WORK REST	VACUUM CHUCK	TAILSTOCK CENTER	SPRING LOADED CENTER

OP40
Roughing OD forged skin
C55R-45
RNGN120700T00520 SX5



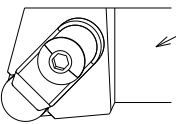
SX5 SiAlON Ceramics

OP41
Roughing ID forged skin
HSK100-VRAOR-M09-002 (Special)
RPGX090700T00520 SX5



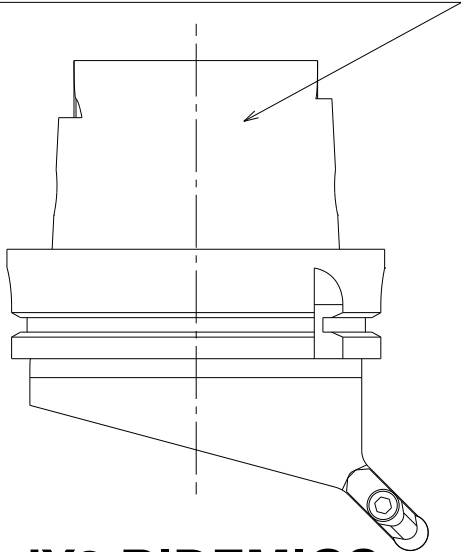
SX5 SiAlON Ceramics

OP42
Roughing OD skin
C55R-45
RNGN120700T00520 JX3



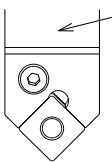
JX3 BIDE MICS

OP43
Roughing ID skin
HSK100-VRAOR-M09-002 (Special)
RPGX090700T00520 JX3



JX3 BIDE MICS

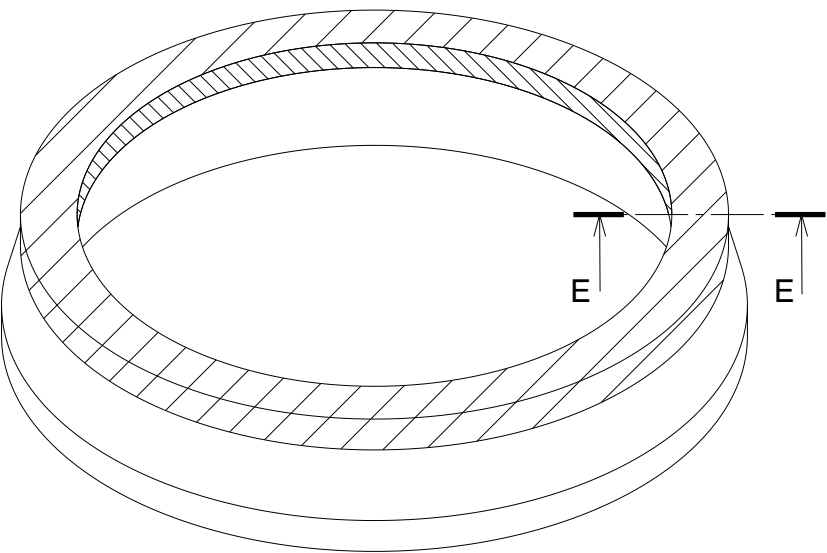
OP43.5
Deburring
PSDNN2525M43
SNMG120408T00525Z5 QM3



QM3

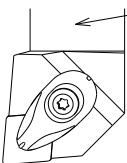
AFT Rough Turning

Unspecified Tolerances	Draw			Customer:		
Dim.s:	Design			Designation:		
Angles:	Check			LAYOUT-HPC ENGINE CASE	Dwg.No.	
	Appr.			Process	Page 1	Rev. No.
	Scale			Concept	Of 1	
					Reg.No.	
						A3L



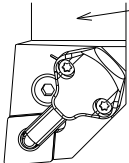
Isometric View
Scale: (1:3)

OP50
Finishing FWD Face
ACLNL2525M12-A
CNMG120408-HRM AH8015



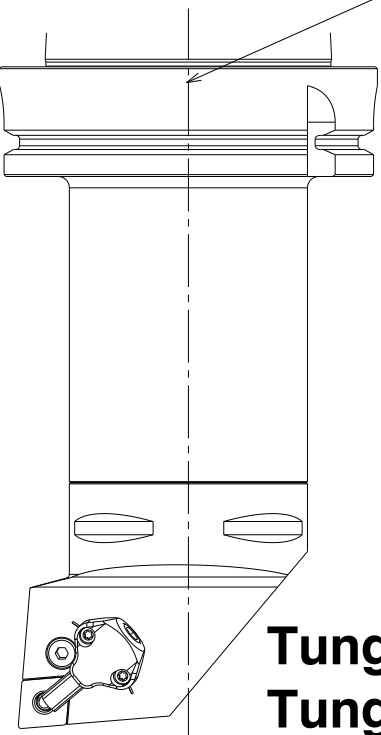
AH8000

OP50
Finishing FWD Face
PCLNL2525M12-CHP
CNMG120408-HRM AH8015

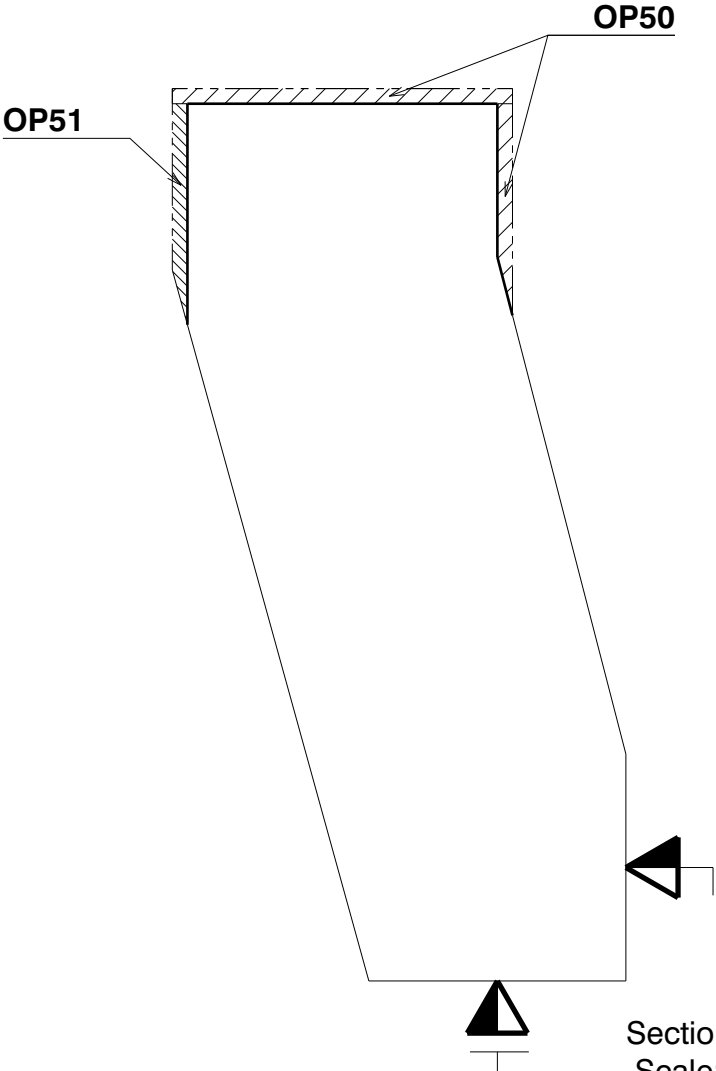


TungTurn-Jet
AH8000

OP50
Finishing FWD Face
HSK100A-C6-110
C6PCLNL45065-12-CHP
CNMG120408-HRM AH8015

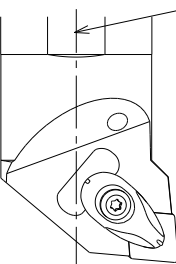


TungCap
TungTurn-Jet
AH8000



Section View E-E
Scale: (2:1)

OP51
Finishing FWD ID
A40T-ACLR12-D500
CNMG120408-HRM AH8015



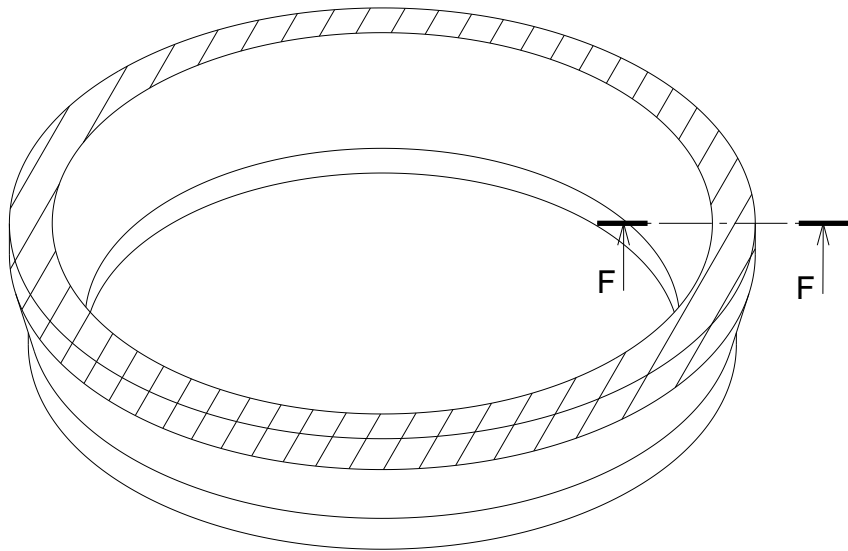
AH8000

FWD Finish Turning

JAW	STOP	WORK REST	VACUUM CHUCK	TAILSTOCK CENTER	SPRING LOADED CENTER

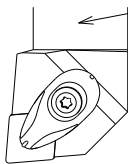
Unspecified Tolerances	Draw			Customer:		
Dim.s:	Design			Designation:		
Angles:	Check			LAYOUT-HPC ENGINE CASE	Dwg.No.	
	Appr.			Process	Page 1	Rev. No.
	Scale			Concept	Of 1	
					Reg.No.	





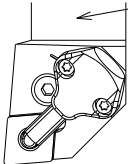
Isometric View
Scale: (1:3)

OP60
Finishing AFT Face
ACLNL2525M12-A
CNMG120408-HRM AH8015



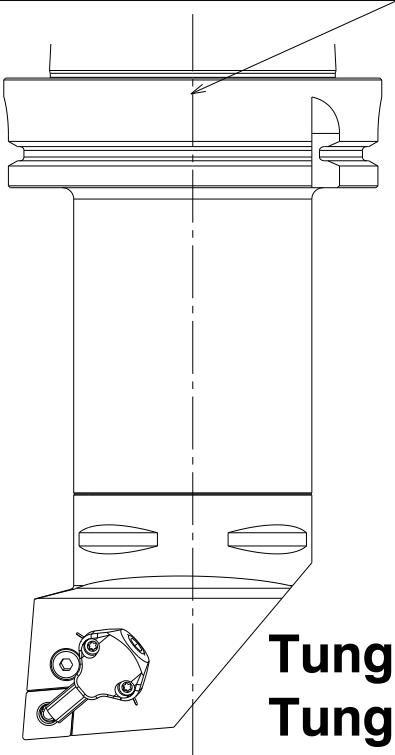
AH8000

OP60
Finishing AFT Face
PCLNL2525M12-CHP
CNMG120408-HRM AH8015

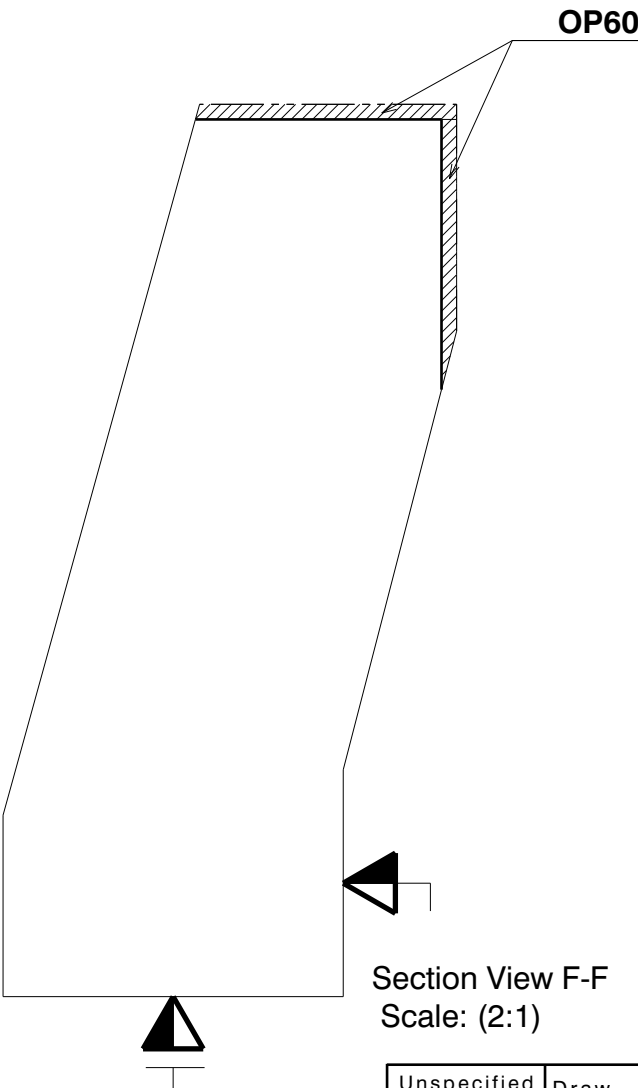


TungTurn-Jet
AH8000

OP60
Finishing AFT Face
HSK100A-C6-110
C6PCLNL45065-12-CHP
CNMG120408-HRM AH8015



TungCap
TungTurn-Jet
AH8000

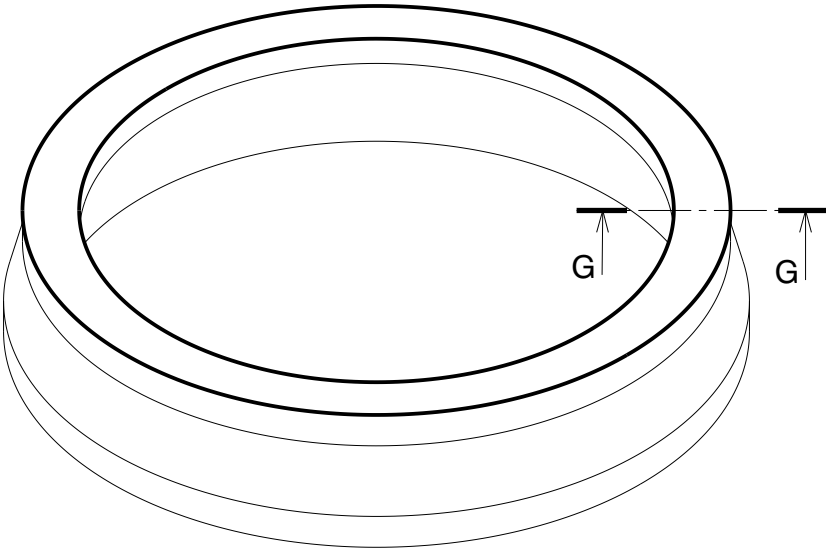


Section View F-F
Scale: (2:1)

