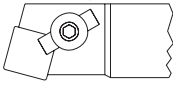
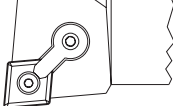
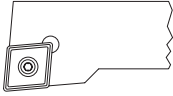


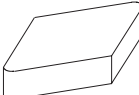
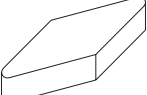
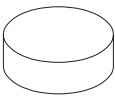

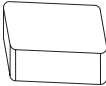

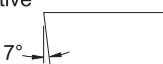

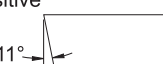
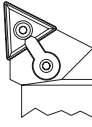
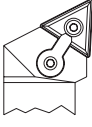

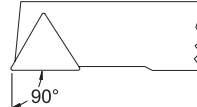
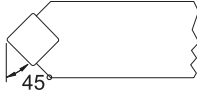
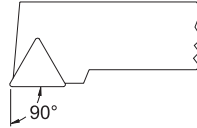
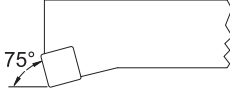
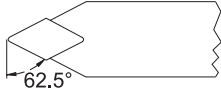
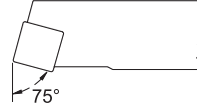
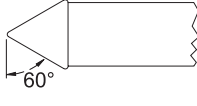
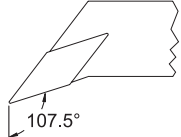
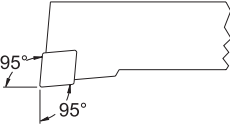
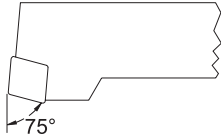

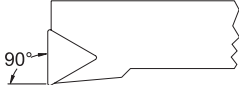
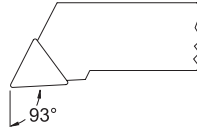
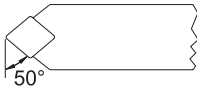
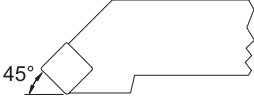


# TOOLHOLDER STANDARD DESIGNATIONS

<p><b>C - Clamp Lock</b> </p> <p><b>M - Multiple Lock</b> </p> <p><b>S - Screw Lock</b> </p> <p><b>Holding Method</b></p>	<p><b>C - 80° Diamond</b> </p> <p><b>T - Triangle</b> </p> <p><b>D - 55° Diamond</b> </p> <p><b>V - 35° Diamond</b> </p> <p><b>R - Round</b> </p> <p><b>W - 80° Trigon</b> </p> <p><b>S - Square</b> </p> <p><b>Insert Shape</b></p>	<p><b>B - 5° Positive</b> </p> <p><b>C - 7° Positive</b> </p> <p><b>N - 0° Negative</b> </p> <p><b>P - 11° Positive</b> </p> <p><b>Insert Clearance Angle</b></p>	<p><b>R - Right Hand</b> </p> <p><b>L - Left Hand</b> </p> <p><b>N - Neutral</b> </p> <p><b>Hand of Tool</b></p>
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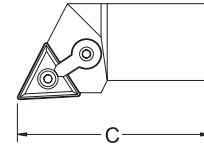
**M C L N R**

**Tool Style**

<p><b>A - 0° Side cutting angle, no offset</b> </p>	<p><b>D - 45° Lead side cutting angle, no offset</b> </p>	<p><b>G - 0° Lead side cutting with offset</b> </p>	<p><b>K - 15° Lead end cutting angle, no offset</b> </p>	<p><b>N - 27.5° Lead cutting angle, no offset</b> </p>
<p><b>B - 15° Lead side cutting angle, no offset</b> </p>	<p><b>E - 30° Lead side cutting angle</b> </p>	<p><b>H - 17.5° Lead side / end cutting with offset</b> </p>	<p><b>L - Neg. 5° Lead side cutting angle with offset</b> </p>	<p><b>R - 15° Lead cutting angle with offset</b> </p>
<p><b>C - 0° Lead end cutting angle</b> </p>	<p><b>F - 0° Lead end cutting angle with offset</b> </p>	<p><b>J - Neg. 3° Lead side cutting angle with offset</b> </p>	<p><b>M - 40° Lead side cutting angle, no offset</b> </p>	<p><b>S - 45° Lead cutting angle with offset</b> </p>

# TOOLHOLDER STANDARD DESIGNATIONS

- I - 2.5
- J - 3.5
- A - 4.0
- B - 4.5
- C - 5.0
- D - 6.0
- E - 7.0
- F - 8.0



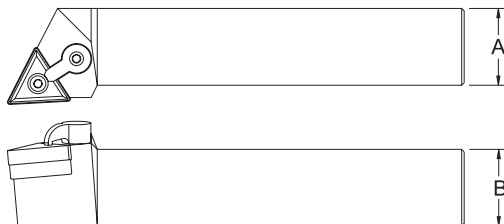
**Tool Length**

1 6

**Shank Size**

**Square Shanks:**  
(A) & (B) shown in 1/16 inch increments

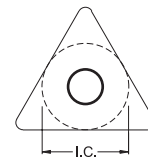
**Rectangle Shanks:**  
First Digit: (A) shown in 1/8 inch increments  
Second Digit: (B) shown in 1/4 inch increments



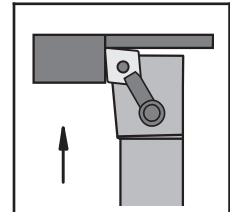
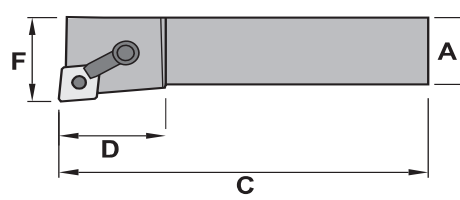
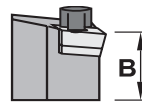
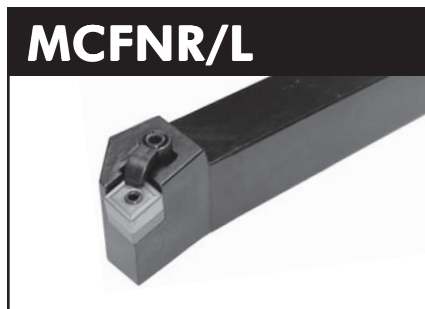
4 D

