

CLEVIS PINS

CARBON STEEL • CHAMFERED HOLES

Part #	Pkg Qty	Size	Hole Size
CLV1800	25	1/4 x 1"	3/32"
CLV1802	15	5/16 x 1"	1/8"
CLV1807	10	3/8 x 1"	5/32"
CLV1813	5	1/2 x 1-1/2"	5/32"



UNIVERSAL CLEVIS PINS

CARBON STEEL • HOLES ARE 1/4" ON CENTER FROM END

Part #	Pkg Qty	Size	Number of Holes	Hole Size
CLV1815	25	1/4 x 2"	5	3/32"
CLV1816	25	5/16 x 2"	5	1/8"
CLV1817	25	3/8 x 2"	5	5/32"
CLV1820	10	7/16 x 2-1/2"	5	5/32"
CLV1822	10	1/2 x 3"	7	5/32"
CLV1823	10	5/8 x 3"	7	5/32"



YOKES

FORGED STEEL • MACHINED THREADS & HOLES

Part #	Pkg Qty	Size	Hole Size	Recommend Clevis Pin
Y1825	5	1/4-28 x 2"	1/4"	part #CLV1800
Y1828	5	5/16-24 x 2-1/4"	5/16"	part #CLV1802
Y1830	5	3/8-24 x 2-1/2"	3/8"	part #CLV1817
Y1832	5	7/16-20 x 2-7/8"	7/16"	part #CLV1820
Y1835	2	1/2-20 x 3"	1/2"	part #CLV1813
Y1838	2	5/8-18 x 4-15/16"	5/8"	part #CLV1823



CLEVIS PIN AND YOKE ASSORTMENTS

- NSPA-9164 • Mini Kit • Page 5
- NSPA-5064 • Starter Assortment • Page 31
- NSPA-5154 • Starter Assortment • Page 31
- NSPA-1064 • Maintenance Assortment • Page 82
- NSPA-1154 • Maintenance Assortment • Page 83

HITCH PIN CLIPS

MB SPRING WIRE • ZINC PLATED

Part #	Pkg Qty	Wire Dia.	Length	Part #	Pkg Qty	Wire Dia.	Length
HPC5950	100	.028"	19/32"	HPC5965	100	.094"	1-1/8"
HPC5951	100	.035"	7/16"	HPC5966	50	.102"	1-1/4"
HPC5952	100	.042"	7/16"	HPC5967	50	.125"	1-9/16"
HPC5953	100	.042"	1"	HPC5968	50	.125"	1-15/16"
HPC5954	100	.047"	19/32"	HPC5970	25	.125"	2-1/2"
HPC5955	100	.047"	1-9/16"	HPC5972	25	.148"	3"
HPC5956	100	.062"	1-5/16"	HPC5974	25	.148"	2-15/16"
HPC5957	100	.062"	1-9/16"	HPC5976	25	.162"	3"
HPC5958	100	.072"	1-3/32"	HPC5979	25	.177"	3-1/4"
HPC5959	100	.080"	1-3/16"	HPC5980	25	.177"	3-3/4"
HPC5961	100	.094"	1-5/8"	HPC5982	10	.250"	3-1/4"
HPC5963	50	.094"	2"	HPC5984	5	.310"	3-15/16"



HITCH PIN CLIPS ASSORTMENTS

- NSPA-9081 • Mini Kit • Page 6
- NSPA-5081 • Starter Assortment • Page 31
- NSPA-1081 • Maintenance Assortment • Page 83



HAMMER LOCK COTTER PINS

INSERT

- Insert as you would any ordinary cotter pin
- Hammer Lock Cotter pins have specially tapered parallel shanks for quick insertion

HIT HEAD WITH HAMMER

- Shanks spread and lock themselves
- When hammer hits head of Hammer Lock Cotter pin, it forces shorter shank down over the curved end of longer shank, thus causing lower ends of shanks to spread apart
- This one simple operation locks pin securely in place
- No twisting or spreading of shanks is necessary
- It's all done automatically!

TWIST TO REMOVE

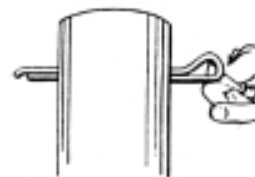
- To remove, insert any small tool in eye of Hammer Lock Cotter pin
- Twist shorter shank to original position and remove



INSERT



HIT HEAD WITH HAMMER



TWIST TO REMOVE

HAMMER LOCK COTTER PINS

STEEL - ZINC PLATED

Part #	Pkg Qty	Diameter	Length
HLCP5801	500	1/16"	3/4"
HLCP5802	500	1/16"	1"
HLCP5803	250	1/16"	1-1/2"
HLCP5804	250	1/16"	2"
HLCP5817	500	3/32"	3/4"
HLCP5818	250	3/32"	1"
HLCP5819	250	3/32"	1-1/2"
HLCP5820	200	3/32"	2"
HLCP5832	250	1/8"	1"
HLCP5834	200	1/8"	1-1/2"
HLCP5836	100	1/8"	2"
HLCP5837	100	1/8"	3"
HLCP5840	100	5/32"	1"
HLCP5841	100	5/32"	1-1/2"
HLCP5842	100	5/32"	2"
HLCP5843	100	5/32"	3"
HLCP5858	100	3/16"	1"
HLCP5859	100	3/16"	1-1/2"
HLCP5860	50	3/16"	2"
HLCP5861	50	3/16"	3"
HLCP5877	50	1/4"	1-1/2"
HLCP5878	50	1/4"	2"
HLCP5879	25	1/4"	3"
HLCP5881	25	5/16"	2"
HLCP5885	25	3/8"	2"
HLCP5886	10	3/8"	3"



HAMMER LOCK COTTER PIN ASSORTMENTS

- NSPA-9080 • Mini Kit • Page 6
- NSPA-5080 • Starter Assortment • Page 32
- NSPA-1080 • Maintenance Assortment • Page 84

