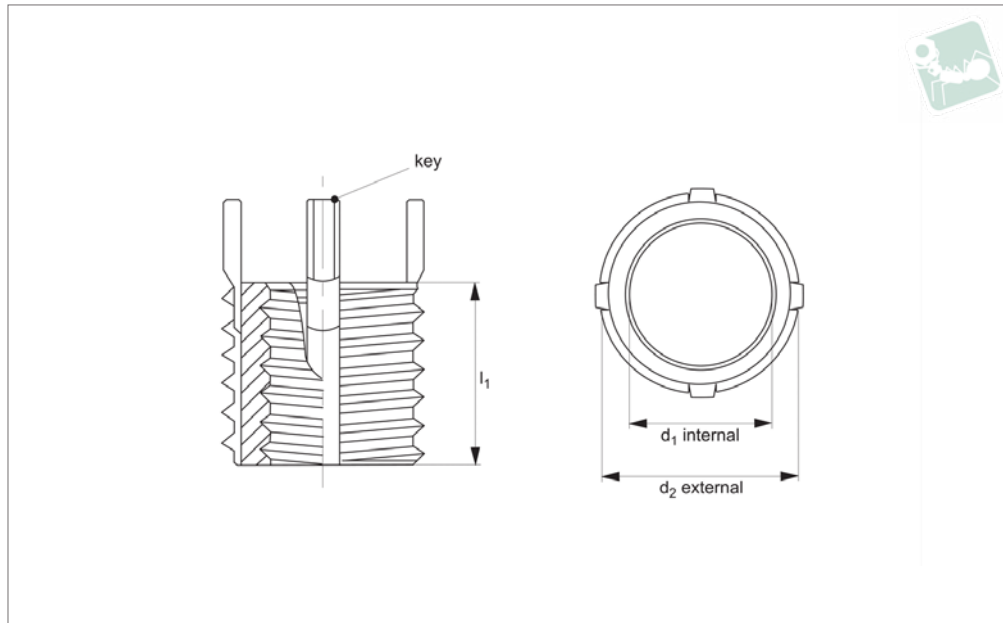
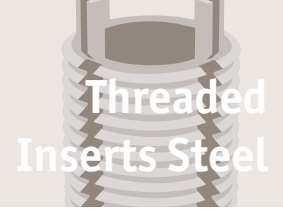




Threaded Insert - Metric

thinwall - carbon steel



TR1520

THREADED INSERTS STEEL

Material

Inserts: carbon steel (C1215) or equivalent. Zinc phosphate.

Keys: stainless steel (302 CRES) or equivalent. Passivated.

Technical Notes

General tolerances:

±0,25, unless specified.

Tap drill hole tolerances:

6,9 to 10,8 = +0,10/-0,025.

12,8 and over = +0,13/-0,025.

Tips

Order installation tool separately, as identified by „Inst. tool ref.“ in table.

Important Notes

Four locking keys on internal threads M 8 and over. Two locking keys on internal threads smaller than M 8.

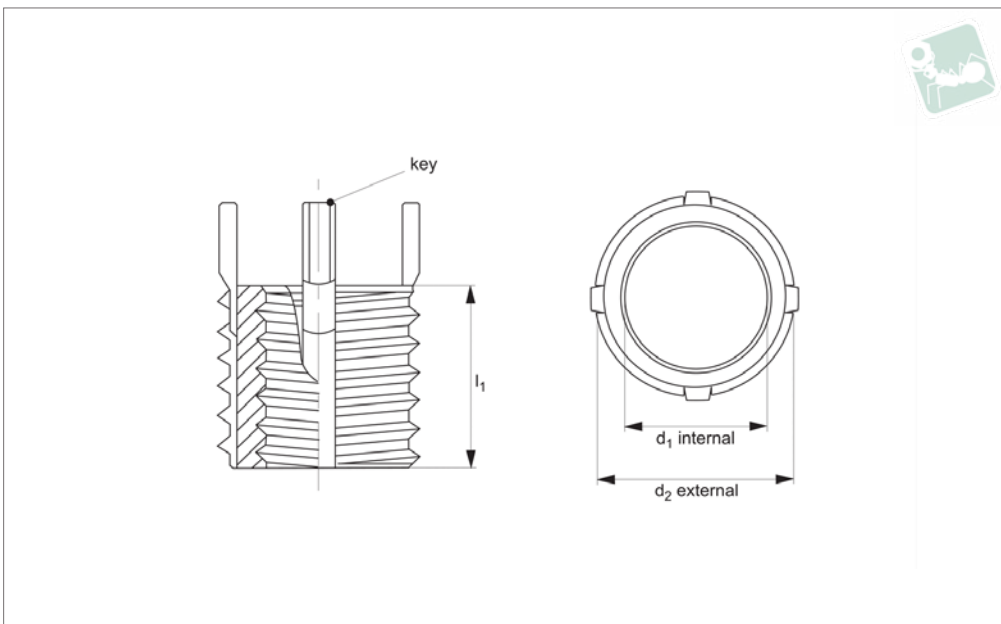
Installation (Inst.) drill size, countersink, thread tap and thread depth as specified in table.