**Insert Size I.C.**

**Insert I.C.:**  
(I.C.) shown in 1/8 inch increments

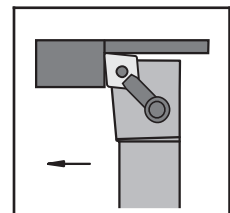
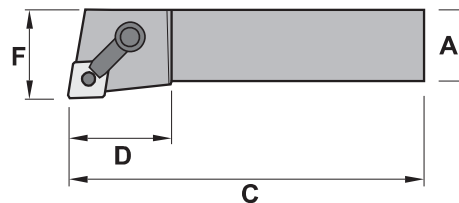
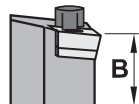
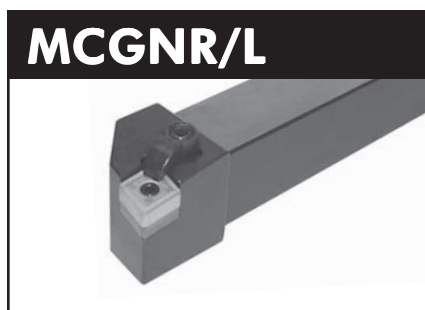


# EXTERNAL PINLOCK TOOLS



Lead Angle: 0°  
Entering Angle: 0°

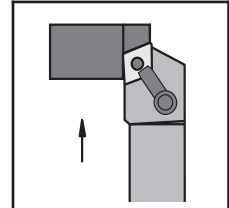
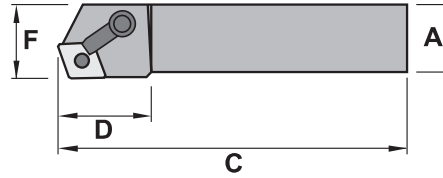
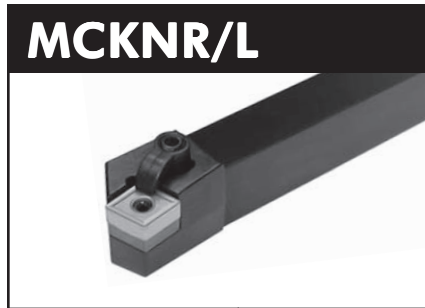
DESIGNATION	DIMENSIONS					INSERT (see pages 17-21)	SPARE PARTS			
	A	B	C	D	F		Shim	Pin	Clamp	Clamp Screw
MCFNR/L 12-4B	.750	.750	4.5	1.12	1.000	CNM_-43_	ICSN-432	NL-46	CL-20	XNS-48
MCFNR/L 16-4D	1.000	1.000	6.0	1.12	1.250					
MCFNR/L 20-4D	1.250	1.250	6.0	1.12	1.500					
MCFNR/L 85-4D	1.000	1.250	6.0	1.12	1.250					
MCFNR/L 16-5D	1.000	1.000	6.0	1.25	1.250	CNM_-54_	ICSN-533	NL-58	CL-12	XNS-510
MCFNR/L 20-5D	1.250	1.250	6.0	1.25	1.500					
MCFNR/L 24-5D	1.500	1.500	6.0	1.25	2.000					
MCFNR/L 16-6D	1.000	1.000	6.0	1.31	1.250	CNM_-64_	ICSN-633	NL-68	CL-12	XNS-510
MCFNR/L 20-6D	1.250	1.250	6.0	1.31	1.500					
MCFNR/L 24-6D	1.500	1.500	6.0	1.31	2.000					



Lead Angle: 0°  
Entering Angle: 90°

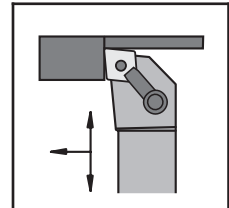
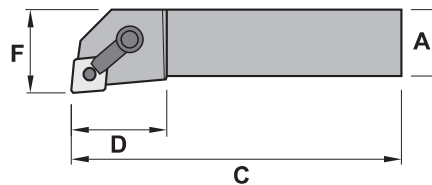
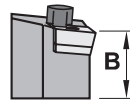
DESIGNATION	DIMENSIONS					INSERT (see pages 17-21)	SPARE PARTS			
	A	B	C	D	F		Shim	Pin	Clamp	Clamp Screw
MCGNR/L 12-4B	.750	.750	4.5	1.12	1.000	CNM_-43_	ICSN-432	NL-46	CL-20	XNS-48
MCGNR/L 16-4D	1.000	1.000	6.0	1.12	1.250					
MCGNR/L 20-4D	1.250	1.250	6.0	1.12	1.500					
MCGNR/L 24-4D	1.500	1.500	6.0	1.25	2.000					
MCGNR/L 85-4D	1.000	1.250	6.0	1.25	1.250	CNM_-54_	ICSN-533	NL-58	CL-12	XNS-510
MCGNR/L 16-5D	1.000	1.000	6.0	1.50	1.250					
MCGNR/L 20-5D	1.250	1.250	6.0	1.50	1.500					
MCGNR/L 24-5D	1.500	1.500	6.0	1.50	2.000	CNM_-64_	ICSN-633	NL-68	CL-12	XNS-510
MCGNR/L 20-6D	1.250	1.250	6.0	1.65	1.500					
MCGNR/L 24-6D	1.500	1.500	6.0	1.65	2.000					

# EXTERNAL PINLOCK TOOLS



Lead Angle: 15°  
Entering Angle: 75°

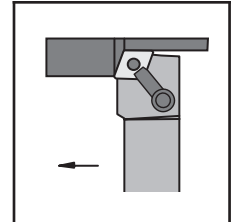
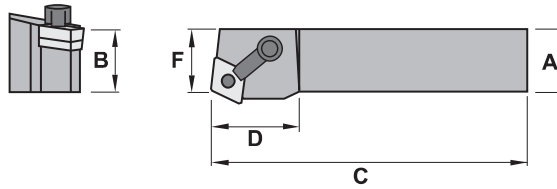
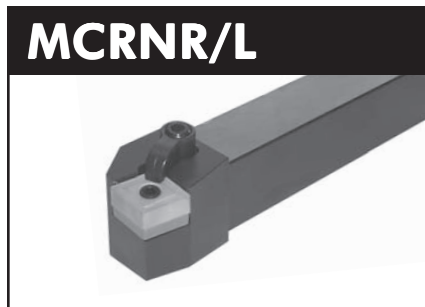
DESIGNATION	DIMENSIONS					INSERT (see pages 17-21)	SPARE PARTS			
	A	B	C	D	F		Shim	Pin	Clamp	Clamp Screw
MCKNR/L 12-4B	.750	.750	4.5	1.20	1.000	CNM_-43_	ICSN-432	NL-46	CL-20	XNS-48
MCKNR/L 16-4D	1.000	1.000	6.0	1.20	1.250					
MCKNR/L 20-4D	1.250	1.250	6.0	1.20	1.500					
MCKNR/L 16-5D	1.000	1.000	6.0	1.35	1.250	CNM_-54_	ICSN-533	NL-58	CL-12	XNS-510
MCKNR/L 20-5D	1.250	1.250	6.0	1.35	1.500					
MCKNR/L 16-6D	1.000	1.000	6.0	1.47	1.250	CNM_-64_	ICSN-633	NL-68	CL-12	XNS-510
MCKNR/L 20-6D	1.250	1.250	6.0	1.47	1.500					
MCKNR/L 24-6D	1.500	1.500	6.0	1.47	2.000					