STAINLESS STEEL COTTER PINS

316 STAINLESS STEEL • EXTENDED PRONG CHISEL POINT

Part #	Pkg Qty	Diameter	Length
SSCP1	500	1/16"	3/4"
SSCP2	500	1/16"	1"
SSCP3	250	1/16"	1-1/2"
SSCP4	500	3/32"	3/4"
SSCP5	250	3/32"	1"
SSCP6	250	3/32"	1-1/2"
SSCP7	200	3/32"	2"
SSCP8	250	1/8"	1"
SSCP9	200	1/8"	1-1/2"
SSCP10	100	1/8"	2"
SSCP11	100	5/32"	1"
SSCP12	100	5/32"	1-1/2"
SSCP13	100	5/32"	2"
SSCP14	100	3/16"	1-1/2"
SSCP15	50	3/16"	2"
SSCP16	50	3/16"	3"
SSCP17	50	1/4"	1-1/2"
SSCP18	50	1/4"	2"
SSCP19	25	1/4"	3"



STAINLESS STEEL COTTER PIN ASSORTMENTS

- NSPA-9155 • Mini-Kit • Page 6
- NSPA-5155 • Starter Assortment • Page 32
- NSPA-1155 • Maintenance Assortment • Page 84

HAIR PIN CLIPS

MB SPRING WIRE • ZINC PLATED

Part#	Pkg Qty	Wire Dia.	Eye Dia.	Groove	Length
HP1100	100	.032"	3/32"	5/32"	15/32"
HP1101	100	.062"	3/16"	3/8"	1"
HP1102	100	.062"	1/8"	1/4"	11/16"
HP1104	100	.047"	1/8"	1/4"	7/8"
HP1105	100	.035"	1/8"	5/32"	1/2"
HP1106	100	.046"	3/16"	5/16"	15/16"
HP1107	50	.102"	7/16"	25/32"	2-1/16"
HP1109	100	.028"	1/16"	3/32"	1/2"
HP1110	25	.177"	3/4"	11/16"	2-3/4"
HP1111	100	.032"	9/64"	1/4"	5/8"
HP1112	100	.047"	1/8"	3/16"	1-5/16"
*HP1113	100	.047"		5/16"	9/16"
*HP1114	100	.047"		3/8"	5/8"

* Copper Wire - Unplated



HAIR PIN CLIP ASSORTMENTS

- NSPA-1031 • Maintenance Assortment • Page 85



COILED SPIRAL PINS

DESIGNED FOR EXCELLENCE IN PERFORMANCE

- Coiled Spiral Pins are designed to broaden the scope of pin fastening applications
- This design employs a 2-1/4 coil wrap cross section, which provides uniform flexibility after insertion to distribute dynamic or static loads without creating a specific stress point of concentration
- Manufactured to precise tolerances with 1070-1090 AISI and hardness to RC46-53

ADVANTAGES

- Absorbs Shock and Vibration
- Uniform Length and Flexibility
- Equal Stress Distribution
- Controlled Radial Shock
- Conforms to Out of Round Holes
- Swaged Chamfers
- Accommodates Wider Hole Tolerances
- Reduces Fastener Costs

COILED SPIRAL PINS

ROCKWELL C 46-53 • 1070 CARBON STEEL • SWAGED CHAMFER ON BOTH ENDS



Part #	Pkg Qty	Size	Part #	Pkg Qty	Size
CSP1300	100	1/16 x 5/16"	CSP1337	30	3/16 x 1-1/4"
CSP1301	100	1/16 x 3/4"	CSP1338	30	3/16 x 1-3/8"
CSP1302	100	5/64 x 3/4"	CSP1339	30	3/16 x 1-1/2"
CSP1304	100	5/64 x 1"	CSP1340	30	3/16 x 1-3/4"
CSP1305	100	5/64 x 1-1/4"	CSP1341	30	3/16 x 2"
CSP1310	100	3/32 x 5/8"	CSP1342	30	3/16 x 2-1/2"
CSP1311	100	3/32 x 3/4"	CSP1350	30	7/32 x 1-3/4"
CSP1312	100	3/32 x 1"	CSP1355	30	1/4 x 3/4"
CSP1313	100	3/32 x 1-1/4"	CSP1356	30	1/4 x 1"
CSP1314	100	3/32 x 1-1/2"	CSP1357	30	1/4 x 1-1/8"
CSP1317	50	1/8 x 3/8"	CSP1358	30	1/4 x 1-1/4"
CSP1318	50	1/8 x 1/2"	CSP1359	30	1/4 x 1-1/2"
CSP1319	50	1/8 x 3/4"	CSP1360	30	1/4 x 1-5/8"
CSP1320	50	1/8 x 1"	CSP1361	30	1/4 x 1-3/4"
CSP1321	50	1/8 x 1-1/2"	CSP1362	30	1/4 x 2"
CSP1322	50	1/8 x 1-3/4"	CSP1363	30	1/4 x 2-1/4"
CSP1323	50	1/8 x 2"	CSP1364	30	1/4 x 2-1/2"
CSP1336	30	3/16 x 1"	CSP1365	30	1/4 x 3"
CSP1326	50	5/32 x 3/4"	CSP1366	30	1/4 x 3-1/4"
CSP1327	50	5/32 x 1"	CSP1367	30	5/16 x 3/4"
CSP1328	50	5/32 x 1-1/8"	CSP1368	20	5/16 x 1"
CSP1329	50	5/32 x 1-1/4"	CSP1369	20	5/16 x 1-1/4"
CSP1330	50	5/32 x 1-1/2"	CSP1370	20	5/16 x 1-1/2"
CSP1331	50	5/32 x 2"	CSP1371	20	5/16 x 1-3/4"
CSP1334	30	3/16 x 1/2"	CSP1372	20	5/16 x 2"
CSP1335	30	3/16 x 3/4"	CSP1373	20	5/16 x 2-1/2"



