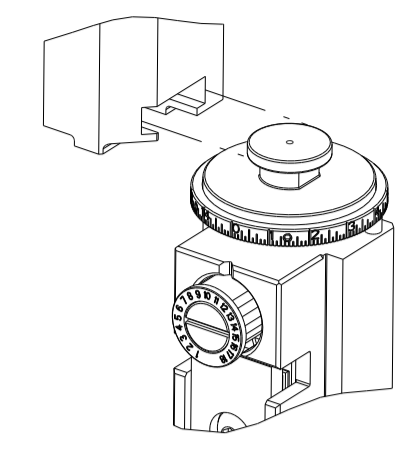


PART NUMBER	REVISION	DESCRIPTION	FEED TYPE
2151840-1	D	FINE CRIMP HEIGHT ADJUST	MECHANICAL
2151840-2	D	FINE CRIMP HEIGHT ADJUST	PNEUMATIC
5-2151840-1	D	SEAL STRIPPER CRIMPER TERMINATING UNIT	MECHANICAL
5-2151840-2	D	SEAL STRIPPER CRIMPER TERMINATING UNIT	PNEUMATIC
7-2151840-1	D	MECHANICAL AND CRIMP TOOLING KIT	MECHANICAL
7-2151840-2	D	PNEUMATIC AND CRIMP TOOLING KIT	PNEUMATIC
7-2151840-7	A	CRIMP TOOLING KIT	-

ATLANTIC VERSION TERMINATOR INTERFACE ADAPTER



APPLICATOR DATA		
CRIMP	SIZE	TYPE
WIRE	1.57 mm [.062]	F
INSUL	3.94 mm [.155]	O

APPLICATOR INSTRUCTIONS 408-35042

TERMINAL DATA: TE TERMINAL		TE CRIMP SPECIFICATION	
TERMINAL NAME: TAB 2.8 X 0.8			
WIRE STRIP LENGTH		INSULATION DIAMETER RANGE	
3.70-4.30 mm [.146-.169 IN]		∅ 3.4mm [.134 IN] MAX	
TERMINAL APPLICATION SPECIFICATION	114-18051		
TERMINALS APPLIED			
TE TERMINAL	TE TERMINAL	TE SEAL	CABLE DIAMETER
1-965982-1	1-965982-3	828904	∅ 1.2-2.1mm

TERMINAL DATA: TE TERMINAL		TE CRIMP SPECIFICATION	
TERMINAL NAME: AMP MCP 2.8K FLAT TYPE RECEPTACLE			
WIRE STRIP LENGTH		INSULATION DIAMETER RANGE	
.171-.186 IN [4.34-4.72 mm]		∅ 3.4mm [.134 IN] MAX	
TERMINAL APPLICATION SPECIFICATION	114-18051		
TERMINALS APPLIED			
TE TERMINAL	TE TERMINAL	TE SEAL	CABLE DIAMETER
5-965982-1	5-965982-3	828904	∅ 1.2-2.1mm

WIRE SIZE	CRIMP HEIGHT mm [INCH]	CRIMP HEIGHT REFERENCE SETTING
0.50mm2	1.12+/-0.03 [.044+/- .001]	5.5
0.35mm2	1.05+/-0.03 [.041+/- .001]	6.3
0.25mm2	1.00+/-0.03 [.039+/- .001]	6.8
0.20mm2	0.98+/-0.03 [.039+/- .001]	7.0

WIRE SIZE	CRIMP HEIGHT mm [INCH]	CRIMP HEIGHT REFERENCE SETTING
0.50mm2	1.08+/-0.03 [.043+/- .001]	4.2
0.35mm2	1.02+/-0.03 [.040+/- .001]	4.8

