

Insertion and Removal Tool Selection Charts

How to Read Selection Charts

For ATA 1052

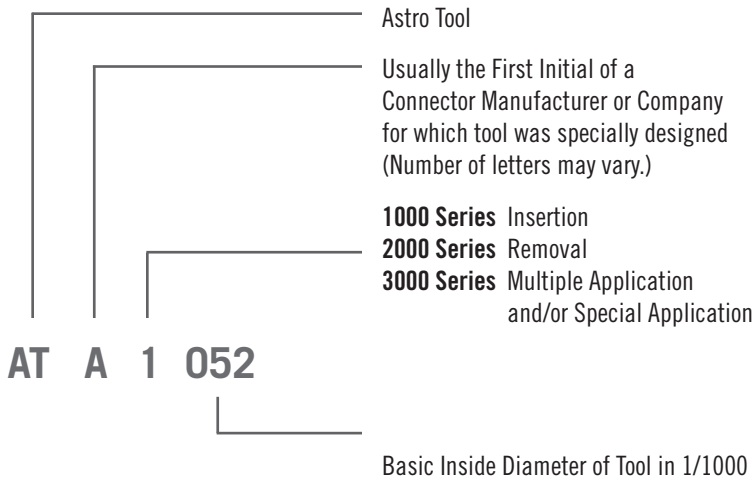


CHART ABBREVIATIONS

- I/R** Insertion or Removal designation column
- I** Insertion Tool
- R** Removal Tool
- I & R** Insertion & Removal Tool
- R/F** Rear or Front Release designation column
- R** Rear Release
- F** Front Release
- R & F** Rear and Front Release
- ILL** Illustration reference number
- GA** Gage designation
- NAATT** Not Available At This Time

ASTRO WILL DESIGN CUSTOM INSERTION AND REMOVAL TOOLS TO FIT YOUR NEEDS.

TOOL IDENTIFICATION NUMBERS		I/R	R/F	USAGE/ DESCRIPTION	ILL.	GAGE	CONNECTOR SERIES
AIRBORN	ASTRO TOOL #						
TIR 1610	ATIR 1610	I & R	R	Metal Tool, Tweezer	10	22	WTK
	ATIR 1610-L	I & R	R	Modified version of ATIR 1610 .62 tips	10	22	WTK
TR 1883	ATR 1883	I & R	R	Metal Tool, Tweezer-Straight	10	22	WTK
TR 1886	ATR 1886	I & R	R	Metal Tool, Tweezer-.455 ext.	10	22	WTK482
2597	See ATIR 1610	I & R	R	TIR 1610 (Same as TIR1610)	10	22	WTK
2598	See ATIR 1883	I & R	R	TR 1883 (Same as TR1883)	10	22	WTK
	AT 4000	I	R	Pins & Sockets	2	22	TW
	AT 4001	I	R	Pins & Sockets	2	20	TW
	AT 4002	I	R	Comparable to ATH 1094	2	16	TM
	AT 4003	I	R	Deep Insertion	2	20	W
	AT 4004	I	R	Deep Insertion MRS, MRE, MRA, Joggled	2	16	C, M, R
	AT 5000	R	F	Pins & Sockets, Metal Spring-Loaded Probe Tool	8	22	TW
	AT 5001	R	F	Pins & Sockets, Metal Spring-Loaded Probe Tool	8	20	TW
	AT 5001-S	R	F	Pins Only, Metal Spring-Loaded Probe Tool	8	20	TW
	AT 5002	R	F	Comparable to ATH 2102, Metal Spring-Loaded Probe Tool	8	16	TM



TOOL IDENTIFICATION NUMBERS		I/R	R/F	USAGE/ DESCRIPTION	ILL.	GAGE	CONNECTOR SERIES
AMPHENOL	ASTRO TOOL #						
294-27	ATA 1079 or	I	R	Pins & Sockets	2	20	348
	ATA 1080	I	R	Pins & Sockets	4	20	348
294-28	ATA 2042 or	R	F	Pins Only	3	20	348
	ATA 2348-20	R	F	Pins & Sockets	9	20	348
294-29	ATA 2038 or	R	F	Sockets Only	7	20	348
	ATA 2048 or	R	F	Pins & Sockets	9	20	348
294-30	ATA 1102 or	I	R	Pins & Sockets	2	16	348
	ATA 1104	I	R	Pins & Sockets	4	16	348
294-31	ATA 2065 or	R	F	Pins Only	3	16	348
	ATA 2348-16	R	F	Pins & Sockets	9	16	348
294-32	ATA 2060 or	R	F	Sockets Only	7	16	348
	ATA 2348-16	R	F	Pins & Sockets	9	16	348
294-33	ATA 1159 or	I	R	Pins & Sockets	2	12	348
	ATA 1158 or	I	R	Pins & Sockets	4	12	348
	ATA1159-S	I	R	Modified version of ATA 1159, Straight	1	12	348
294-34	ATA 2120 or	R	F	Pins Only	3	12	348
	ATA 2348-12	R	F	Pins & Sockets	9	12	348
294-35	ATA 2093 or	R	F	Sockets Only	7	12	348
	ATA2348-12	R	F	Pins & Sockets	9	12	348
294-39	ATA 3069	I & R	F & R	Tool Kit	15	16	69
294-40	ATA 3095	I & R	F & R	Tool Kit	15	12	69
294-48	ATA 2125	R	R	Metal Tool, Rear Release, Plunger	6	16	84, 94
294-58	ATA 2085	R	F	Short Metal Tool, Front Release, Plunger	6	20	84, 94
294-66	ATA 3050	I	R	Tool, Double-Ended Tip, Dual Purpose	9	16, 20	84
294-72	AT 1000-12 or	I	R	Metal Tool, Joggled	2	12	48, 217
	ATA 1144	I	R	Metal Interchangeable Probe Tool	26	12	48, 217
294-73	AT 2012	R	F	Metal Tool, Front Release, Plunger	6	12	48, 217
294-88	AT 1000-20 or	I	R	Metal Tool, Joggled	2	20	48, 217
	ATA 1086	I	R	Metal Interchangeable Probe Tool	26	20	48, 217
294-89	AT 2020	R	F	Metal Tool, Front Release, Plunger	6	20	48, 217
294-96	AT 1000-16 or	I	R	Metal Tool, Joggled	2	16	48, 217
	ATA 1101	I	R	Metal Interchangeable Probe Tool	26	16	48, 217
294-97	AT 2016	R	F	Metal Tool, Front Release, Plunger	6	16	48, 217
294-108	ATA 1080 and	I	R	Metal Joggled Tool	2	20	M83723
	ATA 2080	R	R	Metal Tool, Tweezer Tool	10	20	M83723
294-109	ATA 1107 and	I	R	Metal Joggled Tool	2	16	M83723
	ATA 2112	R	R	Metal Tool, Tweezer Tool	10	16	M83723
294-110	ATA 1160 and	I	R	Metal Joggled Tool	2	12	M83723
	ATA 2160	R	R	Metal Tool, Tweezer Tool	10	12	M83723

Insertion and Removal Tool Selection Charts

LISTED BY CONTACT MANUFACTURER

TOOL IDENTIFICATION NUMBERS		I/R	R/F	USAGE/ DESCRIPTION	ILL.	GAGE	CONNECTOR SERIES
AMPHENOL	ASTRO TOOL #						
294-123	ATD 1035	I	R	Metal Tool, Joggled	2	22	
294-127	ATA 2255	R	F	#2 Sheilded Contacts	6	Coax	48
294-128	ATA 1189	I	R	#2 Sheilded Contacts	4	8	94
294-152	ATC 2040 and	R	F	Pins & Sockets	9	20	67, 906
	ATA 1075	I	R	Insertion tool for above	1	20	67, 906
294-155	ATA 2040 and	R	F	Pins & Sockets	9	22	17
	ATA 1040	I	R	Insertion tool for above	1	22	17
294-189	ATA 2185	R	F	#10 Contacts	6	10	213
294-190	ATA 1175	I	R	#10 Contacts	4	10	213
294-192	ATF 1101 or	I	R	Metal Long-Slot Tool	27	16	246
	ATF 1105	I	R	Comparable	2	16	246
294-219	ATF 2115	R	F	Metal Tool, Front Release, Plunger	5	16	246
294-229	ATF 1144 or	I	R	Metal Long-Slot Tool	27	12	246
	ATF 1160	I	R	Comparable	2	12	246
294-230	ATF 2162	R	F	Metal Tool, Front Release, Plunger	5	12	246
294-235	ATF 1558 or	I	R	Metal Long-Slot Tool	27	0	246
	ATF 1554	I	R	Comparable	2	0	246
294-236	ATF 1378 or	I	R	Metal Long-Slot Tool	27	4	246
	ATF 1359	I	R	Comparable	2	4	246
294-237	ATF 1260 or	I	R	Metal Long-Slot Tool	27	8	246
	ATF 1256	I	R	Comparable	2	8	246
294-238	ATA 2254	R	F	Coaxial 94-621	6	Coax	94
294-239	ATF 2336	R	F	Metal Tool, Front Release, Plunger	5	4	246
294-240	ATF 2252	R	F	Metal Tool, Front Release, Plunger	5	8	246
294-241	ATF 2518	R	F	Metal Tool, Front Release, Plunger	5	0	246
294-278	ATA 1052 or	I	R	Pins & Sockets	2	22	348
	ATA 1051 or	I	R	Pins & Sockets	4	22	348
	ATA 1052-S	I	R	Modified Version of ATA 1052, straight	1	22	348
294-280	ATA 2079	R	F	Metal Tool, Front Release, Plunger	6	20	213
294-286	ATA 2030 or	R	F	Pins Only	3	23	348
	ATA2348-22	R	F	Pins & Sockets	9	23	348
294-287	ATA 2026 or	R	F	Sockets Only	7	23	348
	ATA 2348-22	R	F	Pins & Sockets	9	23	348
294-296	ATSE 2070	R	F	MIL-C-28840	5	20	213
294-465	ATA 1114	I	R	Tip for ATA 3069 Kit (16-A)	15	16	69
356-400-1, 3	ATA 1040	I	R	Pins & Sockets Min-Rac, Relia-Tac	1	22	17
356-400-5,6, 7, 8	ATA 2040	R	F	Pins & Sockets Min-Rac	9	22	17
356-400-11	ATA 1033	I	R	Pins & Sockets Min-Rac, Wire Form	1	22	17



