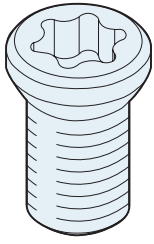


# Spare Parts



**P1~P31**

<b>Screws</b>	<b>P2~P6</b>
<b>Pins</b>	<b>P7</b>
<b>Shims</b>	<b>P8~P12</b>
<b>Cartridges</b>	<b>P12</b>
<b>Clamp Sets</b>	<b>P13~P14</b>
<b>Clamps</b>	<b>P15~P16</b>
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<b>Springs / Nuts / Punches / Others</b>	<b>P18~P19</b>
<b>Former Parts List</b>	<b>P20~P31</b>

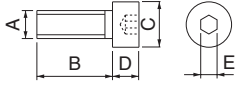
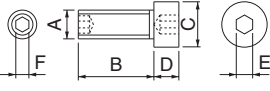
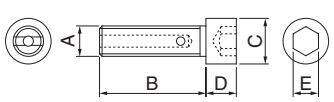
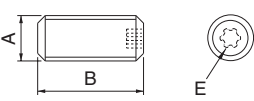
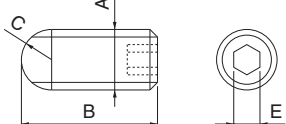
# P

# Screws

Shape	Description	Stock	Dimension (mm)							Angle		Torque (N·m)	Remarks
			A	B	C	D	E	F	α	θ			
	<b>AJ -6X38</b>	●	M6X1.0	38.0	6.0	10.0	3.0	3.0	-	-	-		
	<b>-8X44-9.5</b>	●	M8X1.25	44.0	9.5	6.0	4.0	4.0	-	-	-		
	<b>-10X46</b>	●	M10X1.5	46.0	11.5	8.0	5.0	5.0	-	-	-		
	<b>AJ -519TR</b>	●	M5X0.8	19.0	10.0	-	T15	-	-	40°	-		
	<b>BH 3X6</b>	●	M3X0.5	6.0	-	2.0	2.0	-	-	-	-		
	<b>3X12</b>	●	M3X0.5	12.0	-	2.0	2.0	-	-	-	-		
	<b>6X25</b>	●	M6X1.0	25.0	-	4.0	4.0	-	-	-	-		
	<b>BH 6X10TR</b>	●	M6X1.0	10.0	12.0	5.0	T25	-	-	-	6.5		
	<b>CP 8X15TL</b>	●	M8X1.25	15.0	15.0	-	T25	-	-	-	-	6.0	L...shows Left-hand Thread
	<b>8X23TL</b>	●		23.0									
	<b>CS -2D</b>	●	M4X0.7	21.5	6.4	3.5	2.5	2.0	-	-	1.7		
	<b>-3D</b>	●	M5X0.8	22.0	8.0	4.0	3.0	2.5	-	-	3.9		
	<b>-5D</b>	●	M5X0.8	28.0	8.0	4.0	3.0	2.5	-	-	3.0		
	<b>GS -50</b>	●	M5X0.8	13.0	7.5	-	3.0	-	-	82°	-		
	<b>HF 20X53H</b>	●	M20X2.5	35.0	43.0	18.0	14.0	14.0	-	-	-	-	With Coolant Hole
	<b>20X53HA</b>	●		33.0	50.0	20.0							
	<b>24X60H</b>	●	M24X3.0	40.5	65.0	19.5							
	<b>24X60HA</b>	●		36.0		24.0							
	<b>HH 3X6</b>	●	M3X0.5	6.0	5.5	3.0	2.5	-	-	-	-		
	<b>3X12</b>	●		12.0									
	<b>HH 4X16</b>	●	M4X0.7	16.0	7.0	4.0	3.0	-	-	-			
	<b>HH 5X15</b>	●	M5X0.8	15.0	8.5	5.0	4.0	-	-	-			
	<b>5X16</b>	●		16.0									
	<b>5X20</b>	●		20.0									
	<b>5X25</b>	●		25.0									
	<b>5X30</b>	●		30.0									
	<b>5X30</b>	●		30.0									
	<b>HH 6X12</b>	●	M6X1.0	12.0	10.0	6.0	5.0	-	-	-			
	<b>6X16</b>	●		16.0									
	<b>6X18</b>	●		18.0									
	<b>6X20</b>	●		20.0									
	<b>6X25</b>	●		25.0									
	<b>6X30</b>	●		30.0									
<b>HH 8X20</b>	●	M8X1.25	20.0	13.0	8.0	6.0	-	-	-				
<b>8X25</b>	●		25.0										

P  
Spare Parts

● : Std. Item

Shape	Description	Stock	Dimension (mm)						Angle		Torque (N·m)	Remarks
			A	B	C	D	E	F	α	θ		
	HH 10X25	●	M10X1.5	25.0	16.0	10.0	8.0	-	-	-	-	
	HH 10X30	●		30.0								
	HH 10X30S	●		30.0								
	HH 10X35	●		35.0								
	HH 10X40	●		40.0								
	HH 12X35	●	M12X1.75	35.0	18.0	12.0	10.0	-	-	-		
	HH 12X40	●		40.0								
	HH 16X35	●	M16X2.0	35.0	24.0	16.0	14.0	-	-	-		
	HH 16X40	●		40.0								
	HH 16X45	●		45.0								
HH 20X40	●	M20X2.5	40.0	30.0	20.0	17.0	-	-	-			
HH 20X55	●		55.0									
	HH 4X12	●	M4X0.7	10.0	7.0	4.0	3.0	2.0	-	-	-	
	HH 8X25H	●	M8X1.25	25.0	13.0	8.0	5.0	-	-	-	-	With Coolant Hole
	HH 10X30H	●	M10X1.5	30.0	16.0	10.0	6.0					
	HH 12X35H	●	M12X1.75	35.0	18.0	12.0	8.0					
	HH 16X52H	●	M16X2.0	36.0	24.0	16.0	12.0					
	HS 3X4P	●	M3X0.5	3.9	-	-	1.5					
HS 3X4	●	4.0										
HS 4X4P	●	M4X0.7	3.9	-	-	2.0	-	-	-	2.0		
HS 4X4	●		4.0									
HS 5X5	●	M5X0.8	5.0	-	-	2.5	-	-	-	3.0		
HS 6X4P	●	M6X0.75	3.9	-	-	3.0	-	-	-	4.0		
HS 6X6	●		6.0									
HS 6X14	●		14.0									
HS 6X22	●		22.0									
HS 8X10	●	M8X1.25	10.0	-	-	4.0	-	-	-	-	-	HS4X4P and HS6X4P have a flat edge
HS 8X12	●		12.0									
HS 10X10	●	M10X1.5	10.0	-	-	5.0	-	-	-	-	-	Clamp screw equivalent to JIS B-1177
HS 10X16	●		16.0									
HS 12X12	●	M12X1.75	12.0	-	-	6.0	-	-	-	-	-	-
HS 12X16	●		16.0									
HS 12X18	●		18.0									
HS 12X20	●		20.0									
HS 12X25	●		25.0									
HS 12X30	●		30.0									
HS 12X35	●	35.0										
HS 16X12	●	M16X2.0	12.0	-	-	8.0	-	-	-	-	-	-
HS 16X18	●		18.0									
HS 16X20	●		20.0									
	HS -2524TRP	●	M2.5X0.35	2.4	-	-	5IP	-	-	-	0.4	○IP shows Torx Plus
	HS -2534TRP	●		3.4								
	HS -3048TRP	●	M3X0.5	4.8	6IP	0.5						
	HS -4067TRP	●	M4X0.7	6.7	7IP	0.8						
	HSB 4X8 <sup>P/L</sup>	●	M4X0.7	8.0	R2.0	-	2.0	-	-	-	2.0	R ... shows Right-hand Thread L ... shows Left-hand Thread

Insert Grades  
Turnable Inserts  
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● : Std. Item

# Screws

Shape	Description	Stock	Dimension (mm)						Angle		Torque (N·m)	Remarks							
			A	B	C	D	E	F	α	θ									
	LS -03N	●	M5X0.8	9.7	M5X0.8	-	2.0	-	-	-	2.0	N : Silver coated							
	LS -03SN	●		12.0							2.5		3.0						
	LS -05	●	M5X0.8	15.5	M5X0.8	-	2.0	2.0	-	-	2.0								
	LS -1N	●	M6X1.0	17.0	6.0	-	2.5	2.5	-	-	3.0	N : Silver coated							
	LS -1SN	●		14.2															
	LS -1T	●		21.0															
	LS -2N	●	M8X1.0	20.0	8.0	-	3.0	3.0	-	-	4.0								
	LS -3	●		22.0															
	LS -4N	●		24.0															
LS -5	●	M10X1.0	29.0	10.0	-	4.0	4.0	-	-	-									
	LS -1P	●	M6X1.0	16.5	6.0	-	10IP	10IP	-	-	2.0	○ ○ IP shows Torx Plus							
	LS -2P	●	M8X1.0	18.2	8.0	-	15IP	15IP	-	-	3.5								
	LS -3P	●		21.8															
	LS -11	●	M6X1.0	9.5	-	-	3.0	-	-	-	-								
	LS -15	●		12.5															
	M 3X8	●	M3X0.5	8.0	5.5	2.0	-	-	-	-	-	Flat fillister head screw equivalent to JIS B-1101							
	M 3X12	●		12.0															
	M 4X10	●	M4X0.7	10.0	7.0	2.6													
	SB -1TR	●	M2X0.4	5.3	3.8	-	-	-	-	-	-	R ... shows Right-hand Thread							
	SB -2TR	●	M2.5X0.45	6.2	4.5								T6	82°	0.5				
	SB -3TR	●	M3X0.5	7.2	4.8								T8		1.2				
	SB -3STR	●		6.4	5.2								T10	2.0					
	SB -3.5TR	●	M3.5X0.6	9.3	5.6								T15	3.5					
	SB -4TR	●	M4X0.7	7.7	5.8								T20	90°	4.5				
	SB -5TR	●	M5X0.8	20.0	8.7										4.5				
	SB -2290TR	●	M2.2X0.45	9.2	2.8								T6	60°	0.5				
	SB -25100TR	●	M2.5X0.45	10.0	3.5								T7		0.8				
	SB -40115TR	●	M4X0.7	11.5	5.5								T15		3.5				
	SB -5070TR	●	M5X0.8	7.0	6.8								T20	-	-	-	-	-	4.5
	SB -5090TR	●		9.0															
	SB -50120TR	●		12.0															

## Reference

Torx and Torx Plus have different cross-sections.