COILED SPIRAL PIN ASSORTMENTS

NSPA-1034 • Maintenance Assortment • Page 85

NSPA-1035 • Maintenance Assortment • Page 86

SPRING PINS

CARBON STEEL • ZINC PLATED

Part #	Pkg Qty	Size	Part #	Pkg Qty	Size
SP1300	100	1/16 x 5/16"	SP1350	30	7/32 x 1-3/4"
SP1301	100	1/16 x 3/4"	SP1355	30	1/4 x 3/4"
SP1302	100	5/64 x 3/4"	SP1356	30	1/4 x 1"
SP1304	100	5/64 x 1"	SP1357	30	1/4 x 1-1/8"
SP1305	100	5/64 x 1-1/4"	SP1358	30	1/4 x 1-1/4"
SP1310	100	3/32 x 5/8"	SP1359	30	1/4 x 1-1/2"
SP1311	100	3/32 x 3/4"	SP1360	30	1/4 x 1-5/8"
SP1312	100	3/32 x 1"	SP1361	30	1/4 x 1-3/4"
SP1313	100	3/32 x 1-1/4"	SP1362	30	1/4 x 2"
SP1314	100	3/32 x 1-1/2"	SP1363	30	1/4 x 2-1/4"
SP1317	50	1/8 x 3/8"	SP1364	30	1/4 x 2-1/2"
SP1318	50	1/8 x 1/2"	SP1365	30	1/4 x 3"
SP1319	50	1/8 x 3/4"	SP1366	30	1/4 x 3-1/4"
SP1320	50	1/8 x 1"	SP1367	20	5/16 x 3/4"
SP1321	50	1/8 x 1-1/2"	SP1368	20	5/16 x 1"
SP1322	50	1/8 x 1-3/4"	SP1369	20	5/16 x 1-1/4"
SP1323	50	1/8 x 2"	SP1370	20	5/16 x 1-1/2"
SP1326	50	5/32 x 3/4"	SP1371	20	5/16 x 1-3/4"
SP1327	50	5/32 x 1"	SP1372	20	5/16 x 2"
SP1328	50	5/32 x 1-1/8"	SP1373	20	5/16 x 2-1/2"
SP1329	50	5/32 x 1-1/4"	SP1380	20	3/8 x 1-1/4"
SP1330	50	5/32 x 1-1/2"	SP1381	20	3/8 x 1-1/2"
SP1331	50	5/32 x 2"	SP1382	20	3/8 x 2"
SP1334	30	3/16 x 1/2"	SP1383	20	3/8 x 2-1/2"
SP1335	30	3/16 x 3/4"	SP1384	20	3/8 x 3"
SP1336	30	3/16 x 1"	SP1390	20	7/16 x 2"
SP1337	30	3/16 x 1-1/4"	SP1391	20	7/16 x 2-1/2"
SP1338	30	3/16 x 1-3/8"	SP1392	20	7/16 x 3"
SP1339	30	3/16 x 1-1/2"	SP1395	20	1/2 x 1-1/2"
SP1340	30	3/16 x 1-3/4"	SP1396	20	1/2 x 2"
SP1341	30	3/16 x 2"	SP1397	20	1/2 x 2-1/2"
SP1342	30	3/16 x 2-1/2"	SP1398	20	1/2 x 3"



SPRING PIN ASSORTMENTS

- NSPA-9034-Z • Mini Kit • Page 6
- NSPA-5034-Z • Starter Assortment • Page 33
- NSPA-1034-Z • Maintenance Assortment • Page 86
- NSPA-1035-Z • Maintenance Assortment • Page 87

KEYSTOCK

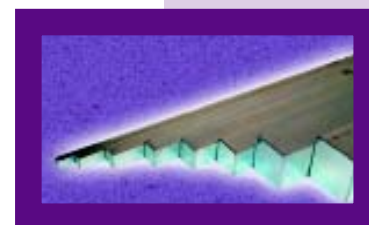
COLD DRAWN CARBON STEEL • ZINC PLATED • 12" PIECES

Part#	Pkg Qty	Size	Part #	Pkg Qty	Size
KEY1250	10	1/8 x 1/8 x 12"	KEY1256	5	1/2 x 1/2 x 12"
KEY1251	10	3/16 x 3/16 x 12"	KEY1257	5	5/8 x 5/8 x 12"
KEY1252	10	1/4 x 1/4 x 12"	KEY1258	5	3/4 x 3/4 x 12"
KEY1253	10	5/16 x 5/16 x 12"	KEY1259	2	7/8 x 7/8 x 12"
KEY1254	5	3/8 x 3/8 x 12"	KEY1260	2	1 x 1 x 12"
KEY1255	5	7/16 x 7/16 x 12"			



KEYSTOCK ASSORTMENT

- NSPA-1040 • Maintenance Rack • Page 109



WOODRUFF KEYS

COLD DRAWN CARBON STEEL • OIL DIPPED

Part #	Pkg Qty	Industry #	Size	Part #	Pkg Qty	Industry #	Size
WK1200	50	2	3/32 x 1/2"	WK1216	50	12	7/32 x 7/8"
WK1201	50	4	3/32 x 5/8"	WK1217	50	14	7/32 x 1"
WK1202	50	213	1/8 x 3/8"	WK1218	50	17	7/32 x 1-1/8"
WK1203	50	3	1/8 x 1/2"	WK1219	50	91	1/4 x 3/4"
WK1204	50	5	1/8 x 5/8"	WK1220	30	A	1/4 x 7/8"
WK1205	50	7	1/8 x 3/4"	WK1221	30	15	1/4 x 1"
WK1206	50	6	5/32 x 5/8"	WK1222	30	18	1/4 x 1-1/8"
WK1207	50	8	5/32 x 3/4"	WK1223	30	21	1/4 x 1-1/4"
WK1208	50	10	5/32 x 7/8"	WK1224	30	22	1/4 x 1-3/8"
WK1209	50	61	3/16 x 5/8"	WK1225	30	24	1/4 x 1-1/2"
WK1210	50	9	3/16 x 3/4"	WK1226	30	B	5/16 x 1"
WK1211	50	11	3/16 x 7/8"	WK1227	30	C	5/16 x 1-1/8"
WK1212	50	13	3/16 x 1"	WK1228	30	D	5/16 x 1-1/4"
WK1213	50	16	3/16 x 1-1/8"	WK1229	30	23	5/16 x 1-3/8"
WK1214	50	19	3/16 x 1-1/4"	WK1230	30	E	3/8 x 1-1/4"
WK1215	50	126	3/16 x 2-1/8"	WK1231	30	F	3/8 x 1-3/8"



