

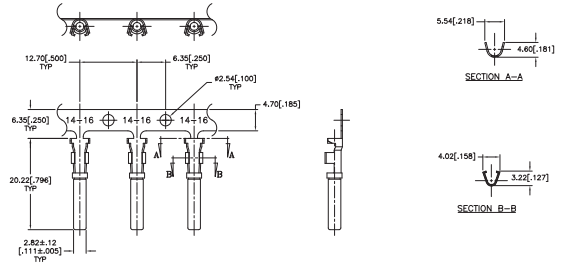
STAMPED AND FORMED CONTACTS, PG 1 of 2

Click on blue underlined part numbers to be taken to their spec sheets.

OPTIONS

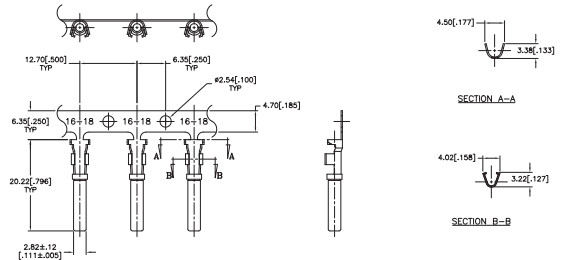
PART NUMBER: AT62-14-01XX
DESCRIPTION: CONTACT, SOCKET, STAMPED, SIZE 16

MATERIAL:
 CONTACT BODY: COPPER ALLOY
 HOOD: STAINLESS STEEL
PLATING SUFFIX CODE:
 XX=22 NICKEL PLATING
 XX=44 GOLD PLATING
CONTACT GENERAL DATA SPECIFICATION: S2-15217
AVAILABLE CRIMPERS: ATT-16-00, MFX-3950 & MFX-3953
CRIMPER SPECIFICATIONS: S2-15223 & S2-15224
CRIMP INFORMATION DRAWING: S2-15221 & S2-15222
CONTACTS PER REEL: APPROX. 4000 (PARTIAL REELS AVAILABLE)



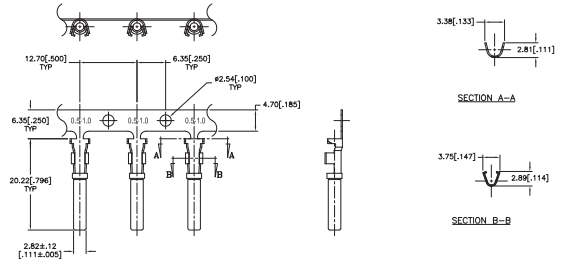
PART NUMBER: AT62-16-01XX
DESCRIPTION: CONTACT, SOCKET, STAMPED, SIZE 16

MATERIAL:
 CONTACT BODY: COPPER ALLOY
 HOOD: STAINLESS STEEL
PLATING SUFFIX CODE:
 XX=22 NICKEL PLATING
 XX=44 GOLD PLATING
CONTACT GENERAL DATA SPECIFICATION: S2-15217
AVAILABLE CRIMPERS: ATT-16-00, ATT-16-01, MFX-3950 & MFX-3953
CRIMPER SPECIFICATIONS: S2-15223 & S2-15224
CRIMP INFORMATION DRAWING: S2-15221 & S2-15222
CONTACTS PER REEL: APPROX. 4000 (PARTIAL REELS AVAILABLE)



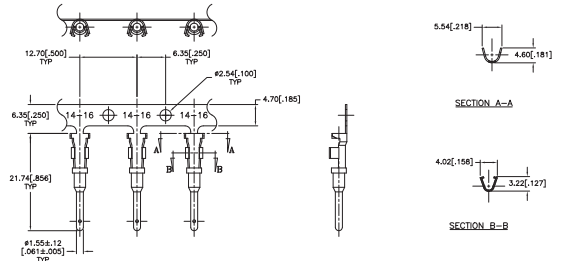
PART NUMBER: AT62-16-06XX
DESCRIPTION: CONTACT, SOCKET, STAMPED, SIZE 16

MATERIAL:
 CONTACT BODY: COPPER ALLOY
 HOOD: STAINLESS STEEL
PLATING SUFFIX CODE:
 XX=22 NICKEL PLATING
 XX=44 GOLD PLATING
CONTACT GENERAL DATA SPECIFICATION: S2-15217
AVAILABLE CRIMPERS: ATT-16-01, MFX-3950 & MFX-3953
CRIMPER SPECIFICATIONS: S2-15223 & S2-15224
CRIMP INFORMATION DRAWING: S2-15221 & S2-15222
CONTACTS PER REEL: APPROX. 4000 (PARTIAL REELS AVAILABLE)



PART NUMBER: AT60-14-01XX
DESCRIPTION: CONTACT, PIN, STAMPED, SIZE 16

MATERIAL: COPPER ALLOY
PLATING SUFFIX CODE:
 XX=22 NICKEL PLATING
 XX=44 GOLD PLATING
CONTACT GENERAL DATA SPECIFICATION: S2-15217
AVAILABLE CRIMPERS: ATT-16-00, MFX-3950 & MFX-3953
CRIMPER SPECIFICATIONS: S2-15223 & S2-15224
CRIMP INFORMATION DRAWING: S2-15221 & S2-15222
CONTACTS PER REEL: APPROX. 4000 (PARTIAL REELS AVAILABLE)



STAMPED AND FORMED CONTACTS, PG 2 of 2

Click on [blue underlined](#) part numbers to be taken to their spec sheets.

OPTIONS

PART NUMBER: AT60-16-01XX

DESCRIPTION: CONTACT, PIN, STAMPED, SIZE 16

MATERIAL: COPPER ALLOY

PLATING SUFFIX CODE:

XX=22 NICKEL PLATING

XX=44 GOLD PLATING

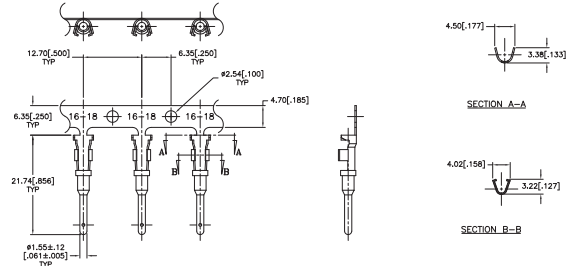
CONTACT GENERAL DATA SPECIFICATION: S2-15217

AVAILABLE CRIMPERS: ATT-16-00, ATT-16-01, MFX-3950 & MFX-3953

CRIMPER SPECIFICATIONS: S2-15223 & S2-15224

CRIMP INFORMATION DRAWING: S2-15221 & S2-15222

CONTACTS PER REEL: APPROX. 4000 (PARTIAL REELS AVAILABLE)



PART NUMBER: AT60-16-06XX

DESCRIPTION: CONTACT, PIN, STAMPED, SIZE 16

MATERIAL: COPPER ALLOY

PLATING SUFFIX CODE:

XX=22 NICKEL PLATING

XX=44 GOLD PLATING

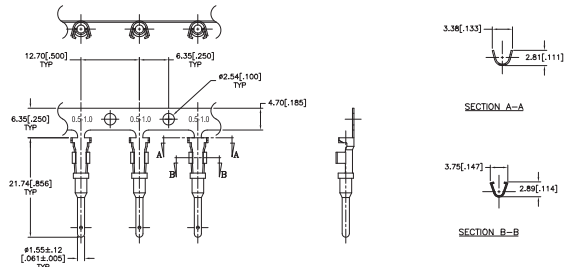
CONTACT GENERAL DATA SPECIFICATION: S2-15217

AVAILABLE CRIMPERS: ATT-16-01, MFX-3950 & MFX-3953

CRIMPER SPECIFICATIONS: S2-15223 & S2-15224

CRIMP INFORMATION DRAWING: S2-15221 & S2-15222

CONTACTS PER REEL: APPROX. 4000 (PARTIAL REELS AVAILABLE)



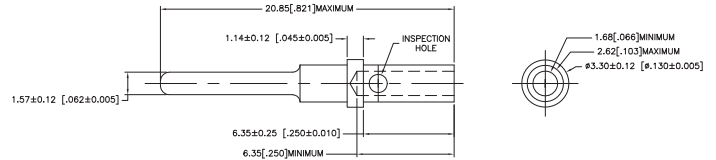
SOLID/MACHINED CONTACTS

Click on [blue underlined](#) part numbers to be taken to their spec sheets.

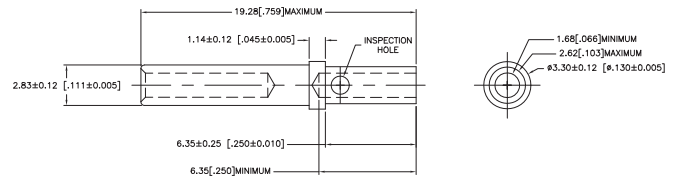
OPTIONS

MILITARY-STYLE

PART NUMBER: [AT60-202-16XX](#)
DESCRIPTION: CONTACT, PIN, SOLID MACHINED, SIZE 16
MATERIAL: COPPER ALLOY
PLATING SUFFIX CODE:
 XX=141 NICKEL PLATING
 XX=31 GOLD PLATING
CONTACT GENERAL DATA SPECIFICATION: S2-15217
AVAILABLE CRIMPERS: CA-5D12 & CA-5E12
CRIMPER SPECIFICATIONS: S2-15219 & S2-15220
CRIMP INFORMATION DRAWING: S2-15218

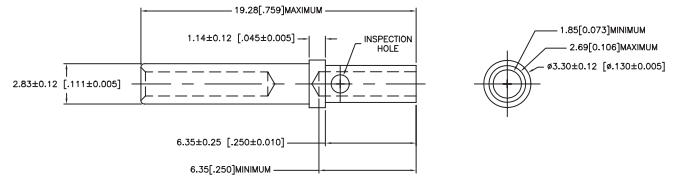


PART NUMBER: [AT62-201-16XX](#)
DESCRIPTION: CONTACT, SOCKET, SOLID MACHINED, SIZE 16
MATERIAL:
 CONTACT BODY: COPPER ALLOY
 HOOD: STAINLESS STEEL
PLATING SUFFIX CODE:
 XX=141 NICKEL PLATING
 XX=31 GOLD PLATING
CONTACT GENERAL DATA SPECIFICATION: S2-15217
AVAILABLE CRIMPERS: CA-5D12 & CA-5E12
CRIMPER SPECIFICATIONS: S2-15219 & S2-15220
CRIMP INFORMATION DRAWING: S2-15218

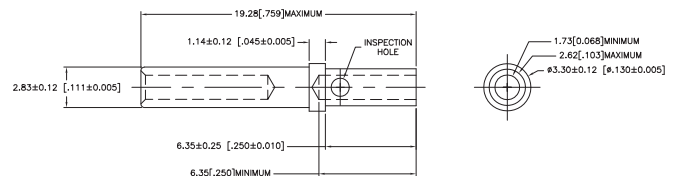


ROCKSOLID™ CONTACTS

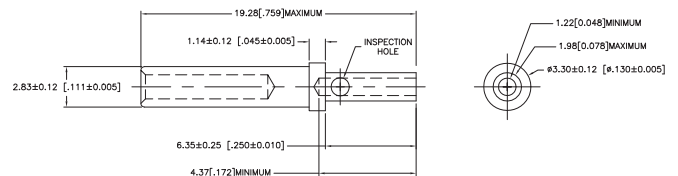
PART NUMBER: [65-54942-14](#)
DESCRIPTION: CONTACT, SOCKET, ROCKSOLID, SIZE 16
AWG RANGE: 14AWG
MATERIAL: COPPER ALLOY
PLATING: GOLD
CONTACT GENERAL DATA SPECIFICATION: S2-15217
AVAILABLE CRIMPERS: CA-5D12 & CA-5E12
CRIMPER SPECIFICATIONS: S2-15219 & S2-15220
CRIMP INFORMATION DRAWING: S2-15218



PART NUMBER: [65-54942-16](#)
DESCRIPTION: CONTACT, SOCKET, ROCKSOLID, SIZE 16
AWG RANGE: 16AWG
MATERIAL: COPPER ALLOY
PLATING: GOLD
CONTACT GENERAL DATA SPECIFICATION: S2-15217
AVAILABLE CRIMPERS: CA-5D12 & CA-5E12
CRIMPER SPECIFICATIONS: S2-15219 & S2-15220
CRIMP INFORMATION DRAWING: S2-15218



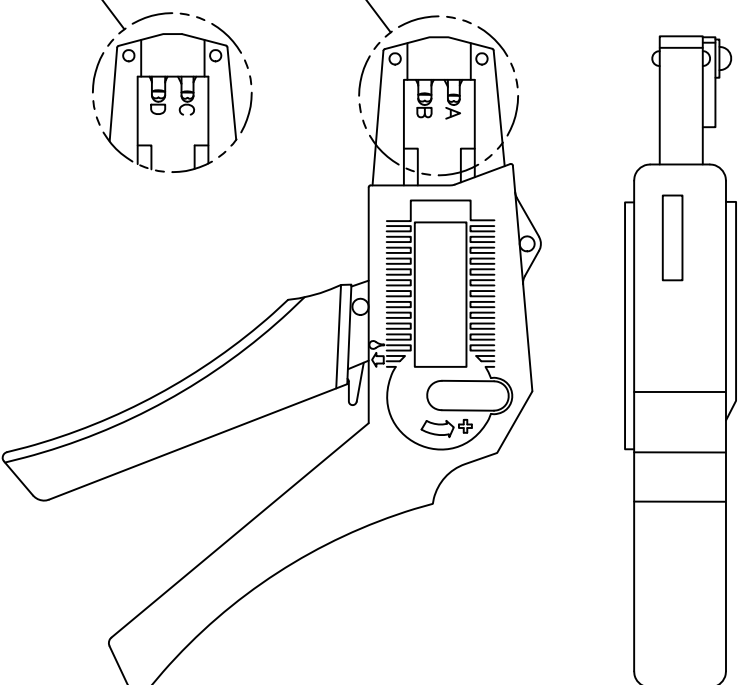
PART NUMBER: [65-54942-20](#)
DESCRIPTION: CONTACT, SOCKET, ROCKSOLID, SIZE 16
AWG RANGE: 20AWG
MATERIAL: COPPER ALLOY
PLATING: GOLD
CONTACT GENERAL DATA SPECIFICATION: S2-15217
AVAILABLE CRIMPERS: CA-5D12 & CA-5E12
CRIMPER SPECIFICATIONS: S2-15219 & S2-15220
CRIMP INFORMATION DRAWING: S2-15218