Torx



Torx Plus

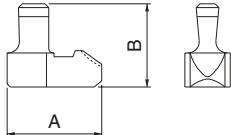
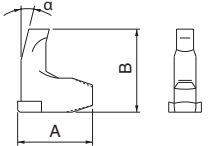
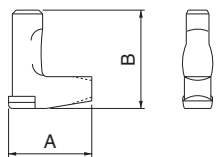
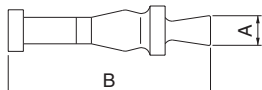
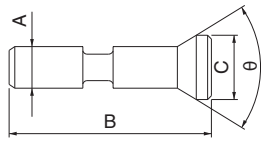
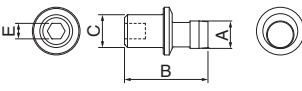
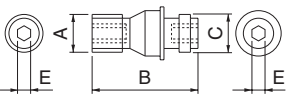
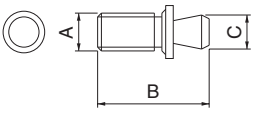
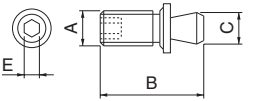
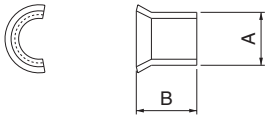
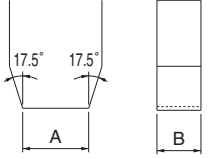
Shape	Description	Stock	Dimension (mm)						Angle		Torque (N·m)	Remarks	
			A	B	C	D	E	F	α	θ			
 SB-40125TRN	SB -1635TR	●	M1.6X0.35	3.3	2.6				T6	60°	0.5	R ... shows Right-hand Thread ○ IP shows Torx Plus	
	SB -1STR	●	M2X0.4	5.0	3.1			6IP	55°				
	-1840TRP	●	M1.8X0.35	4.0	2.5			T6	60°				
	-2035TR	●	M2X0.4	3.7	3.0			6IP	55°				
	-2035TRG	●		3.5	2.7			T6	60°				
	-2037TRP	●		3.7	2.7			6IP	55°				
	-2040TR	●		3.8	3.0			T6	60°				
	-2040TRG	●		4.0	3.0	-	-	6IP	60°				
	-2041TRP	●		4.1	2.7			T6	37°				
	-2042TRG	●							60°				
	-2045TR	●		4.3	2.8			T8	60°				
	-2045TRN	●							0.5				
	-2050TR	●		4.8	3.0			T6	60°				
	-2060TR	●		5.8	3.5			T8	1.2				
	-2080TR	●		8.3	2.8			T6	0.5				
	SB -2250TR	●		M2.2X0.45	5.1	3.1	-	-	T7	60°			0.8
	-2255TR	●			5.5	3.5							
	-2260TR	●	5.8		3.1								
	SB -2545TR	●	M2.5X0.45	4.6				T8	60°	1.2			
	-2555TRG	●		5.4									
	-2555TRP	●		5.5	3.5	-	-	8IP					
	-2560TR	●		5.7				T8					
	-2570TR	●		6.8									
	SB -3060TR	●	M3X0.5	5.3	4.2			T10	60°	2.0			
	-3060TRP	●		6.0	4.2			10IP	1.2				
	-3065TRP	●		6.5	4.0			8IP	2.0				
	-3070TRG	●		7.0	4.2			T10	60°	2.0			
	-3070TRP	●						10IP					
	-3080TR	●						T10					
	SB -3573TRP	●	M3.5X0.6	7.3	5.0			10IP	60°	2.0			
	-3580TR	●		8.0	5.3			T15	3.5				
	-3590TRP	●		9.0				15IP	4.0				
	-3592TR	●		9.2	5.1			T10	2.0				
									2.0				
	SB -4050TRN	●	M4X0.5	4.6	5.1			T10	57°	2.0			
	-4060TR	●		5.9					60°	3.5			
	-4065TR	●		6.7	5.5			T15			2.0		
	-4070TRG	●		7.0					60°	3.5			
	-4070TRN	●		7.7	5.4			T10			2.0		
	-4070TRS	●		6.7					60°	3.5			
	-4075TRP	●		7.5				15IP			2.0		
	-4082TPR	●		8.2	5.5			T15	60°	3.5			
	-4085TR	●		8.5				15IP					
	-4085TRP	●											
	-4090TRP	●						9.0			5.7		
	-4090TRPN	●							5.5				
-40120TR	●			12.0	5.1			60°	3.5				
-40125TRN	●			12.5	5.2								
-40140TR	●			14.0	5.5		T15			50°			
-40140TRN	●				6.7					60°			
										75°			
SB -4570TRN	●	M4.5X0.5		6.8	6.0	-	-	T10	57°	2.0			
-45130TR	●	M4.5X0.75		13.0	6.6			20IP	55°	4.5			
SB -5085TR	●	M5X0.8		8.5	6.8			T20	50°	4.5			
-50120TRP	●		12.0	7.2			20IP	60°	3.5				
-50120TRS	●								15IP	50°			
-50140TR	●				14.0	7.3			T15	4.5			
-50140TRP	●						20IP	60°	4.5				
								6.0					
SB -60120TR	●	M6X1.0	12.0	8.5			T25	60°	6.0				
SB -4070TRW	●	M4X0.7	6.7	5.5			T8	60°	1.2				
-4590TRWN	●	M4.5X0.75	9.3	5.6			T10	57°	2.0				

# Screws

Shape	Description	Stock	Dimension (mm)						Angle		Torque (N·m)	Remarks
			A	B	C	D	E	F	α	θ		
	<b>SC</b> <b>-30067</b>	●	M3X0.35	6.7	4.4				T8	60°	1.2	
	<b>-35085</b>	●	M3.5X0.35	8.5	5.7			T10	2.0			
	<b>-40100</b>	●	M4X0.5	10.0	6.0			T15	3.5			
	<b>-50130</b>	●	M5X0.5	13.0	6.6	-	-	T20	40°	4.5		
	<b>-60160</b>	●	M6X0.75	16.0	8.0			T25		6.0		
	<b>-60210</b>	●	M6X0.75	21.0	9.6			T30		8.0		
	<b>SE</b> <b>-3070TRP</b>	●	M3X0.5	7.0	4.3			9IP	43°	1.7	○○IP shows Torx Plus	
	<b>-40050TRN</b>	●		5.0				T15		44°		3.5
	<b>-40055TR</b>	●		5.5								
	<b>-40068TR</b>	●	M4X0.7	6.8	5.0	-	-					
	<b>-40080TR</b>	●		8.0								
	<b>-40090TR</b>	●		9.0								
	<b>-40100TR</b>	●		10.0								
	<b>SE</b> <b>-40120TR</b>	●	M4X0.7	12.0	5.6				T15		60°	
	<b>-50125TR</b>	●	M5X0.8	12.5	6.8			T20	4.5			
	<b>SH</b> <b>-50150TR</b>	●	M5X0.8	15.1	7.3	3.1	-	T20	-	-	4.5	
	<b>SP</b> <b>3X4</b>	●	M3X0.5	4.0	4.0				90°	-	-	With additional machining below the flat head screw
	<b>3X6</b>	●		6.0								Cross recessed flat head screw equivalent to JIS...B-1111
	<b>3X8</b>	●		8.0	6.0							
	<b>3X10</b>	●		10.0								
	<b>SP</b> <b>4X9</b>	●	M4X0.7	9.0	5.6	-	2.0	-	-	90°	-	
	<b>SP</b> <b>8X35</b>	●	M8X1.25	35.0	11.0	4.4	5.0	-	-	90°	-	
	<b>SPW</b> <b>-6045</b>	●	M6X0.75	9.0	7.5	M4.5X0.75	4.5	-	-	-	-	A shows External, D shows Internal. External and Internal threads are both Right-hand threads.
	<b>-7050</b>	●	M7X0.75	9.0	8.8	M5X0.8	5.0	-	-	-		
	<b>SS</b> <b>-4N</b>	●	M5.5X0.5	8.5	6.6	M4X0.7	4.0	-	-	-		
	<b>SV</b> <b>-60136R</b>	●	M6X1.0	13.6	6.3			T25	6°	6.0	Torx	
	<b>-60136TR</b>	●						T20		4.5	Torx	
	<b>TH</b> <b>8X15</b>	●	M8X1.25	20.0	8.5	-	4.0	-	-	-	-	
	<b>W</b> <b>6X17</b>	●	M6X1.0	17.0				T20			4.5	
	<b>6X18N</b>	●		18.0	-	-	-	T15			3.5	
	<b>8X16</b>	●		M8X1.0	16.0				T25		6.0	
	<b>W</b> <b>6X18</b>	●	M6X1.0	17.5				3.0	-	-	-	
	<b>6X20</b>	●	M6X1.0	20.5								
	<b>8X18</b>	●	M8X1.25	18.0			4.0					
	<b>*8X21</b>	●	M8X1.0	21.0								
	<b>W</b> <b>10X31</b>	●	M10X1.0	31.0	M10X1.5	-	5.0	-	-	-	-	

\* No socket on right-hand thread side

# Pins

Shape	Description	Stock	Dimension (mm)						Angle		Remarks
			A	B	C	D	E	F	$\alpha$	$\theta$	
	LL -03N	●	7.8	6.3							
	-03SN	●	11.1	8.9	-	-	-	-	-	-	
	-03TN	●	8.3	8.9							
	LL -05C	●	10.7	11.7					12°		
	-1CN	●	13.0	13.3	-	-	-	-	14°	-	
	-2C	●	18.8	17.6					14°		
	LL -1K	●	10.0	12.0							
	-1N	●	10.3	12.0							
	-1DN	●	12.3	12.0							
	-2K	●	13.3	13.2							
	-2N	●	13.5	13.0							
	-3K	●	16.0	14.8							
	-3N	●	16.4	13.0							
	-4	●	16.4	14.7							
	-5N	●	17.1	16.7							
-6	●	20.7	21.0								
	LP -2S	●	3.65	20.0	-	-	-	-	-	-	
	-6S	●	3.65	25.0	-	-	-	-	-	-	
	LPA -11	●		11.0							
	-13	●	2.8	13.0	4.2	-	-	-	-	60°	
	-17	●		17.0							
	LPF -11	●		11.0							
	-1113	●	2.5	13.0	3.5	-	-	-	-	60°	
	-1117	●		17.0							
	-13	●	3.8	13.0	5.5						
-17	●		17.0								
	PP -4	●	4.6	14.0	5.5	-	3.0	-	-	-	
	TS -3S	●	M5X0.8	15.0	3.60	-	2.0	-	-	-	
	WP -1S	●	M5X0.8	18.0	3.65	-	-	-	-	-	
	5X15	●		15.0	5.0						
	WP 5X11	●	M5X0.8	10.5	5.0	-	2.0	-	-	-	
	LSP -1	●	5.0	5.3							
	-2	●	6.5	5.6							
	-3	●	8.25	7.9							
	-4	●	9.5	10.0							
	LSP -2K	●	5.1	5.2							
-3K	●	6.7	5.7								
	P -03	●	2.8	1.95	-	-	-	-	-	-	
	-03S	●	3.5	1.95	-	-	-	-	-	-	

● : Std. Item

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# Shims

Shape Handed Spare Parts show Right-hand	Description	Stock	Dimension (mm)						Angle		Remarks
			A	B	C	D	E	F	$\alpha$	$\theta$	
	DC -42	●	12.0	3.2	1.2	6.0	4.4	R1.2	-	-	Shim Screw : SB-4085TR
	-44	●	12.55	5.0	1.5			R0.8			
	DC -44-C	●	12.55	5.0	1.5	6.0	4.4	-	-	-	Shim Screw : SB-4085TR
	DD -42	●	12.55	3.2	1.2	6.0	4.4	R1.2	-	-	Shim Screw : SB-4085TR
	-42-16	●						R1.6			
	-43	●		3.4	1.3			R0.8			
	-44	●		5.0	1.5						
	DS -42	●	12.0	3.2	1.2	6.0	4.4	R1.2	-	-	Shim Screw : SB-4085TR
	-44	●	12.55	5.0	1.5			R0.8			
	DT -32	●	8.63	3.2	0.95	5.0	3.4	R1.6	3°	-	Shim Screw : SB-3080TR
	-42	●	12.46		1.2	6.0	4.4	R1.2	-		Shim Screw : SB-4085TR
	DV -33	●	9.40	3.5	1.2	6.0	4.4	R1.0	-	-	Shim Screw : SB-4085TR
	DW -42	●	11.5	3.2	1.2	6.0	4.4	R1.2	4°	-	Shim Screw : SB-4085TR
	-44	●	12.65	5.0	1.5			R0.8	-		
	556 C <sup>5</sup> / <sub>L</sub>	●	34.0	10.0	12.7	5.6	5.0	R1.6	0°	55°	R... shows Right-hand L... shows Left-hand Shim Screw : HH5X16
	KPS -42	●	11.5	3.2	2.0	7.2	3.2	C1.0	7°	-	Shim Screw : SP3X8
	KPT -32	●	8.0	3.2	1.9	7.0	3.2	R0.4	11°	-	Shim Screw : SP3X8 : SP3X10
	-42	●	10.5	3.2	1.9	7.0	3.2	R0.8	11°	-	
	KVN -32	●	9.52	3.2	2.1	7.6	5.5	R0.8	-	-	Lock Pin : LP-2S : LP-6S
	LC -32N	●	9.47	2.4	1.3	6.18	4.68	R0.8	-	-	Shim Pin : LSP-1
	-4K	●	11.7	3.2	1.4	8.1	6.73	R0.8	-	-	Shim Pin : LSP-3K
	-42N	●	12.65	3.2	1.5	8.01	6.28	R0.8	-	-	Shim Pin : LSP-2
	-42N-20	●						R2.0			
	-53N	●	15.9	4.8	1.7	10.0	8.0	R1.2	-	-	Shim Pin : LSP-3
	-63	●	19.0	4.8	2.0	11.61	9.3	R1.6	-	-	Shim Pin : LSP-4