- 1. RECOMMENDED SPARE PARTS
- 2. REFER TO SUPPLIED INSTRUCTION SHEET FOR CLEANING, LUBRICATION AND STORAGE OF APPLICATOR.
- 3. APPLY PART NUMBER 2-23419-6 LOCTITE TO THREADS OF ITEM 242.
- 4. CRIMP HEIGHT REFERENCE SETTING WAS THE SETTING USED WHEN THE APPLICATOR WAS QUALIFIED AT THE FACTORY. ADJUSTMENT MAY BE NECESSARY WHEN RUNNING APPLICATOR IN THE FIELD.
- 5. APPLY TORO-SEAL IN ALLEN SOCKET TO FILL HOLE AFTER FLAT HD HAS BEEN ADJUSTED TO CORRECT HEIGHT AT QUALIFICATION. APPLY #1-23419-5 LOC-TITE TO THREADS.
- 6. UNLESS SPECIFIED OTHERWISE TORQUE VALUES SHALL BE USED PER DOCUMENT, 101-35000.
- 7. INSULATION RANGLE QUOTED IS THAT OF THE TERMINAL. THE SEAL INSULATION RANGE IS 1.2-2.1mm [.047-.083 IN.]
- 8. TERMINAL LUBRICANT IS RECOMMENDED.

***WARNING**
 ON INSTALLATION, SET WIRE DISC TO CRIMP HEIGHT REFERENCE SETTING FOR LARGEST WIRE SIZE. CRIMP HEIGHT REFERENCE SETTINGS GREATER THAN THE VALUE SHOWN MAY CAUSE DAMAGE TO THE CRIMP TOOLING. REFER TO THE INSTRUCTION SHEET FOR PROPER SETUP AND ADJUSTMENTS.

ATLANTIC VERSION
 Shown on sheets 1 of 4 & 2 of 4
 (Pacific version shown on sheets 3 of 4 & 4 of 4)

LOC	DIST	REVISIONS					
A	66	P	LTN	DESCRIPTION	DATE	OWN	APVD
		C		ECR-19-006079	15APR2019	LG	TE
		C1		ECR-20-016280	16NOV2020	FJ	TE
		D		ECR-22-136610	20APR2022	ROY	GWB
		D1		ECR-23-164821	29JAN2023	FZ	GB