Removal drill size and drill depth as speci-

Order No.	Int. d ₁ tol. 6H	Int. thread type d ₁	Ext. d ₂ tol. 6g	Ext. thread type d ₂	l ₁	Inst. tap drill size	Inst. tool ref. 22060	Inst. c'sink dia. ±0.25 ±0	Inst. thread tap tol. 6H	Inst. thread depth min.	Removal drill size	Removal drill depth
TR1520.65951	M 5x0,80	Coarse	M 8x1,25	Coarse	8	6,9	.W0510	8,3	M 8x1,25	9,5	5,5	4,0
TR1520.65952	M 6x1,00	Coarse	M10x1,25	Fine	10	8,8	.W0520	10,3	M10x1,25	11,5	7,5	4,8
TR1520.65953	M 8x1,25	Coarse	M12x1,25	Fine	12	10,8	.W0530	12,3	M12x1,25	13,5	9,5	4,8
TR1520.65153	M 8x1,00	Fine	M12x1,25	Fine	12	10,8	.W0530	12,3	M12x1,25	13,5	9,5	4,8
TR1520.65955	M10x1,50	Coarse	M14x1,50	Fine	14	12,8	.W0550	14,3	M14x1,50	15,5	11,5	4,8
TR1520.65155	M10x1,25	Fine	M14x1,50	Fine	14	12,8	.W0550	14,3	M14x1,50	15,5	11,5	4,8
TR1520.65956	M12x1,75	Coarse	M16x1,50	Fine	16	14,8	.W0560	16,3	M16x1,50	17,5	13,5	4,8
TR1520.65156	M12x1,25	Fine	M16x1,50	Fine	16	14,8	.W0560	16,3	M16x1,50	17,5	13,5	4,8



TR1570



Material

Inserts: carbon steel (C1215) or equivalent. Zinc phosphate.

Keys: stainless steel (302 CRES) or equivalent. Passivated.

Technical Notes

General tolerances:

± 0,010" unless specified.

Tap drill hole tolerances:

0,234 to 0,500 = +0,004/-0,001"
0,500 and over = +0,005/-0,001"

Tips

Order installation tool separately, as identified by „Inst. tool ref.“ in table.

Important Notes

Four locking keys on internal threads 5/16" and over. Two locking keys on internal

threads smaller than 5/16".

Installation (Inst.) drill size, countersink, thread tap and thread depth as specified in table.