ATT-16-00 WITH CAVITY A & B

CONTACT P/N:	INSULATION ϕ	CAVITY	WIRE SIZE
AT60-16-01**	PIN .075 - .140	B	1.5mm ²
AT62-16-01**	SOC [1.91 - 3.56]	A	16AWG
		A	1.0mm ²
AT60-14-01**	PIN .095 - .150	B	14AWG
AT62-14-01**	SOC [2.41 - 3.81]	B	2.0mm ²
		B	1.5mm ²
		A	1.5mm ²
		A	16AWG
		A	1.0mm ²
AT60-16-06**	PIN .055 - .100	A	16AWG
AT62-16-06**	SOC [1.40 - 2.54]	A	1.0mm ²

CAVITY VIEW OF
CRIMPER NUMBER
ATT-16-00



CAVITY VIEW OF
CRIMPER NUMBER
ATT-16-01


USE CRIMPER NUMBER:
ATT-16-01 WITH CAVITY C & D

CONTACT P/N:	INSULATION ϕ	CAVITY	WIRE SIZE
AT60-16-01**	.075 - .140	D	18AWG
AT62-16-01**	[.1.91 - 3.56]	D	.75mm ²
AT60-16-06**	.055 - .100	D	18AWG
AT62-16-06**	[1.40 - 2.54]	D	.75mm ²
		C	.50mm ²

NOTES (UNLESS OTHERWISE SPECIFIED)::

1. ALL DIMENSIONS IN INCHES [MILLIMETERS]
2. FOR PLATING CODES ** SEE CONTACT DATA DRAWINGS.
3. THIS TOOL IS FOR CRIMPING SIZE 16 CONTACTS ONLY TO WIRES LISTED IN THE CHARTS.
4. DEUTSCH IPD CROSS REFERENCE PART NUMBERS ARE DTT-16-00 AND DTT-16-01.

REVISIONS				
REV	ECO	DESCRIPTION	DATE	BY
A1	-	RELEASE NUMBER 016571	6/12/09	B.D.B.
				M.R.F.

QUANTITY		PART NUMBER	DESCRIPTION	UNIT
MATERIALS LIST				
UNLESS OTHERWISE SPECIFIED				
1) All dimensions are in inches. 2) Tolerances are as follows: a. DIM. 0-10.00 Tolerance ±1/64 b. DIM. 10.000 Tolerance ±1/32 c. PL. DEC. 0.0005 d) Finish: SS-20020 e) Note: Reference = A				
MATERIAL SPECIFICATIONS:				
N/A		CUSTOMER:		
PROCESS SPECIFICATIONS:		THE USE OF THIS DOCUMENT IS UNLIMITED. DESIGN FEATURES SHOWN ARE NOT TO BE CONSIDERED A BASIS FOR WARRANTY. DATA SHOWN HEREON ARE THE PROPERTY OF AMPHENOL CORP. ALL INFORMATION CONTAINED HEREIN IS UNCLASSIFIED EXCEPT WHERE SHOWN OTHERWISE. DOCUMENTS REFERRED TO HEREIN MAY BE OBTAINED FROM THE SOURCE.		
TEST ASST:		SIZE (SEE NOTE NO. 1) B 10644 S2-15223 SCALE NONE S2-15223 SHEET 1 OF 1 REVISION A		
SINE Systems Corporation A Subsidiary of Amphenol Corporation 44724 Midway Drive Clinton Township, MI 48036 INSTRUCTIONS, ATT-16-00 & 01 CRIMPER, HAND, STAMPED CONTACTS				

ALL REFERENCES TO DEUTSCH PRODUCTS OR SPECIFICATIONS ARE FOR COMPARISON PURPOSES ONLY, AND REFER TO DEUTSCH INDUSTRIAL PRODUCTS.

REVISIONS				
REV	ZONE	ECO	DESCRIPTION	DATE
A1	-	-	RELEASE NUMBER 016571	6/12/09
BY	APP			
B.D.B.	M.F.F.			

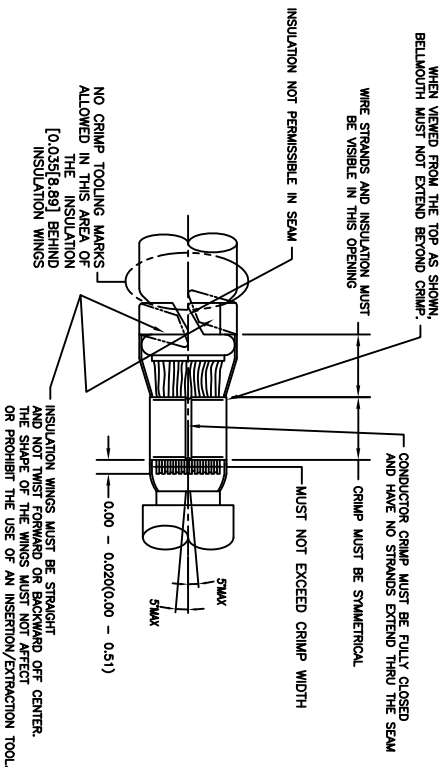
STAMPED CONTACT PART NUMBER 1005=PIN 1006=SOCKET	SIZE	CONDUCTOR WIRE SIZE	CRIMP HEIGHT	CRIMP WIDTH	CONDUCTOR PUNCH NUMBER	CONDUCTOR ANVIL NUMBER	CRIMP TENSILE REFERENCE
A780-14-011x A782-14-011x INSULATION RANGE 0.095-0.150(2.11-3.81)	16	14 AWG	0.055(1.40)	0.094(2.39)	A177-002-0200	A177-101-0200	28(111)
		2.00mm ²	0.055(1.40)	0.094(2.39)			
		1.50mm ²	0.055(1.35)	0.094(2.39)			
		16 AWG	0.050(1.27)	0.094(2.39)			
		1.00mm ²	0.050(1.27)	0.094(2.39)			
A780-16-011x A782-16-011x INSULATION RANGE 0.075-0.140(1.91-3.56)	16	18 AWG	0.048(1.24)	0.094(2.39)	A177-002-0200	A177-101-0200	28(111)
		0.75mm ²	0.048(1.22)	0.094(2.39)			
		14 AWG	0.055(1.40)	0.094(2.39)			
		2.00mm ²	0.055(1.40)	0.094(2.39)			
		1.50mm ²	0.053(1.35)	0.094(2.39)			
A782-16-06x A782-16-06x INSULATION RANGE 0.055-0.100(1.40-2.54)	16	18 AWG	0.048(1.24)	0.094(2.39)	A177-003-0200	A177-103-0200	28(111)
		1.00mm ²	0.050(1.27)	0.094(2.39)			
		16 AWG	0.050(1.27)	0.094(2.39)			
		18 AWG	0.048(1.24)	0.094(2.39)			
		0.75mm ²	0.048(1.22)	0.094(2.39)			