Lead Angle: -5°  
Entering Angle: 95°

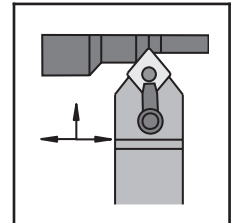
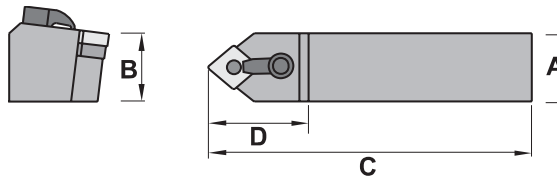
DESIGNATION	DIMENSIONS					INSERT (see pages 17-21)	SPARE PARTS			
	A	B	C	D	F		Shim	Pin	Clamp	Clamp Screw
MCLNR/L 12-4B	.750	.750	4.5	1.13	1.000	CNM_-43_	ICSN-432	NL-46	CL-20	XNS-48
MCLNR/L 16-4D	1.000	1.000	6.0	1.13	1.250					
MCLNR/L 20-4D	1.250	1.250	6.0	1.13	1.500					
MCLNR/L 85-4D	1.000	1.250	6.0	1.13	1.250	CNM_-54_	ICSN-533	NL-58	CL-12	XNS-510
MCLNR/L 16-5D	1.000	1.000	6.0	1.47	1.250					
MCLNR/L 20-5D	1.250	1.250	6.0	1.47	1.500	CNM_-64_	ICSN-633	NL-68	CL-12	XNS-510
MCLNR/L 24-5D	1.500	1.500	6.0	1.47	2.000					
MCLNR/L 16-6D	1.000	1.000	6.0	1.51	1.250					
MCLNR/L 20-6D	1.250	1.250	6.0	1.51	1.500	CNM_-64_	ICSN-633	NL-68	CL-12	XNS-510
MCLNR/L 24-6D	1.500	1.500	6.0	1.51	2.000					
MCLNR/L 85-6D	1.000	1.250	6.0	1.51	1.250					
MCLNR/L 86-6E	1.000	1.500	7.0	1.51	1.250					

# EXTERNAL PINLOCK TOOLS



Lead Angle: 15°  
Entering Angle: 75°

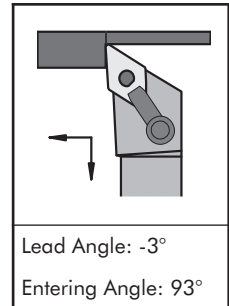
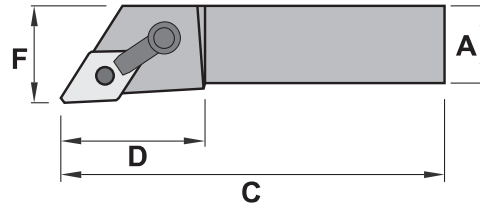
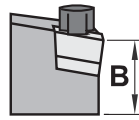
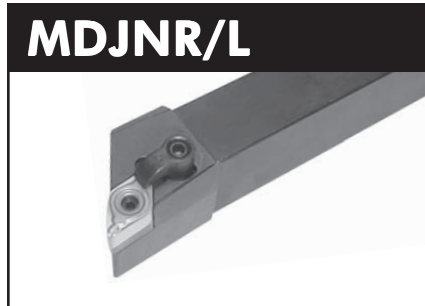
DESIGNATION	DIMENSIONS					INSERT (see pages 17-21)	SPARE PARTS			
	A	B	C	D	F		Shim	Pin	Clamp	Clamp Screw
MCRNR/L 12-4B	.750	.750	4.5	1.18	.878	CNM_-43_	ICSN-432	NL-46	CL-20	XNS-48
MCRNR/L 16-4D	1.000	1.000	6.0	1.18	1.128					
MCRNR/L 20-4D	1.250	1.250	6.0	1.18	1.318					
MCRNR/L 16-5D	1.000	1.000	6.0	1.10	1.101	CNM_-54_	ICSN-533	NL-58	CL-12	XNS-510
MCRNR/L 20-5D	1.250	1.250	6.0	1.35	1.351					
MCRNR/L 20-6D	1.250	1.250	6.0	1.31	1.318					
MCRNR/L 24-6D	1.500	1.500	6.0	1.81	1.818	CNM_-64_	ICSN-633	NL-68	CL-12	XNS-510



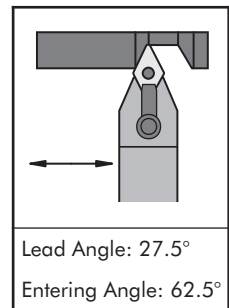
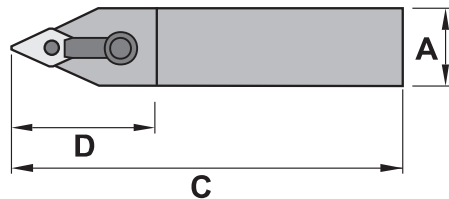
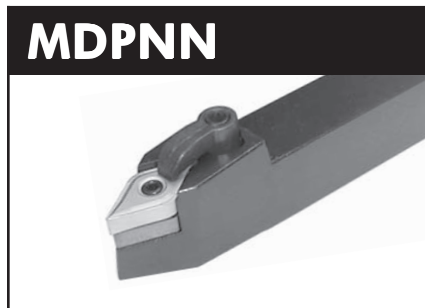
Lead Angle: 40°  
Entering Angle: 50°

DESIGNATION	DIMENSIONS				INSERT (see pages 17-21)	SPARE PARTS			
	A	B	C	D		Shim	Pin	Clamp	Clamp Screw
MCMNN 12-4B	.750	.750	4.5	1.28	CNM_-43_	ICSN-432	NL-46	CL-20	XNS-48
MCMNN 16-4D	1.000	1.000	6.0	1.28					
MCMNN 20-4D	1.250	1.250	6.0	1.39					
MCMNN 85-4D	1.000	1.250	6.0	1.28	CNM_-54_	ICSN-533	NL-58	CL-12	XNS-510
MCMNN 16-5D	1.000	1.000	6.0	1.61					
MCMNN 20-5D	1.250	1.250	6.0	1.61					
MCMNN 24-5D	1.500	1.500	6.0	1.61	CNM_-64_	ICSN-633	NL-68	CL-12	XNS-510
MCMNN 24-6D	1.500	1.500	6.0	1.67					

