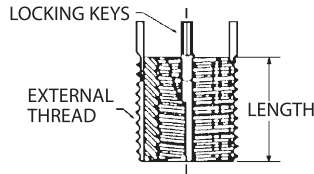


KEY INSERTS – HEAVY DUTY

BODY: 1215 STEEL, BLACK OXIDE FINISH. KEYS: 302 STAINLESS STEEL



Heavy Duty – Steel



For installation tools, see tables below.



Repair Kits shown below contain an installation tool and several Key Inserts of a given size.

General-purpose threaded inserts suitable for most applications. Available in USA ID-thread sizes from #10-24 to 1-1/2"-12, plus metric sizes from M5 to M24. Important: Use tap drill specified in table (slightly larger than standard for that thread size).

HEAVY DUTY – STEEL (INCH)

PART NO.	INSERT DIMENSIONS				INSTALLATION DATA							REMOVAL DATA	
	INTERNAL THREAD	EXTERNAL THREAD	LENGTH	SHEAR ENGAG. (SQ. IN.)	REQ'D TAP DRILL	C'SINK DIA	MIN. THREAD DEPTH	STANDARD TAP UN-2B	INSTALLATION TOOL PART NO.	REPAIR KIT PART NO.	INSERTS PER KIT	DRILL SIZE	DRILL DEPTH
CL-1024-KS	#10-24	3/8-16	.31	.190	Q	3/8	3/8	3/8-16	CL-10-KST	CL-1024-KSK	15	9/32	1/8
CL-1032-KS	#10-32									CL-1032-KSK			
CL-1420-KS	1/4-20	7/16-14	.37	.284	X	7/16	7/16	7/16-14	CL-14-KST	CL-1420-KSK	13	11/32	3/16
CL-1428-KS	1/4-28									CL-1428-KSK			
CL-51618-KS	5/16-18	1/2-13	.43	.359	29/64	1/2	1/2	1/2-13	CL-516-KST	CL-51618-KSK	8	13/32	3/16
CL-51624-KS	5/16-24									CL-51624-KSK			
CL-3816-KS	3/8-16	9/16-12	.50	.498	33/64	9/16	9/16	9/16-12	CL-38-KST	CL-3816-KSK	6	15/32	3/16
CL-3824-KS	3/8-24									CL-3824-KSK			
CL-71614-KS	7/16-14	5/8-11	.62	.717	37/64	5/8	11/16	5/8-11	CL-716-KST	CL-71614-KSK	6	17/32	3/16
CL-71620-KS	7/16-20									CL-71620-KSK			
CL-1213-KS	1/2-13	3/4-16	.62	1.057	45/64	3/4	11/16	3/4-16	CL-12-KST	CL-1213-KSK	5	21/32	3/16
CL-1220-KS	1/2-20									CL-1220-KSK			
CL-91612-KS	9/16-12	3/4-16	.81	1.057	45/64	3/4	7/8	3/4-16	CL-12-KST	CL-91612-KSK	3	21/32	3/16
CL-91618-KS	9/16-18									CL-91618-KSK			
CL-5811-KS	5/8-11	7/8-14	.87	1.487	53/64	7/8	1	7/8-14	CL-58-KST	CL-5811-KSK	2	25/32	3/16
CL-5818-KS	5/8-18									CL-5818-KSK			
CL-3410-KS	3/4-10	1-1/8"-12	1.12	2.490	1-1/16	1-1/8	1-5/16	1-1/8"-12	CL-34-KST	CL-3410-KSK	2	31/32	5/16
CL-3416-KS	3/4-16									CL-3416-KSK			
CL-789-KS	7/8-9	1-1/4"-12	1.25	3.137	1-3/16	1-1/4	1-7/16	1-1/4"-12	CL-34-KST	CL-789-KSK	2	1-3/32	5/16
CL-7814-KS	7/8-14									CL-7814-KSK			
CL-18-KS	1"-8	1-3/8"-12	1.37	3.838	1-5/16	1-3/8	1-9/16	1-3/8"-12	CL-1-KST	CL-18-KSK	2	1-7/32	5/16
CL-112-KS	1"-12									CL-112-KSK			
CL-1187-KS	1-1/8"-7	1-1/2"-12	1.62	4.752	1-7/16	1-1/2	1-11/16	1-1/2"-12	CL-118-KST	CL-1187-KSK	2	1-11/32	5/16
CL-11812-KS	1-1/8"-12									CL-11812-KSK			
CL-1147-KS	1-1/4"-7	1-5/8"-12	1.81	5.446	1-35/64	1-5/8	2	1-5/8"-12	CL-114-KST	CL-1147-KSK	2	1-15/32	5/16
CL-11412-KS	1-1/4"-12									CL-11412-KSK			
CL-1126-KS	1-1/2"-6	1-7/8"-12	2.00	7.103	1-51/64	1-7/8	2-3/16	1-7/8"-12	CL-112-KST	CL-1126-KSK	2	1-23/32	5/16
CL-11212-KS	1-1/2"-12									CL-11212-KSK			