-	1	1	1	1	1	1	1803945-4	TONKER	300
-	1	1	1	1	1	1	22278-9	SPRING, COMPRESSION	299
-	2	2	2	2	2	2	4-18032-3	SCR, SET, FLT PNT, M3 X 6.0	298
-	1	1	1	1	1	1	1803944-1	SPACER, TONKER	297
-	-	-	1	1	-	-	2-1803583-1	APPLICATOR BASIC ASSEMBLY, SF	292
-	1	-	1	-	1	-	2119641-1	FEED CAM, AIR FEED	248
-	1	1	1	1	1	1	2119082-9	CAM, SNAIL, INSULATION ADJUSTMENT	244
-	1	1	1	1	1	1	2079764-1	WASHER, WAVE SPRING, CREST-TO-CREST	243
3	-	1	1	1	1	1	2119083-1	RETAINER, INSULATION DIAL	242
-	1	1	1	1	1	1	7-18023-7	SCR, SKT HD CAP M3 X 4.0	241
-	-	1	-	1	-	1	2119580-1	MECHANICAL FEED ASSEMBLY	239
-	1	-	1	-	1	-	2844940-1	AIR FEED MODULE	238
-	REF	REF	REF	REF	REF	REF	994970-2	COUNTER, MAGNETIC	164
-	1	1	1	1	1	1	1-18028-2	WASHER, FLAT, REG M4	119
8	-	1	1	1	1	1	2119955-1	ASSY, LUBRICATOR, SIDE FEED	113
-	1	1	1	1	1	1	2844908-1	SCREW, LOCKING	99
-	1	1	1	1	1	1	2844907-1	POST, LOCKING	98
-	1	1	1	1	1	1	455888-7	SPACER, CRIMPER	82
-	1	1	1	1	1	1	1803607-3	DOCUMENTATION PACKAGE	71
-	1	1	1	1	1	1	2119740-1	TAG, IDENTIFICATION	67
-	2	2	2	2	2	2	2168078-1	SCREW, DRIVE, RH, RoHS, 2 x .188	66
-	1	1	1	1	1	1	2168083-2	SCR, SKT HD CAP, RoHS, M4 X 8.0	60
-	1	1	1	1	1	1	5-18022-5	SCR, HEX HD CAP, M4 X 6.0	59
5	-	1	1	1	1	1	985575-3	SCR, FLT SKT HD CAP M3 X 10.0	57
-	1	1	1	1	1	1	1338685-1	PAWL, FEED	56
-	4	4	4	4	4	4	2168083-3	SCR, SKT HD CAP, RoHS, M4 X 12.0	54
-	2	2	2	2	2	2	2168083-3	SCR, SKT HD CAP, RoHS, M4 X 12.0	53
-	1	2	1	2	1	2	18023-9	SCR, SKT HD CAP M4 X 6.0	49
-	-	1	-	1	-	1	2119652-1	FEED CAM, PRE FEED	48
-	-	1	-	1	-	1	2119653-1	FEED CAM, POST FEED	47
-	1	1	-	-	1	1	1803583-9	APPLICATOR BASIC ASSEMBLY, SF	46
-	1	1	1	1	1	1	1803515-1	RAM ASSEMBLY, SF ATLANTIC	44
-	1	1	1	1	1	1	1803602-1	SCR, BHSC, RoHS (M8 X 25)	41
-	1	1	1	1	1	1	1-1752356-7	SUPPORT, TERMINAL	34
-	2	2	2	2	2	2	2079383-5	SCR, BHSC, RoHS (M4 X 20)	33
-	2	2	2	2	2	2	2-2844962-8	SPACER, CYLINDRICAL, STRIP GUIDE	30
-	1	1	1	1	1	1	2844992-2	ASSEMBLY, STRIP GUIDE	29
-	1	1	1	1	1	1	1-455888-4	SPACER, CRIMPER	28
-	1	1	1	1	1	1	1320928-2	STRIP GUIDE	24
-	1	1	-	-	1	1	2168083-2	SCR, SKT HD CAP, RoHS, M4 X 8.0	21
-	1	1	-	-	1	1	1-18028-2	WASHER, FLAT, REG M4	20
-	1	1	-	-	1	1	2119533-1	STRIPPER, SIDE FEED	19
-	1	1	1	1	1	1	2119806-1	INSERT, SHEAR	13
-	1	1	1	1	1	1	3-22280-3	SPRING, COMPRESSION	12
-	1	1	1	1	1	1	1-356885-5	STOP, SHEAR	11
1	-	1	1	1	1	1	2119805-1	SHEAR HOLDER, FRONT	10
1	-	1	1	1	1	1	318707-1	FLOATING SHEAR, FRONT	9
1	2	2	1	1	1	1	2-1333202-7	ANVIL, COMBINATION	8
-	-	-	-	-	-	-	-	-	7
-	-	-	-	-	-	-	-	-	6
-	1	1	1	1	1	1	2119781-1	DEPRESSOR, SHEAR	5
-	1	1	1	1	1	1	238011-1	BLOCK, CRIMPER SPACER	4
1	2	2	1	1	1	1	2-2119784-6	CRIMPER, INSULATION O PREMIUM	3
-	-	-	-	-	-	-	-	-	2
1	2	2	1	1	1	1	1-456403-3	CRIMPER, WIRE PREMIUM	1

ITEM NO	PART NO	DESCRIPTION
-77	-72	-71
-52	-51	-2
-1		

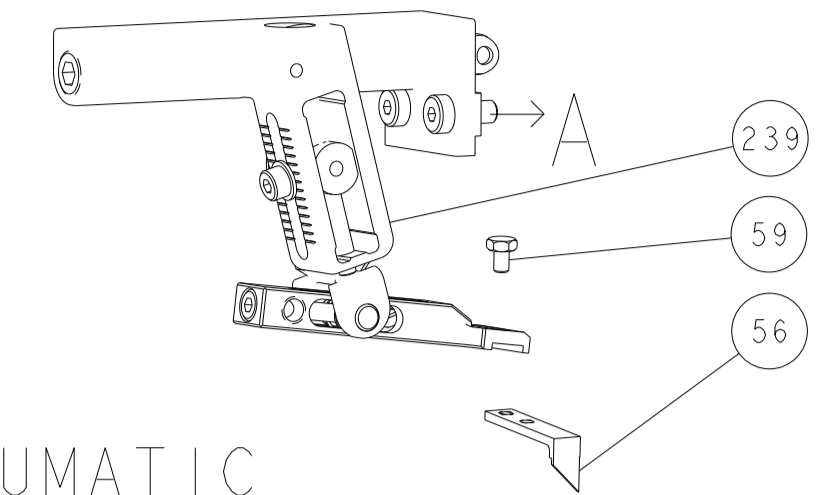
OWN	C. CHEN	04DEC2012
CHK	S. XI	04DEC2012
APVD	J. CRUZ	04DEC2012