WOODRUFF KEY ASSORTMENT

NSPA-9032 • Mini Kit • Page 7

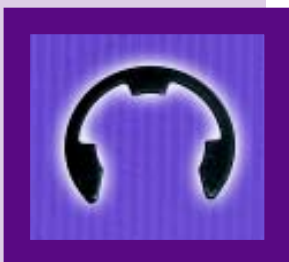
NSPA-5032 • Starter Assortment • Page 33

NSPA-1032 • Maintenance Assortment • Page 87

E-RINGS

CARBON SPRING STEEL (SAE 1060-1090) • OIL DIPPED • GOVERNMENT STANDARD MS-16633
GOVERNMENT SPECIFICATION MIL-R-21248B

Part #	Pkg Qty	Shaft Diameter	Groove Diameter	Groove Width
E1006	100	1/16"	.051"	.012"
E1009	100	3/32"	.073"	.018"
E1012	100	1/8"	.094"	.018"
E1014	100	9/64"	.100"	.018"
E1015	100	5/32"	.114"	.029"
E1018	100	3/16"	.145"	.029"
E1025	100	1/4"	.207"	.029"
E1031	100	5/16"	.243"	.029"
E1037	100	3/8"	.300"	.039"
E1043	100	7/16"	.337"	.039"
E1050	100	1/2"	.392"	.046"
E1062	50	5/8"	.480"	.046"
E1075	50	3/4"	.574"	.056"
E1087	50	7/8"	.668"	.056"
E1098	50	63/64"	.822"	.056"
E1098-1	50	1"	.822"	.056"
E10118	50	1-3/16"	1.066"	.068"
E10137	50	1-3/8"	1.213"	.068"



E-RING ASSORTMENTS

NSPA-9031 • Mini Kit • Page 7

NSPA-5031 • Starter Assortment • Page 31

NSPA-1031 • Maintenance Assortment • Page 85

INTERNAL RETAINING RINGS

CARBON SPRING STEEL (SAE 1060-1090) • OIL DIPPED • GOVERNMENT STANDARD MS-16625
GOVERNMENT SPECIFICATION MIL-R-21248B

Part #	Pkg Qty	Housing	Part #	Pkg Qty	Housing
IRR3025	100	1/4"	IRR30118	50	1-3/16"
IRR3031	100	5/16"	IRR30125	50	1-1/4"
IRR3037	100	3/8"	IRR30131	50	1-5/16"
IRR3043	100	7/16"	IRR30137	50	1-3/8"
IRR3045	100	29/64"	IRR30143	50	1-7/16"
IRR3050	100	1/2"	IRR30150	50	1-1/2"
IRR3056	100	9/16"	IRR30156	20	1-9/16"
IRR3062	100	5/8"	IRR30162	20	1-5/8"
IRR3068	50	11/16"	IRR30168	20	1-11/16"
IRR3075	50	3/4"	IRR30175	20	1-3/4"
IRR3081	50	13/16"	IRR30181	20	1-13/16"
IRR3087	50	7/8"	IRR30187	20	1-7/8"
IRR3093	50	15/16"	IRR30193	20	1-15/16"
IRR30100	50	1"	IRR30200	20	2"
IRR30106	50	1-1/16"	IRR30206	20	2-1/16"
IRR30112	50	1-1/8"	IRR30212	20	2-1/8"



INTERNAL RETAINING RING ASSORTMENTS

- NSPA-9030 • Mini Kit • Page 7
- NSPA-5030 • Starter Assortment • Page 34
- NSPA-5156 • Starter Assortment • Page 34
- NSPA-5157 • Starter Assortment • Page 34
- NSPA-1030 • Maintenance Assortment • Page 88
- NSPA-1156 • Maintenance Assortment • Page 88
- NSPA-1157 • Maintenance Assortment • Page 89
- NSPA-1158 • Maintenance Assortment • Page 89



RETAINING RING TOOLS

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EXTERNAL RETAINING RINGS

CARBON SPRING STEEL (SAE 1060-1090) • OIL DIPPED • GOVERNMENT STANDARD MS-16624
GOVERNMENT SPECIFICATION MIL-R-21248B

Part #	Pkg Qty	Shaft Dia.	Part#	Pkg Qty	Shaft Dia.
ERR3112	100	1/8"	ERR3187	50	7/8"
ERR3118	100	3/16"	ERR3193	50	15/16"
ERR3125	100	1/4"	ERR31100	50	1"
ERR3131	100	5/16"	ERR31106	50	1-1/16"
ERR3137	100	3/8"	ERR31112	50	1-1/8"
ERR3140	100	13/32"	ERR31118	50	1-3/16"
ERR3143	100	7/16"	ERR31125	50	1-1/4"
ERR3146	100	15/32"	ERR31131	50	1-5/16"
ERR3150	100	1/2"	ERR31137	50	1-3/8"
ERR3156	100	9/16"	ERR31143	50	1-7/16"
ERR3159	100	19/32"	ERR31150	20	1-1/2"
ERR3162	50	5/8"	ERR31156	20	1-9/16"
ERR3168	50	11/16"	ERR31162	20	1-5/8"
ERR3175	50	3/4"	ERR31175	20	1-3/4"
ERR3178	50	25/32"	ERR31187	20	1-7/8"
ERR3181	50	13/16"	ERR31200	20	2"



BASIC INTERNAL RETAINING RING ASSORTMENTS

- NSPA-9028 • Mini Kit • Page 7
- NSPA-5028 • Starter Assortment • Page 35
- NSPA-5157 • Starter Assortment • Page 34
- NSPA-5159 • Starter Assortment • Page 35
- NSPA-1028 • Maintenance Assortment • Page 90
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- NSAP-1159 • Maintenance Assortment • Page 90



RETAINING RING TOOLS

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NITRILE O-RINGS

SAE STANDARD SIZES AS-568 • TEMPERATURE RANGE: -40° TO +250°F • 70 DUROMETER • USE FOR PETROLEUM BASED LUBRICANTS, HYDRAULIC OILS, GASOLINE, FUELS, ALCOHOL, L.P. GASES, & WATER