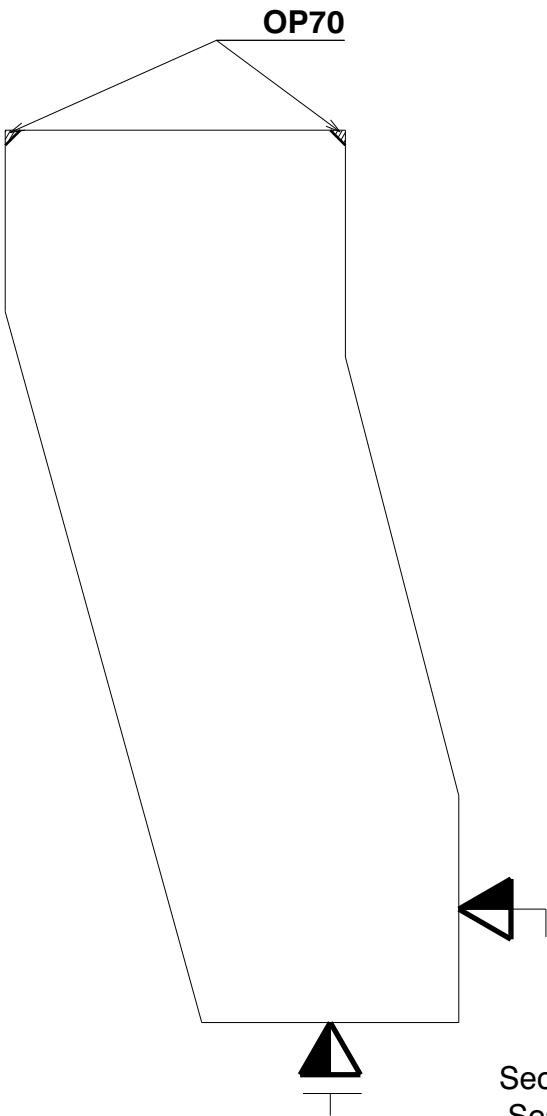
AFT Finish Turning

JAW	STOP	WORK REST	VACUUM CHUCK	TAILSTOCK CENTER	SPRING LOADED CENTER

Unspecified Tolerances	Draw			Customer:		
Dim.s: -.-	Design			Designation:		
Angles: -.-	Check			LAYOUT-HPC ENGINE CASE	Dwg.No.	
	Appr.			Process	Layout.	Page 1
	Scale			Concept		Of 1
				-.-		Rev. No.
						Reg.No.
						A3L

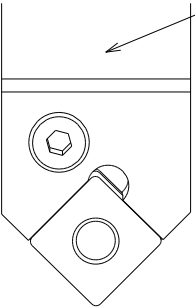


Isometric View
Scale: (1:3)



Section View G-G
Scale: (2:1)

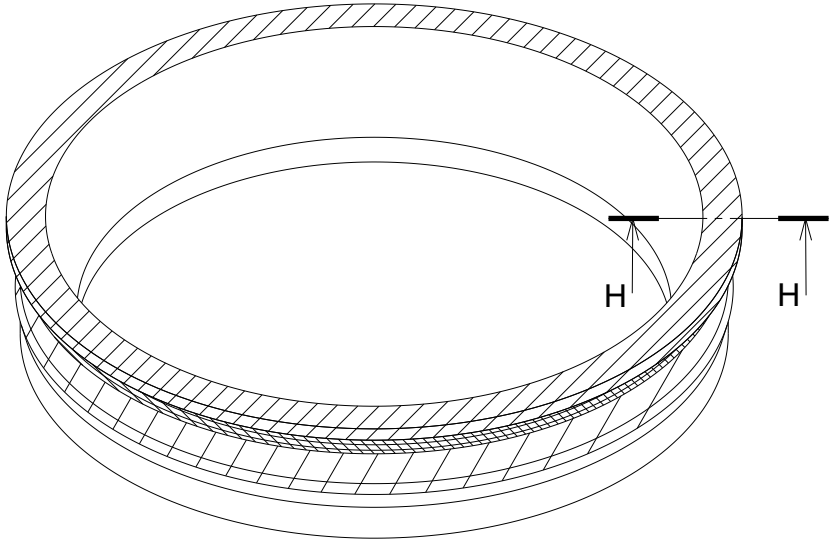
OP70
Deburring
PSDNN2525M43
SNMG120408T00525Z5 QM3



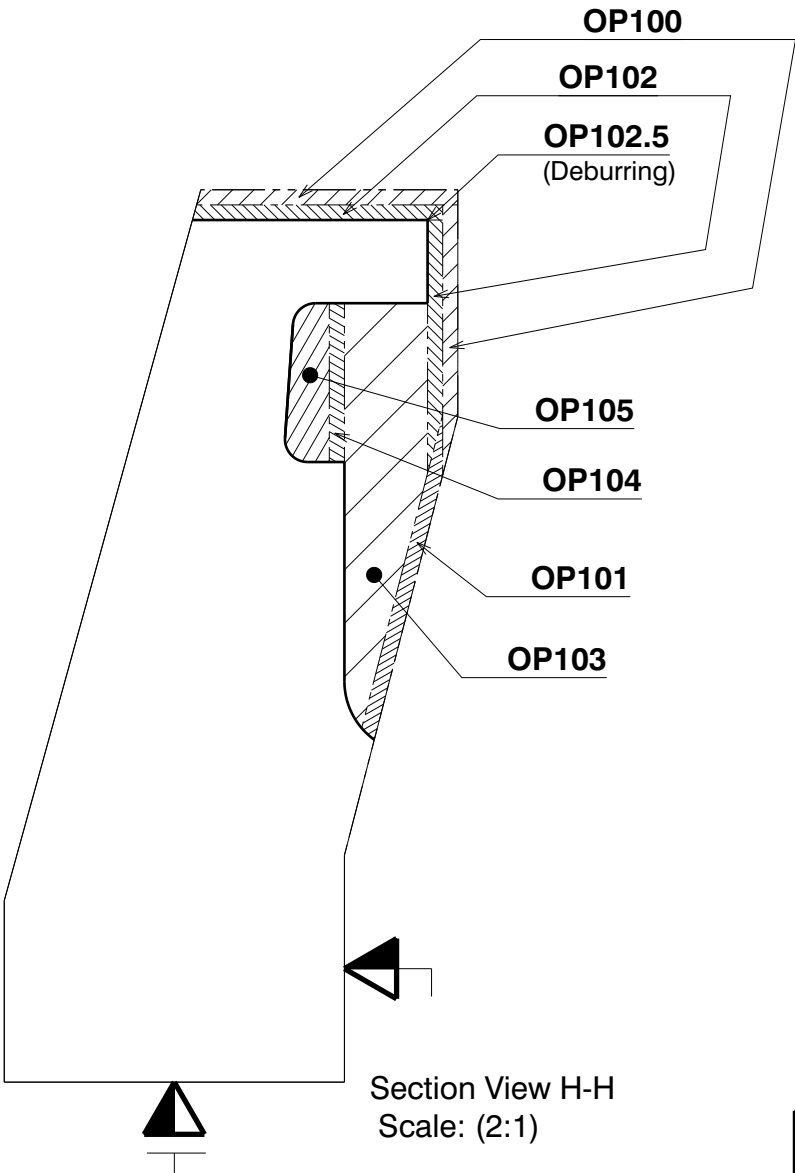
QM3

Deburring

JAW STOP WORK REST VACUUM CHUCK TAILSTOCK CENTER SPRING LOADED CENTER	Unspecified Tolerances	Draw			Customer:	 Dwg.No.	
	Dim.s: -.-	Design			Designation:		
	Angles: -.-	Check			LAYOUT-HPC ENGINE CASE	Page 1	Rev. No.
		Appr.			Process	Of 1	No.
© 2026 Tungaloy Corporation - Copyrights Notice 		Scale			Layout.	Reg.No.	
					Concept	A3L	
					-.-		

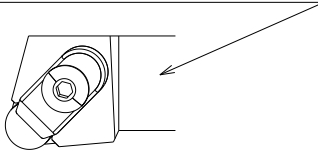


Isometric View
Scale: (1:3)



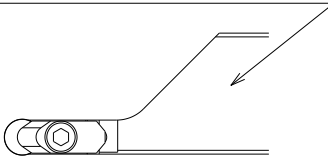
Section View H-H
Scale: (2:1)

OP100
Roughing OD
C55R-45
RNGF120700E004-SHA SX3



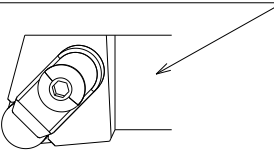
SX3 SiAlON Ceramics

OP101
Roughing OD side
VRAOR3232M09
RPGX090700T00520 SX3



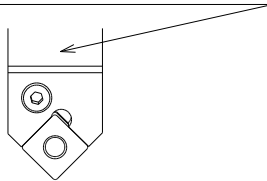
SX3 SiAlON Ceramics

OP102
Roughing OD
C55R-45
RNGN120700T00520 JX3



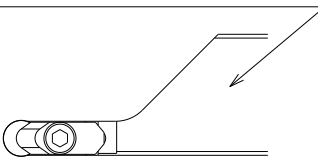
JX3 BIDE MICS

OP102.5
Deburring
PSDNN2525M43
SNMG120408T00525Z5 QM3



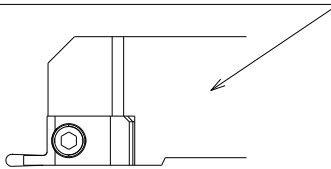
QM3

OP103
Roughing OD side
VRAOR3232M09
RPGX090700T00520 JX3



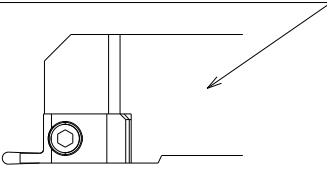
JX3 BIDE MICS

OP104
Rough grooving OD side
GTWPR3232-H
GBVR-VGW4-3T09
VGW4125-RE004 SX3



SX3 SiAlON Ceramics

OP105
Rough grooving OD side
GTWPR3232-H
GBVR-VGW4-3T09
VGW4125-RE004 JX3

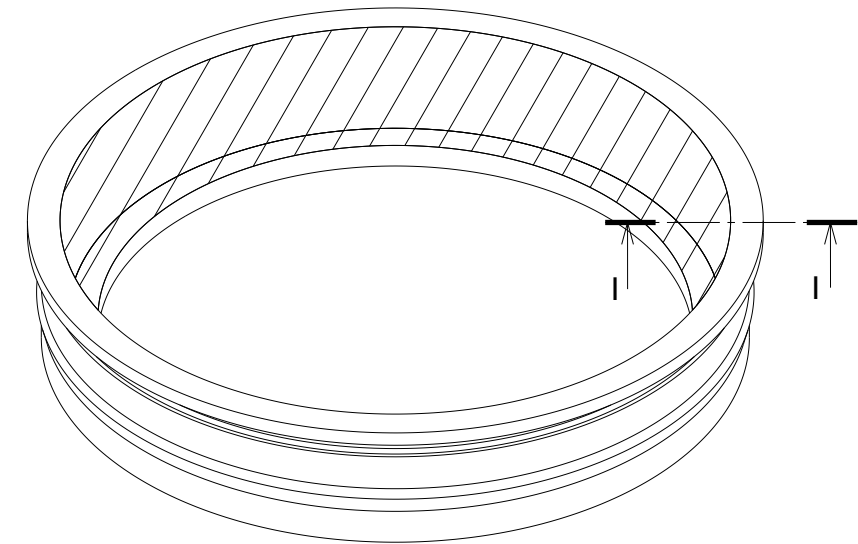


JX3 BIDE MICS

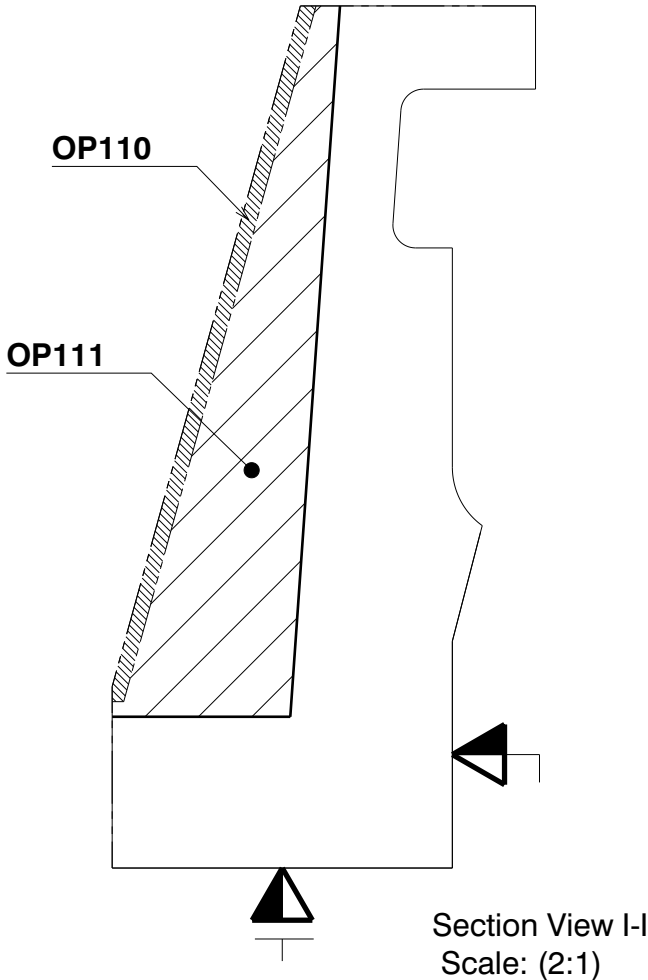
AFT OD Rough Turning

JAW	STOP	WORK REST	VACUUM CHUCK	TAILSTOCK CENTER	SPRING LOADED CENTER

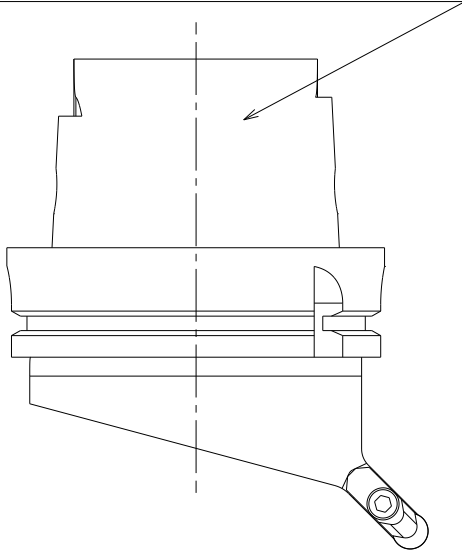
Unspecified Tolerances	Draw			Customer:		
Dim.s:	Design			Designation:		
Angles:	Check			LAYOUT-HPC ENGINE CASE	Dwg.No.	
	Appr.			Process	Page 1	Rev. No.
	Scale			Concept	Of 1	
					Reg.No.	
						A3L



Isometric View
Scale: (1:3)