CROSS REFERENCE

INSULATION DIAMETER RANGE	INSULATION PUNCH NUMBER	INSULATION ANVIL NUMBER
0.120-0.150	A177-210-0200	A177-316-0200
0.105-0.125	A177-211-0200	A177-317-0200
0.085-0.111	A177-213-0200	A177-318-0200
0.075-0.105	A177-214-0200	A177-319-0200
0.065-0.094	A177-215-0200	A177-320-0200
0.050-0.075	A177-216-0200	A177-321-0200

NOTES: UNLESS OTHERWISE SPECIFIED

1. ALL DIMENSIONS ARE IN INCHES(mm).
2. FORCES ARE IN POUNDS(LBS) AND NEWTONS(N).
3. "X"= PLATING SUFFX. SEE INDIVIDUAL CONTACT DRAWING.
4. WIRE STRIP LENGTH: 0.175±0.029(4.43±0.64). BROKEN OR MISSING CONDUCTOR STRANDS ARE NOT ACCEPTABLE.
5. USE A BLADE MICROMETER (0.0002-54) MIN SPINDLE AND 0.060(0.010)(1.50(0.040) ANVIL) TO MEASURE THE CONDUCTOR CRIMP. SEE SECTION AA.
6. CRIMP TENSILE STRENGTH IS DETERMINED AT A PULL RATE SPEED OF 1.00 INCH(25.4) PER MINUTE. INSULATION WINGS ARE REMOVED FOR TEST. ACTUAL CRIMP TENSILE STRENGTH DEPENDS ON WIRE/CONDUCTOR SIZE. VALUES ON THIS SPECIFICATION ARE FOR REFERENCE ONLY.
7. INSULATION DIAMETER RANGE IS DETERMINED BY CONNECTOR AND ITS WIRE SEAL SIZE. SEE CONNECTOR DRAWING FOR INSULATION RANGE.
8. INSULATION CRIMP DIAMETER SHOULD BE THE EQUAL OR LESS THAN THE DIAMETER OF THE WIRE INSULATION (HARD OR TEFLON INSULATION MAY BE AN EXCEPTION). INSULATION CRIMP SHALL NOT AFFECT REMOVAL TOOL PERFORMANCE AND SHALL NOT DAMAGE CONNECTOR CROMMET SEAL.
9. CONDUCTOR TYPE ARE PER SAE J128(AWG) AND ISO 6722(METRIC)
10. FOR CONTACT MATERIAL AND PERFORMANCE DATA, SEE DRAWING S2-15217.
11. REFER TO S2-15223 AND S2-15224 AND CROSS REFERENCE CHARTS FOR CRIMP TOOL DATA.



SINE PART NUMBER	DEUTSCH PART NUMBER
MFX-3950	DC16-02-00
A177-002-0200	1017-002-0200
A177-003-0200	1017-003-0200
A177-101-0200	1017-101-0200
A177-103-0200	1017-103-0200
A177-210-0200	1017-210-0200
A177-211-0200	1017-211-0200
A177-213-0200	1017-213-0200
A177-214-0200	1017-214-0200
A177-217-0200	1017-217-0200
A177-218-0200	1017-218-0200
A177-310-0200	1017-310-0200
A177-311-0200	1017-311-0200
A177-313-0200	1017-313-0200
A177-304-0200	1017-304-0200
A177-317-0200	1017-317-0200
A177-318-0200	1017-318-0200

ALL REFERENCES TO DEUTSCH PRODUCTS OR SPECIFICATIONS ARE FOR COMPARISON PURPOSES ONLY, AND REFER TO DEUTSCH INDUSTRIAL PRODUCTS.

QUANTITY	PART NUMBER	DESCRIPTION	ITEM
MATERIALS LIST			
UNLESS OTHERWISE SPECIFIED			
1) All dimensions are in inches.			
2) Pl. DEC 2000 to Provisions 31/4			
3) Pl. DEC 2001 to Provisions 31/4			
4) Pl. DEC 2002 to Provisions 31/4			
5) Reduction Standards Per:			
a) MIL-STD-20020			
b) MIL-STD-20020			
c) MIL-STD-20020			
d) MIL-STD-20020			
e) MIL-STD-20020			
f) MIL-STD-20020			
g) MIL-STD-20020			
h) MIL-STD-20020			
i) MIL-STD-20020			
j) MIL-STD-20020			
k) MIL-STD-20020			
l) MIL-STD-20020			
m) MIL-STD-20020			
n) MIL-STD-20020			
o) MIL-STD-20020			
p) MIL-STD-20020			
q) MIL-STD-20020			
r) MIL-STD-20020			
s) MIL-STD-20020			
t) MIL-STD-20020			
u) MIL-STD-20020			
v) MIL-STD-20020			
w) MIL-STD-20020			
x) MIL-STD-20020			
y) MIL-STD-20020			
z) MIL-STD-20020			
AA) MIL-STD-20020			
AB) MIL-STD-20020			
AC) MIL-STD-20020			
AD) MIL-STD-20020			
AE) MIL-STD-20020			
AF) MIL-STD-20020			
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AL) MIL-STD-20020			
AM) MIL-STD-20020			
AN) MIL-STD-20020			
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AZ) MIL-STD-20020			
BA) MIL-STD-20020			
BB) MIL-STD-20020			
BC) MIL-STD-20020			
BD) MIL-STD-20020			
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BL) MIL-STD-20020			
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BN) MIL-STD-20020			
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BU) MIL-STD-20020			
BV) MIL-STD-20020			
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CB) MIL-STD-20020			
CC) MIL-STD-20020			
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CE) MIL-STD-20020			
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CG) MIL-STD-20020			
CH) MIL-STD-20020			
CI) MIL-STD-20020			
CJ) MIL-STD-20020			
CK) MIL-STD-20020			
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DK) MIL-STD-20020			
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DN) MIL-STD-20020			
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DZ) MIL-STD-20020			
EA) MIL-STD-20020			
EB) MIL-STD-20020			
EC) MIL-STD-20020			
ED) MIL-STD-20020			
EE) MIL-STD-20020			
EF) MIL-STD-20020			
EG) MIL-STD-20020			
EH) MIL-STD-20020			
EI) MIL-STD-20020			
EJ) MIL-STD-20020			
EK) MIL-STD-20020			

REVISIONS				
REV	ZONE	ECO	DESCRIPTION	DATE
A1	-	-	RELEASE NUMBER 016571	6/12/09
BY	APP			
B.D.B.	M.F.F.			