Part #	Pkg Qty	Width	I.D.	O.D.
0-006	50	1/16"	1/8"	1/4"
0-007	50	1/16"	5/32"	9/32"
0-008	50	1/16"	3/16"	5/16"
0-009	50	1/16"	7/32"	11/32"
0-010	50	1/16"	1/4"	3/8"
0-011	50	1/16"	5/16"	7/16"
0-012	50	1/16"	3/8"	1/2"
0-013	50	1/16"	7/16"	9/16"
0-014	50	1/16"	1/2"	5/8"
0-015	50	1/16"	9/16"	11/16"
0-016	50	1/16"	5/8"	3/4"
0-017	50	1/16"	11/16"	13/16"
0-018	50	1/16"	3/4"	7/8"
0-019	50	1/16"	13/16"	15/16"
0-020	50	1/16"	7/8"	1"
0-021	50	1/16"	15/16"	1-1/16"
0-022	50	1/16"	1"	1-1/8"
0-110	50	3/32"	3/8"	9/16"
0-111	50	3/32"	7/16"	5/8"
0-112	50	3/32"	1/2"	11/16"
0-113	50	3/32"	9/16"	3/4"
0-114	50	3/32"	5/8"	13/16"
0-115	50	3/32"	11/16"	7/8"
0-116	50	3/32"	3/4"	15/16"
0-117	50	3/32"	13/16"	1"
0-118	50	3/32"	7/8"	1-1/16"
0-120	50	3/32"	1"	1-3/16"
0-121	50	3/32"	1-1/16"	1-1/4"
0-122	50	3/32"	1-1/8"	1-5/16"
0-123	50	3/32"	1-3/16"	1-3/8"
0-124	50	3/32"	1-1/4"	1-7/16"
0-125	50	3/32"	1-5/16"	1-1/2"
0-126	50	3/32"	1-3/8"	1-9/16"
0-127	50	3/32"	1-7/16"	1-5/8"
0-128	50	3/32"	1-1/2"	1-11/16"
0-129	50	3/32"	1-9/16"	1-3/4"
0-130	50	3/32"	1-5/8"	1-13/16"
0-149	50	3/32"	2-13/16"	3"

Part #	Pkg Qty	Width	I.D.	O.D.
0-210	25	1/8"	3/4"	1"
0-211	25	1/8"	13/16"	1-1/16"
0-212	25	1/8"	7/8"	1-1/8"
0-213	25	1/8"	15/16"	1-3/16"
0-214	25	1/8"	1"	1-1/4"
0-215	25	1/8"	1-1/16"	1-5/16"
0-216	25	1/8"	1-1/8"	1-3/8"
0-217	25	1/8"	1-3/16"	1-7/16"
0-218	25	1/8"	1-1/4"	1-1/2"
0-219	25	1/8"	1-5/16"	1-9/16"
0-220	25	1/8"	1-3/8"	1-5/8"
0-221	25	1/8"	1-7/16"	1-11/16"
0-222	25	1/8"	1-1/2"	1-3/4"
0-223	25	1/8"	1-5/8"	1-7/8"
0-224	25	1/8"	1-3/4"	2"
0-225	25	1/8"	1-7/8"	2-1/8"
0-226	25	1/8"	2"	2-1/4"
0-227	25	1/8"	2-1/8"	2-3/8"
0-228	25	1/8"	2-1/4"	2-1/2"
0-229	25	1/8"	2-3/8"	2-5/8"
0-230	25	1/8"	2-1/2"	2-3/4"
0-231	25	1/8"	2-5/8"	2-7/8"
0-232	25	1/8"	2-3/4"	3"
0-233	25	1/8"	2-7/8"	3-1/8"
0-234	25	1/8"	3"	3-1/4"
0-235	25	1/8"	3-1/8"	3-3/8"
0-236	25	1/8"	3-1/4"	3-1/2"
0-237	25	1/8"	3-3/8"	3-5/8"
0-238	25	1/8"	3-1/2"	3-3/4"
0-239	25	1/8"	3-5/8"	3-7/8"
0-240	25	1/8"	3-3/4"	4"
0-245	25	1/8"	4-3/8"	4-5/8"
0-249	25	1/8"	4-7/8"	5-1/8"
0-250	25	1/8"	5"	5-1/4"
0-325	10	3/16"	1-1/2"	1-7/8"
0-326	10	3/16"	1-5/8"	2"
0-327	10	3/16"	1-3/4"	2-1/8"
0-328	10	3/16"	1-7/8"	2-1/4"
0-329	10	3/16"	2"	2-3/4"
0-330	10	3/16"	2-1/8"	2-1/2"
0-331	10	3/16"	2-1/4"	2-5/8"
0-332	10	3/16"	2-3/8"	2-3/4"
0-333	10	3/16"	2-1/2"	2-7/8"
0-334	10	3/16"	2-5/8"	3"
0-335	10	3/16"	2-3/4"	3-1/8"
0-336	10	3/16"	2-7/8"	3-1/4"
0-337	10	3/16"	3"	3-3/8"
0-338	10	3/16"	3-1/8"	3-1/2"
0-339	10	3/16"	3-1/4"	3-5/8"
0-340	10	3/16"	3-3/8"	3-3/4"
0-341	10	3/16"	3-1/2"	3-7/8"
0-342	10	3/16"	3-5/8"	4"



NITRILE O-RING ASSORTMENTS

NSPA-9025 • Mini Kit • Page 8

NSPA-5025 • Starter Assortment • Page 35

NSPA-1025 • Maintenance Assortment • Page 91

NSPA-1026 • Maintenance Assortment • Page 91

NITRILE O-RING SPLICING KIT

Part #	Pkg Qty	Description
NSPA-1027-0	1	<ul style="list-style-type: none"> • Kit for constructing O-Rings to custom requirements • Contains O-Ring cord, razor blade, splicing & cutting tool, and adhesive • 1/16", 3/32", 1/8", 3/16" and 1/4" diameter splicing cord