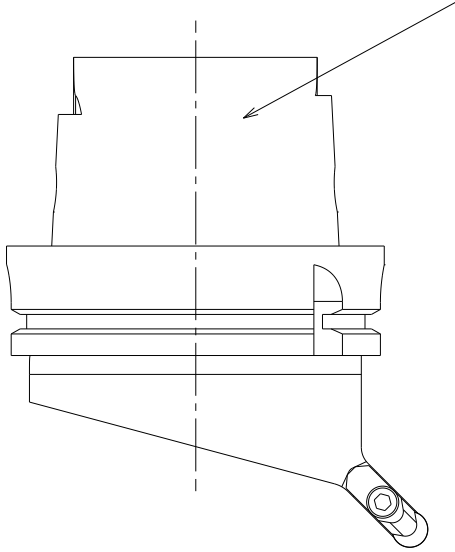


OP110
Roughing ID
HSK100-VRAOR-M09-002 (Special)
RPGX090700T00520 SX3



SX3 SiAlON Ceramics

OP111
Roughing ID
HSK100-VRAOR-M09-002 (Special)
RPGX090700T00520 JX3

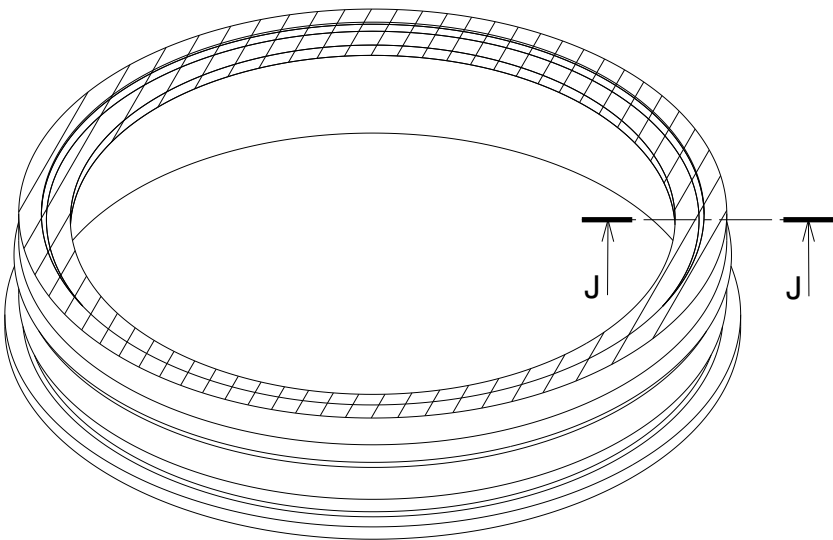


JX3 BIDE MICS

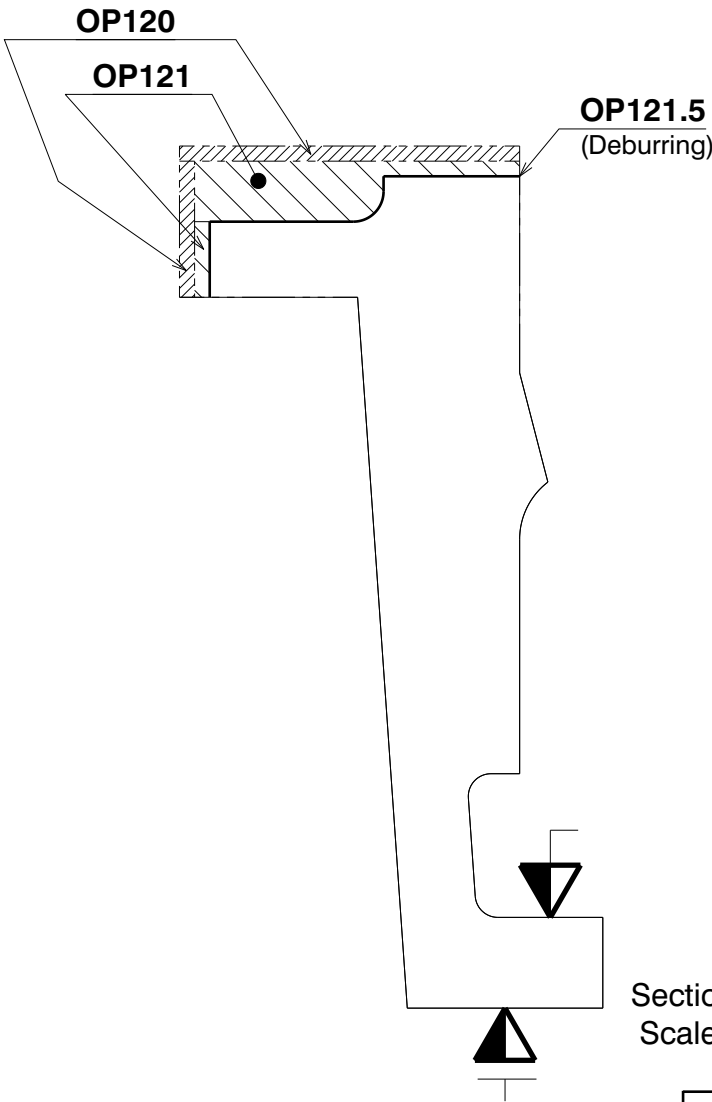
AFT ID Rough Turning

JAW	STOP	WORK REST	VACUUM CHUCK	TAILSTOCK CENTER	SPRING LOADED CENTER

Unspecified Tolerances	Draw			Customer:		
Dim.s: -.-	Design			Designation:		
Angles: -.-	Check			LAYOUT-HPC ENGINE CASE	Dwg.No.	
	Appr.			Process	Layout.	Page 1
	Scale			Concept		Rev. No.
				-.-		Reg.No.
				A3L		

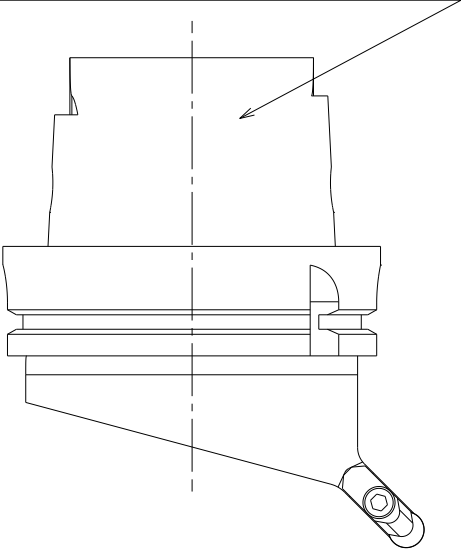


Isometric View
Scale: (1:3)



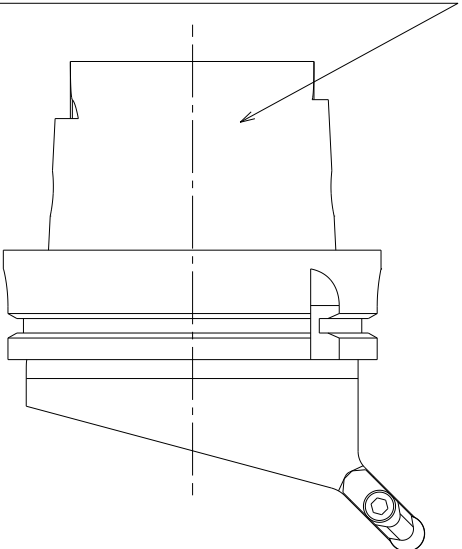
Section View J-J
Scale: (2:1)

OP120
Roughing FWD skin
HSK100-VRAOR-M09-002 (Special)
RPGX090700T00520 SX3



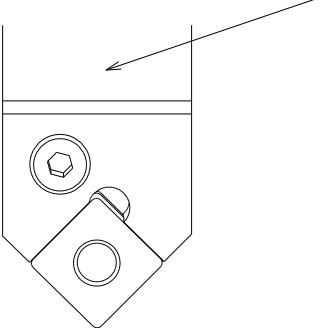
SX3 SiAlON Ceramics

OP121
Roughing FWD skin
HSK100-VRAOR-M09-002 (Special)
RPGX090700T00520 JX3



JX3 BIDE MICS

OP121.5
Deburring
PSDNN2525M43
SNMG120408T00525Z5 QM3

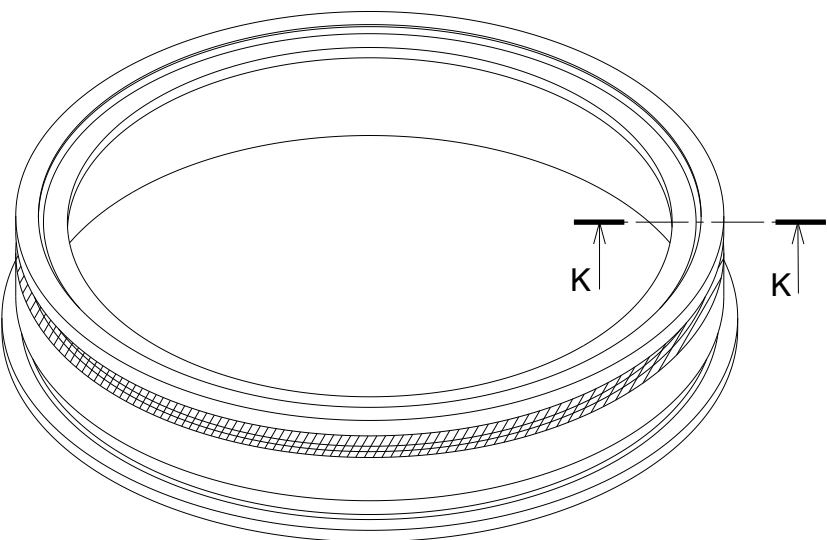


QM3

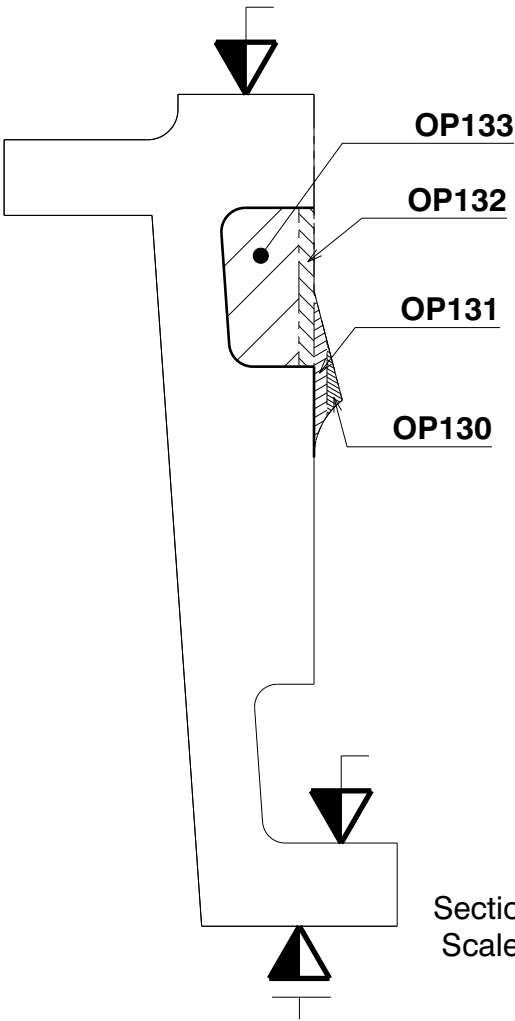
FWD Rough Turning

JAW	STOP	WORK REST	VACUUM CHUCK	TAILSTOCK CENTER	SPRING LOADED CENTER

Unspecified Tolerances	Draw			Customer:		
Dim.s: -.-	Design			Designation:		
Angles: -.-	Check			LAYOUT-HPC ENGINE CASE	Dwg.No.	
	Appr.			Process	Layout.	Page 1
	Scale			Concept		Rev. No.
						Reg.No.
						A3L

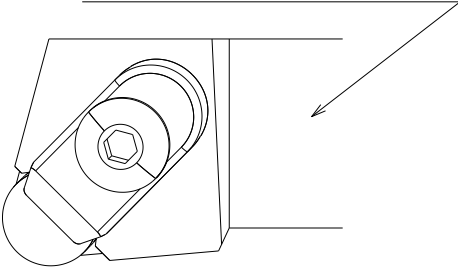


Isometric View
Scale: (1:3)



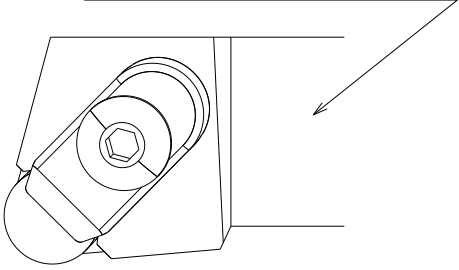
Section View K-K
Scale: (2:1)