HEAVY DUTY – STEEL (METRIC)

-	M5	M10x1.25	INFO+: AVAILABLE IN STAINLESS STEEL ONLY (PAGE 345)										
-	M6	M12x1.25											
-	M8	M14x1.5											
-	M8x1												
-	M10	M16x1.5											
-	M10x1.25												
-	M12	M18x1.5											
-	M12x1.25												
CLM-162-KSM	M16	M22x1.5	.87	1.390	20.5 or 13/16	.88	.96	M22x1.5	CL-58-KST	CLM-162-KSK	2	17.5mm or 11/16	1/4
CLM-1615-KSM	M16x1.5									CLM-1615-KSK			
CLM-2025-KSM	M20	M30x2	1.18	2.750	28mm or 1-7/64	1.19	1.36	M30x2	CL-34-KST	CLM-2025-KSK	2	26mm or 1-1/32	1/4
CLM-2015-KSM	M20x1.5									CLM-2015-KSK			
CLM-243-KSM	M24	M33x2	1.30	3.328	31mm or 1-7/32	1.31	1.48	M33x2	CLM-243-KSMT	CLM-243-KSK	2	29mm or 1-9/64	1/4
CLM-242-KSM	M24x2									CLM-242-KSK			

* Installation Tool included in Repair Kit.

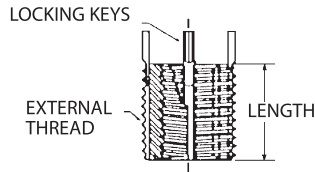
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KEY INSERTS – HEAVY DUTY

BODY: 303 STAINLESS STEEL. KEYS: 302 STAINLESS STEEL



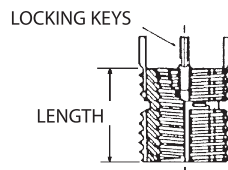
**Heavy Duty –
Stainless Steel**



Stainless steel version of our general-purpose threaded inserts with a thick, heavy-duty thread wall. Key Inserts are ideal for thread reinforcement, especially when the mating stud or bolt will be removed frequently. These stainless inserts provide strong, permanent stainless steel threads in any parent material, ferrous, non-ferrous, or non-metallic. Key Inserts are also well suited for quick repair of stripped, damaged, or worn threads. Locking keys positively prevent the insert from rotating.



**Heavy Duty –
Stainless Steel
Internal-Thread
Locking**



Stainless Key Inserts are optionally available with “Internal Thread Locking,” which uses a modified internal thread to prevent the installed bolt or stud from rotating. This feature is useful for one-time, permanent installations.

See Technical Information at the beginning of this section for complete installation steps. Key Inserts are installed with standard drills and taps. Important: Use exactly the tap-drill size specified in the tables (slightly larger than the standard tap drill for that thread size). Locking keys are driven down into the parent material during installation, providing a positive mechanical lock against rotation. See tables for optional installation tools.

KEY INSERTS — HEAVY DUTY, STAINLESS STEEL (INCH)

PART NO.	INTERNAL THREAD	EXTERNAL THREAD	LENGTH	SHEAR ENGAGEMENT AREA (sq in)	MS EQUIVALENT	NAS EQUIVALENT
CL-1024-SKS	#10-24	3/8-16	.31	.190	MS 51831-101	—
CL-1032-SKS	#10-32				MS 51831-201	NAS 1395C3
CL-1420-SKS	1/4-20	7/16-14	.37	.284	MS 51831-102	—
CL-1428-SKS	1-4/28				MS 51831-202	NAS 1395C4
CL-51618-SKS	5/16-18	1/2-13	.43	.359	MS 51831-103	—
CL-51624-SKS	5/16-24				MS 51831-203	NAS 1395C5
CL-3816-SKS	3/8-16	9/16-12	.50	.498	MS 51831-104	—
CL-3824-SKS	3/8-24				MS 51831-204	NAS 1395C6
CL-1213-SKS	1/2-13	3/4-16	.62	1.057	—	—
CL-1220-SKS	1/2-20				—	—
CL-5811-SKS	5/8-11	7/8-14	.87	1.487	MS 51831-108	—
CL-3410-SKS	3/4-10	1-1/8"-12	1.12	2.490	MS 51831-109	—