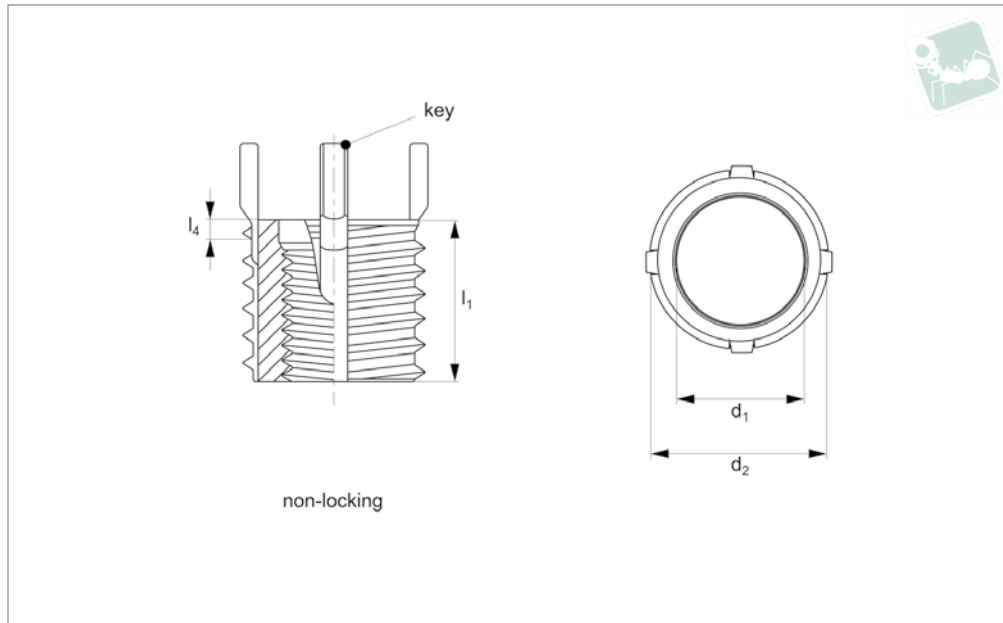
Removal drill size and drill depth as specified in table.

All dimensions in inches.

Order No.	Int. d ₁ tol. 2B	Int. thread type d ₁	Ext. d ₂ tol. 2A	Ext. thread type d ₂	l ₁	Inst. tap drill size	Inst. tool ref. 22054	Inst. c'sink dia. +0.010 - 0.000	Inst. thread tap tol. 2B	Inst. thread depth min.	Removal drill size	Removal drill depth
TR1570.65921	10-24	UNC	5/16"-18	UNC	0,31	17/64"	.W0210	0,32	5/16"-18	0,37	7/32"	1/8"
TR1570.66121	10-32	UNF	5/16"-18	UNC	0,31	17/64"	.W0210	0,32	5/16"-18	0,37	7/32"	1/8"
TR1570.65922	1/4"-20	UNC	3/8"-16	UNC	0,37	21/64"	.W0220	0,38	3/8"-16	0,43	9/32"	3/16"
TR1570.66122	1/4"-28	UNF	3/8"-16	UNC	0,37	21/64"	.W0220	0,38	3/8"-16	0,43	9/32"	3/16"
TR1570.65923	5/16"-18	UNC	7/16"-14	UNC	0,43	25/64"	.W0230	0,44	7/16"-14	0,50	11/32"	3/16"
TR1570.66123	5/16"-24	UNF	7/16"-14	UNC	0,43	25/64"	.W0230	0,44	7/16"-14	0,50	11/32"	3/16"
TR1570.65924	3/8"-16	UNC	1/2"-13	UNC	0,50	29/64"	.W0240	0,51	1/2"-13	0,56	13/32"	3/16"
TR1570.66124	3/8"-24	UNF	1/2"-13	UNC	0,50	29/64"	.W0240	0,51	1/2"-13	0,56	13/32"	3/16"
TR1570.65925	7/16"-14	UNC	9/16"-12	UNC	0,56	33/64"	.W0250	0,57	9/16"-12	0,62	15/32"	3/16"
TR1570.66125	7/16"-20	UNF	9/16"-12	UNC	0,56	33/64"	.W0250	0,57	9/16"-12	0,62	15/32"	3/16"
TR1570.65926	1/2"-13	UNC	5/8"-11	UNC	0,62	37/64"	.W0260	0,63	5/8"-11	0,68	17/32"	3/16"
TR1570.66126	1/2"-20	UNF	5/8"-11	UNC	0,62	37/64"	.W0260	0,63	5/8"-11	0,68	17/32"	3/16"



Threaded Insert MS/NAS - L Duty - 4140 steel - non-locking - MS/NAS grade



TR1608

THREADED INSERTS STEEL

Material

Inserts - 4140 alloy steel (160 KSI Min).
Keys - 302 CRES.
Cadmium plate (QQ-P-416 Type II, Cl. 2).
Dry film lubrication on self-locking inserts only.