STAMPED CONTACT PART NUMBER 1000=PIN 1000=SOCKET	SIZE	CRIMP HEIGHT	CRIMP WIDTH	CONDUCTOR PUNCH NUMBER	CONDUCTOR ANVIL NUMBER	CRIMP TENSILE REFERENCE (LBSIN)
A160-14-011x A162-14-011x INSULATION RANGE 0.095-0.150(2.41-3.81)	14 AWG	0.055(1.40)	0.094(2.39)			
	2.00mm ²	0.055(1.40)	0.094(2.39)			
	1.50mm ²	0.053(1.35)	0.094(2.39)			
	16 AWG	0.050(1.27)	0.094(2.39)	A117-4083-0200	A117-183-0200	25(111)
	1.00mm ²	0.050(1.27)	0.094(2.39)			
A160-16-011x A162-16-011x INSULATION RANGE 0.075-0.140(1.91-3.56)	16 AWG	0.049(1.24)	0.094(2.39)			
	0.75mm ²	0.049(1.24)	0.094(2.39)			
	14 AWG	0.055(1.40)	0.094(2.39)			
	2.00mm ²	0.055(1.40)	0.094(2.39)			
	1.50mm ²	0.053(1.35)	0.094(2.39)			
A160-18-011x A162-18-011x INSULATION RANGE 0.055-0.100(1.40-2.54)	18 AWG	0.048(1.22)	0.079(2.01)			
	0.50mm ²	0.048(1.22)	0.079(2.01)			
	16 AWG	0.050(1.27)	0.079(2.01)			
	1.00mm ²	0.050(1.27)	0.079(2.01)			
	0.75mm ²	0.049(1.24)	0.079(2.01)			

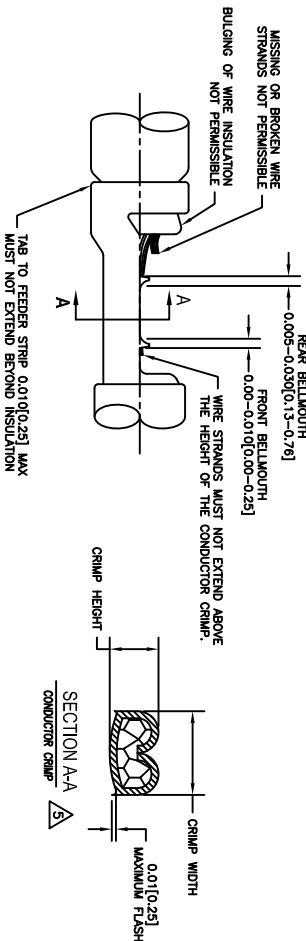
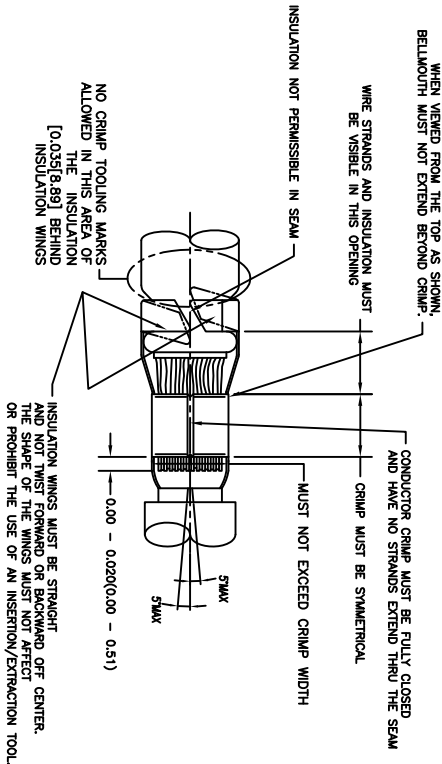
CROSS REFERENCE

INSULATION DIAMETER RANGE	INSULATION PUNCH NUMBER	INSULATION ANVIL NUMBER
0.120-0.150	A117-225-0200	A117-325-0200
0.105-0.125	A117-226-0200	A117-326-0200
0.085-0.111	A117-227-0200	A117-327-0200
0.075-0.105	A117-228-0200	A117-328-0200
0.063-0.094	A117-229-0200	A117-329-0200
0.050-0.075	A117-230-0200	A117-330-0200

SINE PART NUMBER	DEUTSCH PART NUMBER
MPX-3953	DCT1620-02-00
A117-083-0200	1017-083-0200
A117-082-0200	1017-082-0200
A117-183-0200	1017-183-0200
A117-182-0200	1017-182-0200
A117-225-0200	1017-225-0200
A117-226-0200	1017-226-0200
A117-227-0200	1017-227-0200
A117-228-0200	1017-228-0200
A117-229-0200	1017-229-0200
A117-230-0200	1017-230-0200
A117-325-0200	1017-325-0200
A117-326-0200	1017-326-0200
A117-327-0200	1017-327-0200
A117-328-0200	1017-328-0200
A117-329-0200	1017-329-0200
A117-330-0200	1017-330-0200

NOTES: UNLESS OTHERWISE SPECIFIED

1. ALL DIMENSIONS ARE IN INCHES(mm).
2. FORCES ARE IN POUNDS(LBS) AND NEWTONS(N).
3. "X"= PLATING SUFFX. SEE INDIVIDUAL CONTACT DRAWING.
4. WIRE STRIP LENGTH: 0.175±0.029(4.43±0.64). BROKEN OR MISSING CONDUCTOR STRANDS ARE NOT ACCEPTABLE.
5. USE A BLADE MICROMETER (0.100(2.54) MIN SPINDLE AND 0.060(0.010(1.50(0.040) ANVIL) TO MEASURE THE CONDUCTOR CRIMP. SEE SECTION AA.
6. CRIMP TENSILE STRENGTH IS DETERMINED AT A PULL RATE SPEED OF 1.00 INCH(25.4) PER MINUTE. INSULATION WINGS ARE REMOVED FOR TEST. ACTUAL CRIMP TENSILE STRENGTH DEPENDS ON WIRE/CONDUCTOR SIZE. VALUES ON THIS SPECIFICATION ARE FOR REFERENCE ONLY.
7. INSULATION DIAMETER RANGE IS DETERMINED BY CONNECTOR AND ITS WIRE SEAL SIZE. SEE CONNECTOR DRAWING FOR INSULATION RANGE.
8. INSULATION CRIMP DIAMETER SHOULD BE THE EQUAL OR LESS THAN THE DIAMETER OF THE WIRE INSULATION (HARD OR TEFLON INSULATION MAY BE AN EXCEPTION). INSULATION CRIMP SHALL NOT AFFECT REMOVAL TOOL PERFORMANCE AND SHALL NOT DAMAGE CONNECTOR CROMMET SEAL.
9. CONDUCTOR TYPE ARE PER SAEJ1128(AWG) AND ISO 6122(METRIC)
10. FOR CONTACT MATERIAL AND PERFORMANCE DATA, SEE DRAWING S2-15217.
11. REFER TO S2-15223 AND S2-15224 AND CROSS REFERENCE CHARTS FOR CRIMP TOOL DATA.



ALL REFERENCES TO DEUTSCH PRODUCTS OR SPECIFICATIONS ARE FOR COMPARISON PURPOSES ONLY, AND REFER TO DEUTSCH INDUSTRIAL PRODUCTS.

