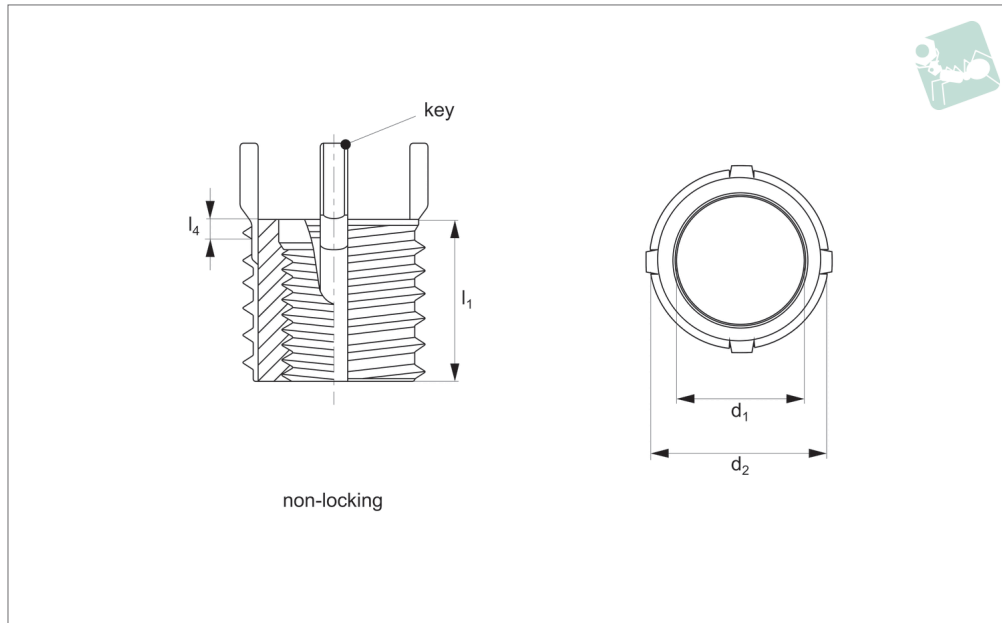
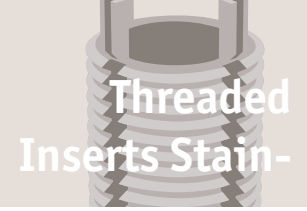




# Threaded Insert MS/NAS - Extra H

303 stainless steel - non-locking - MS/NAS grade



**TR1656**

THREADED INSERTS STAINLESS

**Material**

Inserts - 303 CRES.  
Keys - 302 CRES.  
Passivated. 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 1/4

and over. Two locking keys on internal threads smaller than 1/4.  
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 (MS51832)

Order No.	Type	d <sub>1</sub> tol. 3B	Thread type d <sub>1</sub>	d <sub>2</sub> (mod.) class 2A	Thread type d <sub>2</sub>	l <sub>1</sub>	l <sub>4</sub> c'bore depth	Inst. c'sink hole size +0.010 -0.000	Inst. tap drill size	Inst. thread tap depth min.	Inst. thread tap size class 2B	Inst. tool ref. TR1706	Removal drill size	Removal drill depth
TR1656.76333	NL	10-24	UNC	7/16-14	UNC	,312	,07	,447	,397	,37	7/16-14	.0330	11/32	3/16
TR1656.76533	NL	10-32	UNF	7/16-14	UNC	,312	,07	,447	,397	,37	7/16-14	.0331	11/32	3/16
TR1656.76334	NL	1/4-20	UNC	1/2-13	UNC	,375	,07	,510	,453	,44	1/2-13	.0340	13/32	3/16
TR1656.76534	NL	1/4-28	UNF	1/2-13	UNC	,375	,07	,510	,453	,44	1/2-13	.0341	13/32	3/16
TR1656.76335	NL	5/16-18	UNC	9/16-12	UNC	,437	,07	,572	,516	,50	9/16-12	.0350	15/32	3/16
TR1656.76535	NL	5/16-24	UNF	9/16-12	UNC	,437	,07	,572	,516	,50	9/16-12	.0351	15/32	3/16
TR1656.76336	NL	3/8-16	UNC	5/8-11	UNC	,500	,07	,635	,578	,56	5/8-11	.0360	17/32	3/16
TR1656.76536	NL	3/8-24	UNF	5/8-11	UNC	,500	,07	,635	,578	,56	5/8-11	.0361	17/32	3/16
TR1656.76337	NL	7/16-14	UNC	11/16-11NS	UNS	,625	,10	,700	,641	,68	11/16-11NS	.0370	19/32	3/16
TR1656.76537	NL	7/16-20	UNF	11/16-11NS	UNS	,625	,10	,700	,641	,68	11/16-11NS	.0371	19/32	3/16