KEY INSERTS — HEAVY DUTY, STAINLESS STEEL (METRIC)

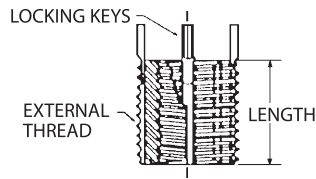
PART NO.	INTERNAL THREAD	INTERNAL THREAD PITCH (mm)	EXTERNAL THREAD	EXTERNAL THREAD PITCH (mm)	LENGTH (mm)	SHEAR ENGAGEMENT AREA (sq mm)
CLM-58-SKSM	M5	.8	M10x1.25	1.25	10	177
CLM-61-SKSM	M6	1	M12x1.25		12	266
CLM-8125-SKSM	M8	1.25	M14x1.5	1.5	14	342
CLM-81-SKSM	M8x1	1				
CLM-1015-SKSM	M10	1.5	M16x1.5	1.5	16	470
CLM-10125-SKSM	M10x1.25	1.25				
CLM-12175-SKSM	M12	1.75	M18x1.5	1.5	18	529
CLM-12125-SKSM	M12x1.25	1.25				
CLM-162-SKSM	M16	2	M22x1.5	2	22	897
CLM-2025-SKSM	M20	2.5	M30x2		30	1770
CLM-243-SKSM	M24	3	M33x2	2	33	2150

KEY INSERTS – THINWALL

BODY: 12L15 STEEL, BLACK OXIDE FINISH, OR 303 STAINLESS STEEL.
KEYS: 302 STAINLESS STEEL



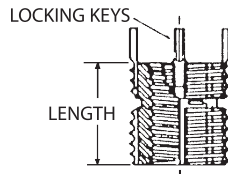
**Thinwall —
Steel and
Stainless Steel**



Thinwall Key Inserts have a smaller OD thread size than standard heavy-duty inserts, ideal for tight spaces where less pull-out strength is acceptable. Key Inserts are ideal for thread reinforcement, especially when the mating stud or bolt will be removed frequently. These stainless inserts provide strong, permanent stainless steel threads in any parent material, ferrous, non-ferrous, or non-metallic. Key Inserts are also well suited for quick repair of stripped, damaged, or worn threads. Locking keys positively prevent the insert from rotating.



**Thinwall —
Stainless Steel
Internal-Thread
Locking**



Stainless Key Inserts are optionally available with "Internal Thread Locking," which uses a modified internal thread to prevent the installed bolt or stud from rotating. This feature is useful for one-time, permanent installations.

See Technical Information at the beginning of this section for complete installation steps. Key Inserts are installed with standard drills and taps. Important: Use exactly the tap-drill size specified in the tables (slightly larger than the standard tap drill for that thread size). Locking keys are driven down into the parent material during installation, providing a positive mechanical lock against rotation. See tables for optional installation tools.

THINWALL, STEEL (INCH)

PART NO.	INTERNAL THREAD	INTERNAL THREAD PITCH (mm)	EXTERNAL THREAD	EXTERNAL THREAD PITCH (mm)	LENGTH (mm)	SHEAR ENGAGEMENT AREA (sq mm)
CLM-58-KSM	M5	.8	M8	1.25	8	105
CLM-61-KSM	M6	1	M10x1.25		10	177
CLM-8125-KSM	M8	1.25	M12x1.25		12	266
CLM-81-KSM	M8x1	1		14	342	
CLM-1015-KSM	M10	1.5	M16x1.5	1.5	14	342
CLM-10125-KSM	M10x1.25	1.25			16	470
CLM-12175-KSM	M12	1.75				
CLM-12125-KSM	M12x1.25	1.25				

THINWALL, STAINLESS STEEL (METRIC)

CLM-58-SKS	M5	.8	M8	1.25	8	105
CLM-61-SKS	M6	1	M10x1.25		10	177
CLM-8125-SKS	M8	1.25	M12x1.25		12	266
CLM-81-SKS	M8x1	1		14	342	
CLM-1015-SKS	M10	1.5	M16x1.5	1.5	14	342
CLM-10125-SKS	M10x1.25	1.25			16	470
CLM-12175-SKS	M12	1.75				
CLM-12125-SKS	M12x1.25	1.25				