QUANTITY	PART NUMBER	DESCRIPTION	ITEM
MATERIALS LIST			
UNLESS OTHERWISE SPECIFIED			
1) All dimensions are in inches.			
2) Pl. DEC 2000 to Provisions 31/4			
3) Pl. DEC 2000 to Provisions 31/4			
4) Pl. DEC 2000 to Provisions 31/4			
5) Reduction Standards Per:			
a) SAE J1128			
b) SAE J1128			
c) SAE J1128			
d) SAE J1128			
e) SAE J1128			
f) SAE J1128			
g) SAE J1128			
h) SAE J1128			
i) SAE J1128			
j) SAE J1128			
k) SAE J1128			
l) SAE J1128			
m) SAE J1128			
n) SAE J1128			
o) SAE J1128			
p) SAE J1128			
q) SAE J1128			
r) SAE J1128			
s) SAE J1128			
t) SAE J1128			
u) SAE J1128			
v) SAE J1128			
w) SAE J1128			
x) SAE J1128			
y) SAE J1128			
z) SAE J1128			
AA) SAE J1128			
AB) SAE J1128			
AC) SAE J1128			
AD) SAE J1128			
AE) SAE J1128			
AF) SAE J1128			
AG) SAE J1128			
AH) SAE J1128			
AI) SAE J1128			
AJ) SAE J1128			
AK) SAE J1128			
AL) SAE J1128			
AM) SAE J1128			
AN) SAE J1128			
AO) SAE J1128			
AP) SAE J1128			
AQ) SAE J1128			
AR) SAE J1128			
AS) SAE J1128			
AT) SAE J1128			
AU) SAE J1128			
AV) SAE J1128			
AW) SAE J1128			
AX) SAE J1128			
AY) SAE J1128			
AZ) SAE J1128			
BA) SAE J1128			
BB) SAE J1128			
BC) SAE J1128			
BD) SAE J1128			
BE) SAE J1128			
BF) SAE J1128			
BG) SAE J1128			
BH) SAE J1128			
BI) SAE J1128			
BJ) SAE J1128			
BK) SAE J1128			
BL) SAE J1128			
BM) SAE J1128			
BN) SAE J1128			
BO) SAE J1128			
BP) SAE J1128			
BQ) SAE J1128			
BR) SAE J1128			
BS) SAE J1128			
BT) SAE J1128			
BU) SAE J1128			
BV) SAE J1128			
BW) SAE J1128			
BX) SAE J1128			
BY) SAE J1128			
BZ) SAE J1128			
CA) SAE J1128			
CB) SAE J1128			
CC) SAE J1128			
CD) SAE J1128			
CE) SAE J1128			
CF) SAE J1128			
CG) SAE J1128			
CH) SAE J1128			
CI) SAE J1128			
CJ) SAE J1128			
CK) SAE J1128			
CL) SAE J1128			
CM) SAE J1128			
CN) SAE J1128			
CO) SAE J1128			
CP) SAE J1128			
CQ) SAE J1128			
CR) SAE J1128			
CS) SAE J1128			
CT) SAE J1128			
CU) SAE J1128			
CV) SAE J1128			
CW) SAE J1128			
CX) SAE J1128			
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CZ) SAE J1128			
DA) SAE J1128			
DB) SAE J1128			
DC) SAE J1128			
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DE) SAE J1128			
DF) SAE J1128			
DG) SAE J1128			
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DI) SAE J1128			
DJ) SAE J1128			
DK) SAE J1128			
DL) SAE J1128			
DM) SAE J1128			
DN) SAE J1128			
DO) SAE J1128			
DP) SAE J1128			
DQ) SAE J1128			
DR) SAE J1128			
DS) SAE J1128			
DT) SAE J1128			
DU) SAE J1128			
DV) SAE J1128			
DW) SAE J1128			
DX) SAE J1128			
DY) SAE J1128			
DZ) SAE J1128			
EA) SAE J1128			
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EC) SAE J1128			
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EE) SAE J1128			
EF) SAE J1128			
EG) SAE J1128			
EH) SAE J1128			
EI) SAE J1128			
EJ) SAE J1128			
EK) SAE J1128			
EL) SAE J1128			
EM) SAE J1128			
EN) SAE J1128			
EO) SAE J1128			
EP) SAE J1128			
EQ) SAE J1128			
ER) SAE J1128			
ES) SAE J1128			
ET) SAE J1128			
EU) SAE J1128			
EV) SAE J1128			

REVISIONS			
REV	ZONE	ECO	DESCRIPTION
1	-	-	RELEASE NUMBER 016571
DATE	6/12/09	BY	M.S.F.

CONTACT LOCATOR
"TURRET"
THREE POSITIONS FOR
SIZE 12, 16 & 20 MALE
AND FEMALE CONTACTS

"TURRET" RELEASE LATCH

6.25 INCH
MAXIMUM
OPEN

2.30 INCH
MAXIMUM
CLOSED

SELECTOR FOR CRIMP
SETTING

1.125 INCH MAX.

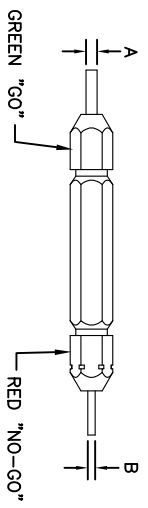
9.75 INCH MAXIMUM

1.00 INCH MAX.

GAGE PART NO.	A GO DIA.	B NO-GO DIA.	SELECTOR NUMBER
G125	.0390	.0440	4

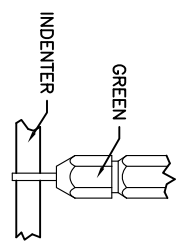
GAGING INSTRUCTIONS

CAUTION!
DO NOT CRIMP GAGE!

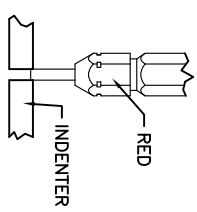


"GO" GAGING: OPERATE TOOL TO FULLY CLOSED POSITION. INSERT "GO" GAGE END AS SHOWN. GAGE MUST PASS FREELY BETWEEN INDENTER TIPS.

"NO-GO" GAGING: OPERATE TOOL TO FULLY CLOSED POSITION. INSERT "NO-GO" GAGE END AS SHOWN. THE "NO-GO" MAY PARTIALLY ENTER THE INDENTER OPENING, BUT MUST NOT PASS COMPLETELY THROUGH THE OPENING.



SELECTOR NUMBER	A GO DIA.	B NO-GO DIA.
1	.0280	.0330
2	.0320	.0370
3	.0360	.0410
4	.0390	.0440
5	.0450	.0500
6	.0520	.0570
7	.0590	.0640
8	.0680	.0730



CONTACT SIZE		SELECTOR NUMBER							
CONTACT SIZE		26	24	22	20	18	16	14	12
"TURRET" POSITION		1	2	3	4				
COLOR		RED	BLUE	BLUE	BLUE	BLUE	BLUE	BLUE	BLUE
20-20		RED	1	2	3	4			
16-22		BLUE	4	5	6				
16-20		BLUE	1	2	3	4			
16-16		BLUE				4	5	6	
12-16		YELLOW				4	5	6	
12-12		YELLOW					7	8	

- NOTES:
- THE CA-5D12 IS A HAND OPERATED CRIMPER FOR ELECTRICAL CONTACTS. IT IS ADJUSTABLE TO 3 CONTACT SIZES (12, 16 & 20) AND 8 INDENTER CRIMP POSITIONS FOR DIFFERENT WIRE SIZES (12AWG THRU 26 AWG).
 - WEIGHT: 1.64 LBS
 - SELECTING CONTACT SIZE: PRESS THE RELEASE LATCH ON SIDE OF THE CONTACT LOCATOR "TURRET". ROTATE TO THE DESIRED CONTACT SIZE. THE TOP OF THE "TURRET" IS EMBOSSED WITH THE CONTACT SIZES.
 - SELECTING WIRE SIZE: REMOVE THE LOCKING CLIP. GRASP THE SELECTOR AND ROTATE TO THE DESIRED NUMBER.