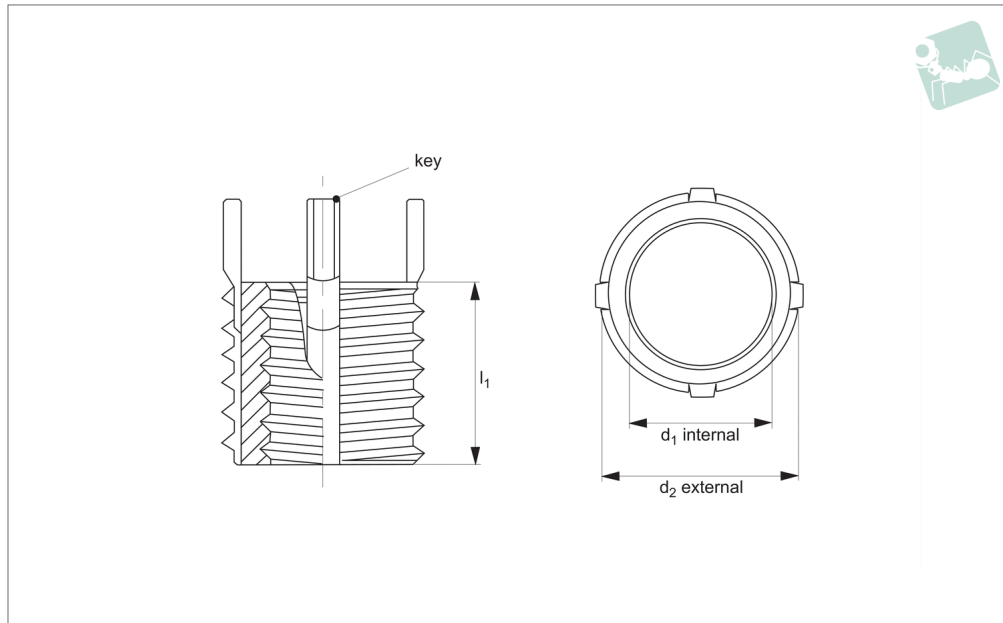
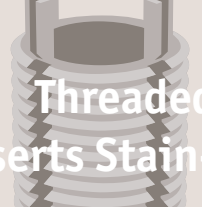


Order No.	Type	d <sub>1</sub> tol. 3B	Thread type d <sub>1</sub>	d <sub>2</sub> (mod.) class 2A	Thread type d <sub>2</sub>	l <sub>1</sub>	l <sub>4</sub> c'bore depth	Inst. c'sink hole size +0.010 - 0.000	Inst. tap drill size	Inst. thread tap depth min.	Inst. thread tap size class 2B	Inst. tool ref. TR1706	Removal drill size	Removal drill depth
<b>TR1656.76338</b>	NL	1/2- 13	UNC	13/ 16-16	UNF	,688	,10	,822	,766	,75	13/16-16	.0380	23/32	3/16
<b>TR1656.76538</b>	NL	1/2- 20	UNF	13/ 16-16	UNF	,688	,10	,822	,766	,75	13/16-16	.0381	23/32	3/16
<b>TR1656.76339</b>	NL	9/ 16- 12	UNC	7/8- 14	UNF	,812	,10	,885	,828	,94	7/8-14	.0390	25/32	3/16
<b>TR1656.76539</b>	NL	9/ 16- 18	UNF	7/8- 14	UNF	,812	,10	,885	,828	,94	7/8-14	.0391	25/32	3/16
<b>TR1656.76340</b>	NL	5/8- 11	UNC	1-12	UNF	,875	,10	1.020	,937	1.00	1-12	.0400	27/32	5/16
<b>TR1656.76540</b>	NL	5/8- 18	UNF	1-12	UNF	,875	,10	1.020	,937	1.00	1-12	.0401	27/32	5/16
<b>TR1656.76341</b>	NL	3/4- 10	UNC	1-1/ 4-12	UNF	1.12 5	,10	1.270	1.187	1.31	1-1/4-12	.0410	1-3/32	5/16
<b>TR1656.76541</b>	NL	3/4- 16	UNF	1-1/ 4-12	UNF	1.12 5	,10	1.270	1.187	1.31	1-1/4-12	.0411	1-3/32	5/16
<b>TR1656.76342</b>	NL	7/8- 9	UNC	1-3/ 8-12	UNF	1.25 0	,10	1.395	1.312	1.44	1-3/8-12	.0420	1-7/32	5/16
<b>TR1656.76542</b>	NL	7/8- 14	UNF	1-3/ 8-12	UNF	1.25 0	,10	1.395	1.312	1.44	1-3/8-12	.0421	1-7/32	5/16
<b>TR1656.76343</b>	NL	1-8	UNC	1-1/ 2-12	UNF	1.37 5	,10	1.520	1.437	1.56	1-1/2-12	.0430	1-11/ 32	5/16
<b>TR1656.76543</b>	NL	1-12	UNF	1-1/ 2-12	UNF	1.37 5	,10	1.520	1.437	1.56	1-1/2-12	.0431	1-11/ 32	5/16