KEY INSERTS – SOLID

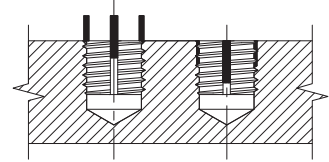
BODY: 1215 STEEL, BLACK OXIDE FINISH, OR 303 STAINLESS STEEL.
KEYS: 302 STAINLESS STEEL



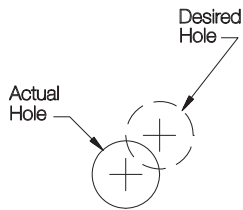
**Solid –
Steel and
Stainless Steel**

Solid Key Inserts are ideal for relocating a drilled or tapped hole. This threaded plug installs quickly, and the locking keys positively prevent the insert from rotating.

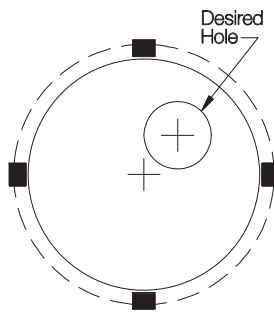
See Technical Information at the beginning of this section for complete installation steps. Key Inserts are installed with standard drills and taps. Important: Use exactly the tap-drill size specified in the tables (slightly larger than the standard tap drill for that thread size). Locking keys are driven down into the parent material during installation, providing a positive mechanical lock against rotation. See tables for optional installation tools.



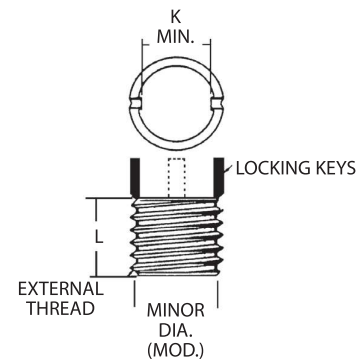
For installation tools, see table below.



Before Repair



After Repair



SOLID – STAINLESS STEEL (INCH)

PART NO.	INSERT DIMENSIONS				INSTALLATION DATA				REMOVAL DATA		
	EXTERNAL THREAD	L	K	SHEAR ENGAGEMENT (SQ. IN.)	REQ'D TAP DRILL	C' SINK DIA +.010/-.000	STANDARD TAP UN-2B	MIN. THREAD DEPTH	INSTALLATION TOOL PART NO.	DRILL SIZE	DRILL DEPTH
CL-51618-KSS	5/16-18	.31	.216	.152	I	.323	5/16-18	.37	CL-51618-KSST	7/32	1/8
CL-3816-KSS	3/8-16	.31	.285	.190	Q	.385	3/8-16	.37	CL-3816-KSST	9/32	1/8
CL-71614-KSS	7/16-14	.37	.341	.284	X	.447	7/16-14	.43	CL-71614-KSST	11/32	3/16
CL-1213-KSS	1/2-13	.43	.403	.359	29/64	.510	1/2-13	.50	CL-1213-KSST	13/32	3/16
CL-91612-KSS	9/16-12	.50	.465	.498	33/64	.572	9/16-12	.56	CL-91612-KSST	15/32	3/16
CL-5811-KSS	5/8-11	.62	.528	.717	37/64	.635	5/8-11	.68	CL-5811-KSST	17/32	3/16
CL-111611-KSS	11/16-11-NS	.68	.590	.888	41/64	.700	11/16-11-NS	.75	CL-111611-KSST	19/32	3/16
CL-131616-KSS	13/16-16	.81	.716	1.249	49/64	.822	13/16-16	.94	CL-131616-KSST	23/32	3/16
CL-7814-KSS	7/8-14	.87	.778	1.487	53/64	.885	7/8-14	1.00	CL-7814-KSST	25/32	3/16
CL-11812-KSS	1-1/8"-12	1.12	.970	2.490	1-1/16	1.145	1-1/8"-12	1.31	CL-11812-KSST	31/32	5/16
CL-11412-KSS	1-1/4"-12	1.25	1.095	3.137	1-3/16	1.270	1-1/4"-12	1.41	CL-11412-KSST	1-3/32	5/16
CL-13812-KSS	1-3/8"-12	1.37	1.220	3.838	1-5/16	1.395	1-3/8"-12	1.56	CL-13812-KSST	1-7/32	5/16