OP130
Roughing OD side
C55R-45
RNGN120700T00520 SX3



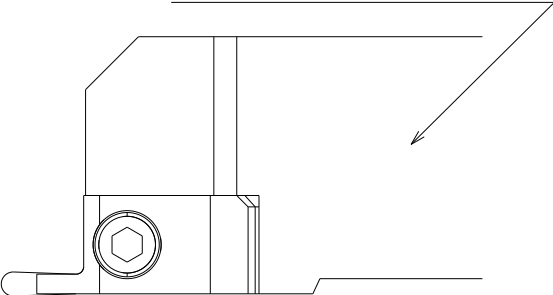
SX3 SiAlON Ceramics

OP131
Roughing OD side
C55R-45
RNGN120700T00520 JX3



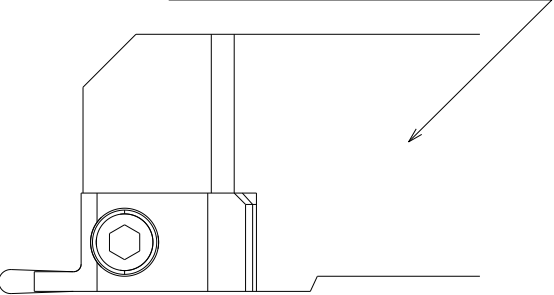
JX3 BIDE MICS

OP132
Rough grooving OD side
GTWPR3232-H
GBVR-VGW4-3T09
VGW4125-RE004 SX3



SX3 SiAlON Ceramics

OP133
Rough grooving OD side
GTWPR3232-H
GBVR-VGW4-3T09
VGW4125-RE004 JX3

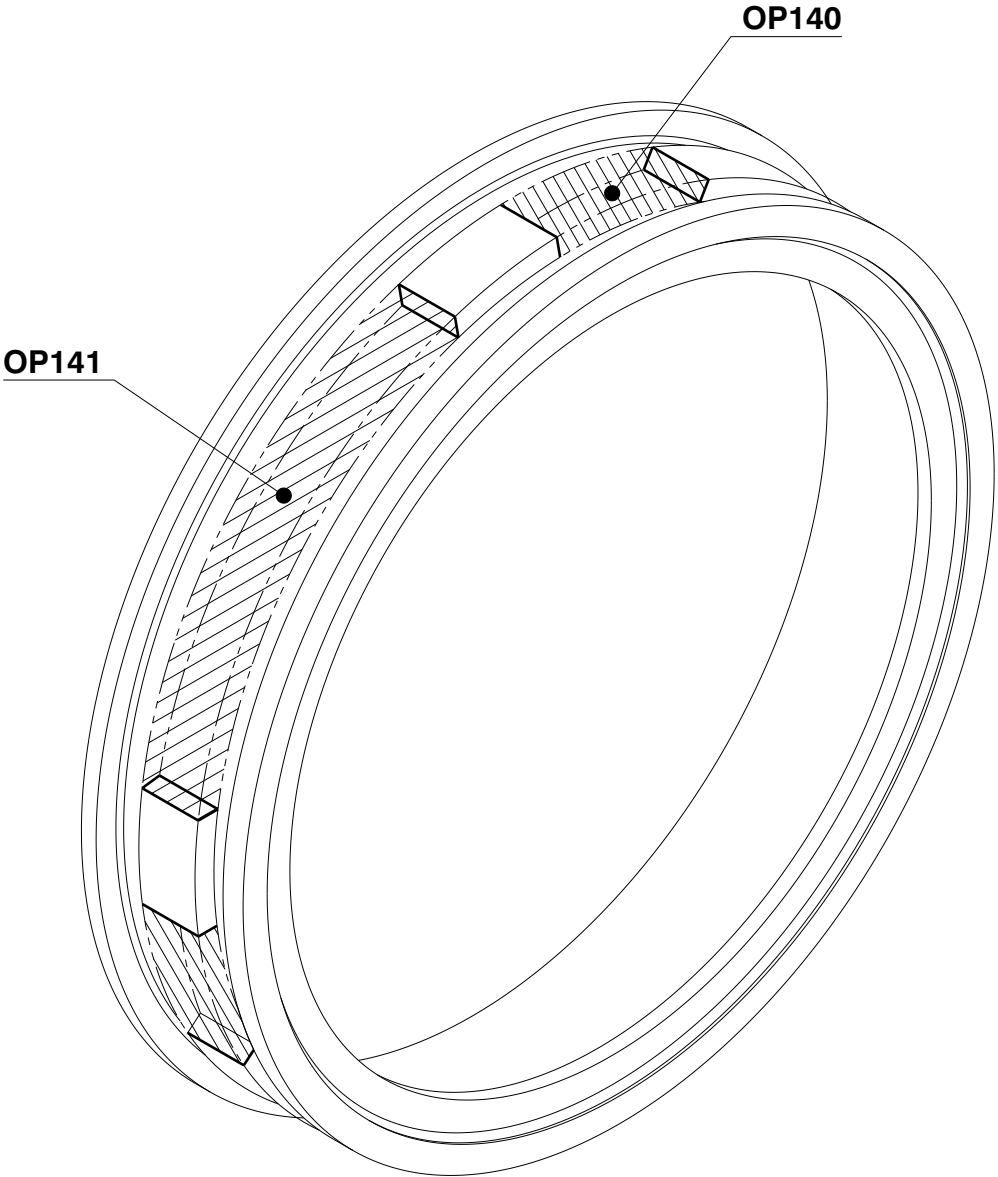


JX3 BIDE MICS

OD Rough Turning

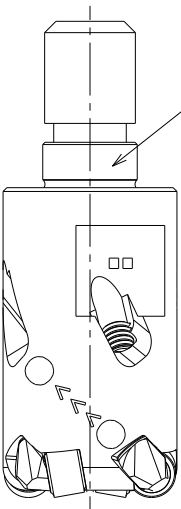
JAW	STOP	WORK REST	VACUUM CHUCK	TAILSTOCK CENTER	SPRING LOADED CENTER

Unspecified Tolerances	Draw			Customer:		
Dim.s:	Design			Designation:		
Angles:	Check			LAYOUT-HPC ENGINE CASE	Dwg.No.	
	Appr.			Process	Layout.	Page 1
	Scale			Concept		Rev. No.
						Reg.No.
						A3L



Isometric View
Scale: (1:2)

OP140/141
Rough Milling with ceramic EM
JRFMH025MM12R04
RNGF060400E-HNF SX3

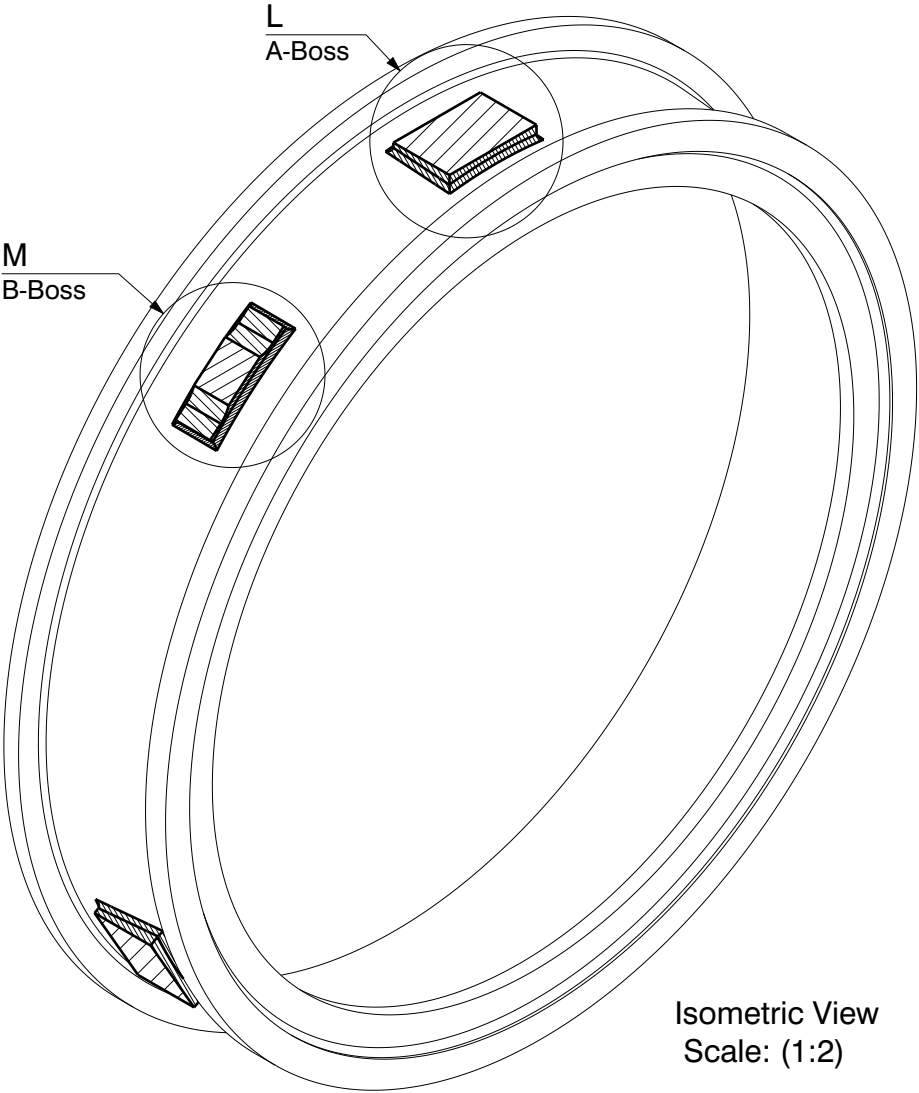
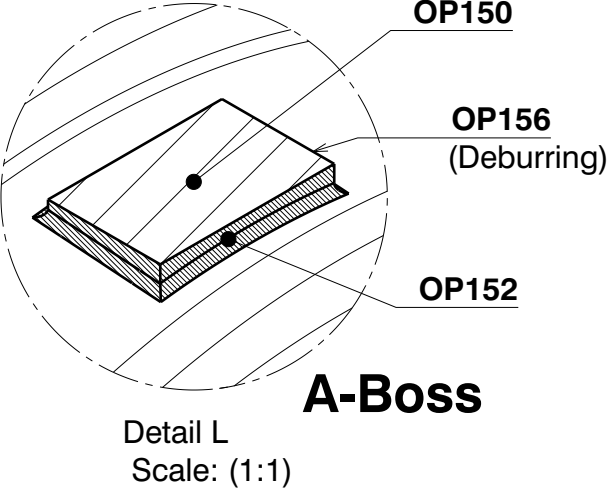
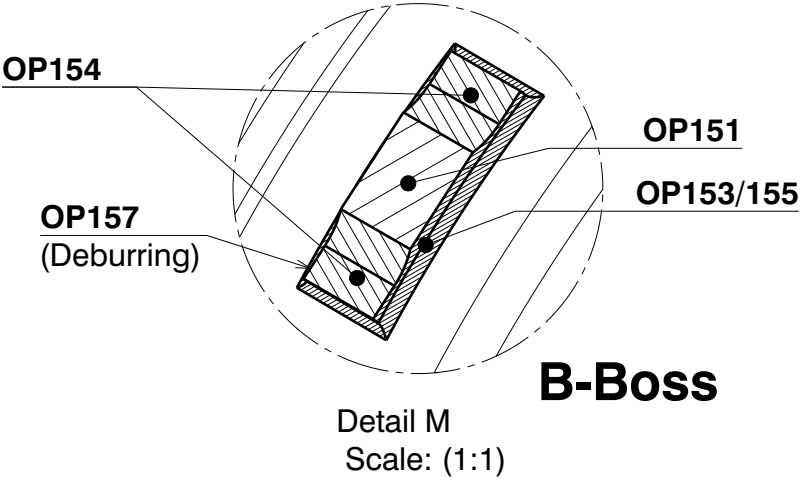


JRF Cutter
SX3 SiAlON Ceramics

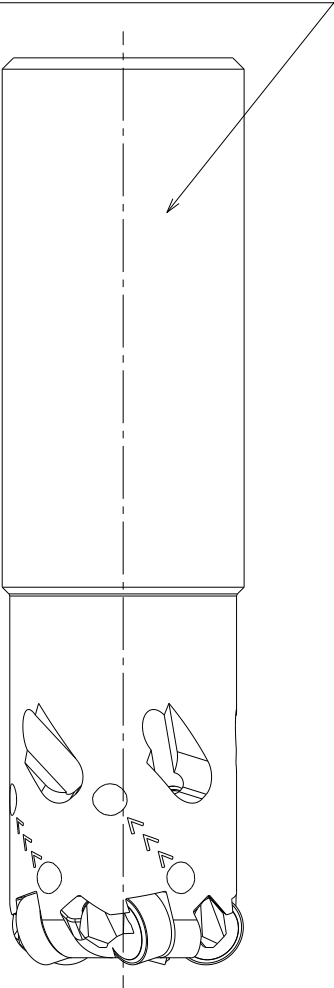
OD Rough Milling

	Unspecified Tolerances	Draw			Customer:	Tungaloy Dwg.No.	
	Dim.s:	Design			Designation:		
	Angles:	Check			LAYOUT-HPC ENGINE CASE	Page 1	Rev. No.
		Appr.			Process	Of 1	
JAW	STOP	WORK REST	VACUUM CHUCK	TAILSTOCK CENTER	Layout.	Reg.No.	
					Concept	A3L	
					-.-		

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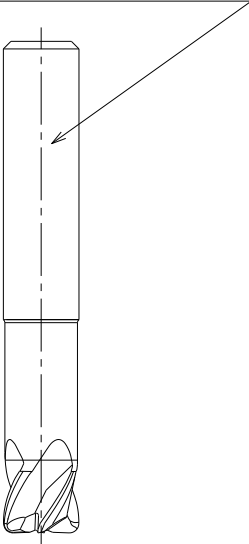


OP150/151
Roughing A-Boss flatness
Roughing B-Boss flatness
JRFMH032E320R05
RNGF090400E-HNF SX3



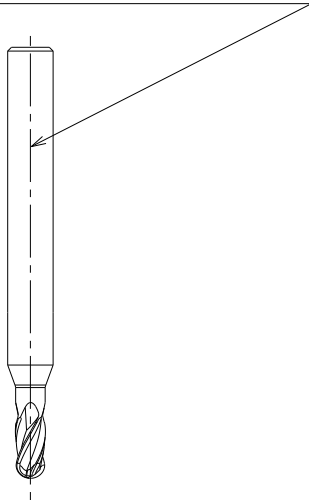
JRF Cutter
SX3 SiAlON Ceramics

OP152/153/154/155
Roughing around A-Boss
Roughing around B-Boss
RCEM100H4R150B SX9



CERAMATIC Brazed
SX9 SiAlON Ceramics

OP156/157
Deburring around A-Boss
Deburring around B-Boss
TEB040E4L-08/12C06CFH57 AH710

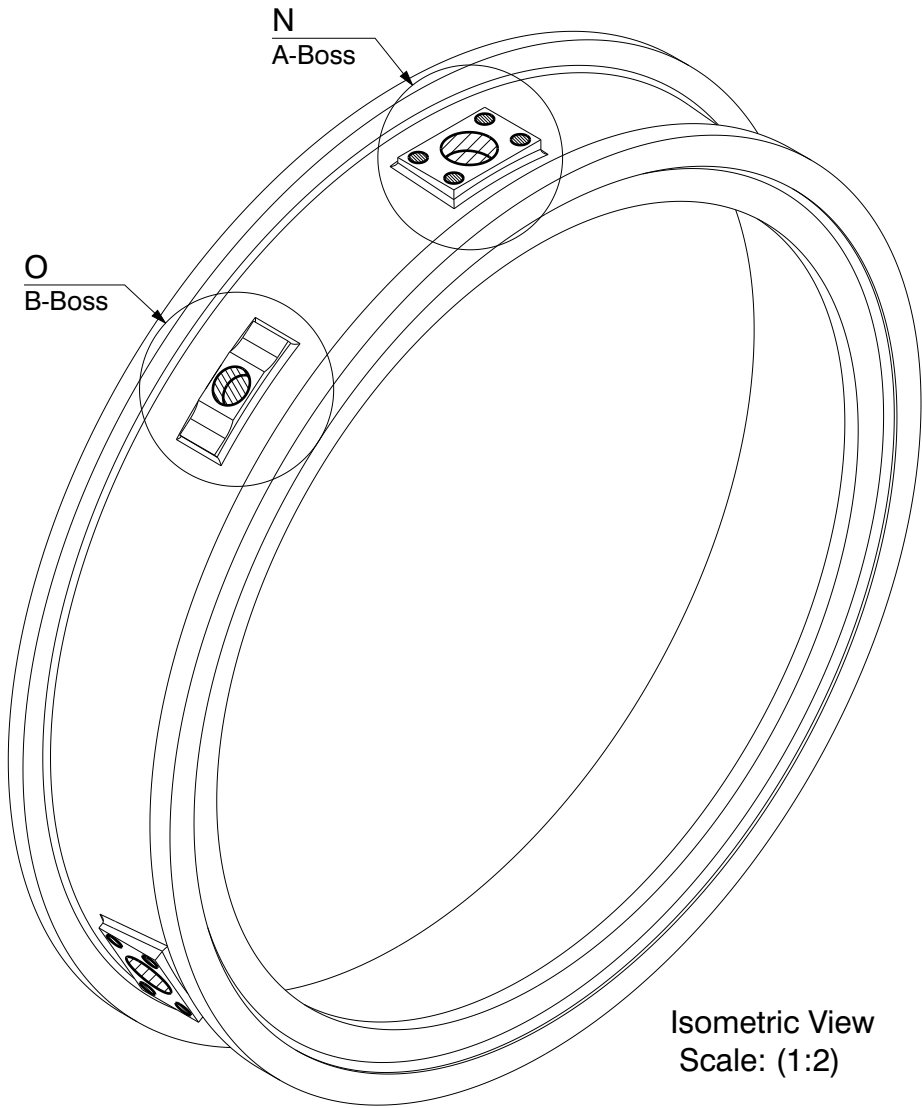
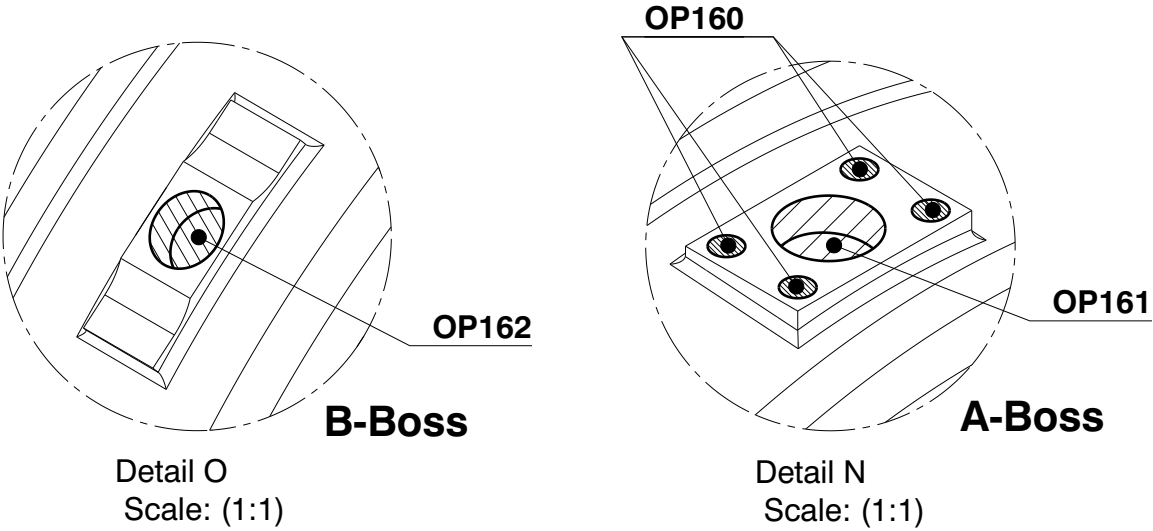