FLUOROCARBON O-RINGS

SAE STANDARD SIZES AS-568 • TEMPERATURE RANGE: -15° TO +400°F
 75 DUROMETER • STABILITY AND COMPATIBILITY WITH A WIDE RANGE OF FLUIDS
 AND CHEMICALS INCLUDING ACIDS, OILS, FUELS, SOLVENTS AND GASES IN HIGH TEMPERATURES

Part #	Pkg Qty	Width	I.D.	O.D.
F0-006	50	1/16"	1/8"	1/4"
F0-007	50	1/16"	5/32"	9/32"
F0-008	50	1/16"	3/16"	5/16"
F0-009	50	1/16"	7/32"	11/32"
F0-010	50	1/16"	1/4"	3/8"
F0-011	50	1/16"	5/16"	7/16"
F0-012	50	1/16"	3/8"	1/2"
F0-013	50	1/16"	7/16"	9/16"
F0-014	50	1/16"	1/2"	5/8"
F0-015	50	1/16"	9/16"	11/16"
F0-017	50	1/16"	11/16"	13/16"
F0-110	50	3/32"	3/8"	9/16"
F0-111	50	3/32"	7/16"	5/8"
F0-112	50	3/32"	1/2"	11/16"
F0-113	50	3/32"	9/16"	3/4"
F0-114	50	3/32"	5/8"	13/16"
F0-115	50	3/32"	11/16"	7/8"
F0-116	50	3/32"	3/4"	15/16"
F0-118	50	3/32"	7/8"	1-1/16"
F0-120	50	3/32"	1"	1-3/16"
F0-210	25	1/8"	3/4"	1"
F0-211	25	1/8"	13/16"	1-1/16"
F0-212	25	1/8"	7/8"	1-1/8"
F0-213	25	1/8"	15/16"	1-3/16"
F0-214	25	1/8"	1"	1-1/4"
F0-215	25	1/8"	1-1/16"	1-5/16"
F0-216	25	1/8"	1-1/8"	1-3/8"
F0-217	25	1/8"	1-3/16"	1-7/15"
F0-218	25	1/8"	1-1/4"	1-1/2"
F0-219	25	1/8"	1-5/16"	1-9/16"
F0-220	25	1/8"	1-3/8"	1-5/8"
F0-221	25	1/8"	1-7/16"	1-11/16"
F0-222	25	1/8"	1-1/2"	1-3/4"



FLUOROCARBON O-RING ASSORTMENT

NSPA-9025-V • Mini Kit • Page 8
 NSPA-5025-V • Starter Assortment • Page 36
 NSPA-1025-V • Maintenance Assortment • Page 92

EXTENSION SPRINGS



Part #	Pkg Qty	OD	Wire Dia.	Length	Style
SPG-85	6	1/4"	.028"	6"	Loop
SPG-95	6	9/16"	.072"	5"	Hook
SPG-106	6	7/16"	.041"	4-1/2"	Loop
SPG-128	6	5/8"	.072"	8-1/2"	Loop
SPG-134	6	13/16"	.072"	8-1/2"	Loop
SPG-145	6	1"	.091"	8-1/2"	Loop
SPG-206	6	7/16"	.062"	7"	Loop
SPG-302	6	15/32"	.041"	4-1/2"	Loop
SPG-443	6	15/64"	.025"	1-3/64"	Loop
SPG-471	6	23/32"	.076"	2-3/4"	Hook
SPG-539	6	33/64"	.062"	1-1/2"	Hook
SPG-565	6	3/8"	.041"	3"	Hook
SPG-681	6	1/2"	.080"	1-5/8"	Hook
SPG-5075	6	11/32"	.050"	1-13/32"	Loop
SPG-5101	6	1/2"	.072"	9-3/8"	Loop
SPG-5228	6	1/4"	.029"	4"	Loop
SPG-5239	6	19/64"	.060"	13/16"	Loop
SPG-5542	6	19/32"	.075"	5"	Loop
SPG-5594	6	21/64"	.042"	5-7/8"	Loop
SPG-5610	6	23/32"	.064"	3-7/8"	Loop



EXTENSION SPRING ASSORTMENTS

NSPA-5024 • Starter Assortment • Page 56

NSPA-1024 • Maintenance Assortment • Page 92



ANTI-RATTLER SPRING

FOR BRAKE RODS, CHOKE RODS, THROTTLE RODS • GENERAL PURPOSE • STRAIGHT ENDS

Part #	Pkg Qty	Coil Length	Coil Diameter	Wire Thickness	Overall Length
SPG-7812	10	1-3/4"	7/16"	.041"	14-3/8"



BRAKE AND CLUTCH SPRING

PEDAL RETURN SPRING

Part #	Pkg Qty	Coil Length	Coil Diameter	Wire Thickness	Overall Length
SPG-7814	10	3-1/2"	3/4"	1/16"	18"



UNIVERSAL COMPRESSION SPRINGS

Part #	Pkg Qty	OD	Wire Dia.	Length
SPG-35	6	11/16"	.105"	4"
SPG-56	6	7/8"	.105"	3"
SPG-153A	6	3/16"	.014"	1"
SPG-508	6	3/8"	.062"	12"
SPG-881	6	5/8"	.062"	12"
SPG-893	6	7/8"	.080"	12"
SPG-2552	6	7/16"	.076"	2-7/8"
SPG-2825	6	7/8"	.122"	2-1/32"
SPG-3035	6	1/2"	.62"	2-1/2"
SPG-3246	6	5/8"	.072"	2-3/4"
SPG-3272	6	1-1/16"	.107"	3-5/8"
SPG-3326	6	19/32"	.072"	2-1/2"
SPG-3367	6	1-1/64"	.120"	2-9/16"
SPG-3367A	6	1-1/64"	.058"	3-1/8"
SPG-3922	6	15/16"	.100"	2-1/4"
SPG-S-180	6	5/16"	.024"	1-39/64"
SPG-L-45	6	3/8"	.054"	25/32"
SPG-L-48	6	1/2"	.080"	7/8"



COMPRESSION SPRING ASSORTMENTS

NSPA-5023 • Starter Assortment • Page 36

NSPA-1023 • Maintenance Assortment • Page 93



THE ULTIMATE ADHESIVE & SEALANT

The E-6000 series of adhesives and sealants are possibly the strongest, toughest and most versatile compounds on the market today. The applications are almost limitless. These products practically eliminate the need for other glues, epoxies, silicones, rubber cements or patch kits. The E-6000 series is available in three formulas to meet specific requirements – Self-Leveling, Non-Sag, and UV-Resistant.