TOOL IDENTIFICATION NUMBERS		I/R	R/F	USAGE/ DESCRIPTION	ILL.	GAGE	CONNECTOR SERIES
AMPHENOL	ASTRO TOOL #						
356-400-1, 3	ATA 1040	I	R	Pins & Sockets Min-Rac, Relia-Tac	1	22	17
356-400-5,6, 7, 8	ATA 2040	R	F	Pins & Sockets Min-Rac	9	22	17
356-400-11	ATA 1033	I	R	Pins & Sockets Min-Rac, Wire Form	1	22	17
356-400-12	ATA 2029	R	F	Sockets, Min-Rac, 220-501	1	22	17
356-400-13	ATA 2033	R	F	Pins Minc-Rac, Wire Form	1	22	17
	ATA 2033-L	R	F	Pins-Librascope, Long Tip	1	22	17
356-400-2	ATA 1109	I	R	Pins & Sockets Mini-Rac, Wire Form	9	22	
356-400-15, 14	ATA 2032	R	F	Pins & Sockets Min-Rac, Wire Form	9	22	17
356-400-11, 12, 13	ATA 3032	I & R	R & F	Tool Kit, Min-Rac, 220-501	15	22	17
494-1 Handles	ATA 3482	I & R	R & F	Tool, Double-Ended Tip-Filter Pins	9	20	482
494-1-2 Insertion Tip	ATA 1186	I	R	Straight Coaxial	1	Coax	
494-1-3 Removal Tip	ATA 2073	R	F	Stamped Contacts	6	20	M
	ATA 2112	R	F	Pins & Sockets	6	16	M
	ATA 3035	I & R	R & F	Tool Kit, Pins & Sockets, Min-Rac, Wire Form	15	22	17
200-4000-240-20	ATA 3120	I & R	R & F	Contact Clip Removal & Replacement	--	16	5015
11-3695	ATBX 2-3695	R	F	Tool Kit	14	12, 16	AN/MS
11-3696	ATBX 2-3696	R	F	Tip Only	25	12	AN/MS
11-3697	ATBX 2-3697	R	F	Tip Only, Pins	25	16	AN/MS
11-3698	ATBX 2-3698	R	F	Tip Only, Sockets	25	12, 16	AN/MS
11-6147-1	ATBX 3-6147-1	--	--	Connector Plier	--	--	
11-6781	ATBX 1-6781	I	R	Plier for Pygmy CE Connector	12	16	CE
11-6782	ATBX 1-6782	I	R	Plier for Pygmy CE Connector	12	20	CE
11-6783	ATBX 2-6783	R	F	Tip, CE Pygmy Pins	25	20	CE
11-6784	ATBX 2-6784	R	F	Tip, CE Pygmy Sockets	25	20	CE
11-6900	ATBX 2-6900	R	F	Tool Kit, CE Pygmy	14	16, 20	CE
11-6911	0148-0141			Handle & Cap Only	14	--	
11-7082	ATBX 1-7082	I	R	Solderless Contacts	12	12	AN/MS
11-7260	ATBX 2-7260	R	F	Tool Kit, CE Contacts incl.	14	12, 16, 20	AN/MS & CE
11-7345	ATBX 1-7345	I	R	Plier for 75, 81 & 85 Connector	12	16	AN/MS
11-7401-12	ATA 1144 or	I	R	MS24254 & MS24255 CONTACTS, Metal Interchangeable Probe Tool	26	12	AN/MS
	AT 1000-12	I	R	Metal Tool Joggled	2	12	AN/MS
11-7401-16	ATA 1101 or	I	R	MS24254 & MS24255 CONTACTS, Metal Interchangeable Probe Tool	26	16	AN/MS
	AT 1000-16	I	R	Metal Tool Joggled	2	16	AN/MS
11-7401-20	ATA 1086 or	I	R	MS24254 & MS24255 CONTACTS, Metal Interchangeable Probe Tool	26	20	AN/MS
	AT 1000-20	I	R	Metal Tool Joggled	2	20	AN/MS
11-7736	ATBX 1-7736	I	R	Angled Pliers (214000 Series)	13	16	AN/MS
11-7763	ATBX 1-7763	I	R	Angled Pliers (214000 Series)	13	12	AN/MS
11-7837	ATBX 2-8250	R	F	Tool Kit	14	8, 12, 16	AN/MS

Insertion and Removal Tool Selection Charts

LISTED BY CONTACT MANUFACTURER

TOOL IDENTIFICATION NUMBERS		I/R	R/F	USAGE/ DESCRIPTION	ILL.	GAGE	CONNECTOR SERIES
AMPHENOL/BENDIX	ASTRO TOOL #						
11-7880-8	ATBX 2291	R	F	Coaxial	6	8	SE/MS
11-7880-12	AT 2012	R	F	MS24254 & MS24255 CONTACTS	6	12	SE/MS
11-7880-16	AT 2016	R	F	MS24254 & MS24255 CONTACTS	6	16	SE/MS
11-7880-20	AT 2020	R	F	MS24254 & MS24255 CONTACTS	6	20	SE/MS
11-8107-16	ATBX 1-8107-16	I	R	Pliers, SE Contacts	12	16	SE
11-8107-20	ATBX 1-8107-20	I	R	Pliers, SE Contacts	12	20	SE
11-8154-1	ATBX 2288	R	F	Coaxial Contacts	6	8	SE
11-8220	ATBX 1-8220	I	R	Coaxial		8	AN/MS
11-8250	ATBX 2-8250	R	F	Tool Kit	14	8, 12, 16	AN/MS
11-8251	ATBX 2-8251	R	F	Tip Only, Sockets	14	8	AN/MS
11-8252	ATBX 2-8252	R	F	Tip Only, Pins	14	8	AN/MS
11-8475	ATBX 2-8475	R	F	Tool Kit	14	12, 16	AN/MS
11-8860-1	ATBX 1133	I	R	Coaxial contacts 10 PT-CE	2	Coax	CE
11-8860-2	ATBX 1160	I	R	Coaxial contacts 10 PT-CE	2	Coax	CE
11-8860-3	ATBX 1203	I	R	Coaxial contacts 10 PT-CE	2	Coax	CE
11-8860-4	ATBX 1231	I	R	Coaxial contacts 10 PT-CE	2	Coax	CE
11-8860-5	ATBX 1253	I	R	Coaxial contacts 10 PT-CE	2	Coax	CE
11-8369-4	ATBX 1231	I	R	Coaxial contacts 10 PT-CE	2	Coax	CE
11-8674-12	ATBX 1154	I	R	Metal Tool, Joggled	2	12	JT
	ATBX 1154-90	I	R	Metal Tool, 90 Degree Angle	1	12	JT
	ATBX 1157	I	R	Metal Tool, Tweezer Tool	10	12	JT
11-8674-16	ATBX 1103	I	R	Metal Tool, Pencil Style	24	16	JT
	ATR 1107	I	R	Metal Tool, Joggled	2	16	JT
	ATBX 1108	I	R	Metal Tool, Tweezer Tool	10	16	JT
11-8674-20	ATBX 1070	I	R	Metal Tool, Pencil Style	24	20	JT
	ATBX 1071	I	R	Metal Tool, Straight Style	1	20	JT
	ATBX 1073	I	R	Metal Tool, Offset	2	20	JT
	ATBX 1072	I	R	Metal Tool, Tweezer Tool	10	20	JT
	ATBX 1075	I	R	Metal Tool, Tweezer Tool, .75 tip length	10	20	JT
11-8674-22	ATBX 1057	I	R	Metal Tool, Pencil Style	24	22	JT
	ATBX 1055	I	R	Metal Tool, Offset	2	22	JT
	ATBX 1055-S	I	R	Metal Tool, Special	1	22	JT
	ATBX 1058	I	R	Metal Tool, Tweezer Tool	10	22	JT
	ATBX 1059	I	R	Metal Tool, Tweezer Tool, .260 of Straight	10	22	JT



TOOL IDENTIFICATION NUMBERS		I/R	R/F	USAGE/ DESCRIPTION	ILL.	GAGE	CONNECTOR SERIES
AMPHENOL/BENDIX	ASTRO TOOL #						
11-8674-24	ATBX 1046	I	R	Metal Tool, Pencil Style	24	22M/D	JT
	ATBX 1046-90	I	R	Metal Tool, 90 Degree Angle	24	22M/D	JT
	ATBX 1046-135	I	R	Metal Tool, 45 Degree Angle	24	22M/D	JT
	ATBX 1049	I	R	Metal Tool, Offset	2	22M/D	JT
	ATBX 1049-S	I	R	Metal Tool, Special	2	22M/D	JT
	ATBX 1052	I	R	Metal Tool for .052 dia. wire	2	22D	JT
	ATBX 1048	I	R	Metal Tool, Tweezer Tool	10	22M/D	JT
	ATBX 1051	I	R	Metal Tool, Tweezer Tool, .055 dia. wire	10	22M/D	JT
11-8675-12	ATBX 2155	R	R	Metal Tool, Tweezer Tool	10	12	JT
11-8675-16	ATBX 2103	R	R	Metal Tool, Tweezer Tool	10	16	JT
11-8675-20	ATBX 2070	R	R	Metal Tool, Tweezer Tool	10	20	JT
	ATBX 2075	R	R	Metal Tool, Tweezer Tool, .75 Tip Length	10	20	JT
11-8675-22	ATBX 2057	R	R	Metal Tool, Tweezer Tool	10	22	JT
	ATBX 2058	R	R	Metal Tool, Tweezer Tool, Long Tip	10	22	JT
11-8675-24	ATBX 2046	R	R	Metal Tool, Tweezer Tool	10	22M/D	JT
	ATBX 2048	R	R	Metal Tool, Tweezer Tool, .560 Tip Length	10	22M/D	JT
11-8794-12	ATBX 1159	I	R	Metal Tool, Tweezer Tool, Straight	10	12	JT
11-8794-16	ATBX 1109	I	R	Metal Tool, Tweezer Tool, Straight	10	16	JT
11-8794-20	ATBX 1078	I	R	Metal Tool, Tweezer Tool, Straight	10	20	JT
11-8794-22	ATBX 1060	I	R	Metal Tool, Tweezer Tool, Straight	10	22	JT
11-8794-24	ATBX 1054	I	R	Metal Tool, Tweezer Tool, Straight	10	22M/D	JT
11-8795-12	ATBX 2160	R	R	Metal Tool, Tweezer Tool, Straight	10	12	JT
11-8795-16	ATBX 2109	R	R	Metal Tool, Tweezer Tool, Straight	10	16	JT
11-8795-20	ATBX 2073	R	R	Metal Tool, Tweezer Tool, Straight	10	20	JT
11-8795-22	ATBX 2059	R	R	Metal Tool, Tweezer Tool, Straight	10	22	JT
11-8795-24	ATBX 2050	R	R	Metal Tool, Tweezer Tool, Straight	10	22M/D	JT
	ATBX 2047	R	R	Metal Tool, Tweezer Tool, Modified Version of ATBX 2050	10	22M/D	JT
11-8952	ATBX 2052	R	R	Metal Tool, Tweezer Tool, Oversize Wire, Min.	10	22M/D	JT
11-8953-1	ATBX 1053	I	R	Modified version of ATBX 1048, .375 Long Straight Section	10	22M/D	JT
11-10050-1	ATX 2014	R	R	Unwired Contacts	16	22D	JT
11-10050-2	ATX 2004	R	R	Unwired Contacts	16	22	JT
11-10050-3	ATX 2003	R	R	Unwired Contacts	16	20	JT
11-10050-4	ATX 2002	R	R	Unwired Contacts	16	16	JT

Insertion and Removal Tool Selection Charts

LISTED BY CONTACT MANUFACTURER

TOOL IDENTIFICATION NUMBERS		I/R	R/F	USAGE/ DESCRIPTION	ILL.	GAGE	CONNECTOR SERIES
AMPHENOL/MATRIX	ASTRO TOOL #						
90-0001-022	ATM 1046	I	R	Mini-Mate	23	22	
	ATM 1046-135	I	R	Modified version of ATM 1046, 45 degree angle	23	22	
90-0002-022	ATM 2052	R	F	Mini-Mate, Metal Spring-Loaded Probe Tool	8	22	
258-6018-16	ATR 2112	R	R	Metal Tool, Tweezer	10	16	
258-6019-16	ATR 1107	I	R	Metal Tool, Joggled	2	16	
259-6002-20	ATR 2080	R	R	Metal Tool, Tweezer	10	20	
5000-026-22	ATRX 2052	R	R	Metal Tool, Tweezer	10	22	
6500-001-20	ATR 1080 and	I	R	Metal Tool, Joggled	2	20	
	ATR 2080	R	R	Metal Tool, Tweezer	10	20	
6500-001-16	ATR 1107 and	I	R	Metal Tool, Joggled	2	16	
	ATR 2112	R	R	Metal Tool, Tweezer	10	16	
6500-001-12	ATR 1160 and	I	R	Metal Tool, Joggled	2	12	
	ATR 2160	R	R	Metal Tool, Tweezer	10	12	
6500-018-0	ATC 2565	R	R	5015 Connector, Rear Release	19	0	
6500-018-4	ATC 2426	R	R	5015 Connector, Rear Release	19	4	
6500-018-8	ATC 2281	R	R	5015 Connector, Rear Release	19	8	
6500-028-12	ATC 2157	R	R	Modified version of ATR 2160, straight	10	12	
6500-028-16	ATC 2106	R	R	Modified version of ATR 2112, straight	10	16	
6500-028-20	ATC 2079	R	R	Modified version of ATR 2080, straight	10	20	
6500-029-12	ATR 2160	R	R	PLASTIC Tweezer, 70 degree angle	10	12	
6500-029-16	ATR 2112-L	R	R	PLASTIC Tweezer, 70 degree angle	10	16	
6500-029-20	ATR 2080	R	R	PLASTIC Tweezer, 70 degree angle	10	20	
6500-030-12	ATGH 1160	I	R	Straight In-Line, PLASTIC	1	12	
6500-030-16	ATGH 1112	I	R	Straight In-Line, PLASTIC	23	16	
6500-030-20	ATGH 1079	I	R	Straight In-Line, PLASTIC	23	20	
6500-045-20	ATC 1071 and	I	R	Metal Comparable for Hydraulic Research	23	20	
	ATC 2076	R	R	Metal Comparable for Hydraulic Research	10	20	
	ATM 1050	I	R	Special Close 90 degree Bend	23	22	