VariableMeister

OD Boss Rough Milling

JAW	STOP	WORK REST	VACUUM CHUCK	TAILSTOCK CENTER	SPRING LOADED CENTER

Unspecified Tolerances	Draw			Customer:		
Dim.s: -.-	Design			Designation:		
Angles: -.-	Check			LAYOUT-HPC ENGINE CASE	Dwg.No.	
	Appr.			Process	Page 1	Rev. No.
	Scale			Concept	Of 1	
				-.-	Reg.No.	
				A3L		



Boss Hole Making

OP160
Drilling for small hole, A-Boss
DSW050-035-06DI5 AH725



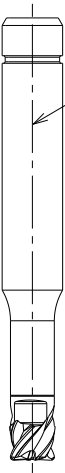
SolidDrill

OP161
Hole Making by Helical, A-Boss
VSSD08L060S05-S
VEH080L05.0R05I04S05 AH715



TungMeister

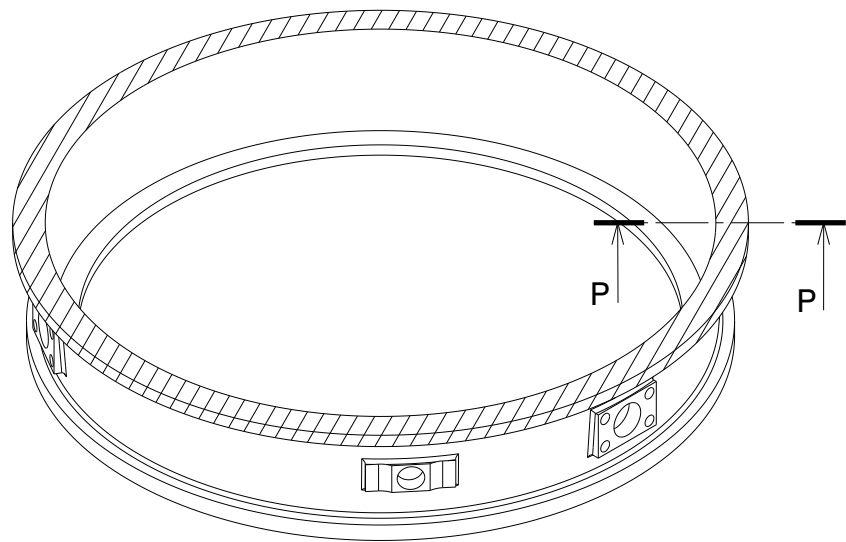
OP162
Hole Making by Helical, B-Boss
VSSD08L050S04-S
VEE060L04.0R05-04S04 AH715



TungMeister

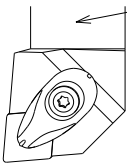
JAW	STOP	WORK REST	VACUUM CHUCK	TAILSTOCK CENTER	SPRING LOADED CENTER

Unspecified Tolerances	Draw			Customer:		
Dim.s:	Design			Designation:		
Angles:	Check			LAYOUT-HPC ENGINE CASE	Dwg.No.	
	Appr.			Process	Layout.	Page 1
	Scale			Concept		Rev. No.
						Reg.No.
						A3L



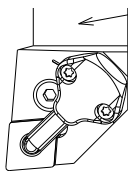
Isometric View
Scale: (1:3)

OP200
Semi-Finish AFT Face
ACLNL2525M12-A
CNMG120408-HRM AH8015



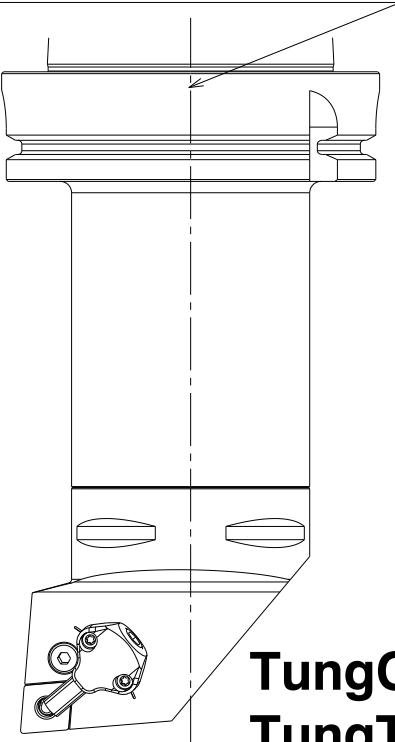
AH8000

OP200
Semi-Finish AFT Face
PCLNL2525M12-CHP
CNMG120408-HRM AH8015

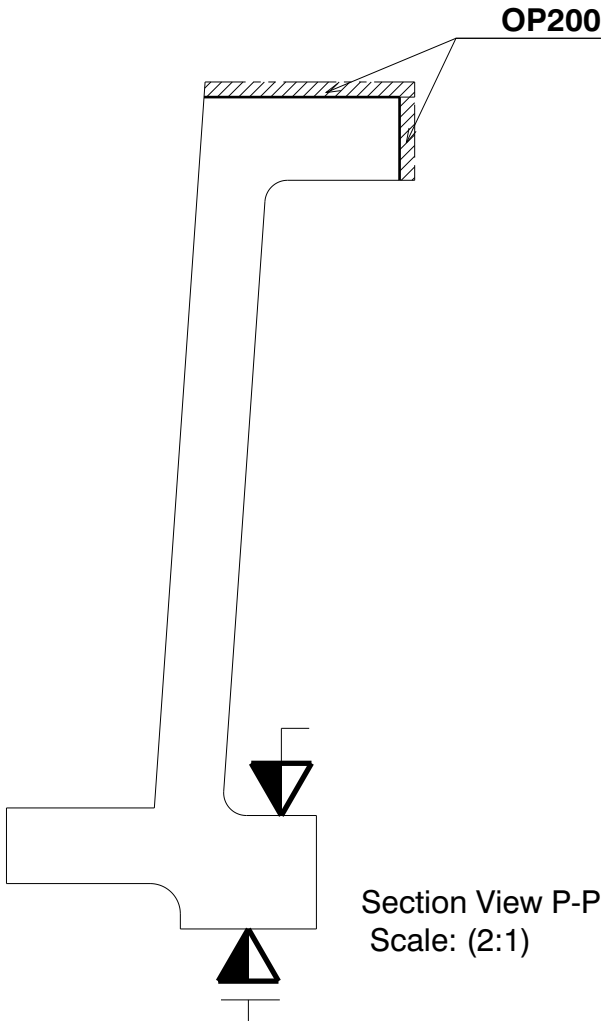


TungTurn-Jet
AH8000

OP200
Semi-Finish AFT Face
HSK100A-C6-110
C6PCLNL45065-12-CHP
CNMG120408-HRM AH8015



TungCap
TungTurn-Jet
AH8000



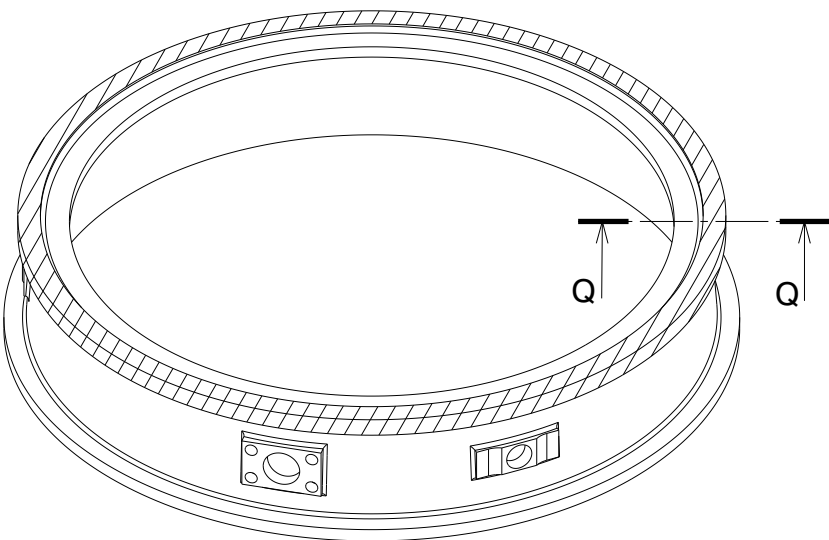
AFT Base Turning

JAW	STOP	WORK REST	VACUUM CHUCK	TAILSTOCK CENTER	SPRING LOADED CENTER

Unspecified Tolerances	Draw			Customer:		
Dim.s:	Design			Designation:		
Angles:	Check			LAYOUT-HPC ENGINE CASE	Dwg.No.	
	Appr.			Process	Page 1	Rev. No.
	Scale			Concept	Of 1	
					Reg.No.	

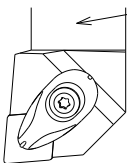
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A3L



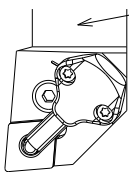
Isometric View
Scale: (1:3)

OP210
Semi-Finish FWD Face
ACLNL2525M12-A
CNMG120408-HRM AH8015



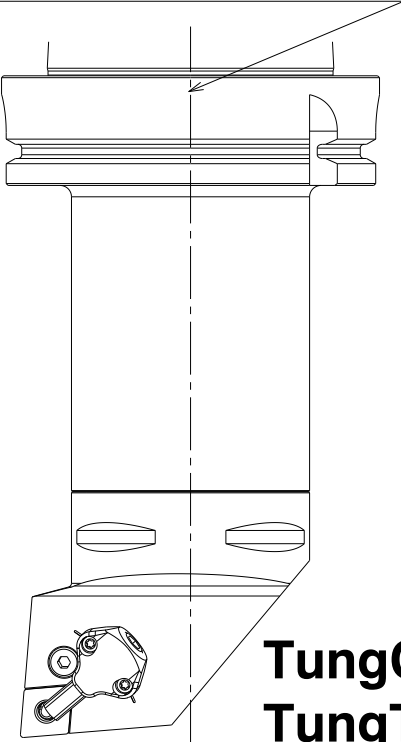
AH8000

OP210
Semi-Finish FWD Face
PCLNL2525M12-CHP
CNMG120408-HRM AH8015

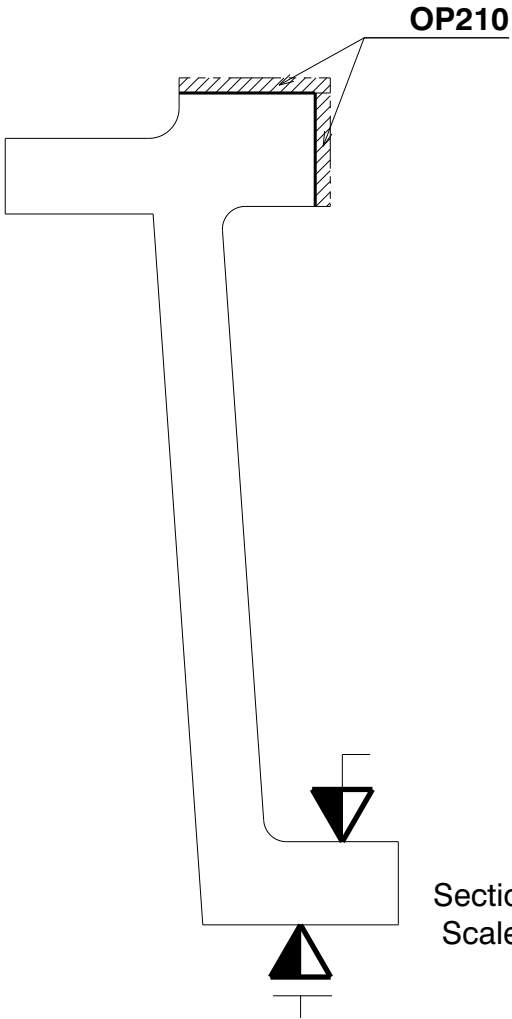


TungTurn-Jet
AH8000

OP210
Semi-Finish FWD Face
HSK100A-C6-110
C6PCLNL45065-12-CHP
CNMG120408-HRM AH8015



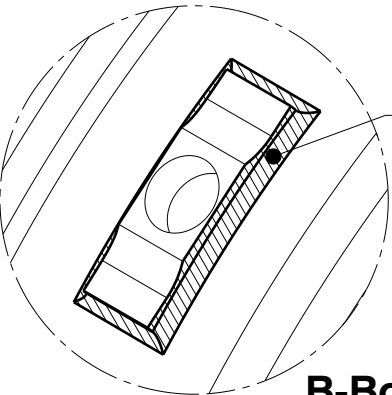
TungCap
TungTurn-Jet
AH8000



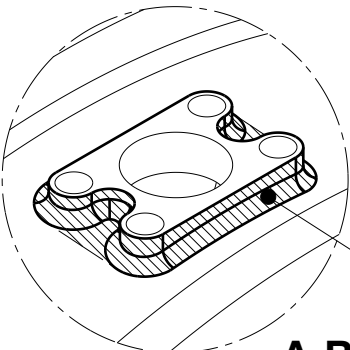
Section View Q-Q
Scale: (2:1)

FWD Base Turning

JAW STOP WORK REST VACUUM CHUCK TAILSTOCK CENTER SPRING LOADED CENTER						Unspecified Tolerances		Draw			Customer:		Dwg.No.		
						Dim.s: -.-		Design			Designation: LAYOUT-HPC ENGINE CASE				
						Angles: -.-		Check			Process		Layout.	Page 1	Rev. No.
								Appr.			Concept			Of 1	
						Scale			Reg.No.		A3L				
								© 2026 Tungaloy Corporation - Copyrights Notice							

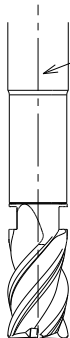


Detail T
Scale: (1:1)



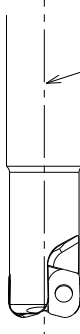
Detail S
Scale: (1:1)

OP220/221
Finishing FWD Flange side
Finishing AFT Flange side
VSSD08L060S05-S
VEH080L12.0R05I04S05 AH715



TungMeister

OP223/224/225/226/227
Finishing FWD side
Finishing AFT side
Finishing, between Boss (short)(long)
Removal of remaining mat., B-Boss
EXLS02M010C10.0LH20R02
LSMT0202R2-MM AH8015



TungForceFeed
AH8000

OP228/229/231/233
Finishing FWD flange corner
Finishing AFT flange corner
Finishing around A-Boss side
Finishing around B-Boss side
TEB030A2-08C06M70 AH750