Shape Handed Spare Parts show Right-hand	Description	Stock	Dimension (mm)						Angle		Remarks
			A	B	C	D	E	F	$\alpha$	$\theta$	
	<b>LC -42N-C</b>	●	12.65	3.2	1.5	8.01	6.28	-	-	-	Shim Pin : LSP-2
	<b>-53N-C</b>	●	15.9	4.8	1.7	10.0	8.0	-	-	-	Shim Pin : LSP-3
	<b>-63-C</b>	●	19.0	4.8	2.0	11.61	9.3	-	-	-	Shim Pin : LSP-4
	<b>LC -42N<sup>R/L</sup></b>	●	12.65	3.2	1.5	8.01	6.28	R0.8	10°	-	R·shows Right-hand L·shows Left-hand Shim Pin : LSP-2
	<b>-32N</b>	●	9.47	2.4	1.3	6.18	4.68	R0.8	-	-	Shim Pin : LSP-1
	<b>-4K</b>	●	11.7	3.2	1.4	8.1	6.73	R0.8	-	-	Shim Pin : LSP-3K
	<b>-4K43</b>	●		4.8	3.0	8.3	6.60	R1.2			
	<b>-42</b>	●	12.65	3.2	1.5	8.01	6.28	R0.8	-	-	Shim Pin : LSP-2
	<b>-42-20</b>	●	12.65	4.8	3.1	8.5	6.28	R2.0			
	<b>-43</b>	●						R0.8			
<b>-43-20</b>	●						R2.0				
	<b>LR -80</b>	●	9.47	3.2	1.3	6.25	4.75	-	-	-	Shim Pin : LSP-1
	<b>-81</b>	●	12.65	3.2	1.5	8.01	6.28	-	-	-	Shim Pin : LSP-2
	<b>LR -10C</b>	●	8.5	3.2	6.3	6.3	4.7	-	-	-	Shim Pin : LSP-1
	<b>-12C</b>	●	10.0	3.2	6.3	6.3	4.7	-	-	-	
	<b>-16C</b>	●	13.6	3.2	7.9	8.01	6.28	-	-	-	Shim Pin : LSP-2
	<b>LS -32</b>	●	9.47	3.2	1.3	6.18	4.68	R0.8	-	-	Shim Pin : LSP-1
	<b>-42</b>	●	12.65	3.2	1.5	8.01	6.28	R0.8	-	-	Shim Pin : LSP-2
	<b>LT -3K</b>	●	8.53	2.7	1.0	6.1	5.13	R0.8	-	-	Shim Pin : LSP-2K
	<b>-32N</b>	●	9.47	2.7	1.3	6.18	4.68	R0.8	-	-	Shim Pin : LSP-1
	<b>-32N-20</b>	●						R2.0			
	<b>-42N</b>	●	12.65	3.2	1.5	8.01	6.28	R0.8	-	-	Shim Pin : LSP-2
	<b>-42N-20</b>	●						R2.0			
<b>-42N</b>	●	9.47	2.4	1.3	6.18	4.68	R0.8	-	-	Shim Pin : LSP-1	
<b>-42N</b>	●	12.65	3.2	1.5	8.01	6.28	R0.8	-	-	Shim Pin : LSP-2	
	<b>LW -32N</b>	●	9.47	2.4	1.3	6.18	4.68	R0.8	-	-	Shim Pin : LSP-1
	<b>-42N</b>	●	12.65	3.2	1.5	8.01	6.28	R0.8	-	-	Shim Pin : LSP-2
	<b>LW -42N<sup>R/L</sup></b>	●	12.65	3.2	1.5	8.01	6.28	R0.8	10°	-	R·shows Right-hand L·shows Left-hand Shim Pin : LSP-2
	<b>MFPPN -45</b>	●	17.07	3.5	1.95	9.8	7.18	R3.5	-	-	Shim Screw : SPW-7050
	<b>MFWN -90</b>	●	15.25	4.0	2.5	9.44	7.25	R3.0 R4.0	-	-	Shim Screw : SPW-7050
	<b>MSD -42</b>	●	10.7	3.2	1.85	7.0	3.3	-	20°	45°	Shim Screw : SP3X8
	<b>MSE -4245S</b>	●	10.3	3.2	2.0	6.0	5.0	-	20°	45°	Shim Screw : SP4X9
	<b>MSE -4215</b>	●	10.53	3.2	1.5	6.4	3.4	-	25°	15°	Shim Screw : SP3X8
	<b>-4245</b>	●	10.53	3.2	1.5	6.4	3.4	-	25°	45°	Shim Screw : SP3X8

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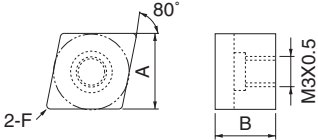
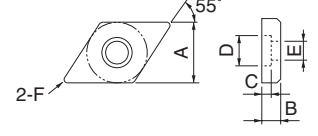
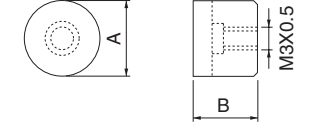
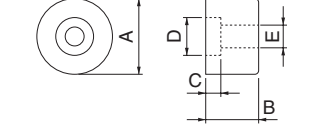
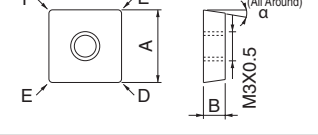
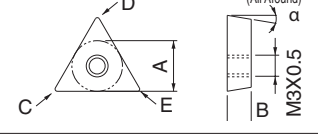
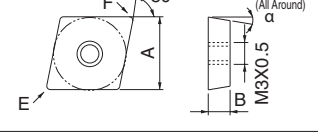
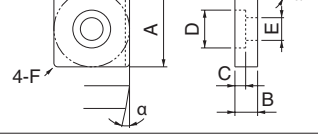
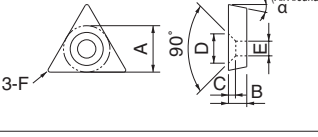
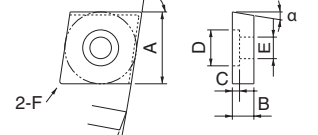
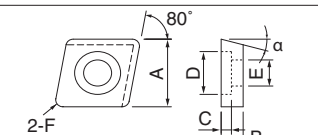
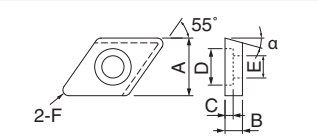
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# Shims

Shape	Description	Stock	Dimension (mm)						Angle		Remarks
			A	B	C	D	E	F	$\alpha$	$\theta$	
	MSO -4T245	●	10.0	2.0	4.7	6.4	4.8	-	27°	45°	Shim Screw : SP3X6
	MSO -5200	●	12.6	3.18	1.8	8.27	6.66	R0.8	15°	-	Shim Screw : SPW-6045
	MSP -42	●	11.3	3.2	1.85	7.0	3.3	-	15°	15°	Shim Screw : SP3X8
	MTE -42	●	9.8	3.2	-	6.4	3.4	-	25°	-	Shim Screw : SP3X8
	MVN -32	●	9.52	3.2	2.1	7.4	6.5	R0.8	-	-	Lock Pin : TS-3S
	PD -42	●	12.7	3.2	1.7	6.0	8.4	0.8	12°	-	Shim Screw : SB-2050TR
	SP -129	●	9.52	9.52	R0.8	R1.6	R1.2	R1.6	-	-	Shim Screw : HH3X12
	SP -141	●	12.7	4.0	2.4	6.2	3.3	R1.2	-	-	Shim Screw : M3X8
	-143	●	12.7	7.2	2.4	6.2	3.3	R1.2	-	-	Shim Screw : M3X12
	-162	●	15.8	6.0	3.4	8.0	4.4	R1.5	-	-	Shim Screw : M4X10
	SP -148	●	12.7	8.8	2.4	6.2	3.3	R1.2	-	-	Shim Screw : BH3X12
	SP -219	●	6.35	9.52	R0.8	R1.2	R1.6	-	-	-	Shim Screw : HH3X12
	SP -221	●	9.52	4.0	2.5	6.5	3.5	R1.2	-	-	Shim Screw : M3X8
	-223	●	9.52	7.2	2.5	6.5	3.5	R1.2	-	-	Shim Screw : M3X12
	SP -342	●	12.7	6.0	2.5	6.5	3.5	R1.2	-	75°	Shim Screw : M3X8
	-441	●	12.7	4.0	2.5	6.2	3.3	R0.8	-	80°	Shim Screw : M3X8
	-443	●	12.7	7.2	2.5	6.2	3.3	R0.8	-	80°	Shim Screw : M3X12
	-454	●	15.7	8.0	3.4	8.0	4.5	R1.6	-	80°	Shim Screw : M4X10

● : Std. Item

P  
Spare Parts

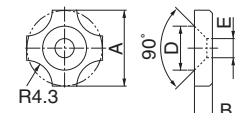
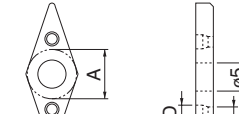
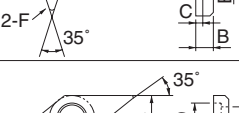
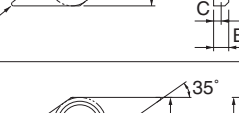
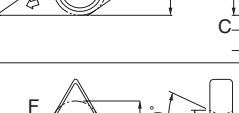
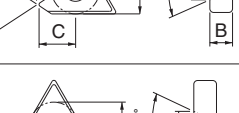

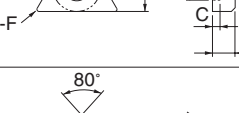
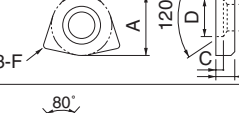
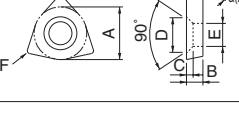
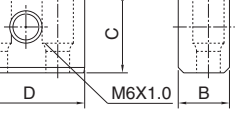
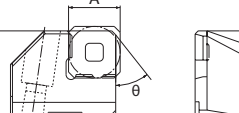
Shape	Description	Stock	Dimension (mm)						Angle		Remarks
			A	B	C	D	E	F	$\alpha$	$\theta$	
	SP -429	●	9.52	9.52	-	-	-	R1.2	-	-	Shim Screw : HH3X12
	SP -521	●	10.0	4.0	2.5	6.2	3.3	R1.0	-	-	Shim Screw : M3X8
	-523	●		7.2							Shim Screw : M3X12
	-541	●	12.7	4.0	2.5	6.2	3.3	R1.2	-	-	Shim Screw : M3X8
	-543	●		7.2							Shim Screw : M3X12
	SP -826	●	9.52	7.9	-	-	-	-	-	-	Shim Screw : HH3X12
	-829	●	9.52	9.52	-	-	-	-	-	-	
	SP -841	●	12.7	4.0	2.4	6.2	3.3	-	-	-	Shim Screw : M3X8
	-843	●	12.7	7.2	2.4	6.2	3.3	-	-	-	Shim Screw : M3X12
	-849	●	12.7	8.8	2.4	6.2	3.3	-	-	-	Shim Screw : BH3X12
	-861	●	15.8	6.0	3.4	8.0	4.4	-	-	-	Shim Screw : M4X10
	SP -130A	●	9.52	3.2	-	R0.4	R0.8	R1.2	8°	-	Shim Screw : BH3X12
	SP -210A	●	6.35	3.2	R0.4	R0.8	R1.2	-	8°	-	Shim Screw : BH3X6
	SP -420A	●	9.52	3.2	-	-	R0.8	R1.2	8°	-	Shim Screw : BH3X6
	SP -141P	●	12.7	4.0	2.4	6.2	3.3	R1.2	7°	-	Shim Screw : M3X8
	-143P	●	12.7	7.2	2.4	6.2	3.3	R1.2	7°	-	Shim Screw : M3X12
	SP -230P	●	8.3	3.2	2.0	7.2	3.2	R0.5	7°	-	Shim Screw : SP3X10
	SP -341P	●	12.6	4.0	2.5	6.5	3.5	R1.2	7°	-	Shim Screw : M3X8
	SP -441P	●	12.7	4.0	2.5	6.2	3.3	R1.2	11°	-	Shim Screw : M3X8
	-443P	●		7.2							Shim Screw : M3X12
	SP -521P	●	10.0	4.0	2.5	6.2	3.3	R1.2	11°	-	Shim Screw : M3X8
	-523P	●		7.2							Shim Screw : M3X12