# Threaded Insert - Inch extra heavy duty - stainless steel

Threaded  
Inserts Stain-



## TR1566

THREADED INSERTS STAINLESS

### Material

Inserts: stainless steel (AISI 303) or equivalent. Passivated.

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.

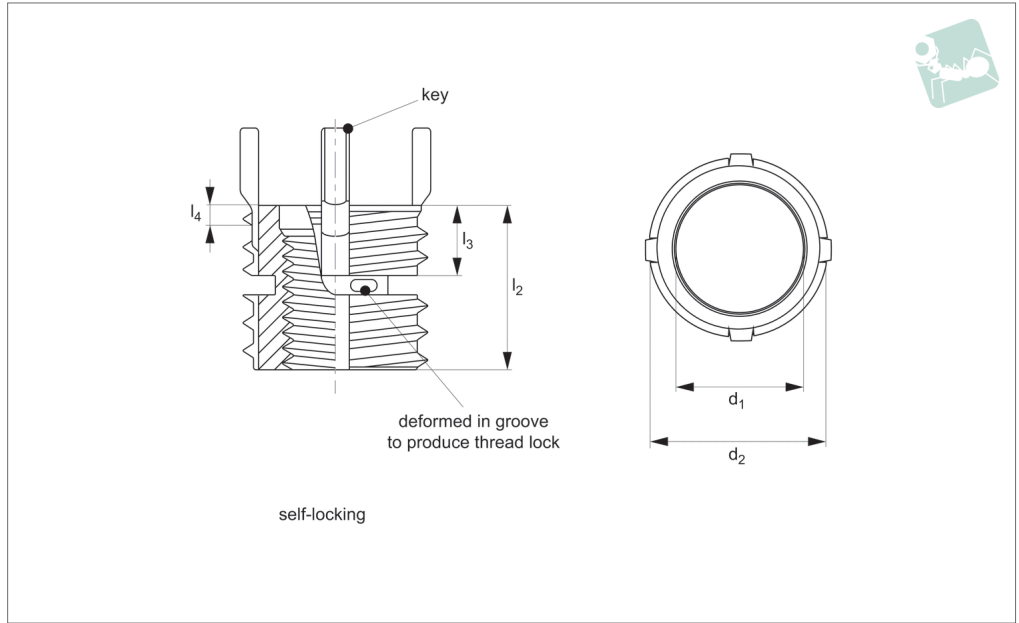
Removal drill size and drill depth as specified in table.