TE Connectivity	Harrisburg, PA 17105-3608
Ocean Side Feed Applicator	
SIZE	A1
CAGE CODE	00779
DRAWING NO	2151840
RESTRICTED TO	

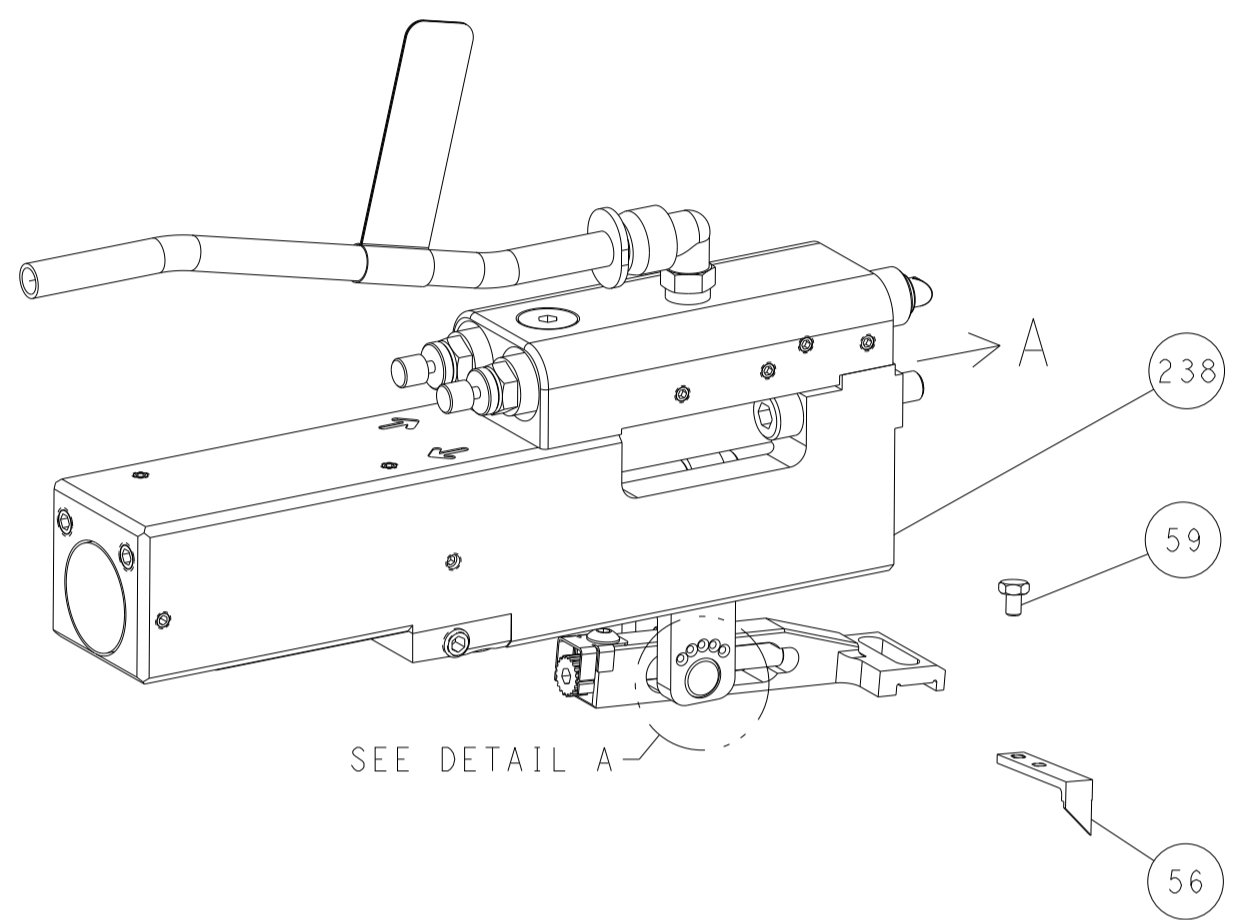
Customer Accessible Production Drawing SCALE 1:2 SHEET 1 OF 4 REV D1