SOLID – STEEL (METRIC)

PART NO.	EXTERNAL THREAD	EXTERNAL THREAD PITCH (mm)	L LENGTH (mm)	K MINIMUM (mm)	SHEAR ENGAGEMENT AREA (sq mm)
CLM-8125-KSSM	M8	1.25	8	5.5	99
CLM-10125-KSSM	M10x1.25		10	7.5	135
CLM-12125-KSSM	M12x1.25		12	9	214
CLM-1615-KSSM	M16x1.5	1.5	16	13.5	470
CLM-2015-KSSM	M20x1.5		20	17.5	757
CLM-2415-KSSM	M24x1.5		24	20.5	1130
CLM-302-KSSM	M30x2	2	30	26	1800

KEY INSERT ASSORTMENTS



With Key Insert Assortments, you always have the right insert and installation tool on hand for thread repairs. Each of the four assortments contains many different insert sizes and an installation tool for each size. The durable case provides convenient storage and clear organization. **INFO+**: Order individual inserts on pages 344-348 as refills.

UNC COARSE

PART NO.	CONTAINS THESE INSERTS			CONTAINS THESE TOOLS
	QTY	ID THREAD	PART NO.	
CL-1-KS-C	5	#10-24	CL-1024-KS	CL-10-KST
	10	1/4-20	CL-1420-KS	CL-14-KST
	10	5/16-18	CL-51618-KS	CL-516-KST
	10	3/8-16	CL-3816-KS	CL-38-KST
	10	1/2-13	CL-1213-KS	CL-12-KST
	10	5/8-11	CL-5811-KS	CL-58-KST
	5	3/4-10	CL-3410-KS	CL-34-KST

UNC COARSE — STAINLESS STEEL

PART NO.	CONTAINS THESE INSERTS			CONTAINS THESE TOOLS
	QTY	ID THREAD	PART NO.	
CL-1-KS-C	5	#10-24	CL-1024-KS	CL-10-KST
	10	1/4-20	CL-1420-KS	CL-14-KST
	10	5/16-18	CL-51618-KS	CL-516-KST
	10	3/8-16	CL-3816-KS	CL-38-KST
	10	1/2-13	CL-1213-KS	CL-12-KST
	10	5/8-11	CL-5811-KS	CL-58-KST
	5	3/4-10	CL-3410-KS	CL-34-KST

UNF FINE

PART NO.	CONTAINS THESE INSERTS			CONTAINS THESE TOOLS
	QTY	ID THREAD	PART NO.	
CL-1-KS-F	5	#10-24	CL-1032-KS	CL-10-KST
	10	1/4-20	CL-1428-KS	CL-14-KST
	10	5/16-18	CL-51624-KS	CL-516-KST
	10	3/8-16	CL-3824-KS	CL-38-KST
	10	1/2-13	CL-1220-KS	CL-12-KST
	10	5/8-11	CL-5818-KS	CL-58-KST
	5	3/4-10	CL-3416-KS	CL-34-KST

METRIC COARSE

PART NO.	CONTAINS THESE INSERTS			CONTAINS THESE TOOLS
	QTY	ID THREAD	PART NO.	
CLM-1-KSM-C	5	M5	CLM-58-KSM	CL-10-KST
	10	M6	CLM-61-KSM	CL-14-KST
	10	M8	CLM-8125-KSM	CL-516-KST
	10	M10	CLM-1015-KSM	CL-38-KST
	10	M12	CLM-12175-KSM	CL-12-KST
	10	M16	CLM-162-KSM	CL-58-KST
	5	M20	CLM-2025-KSM	CL-34-KST

SOLID — STAINLESS STEEL

PART NO.	CONTAINS THESE INSERTS			CONTAINS THESE TOOLS
	QTY	ID THREAD	PART NO.	
CL-1-KSS-S	5	5/16-18	CL-51618-KSS	CL-51618-KSST
	10	3/8-16	CL-3816-KSS	CL-3816-KSST
	10	1/2-13	CL-1213-KSS	CL-1213-KSST
	10	9/16-12	CL-91612-KSS	CL-91612-KSST
	10	5/8-11	CL-5811-KSS	CL-5811-KSST
	10	7/8-14	CL-7814-KSS	CL-7814-KSST
	5	1-1/8"-12	CL-11812-KSS	CL-11812-KSST



INFO+: To order repair kits for a single thread size, see page 344.