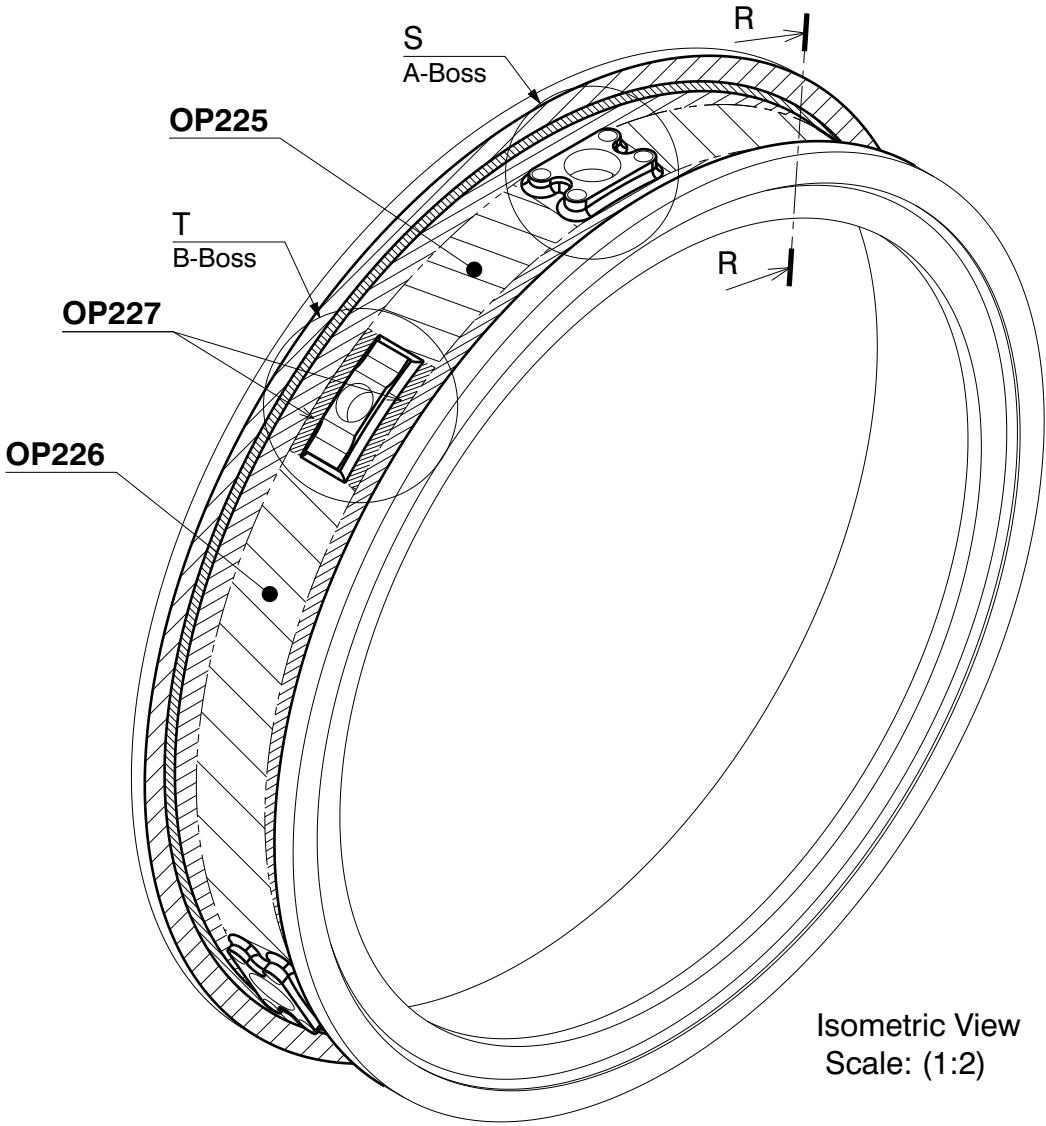


SolidMeister

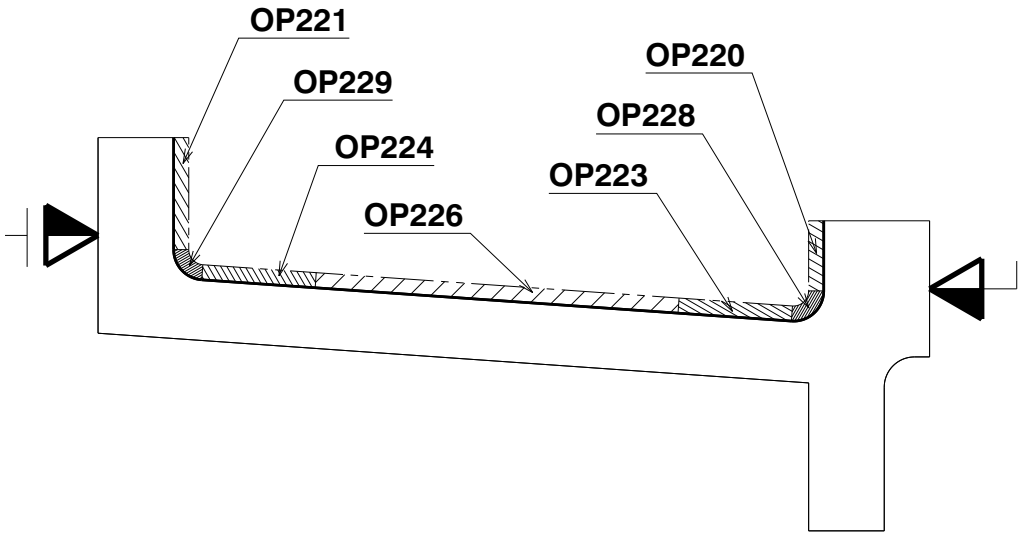
OP230/232
Roughing around A-Boss side
Roughing around B-Boss side
TEB040A2-04/08C06H70 AH750



SolidMeister



Isometric View
Scale: (1:2)

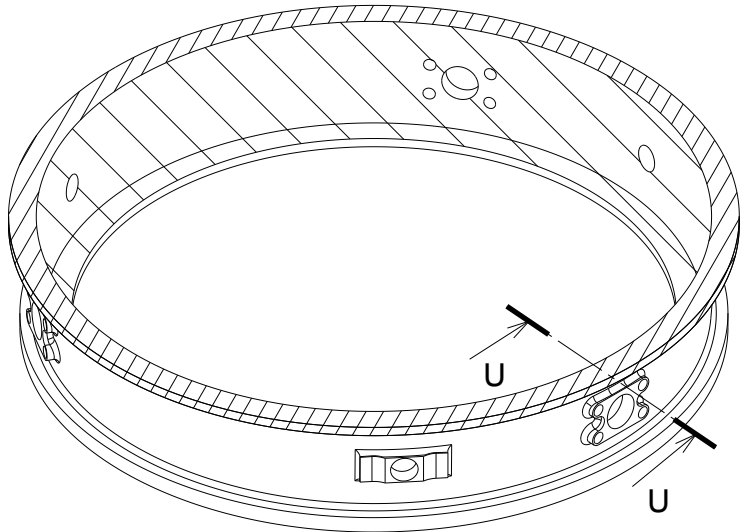


Section View R-R
Scale: (2:1)

OD Finish Milling

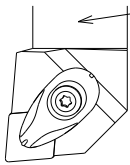
JAW	STOP	WORK REST	VACUUM CHUCK	TAILSTOCK CENTER	SPRING LOADED CENTER

Unspecified Tolerances	Draw			Customer:		
Dim.s:	Design			Designation:		
Angles:	Check			LAYOUT-HPC ENGINE CASE	Dwg.No.	
	Appr.			Process	Page 1	Rev. No.
	Scale			Concept	Of 1	
					Reg.No.	
						A3L



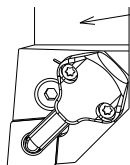
Isometric View
Scale: (1:3)

OP240/240.5/242.5
Semi-Finish AFT Face
Deburring
ACLNL2525M12-A
CNMG120408-HRM AH8015



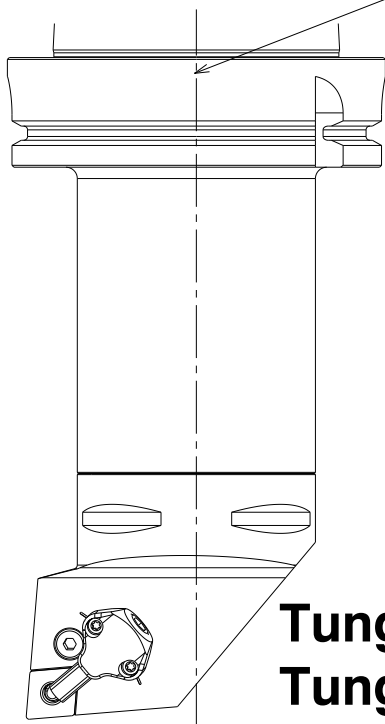
AH8000

OP240/240.5/242.5
Semi-Finish AFT Face
Deburring
PCLNL2525M12-CHP
CNMG120408-HRM AH8015



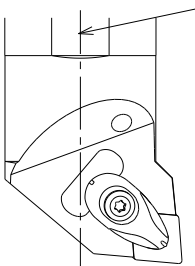
TungTurn-Jet
AH8000

OP240/240.5/242.5
Semi-Finish AFT Face
Deburring
HSK100A-C6-110
C6PCLNL45065-12-CHP
CNMG120408-HRM AH8015

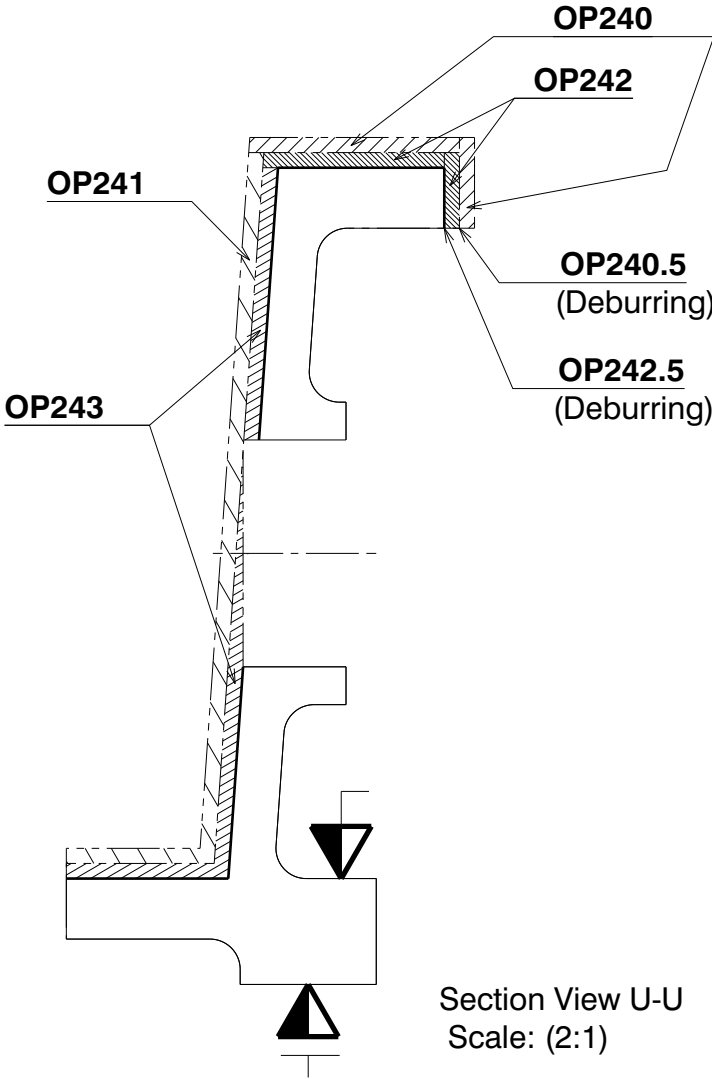


TungCap
TungTurn-Jet
AH8000

OP241
Semi-Finish AFT ID
A40T-ACLNR12-D500
CNMG120408-HRM AH8015

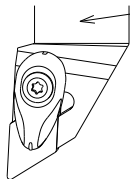


AH8000



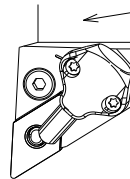
Section View U-U
Scale: (2:1)

OP242
Finishing AFT Face
ADJNL2525M15-A
2QP-DNGA150408-E BX815



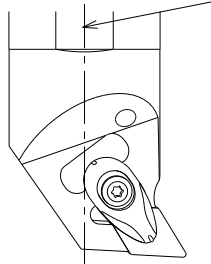
BX815

OP242
Finishing AFT Face
PDJNL2525M15-CHP
2QP-DNGA150408-E BX815



TungTurn-Jet
BX815

OP243
Finishing AFT ID
A40T-ADUNR15-D500
DNMG150408-HRM AH8015

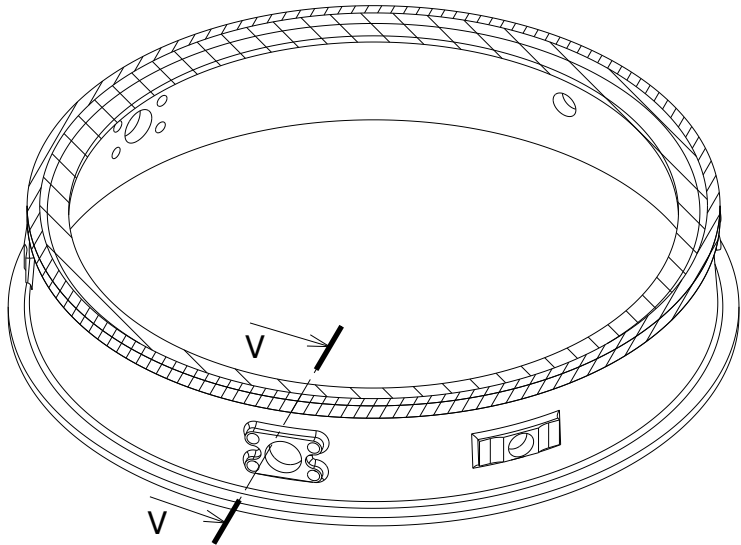


AH8000

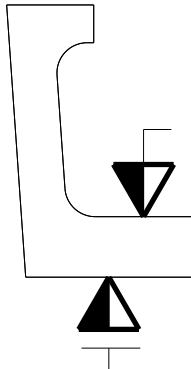
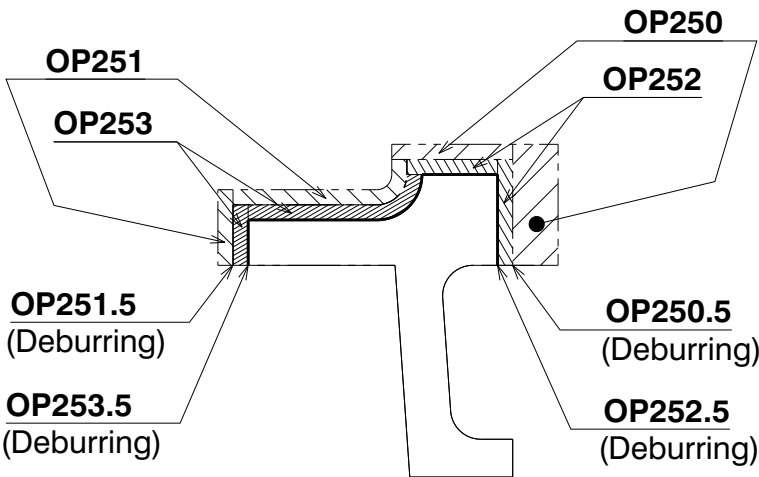
AFT Finish Turning

JAW	STOP	WORK REST	VACUUM CHUCK	TAILSTOCK CENTER	SPRING LOADED CENTER

Unspecified Tolerances	Draw			Customer:		
Dim.s:	Design			Designation:		
Angles:	Check			LAYOUT-HPC ENGINE CASE	Dwg.No.	
	Appr.			Process	Page 1	Rev. No.
	Scale			Concept	Of 1	
					Reg.No.	
						A3L