● : Std. Item

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# Shims / Cartridges

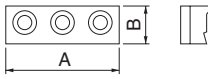
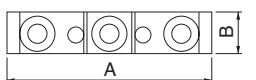
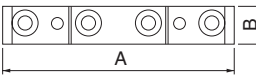
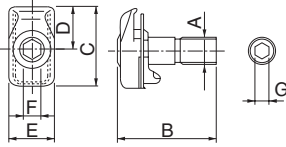
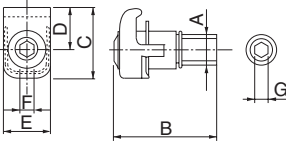
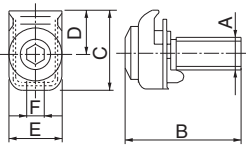
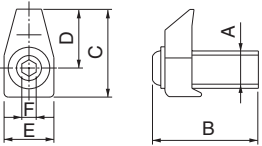
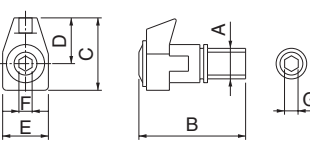
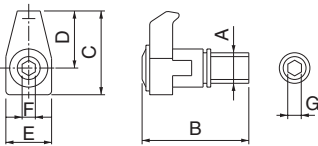
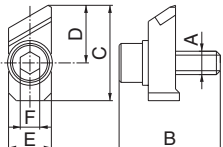
Shape Handed Spare Parts show Right-hand	Description	Stock	Dimension (mm)						Angle		Remarks
			A	B	C	D	E	F	$\alpha$	$\theta$	
	<b>SP -RC</b>	●	12.6	3.0	-	7.35	3.35	-	-	-	Shim Screw : SP3X8
	<b>SVN -32</b>	●	8.0	3.2	1.5	3.1	2.3	R0.4	-	-	Shim Screw : SB-2050TR
	<b>SVN -32N</b>	●	8.2	3.2	1.5	7.0	5.9	R0.6	-	-	Shim Screw : SS-4N
	<b>SVN -32S</b>	●	8.2	3.2	1.5	7.0	5.9	R0.2	-	-	Shim Screw : SS-4N 1-edge
	<b>TN -32</b>	●	9.52	3.2	6.5	7.0	4.2	R0.4	-	-	Shim Screw : SP3X8
	<b>-43</b>	●	12.70	3.2	8.1	7.0	4.2	R0.5	-	-	
	<b>TNW -32</b>	●	9.52	3.2	4.8	7.0	4.2	-	-	-	Shim Screw : SP3X8
	<b>WTN -33</b>	●	9.52	4.76	2.5	7.0	5.3	R0.8	-	-	Shim Pin : WP-1S
	<b>-33-20</b>	●						R2.0			
	<b>WWN -42</b>	●	12.7	3.0	1.4	7.0	5.3	R1.2	-	-	Shim Pin : WP5X15
	<b>WWP -42</b>	●	12.7	3.0	1.5	8.3	5.3	R1.2	11°	-	Shim Pin : WP5X11
	<b>-42-16</b>	●						R1.6			
	<b>MAP -2506</b>	●	-	9.5	14.9	20	-	-	5°	-	Clamp Screw : SB-40140TR
	<b>LSD -445R</b>	●	12.7	13.0	20.0	26.5	-	-	20°	45°	Dimension A shows Insert I.C.
	<b>LSE -445R</b>	●	12.7	13.0	19.5	26.0	-	-	20°	45°	
	<b>LSO -445R</b>	●	13.494	12.0	21.3	23.5	-	-	27°	45°	
	<b>LSP -415R</b>	●	12.7	13.0	18.0	26.0	-	-	15°	15°	
	<b>LTE -490R</b>	●	12.7	12.0	17.0	30.0	-	-	15°	-	Dimension A shows Insert I.C.

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Spare Parts

● : Std. Item

# Clamp Sets

Shape Handed Spare Parts show Right-hand	Description	Stock	Dimension (mm)							Remarks
			A	B	C	D	E	F	G	
	<b>BCS -1</b>	●	64.0	13.0	-	-	-	-	-	
	<b>-5</b>	●	48.0	16.5	-	-	-	-	-	
	<b>BCS -2</b>	●	74.0	15.0	-	-	-	-	-	
	<b>-3</b>	●	88.0	16.0	-	-	-	-	-	
	<b>BCS -4</b>	●	98.0	16.0	-	-	-	-	-	
	<b>CE -010</b>	●	M8X1.25	28.0	24.0	12.8	13.0	4.0	4.0	G : Indicates hexagon hole two side widths of back side of bolts
	<b>-220</b>	●			27.0	15.8	15.0			
	<b>CE -020</b>	●	M8X1.25	30.0	17.0	10.5	12.7	4.0	4.0	G : Indicates hexagon hole two side widths of back side of bolts
	<b>-030</b>	●	M8X1.25	30.0	19.0	12.5	12.7	4.0	4.0	G : Indicates hexagon hole two side widths of back side of bolts
<b>-040</b>	●	22.5			16.0					
	<b>CE -320</b>	●	M6X1.0	24.5	18.2	9.7	12.7	4.0	-	
	<b>CE -360S</b>	●	M6X1.0	16.0	18.0	10.55	12.4	4.0	-	
	<b>CE -030A</b>	●	M8X1.25	30.0	20.0	13.7	12.7	4.0	-	G : Indicates hexagon hole two side widths of back side of bolts
	<b>CE -410</b>	●	M8X1.25	30.0	26.0	19.5	12.7	4.0	4.0	G : Indicates hexagon hole two side widths of back side of bolts
	<b>-430</b>	●			29.0	22.5				
	<b>CP -RC<sup>R/L</sup></b>	●	M6X1.0	20.0	24.5	14.8	11.0	5.0	-	R··shows Right-hand L··shows Left-hand

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# Clamp Sets

Shape Handed Spare Parts show Right-hand	Description	Stock	Dimension (mm)								Remarks
			A	B	C	D	E	F	G		
	<b>CPS -1</b>	●	M3X0.5	9.0	10.0	5.2	5.5	2.0	-		
	<b>CPS -2</b>	●	M5X0.8	14.5	14.0	8.5	6.8	2.5	2.5	G : Indicates hexagon hole two side widths of back side of bolts	
	<b>-2P</b>	●		18.0							
	<b>-3</b>	●	M6X1.0	19.0	16.5	10.0	8.8	3.0	3.0		
	<b>CPS -2S</b>	●	M5X0.8	13.5	14.0	8.5	6.8	T15	2.0	G : Indicates hexagon hole two side widths of back side of bolts	
	<b>-2TR</b>	●		15.0							
	<b>CPS -4V</b>	●	M4X0.7	8.9	11.3	7.3	8.0	T10	-	G : Indicates hexagon hole two side widths of back side of bolts	
	<b>-5F</b>	●	M5X0.8	11.3	12.7	7.5	10.3	T15	2.5		
	<b>-5S</b>	●		18.0	15.0	9.5	11.0		2.0		
	<b>-5V</b>	●		13.5	12.7	7.5	10.3		2.5		
	<b>CPS -6F</b>	●	M6X1.0	16.5	15.6	9.5	12.2	3.0	-	G : Indicates hexagon hole two side widths of back side of bolts	
	<b>-6M</b>	●		17.5	11.0	13.0					
	<b>-6S</b>	●		18.5	18.0	12.0	12.0				
	<b>-6V</b>	●		15.6	9.5	12.2					
	<b>-8V</b>	●	M8X1.25	24.0	20.8	13.0	15.5	4.0	4.0		
	<b>CPS -5E</b>	●	M5X0.8	13.5	17.5	12.0	9.0	T15	2.5	G : Indicates hexagon hole two side widths of back side of bolts	
	<b>CPS -5<sup>R/L</sup></b>	●	M5X0.8	18.0	17.5	12.0	9.0	2.5	2.5	G : Indicates hexagon hole two side widths of back side of bolts R·shows Right-hand L·shows Left-hand	
	<b>LGBA -16<sup>R/L</sup>S</b>	●	M5X0.8	15.0	16.1	11.2	9.85	T15	2.0	G : Indicates hexagon hole two side widths of back side of bolts R·shows Right-hand L·shows Left-hand	
	<b>-22<sup>R/L</sup>S</b>	●			17.6	12.7					
	<b>WCS -1N</b>	●	M6X1.0	21.0	15.7	-	15.0	3.0	-		
	<b>WCS -8</b>	●	M6X1.0	21.0	19.4	-	15.0	3.0	-		

● : Std. Item

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Spare Parts

# Clamps

Shape Handed Spare Parts show Right-hand	Description	Stock	Dimension (mm)						Angle		Remarks
			A	B	C	D	E	F	$\alpha$	$\theta$	
	<b>C 08R</b>	●	7.6	8.7	8.9	3.6	M5X0.8 (Left-hand Thread)	-	10°	-	
	<b>C 09N</b>	●	6.0	9.0	9.8	5.3	M6X1.0 (Left-hand Thread)	-	10°	-	Clamp Screw : W6X18N
	<b>C 17R</b>	●	12.2	20.0	14.3	8.5	M8X1.25 (Left-hand Thread)	-	12°	-	Clamp Screw : W8X18
	<b>C 20R</b>	●	15.1	15.5	15.0	7.5	5.3	-	10°	-	Clamp Screw : TH8X15
	<b>CH -20R</b>	●	13.1	15.5	14.8	7.5	5.3	-	10°	-	Clamp Screw : TH8X15
	<b>C 25R</b>	●	13.2	15.5	15.0	7.5	5.3	-	10°	-	Clamp Screw : TH8X15
	<b>CGA -3%</b>	●	24.0	17.66	12.0	6.2	1.9	11.0	-	-	R·shows Right-hand L·shows Left-hand
	<b>-4%</b>	●	24.0	17.66	12.0	6.2	2.9	11.0	-	-	
	<b>-5%</b>	●	27.5	18.66	12.0	6.2	3.9	14.5	-	-	
	<b>CGB 0%</b>	●	19.0	14.0	8.2	6.35	9.5	-	-	-	R·shows Right-hand L·shows Left-hand
	<b>CGH -1%</b>	●	25.0	22.0	8.0	6.05	3.0	5.5	-	-	R·shows Right-hand L·shows Left-hand
	<b>-2%</b>	●					5.0				
	<b>-3%</b>	●	30.0	23.0	8.5		6.0	7.0			
	<b>CGIA -3R</b>	●	10.7	17.0	10.5	5.2	1.8	2.0	-	-	
	<b>-4R</b>	●			11.5		2.5				
	<b>-5R</b>	●	15.7	10.5	3.5		7.0				

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# Clamps / Chipbreakers

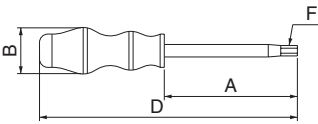
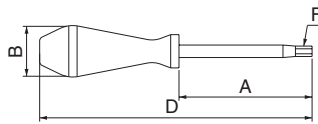
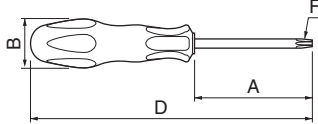
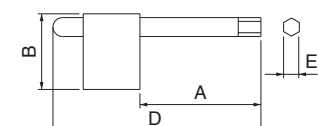
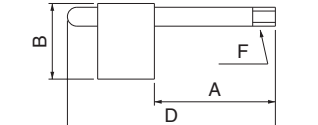
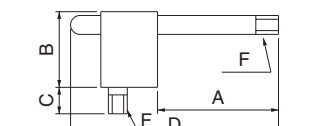
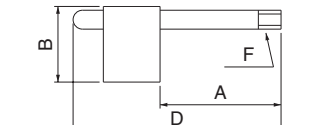
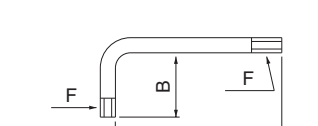
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			A	B	C	D	E	F	$\alpha$	$\theta$	
	CP -2D	●		10.0	21.6		10.4				
	-3D	●	-	12.0	27.6	-	14.0	-	-	-	
	-5D	●		13.0	32.0						
	CP -8TE	●	17.9	12.0	12.0	M8X1.25 (Left-hand Thread)	10.0	-	15°	-	
	CP -8W	●	20.9	12.0	8.0	M8X1.25 (Left-hand Thread)	13.0	-	3°	-	
	CB -11	●	11.5	12.7	3.5	-	-	-	-	-	
	-51	●	16.0	15.6	3.5	-	-	-	-	-	
	CB -12	●	14.0	12.7	3.5	-	-	-	-	-	Right-hand
	-13	●	14.0	12.7	3.5	-	-	-	-	-	Left-hand
	CB -14	●	18.51	12.7	3.5	-	-	-	-	-	Right-hand
	-15	●	18.51	12.7	3.5	-	-	-	-	-	Left-hand
	CB -16	●	18.0	12.7	3.5	-	-	-	-	-	
	-17	●	21.0	15.6	3.5	-	-	-	-	-	
	CB -S3220	●	7.94	7.94	1.0	2.0	-	-	-	-	
	-S4220	●	11.12	11.12	2.0	2.0	-	-	-	-	
	CB -T2212	●	7.48	-	1.5	1.2	-	-	-	-	
	-T3220	●	10.87	-	2.0	2.0	-	-	-	-	