# EXTERNAL PINLOCK TOOLS

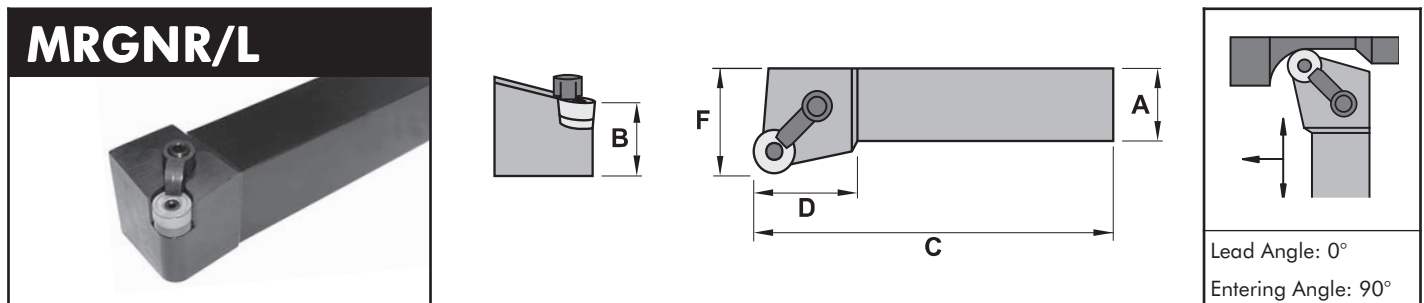


DESIGNATION	DIMENSIONS					INSERT (see pages 25-28)	SPARE PARTS			
	A	B	C	D	F		Shim	Pin	Clamp	Clamp Screw
MDJNR/L 12-4B	.750	.750	4.5	1.50	1.000	DNM_-43_	IDSN-432	NL-46	CL-20	XNS-48
MDJNR/L 16-4D	1.000	1.000	6.0	1.50	1.250					
MDJNR/L 20-4D	1.250	1.250	6.0	1.50	1.500					
MDJNR/L 24-4D	1.500	1.500	6.0	1.50	2.000					
MDJNR/L 85-4D	1.000	1.250	6.0	1.50	1.250					
MDJNR/L 12-44B	.750	.750	4.5	1.25	1.000	DNM_-44_	IDSN-432	NL-46	CL-20	XNS-48
MDJNR/L 16-44D	1.000	1.000	6.0	1.25	1.250					
MDJNR/L 20-44E	1.250	1.250	7.0	1.44	1.500					
MDJNR/L 16-5D	1.000	1.000	6.0	1.44	1.250	DNM_-54_	IDSN-533	NL-58	CL-12	XNS-510
MDJNR/L 20-5D	1.250	1.250	6.0	1.44	1.500					
MDJNR/L 24-5D	1.500	1.500	6.0	1.44	2.000					
MDJNR/L 85-5D	1.000	1.250	6.0	1.44	1.250					

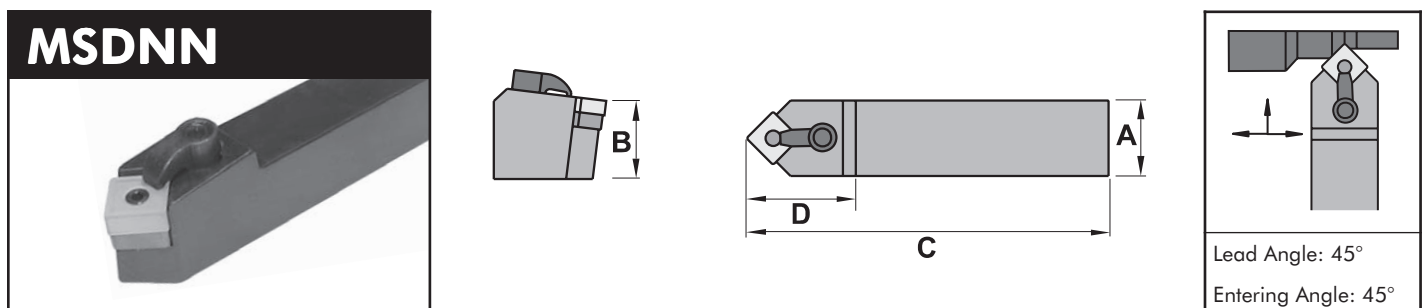


DESIGNATION	DIMENSIONS				INSERT (see pages 25-28)	SPARE PARTS			
	A	B	C	D		Shim	Pin	Clamp	Clamp Screw
MDPNN 12-4B	.750	.750	4.5	1.62	DNM_-43_	IDSN-432	NL-46	CL-20	XNS-48
MDPNN 16-4D	1.000	1.000	6.0	1.62					
MDPNN 20-4D	1.250	1.250	6.0	1.62					
MDPNN 12-44B	.750	.750	4.5	1.62	DNM_-44_	IDSN-432	NL-46	CL-20	XNS-48
MDPNN 16-44D	1.000	1.000	6.0	1.62					
MDPNN 20-44E	1.250	1.250	7.0	1.88					
MDPNN 16-5D	1.000	1.000	6.0	1.88	DNM_-54_	IDSN-533	NL-58	CL-12	XNS-510
MDPNN 20-5D	1.250	1.250	6.0	1.88					
MDPNN 24-5D	1.500	1.500	6.0	1.88					
MDPNN 85-5D	1.000	1.250	6.0	1.88					
MDPNN 86-5D	1.000	1.500	6.0	1.88					

# EXTERNAL PINLOCK TOOLS

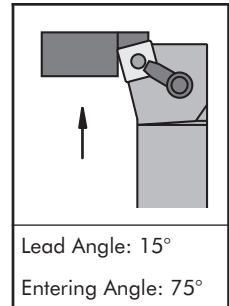
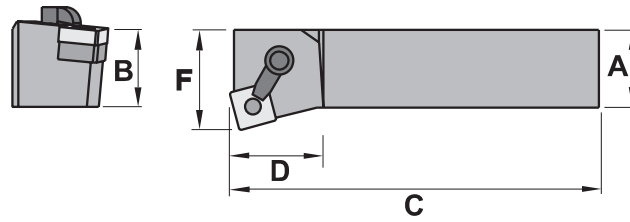