**All dimensions in inches.**

Order No.	Int. d <sub>1</sub> tol. 2B	Int. thread type d <sub>1</sub>	Ext. d <sub>2</sub> (mod.) class 2A	Ext. thread type d <sub>2</sub>	l <sub>1</sub>	Inst. c/sink dia. +0.010 - 0.000	Inst. tap drill size	Inst. thread depth min.	Inst. thread tap tol. 2B	Inst. tool ref. 22058	Removal drill size	Removal drill depth
TR1566.66331	6 - 32	UNC	5/16" - 18	UNC	0,31	0,32	17/64"	0,37	5/16"-18	.W0310	7/32"	1/8"
TR1566.66332	8 - 32	UNC	3/8" - 16	UNC	0,31	0,38	21/64"	0,37	3/8"-16	.W0320	9/32"	1/8"
TR1566.66333	10 - 24	UNC	7/16" - 14	UNC	0,31	0,44	25/64"	0,37	7/16"-14	.W0330	11/32"	3/16"
TR1566.66533	10 - 32	UNF	7/16" - 14	UNC	0,31	0,44	25/64"	0,37	7/16"-14	.W0330	11/32"	3/16"
TR1566.66334	1/4" - 20	UNC	1/2" - 13	UNC	0,37	0,51	29/64"	0,43	1/2"-13	.W0340	13/32"	3/16"
TR1566.66534	1/4" - 28	UNF	1/2" - 13	UNC	0,37	0,51	29/64"	0,43	1/2"-13	.W0340	13/32"	3/16"
TR1566.66335	5/16" -	UNC	9/16" - 12	UNC	0,43	0,57	33/64"	0,50	9/16"-12	.W0350	15/32"	3/16"
TR1566.66535	5/16" -	UNF	9/16" - 12	UNC	0,43	0,57	33/64"	0,50	9/16"-12	.W0350	15/32"	3/16"
TR1566.66336	3/8" - 16	UNC	5/8" - 11	UNC	0,50	0,63	37/64"	0,56	5/8"-11	.W0360	17/32"	3/16"
TR1566.66536	3/8" - 24	UNF	5/8" - 11	UNC	0,50	0,63	37/64"	0,56	5/8"-11	.W0360	17/32"	3/16"
TR1566.66337	7/16" -	UNC	3/4" - 16	UNF	0,62	0,76	45/64"	0,68	3/4"-16	.W0370	21/32"	3/16"
TR1566.66537	7/16" -	UNF	3/4" - 16	UNF	0,62	0,76	45/64"	0,68	3/4"-16	.W0370	21/32"	3/16"
TR1566.66338	1/2" - 13	UNC	7/8" - 14	UNF	0,68	0,88	53/64"	0,75	7/8"-14	.W0380	25/32"	5/16"
TR1566.66538	1/2" - 20	UNF	7/8" - 14	UNF	0,68	0,88	53/64"	0,75	7/8"-14	.W0380	25/32"	5/16"
TR1566.66339	9/16" -	UNC	7/8" - 14	UNF	0,81	0,88	53/64"	0,94	7/8"-14	.W0390	25/32"	5/16"
TR1566.66539	9/16" -	UNF	7/8" - 14	UNF	0,81	0,88	53/64"	0,94	7/8"-14	.W0390	25/32"	5/16"
TR1566.66340	5/8" - 11	UNC	1" - 12	UNF	0,87	1,02	15/16"	1,00	1"-12	.W0400	27/32"	5/16"
TR1566.66540	5/8" - 18	UNF	1" - 12	UNF	0,87	1,02	15/16"	1,00	1"-12	.W0400	27/32"	5/16"
TR1566.66341	3/4" - 10	UNC	1 - 1/4" - 12	UNF	1,12	1,27	1-3/16"	1,31	1-1/4"-12	.W0410	1-3/32"	5/16"
TR1566.66541	3/4" - 16	UNF	1 - 1/4" - 12	UNF	1,12	1,27	1-3/16"	1,31	1-1/4"-12	.W0410	1-3/32"	5/16"
TR1566.66342	7/8" - 9	UNC	1 - 3/8" - 12	UNF	1,25	1,39	1-5/16"	1,44	1-3/8"-12	.W0420	1-7/32"	5/16"
TR1566.66542	7/8" - 14	UNF	1 - 3/8" - 12	UNF	1,25	1,39	1-5/16"	1,44	1-3/8"-12	.W0420	1-7/32"	5/16"
TR1566.66343	1" - 8	UNC	1 - 1/2" - 12	UNF	1,37	1,52	1-7/16"	1,56	1-1/2"-12	.W0430	1-11/32"	5/16"
TR1566.66543	1" - 12	UNF	1 - 1/2" - 12	UNF	1,37	1,52	1-7/16"	1,56	1-1/2"-12	.W0430	1-11/32"	5/16"



## TR1657



### Material

Inserts - 303 CRES.  
 Keys - 302 CRES.  
 Passivated. 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 1/4

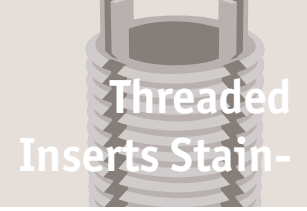
and over. Two locking keys on internal threads smaller than 1/4.  
 Installation (Inst.) drill size, counter sink, thread tap and thread depth as specified in table.  
 Removal (Rem.) drill size and drill depth as specified in table.  
 Perform to standards: MIL-I-45914A (MS51832)