Use E-6000 as a Self-Leveling adhesive and sealer in many commercial applications:

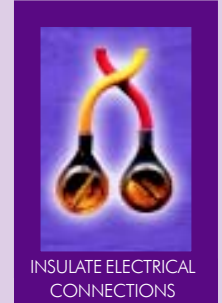
Seal pipe leaks • Caulk & seal around pools and spas • Foundation crack repair • Seal roof flashing • Insulate against moisture and vibration • Seal circuit boards, terminals, and wiring • The possibilities are endless!

Use Non-Sag E-6100 wherever nails will not work:

Set and seal aluminum window frames • Repair vertical concrete and asphalt cracks • Secure countertops • Coat steel support structures to prevent corrosion • Affix acrylic sign letters to wood, concrete and metal • Adhere belts and buckles to fabric • Let your imagination run wild!

Use UV-Resistant UV-6800 in many marine and outdoor maintenance projects:

Adhere to and seal wood, fiberglass, concrete, plastic, metal and glass • Insulate against corrosion • Coat dock lines • Seal around portholes • Repair torn canvas sails • Mend neoprene suits and plastic goggles • Repair inner tubes and rafts • The do-it-all outdoor sealant and adhesive!



MAINTAIN AND REPAIR VEHICLES



**E-6000
SELF
LEVELING**



**E-6100
NON-SAG**



**UV-6800
UV-RESISTANT**

UNCURED CHARACTERISTICS:

Tack time:	5 min	4 min	5 min
Full cure time:	thin film 24 hrs thick film 48-72 hrs	thin film 24 hrs thick film 48-72 hrs	thin film 24 hrs thick film 48-72 hrs
Storage:	between 50° - 80°F	between 50° - 80°F	between 50° - 80°F
Viscosity:	100,000 cps	non-sag	100,000 cps

CURED CHARACTERISTICS:

Hardness:	80A	80A	80A
Tensile strength:	3,500 1b/in ²	3,800 1b/in ²	3,500 1b/in ²
Elongation:	900%	900%	900%
Chemical resistance:	excellent to water, dilute acids & dilute bases	excellent to water, dilute acids & dilute bases	excellent to water, dilute acids & dilute bases
Temp. range:	-40°F to 150°F	-40°F to 150°F	-40°F to 150°F
Paint-over time:	24 hrs	24 hrs	24 hrs
UV resistance:	paint over	paint over	yes, paint over to Maximize
Dielectric strength:	400V/mil	400V/mil	400V/mil

INDUSTRIAL ADHESIVES & SEALANTS

Part #	Pkg Qty	Description	Color
ADE-6000-1	1	Self-Leveling - 1.0 oz. squeeze tube	Clear
ADE-6000-2	1	Self-Leveling - 3.7 oz. squeeze tube	Clear
ADE-6000-3	1	Self-Leveling - 10.2 oz. caulk gun tube	Clear
ADE-6100-2	1	Non-Sag - 3.7 oz. squeeze tube	Clear
ADE-6100-3	1	Non-Sag - 10.2 oz. caulk gun tube	Clear
ADE-UV6800-3	1	UV Resistant - 10.2 oz. caulk gun tube	Clear





PERMABOND FEATURES

PERMABOND® INSTANT ADHESIVE

PERMABOND 910® ADHESIVE - "THE ORIGINAL SUPER GLUE"

Permabond 910 bonds metals, plastic, rubber, porcelains, wood and glass. It is especially well suited for metal bonding and providing superior strength. Permabond 910 resists long term exposure to temperatures up to 190°F and short term peaks of up to 300°F. Handling strength is reached as quickly as 10-30 seconds.

- General purpose
- Metal bonding
- Meets MIL-A-46050C Type 1 Class 2

PERMA-LOK® ANAEROBIC PIPE SEALANT

PERMA-LOK LH150 PIPE SEALANT WITH TEFLON

Perma-Lok LH150 is specifically formulated for stainless steel and applications requiring fast cure. Like all Perma-Lok Pipe Sealant Products, it will not shred to contaminate systems. It works in temperatures up to 400°F and fast cure makes it ideal for production line applications.

- Instantly seals pipe connections up to 800 PSIG, yet allows adjustments up to 6 hours
- Full cure locks and seals up to burst rating of most pipes
- Eliminates need for tape
- Prevents vibration loosening, corrosion, seizing, and galling
- Allows disassembly with a pipe wrench
- UL approved

PERMA-LOK® THREADLOCKING ADHESIVES

PERMA-LOK MM115 NUTLOCKING ADHESIVE

Perma-Lok Nutlocking Adhesive is the general thread locker that meets 80% of all nut and bolt applications. Nutlocking adhesive is recommended for locking nuts and bolts that require disassembly for service or repair. The thixotropic viscosity keeps the adhesive in the threads during assembly for optimum performance. Parts may be disassembled with normal tools.

- Medium strength thread locking and sealing agent for nuts, bolts and hydraulic fittings
- Cure is fast and reliable on steel, cadmium, zinc and other plated fasteners
- Replaces lockwashers
- Replaces plastic insert fasteners
- Replaces interference fits & jam nuts
- Meets MIL-S-46163 Grade N Type II
- Meets MIL-S-22473 Grade CW

PERMA-LOK HM118 BOLTLOCKING ADHESIVE

Perma-Lok Boltlocking Adhesive is formulated where a high strength, removable thread locker is required. The thixotropic viscosity keeps the adhesive in the threads during assembly for optimum performance.