Technical Notes

All dimensions in millimetres.
Internal threads: to Fed. Std. H28/21, MJ Form

General tolerances -

+/- 0,25mm, unless specified.
Tap drill hole tolerances -
6,9 to 10,8 = +0,100/-0,025
12,8 and over = +0,130/-0,025
NL = Non-Locking type.

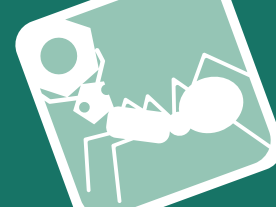
Tips

Order installation tool separately, as identified by „Inst. Tool ref.“ in table.

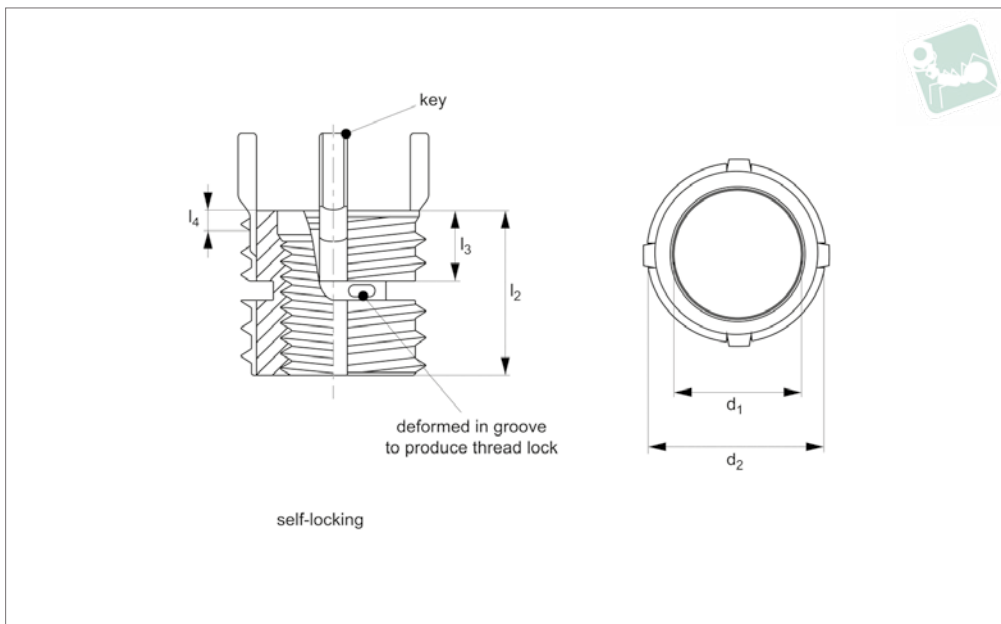
Important Notes

Four locking keys on internal threads M 6 and over. Two locking keys on internal threads smaller than M 6.
Installation (Inst.) drill size, counter sink, thread tap and thread depth as specified in table.
Removal (Rem.) drill size and drill depth as specified in table.
Perform to standards: NA0148