● : Std. Item

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Spare Parts



# Wrenches

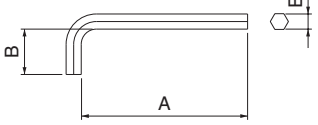
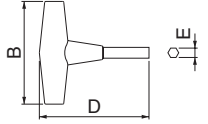
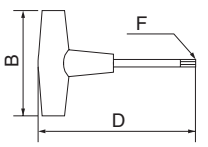
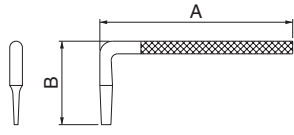
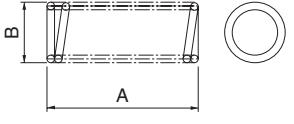
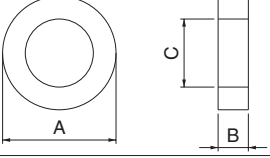
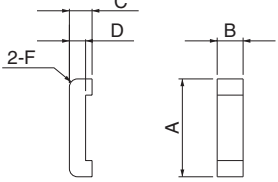
Shape	Description	Stock	Dimension (mm)						Angle		Remarks	
			A	B	C	D	E	F	$\alpha$	$\theta$		
	DT -7	●	44	16		114		T7	-	-	Torx	
	-8	●	70	26		150		T8	-	-		
	DT -10	●	70	29		160		T10	-	-	Torx	
	-15	●	70	32		170		T15	-	-		
	-20	●	90	32		190		T20	-	-		
	-25	●	82	36		190		T25	-	-		
	DTM -6	●	40	17		115		T6	-	-	Torx Top of wrench is magnetized	
	-7	●	44	17		119		T7	-	-		
	-8	●	70	24		150		T8	-	-		
	-10	●	70	28		167		T10	-	-		
	-15	●	70	31		174		T15	-	-		
	DTP -6	●	73	23		150		6IP			○IP shows Torx Plus	
	-7	●						7IP				
	-9	●	61	30				9IP				
	-15	●	81	33				15IP				
	-20	●	100					20IP				
	DTPM -8	●	70	24		150		8IP	-	-	○IP shows Torx Plus Top of wrench is magnetized	
	-10	●	70	28		165		10IP	-	-		
	-15	●	70	31		174		15IP	-	-		
		FH -2	●	40	20		71	2.0		-	-	Hexagon
		-2.5	●	45	20		76	2.5		-	-	
	FT -6	●	35	15		65		T6	-	-	Torx	
	-7	●	34	15		62		T7	-	-		
	-8	●	40	20		74		T8	-	-		
	-10	●	40	20		74		T10	-	-		
	FT -15	●	45	25	10	80		T15	-	-	Torx	
	FTP -5	●	35	15		65		5IP			○IP shows Torx Plus	
	-6	●						34				62
	LTW -8SS	●	43	6				T8	-	-	Torx	
	-10S	●	62	10				T10	-	-		
	-10SS	●	47	7				T10	-	-		
	-15S	●	62	10				T15	-	-		
	-20	●	58	19				T20	-	-		
	-25	●	65	20				T25	-	-		

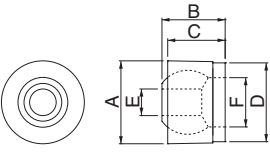
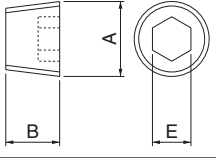
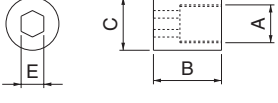
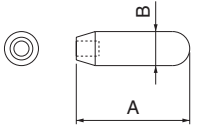
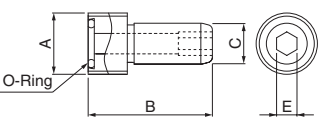
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● : Std. Item

# Wrenches / Springs / Nuts / Punches / Others

Shape	Description	Stock	Dimension (mm)						Angle		Remarks	
			A	B	C	D	E	F	$\alpha$	$\theta$		
	<b>LW</b>											Hexagon
	-1.5	●	45	14			1.5					
	-2	●	50	16			2.0					
	-2.5	●	56	18			2.5					
	-3	●	63	20			3.0					
	-4	●	70	25			4.0					
	-4.5	●	78	26			4.5					
	-5	●	80	28	-	-	5.0	-	-	-		
	-6	●	90	32			6.0					
	-8	●	109	36			8.0					
	-10	●	112	40			10.0					
	-14	●	140	56			14.0					
	-17	●	160	63			17.0					
-19	●	180	70			19.0						
	<b>TH</b>											Hexagon
	-4	●	-	80	-	83	4.0	-	-	-		
	<b>TT</b>											Torx
	-15	●		70		118		T15				
	-25	●		70		69		T25				
	-25L	●		80		145		T25				
	-30	●		80		110		T30				
	<b>TTC</b>	-25	●	-	98	-	130	-	T25	-	-	
<b>TTP</b>	-20	●	-	70	-	138	-	20IP	-	-	○IP shows Torx Plus	
	<b>LTK</b>											
	-5	●	70	30	-	-	-	-	-	-		
	<b>SP</b>											Spring
	-2D	●	8.5	5.6								
	-3D	●	12.0	7.0								
	-5	●	12.0	6.7								
	-5D	●	12.0	7.2								
	-6	●	12.0	7.7								
	<b>W</b>											Washer
	-6	●	11.5	1.6	6.4							
	6-14	●	11.5	1.4	6.4							
	<b>WB</b>	-5	●	10.0	1.0	5.3						
	-6	●	11.5	1.6	6.4							
	-8	●	15.5	1.6	8.4							
	<b>WSP</b>											Spacer
	-1	●	15.1	4.0	3.5	2.5	-	R1.25	-	-		

Shape	Description	Stock	Dimension (mm)						Angle		Remarks
			A	B	C	D	E	F	$\alpha$	$\theta$	
	<b>DN 10</b>	●	6.2	5.1	4.5	5.7	2.6	4.0	-	-	Nozzle
	<b>20</b>	●	10.1	7.7	7.0	9.6	M4X0.7	6.0	-	-	
	<b>GP -1</b>	●	PT1/8	7.0	-	-	5.0	-	-	-	Plug
	<b>-2</b>	●	PT1/4	9.0	-	-	6.0	-	-	-	
	<b>WN -1</b>	●	M5X8	10.0	7.0	-	3.0	-	-	-	Nut
	<b>PC -1</b>	●	60.0	8.5	-	-	-	-	-	-	Punch
	<b>-2</b>	●	62.2	10.0	-	-	-	-	-	-	
	<b>CL 63-1</b>	●	M18X1.0	36.5	12	-	6.0	-	-	-	Coolant Pipe
	<b>100-1</b>	●	M24X1.5	44.0	16.0	-	8.0	-	-	-	

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# Former Parts List

## Toolholders for Ceramic Tools

Description	Spare Parts				
	Chipbreaker	Clamp Set	Wrench	Shim	Shim Screw
<b>CCLNR 2525M -16</b>	CB-17	CE-220	LW-4	SP-454	M4X10
<b>CS-N<sup>R/L</sup> ..... -12</b>	CB-11	CE-020	LW-4	SP-141 *(SP-143)	M3X8 *(M3X12)
<b>CSKN<sup>R/L</sup> ..... -12</b>	CB-11	CE-020	LW-4	SP-141 *(SP-143)	M3X8 *(M3X12)
<b>CSYN<sup>R/L</sup> ..... -12</b>	CB-11	CE-020	LW-4	SP-141 *(SP-143)	M3X8 *(M3X12)
<b>CSSN<sup>R/L</sup> ..... -12</b>	CB-11	CE-020	LW-4	SP-141 *(SP-143)	M3X8 *(M3X12)

\* Shim & Shim Screw : When using SN□□1204 Insert, purchase spare parts in ( ) separately.

## Toolholders for Solid CBN Tools

Description	Spare Parts			
	Clamp Set	Wrench	Shim	Shim Screw
<b>CCLN<sup>R/L</sup> ..... -09A</b>	CE-030A	LW-4	SP-429	HH3X12
<b>CTUN<sup>R/L</sup> ..... -11A</b>	CE-030A	LW-4	SP-219	HH3X12

## Toolholders for Bearing Machining

Description	Spare Parts					
	Lever	Lock Screw	Shim	Shim Pin	Punch	Wrench
<b>PRGC<sup>R/L</sup> ..... -12BE</b>	LL-1CN	LS-1N	LR-12C	LSP-1	PC-1	FH-2.5
<b>..... -16BE</b>	LL-2C	LS-1T	LR-16C	LSP-2	PC-2	FH-2.5
<b>PRGC<sup>R/L</sup> ..... -12BF</b>	LL-1CN	LS-1N	LR-12C	LSP-1	PC-1	FH-2.5
<b>..... -16BF</b>	LL-2C	LS-1T	LR-16C	LSP-2	PC-2	FH-2.5

## Toolholders for Back Turning

Description	Spare Parts			
	Anchor Pin	Lock Screw	Clamp Screw	Wrench
<b>AABSR 0810K -40F</b>	LPA-11	HSB4X8R	-	FH-2
<b>1010.. -40F</b>				
<b>1212.. -40F</b>				
<b>1616.. -40F</b>				
<b>SABSR ..... -40F</b>	-	-	SB-3080TR	FT-10
<b>AABWR 0810K -40F</b>	LPA-11	HSB4X8R	-	FH-2
<b>1010.. -40F</b>				
<b>1212.. -40F</b>				
<b>1616.. -40F</b>				
<b>SABWR ..... -40F</b>	-	-	SB-3080TR	FT-10
<b>AABWR 0810K -50F</b>	LPA-11	HSB4X8R	-	FH-2
<b>1010.. -50F</b>				
<b>1212.. -50F</b>				
<b>1616.. -50F</b>				
<b>SABWR ..... -50F</b>	-	-	SB-3080TR	FT-10

## KTKF

Description	Spare Parts	
	Clamp Screw	Wrench
<b>KTKF<sup>R/L</sup> ..... -12</b>	SB-4590TRWN	LTW-10S
<b>..... -16</b>		

## External Toolholders (Back Clamp)

Description	Spare Parts		
	Anchor Pin	Lock Screw	Wrench
<b>ACLC</b> <sup>R/L</sup> <b>0810K -06F</b> <b>1010K -06F</b> <b>1010K -09F</b> <b>1212M -09F</b> <b>1616M -09F</b>	LPF-11	HSB4X8 <sup>R/L</sup>	FH-2
	LPF-13		
	LPF-17		
	LPF-11		
<b>ADJC</b> <sup>R/L</sup> <b>0810K -07F</b> <b>1010K -07F</b> <b>1010K -11F</b> <b>1212M -11F</b> <b>1616M -11F</b>	LPF-11	HSB4X8 <sup>R/L</sup>	FH-2
	LPF-13		
	LPF-17		
	LPF-11		
<b>ADNCR</b> <b>0810K -07F</b> <b>1010K -07F</b> <b>1010K -11F</b> <b>1212M -11F</b> <b>1616M -11F</b>	LPF-11	HSB4X8R	FH-2
	LPF-13		
	LPF-17		
	LPF-11		
<b>AVJB</b> <sup>R/L</sup> <b>1010K -11F</b> <b>1212M -11F</b> <b>1616M -11F</b>	LPF-11	HSB4X8 <sup>R/L</sup>	FH-2
	LPF-1113		
	LPF-1117		
<b>AVVBR</b> <b>1010K -11F</b> <b>1212M -11F</b> <b>1616M -11F</b>	LPF-11	HSB4X8R	FH-2
	LPF-1113		
	LPF-1117		

\* Lock Screw : HSB4X8R for R-hand Toolholder, HSB4X8L for L-hand Toolholder.