TOOL IDENTIFICATION NUMBERS		I/R	R/F	USAGE/ DESCRIPTION	ILL.	GAGE	CONNECTOR SERIES
BOEING	ASTRO TOOL #						
	ATBO 1053	I	R	Special Plier Repair Tool for m39029/11-22 & 12-22	13	22	
	ATBO 1054	I	R	Modified version of ATC 1054, 1.1 Long Tip (CIT DPXMA22-1)	2	22	
	ATBO 1070	I	R	Contact BACC47DT&S	-	20	
	ATBO 1075	I	R	NAS 1599 Connector	-	20	
	ATBO 1075-L	I	R	Modified version of ATBO 1075, Longer Tip	-	20	
	ATBO 1081	I	R	Contact BACC47DT&S	-	16	
	ATBO 1081-L	I	R	Modified version of ATBO 1081, Longer Tip	-	16	
	ATBO 1082	I	R	NAS 1599 Connector	2	20	
	ATBO 1105	I	R	Metal Tool, Tweezer Tool	10	16	
ST 2342A-T1	ATBO 1107	I	R	Metal Tool, Joggled "Horses Head"	2	16	
	ATBO 1108	I	R	Arbor Press	2	16	
	ATBO 1108-90	I	R	Modified version of ATBO 1108, 90 Degree Angle	1	16	
ST 2342A-T5	ATBO 1154	I	R	Metal Tool, Joggled "Horses Head"	2	12	
	ATBO 2054	R	R	Special Boeing Tool (CET DPXMA22)	2	22	
	ATBO 2073	R	R	Hypertronics Connector, Metal Spring-Loaded Probe Tool	8	20	K65
	ATBO 2082	R	R	NAS 1599 -- Oversize Wire	2	20	
ST 2342PB	ATBO 2342-PB	I	R	Handle inserts wire wrap contacts	-	-	
	ATBO 2342-PB			(Replaceable tips for basic tool listed below)			
	/1	I	R	Original Tip	-	22	
	/2	I	R	Modified .050 I.D.	-	22	
	/3	I	R	Modified ATC 1054 Tip	-	22	
	/4	I	R	Modified to .062 I.D.	-	22	

CHART ABBREVIATIONS

I/R Insertion or Removal designation column
I Insertion Tool
R Removal Tool
I & R Insertion & Removal Tool
R/F Rear or Front Release designation column

R Rear Release
F Front Release
R & F Rear and Front Release
ILL Illustration reference number
GA Gage designation
NAATT Not Available At This Time

Insertion and Removal Tool Selection Charts

LISTED BY CONTACT MANUFACTURER

TOOL IDENTIFICATION NUMBERS		I/R	R/F	USAGE/ DESCRIPTION	ILL.	GAGE	CONNECTOR SERIES
BURNDY/FCI	ASTRO TOOL #						
J-1276-1		I & R	R	YHMM-22-1 Pins, plastic tip, recommended ATB 3062-2	-	2	YHMM
J-1276-3	ATB 3062-2	I & R	R	YHMM-22-1 Pins, plastic tip	29	2	YHMM
J-1276-4	ATB 3062-4	I & R	R	YHMM-22-1 Pins, plastic tip (Longer Handle)	29	2	YHMM
RTM-12-5	ATA 1144 or	I	R	MIL-C-26500, Metal Interchangeable Probe Tool	26	12	HYFEN
	AT 1000-12	I	R	MIL-C-26500, Metal Tool, Joggled	2	12	HYFEN
RTM-12-8	ATBX 1157	I	R	MIL-C-38999, Metal Tool, Joggled	10	12	JT
RTM-16-2V	ATA 1101	I	R	MIL-C-26482, Metal Interchangeable Probe Tool	26	16	HYFEN
RTM-16-4	ATBX 1108	I	R	MIL-C-38999, Metal Tool, Tweezer	10	16	JT
RTM-20-5	ATB 1064 or	I	R	MIL-C-26482, 26500, 26636, Metal Interchangeable Probe Tool	26	20	HYFEN
	ATB 1067 or	I	R	Modified version of ATB 1064, Long Tip, Metal Interchangeable Probe Tool	26	20	HYFEN
	ATB 1068	I	R	Modified version of ATB 1067, Joggled	2	20	HYFEN
RTM-20-5PI	ATB 1067-R	I	R	Tip to fit Burndy RTM-20-5	25	20	HYFEN
RTM-20-17	ATBX 1072	I	R	MIL-C-38999, Metal Tool, Tweezer	10	20	JT
RTM-22-1	ATBX 1058	I	R	MIL-C-38999, Metal Tool, Tweezer	10	22	JT
RTM-24-3	ATBX 1053	I	R	MIL-C-38999, Metal Tool, Tweezer	10	24	JT
RTM-20-16	AT1000-20	I	R	Metal Tool, Joggled	2	20	
RX-8-1	ATH 2202	R	F	Metal Tool, Coaxial	6	8	
RX-12-7	AT 2012	R	F	MIL-C-26636, 26482	6	12	HYFEN
RX-12-9	ATBX 2155	R	R	MIL-C-38999	10	12	JT
RX-16-7-V1	ATB 2114	R	F	Modified MS24256R-16, Revision E	6	16	HYFEN
RX-16-7-V2	ATB 2114	R	F	Modified MS24256R-16, Revision E	6	16	HYFEN
RX-16-8	AT 2016	R	F	MIL-C-26482	6	16	HYFEN
RX-16-9	ATBX 2103	R	R	MIL-C-38999	10	16	JT
RX-20-10	ATB 2088	R	F	MIL-C-26500, 26636, Metal Spring-Loaded Probe Tool	8	20	HYFEN
RX-20-24	AT 2020	R	F	MIL-C-26482	6	20	HYFEN
RX-20-24V3	ATB 2080	R	F	MIL-C-26482 (MS24256R-20, Revision E) Modified	6	20	HYFEN
RX-20-24V5	ATB 2080	R	F	MIL-C-26482 (MS24256R-20, Revision E) Modified	6	20	HYFEN
RX-20-36	ATBX 2070	R	R	MIL-C-38999	10	20	JT
RX-22-1	ATBX 2057	R	R	MIL-C-38999	10	22	JT
RX-24-3	ATBX 2046	R	R	MIL-C-38999	10	22D	JT
	ATB 1035	I	R	Unwired Contact 28-91-S-9000	1	22	
	ATB 1043	I	R	Unwired Contact 39029/18-20-20	1	20	
	ATB 1044	I	R	Unwired Contact 2749420	1	20	
	ATB 1066	I	R	Unwired Contact 0641-1-1631	1	16	

TOOL IDENTIFICATION NUMBERS		I/R	R/F	USAGE/ DESCRIPTION	ILL.	GAGE	CONNECTOR SERIES
COLLINS RADIO	ASTRO TOOL #						
372-8091-010	ATC 2026	R	F	Tuning Fork Contacts	11	--	
372-8091-060	ATC 1032	I	R	Tweezer, Filter Pins	30	--	



TOOL IDENTIFICATION NUMBERS		I/R	R/F	USAGE/ DESCRIPTION	ILL.	GAGE	CONNECTOR SERIES
CONTINENTAL	ASTRO TOOL #						
2512	AT 5002	R	F	Metal Spring-Loaded Probe Tool	8	16	25
2534	AT 4002	I	R	Metal Tool, Joggled	2	16	25
2558	ATBX 1057	I	R	Metal Tool, Pencil Style	24	22	25
2559	ATCL 2061	R	F	Metal Spring-Loaded Probe Tool	8	22	25

TOOL IDENTIFICATION NUMBERS		I/R	R/F	USAGE/ DESCRIPTION	ILL.	GAGE	CONNECTOR SERIES
DELPHI/HUGHES	ASTRO TOOL #						
TD-202-IT-000	AT 4003	I	R	Deep Insertions G. D. Pomona	2	20	W
TE-022-RT-001	ATH 2027	R	F	PC Connector Jack Pins, Metal Spring-Loaded Probe Tool	8	22	EMS
TG-22-IT	ATH 1053	I	R	Metal Tool, Tweezer	10	22D	W
TG-22-RT	ATH 2053	R	R	Metal Tool, Tweezer	10	22D	W
THM-22-B000	ATBX 2046	R	R	Metal Tool, Tweezer	10	22M	W
TM-016-IT-001	AT 4002 or 4004	I	R	Joggled Push-In Style	2	16	C-M-R
TM-016-IT-003	AT 4004	I	R	Deep Insertion-MRS-MRE-MRA	2	16	MR
TM-016-RT-001	AT 5002	R	F	MRP Connector, Pins & Sockets, Metal Spring-Loaded Probe Tool	8	16	MR
TM-016-RT-006	ATH 2103	R	F	Pins & Sockets	6	16	M
TR-22D-IT	ATH 1050	I	R	Metal Tool, Tweezer #1035415	10	22D	W
TR-22D-RT	ATH 2050	R	R	Metal Tool, Tweezer #1035416A	10	22D	W
TU-016-IT-002	ATH 1102	I	R	Contacts UP 16Y16C000	2	16	U
TU-016-RT-000	ATH 2120	R	F	Universal Contacts, Metal Spring-Loaded Probe Tool	8	16	U
TU-016-RT-006	ATH 2121	R	F	Pins & Sockets	6	16	U
TU-020-IT-002	ATH 1067	I	R	UR-UTE-UTS	1	20	U
TU-020-RT-002	AT 5001-S	R	F	URS-UTE-UTS, Metal Spring-Loaded Probe Tool	8	20	U
TU-020-RT-006	ATH 2088	R	F	Pins & Sockets	6	20	U
TU-180-RT-000	ATH 2221	R	F	Co-ax RG 180/U	6	8	U
TU-195-RT-000	ATH 2206	R	F	Co-ax RG 195/U	6	8	U
TW-020-IT-000	AT 4001	I	R	Pins & Sockets	2	20	W
TW-020-RT-002	AT 5001	R	F	WMS-WMW-O-Line, Metal Spring-Loaded Probe Tool	8	20	W
TW-020-RT-006	ATH 2088	R	F	Pins & Sockets	6	20	W
TW-022-IT-000	ATH 1046	I				22	W
TW-022-IT-001	AT 4000	I	R	Pins & Sockets	2	22	W
TW-022-IT-007	ATH 1052	I	R	Pins & Sockets	23	22	W
TW-022-RT-001	AT 5000	R	F	WSS 0244 P08-RN-549, Metal Spring-Loaded Probe Tool	8	22	W
TW-022-RT-006	ATH 2052	R	F	Pins & Sockets, Metal Spring-Loaded Probe Tool	8	22	W
652636	AT 5000	R	F	WSS 0244P08 -Airborn, Metal Spring-Loaded Probe Tool	8	22	W
722698-328	AT 5002	R	F	Pins & Sockets -Documented, Metal Spring-Loaded Probe Tool	8	16	MR
722698-329	ATAMP 3070			Transfer Tool Termpoint Clib	21		
722699-224	ATH 3260			Forming Tool Microelectronic Leads	20		
722699-224-1	ATH 3261			Forming Pliers-To form leads before Insertion on circuit board	20		
722699-224-2	ATH 3262			Forming Pliers-To form leads before Insertion on circuit board	20		
722699-224-3	ATH 3263			Forming Pliers-To form leads before Insertion on circuit board	20		