Order No.	Type	d ₁ tol. 4H 5H	Thread type d ₁	d ₂ tol. 4h	Thread type d ₂	Inst. tap drill size	l ₁	l ₄ c'bore depth	C'sink hole size +0.25 - 0.00	Inst. thread tap tol. 6H	Inst. thread tap depth min.	Inst. tool ref. TI1712	Removal drill depth	Removal drill size
TR1608.80351	NL	M 5x0,8	Coarse	M 8x1,25	Coarse	6,90	8,0	1,27	8,25	M 8x1,25	9,5	.0510	4,00	5,50
TR1608.80551	NL	M 5x0,5	Fine	M 8x1,25	Coarse	6,90	8,0	1,27	8,25	M 8x1,25	9,5	.0510	4,00	5,50
TR1608.80352	NL	M 6x1,0	Coarse	M10x1,25	Fine	8,80	10,0	1,78	10,25	M10x1,25	11,5	.0520	4,75	7,50
TR1608.80552	NL	M 6x0,75	Fine	M10x1,25	Fine	8,80	10,0	1,78	10,25	M10x1,25	11,5	.0520	4,75	7,50
TR1608.80353	NL	M 8x1,25	Coarse	M12x1,25	Fine	10,80	12,0	1,78	12,25	M12x1,25	13,5	.0530	4,75	9,50
TR1608.80553	NL	M 8x1,0	Fine	M12x1,25	Fine	10,80	12,0	1,78	12,25	M12x1,25	13,5	.0530	4,75	9,50
TR1608.80355	NL	M10x1,5	Coarse	M14x1,5	Fine	12,80	14,0	2,29	14,25	M14x1,5	15,5	.0550	4,75	11,50
TR1608.80555	NL	M10x1,25	Fine	M14x1,5	Fine	12,80	14,0	2,29	14,25	M14x1,5	15,5	.0550	4,75	11,50
TR1608.80356	NL	M12x1,75	Coarse	M16x1,5	Fine	14,75	16,0	2,29	16,25	M16x1,5	17,5	.0560	4,75	13,50
TR1608.80556	NL	M12x1,25	Fine	M16x1,5	Fine	14,75	16,0	2,29	16,25	M16x1,5	17,5	.0560	4,75	13,50



TR1609



Material

Inserts - 4140 alloy steel (160 KSI Min).
 Keys - 302 CRES.
 Cadmium plate (QQ-P-416 Type II, Cl. 2).
 Dry film lubrication on self-locking inserts only.

Technical Notes

All dimensions in millimetres.
 Internal threads: to Fed. Std. H28/21, MJ Form
 General tolerances -

+/- 0,25mm, unless specified.

Tap drill hole tolerances -
 6,9 to 10,8 = +0,100/-0,025
 12,8 and over = +0,130/-0,025

SL = Self-Locking type, deliberate deformity in thread produces self-affect once installed (see technical diagram).

Tips

Order installation tool separately, as identified by „Inst. Tool ref.“ in table.

Important Notes

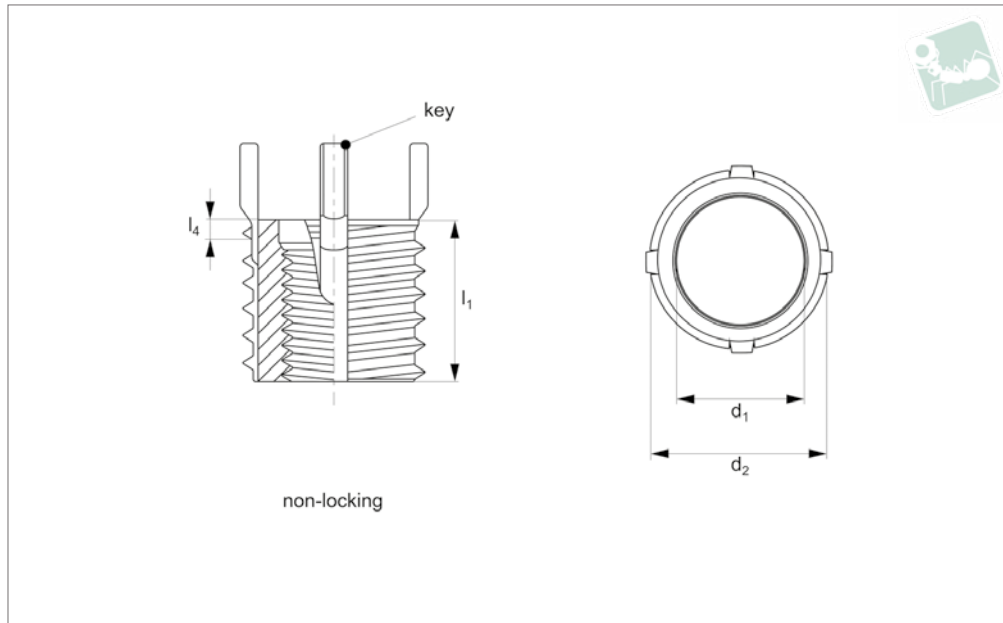
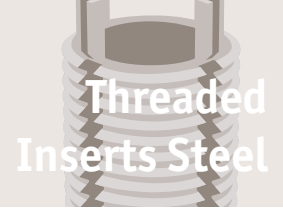
Four locking keys on internal threads M 6 and over. Two locking keys on internal threads smaller than M 6.
 Installation (Inst.) drill size, counter sink, thread tap and thread depth as specified in table.
 Removal (Rem.) drill size and drill depth as specified in table.
 Perform to standards: NA0148