## External Toolholders (Screw Clamp)

Description	Spare Parts	
	Clamp Screw	Wrench
<b>SCLC</b> <sup>R/L</sup> ..... <b>-06</b> ..... <b>-09</b> ..... <b>-12</b>	SB-2570TR	FT-8
	SB-4085TR	FT-15
	SB-5090TR	LTW-20
<b>SCAC</b> <sup>R/L</sup> ..... <b>-06</b> ..... <b>-09</b> <b>1212F -09FF</b>	SB-2570TR	FT-8
	SB-4085TR	FT-15
	SB-2570TR	FT-8
<b>SDJC</b> <sup>R/L</sup> ..... <b>-07F</b> ..... <b>-11F</b>	SB-2570TR	FT-8
	SB-4085TR	FT-15
<b>SDLC</b> <sup>R/L</sup> ..... <b>-07FF</b> ..... <b>-11FF</b>	SB-2570TR	FT-8
	SB-4085TR	FT-15
<b>SDXC</b> <sup>R/L</sup> ..... <b>-07</b> ..... <b>-11</b>	SB-2570TR	FT-8
	SB-4085TR	FT-15
<b>SDNC</b> <sup>R/L</sup> ..... <b>-07F</b> ..... <b>-11F</b>	SB-2570TR	FT-8
	SB-4085TR	FT-15
<b>SDNCN</b> ..... <b>-07</b> ..... <b>-11</b>	SB-2570TR	FT-8
	SB-4085TR	FT-15
<b>SDLP</b> <sup>R/L</sup> ..... <b>-07F</b> ..... <b>-11F</b>	SB-2570TR	FT-8
	SB-4085TR	FT-15
<b>STGC</b> <sup>R/L</sup> ..... <b>-08</b> <b>STGP</b> <sup>R/L</sup> ..... <b>-08</b>	SB-2050TR	FT-6
	SB-3080TR	FT-10
<b>SVJB</b> <sup>R/L</sup> ..... <b>-11F</b> <b>SVLP</b> <sup>R/L</sup> ..... <b>-08FF</b> ..... <b>-11FF</b> ..... <b>-11F</b>	SB-2570TR	FT-8
	SB-2050TR	FT-6
	SB-2570TR	FT-8
<b>SVPP</b> <sup>R/L</sup> ..... <b>-08FF</b> ..... <b>-11FF</b> ..... <b>-11</b>	SB-2050TR	FT-6
	SB-2570TR	FT-8
	SB-2050TR	FT-6
<b>SYXP</b> <sup>R/L</sup> ..... <b>-06F</b>	SB-2050TR	FT-6

# Former Parts List

## External Toolholders (Screw Clamp)

Description	Spare Parts				
	Clamp Screw	Wrench	Shim	Shim Screw	Wrench
<b>SVPB</b> <sup>R/L</sup> ..... -11	SB-2570TR	FT-8	-	-	-
..... -16N	SB-40125TRN	FT-15	SVN-32N	SS-4N	LW-4
<b>SVVBN</b> ..... -11	SB-2570TR	FT-8	-	-	-
..... -16N	SB-40125TRN	FT-15	SVN-32N	SS-4N	LW-4

## External Toolholders (Top Clamp)

Description	Spare Parts				
	Clamp Set	Wrench	Shim	Shim Screw	Chipbreaker
<b>CSBP</b> <sup>R/L</sup> 1212F -09N	CPS-2P	LW-2.5	-	-	CB-S3220
<b>CTTP</b> <sup>R/L</sup> ..... -11N	CPS-2P	LW-2.5	-	-	CB-T2212
..... -16N	CPS-3	LW-3	KPT-32	SP3X8	CB-T3220

## Twin-Bars

Description	Spare Parts	
	Clamp Screw	Wrench
<b>STW</b> <sup>R/L</sup> ..... -15	SB-3080TR	LTW-10S
<b>STWSR</b> ..... -15T	SB-3080TR	LTW-10S

## System Tip-Bars

Description	Spare Parts			
	Clamp Screw	Wrench	Screw (Side Stopper)	Wrench
<b>SVNR</b> 1010H -12	SB-3080TR	FT-10	HS3X4	LW-1.5
1212K -12			HS3X8	
1616K -12			HS3X12	
2020K -12			HS3X16	
2525M -12				
<b>SVNSR</b> ..... -12-..	SB-3080TR	LTW-10S	HS3X4	LW-1.5
<b>S12F-</b> <b>SVNR</b> 12	SB-3080TR	FT-10	HS3X4	LW-1.5
<b>S14G-</b> <b>SVNR</b> 12				
<b>S16H-</b> <b>SVNR</b> 12				
<b>S19H-</b> <b>SVNR</b> 12			HS3X8	
<b>S19N-</b> <b>SVNR</b> 12				
<b>S20H-</b> <b>SVNR</b> 12				
<b>S25H-</b> <b>SVNR</b> 12			HS3X12	
<b>S25Q-</b> <b>SVNR</b> 12				
<b>S...</b> <b>SVNR</b> 12S	SB-3080TR	FT-10	HS3X4	LW-1.5

## System Tip-Bars (S-SVN-XN)

Description	Spare Parts		
	Clamp Screw	Wrench	Clamp Screw
<b>S...-</b> <b>SVNR</b> 12XN	SB-3080TR	FT-10	SP3X4

## PSH Sleeve

Description	Spare Parts	
	Clamp Screw	Wrench
<b>PSH</b> 02.. -..	HS3X4P	LW-1.5
03.. -..		
<b>PSH</b> 04.. -..	HS4X4P	LW-2
05.. -..		
06.. -..		
07.. -..		

## Boring Bars (Screw Clamp)

Description	Spare Parts	
	Clamp Screw	Wrench
<b>S10H- SCLC<sup>R/L</sup>.03-..E</b>	SB-1635TR	FT-6
<b>S10J- SCLC<sup>R/L</sup>.04-..E</b>	SB-2035TR	
<b>S08X- SCLC<sup>R/L</sup>.06-10E</b>	SB-2545TR	FT-8
<b>S08X- SCLC<sup>R/L</sup>.06-10</b>	SB-2545TR	FT-8
<b>C...- SCLC<sup>R/L</sup>.03-..</b>	SB-1635TR	FT-6
<b>C...- SCLC<sup>R/L</sup>.04-..</b>	SB-2035TR	
<b>C08L- SCLC<sup>R/L</sup>.06-10</b>	SB-2545TR	FT-8
<b>A08H- SCLC<sup>R/L</sup>.06-10E</b>	SB-2545TR	FT-8
<b>E...- SCLC<sup>R/L</sup>.06-..</b>	SB-2545TR	FT-8
<b>S..M- SCLP<sup>R/L</sup>.08-..E</b>	SB-3STR	FT-10
<b>S...- SCLP<sup>R/L</sup>.09-..E</b>	SB-4TR	FT-15
<b>S..M- SCLP<sup>R/L</sup>.08-..</b>	SB-3STR	FT-10
<b>S...- SCLP<sup>R/L</sup>.09-..</b>	SB-4TR	FT-15
<b>C10N- SCLP<sup>R/L</sup>.08-..</b>	SB-3STR	FT-10
<b>C...- SCLP<sup>R/L</sup>.09-..</b>	SB-4TR	FT-15
<b>A..X- SCLP<sup>R/L</sup>.08-..E</b>	SB-3STR	FT-10
<b>A...- SCLP<sup>R/L</sup>.09-..E</b>	SB-4TR	FT-15
<b>E10N- SCLP<sup>R/L</sup>.08-12</b>	SB-3STR	FT-10
<b>E10N- SCLP<sup>R/L</sup>.08-12A-..</b>	SB-3060TR	
<b>E...- SCLP<sup>R/L</sup>.09-..</b>	SB-4TR	FT-15
<b>S...- SDUC<sup>R/L</sup>.07-..E</b>	SB-2560TR	FT-8
<b>S...- SDUC<sup>R/L</sup>.11-..E</b>	SB-4085TR	FT-15
<b>S...- SDUC<sup>R/L</sup>.07-..</b>	SB-2560TR	FT-8
<b>S...- SDUC<sup>R/L</sup>.11-..</b>	SB-4085TR	FT-15
<b>C...- SDUC<sup>R/L</sup>.07-..</b>	SB-2560TR	FT-8
<b>C...- SDUC<sup>R/L</sup>.11-..</b>	SB-4085TR	FT-15
<b>S...- SDZC<sup>R/L</sup>.07-..E</b>	SB-2560TR	FT-8
<b>S...- SDZC<sup>R/L</sup>.11-..E</b>	SB-4085TR	FT-15
<b>S...- SDZC<sup>R/L</sup>.07-..</b>	SB-2560TR	FT-8
<b>S...- SDZC<sup>R/L</sup>.11-..</b>	SB-4085TR	FT-15
<b>C06J- STLB<sup>R/L</sup>.06-08A</b>	SB-2035TR	FT-6
<b>E08L- STLP<sup>R/L</sup>.08-10A</b>	SB-1TR	
<b>E08L- STLP<sup>R/L</sup>.09-10A</b>	SB-2545TR	FT-8
<b>E10N- STLP<sup>R/L</sup>.09-..</b>		FT-10
<b>E10N- STLP<sup>R/L</sup>.11-..</b>	SB-3060TR	FT-10
<b>S06H- STUB<sup>R/L</sup>.06-08E</b>	SB-1STR	FT-6
<b>S08K- STUP<sup>R/L</sup>.08-10E</b>	SB-1TR	
<b>S..M- STUP<sup>R/L</sup>.09-..E</b>	SB-2TR	FT-8
<b>S...- STUP<sup>R/L</sup>.11-..E</b>	SB-3TR	FT-10
<b>S..X- STUP<sup>R/L</sup>.16-..E</b>	SB-4TR	FT-15
<b>S06H- STUB<sup>R/L</sup>.06-08</b>	SB-1STR	FT-6
<b>S08K- STUP<sup>R/L</sup>.08-10</b>	SB-1TR	
<b>S..M- STUP<sup>R/L</sup>.09-..</b>	SB-2TR	FT-8
<b>S...- STUP<sup>R/L</sup>.11-..</b>	SB-3TR	FT-10
<b>S25X- STUP<sup>R/L</sup>.16-32</b>	SB-4TR	FT-15
<b>C10L- STUB<sup>R/L</sup>.06-08</b>	SB-1STR	FT-6
<b>C08L- STUP<sup>R/L</sup>.08-10</b>	SB-1TR	
<b>C...- STUP<sup>R/L</sup>.09-..</b>	SB-2TR	FT-8
<b>C...- STUP<sup>R/L</sup>.11-..</b>	SB-3TR	FT-10
<b>C20S- STUP<sup>R/L</sup>.16-..</b>	SB-4TR	FT-15
<b>A08H- STUP<sup>R/L</sup>.08-10E</b>	SB-1TR	FT-6
<b>A..X- STUP<sup>R/L</sup>.09-..E</b>	SB-2TR	FT-8
<b>A...- STUP<sup>R/L</sup>.11-..E</b>	SB-3TR	FT-10
<b>A...- STUP<sup>R/L</sup>.16-..E</b>	SB-4TR	FT-15
<b>E08L- STUP<sup>R/L</sup>.08-10</b>	SB-1TR	FT-6
<b>E...- STUP<sup>R/L</sup>.09-..</b>	SB-2TR	FT-8
<b>E...- STUP<sup>R/L</sup>.11-..</b>	SB-3TR	FT-10
<b>E20S- STUP<sup>R/L</sup>.16-25</b>	SB-4TR	FT-15

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Small Parts Machining	<b>F</b>
Boring	<b>G</b>
Grooving	<b>H</b>
Cut-off	<b>J</b>
Threading	<b>K</b>
Drilling	<b>L</b>
Solid Tools	<b>M</b>
Milling	<b>N</b>
Tools for Turning Mill	<b>P</b>
Spare Parts	<b>R</b>
Technical Information	<b>T</b>