QUANTITY		PART NUMBER		DESCRIPTION		ITEM
UNLESS OTHERWISE SPECIFIED		SIGNATURES		DATE		
1) All dimensions are in inches.		DRAWN: BERLIN		6/3/09		
2) Tolerance on hole diameters is .0005 in.		CHECKED: FINCE		6/3/09		
3) Holes are .0005 in. unless otherwise specified.		ENGINEER: BERLIN		6/3/09		
4) Holes are .0005 in. unless otherwise specified.		APPROVAL: BERLIN		6/3/09		
MATERIAL SPECIFICATIONS:		CUSTOMER:		S2-15219		
N/A		THE USE OF THIS DRAWING IS LIMITED TO THE SPECIFICATIONS AND REQUIREMENTS OF THE CUSTOMER. ANY OTHER USE IS AT THE USER'S RISK. ALL DIMENSIONS ARE IN INCHES UNLESS OTHERWISE SPECIFIED.		S2-15219		
PROCESS SPECIFICATIONS:		CRIMPER, HAND, MACHINED CONTACTS		S2-15219		
NEXT ASSY:		S2-15219		SHEET 1 OF 1		

SINE Systems Corporation

A Subsidiary of Amphenol Corporation
44724 Moley Drive
Canton Township, MI 48036



INSTRUCTIONS FOR CA-5D12
CRIMPER, HAND, MACHINED CONTACTS

REVISIONS				
REV	ZONE	ECO	DESCRIPTION	DATE
A1	-	-	RELEASE NUMBER 016371	6/12/09
BY	APP			
B.D.B.	M.R.F.			

SOLID CONTACT SIZE	SOLID CONTACT PART NUMBERS		WIRE SIZE AWG(mm ²)	RECOMMENDED STRIP LENGTH INCH (mm)	MIN CONTACT RETENTION LBS (N)	REF CRIMP RETENTION LBS (N)	MAX RATED AMPS@125°C CONTINUOUS
	PN	SOCKET					
16	AT60-202-16**	AT62-201-16**	16-20 [1.5-0.5]	0.25-0.31 [6.35-7.92]	25 [111]	35-20 [156-89]	13

S&F CONTACT SIZE	STAMPED CONTACT PART NUMBERS		WIRE SIZE AWG (mm ²)	WIRE INSULATION O.D. RANGE	RECOMMENDED STRIP LENGTH INCH (mm)	MIN CONTACT RETENTION LBS (N)	REF CRIMP RETENTION LBS (N)	MAX RATED AMPS@125°C CONTINUOUS
	PN	SOCKET						
16	AT60-14-01**	AT62-14-01**	14-16 [2.0-1.0]	.100 - .150 [2.54 - 3.81]	0.150-0.200 [3.81-5.08]	25 [111]	25 [111]	13
16	AT60-16-01**	AT62-16-01**	16-18 [1.0-0.75]	.075 - .100 [1.90 - 2.54]	0.150-0.200 [3.81-5.08]	25 [111]	25 [111]	13
16	AT60-16-06**	AT62-16-06**	18-20 [0.75-0.50]	.055 - .095 [1.40 - 2.41]	0.150-0.200 [3.81-5.08]	25 [111]	25-15 [111+67]	13


CONTACT RESISTANCE STRENGTH (LESS DROP THROUGH WIRE)			
WIRE AWG	TEST CURRENT	MILLIVOLT DROP SOLID	MILLIVOLT DROP S&F
14	18	60	100
16	13	60	100
18	10	60	100
20	7.5	60	100


MATERIAL SPECIFICATION AND PLATING ** CODES	
PIN: COPPER ALLOY	
SOCKET: COPPER ALLOY WITH STAINLESS STEEL SLEEVE	
SOLID MACHINED CONTACT PLATING OPTIONS: 	
31= GOLD*	
141= NICKEL	
STAMPED CONTACT PLATING OPTIONS: 	
22= NICKEL	
44= GOLD*	
88= SELECTIVE GOLD*	
GOLD* = PLATING IS AVAILABLE (RECOMMENDED) FOR ONLY (<5V) CIRCUIT APPLICATIONS	
MATERIALS AND PLATINGS ARE ROHS COMPLIANT	

NOTES: UNLESS OTHERWISE SPECIFIED

1. ALL DIMENSIONS ARE INCHES(MM).

2. ALL FORCES ARE IN LBS(POUNDS) AND "N" (NEWTONS).

 CONTACT RETENTION TEST PULL RATE SHALL BE 1.0 INCH/25.4 PER MINUTE MAXIMUM. WIRE SIZE WILL AFFECT THE TRUE STRENGTH OF THE CRIMP.

 WIRE SIZES AND INSULATION RANGES ARE FOR REFERENCE ONLY. THE ACTUAL INSULATION RANGE DEPENDS ON CONNECTOR GROMMET SEALING SIZE.

SEE SPECIFICATIONS LISTED BELOW FOR INDIVIDUAL CRIMP INFORMATION:			
"SOLID" CONTACTS		"STAMPED" CONTACTS	
SIZE		SIZE	
S2-15218	16	S2-15222	16
		S2-15221	16/20

 MAXIMUM RATED CURRENT IN CHART DEPENDS ON CONTACT SIZE. ACTUAL RATED CURRENT DEPENDS ON WIRE SIZE.

 CONTACT FACTORY FOR ALL AVAILABLE PLATING ON SPECIFIC CONTACTS.

 AMPHENOL SINE PERFORMANCE SPECIFICATIONS REQUIRE THE USE OF AMPHENOL SINE APPROVED TOOLING.