Insertion and Removal Tool Selection Charts

LISTED BY CONTACT MANUFACTURER

TOOL IDENTIFICATION NUMBERS		I/R	R/F	USAGE/ DESCRIPTION	ILL.	GAGE	CONNECTOR SERIES
DELPHI/HUGHES	ASTRO TOOL #						
	ATH 1031	I	R	Special for General Dynamics	1	22	
	ATH 1033	I	R	Special for General Dynamics	2	22	
	ATH 1054	I	R	Metal Tool	23	22	
	ATH 1094	I	R	MIL-C-22857	1	16	
	ATH 2089	R	F	URS-UTE-UTS-Deep, Metal Spring-Loaded Probe Tool	8	20	U
	ATH 2102	R	F	MIL-C-22857, Metal Spring-Loaded Probe Tool	8	16	
	ATH 3037-12			Contact Guide 12" Long used on rear insert 22 GA contacts	22		
	ATH 3037-18			Contact Guide 18" Long used on rear insert 22 GA contacts	22		

TOOL IDENTIFICATION NUMBERS		I/R	R/F	USAGE/ DESCRIPTION	ILL.	GAGE	CONNECTOR SERIES
DEUTSCH	ASTRO TOOL #						
15513-12	ATA 1144	I	R	MIL-C-26636, Metal Interchangeable Probe Tool	26	12	DD, DTK, DPK
15513-16	ATA 1101	I	R	MIL-C-26636, Metal Interchangeable Probe Tool	26	16	DD, DTK, DPK
15513-20	ATA 1086	I	R	MIL-C-26636, Metal Interchangeable Probe Tool	26	20	DD, DTK, DPK
81515-20	ATD 1061 and	I	R	MIL-C-81511, Series III & IV	2	20	
	ATD 2062	R	F	MIL-C-81511, Series III & IV	10	20	
81515-16	ATD 1094 and	I	R	MIL-C-81511, Series III & IV	2	16	
	ATD 2094	R	F	MIL-C-81511, Series III & IV	10	16	
81517-23	ATD 2044	R	R	Metal Tool	17	22	
81517-20	ATD 2058	R	R	Metal Tool	17	20	
81517-16	ATD 2090	R	R	Metal Tool	17	16	
81517-12	ATD 2150	R	R	Metal Tool	17	12	
M-15513-12	ATA 1159	I	R	800 Series	2	12	DS, MDR, DA
M-15513-16	ATR 1107	I	R	800 Series	2	16	DS, MDR, DA
M-15513-20	ATD 1081 or	I	R	800 Series	2	20	DS, MDR, DA
	ATD 1081-S	I	R	Modified version of ATD 1081 Straight	1	20	
M-15513-25	ATD 1206	I	R	Coaxial & 8 GA, Metal Long-Slot Tool	27	8	
M-15514-12	AT 2012	R	F	MIL-C-26636	6	12	DD, DTK, DPK
M-15514-16	AT 2016	R	F	MIL-C-26636	6	16	DD, DTK, DPK
M-15514-20	AT 2020	R	F	MIL-C-26636	6	20	DD, DTK, DPK
M-15514-25	ATA 2254	R	F	800 Series	6	Coax	DD, DTK, DPK
M-15515-12	ATD 2191 or	R	F	Pins & Sockets	17	12	DS
	ATD 2190	R	F	Pins & Sockets	6	12	DS
M-15515-16	ATD 2127 or	R	F	Connector #6820	17	16	DS
	ATD 2128	R	F	Connector #6820	6	16	DS
M-15515-20	ATD 2097 or	R	F	Pins & Sockets	17	20	DS
	ATD 2095	R	F	Pins & Sockets, Spring Loaded	6	20	DS
M-15515-22P/S	ATD 2040	R	F	Metal Tool	23	22	DS



TOOL IDENTIFICATION NUMBERS		I/R	R/F	USAGE/ DESCRIPTION	ILL.	GAGE	CONNECTOR SERIES
DEUTSCH	ASTRO TOOL #						
M-15513-12	ATA 1159	I	R	800 Series	2	12	DS, MDR, DA
M-15513-16	ATR 1107	I	R	800 Series	2	16	DS, MDR, DA
M-15513-20	ATD 1081 or ATD 1081-S	I	R	800 Series Modified version of ATD 1081 Straight	2 1	20 20	DS, MDR, DA
M-15513-25	ATD 1206	I	R	Coaxial & 8 GA, Metal Long-Slot Tool	27	8	
M-15514-12	AT 2012	R	F	MIL-C-26636	6	12	DD, DTK, DPK
M-15514-16	AT 2016	R	F	MIL-C-26636	6	16	DD, DTK, DPK
M-15514-20	AT 2020	R	F	MIL-C-26636	6	20	DD, DTK, DPK
M-15514-25	ATA 2254	R	F	800 Series	6	Coax	DD, DTK, DPK
M-15515-12	ATD 2191 or ATD 2190	R	F	Pins & Sockets Pins & Sockets	17 6	12 12	DS DS
M-15515-16	ATD 2127 or ATD 2128	R	F	Connector #6820 Connector #6820	17 6	16 16	DS DS
M-15515-20	ATD 2097 or ATD 2095	R	F	Pins & Sockets Pins & Sockets, Spring Loaded	17 6	20 20	DS DS
M-15515-22P/S	ATD 2040	R	F	Metal Tool	23	22	DS
M-15515-25	ATD 2250	R	F	Coaxial, Metal Spring-Loaded Probe Tool	6	8	DSM
M-15570-12	ATR 1160 and ATR 2160	I R	R R	Metal Tool, Joggled Metal Tool, Tweezer	2 10	12 12	JTA JTA
M-15570-16	ATR 1107 and ATR 2112	I R	R R	Metal Tool, Joggled Metal Tool, Tweezer	2 10	16 16	JTA JTA
M-15570-20	ATR 1080 and ATR 2080	I R	R R	Metal Tool, Joggled Metal Tool, Tweezer	2 10	20 20	JTA JTA
M-15570-22	ATD 2048	R	R	Metal Tool	23	22	RSM-RTK
M-15570-22-1	ATD 1035 and ATD 2047	I R	R R	Metal Tool, Joggled Metal Tool, Tweezer	2 10	22 22	RSM-RTK RSM-RTK
	ATD 1035-135	I	R	Joggled version of ATD 1035, 45 degree angle	2	22	RSM-RTK
M-15571	ATK 2115	R	R	NAS 1599, Unwired Contacts	17	12, 16, 20	JTA
M83723-31-12, 16 & 20	SEE THE NATIONAL AEROSPACE STANDARD SECTION						
	ATD 1020	I	R	RTK Connector Twist Pin	1	22	RTK
	ATD 3312			Wire comb, 6" taper flap, modified version of ATWC 3312	--	--	
	ATDL 2050	R	R	MIL-C-38999, tweezers	10	22D	

TOOL IDENTIFICATION NUMBERS		I/R	R/F	USAGE/ DESCRIPTION	ILL.	GAGE	CONNECTOR SERIES
ELCO	ASTRO TOOL #						
061742-04	ATD 1081	I	R	Metal Tool, Joggled	2	20	
T-06-1877-02	ATE 2057	R	R	D11890977 Connector, Metal Spring-Loaded Probe Tool	8	20	



Insertion and Removal Tool Selection Charts

LISTED BY CONTACT MANUFACTURER

TOOL IDENTIFICATION NUMBERS		I/R	R/F	USAGE/ DESCRIPTION	ILL.	GAGE	CONNECTOR SERIES
FLIGHT CONN.	ASTRO TOOL #						
	ATF 1101	I	R	Metal Long-Slot Tool	27	16	
716-1227-000	ATF 1105	I	R	Joggled version of ATF 1101	2	16	
	ATF 1144	I	R	Metal Long-Slot Tool	27	12	
712-1229-000	ATF 1160	I	R	Joggled version of ATF 1144	2	12	
708-1258-000	ATF 1256	I	R	Version of ATF 1260	2	8	
	ATF 1260	I	R	Metal Long-Slot Tool	27	8	
704-1260-000	ATF 1359	I	R	Joggled version of ATF 1378	2	4	
	ATF 1378	I	R	Metal Long-Slot Tool	27	4	
700-1262-000	ATF 1554	I	R	Joggled version of ATF 1558	2	0	
	ATF 1558	I	R	Metal Tool	27	0	
716-1168-000	ATF 2115	R	F	Front Release	5	16	
712-1172-000	ATF 2162	R	F	Front Release	5	12	
708-1138-000	ATF 2255	R	F	Front Release	5	8	
704-1134-000	ATF 2336	R	F	Front Release	5	4	
700-1130-000	ATF 2518	R	F	Front Release	5	0	



TOOL IDENTIFICATION NUMBERS		I/R	R/F	USAGE/ DESCRIPTION	ILL.	GAGE	CONNECTOR SERIES
G & H TECHNOLOGY	ASTRO TOOL #						
847-101-COTO-1 &-2	ATGH 1055	I & R	R	Single Tip, No Wire Slot	23	22	847/848
847-101-COTO-3 &-4	ATGH 1081	I & R	R	Single Tip, No Wire Slot	23	20	847/848
847-101-COTO-5 &-6	ATGH 1104	I & R	R	Single Tip , No Wire Slot	23	16	847/848
847-101-COTO-7 &-10	ATGH 2057	I & R	R	Single Tip	23	22	847/848
847-101-COTO-8 &-11	ATGH 2081	I & R	R	Single Tip	23	20	847/848
847-101-COTO-9 & -12	ATGH 2105	I & R	R	Single Tip	23	16	847/848
866-1078-COTO-3	ATGH 2048	I & R	R	Single Tip , Straight with Slot	23	22	866
866 -1078-COTO-4	ATGH 1070	I & R	R	Single Tip, Straight	23	20	866
882-94	ATGH 2110	R	R	Metal Tool, Tweezer	10	16	
885-277-COTO-001	ATGH 2051	R	R	MIL-C-38999, Breech Lok	10	22D	
885-277-COTO-002	ATGH 2078	R	R	MIL-C-38999, Breech Lok	10	20	
885-277-COTO-003	ATGH 2109	R	R	MIL-C-38999 , Breech Lok	10	16	
998-062	ATGH 1079	I	R	NAS 1599 Connectors	23	20	843
998-063	ATGH 2079	R	R	NAS 1599 Connectors	23	20	843
998-102	ATGH 1112	I	R	NA S 1599 Connectors	23	16	843
998-103	ATGH 1160	I & R	R	NAS 1599 Connectors	1	12	843
998-104	ATGH 1190	I & R	R	NAS 1599 Connectors	1	8	843
998105	ATGH 1079	I & R	R	NAS 1599 Connectors	23	20	843
998-142-001	ATGH 2330	R	R	Coaxial, Metal Long-Slot Tool	27	Coax	
998-145-001	ATGH 1050	I	R	Metal Tool, Tweezer	10	22	847/848
998-145-002	ATGH 2052	R	R	Metal Tool, Tweezer	10	22	847/848
998-145-003	ATGH 1076	I	R	Metal Tool, Tweezer	10	20	847/848
998-145-004	ATGH 2076	R	R	Metal Tool, Tweezer	10	20	847/848
998-145-005	ATGH 1101	I	R	Metal Tool, Tweezer	10	16	847/848
998-145-006	ATGH 2101	R	R	Metal Tool, Tweezer	10	16	847/848
	ATGH 1071	I & R	R	Modified for Lockheed S-2406-30	23	20	
	ATGH 1077	I	R	Modified version of ATBX 1072 .66 tip length , MIL-C-38999	10	20	
	ATGH 1109	I	R	Modified version of ATBX 1108 .66 tip length , MIL-C-38999	10	16	
	ATGH 2049	R	R	Metal Tool, Tweezer	10	22	847/848
	ATGH 2054	R	R	Metal Tool, Tweezer	10	22	847/848
	ATGH 2075	R	R	Metal Tool, Tweezer	10	20	847/848
	ATGH 2077	R	R	Metal Tool, Tweezer	10	20	847/848
	ATGH 2080	R	R	Modified version of ATBX 2070 .66 tip length, MIL-C-38999	10	20	
	ATGH 2103	R	R	Metal Tool, Tweezer	10	16	
	ATGH 2104	R	R	NAS1599, 15° tip angle	10	16	
	ATGH 2108	R	R	Modified version of ATBX 2103 .66 tip length, MIL-C-38999	10	16	
	ATGH 2160	R	R	Metal Tool, Tweezer	10	12	