Order No.	Type	d <sub>1</sub> tol. 3B	Thre ad type d <sub>1</sub>	d <sub>2</sub> (mod.) class 2A	Thre ad type d <sub>2</sub>	l <sub>1</sub>	l <sub>3</sub> ±0.0 30	l <sub>4</sub> c'bore depth	Inst. c'sink hole size +0.010 - 0.000	Inst. tap drill size	Inst. thread tap depth min.	Inst. thread tap size class 2B	Inst. tool ref. TR1706	Removal drill size	Removal drill depth
TR1657.77333	SL	10-24	UNC	7/16-14	UNC	,312	,22	,07	,447	,397	,37	7/16-14	.0330	11/32	3/16
TR1657.77533	SL	10-32	UNF	7/16-14	UNC	,312	,22	,07	,447	,397	,37	7/16-14	.0331	11/32	3/16
TR1657.77334	SL	1/4-20	UNC	1/2-13	UNC	,375	,22	,07	,510	,453	,44	1/2-13	.0340	13/32	3/16
TR1657.77534	SL	1/4-28	UNF	1/2-13	UNC	,375	,22	,07	,510	,453	,44	1/2-13	.0341	13/32	3/16
TR1657.77335	SL	5/16-18	UNC	9/16-12	UNC	,437	,22	,07	,572	,516	,50	9/16-12	.0350	15/32	3/16
TR1657.77535	SL	5/16-24	UNF	9/16-12	UNC	,437	,22	,07	,572	,516	,50	9/16-12	.0351	15/32	3/16
TR1657.77336	SL	3/8-16	UNC	5/8-11	UNC	,500	,25	,07	,635	,578	,56	5/8-11	.0360	17/32	3/16
TR1657.77536	SL	3/8-24	UNF	5/8-11	UNC	,500	,25	,07	,635	,578	,56	5/8-11	.0361	17/32	3/16
TR1657.77337	SL	7/16-14	UNC	11/16-11NS	UNS	,625	,28	,10	,700	,641	,68	11/16-11NS	.0370	19/32	3/16



# Threaded Insert MS/NAS - Extra H

303 stainless steel - self-locking - MS/NAS grade



Order No.	Type	d <sub>1</sub> tol. 3B	Thre ad type d <sub>1</sub>	d <sub>2</sub> (mod.) class 2A	Thre ad type d <sub>2</sub>	l <sub>1</sub>	l <sub>3</sub> ±0.0 30	l <sub>4</sub> c'bore depth	Inst. c'sink hole size +0.010 - 0.000	Inst. tap drill size	Inst. thread tap depth min.	Inst. thread tap size class 2B	Inst. tool ref. TR1706	Removal drill size	Removal drill depth
TR1657.77537	SL	7/ 16- 20	UNF	11/ 16- 11NS	UNS	,625	,28	,10	,700	,641	,68	11/16- 11NS	.0371	19/32	3/16
TR1657.77538	SL	1/2- 13	UNC	13/ 16- 16	UNF	,688	,28	,10	,822	,766	,75	13/16- 16	.0380	23/32	3/16
TR1657.77538	SL	1/2- 20	UNF	13/ 16- 16	UNF	,688	,28	,10	,822	,766	,75	13/16- 16	.0381	23/32	3/16
TR1657.77539	SL	9/ 16- 12	UNC	7/8- 14	UNF	,812	,32	,10	,885	,828	,94	7/8-14	.0390	25/32	3/16
TR1657.77539	SL	9/ 16- 18	UNF	7/8- 14	UNF	,812	,32	,10	,885	,828	,94	7/8-14	.0391	25/32	3/16
TR1657.77340	SL	5/8- 11	UNC	1-12	UNF	,875	,33	,10	1.020	,937	1.00	1-12	.0400	27/32	5/16
TR1657.77540	SL	5/8- 18	UNF	1-12	UNF	,875	,33	,10	1.020	,937	1.00	1-12	.0401	27/32	5/16
TR1657.77341	SL	3/4- 10	UNC	1-1/ 4-12	UNF	1.25 0	,49	,10	1.270	1.187	1.44	1-1/4-12	.0410	1-3/32	5/16
TR1657.77541	SL	3/4- 16	UNF	1-1/ 4-12	UNF	1.25 0	,49	,10	1.270	1.187	1.44	1-1/4-12	.0411	1-3/32	5/16
TR1657.77342	SL	7/8- 9	UNC	1-3/ 8-12	UNF	1.37 5	,49	,10	1.395	1.312	1.56	1-3/8-12	.0420	1-7/32	5/16
TR1657.77542	SL	7/8- 14	UNF	1-3/ 8-12	UNF	1.37 5	,49	,10	1.395	1.312	1.56	1-3/8-12	.0421	1-7/32	5/16
TR1657.77343	SL	1-8	UNC	1-1/ 2-12	UNF	1.50 0	,55	,10	1.520	1.437	1.68	1-1/2-12	.0430	1-11/ 32	5/16
TR1657.77543	SL	1-12	UNF	1-1/ 2-12	UNF	1.50 0	,55	,10	1.520	1.437	1.68	1-1/2-12	.0431	1-11/ 32	5/16

THREADED INSERTS STAINLESS