# Former Parts List

## Boring Bars (Screw Clamp)

Description	Spare Parts	
	Clamp Screw	Wrench
S...- SWUB <sup>R/L</sup> 08-..E	SB-2050TR	FT-6
S12M- SWUP <sup>R/L</sup> 11-14E	SB-2545TR	FT-8
S...- SWUP <sup>R/L</sup> 11-..E	SB-2560TR	
S...- SWUP <sup>R/L</sup> 16-..E	SB-4065TR	FT-15
S...- SWUB <sup>R/L</sup> 06-..	SB-2040TR	FT-6
S10J- SWUB <sup>R/L</sup> 08-..	SB-2035TR	
C...- SWUB <sup>R/L</sup> 06-..	SB-2035TR	FT-6
C07K- SWUB <sup>R/L</sup> 08-..		
C08L- SWUB <sup>R/L</sup> 08-..		
C10N- SWUB <sup>R/L</sup> 08-..	SB-2050TR	
C12Q- SWUP <sup>R/L</sup> 11-14(-/.)	SB-2545TR	FT-8
C12Q- SWUP <sup>R/L</sup> 11-16(-/.)	SB-2560TR	
C16X- SWUP <sup>R/L</sup> 11-18(-/.)		
C...- SWUP <sup>R/L</sup> 16-..	SB-4065TR	FT-15
E...- SWUB <sup>R/L</sup> 08-..	SB-2050TR	FT-6
S16Q- SSKPR09-20	SB-4TR	FT-15
S20R- SSKPR09-25		
S25X- SSKPR12-32	GS-50S	LW-3
S32S- SSKPR12-40	GS-50	
S12M- SYXP <sup>R/L</sup> 06-12E	SB-2040TR	FT-6
S16Q- SYXP <sup>R/L</sup> 06-16E	SB-2045TR	

## Boring Bars (Screw Clamp)

Description	Spare Parts				
	Clamp Screw	Wrench	Shim	Shim Screw	Wrench (for Shim Screw)
S12M- SVJP <sup>R/L</sup> 08-16E	SB-2050TR	FT-6	-	-	-
S...- SVJC <sup>R/L</sup> 08-..E					
S...- SVJB <sup>R/L</sup> 11-..E	SB-2570TR	FT-8			
S...- SVJB <sup>R/L</sup> 16-..EN	SB-40125TRN	FT-15	SVN-32N	SS-4N	LW-4
S32S- SVJB <sup>R/L</sup> 16-40E	SB-40115TR	FT-15	SVN-32	SB-2050TR	FT-6
S40T- SVJB <sup>R/L</sup> 16-50E					
S10M- SVPC <sup>R/L</sup> 08-16E	SB-2050TR	FT-6	-	-	-
S...- SVPB <sup>R/L</sup> 11-..E	SB-2570TR	FT-8			
S...- SVPB <sup>R/L</sup> 16-..EN	SB-40125TRN	FT-15	SVN-32N	SS-4N	LW-4
S25X- SVPB <sup>R/L</sup> 16-34E	SB-40115TR	FT-15	SVN-32	SB-2050TR	FT-6
S32S- SVPB <sup>R/L</sup> 16-40E					
S12M- SVUC <sup>R/L</sup> 08-16E	SB-2050TR	FT-6	-	-	-
S...- SVUB <sup>R/L</sup> 11-..E	SB-2570TR	FT-8			
S...- SVUB <sup>R/L</sup> 16-..EN	SB-40125TRN	FT-15	SVN-32N	SS-4N	LW-4
S25X- SVUB <sup>R/L</sup> 16-34E	SB-40115TR	FT-15	SVN-32	SB-2050TR	FT-6
S32S- SVUB <sup>R/L</sup> 16-40E					
S12M- SVZC <sup>R/L</sup> 08-16E	SB-2050TR	FT-6	-	-	-
S...- SVZB <sup>R/L</sup> 11-..E	SB-2570TR	FT-8			
S...- SVZB <sup>R/L</sup> 16-..EN	SB-40125TRN	FT-15	SVN-32N	SS-4N	LW-4
S25X- SVZB <sup>R/L</sup> 16-34E	SB-40115TR	FT-15	SVN-32	SB-2050TR	FT-6
S32S- SVZB <sup>R/L</sup> 16-40E					

## Boring Bars (Top Clamp)

Description	Spare Parts				
	Chipbreaker	Clamp Set	Wrench	Shim	Shim Screw
S12L- CTUP <sup>R/L</sup> 09-16	-	CPS-1	FH-2	-	-
S...- CTUP <sup>R/L</sup> 11-..	-	CPS-2	FH-2.5	-	-
S25X- CTUP <sup>R/L</sup> 16-34	-	CPS-3	LW-3	-	-
S32S- CTUP <sup>R/L</sup> 16-43				KPT-32	SP3X10
S40X- CTUP <sup>R/L</sup> 16-50					
S32S- CTUC <sup>R/L</sup> 16-40	*CB-13/12	CE-320	LW-4	SP-230P	SP3X10
S...- CCLN <sup>R/L</sup> 09-..A	-	CE-360S	LW-4	SP-420A	BH3X6
S...- CSKN <sup>R/L</sup> 09-..A	-	CE-360S	LW-4	SP-130A	BH3X12
S32S - CSKPR12-43	CPS-3	-	LW-3	KPS-42	SP3X10

\* CB-13 for Right-hand Toolholder, CB-12 for Left-hand Toolholder.



## KTGF-F

Description	Spare Parts	
	Clamp Screw	Wrench
<b>KTGF<sup>R/L</sup> ..... -16F</b>	SB-4070TRW	FT-8

## KN91

Description	Spare Parts				
	Clamp	Clamp Bolt	Washer	Spring	Wrench
<b>KN91<sup>R/L</sup> 44 -4</b>	*CE-111/121	BH8X30	W-8	SP-8	LW-5
<b>44 -5</b>					
<b>44 -7</b>	*CE-131/141				

\* KN91<sup>R/L</sup>44-4/5 ... CE-111 for Right-hand Toolholder, and CE-121 for Left-hand Toolholder.  
 KN91<sup>R/L</sup>44-7 ... CE-131 for Right-hand Toolholder, and CE-141 for Left-hand Toolholder.

## KGHS

Description	Spare Parts				
	Clamp	Clamp Bolt	Washer	Spring	Wrench
<b>KGHS<sup>R/L</sup> ..... -4</b>	CGH-1 <sup>1/2</sup> /R	HH6X25	W-6	SP-6	LW-5
<b>..... -5</b>					
<b>..... -7</b>	CGH-2 <sup>1/2</sup> /R				

Clamp : KGHS<sup>R/L</sup> ... CGH-OL for Right-hand Toolholder, and CGH-OR for Left-hand Toolholder.

## KGM (for Automatic Lathe)

Description	Spare Parts	
	Clamp Screw	Wrench
<b>KGM<sup>R/L</sup> 0810K - ...</b>	SE-40120TR	LTW-15S
<b>1010.. - ...</b>		
<b>1212.. - 1.5-...</b>		
<b>1212.. - 2-...</b>		
<b>1212.. - 2.5-...</b>		
<b>1616.. - 2-...</b>	SE-50125TR	LTW-20
<b>1616.. - 2.5-...</b>		
<b>1616.. - 3-...</b>		

## GFVS-AA / GFVT-AA

Description	Spare Parts	
	Clamp Set	Wrench
<b>GFVS<sup>R/L</sup> ..... -08AA</b>	CPS-5V	FT-15
<b>GFVT<sup>R/L</sup> ..... -08AA</b>	CPS-5V	FT-15

## KTKH-S

Description	Spare Parts
	Releasing Wrench
<b>KTKH<sup>R/L</sup> ..... - ...S</b>	LTK-5

## KTTX

Description	Spare Parts	
	Clamp Screw	Wrench
<b>KTTXR ..... -16F</b>	SB-4070TRW	FT-8

## KIGM-V

Description	Spare Parts	
	Clamp Screw	Wrench
<b>KIGM<sup>R/L</sup> 2016B-3V</b>	GS-50	LW-3
<b>2520B-3V</b>		
<b>3225B-3V</b>	SB-5TR	LTW-20
<b>3225B-4V</b>	SB-5TR	LTW-20
<b>4032B-4V</b>		

## GIFV

Description	Spare Parts	
	Clamp Set	Wrench
<b>GIFV<sup>R/L</sup> 5032B-502B</b>	CPS-6V	LW-3

## KTKH-B

Description	Spare Parts	
	Clamp Screw	Wrench
<b>KTKH<sup>R/L</sup> 0808K- ...B</b>	SE-40120TR	FT-15
<b>1010K- ...B</b>		
<b>1212M- ...B</b>		
<b>1414M- ...B</b>	SE-50125TR	LTW-20
<b>1616M- ...B</b>		

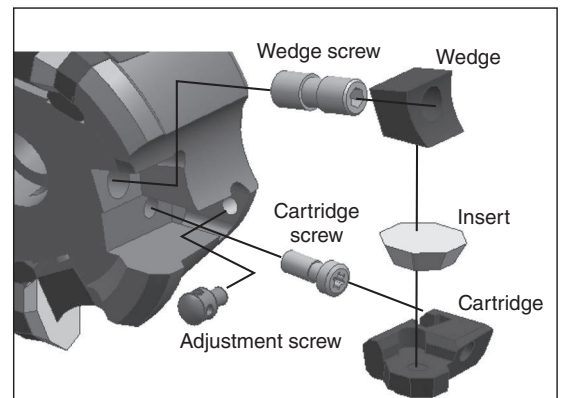
# Former Parts List

## MOF45

Description	Spare Parts		
	Clamp Screw	Wrench	Mounting bolt
MOF 45080R-05-6T 45100R-05-.T 45200R-05-..T	SB-4082TPR	DTP-15	HH12X35 -
MOF 45080R-07-5T 45100R-07-.T 45200R-07-..T	SB-50120TRS	DTP-15	HH12X35 -
MOF 45040R-05-3T-M 45050R-05-4T-M 45063R-05-5T-M 45080R-05-6T-M 45100R-05-.T-M 45200R-05-..T-M	SB-4082TPR	DTP-15	HH8X25 HH10X30 HH12X35 -
MOF 45063R-07-4T-M 45080R-07-5T-M 45100R-07-.T-M 45200R-07-..T-M	SB-50120TRS	DTP-15	HH10X30S HH12X35 -

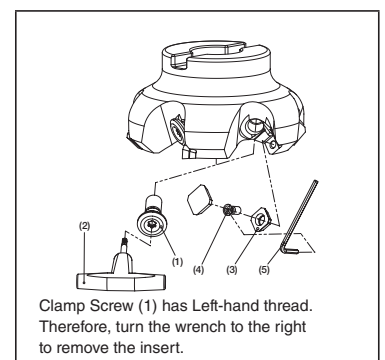
## MOFX45

Description	Cartridge	Cartridge screw	Wedge	Wedge screw
MOFX45...	LOF07R	SH-50150TR	WOF07R	W8X21
Description	Adjustment screw	Wrench (for Wedge)	Wrench (for Cartridge)	
MOFX45...	AJ-412	TH-4	TTC-20	



## MSE45 (Face Mill)

Description	(1) Clamp Screw	(2) Wrench	(3) Shim	(4) Shim Screw	(5) Wrench
MSE 45040R-.T-M 45050R-.T-M	CP8X15TL (Left-hand Thread)				
MSE 45080R-.T 45200R-..T	CP8X23TL (Left-hand Thread)	TTC-25	MSE-4245S	SP4X9	LW-2 (for Shim Screw)
MSE 45063R-.T-M 45200R-..T-M					



- Mounting bolt (SP8X35) is included for MSE45040R-OT-M.
- Mounting bolt (HH10X30S) is included for MSE45050R-OT-M and MSE45063R-OT-M.
- Mounting bolt (HH12X35) is included for MSE45080R-OT-M and MSE45080R-OT.