Insertion and Removal Tool Selection Charts

LISTED BY CONTACT MANUFACTURER

TOOL IDENTIFICATION NUMBERS		I/R	R/F	USAGE/ DESCRIPTION	ILL.	GAGE	CONNECTOR SERIES
ITT/CANNON	ASTRO TOOL #						
CET 4	ATC 2234	R	F	Push out, Pins & Sockets	9	4	RX
CET 8	ATC 2150	R	F	Push out, Pins & Sockets	9	8	RX
CET 8-2	ATC 2281	R	R	MS3483-1 (Ref. 5015)	19	8	5015
CET 12	ATC 2092	R	F	Impact Tool, Ring-Lok Connector	22	12	KMBA
CET 12-1A	ATC 2105	R	F	Push out, Pins & Sockets	9	12	CA/RX
CET 12-2	ATC 2105	R	F	Push out, Pins & Sockets	9	12	MS-E, EX-G
CET 12-4	ATR 2160	R	R	Metal Tool, Tweezer, NAS 1599	10	12	
CET 12-16	0159-0051			Tip Only, Delrin			
CET 16	ATC 2062	R	F	Impact Tool, Ring-Lok DPGM	22	16	KMBA
CET 16-3A	ATC 2070	R	F	Push out, Pins & Sockets	9	16	CA/RX
CET 16-4	ATC 2070	R	F	Push out, Pins & Sockets	9	16	MS-E, EX-G
CET 16-9	ATR 2212	R	R	MIL-C-83723	10	16	
CET 16-21	ATML 3006			Tip Only, Delrin			
CET 16KJ	ATBX 2103	R	R	MIL-C-38999	10	16	KJ
CET 20-3	ATC 2040-L	R	F	Push out, Pins & Sockets (Long Tip)	9	20	RX
CET 20-4	ATC 2040	R	F	Push out, Pins & Sockets	9	20	KPTM
CET 20-5A	ATC2046	R	F	Impact Tool DDSMF Ring-Lok	22	20	D*SM
CET 20-8	ATR 2080	R	R	Metal Tool, Tweezer, NAS 1664	10	20	
CET 20-11	ATC 2071	R	R	Metal Tool, Tweezer	10	20	D*C
CET 20-11, 20HD	ATC 2076	R	R	Metal Tool, Tweezer, DCB-DPX-DDCE	10	20	DD
CET 20-24	ATML 3005			Tip Only, Delrin			
CET 20-A	ATC 2046-L	R	F	Impact Tool Ring-Lok, Long Tip	22	20	DPGM
CET 20-D	ATC 2071	R	R	Metal Tool, Tweezer	10	20	D*C
CET 20-D-1	ATC 2073	R	R	Metal Tool, Tweezer (Dwg. #995-0001-768)	10	20	
CET 20KJ	ATBX 2070	R	R	MIL-C-38999	10	20	KJ
CET 22KJ	ATBX 2057	R	R	MIL-C-38999	10	22	KJ
CET 22M-KJ	ATBX 2046	R	R	MIL-C-38999	10	22M	KJ
CET C1	ATC 2170	R	F	Impact Tool	22	20	
CET C4	ATC 2200	R	F	Impact Tool	22	Coax	DPXMS
CET C6B	ATC 2188	R	F	D Miniature Coax	6	Coax	DPXA26
CET C11	ATC 2276	R	F	D Sub-Miniature	6	Coax	
CET DPKB 22	ATC 2053	R	R	Metal Tool, Tweezer	10	22	DPK
CET DPKB 22	ATC 2054	R	R	Metal Tool, Tweezer	10	22	DPK
Revision C							
CET FRF-0	ATF 2518	R	F	MIL-C-5015, Front Release	5	0	
CET FRF-4	ATF 2336	R	F	MIL-C-5015, Front Release	5	4	
CET FRF-8	ATF 2252	R	F	MIL-C-5015, Front Release	5	8	
CET FRF-12	ATF 2162	R	F	MIL-C-5015, Front Release	5	12	
CET FRF-16	ATF 2115	R	F	MIL-C-5015, Front Release	5	16	
CET KPSE 20A	AT 2020	R	F	MIL-C-26500, 26482, 26636	6	20	



TOOL IDENTIFICATION NUMBERS		I/R	R/F	USAGE/ DESCRIPTION	ILL.	GAGE	CONNECTOR SERIES
ITT/CANNON	ASTRO TOOL #						
CET P-CTA	ATC 2035	R	F	Centi Lok 2DD Pins	1	22	DD
CET S-CTA	ATC 2036	R	F	Centi Lok 2DD Sockets	1	22	DD
CET TF	ATC 2026	R	F	Tuning Fork Contacts	11	--	
CET VE-0	ATC 2565	R	R	MIL-C-5015, Rear Release	19	0	
CET VE-4	ATC 2426	R	R	MIL-C-5015, Rear Release	19	4	
CET VE-8	ATC 2281	R	R	MIL-C-5015, Rear Release	19	8	
CET VE-12	ATC 2184	R	R	MIL-C-5015, Rear Release	10	12	
CET VE-16	ATC 2136	R	R	MIL-C-5015, Rear Release	10	16	
CIET 12	ATR 1160	I	R	Metal Tool, NAS 1664 for NAS 1599	2	12	KV/PV/DPK
	ATR 2160	R	R	Metal Tool, NAS 1664 for NAS 1599	10	12	KV/DPK/PV
CIET 16	ATR 1107	I	R	Metal Tool, NAS 1664 for NAS 1599	2	16	DPXME
	ATR 2112	R	R	Metal Tool, NAS 1664 for NAS 1599	10	16	DPXME
CIET 20	ATR 1080	I	R	Metal Tool, NAS 1664 for NAS 1599	2	20	DPXME
	ATR 2080	R	R	Metal Tool, NAS 1664 for NAS 1599	10	20	DPXME
CIET 20-18	ATC 1081	I	R	Metal Tool, Joggled	2	20	D*C
	ATC 2076	R	R	Metal Tool, Tweezer	10	20	D*C
CIET 20HD	ATC 1076	I	R	Metal Tool, Tweezer	10	20	D*RA
	ATC 2076	R	R	Metal Tool, Tweezer	10	20	D*RA
CIET 20HDL	ATC 2076-L	R	R	Metal Tool, Tweezer, Long Tip	10	20	DPXME
CIET CK-1	ATC 3050	R	R	Metal Tool	3	22	DPX
CIET 22	ATC 1054	I	R	Metal Tool, Joggled	2	22	DPX2MA
	ATC 2053	R	R	Metal Tool, Tweezer (ref. ATC 2054)	10	22	CENTI-K
	ATC 2053-70	R	R	Modified version of ATC 2053 (70 degree angle)	10	22	
	ATC 1054-S	I	R	Modified version of ATC 1054 (straight)	1	22	
CIT 4	ATC 1377	I	R	Metal Tool, Straight	1	4	RX
CIT 8	ATC 1265	I	R	Metal Tool, Straight	1	8	RX
CIT 12	ATC 1160	I	R	DP*M, DPS, MS-E, KMBA Connector	2	12	RX
CIT 12-1	ATC 1160	I	R	RX Contacts	2	12	RX
CIT 12-2	ATC 1160	I	R	RX Contacts	2	12	RX
CIT 16	ATC 1111	I	R	Ring-Lok DP*M, KMB, SRC	2	16	RX
CIT 16-1	ATC 1111	I	R	Ring-Lok DP*M, KMB, SRC	2	16	RX
CIT 16-2	ATC 1111-1	I	R	Ring-Lok DP*M, KMB, SRC, Long Tip	2	16	RX
CIT 16-9	ATC 1112	I	R	Ring-Lok DP*M, KMB, SRC	2	16	RX
CIT 16KJ	ATBX 1108	I	R	MIL-C-38999	10	16	KJ
CIT 20	ATA 1086	I	R	DP*M, KQ, KR, KTM, MIL-C-26636, Metal Interchangeable Probe Tool	26	20	SRC
CIT 20-2	ATC 1079	I	R	DSM	2	20	BFRX
CIT 20-5A	ATC 1084	I	R	KPTM	2	20	KPTM
CIT 20-18	ATC 1081	I	R	038894-0018	2	20	KPTM
CIT 20A	ATC 1055	I	R	DDSMI	2	20	D
CIT 20D	ATC 1072	I	R	DPXME-20 H.D.	2	20	D



Insertion and Removal Tool Selection Charts

LISTED BY CONTACT MANUFACTURER

TOOL IDENTIFICATION NUMBERS		I/R	R/F	USAGE/ DESCRIPTION	ILL.	GAGE	CONNECTOR SERIES
ITT/CANNON	ASTRO TOOL #						
CIT 20KJ	ATBX 1072	I	R	MIL-C-38999	10	20	KJ
CIT 22KJ	ATBX 1058	I	R	MIL-C-38999	10	22	KJ
CIT 22M-KJ	ATBX 1048	I	R	MIL-C-38999	10	22M/D	KJ
CIT C2	ATC 1156	I	R	DP*M	2	COAX	DP
CIT CTA-1	ATC 1046	I	R	Metal Tool, Tweezer	10	22	CTA
CIT DPKB	ATC 1053	I	R	DPKB	2	22	DPKB
CIT DPX2MA22	ATC 1054	I	R	DPX	2	22	DPX
CIT DPXMA22-1	ATC 1052	I	R	DPXMA	2	22	DPXMA
CIT PS-CTA-22	ATC 1046	I	R	Tweezer, Pins & Sockets	10	22	D
CIT SS-14	ATCS 1105	I	R	Super Seal Connector	1	20	SS
CIT TF/FP	ATC 1032	I	R	Metal Tool, Tweezer, Filter Pins	30	--	--
	ATC 1071	I	R	D*C Connectors	23	20	D*
	ATC 1080	I	R	Equivalent NSN 5120-00-409-5217	1	20	
CET-CTA-2	ATC 3035	I & R	F & R	Tool Kit, Centi Lok Pins & Sockets	15	22	DD

TOOL IDENTIFICATION NUMBERS		I/R	R/F	USAGE/ DESCRIPTION	ILL.	GAGE	CONNECTOR SERIES
KLIXON	ASTRO TOOL #						
	ATK 1052	I	R	Klixon circuit breaker contacts	1		
	ATK 1130	I	R	Insertion Kit - MIL-C-26482, 26500, 26636 connectors, Metal Interchangeable Probe Tool	26	12,16,20	
	ATK 2115	R	R	Removal Kit for unwired contacts, NAS 1599	17	12,16,20	
	ATK 2120	R	F	Removal Kit-MIL-C-26482, 26500, 26636 connectors, Metal Interchangeable Probe Tool	26	12,16,20	

TOOL IDENTIFICATION NUMBERS		I/R	R/F	USAGE/ DESCRIPTION	ILL.	GAGE	CONNECTOR SERIES
LOCKHEED	ASTRO TOOL #						
L525C19-24	ATL 1112	I	R	Tip used with L525C19-44 Handle	25	16	
L525C19-28	ATL 2097	R	F	Tip used with L525C19-44 Handle	25	12	
L525C19-32	ATL 2095	R	F	Tip used with L525C19-44 Handle	25	12	69
L525C19-40	ATL 1108	I	R	Tip used with L525C19-44 Handle	25	20	
L525C19-42	ATL 1105	I	R	Tip used with L525C19-44 Handle	25	20	
L525C19-58	ATL 2040	R	F	Tip used with L525C19-44 Handle	25	20	69
L525C19-59	ATL 2064	R	F	Tip used with L525C19-44 Handle	25	16	69
L525C19-68	ATL 2044	R	F	Tip used with L525C19-44 Handle	25	20	
L525C19-69	ATL 2062	R	F	Tip used with L525C19-44 Handle	25	16	
L525C19-86	ATL 1154	I	R	Tip used with L525C19-44 Handle	25	12	
LITTON	ATL 2048	R	R	MIL-C-38999 with wire wrap pins for wrapped contacts (Developed for Litton).	-	22M	