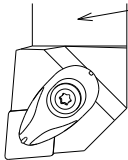


Isometric View
Scale: (1:3)



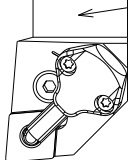
Section View V-V
Scale: (2:1)

OP250/250.5/252.5
**Semi-Finish FWD Face
Deburring**
ACLNL2525M12-A
CNMG120408-HRM AH8015



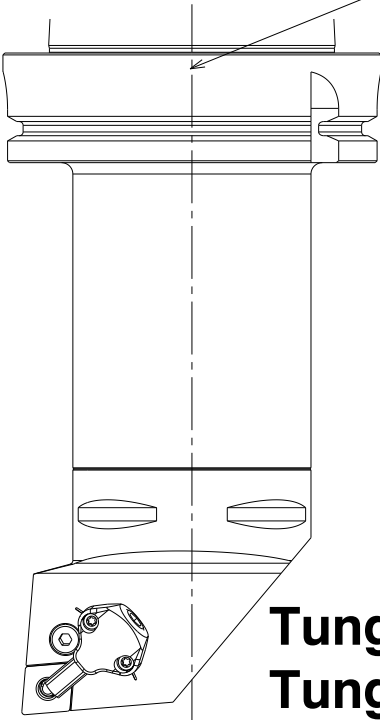
AH8000

OP250/250.5/252.5
**Semi-Finish FWD Face
Deburring**
PCLNL2525M12-CHP
CNMG120408-HRM AH8015



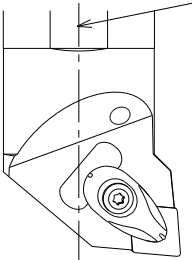
TungTurn-Jet
AH8000

OP250/250.5/252.5
**Semi-Finish FWD Face
Deburring**
HSK100A-C6-110
C6PCLNL45065-12-CHP
CNMG120408-HRM AH8015



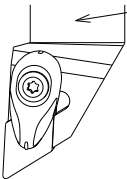
TungCap
TungTurn-Jet
AH8000

OP251/251.5/253.5
**Semi-Finish FWD ID
Deburring**
A40T-ACLNR12-D500
CNMG120408-HRM AH8015



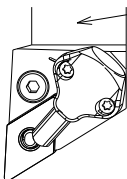
AH8000

OP252
Finishing FWD Face
ADJNL2525M15-A
2QP-DNGA150408-E BX815



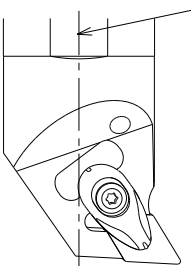
BX815

OP252
Finishing FWD Face
ADJNL2525M15-A
2QP-DNGA150408-E BX815



TungTurn-Jet
BX815

OP253
Finishing FWD ID
A40T-ADUNR15-D500
2QP-DNGA150408-E BX815

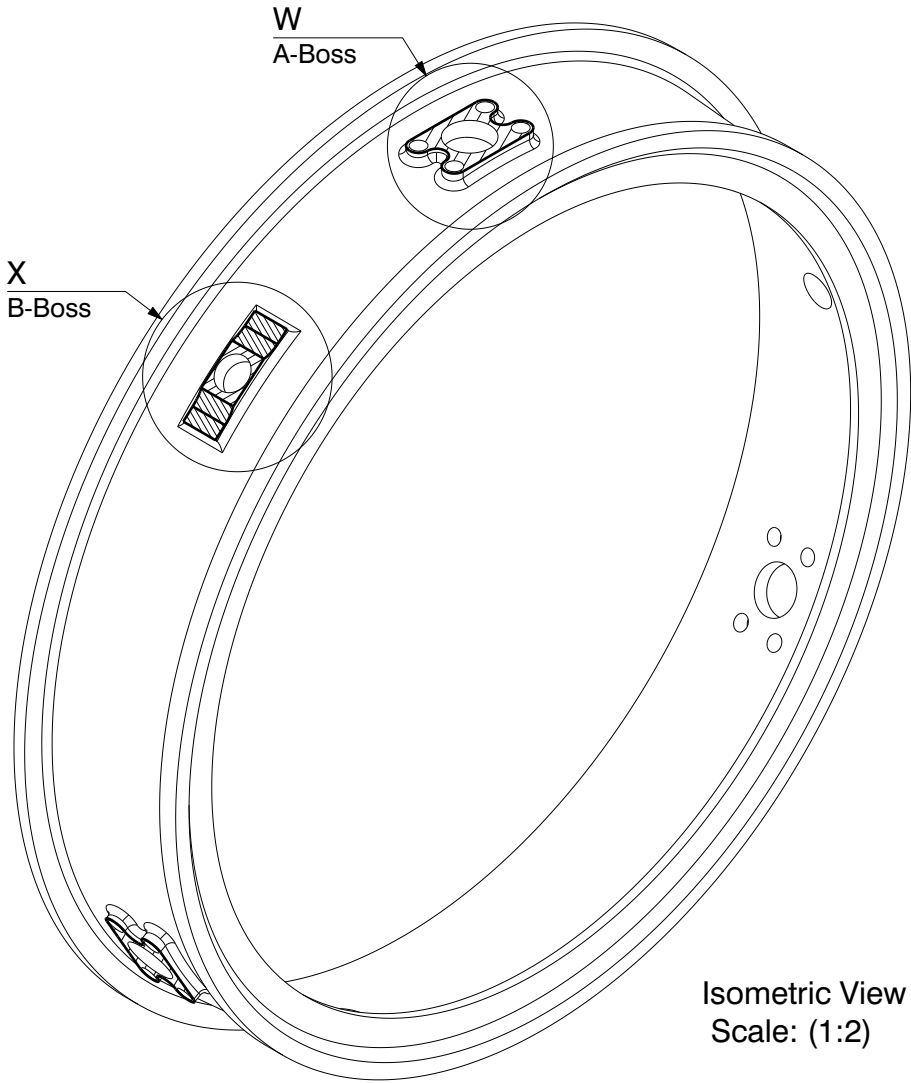
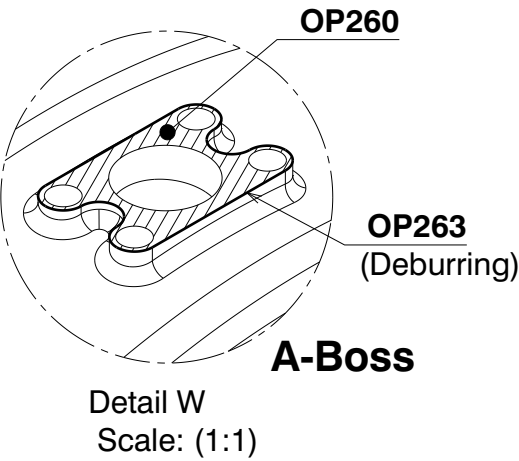
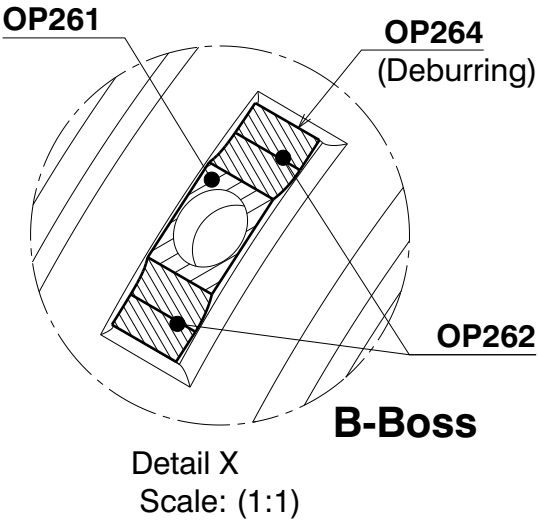


BX815

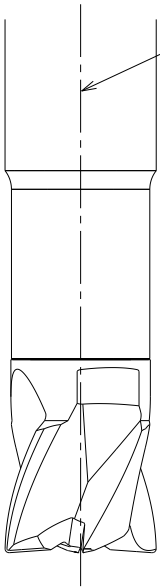
FWD Finish Turning

JAW	STOP	WORK REST	VACUUM CHUCK	TAILSTOCK CENTER	SPRING LOADED CENTER

Unspecified Tolerances	Draw			Customer:		
Dim.s:	Design			Designation:		
Angles:	Check			LAYOUT-HPC ENGINE CASE	Dwg.No.	
	Appr.			Process	Page 1	Rev. No.
	Scale			Concept	Of 1	
					Reg.No.	
						A3L

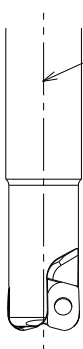


OP260/261
Finishing A-Boss Face
Finishing B-Boss Face
VSSD20L120S12-S
VED200L15.0R05-04S12 AH725



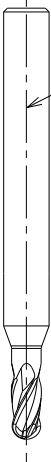
TungMeister

OP262
Finishing B-Boss R-face
EXLS02M010C10.0LH20R02
LSMT0202R2-MM AH8015



TungForceFeed
AH8000

OP263/264
Deburring around A-Boss
Deburring around B-Boss
TEB040E4L-08/12C06CFH57 AH710

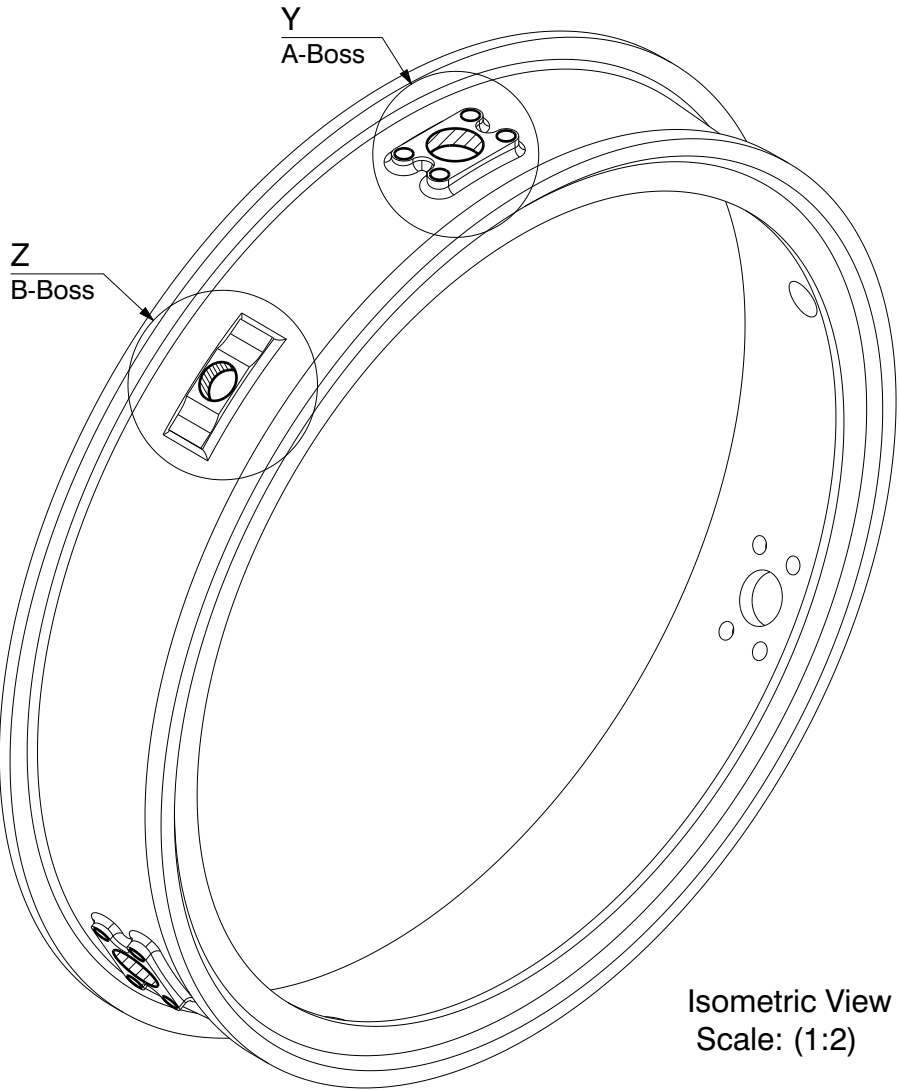
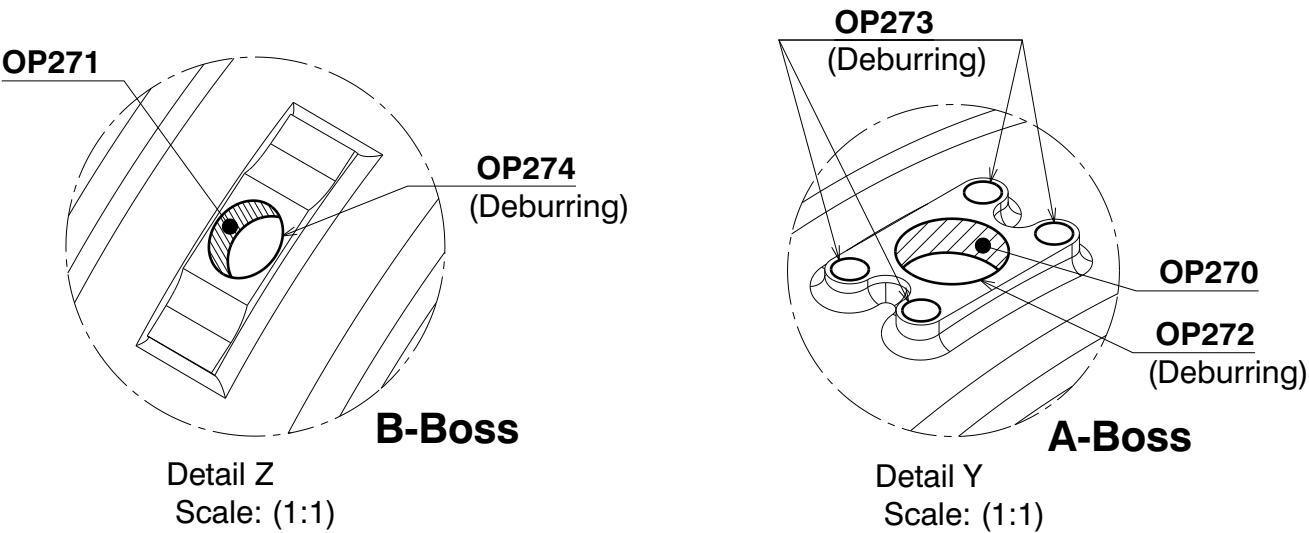


VariableMeister

Boss Finish Milling

JAW	STOP	WORK REST	VACUUM CHUCK	TAILSTOCK CENTER	SPRING LOADED CENTER

Unspecified Tolerances	Draw			Customer:		
Dim.s:	Design			Designation:		
Angles:	Check			LAYOUT-HPC ENGINE CASE	Dwg.No.	
	Appr.			Process	Layout.	Page 1
	Scale			Concept		Rev. No.
						Reg.No.
						A3L



OP270/271
Finishing A-Boss hole
Finishing B-Boss hole
VSSD08L050S04-S
VEE060L04.0R05-04S04 AH715