Order No.	Type	d ₁ tol. 4H 5H	Thread type d ₁	d ₂ tol. 4h	Thread type d ₂	Inst. tap drill size	l ₁
TR1609.81351	SL	M 5x0,8	Coarse	M 8x1,25	Coarse	6.90	8.0
TR1609.81551	SL	M 5x0,5	Fine	M 8x1,25	Coarse	6.90	8.0
TR1609.81352	SL	M 6x1,0	Coarse	M10x1,25	Fine	8.80	10.0
TR1609.81552	SL	M 6x0,75	Fine	M10x1,25	Fine	8.80	10.0
TR1609.81353	SL	M 8x1,25	Coarse	M12x1,25	Fine	10.80	12.0
TR1609.81553	SL	M 8x1,0	Fine	M12x1,25	Fine	10.80	12.0
TR1609.81355	SL	M10x1,5	Coarse	M14x1,5	Fine	12.80	14.0
TR1609.81555	SL	M10x1,25	Fine	M14x1,5	Fine	12.80	14.0
TR1609.81356	SL	M12x1,75	Coarse	M16x1,5	Fine	14.75	16.0
TR1609.81556	SL	M12x1,25	Fine	M16x1,5	Fine	14.75	16.0

Order No.	l ₃ ±0.76	l ₄ c'bore depth	C'sink hole size +0.25 -0.00	Inst. thread tap tol. 6H	Inst. thread tap depth min.	Inst. tool ref. T11712	Removal drill depth	Removal drill size
TR1609.81351	3.73	1.27	8.25	M 8x1,25	9.5	.0510	4.00	5.50
TR1609.81551	3.73	1.27	8.25	M 8x1,25	9.5	.0510	4.00	5.50
TR1609.81352	6.02	1.78	10.25	M10x1,25	11.5	.0520	4.75	7.50
TR1609.81552	6.02	1.78	10.25	M10x1,25	11.5	.0520	4.75	7.50
TR1609.81353	6.28	1.78	12.25	M12x1,25	13.5	.0530	4.75	9.50
TR1609.81553	6.28	1.78	12.25	M12x1,25	13.5	.0530	4.75	9.50
TR1609.81355	6.46	2.29	14.25	M14x1,5	15.5	.0550	4.75	11.50
TR1609.81555	6.46	2.29	14.25	M14x1,5	15.5	.0550	4.75	11.50
TR1609.81356	6.46	2.29	16.25	M16x1,5	17.5	.0560	4.75	13.50
TR1609.81556	6.46	2.29	16.25	M16x1,5	17.5	.0560	4.75	13.50



Threaded Insert MS/NAS - Thinwall - 4140 steel - non-locking - MS/NAS grade



TR1662

THREADED INSERTS STEEL

Material

Inserts - 4140 alloy steel (160 KSI Min).
Keys - 302 CRES.
Cadmium plate (QQ-P-416 Type II, Cl. 2).
Dry film lubrication on self-locking inserts only.

Technical Notes

All dimensions in inches.
Internal threads: to SAE AS8879.
General tolerances -

+/- 0,010 unless specified.
Tap drill hole tolerances -
0,234 to 0,500 = +0,004/-0,001
0,500 and over = +0,005/-0,001
NL = Non-Locking type.

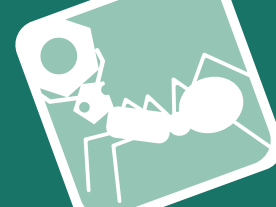
Tips

Order installation tool separately, as identified by „Inst. Tool ref.“ in table.