TOOL IDENTIFICATION NUMBERS		I/R	R/F	USAGE/ DESCRIPTION	ILL.	GAGE	CONNECTOR SERIES
MASTER SPEC..	ASTRO TOOL #						
	ATMS 2050	R	R	Modified version of ATBX 2046, Tip .8	10	22M	
800-P2	ATMS 2062	R	R	Indicator light case contacts	-	22	
	ATMS 2073	R	R	Unwired contacts NAS 1599	17	20	
	ATMS 2101	R	R	Unwired contacts NAS 1599	17	16	
	ATMS 2148	R	R	Unwired contacts NAS 1599	17	12	
	ATMS 90562-1	R	F	MIL-C-22992, Class L Connector	-	4/0	
	ATMS 90562-2	R	F	MIL-C-22992, Class L Connector	-	2/0	
	ATMS 90562-3	R	F	MIL-C-22992, Class L Connector	-	1/0	
	ATMS 90562-4	R	F	MIL-C-22992, Class L Connector	-	2	
	ATMS 90562-5	R	F	MIL-C-22992, Class L Connector	-	4	
	ATMS 90562-6	R	F	MIL-C-22992, Class L Connector	-	6	
	ATMS 3115	R	F	MIL-C-38300 Ultra-mate Connector	-	16	
	ATMS 3080	R	F	MIL-C-38300 Ultra-mate Connector	-	20	

TOOL IDENTIFICATION NUMBERS		I/R	R/F	USAGE/ DESCRIPTION	ILL.	GAGE	CONNECTOR SERIES
MOLEX	ASTRO TOOL #						
HT 2285	ATMO 2081	R	F	20 GA rolled contacts	6	20	
HT 2038	ATMO 2124	R	F	16 GA rolled contacts	6	16	

TOOL IDENTIFICATION NUMBERS		I/R	R/F	USAGE/ DESCRIPTION	ILL.	GAGE	CONNECTOR SERIES
NAT'L. AERO	ASTRO TOOL #						
NAS 1664-12	ATR 1160 and	I	R	Single Tip Tool	2	12	
	ATR 2160	R	R	Metal Tool, Tweezer	10	12	
	ATR 1160-135	I	R	Modified Version of ATR 1160, 45 degree angle	2	12	
	ATR 1153	I	R	Metal Tool, Tweezer	10	12	
	ATR 2160-S	R	R	Modified Version of ATR 2160, straight	10	12	
NAS 1664-16	ATR 1107 and	I	R	Single Tip Tool	2	16	
	ATR 2112	R	R	Metal Tool, Tweezer	10	16	
	ATR 1107-135	I	R	Modified Version of ATR 1107, 45 degree angle	2	16	
	ATR 1105	I	R	Metal Tool, Tweezer	10	16	
	ATR 2112-L	R	R	Same as ATR 2112	10	16	
	ATR 2112-LS	R	R	Modified Version of ATR 2112, long tip-straight	10	16	
NAS 1664-20	ATR 1080 and	I	R	Single Tip Tool	2	20	
	ATR 2080	R	R	Metal Tool, Tweezer	10	20	
	ATR 1080-135	I	R	Modified Version of ATR 1080, 45 degree angle	2	20	
	ATR 1078	I	R	Metal Tool, Tweezer	10	20	
	ATR 2080-S	R	R	Modified Version of ATR 2080, straight	10	20	
	ATR 2109	R	R	MS3162 contacts, tip extension to one inch	10	16	

Insertion and Removal Tool Selection Charts

LISTED BY CONTACT MANUFACTURER

TOOL IDENTIFICATION NUMBERS		I/R	R/F	USAGE/ DESCRIPTION	ILL.	GAGE	CONNECTOR SERIES
POSITRONICS	ASTRO TOOL #						
9081	ATG 2103	R	F	Metal Spring-Loaded Probe Tool	8	16	
9099	AT 4004	I	R	Metal Tool, Joggled	2	16	

TOOL IDENTIFICATION NUMBERS		I/R	R/F	USAGE/ DESCRIPTION	ILL.	GAGE	CONNECTOR SERIES
S.A.E.	ASTRO TOOL #						
M81969/33-01	ATSE 1077	I	R	MIL-C-28840	2	20	
M81969/33-02	ATSE 1078	I	R	MIL-C-28840	1	20	
M81969/34-01	ATSE 2071	R	F	MIL-C-28840	5	20	
	ATSE 2070	R	F	MIL-C-28840	5	20	
T10149-0	ATC 2565	R	R	MIL-C-5015, Rear Release	19	0	
T10149-4	ATC 2426	R	R	MIL-C-5015, Rear Release	19	4	
T10149-8	ATC 2281	R	R	MIL-C-5015, Rear Release	19	8	
T10149-12	ATSE 2166	R	R	MIL-C-5015, Rear Release	10	12	
T10149-16	ATSE 2109	R	R	MIL-C-5015, Rear Release	10	16	
T10150-0	ATF 1554	I	R	MIL-C-5015, Rear Release	2	0	
T10150-4	ATF 1359	I	R	MIL-C-5015, Rear Release	2	4	
T10150-8	ATF 1256	I	R	MIL-C-5015, Rear Release	2	8	
T10150-12	ATSE 1158-B	I	R	MIL-C-5015, Rear Release	2	12	
T10150-16	ATSE 1108	I	R	MIL-C-5015, Rear Release	2	16	
T10438	ATSE 1077	I	R	MIL-C-28840	1	20	
	ATSE 1080	I	R	Metal Tool, Joggled	2	20	
	ATSE 2049	R	R	Metal Tool, Tweezer	10	22	
	ATSE 2112	R	R	5015 connector, Tweezer	10	16	

TOOL IDENTIFICATION NUMBERS		I/R	R/F	USAGE/ DESCRIPTION	ILL.	GAGE	CONNECTOR SERIES
TRANSITRON	ASTRO TOOL #						
PCD 91-023	ATT 1059	I	R	Metal Tool, Straight	1	22	
	ATT 1060-B	I	R	Metal Tool, Straight	1	22	
	ATT 1060-SGA	I	R	Metal Tool, Tweezer			
PCD 91-021	ATT 2059	R	R	Metal Tool, Tweezer	10	22	
	ATT 2059-S	R	R	Modified version of ATT 2059, straight	10	22	
	ATT 2060-S	R	R	Metal Tool, Tweezer, Straight	10	22	



TOOL IDENTIFICATION NUMBERS		I/R	R/F	USAGE/ DESCRIPTION	ILL.	GAGE	CONNECTOR SERIES
TYCO/AMP	ASTRO TOOL #						
20823-2	AT 2016	R	F	Metal Tool, Front Release, Plunger	6	16	2017
20823-3	AT 2020	R	F	Metal Tool, Front Release, Plunger	6	20	2017
200826-1	AT 1000-20	I	R	Metal Tool, Joggled	2	20	2017
200826-2	AT 1000-16	I	R	Metal Tool, Joggled	2	16	2017
305141-1	ATAMP 2302	R	F	Coaxial	6	Coax	
305183-0	A 305183	R	F	AMP 16, 20	17	16, 20	M, W
305183-2	ATAMP 2103	R	F	Metal Spring-Loaded Probe Tool	8	20	
91002-1	ATAMP 1085	I	R	Series M, Type 3	1	20, 16	M
91039-1	ATSE 1078	I	R	MIL-C-28840	1	20	Sub 20
91040-1	ATSE 2070	R	F	MIL-C-28840	5	20	Sub 20
91040-7	ATF 2518	R	F	MIL-C-5015	5	0	
91066-1	ATC 1054 and	I	R	Metal Tool, Joggled	2	22	RME
	ATC 2053	R	R	Metal Tool, Tweezer Tool	10	22	RME
91066-2, 4	ATC 1071 and	I	R	Metal Straight Probe Tool	23	20	RME
	ATC 2071	R	R	Metal Tool, Tweezer Tool	10	20	RME
91066-3	ATR 1107 and	I	R	Metal Tool, Joggled	2	16	RME
	ATR 2112	R	R	Metal Tool, Tweezer Tool	10	16	RME
91067-1	ATBX 1048 and	I	R	Metal Tool, Tweezer Tool	10	22D	
	ATBX 2046	R	R	Metal Tool, Tweezer Tool	10	22D	
91067-2	ATBX 1055 and	I	R	Metal Tool, Tweezer Tool	10	22	
	ATBX 2057	R	R	Metal Tool, Tweezer Tool	10	22	
91067-3	ATC 1076-L and	I	R		10	20	
	ATC 2076-L	R	R		10	20	
91074-1	ATAMP 2250	R	R	Metal Tool, Tweezer Tool	10	Coax	RM #5
	ATA 2073	R	F	Metal Tool, Front Release, Plunger	6	20	M
	ATA 2112	R	F	Metal Tool, Front Release, Plunger	6	16	M
202476-6	ATAMP 1231	I	R	Connector #202476-6	1		
	ATAMP 3040			Miniclip Transfer Tool for .025 Square Pins	21		
	ATAMP 3070			Transfer Tool Kit-transfers AMP terminal clips from gun to terminal's single wires.	21		

TOOL IDENTIFICATION NUMBERS		I/R	R/F	USAGE/ DESCRIPTION	ILL.	GAGE	CONNECTOR SERIES
U.S. COMPONENTS	ASTRO TOOL #						
R.T.2260	ATBX 2046	R	R	Metal Tool, Tweezer	10	22D	
	ATUS 1050	I	R	#2260 contacts	23	22	
	ATUS 2052	R	F	Pins & Sockets, Metal Spring-Loaded Probe Tool	8	22	



Insertion and Removal Tool Selection Charts

LISTED BY CONTACT MANUFACTURER

TOOL IDENTIFICATION NUMBERS		I/R	R/F	USAGE/ DESCRIPTION	ILL.	GAGE	CONNECTOR SERIES
VEAM/WINCHESTER	ASTRO TOOL #						
107-1001	ATW 2104	R	F	Metal Spring-Loaded Probe Tool	8	16	MRAC
107-1005	AT 5002	R	F	Comparable to ATH 2102, Metal Spring-Loaded Probe Tool	8	16	MRAC
107-1007	ATW 2055	R		Flat contacts 8617	11	--	
107-1011	ATW 1055	I	R	Proto at Litton	1	22	SREC
107-1012	ATCL 2061	R	F	Winchester 4040-4024, Metal Spring-Loaded Probe Tool	8	22D	SREC
107-1015	ATH 1094	I	R	MIL-C-22857	1	16	MRAC
107-1026	ATS 2133	R	F	Submarine Connector	6	16	
	ATWC 3032	--	--	Wire comb, 8" long, hook on one end, blade on other	--	--	
	ATWC 3312	--	--	12" long phenolic 5/16" dia., point on one end, blade on other	--	--	

TOOL IDENTIFICATION NUMBERS		I/R	R/F	USAGE/ DESCRIPTION	ILL.	GAGE	CONNECTOR SERIES
VIKING	ASTRO TOOL #						
000407-0003	ATV 1086	I	R	Metal Tool, Straight	1	20	
000407-0004	ATV 2073	R	F	Metal Spring-Loaded Probe Tool	8	20	
000407-0006	AT 2016	R	F	Miniature relay sockets	6	16	
000407-0027	ATA 1101 or	I	R	MIL-R-6106, Metal Long-Slot Tool	27	16	
	AT 1000-16	I	R	MIL-R-6106	2	16	
000407-0031	ATV 2052	R	F	Metal Spring-Loaded Probe Tool	8	22	
000407-0603	ATV 2073	R	F	Revision B, Metal Spring-Loaded Probe Tool	8	20	
980-0007-002	ATR 1107 and	I	R	NAS 1599 metal tools	2	16	
	ATR 2112	R	R	NAS 1599 metal tools	10	16	
	ATV 2075	R	F	Modified version of ATV 2073 I.D. .075, Metal Spring-Loaded Probe Tool	8	20	
	ATV3125	R	F	Impact Tool	22	20	