- Automotive fastener locking
- Off-road equipment
- Vibrating machinery fasteners
- Meets MIL-S-46163 Grade O Type II

PERMA-LOK LM113 SCREWLOCKING ADHESIVE

Perma-Lok Screwlocking Adhesive is formulated for locking screws and small diameter fasteners. A low strength adhesive, it allows screws to be readjusted with no need for additional adhesive application. Permits disassembly with a screwdriver or small wrench. The thixotropic viscosity prevents run-off.

- Adjustment screws
- Small diameter fasteners
- Set screws
- Calibration screws
- Meets MIL-S-46163 Grade M Type II

PERMA-LOK® GASKET MAKER FLANGE SEALANTS

PERMA-LOK GASKETMAKER HH190

Perma-Lok GasketMaker is a general purpose flange sealant. When cured, it is resistant to all automotive fluids and component solvents. Gasket Maker 190 remains flexible when cured to provide exceptional performance over a temperature range from -65°F to 250°F.

- Engine transmission flanges
- Water pumps
- Gear box covers
- Diesel engine flanges
- Meets MIL-A-63588



PERMA-LOK SPECIFICATIONS

Perma-Lok Series	Application	Viscosity (cps)	Shear Strength (psi)	Torque Range Breakaway (inch lbs.)	Torque Range Prevailing (inch lbs.)
TO LOCK MECHANICALLY MATED PARTS - THREAD LOCKING COMPOUNDS					
MM115	Nuts	900-1,700	1,000-2,000	50-100	30-50
HM118	Bolts	1,500-2,500	1,500-2,500	50-200	150-300
LM113	Screws	900-1,700	500-1,500	30-50	30-50
TO SEAL JOINTS AND FITTINGS - SEALANTS					
HH190	Flange Joints	200,000min	500-1,000	80-130	40-90
LH150	Pipe Sealant w/Teflon	100,000	400-800	30-60	20-50

PERMABOND ADHESIVE

PERMABOND 910 ADHESIVE- "THE ORIGINAL SUPER GLUE"

Part #	Pkg Qty	Size
AD910-B	1	1 oz. bottle



PERMA-LOK SEALANT

Part #	Pkg Qty	Size
ADLH150-50	1	50 ml. tube
ADLH150-250	1	250 ml. tube



PERMA-LOK NUT ADHESIVE

Part #	Pkg Qty	Size
ADMM115-50	1	50 cc. bottle



PERMA-LOK BOLTLOCKING ADHESIVE

Part #	Pkg Qty	Size
ADHM118-50	1	50 ml. bottle

PERMA-LOK SCREWLOCKING ADHESIVE

Part #	Pkg Qty	Size
ADLM113-50	1	50 ml. bottle



PERMA-LOK GASKETMAKER

Part #	Pkg Qty	Size
ADHH190-50	1	50 ml. tube





AMALGAMATING TAPE

- A positive sealing cold shrink tape
- Requires no heat and can be applied in any weather condition
- Cures to a tight, yet flexible, waterproof bond
- For sealing leaky pipes and hoses
- Insulating wires and cables
- Bundling or taping loose objects
- Replacing heat shrink tubing, but without the heat
- Ideal for underground applications
- Withstands harsh cleaning chemicals and steam. Incidental contact with petroleum products o.k., but cannot be soaked or submerged in oil
- When removed leaves no residue
- Use on odd shaped objects because it flows to the contours
- Operates at -40°F to 100°F continuously and will withstand intermittent temperatures of up to 130°F

INSTRUCTIONS

1. Remove liner, s-t-r-e-t-c-h tape and overlap beginning with first turn
2. As you wrap s-t-r-e-t-c-h it 2 to 2-1/2 times it's length and overlap 1/2 times it's width with each wrap
3. Tearing, twisting or breaking tape causes no problem
4. Begins to amalgamate in seconds, cures in a few hours and continues to constrict for 24 hours. Cures to a tight, yet flexible, waterproof bond

COMPARISON

AMALGAMATION TAPE vs. SILICON TAPE		
BASE	Ethylene Propylene Rubber	Silicon Rubber
ELONGATION	800%	300%
WATER ABSORPTION	0.05%	3
TEMPERATURE RANGE	-40° to 100°C continuous -40° to 130°C limited	-60° to 180°C continuous -60° to 260°C limited
AMALGAMATION	2 minutes to a few hours and continues to constrict for 24 hours	24 hours
TEMPERATURE APPLICATION	Can be applied in lower temperatures	Requires some heat in lower temperatures
A COLD SHRINK TAPE	Yes	No
HOSE REPAIR	Yes	No
PIPE REPAIR	Yes	No
SHELF LIFE	5 years	1 year

AMALGAMATING TAPE

Part #	Pkg Qty	Size	Description
TP108	1	1" x 10'	Black amalgamating tape
TP109	1	1" x 30'	Black amalgamating tape
TP110	1	1" x 10'	White amalgamating tape
TP111	1	1" x 30'	White amalgamating tape



ELECTRICAL TAPE

7 MIL. GENERAL PURPOSE VINYL

- All purpose electrical tape
- Weather resistant
- Provides moisture-tight electrical and mechanical protection
- Resists: UV rays, acids, alkalis, abrasion, moisture, and corrosion
- Meets UL510 requirements
- UL approved

Part #	Pkg Qty	Size
TP100	1	3/4" x 66'

8 MIL. ALL WEATHER VINYL

- Premium quality heavy duty
- Flame retardant
- Cold and weather resistant
- A year-round, all-weather tape providing complete electrical insulation and mechanical protection
- Tough, yet flexible offering a moisture tight seal even in extremely hot and cold temperatures
- High electrical resistance and excellent insulation efficiency
- Excellent resistance to weathering in rain, snow, and sunlight
- Resistant to chemicals, corrosive acids, alkalis and solvents
- Applications: primary electrical insulation for all wire and cable splices rated up to 600 volts, protective jacketing for high voltage cable splices and repairs, harnessing of wires and cables
- Meets requirements of UL510, CSA

Part #	Pkg Qty	Size
TP101	1	3/4" x 66'



P.T.F.E. THREAD SEAL TAPE

Part #	Pkg Qty	Size	Description
TP103	1	1/2" x 520"	Teflon pipe-thread tape