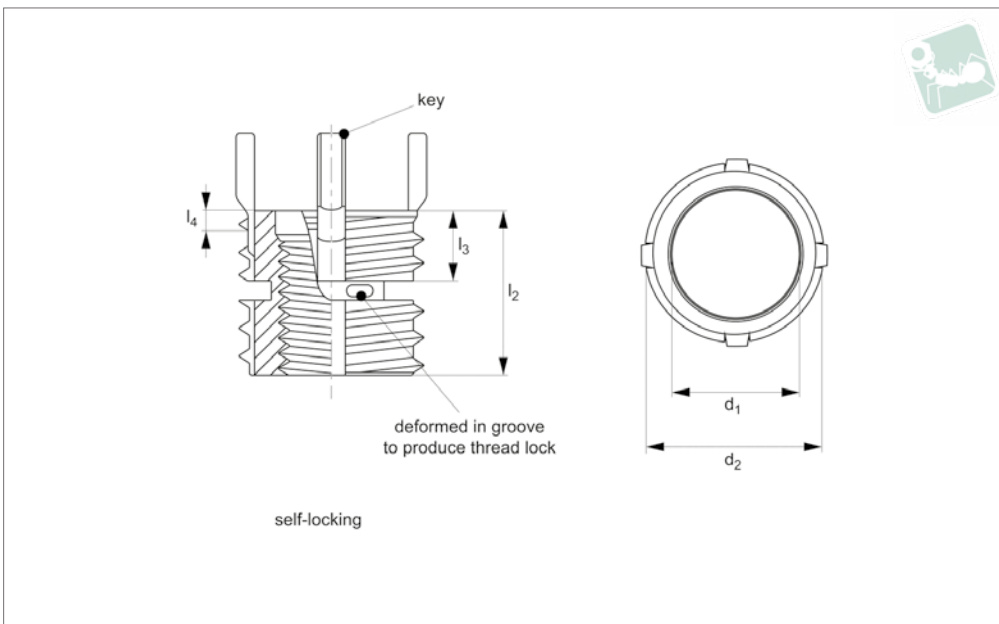
Important Notes

Four locking keys on internal threads 5/16 and over. Two locking keys on internal threads smaller than 5/16.
Installation (Inst.) drill size, counter sink, thread tap and thread depth as specified in table.
Removal (Rem.) drill size and drill depth as specified in table.
Perform to standards: MIL-I-45914A

Order No.	Type	d ₁ class 3B	Thread type d ₁	d ₂ (mod.) class 2A	Thread type d ₂	Inst. tap drill size	l ₁	l ₄ c'bore depth	Inst. c'sink hole size +0.010 - 0.000	Inst. thread depth min.	Inst. tap size class 2B	Inst. tool ref. TR1702	Removal drill depth	Removal drill size
TR1662.80321	NL	10-24	UNC	5/16-18	UNC	,272	,312	,07	,323	,37	5/16-18	.0210	5/32	7/32
TR1662.80521	NL	10-32	UNF	5/16-18	UNC	,272	,312	,07	,323	,37	5/16-18	.0211	5/32	7/32
TR1662.80322	NL	1/4-20	UNC	3/8-16	UNC	,332	,375	,07	,385	,43	3/8-16	.0220	3/16	9/32
TR1662.80522	NL	1/4-28	UNF	3/8-16	UNC	,332	,375	,07	,385	,43	3/8-16	.0221	3/16	9/32
TR1662.80323	NL	5/16-18	UNC	7/16-14	UNC	,397	,437	,07	,447	,50	7/16-14	.0230	3/16	11/32
TR1662.80523	NL	5/16-24	UNF	7/16-14	UNC	,397	,437	,07	,447	,50	7/16-14	.0231	3/16	11/32
TR1662.80324	NL	3/8-16	UNC	1/2-13	UNC	,453	,500	,07	,510	,56	1/2-13	.0240	3/16	13/32
TR1662.80524	NL	3/8-24	UNF	1/2-13	UNC	,453	,500	,07	,510	,56	1/2-13	.0241	3/16	13/32
TR1662.80325	NL	7/16-14	UNC	9/16-12	UNC	,516	,562	,07	,572	,62	9/16-12	.0250	3/16	15/32
TR1662.80525	NL	7/16-20	UNF	9/16-12	UNC	,516	,562	,07	,572	,62	9/16-12	.0251	3/16	15/32
TR1662.80326	NL	1/2-13	UNC	5/8-11	UNC	,578	,625	,07	,635	,68	5/8-11	.0260	3/16	17/32
TR1662.80526	NL	1/2-20	UNF	5/8-11	UNC	,578	,625	,07	,635	,68	5/8-11	.0261	3/16	17/32