PART NUMBER		DESCRIPTION		ITEM
QUANTITY		MATERIALS LIST		
UNLESS OTHERWISE SPECIFIED				
1) All dimensions are in inches.		SIGNATURES		DATE
2) All drawings are to be made to the following tolerances:		DRAWN: POKR		4/5/09
3) Holes are to be drilled to the following tolerances:		CHECKED: POKR		6/3/09
4) Holes are to be drilled to the following tolerances:		ENGINEER: BERNIM		BERNIM
5) Fabrication Standards Per:		APPROVAL: BERNIM		6/3/09
6) Material: SS-20020		CUSTOMER: BERNIM		6/3/09
7) Material: SS-20020		CUSTOMER: BERNIM		6/3/09
8) Material: SS-20020		CUSTOMER: BERNIM		6/3/09
9) Material: SS-20020		CUSTOMER: BERNIM		6/3/09
10) Material: SS-20020		CUSTOMER: BERNIM		6/3/09
11) Material: SS-20020		CUSTOMER: BERNIM		6/3/09
12) Material: SS-20020		CUSTOMER: BERNIM		6/3/09
13) Material: SS-20020		CUSTOMER: BERNIM		6/3/09
14) Material: SS-20020		CUSTOMER: BERNIM		6/3/09
15) Material: SS-20020		CUSTOMER: BERNIM		6/3/09
16) Material: SS-20020		CUSTOMER: BERNIM		6/3/09
17) Material: SS-20020		CUSTOMER: BERNIM		6/3/09
18) Material: SS-20020		CUSTOMER: BERNIM		6/3/09
19) Material: SS-20020		CUSTOMER: BERNIM		6/3/09
20) Material: SS-20020		CUSTOMER: BERNIM		6/3/09
21) Material: SS-20020		CUSTOMER: BERNIM		6/3/09
22) Material: SS-20020		CUSTOMER: BERNIM		6/3/09
23) Material: SS-20020		CUSTOMER: BERNIM		6/3/09
24) Material: SS-20020		CUSTOMER: BERNIM		6/3/09
25) Material: SS-20020		CUSTOMER: BERNIM		6/3/09
26) Material: SS-20020		CUSTOMER: BERNIM		6/3/09
27) Material: SS-20020		CUSTOMER: BERNIM		6/3/09
28) Material: SS-20020		CUSTOMER: BERNIM		6/3/09
29) Material: SS-20020		CUSTOMER: BERNIM		6/3/09
30) Material: SS-20020		CUSTOMER: BERNIM		6/3/09
31) Material: SS-20020		CUSTOMER: BERNIM		6/3/09
32) Material: SS-20020		CUSTOMER: BERNIM		6/3/09
33) Material: SS-20020		CUSTOMER: BERNIM		6/3/09
34) Material: SS-20020		CUSTOMER: BERNIM		6/3/09
35) Material: SS-20020		CUSTOMER: BERNIM		6/3/09
36) Material: SS-20020		CUSTOMER: BERNIM		6/3/09
37) Material: SS-20020		CUSTOMER: BERNIM		6/3/09
38) Material: SS-20020		CUSTOMER: BERNIM		6/3/09
39) Material: SS-20020		CUSTOMER: BERNIM		6/3/09
40) Material: SS-20020		CUSTOMER: BERNIM		6/3/09
41) Material: SS-20020		CUSTOMER: BERNIM		6/3/09
42) Material: SS-20020		CUSTOMER: BERNIM		6/3/09
43) Material: SS-20020		CUSTOMER: BERNIM		6/3/09
44) Material: SS-20020		CUSTOMER: BERNIM		6/3/09
45) Material: SS-20020		CUSTOMER: BERNIM		6/3/09
46) Material: SS-20020		CUSTOMER: BERNIM		6/3/09
47) Material: SS-20020		CUSTOMER: BERNIM		6/3/09
48) Material: SS-20020		CUSTOMER: BERNIM		6/3/09
49) Material: SS-20020		CUSTOMER: BERNIM		6/3/09
50) Material: SS-20020		CUSTOMER: BERNIM		6/3/09
51) Material: SS-20020		CUSTOMER: BERNIM		6/3/09
52) Material: SS-20020		CUSTOMER: BERNIM		6/3/09
53) Material: SS-20020		CUSTOMER: BERNIM		6/3/09
54) Material: SS-20020		CUSTOMER: BERNIM		6/3/09
55) Material: SS-20020		CUSTOMER: BERNIM		6/3/09
56) Material: SS-20020		CUSTOMER: BERNIM		6/3/09
57) Material: SS-20020		CUSTOMER: BERNIM		6/3/09
58) Material: SS-20020		CUSTOMER: BERNIM		6/3/09
59) Material: SS-20020		CUSTOMER: BERNIM		6/3/09
60) Material: SS-20020		CUSTOMER: BERNIM		6/3/09
61) Material: SS-20020		CUSTOMER: BERNIM		6/3/09
62) Material: SS-20020		CUSTOMER: BERNIM		6/3/09
63) Material: SS-20020		CUSTOMER: BERNIM		6/3/09
64) Material: SS-20020		CUSTOMER: BERNIM		6/3/09
65) Material: SS-20020		CUSTOMER: BERNIM		6/3/09
66) Material: SS-20020		CUSTOMER: BERNIM		6/3/09
67) Material: SS-20020		CUSTOMER: BERNIM		6/3/09
68) Material: SS-20020		CUSTOMER: BERNIM		6/3/09
69) Material: SS-20020		CUSTOMER: BERNIM		6/3/09
70) Material: SS-20020		CUSTOMER: BERNIM		6/3/09
71) Material: SS-20020		CUSTOMER: BERNIM		6/3/09
72) Material: SS-20020		CUSTOMER: BERNIM		6/3/09
73) Material: SS-20020		CUSTOMER: BERNIM		6/3/09
74) Material: SS-20020		CUSTOMER: BERNIM		6/3/09
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82) Material: SS-20020		CUSTOMER: BERNIM		6/3/09
83) Material: SS-20020		CUSTOMER: BERNIM		6/3/09
84) Material: SS-20020		CUSTOMER: BERNIM		6/3/09
85) Material: SS-20020		CUSTOMER: BERNIM		6/3/09
86) Material: SS-20020		CUSTOMER: BERNIM		6/3/09
87) Material: SS-20020		CUSTOMER: BERNIM		6/3/09
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90) Material: SS-20020		CUSTOMER: BERNIM		6/3/09
91) Material: SS-20020		CUSTOMER: BERNIM		6/3/09
92) Material: SS-20020		CUSTOMER: BERNIM		6/3/09
93) Material: SS-20020		CUSTOMER: BERNIM		6/3/09
94) Material: SS-20020		CUSTOMER: BERNIM		6/3/09
95) Material: SS-20020		CUSTOMER: BERNIM		6/3/09
96) Material: SS-20020		CUSTOMER: BERNIM		6/3/09
97) Material: SS-20020		CUSTOMER: BERNIM		6/3/09
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100) Material: SS-20020		CUSTOMER: BERNIM		6/3/09
101) Material: SS-20020		CUSTOMER: BERNIM		6/3/09
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104) Material: SS-20020		CUSTOMER: BERNIM		6/3/09
105) Material: SS-20020		CUSTOMER: BERNIM		6/3/09
106) Material: SS-20020		CUSTOMER: BERNIM		6/3/09
107) Material: SS-20020		CUSTOMER: BERNIM		6/3/09
108) Material: SS-20020		CUSTOMER: BERNIM		6/3/09
109) Material: SS-20020		CUSTOMER: BERNIM		6/3/09
110) Material: SS-20020		CUSTOMER: BERNIM		6/3/09
111) Material: SS-20020		CUSTOMER: BERNIM		6/3/09
112) Material: SS-20020		CUSTOMER: BERNIM		6/3/09
113) Material: SS-20020		CUSTOMER: BERNIM		6/3/09
114) Material: SS-20020		CUSTOMER: BERNIM		6/3/09
115) Material: SS-20020		CUSTOMER: BERNIM		6/3/09
116) Material: SS-20020		CUSTOMER: BERNIM		6/3/09
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