TungMeister

OP272/273/274
Deburring
TEB040E4L-08/12C06CFH57 AH710

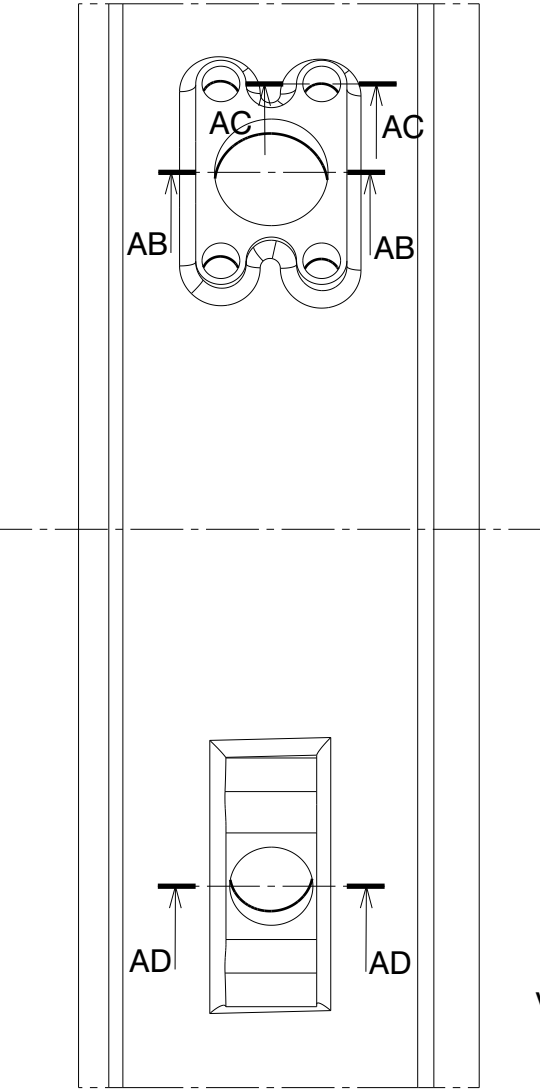
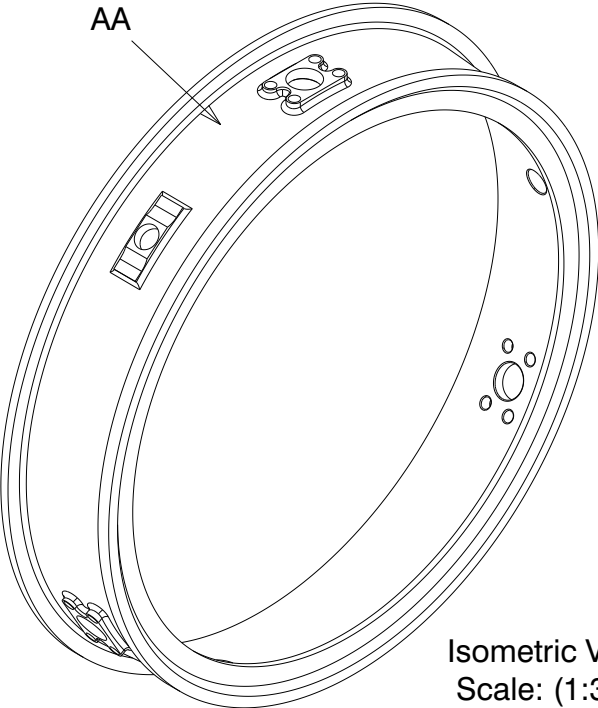


VariableMeister

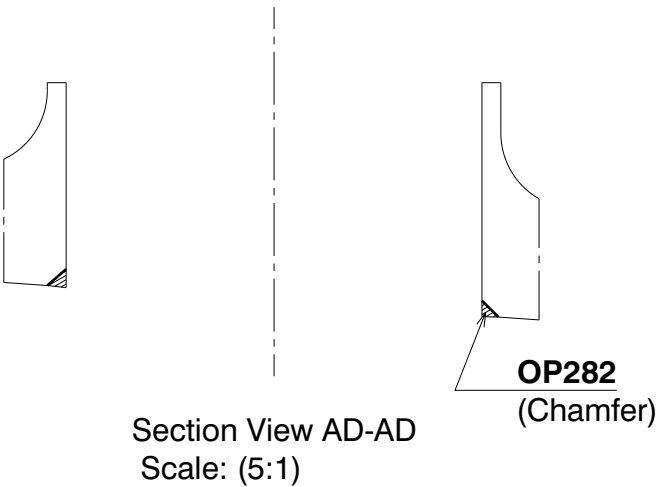
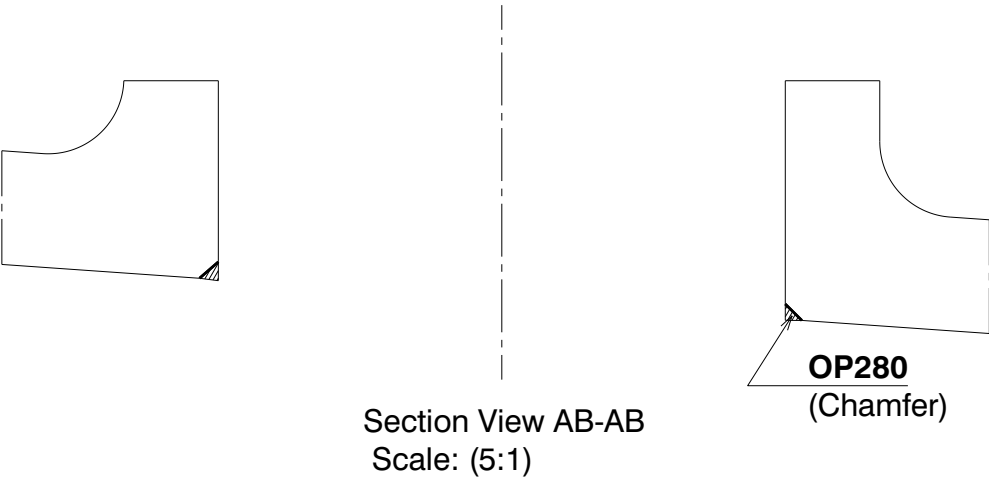
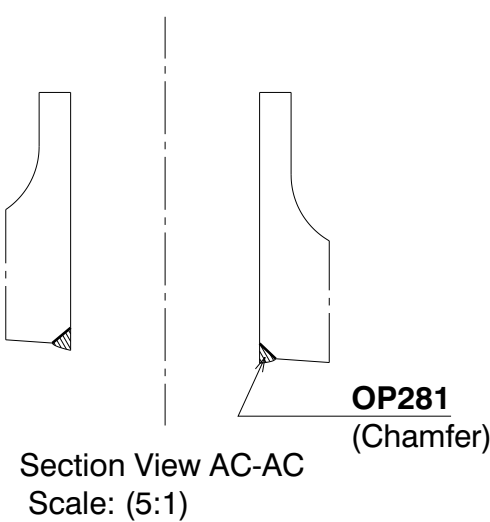
Hole Finish Milling

					
JAW	STOP	WORK REST	VACUUM CHUCK	TAILSTOCK CENTER	SPRING LOADED CENTER

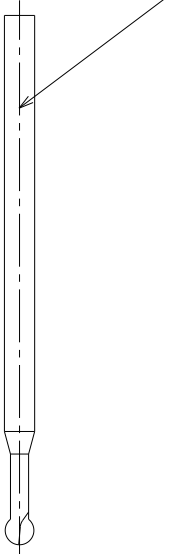
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	Design			Designation:			
Dim.s: -.-	Check			LAYOUT-HPC ENGINE CASE		Dwg.No.	
Angles: -.-	Appr.			Process	Layout.	Page 1	Rev.
	Scale			Concept		Of 1	No.
	© 2026 Tungaloy Corporation - Copyrights Notice			-.-		Reg.No.	



ID Chamfering

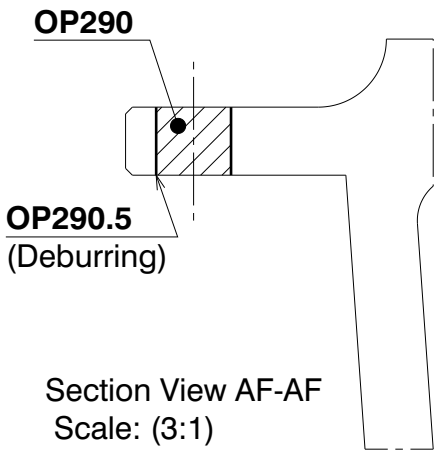
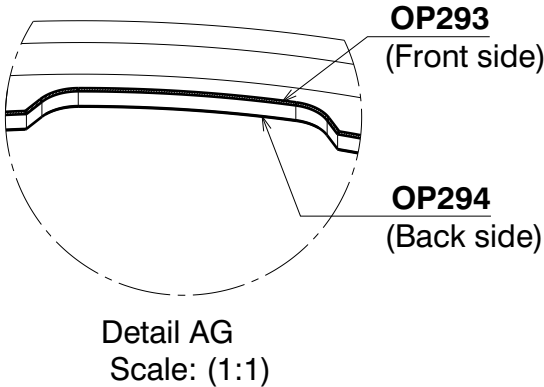
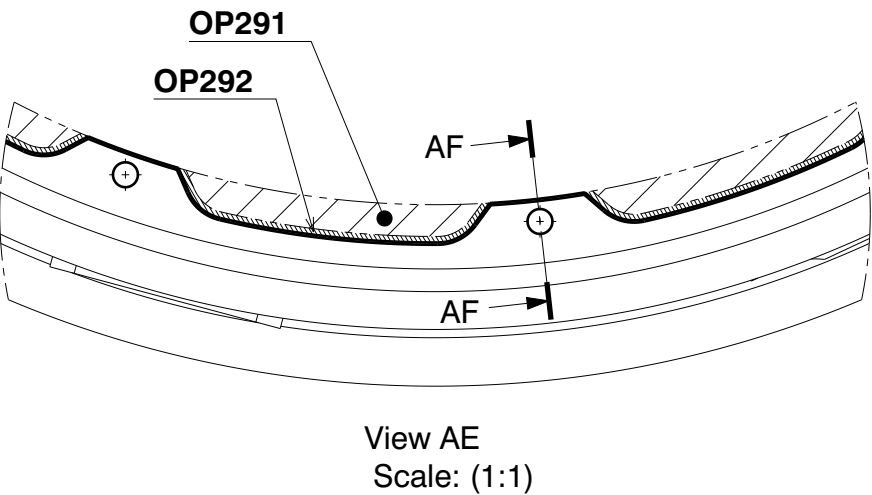
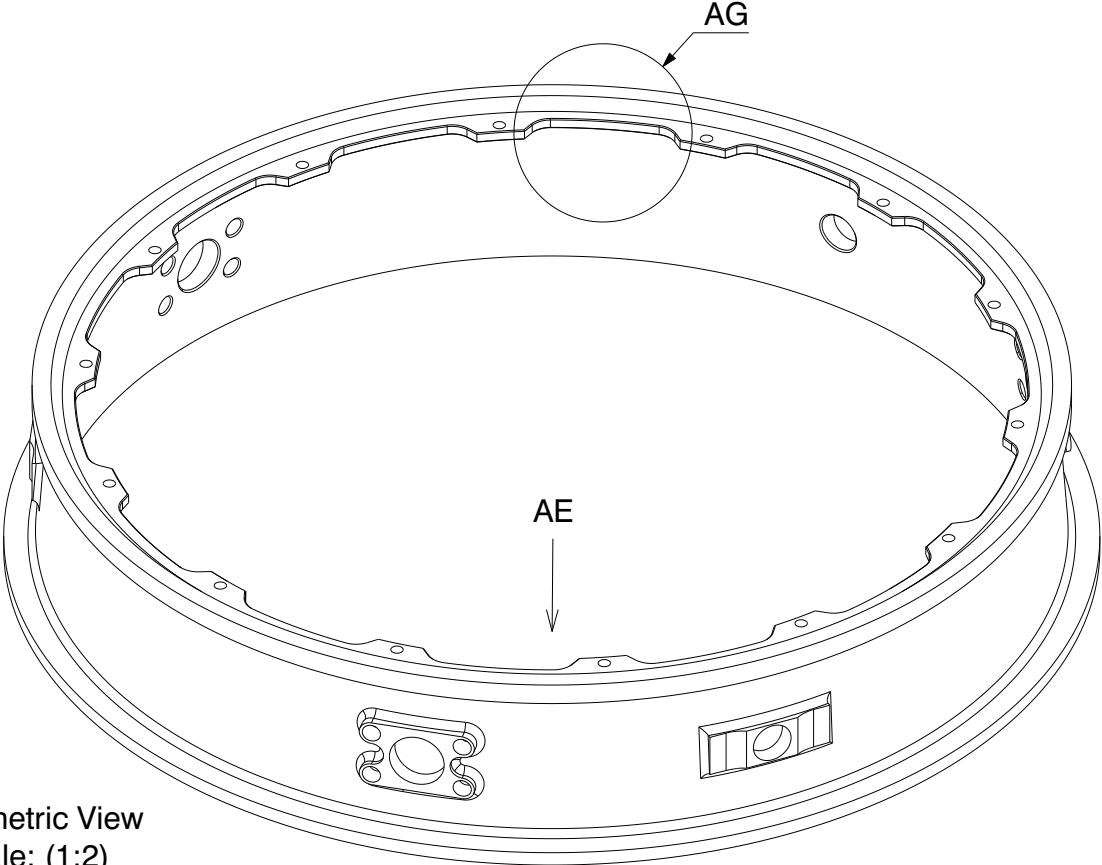


OP280/281/282
A-Boss Chamfering
B-Boss Chamfering
Back Chamfering Tool



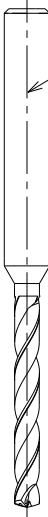
JAW	STOP	WORK REST	VACUUM CHUCK	TAILSTOCK CENTER	SPRING LOADED CENTER

Unspecified Tolerances	Draw			Customer:		
Dim.s:	Design			Designation:		
Angles:	Check			LAYOUT-HPC ENGINE CASE	Dwg.No.	
	Appr.			Process	Page 1	Rev. No.
	Scale			Concept	Of 1	
	© 2026 Tungaloy Corporation - Copyrights Notice				Reg.No.	
						A3L



JAW	STOP	WORK REST	VACUUM CHUCK	TAILSTOCK CENTER	SPRING LOADED CENTER

OP290
Drilling Scallop area
DSW033-023-06DI5 AH725

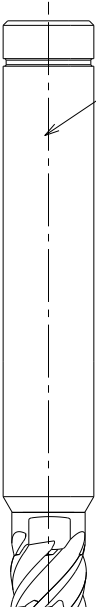


SolidDrill

OP290.5
Deburring Back Side Hole
Back Chamfering Tool

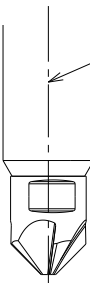


OP291/292
Rough Milling scallop area
Finish Milling scallop area
VSSD12L065S06-S
VED100L07.0R05-06S06 AH725



TungMeister

OP293
Chamfering front side
VSSD12L065S06-S
VCA100L04.0A45-04S06 AH715



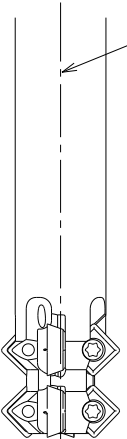
TungMeister

OP294
Chamfering back side
VSSD08L060S05-S
VCW098L04.3A45-02S05 AH715



TungMeister

OP293/294
Chamfering front side
Chamfering back side
Chamfering Cutter (Special)
SDHT050204FN-AJ TH10



TungQuad

Scallop Milling Drilling

Unspecified Tolerances	Draw			Customer:			
	Design			Designation:			
Dim.s: -.-	Check			LAYOUT-HPC ENGINE CASE		Dwg.No.	
Angles: -.-	Appr.			Process	Layout.	Page 1	Rev. No.
	Scale			Concept		Of 1	
	© 2026 Tungaloy Corporation - Copyrights Notice			-.-		Reg.No.	
							