DESIGNATION	DIMENSIONS					INSERT (see page 29)	SPARE PARTS			
	A	B	C	D	F		Shim	Pin	Clamp	Clamp Screw
MRGNR/L 12-3B	.750	.750	4.5	.81	1.000	RNMG-32	---	NL-33	CL-6	XNS-36
MRGNR/L 12-4B	.750	.750	4.5	1.06	1.000	RNMG-43	IRSN-43	NL-46	CL-20	XNS-48
MRGNR/L 16-4D	1.000	1.000	6.0	1.06	1.250					
MRGNR/L 20-4D	1.250	1.250	6.0	1.06	1.500					
MRGNR/L 85-4D	1.000	1.250	6.0	1.06	1.250					
MRGNR/L 86-4D	1.000	1.500	6.0	1.06	1.250					
MRGNR/L 16-5D	1.000	1.000	6.0	1.25	1.250	RNMG-54	IRSN-53	NL-58	CL-12	XNS-510
MRGNR/L 20-5D	1.250	1.250	6.0	1.25	1.500	RNMG-64	IRSN-63	NL-68	CL-12	XNS-510
MRGNR/L 16-6D	1.000	1.000	6.0	1.38	1.250					
MRGNR/L 20-6D	1.250	1.250	6.0	1.38	1.500					
MRGNR/L 24-6E	1.500	1.500	7.0	1.38	2.000					
MRGNR/L 24-8E	1.500	1.500	7.0	1.44	2.000	RNMG-86	IRSN-84	NL-810	CL-30	XNS-510

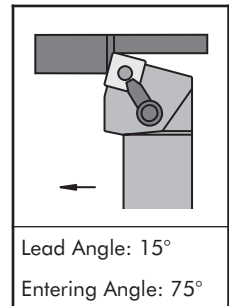
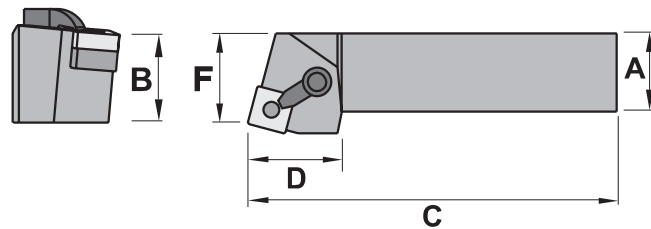
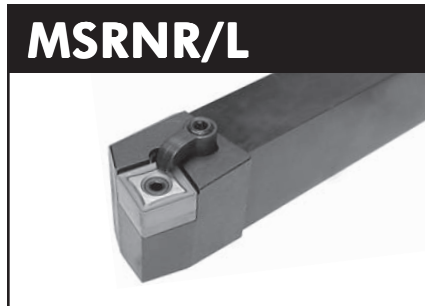


DESIGNATION	DIMENSIONS				INSERT (see pages 32-35)	SPARE PARTS			
	A	B	C	D		Shim	Pin	Clamp	Clamp Screw
MSDNN 12-4B	.750	.750	4.5	1.30	SNM_-43_	ISSN-432	NL-46	CL-20	XNS-48
MSDNN 16-4D	1.000	1.000	6.0	1.30					
MSDNN 85-4D	1.000	1.250	6.0	1.30					
MSDNN 16-5D	1.000	1.000	6.0	1.50	SNM_-54_	ISSN-533	NL-58	CL-12	XNS-510
MSDNN 20-5D	1.250	1.250	6.0	1.50					
MSDNN 85-5D	1.000	1.250	6.0	1.50					
MSDNN 16-6D	1.000	1.000	6.0	1.73	SNM_-64_	ISSN-633	NL-68	CL-12	XNS-510
MSDNN 20-6D	1.250	1.250	6.0	1.75					
MSDNN 24-6E	1.500	1.500	7.0	1.75					
MSDNN 85-6D	1.000	1.250	6.0	1.75					

# EXTERNAL PINLOCK TOOLS

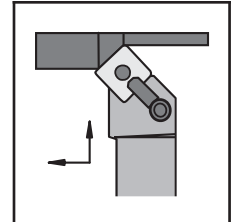
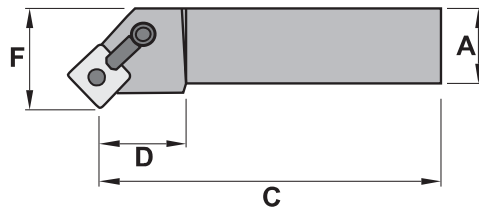
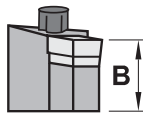
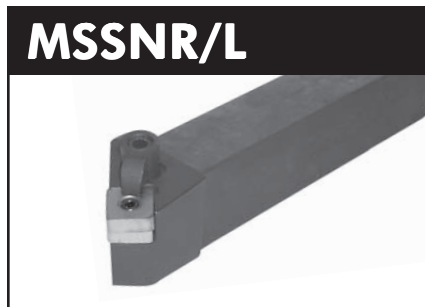


DESIGNATION	DIMENSIONS					INSERT (see pages 32-35)	SPARE PARTS			
	A	B	C	D	F		Shim	Pin	Clamp	Clamp Screw
MSKNR/L 12-4B	.750	.750	4.5	1.22	1.000	SNM_-43_	ISSN-432	NL-46	CL-20	XNS-48
MSKNR/L 16-4D	1.000	1.000	6.0	1.22	1.250					
MSKNR/L 16-5D	1.000	1.000	6.0	1.41	1.250					
MSKNR/L 20-5D	1.250	1.250	6.0	1.41	1.500	SNM_-54_	ISSN-533	NL-58	CL-12	XNS-510
MSKNR/L 85-5D	1.000	1.250	6.0	1.41	1.250					
MSKNR/L 20-6D	1.250	1.250	6.0	1.50	1.500	SNM_-64_	ISSN-633	NL-68	CL-12	XNS-510
MSKNR/L 24-6E	1.500	1.500	7.0	1.50	2.000					



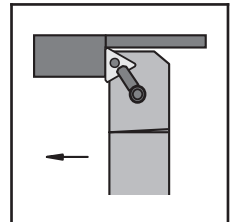
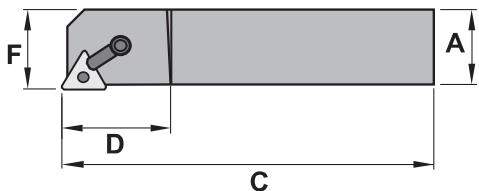
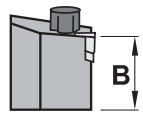
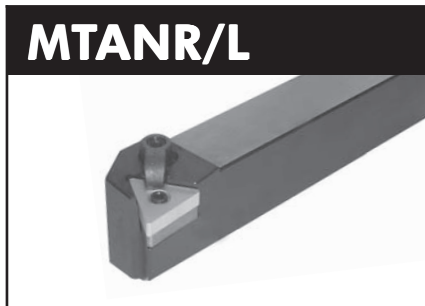
DESIGNATION	DIMENSIONS					INSERT (see pages 32-35)	SPARE PARTS			
	A	B	C	D	F		Shim	Pin	Clamp	Clamp Screw
MSRNR/L 16-4D	1.000	1.000	6.0	1.25	1.130	SNM_-43_	ISSN-432	NL-46	CL-20	XNS-48
MSRNR/L 16-5D	1.000	1.000	6.0	1.50	1.103					
MSRNR/L 20-5D	1.250	1.250	6.0	1.50	1.353	SNM_-54_	ISSN-533	NL-58	CL-12	XNS-510
MSRNR/L 20-6D	1.250	1.250	6.0	1.59	1.321					
MSRNR/L 24-6E	1.500	1.500	7.0	1.59	1.821	SNM_-64_	ISSN-633	NL-68	CL-12	XNS-510