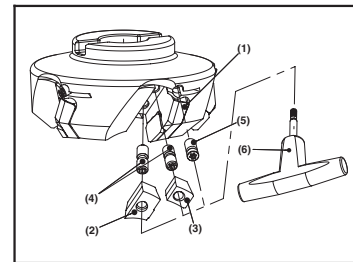
## MSE45 (End Mill)

Description	Spare Parts			
	Clamp Set	Wrench	Shim	Shim Screw
MSE 4550 4563 4580-32	CPS-6M	LW-3	MSE-4245	SP3X8

## MSE45-SF (Face Mill)

Description	(1) Cartridge	(2) Clamp	(3) Clamp	(4) Clamp Screw	(5) Adjustment Screw	(6) Wrench
	<b>MSE 45..R-T-SF</b> <b>MSE 45..R-T-M-SF</b>	LSE-445SR	C43R (for Insert)	C44R (for Cartridge)	W6X17	SV-60136TR

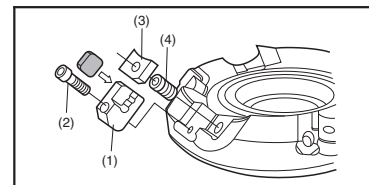
· Mounting bolt (HH10X30S) is included for MSE45063R-4T-M-SF.  
 · Mounting bolt (HH12X35) is included for MSE45080R-5T-M-SF.



## MSD45 (Face Mill)

Description	(1) Cartridge	(2) Clamp Bolt	(3) Clamp	(4) Clamp Screw	Wrench
	<b>MSD 45...R</b>	LSD-445R	HH4X16	C20R	TH8X15

· Mounting bolt (HH12X35) is included for MSD4580R.

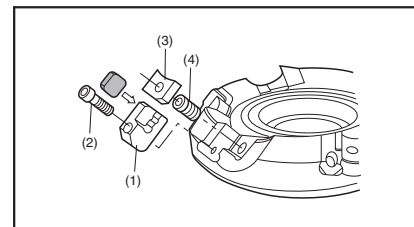


## MSD45 (End Mill)

Description	Spare Parts			
	Clamp Set	Wrench	Shim	Shim Screw
<b>MSD 4550</b> <b>4563</b> <b>4580-32</b>	CPS-6M	LW-3	MSD-42	SP3X8

## MSO45 (Face Mill)

Description	(1) Cartridge	(2) Clamp Bolt	(3) Clamp	(4) Clamp Screw	Wrench
	<b>MSO 45...R</b>	LSO-445R	HH4X16	CH-20R	TH8X15



## MSO45-09 (Face Mill)





Description	Spare Parts	
	Clamp Screw	Wrench
<b>MSO 45...R-09</b>	SB-3060TR	DT-10

## MSO45-S-09 (End Mill)

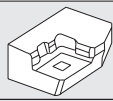

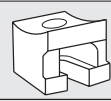
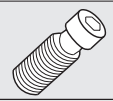

Description	Spare Parts	
	Clamp Screw	Wrench
<b>MSO 45...S32-09</b>	SB-3060TR	DT-10

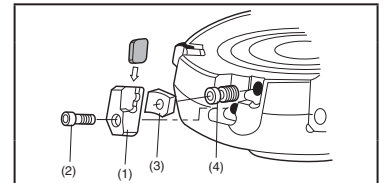
# Former Parts List

## MSP15 / MSE15 (End Mill)

Description	Clamp Set	Wrench	Shim	Shim Screw
				
<b>MSP 15..</b>	CPS-6M	LW-3	MSP-42	SP3X8
<b>MSE 15..</b>	CPS-6M	LW-3	MSE-4215	SP3X8

## MSP15 (Face Mill)

Description	(1) Cartridge	(2) Clamp Bolt	(3) Clamp	(4) Clamp Screw	Wrench
					
<b>MSP 15...R</b>	LSP-415R	HH4X16	C25R	TH8X15	TH-4



- Mounting bolt (HH12X35) is included in MSP1580R.

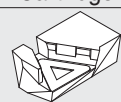
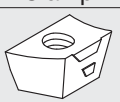
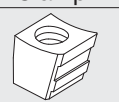


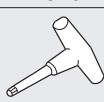
## MEC (Face Mill)

Description	Spare Parts	
	Clamp Screw	Wrench
<b>MEC ...R-11-..T(-M)</b>	SB-2555TRG	DTM-8
<b>...R-17-..T(-M)</b>	SB-4070TRN	DTM-15




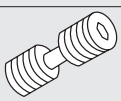

## MECX (End Mill)

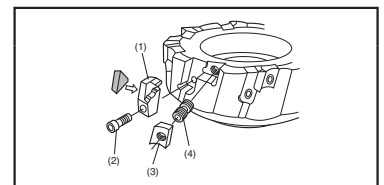
Description	Spare Parts	
	Clamp Screw	Wrench
<b>MECX 33-S32-200-07-6T</b>	SB-2042TRG	DTM-6

## MTE90-SF


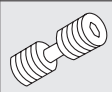
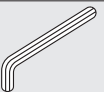


Description	Cartridge	Clamp	Clamp	Clamp Screw	Adjustment Screw	Wrench
						
<b>MTE 90...-SF</b>	LTE-490SR	C91R (for Insert)	C92R (for Cartridge)	W8X16	SV-60136R	TTC-25

## MTE90 (Face Mill)

Description	(1) Cartridge	(2) Clamp Bolt	(3) Clamp	(4) Clamp Screw	Wrench
					
<b>MTE 90...R</b>	LTE-490R	HH4X16	C17R	W8X18	TH-4








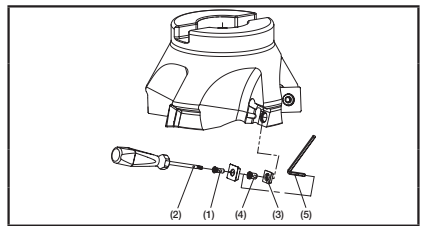
## MTE90 (End Mill)

Description	Spare Parts				
	Clamp	Clamp screw	Wrench	Shim	Shim Screw
					
<b>MTE 9050</b>	CP-8TE	W8X18	LW-4	MTE-42	SP3X8
<b>9063</b>					
<b>9080-32</b>					

P  
Spare Parts

## MSO90 (Face Mill)

Description	(1) Clamp Screw	(2) Wrench	(3) Shim	(4) Shim Screw	(5) Wrench
					
<b>MSO 90...R-15-.T</b>	SB-45130TR	DTP-20	MSO-5200	SPW-6045	LW-4.5 (for Shim Screw)
<b>MSO 90...R-15-.T-M</b>					



· Mounting bolt (HH12X35) is included for MSO90080R-15-○T-M and MSO90080R-15-○T  
 · Mounting bolt (HH10X30S) is included for MSO90063R-15-○T-M

## MSO90-S (End Mill)

Description	Spare Parts	
	Clamp Screw	Wrench
<b>MSO 90..-S32-09</b>	SB-3080TR	DT-10
<b>90..-S32-15</b>	SB-5085TR	DT-20

## MSO90-09 (Face Mill)

Description	Spare Parts	
	Clamp Screw	Wrench
<b>MSO 90...R-09</b>	SB-3080TR	DT-10

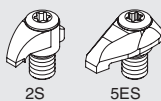

## MEA / MEB

Description	Spare Parts	
	Clamp Screw	Wrench
<b>MEA .. -S..(- ...)</b>	SB-2560TR	DT-8
<b>MEB .. -S..</b>	SB-4085TR	DT-15

## DMC

Description	Spare Parts	
	Clamp Screw	Wrench
<b>DMC ... -S..</b>	SB-2545TR	FT-8
<b>DMC 014</b>	SB-3060TR	FT-10

## MTPS / MTES

Description	Clamp Set	Wrench
		
<b>MTPS ...</b>	CPS-2S	FT-15
<b>MTES ...</b>	CPS-5ES	

## MRP-S (End Mill)

Description	Spare Parts	
	Clamp Screw	Wrench
<b>MRP ...-S.. -08(-...)</b>	SB-3060TR	DT-10
<b>...-S.. -10-.T(-...)</b>	SB-3080TR	DT-10
<b>...-S.. -12(-.T)(-...)</b>	SB-4085TR	DT-15
<b>050-S42 -12(-300)</b>	SB-40115TR	
<b>...-S.. -16(-...)</b>	SB-50120TR	DT-20

## MRP (Face Mill)

Description	Spare Parts	
	Clamp Screw	Wrench
<b>MRP ...R -10-.T</b>	SB-3080TR	DT-10
<b>MRP 050R -12</b>	SB-40115TR	DT-15
<b>063R -12</b>		
<b>080R -12</b>		
<b>080R -12-7T</b>		
<b>MRP ...R -16(-.T)</b>	SB-50120TR	DT-20
<b>MRP ...R -20</b>	SB-60120TR	DT-25

# Former Parts List

## MHD (Helical End Mill)

Description	Spare Parts				
	Clamp Screw	Wrench	Clamp Bolt		Wrench
			1 Front Piece	2 Front Pieces	
MHD 32-S32 -SA	SB-2560TR	DT-8	-	HH8X50	LW-6
40-S32 -SA	SB-3080TR	DT-10		HH8X65	
50-S42 -SA				HH12X65	
MHD 40-S42 -SB	SB-3080TR	DT-10	HH8X40	-	LW-6
50-S42 -SB			HH12X40		LW-10
MHD 20S-S20 -C	SB-2560TR	DT-8	-	-	-
25-S25 -C					
32-S32 -C					
MHD 40-S42 -C	SB-3080TR	DT-10	-	-	-
50-S42 -C					
MHD 32-S32 -A	SB-2560TR	DT-8	HH8X35	HH8X50	LW-6
40-S32 -A	SB-3080TR	DT-10	HH8X40	HH8X65	
50-S42 -A			HH12X40	HH12X65	
MHD 32-S32 -A-130	SB-2560TR	DT-8	HH8X35	HH8X50	LW-6
40-S32 -A-150	SB-3080TR	DT-10	HH8X40	HH8X65	
50-S42 -A-150			HH12X40	HH12X65	
MHD 40-S42 -B	SB-3080TR	DT-10	HH8X40	-	LW-6
50-S42 -B			HH12X40		LW-10
MHD 32 -F	SB-2560TR	DT-8	-	-	-
40 -F	SB-3080TR	DT-10			
50 -F					

## MHD (Face Mill and Integral Arbor type)

Description	Spare Parts			
	Clamp Screw	Wrench	Clamp Bolt	Wrench
MHD 63-FMA -SA	SB-3080TR	DT-10	HH16X90	LW-14
80-FMA -SA			HH20X110	LW-17
100-FMA -SA			HH24X110	LW-19
MHD 63-FMA -A			HH16X90	LW-14
80-FMA -A			HH20X110	LW-17
100-FMA -A			HH24X110	LW-19
MHD 63-BT50 -SA			HH16X65	LW-14
80-BT50 -SA			HH20X90	LW-17
100-BT50 -SA			HH24X90	LW-19
MHD 63-BT50 -A			HH16X65	LW-14
80-BT50 -A			HH20X90	LW-17
100-BT50 -A			HH24X90	LW-19
MHD 63 -F	-	-	-	-
80 -F				
100 -F				

P  
Spare Parts

## MHD (Radius)

Description	Spare Parts							
	Clamp Screw		Wrench		Clamp Bolt		Wrench	
	For Bottom Insert	For Middle Insert	For Bottom Insert	For Middle Insert	1 Front Piece	2 Front Pieces		
<b>MHD</b> 32-S32 -4RSA 40-S32 -5RSA 40-S42 -5RSA 50-S42 -6RSA	SB-2560TR	SB-2560TR	DT-8	DT-8	-	HH8X50	LW-6	
	SB-3080TR	SB-3080TR	DT-10	DT-10		HH8X55		
	SB-4085TR		DT-15			HH12X55		LW-10
<b>MHD</b> 32-S32 -A 40-S32 -A 40-S42 -A 50-S42 -A	SB-2560TR		DT-8		-	HH8X50	LW-6	
	SB-3080TR		DT-10			HH8X65		
						HH12X65	LW-10	
<b>MHD</b> 32 -F 40 -F 50 -F	SB-2560TR		DT-8		-	-	-	
	SB-3080TR		DT-10					
<b>MHD</b> 32 -4RF 40 -5RF 50 -6RF	SB-2560TR	SB-2560TR	DT-8	DT-8	-	-	-	
	SB-3080TR	SB-3080TR	DT-10	DT-10				
	SB-4085TR		DT-15					

## MVG

Description	Spare Parts	
	Clamp Set	Wrench
<b>MVG</b> ....	CPS-6V	LW-3

## Blank Tool

Description	Spare Parts	
	Coolant Pipe	
<b>T63H- BL...- ...</b>	CL63-1	

Insert Grades  
 Turnable Inserts  
 Indexable Inserts  
 CNC & PCO Tools  
 External  
 Small Parts  
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