TOOL IDENTIFICATION NUMBERS		I/R	R/F	USAGE/ DESCRIPTION	ILL.	GAGE	CONNECTOR SERIES
VIRGINIA PANEL	ASTRO TOOL #						
166223	ATVP 2101	R	F	Locktite Extraction	--	20	
223848	ATVP 1120-2	I	R	Locktite 12	1	20	
223849	ATVP 1120-1	I	R	Locktite 14-20 AWG	1	20	
223850	ATVP 1120-3	I	R	Locktite 22-24 AWG	1	20	



Insertion and Removal Tool Selection Charts

Insertion and Removal Tool Selection Charts listed by Military Standard

LISTED BY MILITARY STANDARD

TOOL IDENTIFICATION NUMBERS					I/R	COMMENTS	
MILITARY STANDARD	ILL.	ASTRO TOOL #	ASTRO FUNCTIONAL ALTERNATIVE	ILL.			
MS3156-16	28	SEE M81969/1	ATR 1107 and	2	I	Used on MIL-C-81659 Series II	
			ATR 2112	10	R		
MS3156-20	28	SEE M81969/1	ATC 1072 and	2	I		
			ATC 2076	10	R		
MS3156-22	28	SEE M81969/1	ATC 1054 and	2	I		
			ATC 2053	10	R		
MS3159-12	17	ATD 2150		17	R		MIL-C-81511 Series III & IV, Unwired contacts
MS3159-16	17	ATD 2090		17	R		
MS3159-20	17	ATD 2058		17	R		
MS3159-22	17	ATD 2044		17	R		
MS3159-12A	17	0214-1251		17	R	Tip Only	
MS3159-16A	17	0214-1641		17	R	Tip Only	
MS3159-20A	17	0214-2031		17	R	Tip Only	
MS3159-22A	17	0214-2251		17	R	Tip Only	
MS3165-16	28	SEE M81969/29	ATC 2136				
MS3165-8	28	SEE M81969/29	ATC 2281	19	R	MIL-C-5015 Rear Release Contacts	
MS3165-4	28	SEE M81969/29	ATC 2426	19	R		
MS3165-0	28	SEE M81969/29	ATC 2565	19	R		
MS3323-12	4	ATA 1158	ATA 1159	2	I	MIL-C-81511 Series I & II Pins & Contacts	
MS3323-16	4	ATA 1104	ATA 1102	2	I		
MS3323-20	4	ATA 1080	ATA 1079	2	I		
MS3323-22	4	ATA 1051	ATA 1052	2	I		
MS3342-12	3	ATA 2120	ATA 2348-12*	9	R	MIL-C-81511 Series I & II Pins	
MS3342-16	3	ATA 2065	ATA 2348-16*	9	R		
MS3342-20	3	ATA 2042	ATA 2348-20*	9	R		
MS3342-23	3	ATA 2030	ATA 2348-22*	9	R		
MS3344-12	7	ATA 2093	ATA 2348-12*	9	R	MIL-C-81511 Series I & II Sockets	
MS3344-16	7	ATA 2060	ATA 2348-16*	9	R		
MS3344-20	7	ATA 2038	ATA 2348-20*	9	R		
MS3344-23	7	ATA 2026	ATA 2348-22*	9	R		
			* ATA 2348XX tool removes both pins and sockets				
MS3347-12	28	SEE M81969/14	ATR 1160 and	2	I	NAS 1599 Connector Series	
			ATR 2160	10	R		
MS3347-16	28	SEE M81969/14	ATR 1107 and	2	I		
			ATR 2112	10	R		
MS3347-20	28	SEE M81969/14	ATR 1080 and	2	I		
			ATR 2080	10	R		

Verify QPL status (if required) at time of purchase.



Insertion and Removal Tool Selection Charts

LISTED BY MILITARY STANDARD

CHART ABBREVIATIONS

I/R Insertion or Removal designation column
I Insertion Tool
R Removal Tool

I & R Insertion & Removal Tool designation column
R/F Rear or Front Release designation column
R Rear Release

F Front Release
R & F Rear and Front Release
ILL Illustration reference number
GA Gage designation
NAATT Not Available At This Time

TOOL IDENTIFICATION NUMBERS					I/R	COMMENTS
MILITARY STANDARD	ILL.	ASTRO TOOL #	ASTRO FUNCTIONAL ALTERNATIVE	ILL.		
MS3448-001	17	ATK 2115		17	R	NAS 1599 Unwired contacts
MS3448-001A	17	0161-0031		17	R	Tip Only
	17	ATMS 2073		17	R	Single Tip Tool
MS3448-001B	17	0160-0041		17	R	Tip Only
	17	ATMS 2101		17	R	Single Tip Tool
MS3448-001C	17	0159-0051		17	R	Tip Only
	17	ATMS 2148		17	R	Single Tip Tool
MS3483-1 (or size 8)	19	ATC 2281		19	R	MIL-C-5015 Rear Release Contacts
MS3483-2 (or size 4)	19	ATC 2426		19	R	
MS3483-3 (or size 0)	19	ATC 2565		19	R	
MS17805	1	ATH 1094	AT 4002	2	I	MIL-C-22857 Connector Series
MS17806	7	ATH 2102	AT 5002	8	R	
MS18278-1	19	NONE	ATC 1072 and	2	I	MIL-C-24308 Connector Series
			ATC 2076	10	R	
MS24256A-12	27	ATA 1144	AT 1000-12	2	I	MIL-C-26482, 265000 & 26636 Connectors
MS24256A-16	27	ATA 1101	AT 1000-16	2	I	
MS24256A-20	27	ATA 1086	AT 1000-20	2	I	
MS24256B-20	27	ATB 1064	ATB 1067 or	1	I	
			ATB 1068	1	I	
MS24256K	26	ATK 1130			I	
MS24256R-12	6	AT 2012			R	
MS24256R-16	6	AT 2016			R	
MS24256R-20	6	AT 2020			R	
MS24256RH-16	--	ATMS 3115		--	R	
MS24256RH-20	--	ATMS 3080		--	R	
MS27495A-12	10	ATBX 1157	ATBX 1154	2	I	MIL-C-38999 Connectors - "S" designates straight in-line version
MS27495A-16	10	ATBX 1108	ATR 1107	2	I	
MS27495A-20	10	ATBX 1072	ATBX 1073	2	I	
MS27495A-22	10	ATBX 1058	ATBX 1055	2	I	
MS27495A-22D	10	ATBX 1048	ATBX 1049	2	I	
MS27495A-22M	10	ATBX 1048	ATBX 1049	2	I	
MS27495A-12-S	10	ATBX 1159			I	
MS27495A-16-S	10	ATBX 1109			I	
MS27495A-20-S	10	ATBX 1078			I	
MS27495A-22-S	10	ATBX 1060			I	
MS27495A-22D-S	10	ATBX 1054			I	
MS27495A-22M-S	10	ATBX 1054			I	

Verify QPL status (if required) at time of purchase.



TOOL IDENTIFICATION NUMBERS					I/R	COMMENTS
MILITARY STANDARD	ILL.	ASTRO TOOL #	ASTRO FUNCTIONAL ALTERNATIVE	ILL.		
MS27495R-12	10	ATBX 2155			R	MIL-C-38999 Connectors - "S" designates straight in-line version
MS27495R-16	10	ATBX 2103			R	
MS27495R-20	10	ATBX 2070			R	
MS27495R-22	10	ATBX 2057			R	
MS27495R-22D	10	ATBX 2046			R	
MS27495R-22M	10	ATBX 2046			R	
MS27495R-12-S	10	ATBX 2160			R	
MS27495R-16-S	10	ATBX 2109			R	
MS27495R-20-S	10	ATBX 2073			R	
MS27495R-22-S	10	ATBX 2059			R	
MS27495R-22D-S	10	ATBX 2050			R	
MS27495R-22M-S	10	ATBX 2050			R	
MS27509	28	NONE	Use MS27495 series tools	10	I & R	MIL-C-38999 Connectors - plastic double-ended tool
MS27534	28	SEE M81969/14	Use MS27495 series tools	10	I & R	MIL-C-38999 Connectors - plastic double-ended tool
M83723-12	28	SEE M81969/14	ATR 1160 and	2	I	Astro Metal Equivalents for Plastic Tools
			ATR 2160	10	R	
M83723-16	28	SEE M81969/14	ATR 1107 and	2	I	
			ATR 2112	10	R	
M83723-20	28	SEE M81969/14	ATR 1080 and	2	I	
			ATR2080	10	R	
MS90455-0	27	ATF 1558	ATF 1554	2	I	MIL-C-005015 Connectors
MS90455-4	27	ATF 1378	ATF 1359	2	I	
MS90455-8	27	ATF 1260	ATF 1256	2	I	
MS90455-12	27	ATF 1144	ATF 1160	2	I	
MS90455-16	27	ATF 1101	ATF 1105	2	I	
MS90456-0	5	ATF 2518		5	R	MIL-C-005015 Series 3400 & MIL-C-81659 (16 GA only) front release contacts
MS90456-4	5	ATF 2336		5	R	
MS90456-8	5	ATF 2252		5	R	
MS90456-12	5	ATF 2162		5	R	
MS90456-16	5	ATF 2115		5	R	
MS90562-1	--	ATMS 90532-1		--	R	MIL-C-22992, Class I Connector, MS90566, MS90559 & MS90560
MS90562-2	--	ATMS 90532-2		--	R	
MS90562-3	--	ATMS 90532-3		--	R	
MS90562-4	--	ATMS 90532-4		--	R	
MS90562-5	--	ATMS 90532-5		--	R	
MS90562-6	--	ATMS 90532-6		--	R	

Verify QPL status (if required) at time of purchase.

Plastic Insertion & Removal Tool Selection Charts

LISTED BY MIL #

Plastic Insertion and Removal Tool Selection Charts listed by MIL#

CHART ABBREVIATIONS

I/R Insertion or Removal designation column
I Insertion Tool
R Removal Tool

I & R Insertion & Removal Tool designation column
R/F Rear or Front Release
R Rear Release

F Front Release
R & F Rear and Front Release
ILL Illustration reference number
GA Gage designation
NAATT Not Available At This Time

MIL #	MANUFACTURERS P/N	COLOR CODE	SIZE	APPLICATION REFERENCE	ASTRO TOOL METAL EQUIVALENT	
MIL-C-83723	83723/31-12	Yellow - Ins.		83723	ATML 08209B	
		White - Rem.		83723	ATML 08210B	
	83723/31-16	Blue - Ins.		83723	ATML 08207B	
		White - Rem.		83723	ATML 08208B	
	83723/31-20	Red - Ins.		83723	ATML 08205B	
		White - Rem.		83723	ATML 08206B	
	83723/31-22	Brown - Ins.		83723	ATBX 1058	
		White - Rem.		83723	ATBX 2057	
	83723/31-22D	Black - Ins.		83723	ATBX 1048	
		White - Rem.		83723	ATBX 2046	
MIL-I-81969	M81969/1-01*	Green - Ins.	22	MIL-C-24308	ATC 1054	
		White - Rem.		MIL-C-81659 Series II	ATC 2053	
	M81969/1-02*	Red - Ins.	20	MIL-C-24308	ATC 1076-L	
		White - Rem.		MIL-C-81659 Series II	ATC 2076-L	
	M81969/1-03*	Blue - Ins.	16	MIL-C-81659 Series II	ATR 1105	
		White - Rem.			ATR 2112	
	M81969/1-04*	Green - Ins.	22D	MIL-C-24308	--	
		White - Rem.				
	* Plastic body with metal tips					
	M81969/14-01	Green - Ins.	22D	MIL-C-38999	ATML 0801B (Ins.)	
				MIL-C-24308	ATML 0802B (Rem.)	
				MIL-C-83733		
				MIL-T-81714		
				MIL-C-55302/68/69		
	M81969/14-02	Red - Ins.	20	MIL-C-38999	ATML 0805B (Ins.)	
		White - Rem.			ATML 0806B (Rem.)	
				ATR 1078 (Ins.)		
			MIL-C-26482 Series II	ATR 2080 (Rem.)		
			MIL-C-81703 Series III	ATML 08205B (Ins.)		