# EXTERNAL PINLOCK TOOLS



Lead Angle: 45°  
Entering Angle: 45°

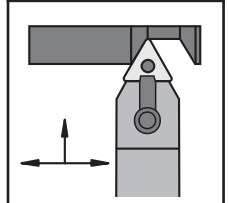
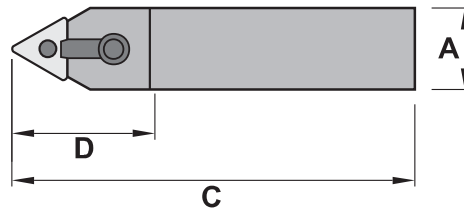
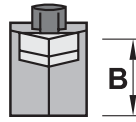
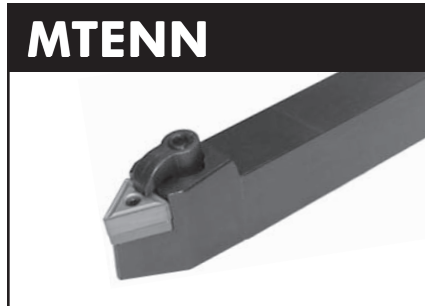
DESIGNATION	DIMENSIONS					INSERT (see pages 32-35)	SPARE PARTS			
	A	B	C	D	F		Shim	Pin	Clamp	Clamp Screw
MSSNR/L 12-4B	.750	.750	4.5	1.23	.675	SNM_-43_	ISSN-432	NL-46	CL-20	XNS-48
MSSNR/L 16-4D	1.000	1.000	6.0	1.23	.925					
MSSNR/L 16-5D	1.000	1.000	6.0	1.38	.847	SNM_-54_	ISSN-533	NL-58	CL-12	XNS-510
MSSNR/L 20-5D	1.250	1.250	6.0	1.38	1.097					
MSSNR/L 20-6D	1.250	1.250	6.0	1.47	1.011	SNM_-64_	ISSN-633	NL-68	CL-12	XNS-510
MSSNR/L 24-6E	1.500	1.500	7.0	1.47	1.511					
MSSNR/L 86-6E	1.000	1.500	7.0	1.47	.761					



Lead Angle: 0°  
Entering Angle: 90°

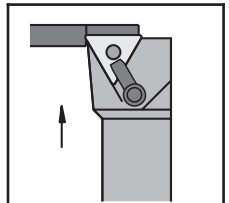
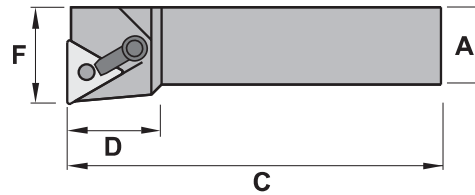
DESIGNATION	DIMENSIONS					INSERT (see pages 39-42)	SPARE PARTS			
	A	B	C	D	F		Shim	Pin	Clamp	Clamp Screw
MTANR/L 12-3B	.750	.750	4.5	1.06	.750	TNM_-33_	ITSN-322	NL-34L	CL-20	XNS-48
MTANR/L 16-3D	1.000	1.000	6.0	1.06	1.000					
MTANR/L 16-4D	1.000	1.000	6.0	1.22	1.000	TNM_-43_	ITSN-433	NL-46	CL-20	XNS-48
MTANR/L 20-5D	1.250	1.250	6.0	1.43	1.250					
MTANR/L 24-5D	1.500	1.500	6.0	1.43	1.500	TNM_-54_	ITSN-533	NL-58	CL-12	XNS-510

# EXTERNAL PINLOCK TOOLS



Lead Angle: 30°  
Entering Angle: 60°

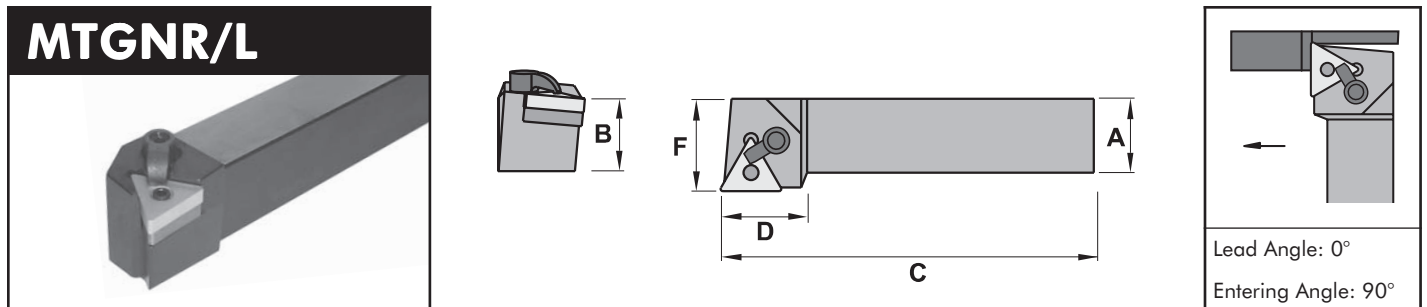
DESIGNATION	DIMENSIONS				INSERT (see pages 39-42)	SPARE PARTS			
	A	B	C	D		Shim	Pin	Clamp	Clamp Screw
MTENN 12-3B	.750	.750	4.5	1.30	TNM_-33_	ITSN-322	NL-34L	CL-20	XNS-48
MTENN 16-3D	1.000	1.000	6.0	1.30					
MTENN 16-4D	1.000	1.000	6.0	1.50	TNM_-43_	ITSN-433	NL-46	CL-20	XNS-48
MTENN 20-5D	1.250	1.250	6.0	1.73	TNM_-54_	ITSN-533	NL-58	CL-12	XNS-510