TR1663



Material

Inserts - 4140 alloy steel (160 KSI Min).
 Keys - 302 CRES.
 Cadmium plate (QQ-P-416 Type II, Cl. 2).
 Dry film lubrication on self-locking inserts only.

Technical Notes

All dimensions in inches.
 Internal threads: to SAE AS8879.
 General tolerances -
 +/- 0,010 unless specified.

Tap drill hole tolerances -

0,234 to 0,500 = +0,004/-0,001
 0,500 and over = +0,005/-0,001
SL = Self-Locking type, deliberate deformity in thread produces self-affect once installed (see technical diagram).

Tips

Order installation tool separately, as identified by „Inst. Tool ref.“ in table.

Important Notes

Four locking keys on internal threads 5/16 and over. Two locking keys on internal threads smaller than 5/16.
 Installation (Inst.) drill size, counter sink, thread tap and thread depth as specified in table.
 Removal (Rem.) drill size and drill depth as specified in table.
 Perform to standards: MIL-I-45914A (MS51830 & NAS1394)

Order No.	Type	d ₁ class 3B	Thread type d ₁	d ₂ (mod.) class 2A	Thread type d ₂	Inst. tap drill size	l ₁	l ₃ ±0.03 0	l ₄ c'bore depth	Inst. c'sink hole size +0.010 - 0.000	Inst. thread depth min.	Inst. thread tap size class 2B	Inst. tool ref. TR1702	Removal drill depth	Removal drill size
TR1663.81321	SL	10-24	UNC	5/16-18	UNC	,272	,312	,22	,07	,323	,37	5/16-18	.0210	5/32	7/32
TR1663.81521	SL	10-32	UNF	5/16-18	UNC	,272	,312	,22	,07	,323	,37	5/16-18	.0211	5/32	7/32
TR1663.81322	SL	1/4-20	UNC	3/8-16	UNC	,332	,375	,22	,07	,385	,43	3/8-16	.0220	3/16	9/32
TR1663.81522	SL	1/4-28	UNF	3/8-16	UNC	,332	,375	,22	,07	,385	,43	3/8-16	.0221	3/16	9/32
TR1663.81323	SL	5/16-18	UNC	7/16-14	UNC	,397	,437	,22	,07	,447	,50	7/16-14	.0230	3/16	11/32
TR1663.81523	SL	5/16-24	UNF	7/16-14	UNC	,397	,437	,22	,07	,447	,50	7/16-14	.0231	3/16	11/32
TR1663.81324	SL	3/8-16	UNC	1/2-13	UNC	,453	,500	,24	,07	,510	,56	1/2-13	.0240	3/16	13/32
TR1663.81524	SL	3/8-24	UNF	1/2-13	UNC	,453	,500	,24	,07	,510	,56	1/2-13	.0241	3/16	13/32
TR1663.81325	SL	7/16-14	UNC	9/16-12	UNC	,516	,562	,27	,07	,572	,62	9/16-12	.0250	3/16	15/32
TR1663.81525	SL	7/16-20	UNF	9/16-12	UNC	,516	,562	,27	,07	,572	,62	9/16-12	.0251	3/16	15/32
TR1663.81326	SL	1/2-13	UNC	5/8-11	UNC	,578	,625	,28	,07	,635	,68	5/8-11	.0260	3/16	17/32
TR1663.81526	SL	1/2-20	UNF	5/8-11	UNC	,578	,625	,28	,07	,635	,68	5/8-11	.0261	3/16	17/32