MIL #	MANUFACTURERS P/N	COLOR CODE	SIZE	APPLICATION REFERENCE	ASTRO TOOL METAL EQUIVALENT
MIL-I-81969	M81969/14-02			MIL-C-83723 Series I & III	ATML 08206B (Rem.)
				MIL-C-83733	
				MIL-T-81714 (Size 20 & 22)	
	M81969/14-03	Blue - Ins.	16	MIL-C-38999	ATML 0807B (Ins.)
				White - Rem.	ATML 0808B (Rem.)
				MIL-C-5015 (MS3450 Series)	ATR 1105 (Ins.)
				MIL-C-26482 Series II	ATR 2112 (Rem.)
				MIL-C-81703 Series III	ATML 08207B (Ins.)
				MIL-C-83723	ATML 08208B (Rem.)
				MIL-T-81714	
				MIL-C-83733	
	M81969/14-04	Yellow - Ins.	12	MIL-C-38999	ATML 0809B (Ins.)
				White - Rem.	ATML 0810B (Rem.)
				MIL-C-5015 (MS3450 Series)	ATR 1153 (Ins.)
				MIL-C-81703 Series III	ATR 2160 (Rem.)
				MIL-T-81714 Series III	ATML 08209B (Ins.)
				MIL-C-83723	ATML 08210B (Ins.)
				MIL-C-83723	
				MIL-C-26482 Series II	
			MIL-C-81659		
M81969/14-05		Gray - Ins.	10	MIL-C-38999	ATML 0811B (Ins.)
		White - Rem.		ATML 0812B (Rem.)	

Verify QPL status (if required) at time of purchase.



MIL #	MANUFACTURERS P/N	COLOR CODE	SIZE	APPLICATION REFERENCE	ASTRO TOOL METAL EQUIVALENT
MIL-I-81969	M81969/14-06	Red - Rem.	8	MIL-C-83723	ATML 0813B (Ins.)
				MIL-C-5015	ATML 0814B (Rem.)
				Suggested Application	Suggested ATML 1501
	M81969/14-07	Blue - Rem.	4	MIL-C-83723	Suggested ATML 1502
				MIL-C-5015	
	M81969/14-08	Yellow - Rem.	0	MIL-C-83723	Suggested ATML 1503
				MIL-C-5015	
	M81969/14-09	Brown - Ins.	22	MIL-C-55302/169, MIL-C-55302/171 only	ATML 0803B (Ins.)
		White - Rem.			ATML 0804B (Rem.)
	M81969/14-10	Red - Ins.	20	MIL-C-38999	ATML 0805B (Ins.)
		Orange-Rem.			ATML 0806B (Rem.)
	M81969/14-11	Red - Ins.	20	MIL-C-26482 Series II	ATML 08205B (Ins.)
		White - Rem.		MIL-C-81703 Series III	ATML 08206B (Rem.)
				MIL-C-83723 Series I & III	
				MIL-C-83733	
	M81969/14-12	Green - Rem.	8	MIL-C-38999	ATML 0813B (Ins.)
					ATML 0814B (Rem.)
	M81969/29-01	Blue - Rem.	16	MIL-C-5015	Suggest ATC 2136
	M81969/29-02	Red - Rem.	8	MIL-C-5015	ATC 2281
	M81969/29-03	Blue - Rem.	4	MIL-C-5015	ATC 2426
	M81969/29-04	Yellow - Rem.	0	MIL-C-5015	ATC 2565
	M81969/39	Green - Ins.		MIL-C-24308	Suggest ATC 1072
		White - Rem.		(Size 20)	Suggest ATC 2076

Verify QPL status (if required) at time of purchase.

MIL #	MANUFACTURERS P/N	COLOR CODE	SIZE	APPLICATION REFERENCE	ASTRO TOOL METAL EQUIVALENT	
M81969/29	MS3165-0			MIL-C-5015	ATC 2565	
	MS3165-4			MIL-C-5015	ATC 2426	
	MS3165-8			MIL-C-5015	ATC 2281	
M81969/14	MS27534-12	White - Rem.		MIL-C-38999	ATBX 2155	
		Yellow - Ins.		MIL-C-38999	ATBX 1157	
	MS27534-16	White - Rem.		MIL-C-38999	ATBX 2103	
		Blue - Ins.		MIL-C-38999	ATBX 1108	
	MS27534-20	White - Rem.		MIL-C-38999	ATBX 2070	
		Red - Ins.		MIL-C-38999	ATBX 1072	
	MS27534-22	White - Rem.		MIL-C-38999	ATBX 2057	
		Brown - Ins.		MIL-C-38999	ATBX 1058	
	MS27534-22D	White - Rem.		MIL-C-38999	ATBX 2046	
		Black - Ins.		MIL-C-38999	ATBX 1048	
	MS27534-22M	White - Rem.				
		Black - Ins.		MIL-C-38999	ATBX 1048	
	NAS 1664-12	Yellow - Ins.			NAS 1599 Connector	ATR 1160
		White - Rem.			NAS 1599 Connector	ATR 2160
NAS 1664-16	Blue - Ins.			NAS 1599 Connector	ATR 1107	
	White - Rem.			NAS 1599 Connector	ATR 2112	
NAS 1664-20	Red - Ins.			NAS 1599 Connector	ATR 1080	
	White - Rem.			NAS 1599 Connector	ATR 2080	

LISTED BY MIL #



Plastic Insertion & Removal Tool Selection Charts

LISTED BY MANUFACTURER

Plastic Insertion and Removal Tool Selection Charts listed by Manufacturer

MANUFACTURER	MANUFACTURERS P/N	COLOR CODE	APPLICATION REFERENCE	ASTRO TOOL METAL EQUIVALENT	
AMPHENOL	294-108	Red - Ins.	NAS 1664-20	ATR 1080	
		White - Rem.	NAS 1664-20	ATR 2080	
	294-109	Blue - Ins.	NAS 1664-16	ATR 1107	
		White - Rem.	NAS 1664-16	ATR 2112	
	294-110	Yellow - Ins.	NAS 1664-12	ATR 1160	
		White - Rem.	NAS 1664-12	ATR 2160	
AMPHENOL / BENDIX	MS27534-22D	Black - Ins.	JT/LJT, MIL-C-38999	ATBX 1048	
		White - Rem.	JT/LJT, MIL-C-38999	ATBX 2046	
	MS27534-22	Brown - Ins.	JT/LJT, MIL-C-38999	ATBX 1058	
		White - Rem.	JT/LJT, MIL-C-38999	ATBX 2057	
	MS27534-20	Red - Ins.	JT/LJT, MIL-C-38999	ATBX 1072	
		White - Rem.	JT/LJT, MIL-C-38999	ATBX 2070	
	MS27534-16	Blue - Ins.	JT/LJT, MIL-C-38999	ATBX 1108	
		White - Rem.	JT/LJT, MIL-C-38999	ATBX 2103	
	MS27534-12	Yellow - Ins.	JT/LJT, MIL-C-38999	ATBX 1157	
		White - Rem.	JT/LJT, MIL-C-38999	ATBX 2155	
	AMPHENOL / MATRIX	6500-001-12	Yellow - Ins.		ATR 1160
			White - Rem.		ATR 2160
6500-018-0		Yellow-Rem.	MS3165-0	ATC 2565	
6500-018-4		Blue - Rem.	MS3165-0	ATC 2426	
6500-018-4		Red - Rem.	MS3165-0	ATC 2281	
6500-028-12		White - Rem.	NAS 1599 Connector	ATR 2157	
6500-029-12		White - Rem.	NAS 1599 Connector	ATR 2160	
6500-030-12		Yellow - Ins.	NAS 1599 Connector	ATGH 1160	
6500-028-16		White - Rem.	NAS 1599 Connector	ATR 2106	
6500-029-16		White - Rem.	NAS 1599 Connector	ATR 2112	
6500-030-16		Blue - Ins.	NAS 1599 Connector	ATGH 1112	
6500-028-20		White - Rem.	NAS 1599 Connector	ATR 2080	
6500-029-20		White - Rem.	NAS 1599 Connector	ATR 2080	
6500-030-20		Red - Ins.	NAS 1599 Connector	ATGH 1079	
6500-045-20		Green - Ins.		ATC 1071	
		White - Rem.		ATC 2076	
BURNDY/FCI		RXT 22-10	Red - Ins.		ATR 1080
			White - Rem.		ATR 2080
	RXT 16-1	Blue - Ins.		ATR 1107	
		White - Rem.		ATR 2112	
	RXT 12-1	Yellow - Ins.		ATR 1160	
		White - Rem.		ATR 2160	
DEUTSCH	81515-23	Yellow - Ins.	81511 3 & 4	ATD 1049	
		White - Rem.	81511 3 & 4	ATD 2047	
	81515-20	Red - Ins.	81511 3 & 4	ATD 1061	
		White - Rem.	81511 3 & 4	ATD 2062	
	81515-16	Blue - Ins.	81511 3 & 4	ATD 1094	
		White - Rem.	81511 3 & 4	ATD 2094	
	M15570-12	Yellow - Ins.	83723	ATR 1160	
		White - Rem.	83723	ATR 2160	
	M15570-16	Blue - Ins.	83723	ATR 1107	
		White - Rem.	83723	ATR 2112	

MANUFACTURER	MANUFACTURERS P/N	COLOR CODE	APPLICATION REFERENCE	ASTRO TOOL METAL EQUIVALENT
DEUTSCH (con't)	M15570-20	Red - Ins.	83723	ATR 1080
		White - Rem.	83723	ATR 2080
	M15570-22	Green - Ins.	83723	ATC 1054
		White - Rem.	83723	ATD 2048
	M15570-22-1	Yellow - Ins.	83723	ATD 1035
		White - Rem.	83723	ATD 2047
ITT/CANNON	CET-0-1		MIL-C005015 Series	ATC 2565
	CET-4-8		MIL-C005015 Series	ATC 2526
	CET-8-2		MIL-C005015 Series	ATC 2281
	CET-12-4		DPD	ATR 2160
	CET-16-9		DPJ	ATR 2112
	CET-20-8	Red - Rem.	83723-20	ATR 2080
	CET-20-11	Green - Rem.	D*MA	ATC 2071
	CET-20-11HD	Green - Rem.	D*MA	ATC 2076
	CET-20-14		DF D*MA	ATR 2080
	CET-C8		MIL-C005015 Series	ATC 2281
	CIET 12	Yellow - Ins.	NAS 1664-12	ATR 1160
		White - Rem.	NAS 1664-12	ATR 2160
	CIET 16	Blue - Ins.	NAS 1664-16	ATR 1107
		White - Rem.	NAS 1664-16	ATR 2112
	CIET 20	Red - Ins.	NAS 1664-20	ATR 1080
		White - Rem.	NAS 1664-20	ATR 2080
	CIET 20-18	- Ins.	D*C	ATC 1081
		White - Rem.	D*C	ATC 2076
	CIET 20HD	- Ins.	D*C	ATC 1076
		White - Rem.	D*C	ATC 2076
	CIET 20HDL	- Ins.	D*C	ATC 1076-L
		White - Rem.	D*C	ATC 2076-L
CIET 22	Yellow - Ins.	DPX*MA	ATC 1054	
	White - Rem.	DPX*MA	ATC 2053	
CIET 22D		38999		
		38999		
TRANSITRON	91-021	White - Rem.		ATT 2059
	91-023	Green - Ins.		ATT 1059
TYCO/AMP	91066-1	Black - Ins.	MS3156-22	ATC 1054
		White - Rem.	MS3156-22	ATC 2053
	91066-4	Red - Ins.	MS3156-20	ATC 1071
		White - Rem.	MS3156-20	ATC 2071
	91066-3	Blue - Ins.	MS3156-16	ATR 1107
		White - Rem.	MS3156-16	ATR 2112
	91067-1	Black - Ins.	MS27534-22M	ATBX 1048
		White - Rem.	MS27534-22M	ATBX 2046
91067-2	Yellow - Ins.	MS27534-22	ATBX 1055	
	White - Rem.	MS27534-22	ATBX 2057	

Verify QPL status (if required) at time of purchase.