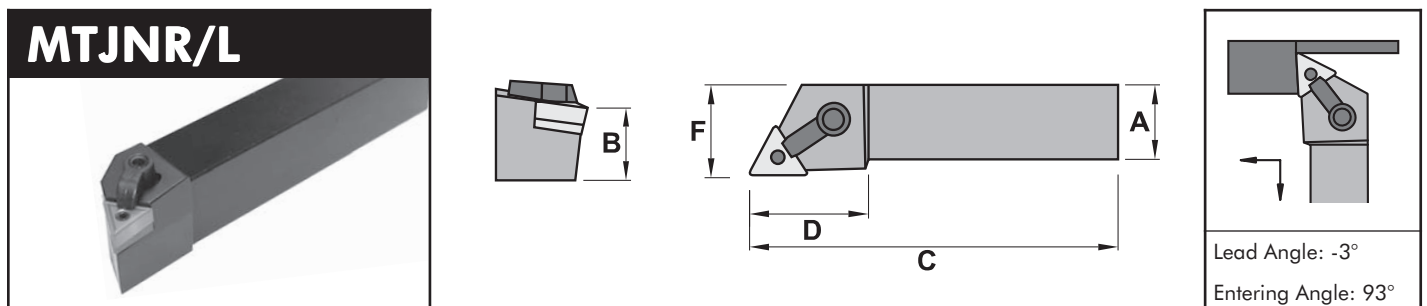
Lead Angle: 0°  
Entering Angle: 90°

DESIGNATION	DIMENSIONS					INSERT (see pages 39-42)	SPARE PARTS			
	A	B	C	D	F		Shim	Pin	Clamp	Clamp Screw
MTFNR/L 12-3B	.750	.750	4.5	1.00	1.000	TNM_-33_	ITSN-322	NL-34L	CL-20	XNS-48
MTFNR/L 16-3D	1.000	1.000	6.0	1.00	1.250					
MTFNR/L 16-4D	1.000	1.000	6.0	1.00	1.250	TNM_-43_	ITSN-433	NL-46	CL-20	XNS-48
MTFNR/L 20-4D	1.250	1.250	6.0	1.00	1.500					
MTFNR/L 85-4D	1.000	1.250	6.0	1.00	1.250					
MTFNR/L 86-4D	1.000	1.500	6.0	1.00	1.250					
MTFNR/L 16-5D	1.000	1.000	6.0	1.44	1.250	TNM_-54_	ITSN-533	NL-58	CL-12	XNS-510
MTFNR/L 20-5D	1.250	1.250	6.0	1.44	1.500					
MTFNR/L 24-5E	1.500	1.500	7.0	1.44	2.000					
MTFNR/L 85-5D	1.000	1.250	6.0	1.44	1.250					
MTFNR/L 86-5D	1.000	1.500	6.0	1.44	1.250					

# EXTERNAL PINLOCK TOOLS

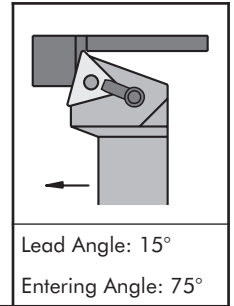
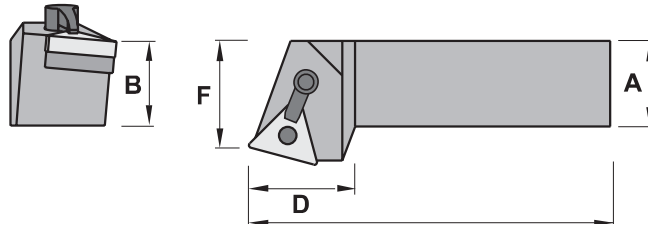
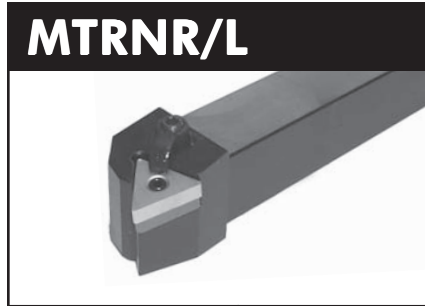


DESIGNATION	DIMENSIONS					INSERT (see pages 39-42)	SPARE PARTS			
	A	B	C	D	F		Shim	Pin	Clamp	Clamp Screw
MTGNR/L 12-3B	.750	.750	4.5	1.00	1.000	TNM_-33_	ITSN-322	NL-34L	CL-20	XNS-48
MTGNR/L 16-3D	1.000	1.000	6.0	1.00	1.250					
MTGNR/L 16-4D	1.000	1.000	6.0	1.00	1.250					
MTGNR/L 20-4D	1.250	1.250	6.0	1.00	1.500	TNM_-43_	ITSN-433	NL-46	CL-20	XNS-48
MTGNR/L 85-4D	1.000	1.250	6.0	1.00	1.250					
MTGNR/L 86-4D	1.000	1.500	6.0	1.00	1.250					
MTGNR/L 16-5D	1.000	1.000	6.0	1.44	1.250	TNM_-54_	ITSN-533	NL-58	CL-12	XNS-510
MTGNR/L 20-5D	1.250	1.250	6.0	1.44	1.500					
MTGNR/L 24-5E	1.500	1.500	7.0	1.44	2.000					
MTGNR/L 85-5D	1.000	1.250	6.0	1.44	1.250	TNM_-64_	ITSN-637	NL-68L	CL-12	XNS-510
MTGNR/L 86-5D	1.000	1.500	6.0	1.44	1.250					
MTGNR/L 24-6E	1.500	1.500	7.0	1.50	2.000					

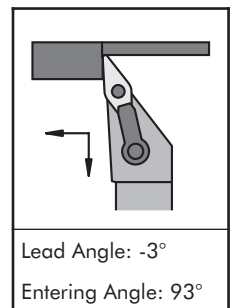
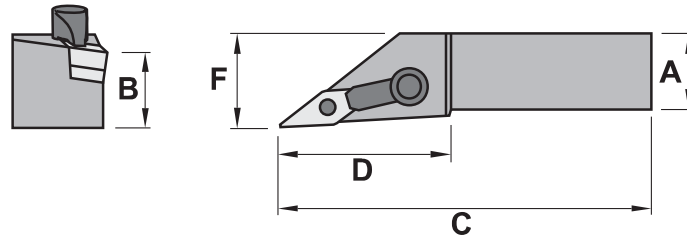
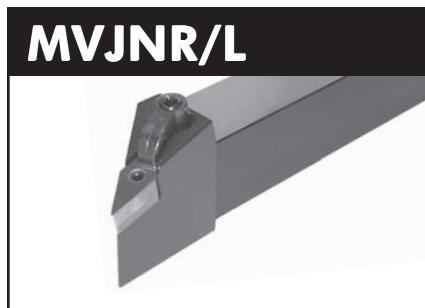


DESIGNATION	DIMENSIONS					INSERT (see pages 39-42)	SPARE PARTS			
	A	B	C	D	F		Shim	Pin	Clamp	Clamp Screw
MTJNR/L 12-3B	.750	.750	4.5	1.03	1.000	TNM_-33_	ITSN-322	NL-34L	CL-20	XNS-48
MTJNR/L 16-3D	1.000	1.000	6.0	1.03	1.250					
MTJNR/L 16-4D	1.000	1.000	6.0	1.25	1.250					
MTJNR/L 20-4D	1.250	1.250	6.0	1.25	1.500	TNM_-43_	ITSN-433	NL-46	CL-20	XNS-48
MTJNR/L 20-5D	1.250	1.250	6.0	1.44	1.500					

# EXTERNAL PINLOCK TOOLS

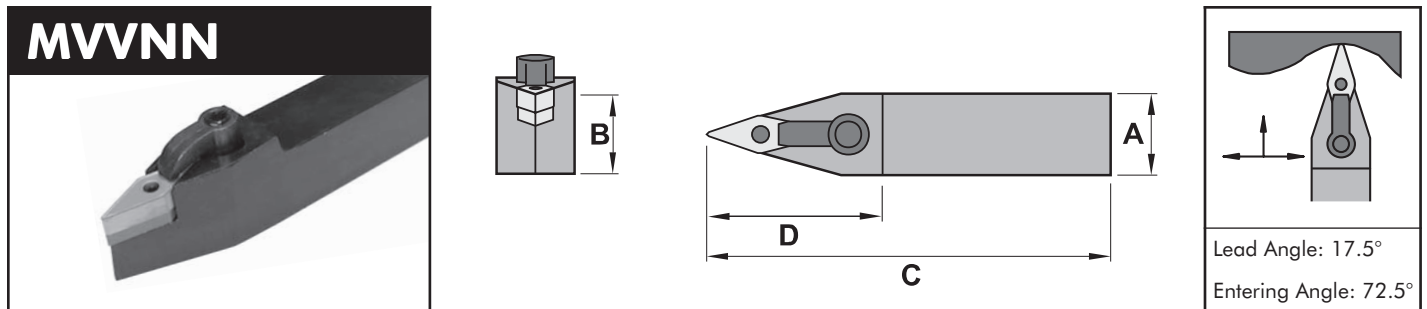


DESIGNATION	DIMENSIONS					INSERT <small>(see pages 39-42)</small>	SPARE PARTS			
	A	B	C	D	F		Shim	Pin	Clamp	Clamp Screw
MTRNR/L 12-3B	.750	.750	4.5	1.16	.855	TNM_-33_	ITSN-322	NL-34L	CL-20	XNS-48
MTRNR/L 16-3D	1.000	1.000	6.0	1.16	1.105					
MTRNR/L 16-4D	1.000	1.000	6.0	1.38	1.048	TNM_-43_	ITSN-433	NL-46	CL-20	XNS-48
MTRNR/L 20-4D	1.250	1.250	6.0	1.38	1.298					
MTRNR/L 20-5D	1.250	1.250	6.0	1.56	1.252	TNM_-54_	ITSN-533	NL-58	CL-12	XNS-510
MTRNR/L 24-5E	1.500	1.500	7.0	1.56	1.752					

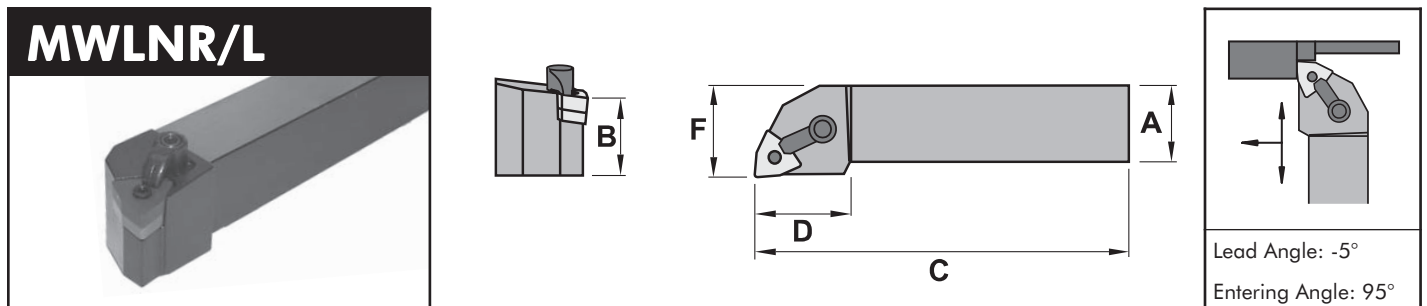


DESIGNATION	DIMENSIONS					INSERT	SPARE PARTS			
	A	B	C	D	F		Shim	Pin	Clamp	Clamp Screw
MVJNR/L 12-3B	.750	.750	4.5	1.62	1.000	VNM_-33	IVSN-322	NL-34L	CL-22	XNS-48
MVJNR/L 16-3D	1.000	1.000	6.0	1.62	1.250					
MVJNR/L 20-3D	1.250	1.250	6.0	1.62	1.500					
MVJNR/L 16-4D	1.000	1.000	6.0	1.88	1.250	VNM_-43_	IVSN-433	NL-46	CL-30	XNS-510
MVJNR/L 20-4D	1.250	1.250	6.0	1.88	1.500					
MVJNR/L 24-4E	1.500	1.500	7.0	1.88	2.000					
MVJNR/L 85-4D	1.000	1.250	6.0	1.88	1.250					
MVJNR/L 86-4D	1.000	1.500	6.0	1.88	1.250					

# EXTERNAL PINLOCK TOOLS



DESIGNATION	DIMENSIONS				INSERT	SPARE PARTS			
	A	B	C	D		Shim	Pin	Clamp	Clamp Screw
MVVNN 12-3B	.750	.750	4.5	1.62	VNM_-33_	IVSN-322	NL-34L	CL-22	XNS-48
MVVNN 16-3D	1.000	1.000	6.0	1.62					
MVVNN 20-3D	1.250	1.250	6.0	1.62					
MVVNN 24-3E	1.500	1.500	7.0	1.62					
MVVNN 16-4D	1.000	1.000	6.0	2.06	VNM_-43_	IVSN-433	NL-46	CL-30	XNS-510
MVVNN 20-4D	1.250	1.250	6.0	2.06					
MVVNN 24-4E	1.500	1.500	7.0	2.06					



DESIGNATION	DIMENSIONS					INSERT (see pages 45-46)	SPARE PARTS			
	A	B	C	D	F		Shim	Pin	Clamp	Clamp Screw
MWLNR/L 12-4B	.750	.750	4.5	1.07	1.000	WNM_-43_	IWSN-432	NL-46	CL-20	XNS-48
MWLNR/L 16-4D	1.000	1.000	6.0	1.07	1.250					
MWLNR/L 20-4D	1.250	1.250	6.0	1.07	1.500					
MWLNR/L 24-4E	1.500	1.500	7.0	1.07	2.000					