LOC	DIST	REVISIONS					
		P	LTN	DESCRIPTION	DATE	DWN	APVD
A	66	-	-	SEE SHEET 1	-	-	-

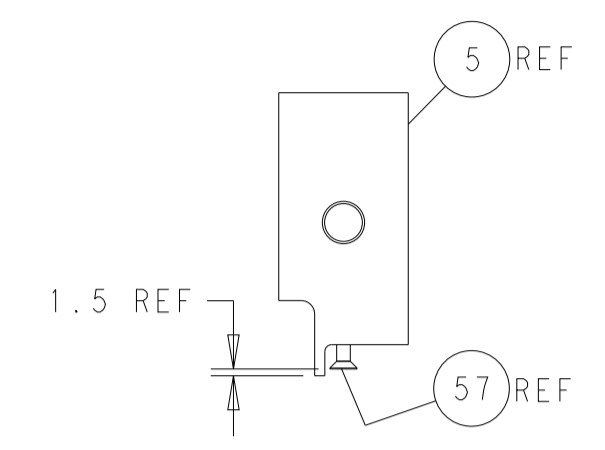
FEED TYPE MECHANICAL



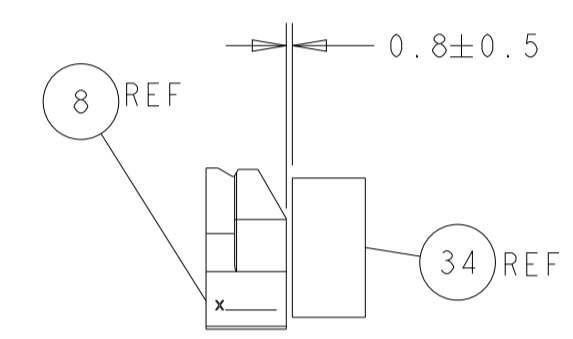
PNEUMATIC



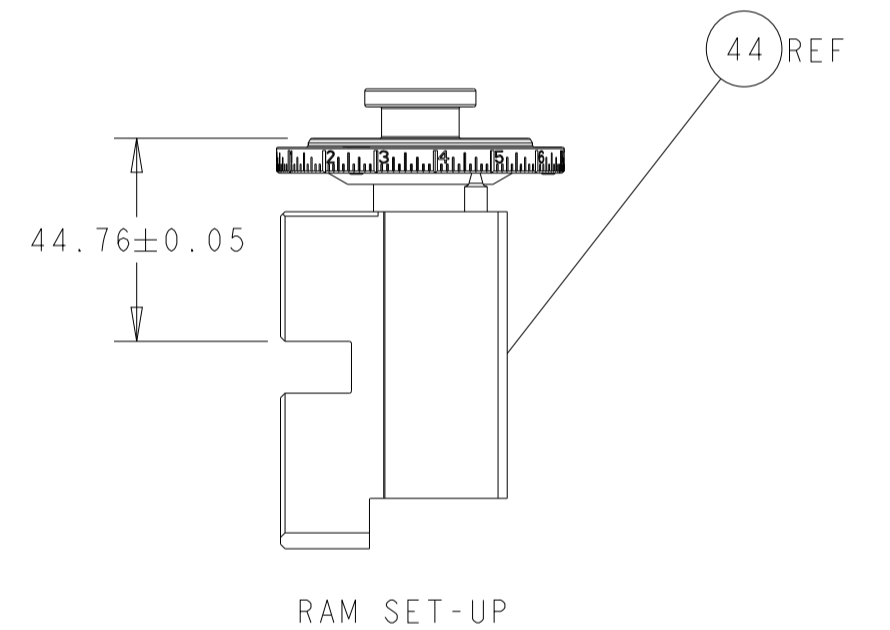
FEED SPRING SETTING POSITION (SHOWN FROM REAR SIDE)



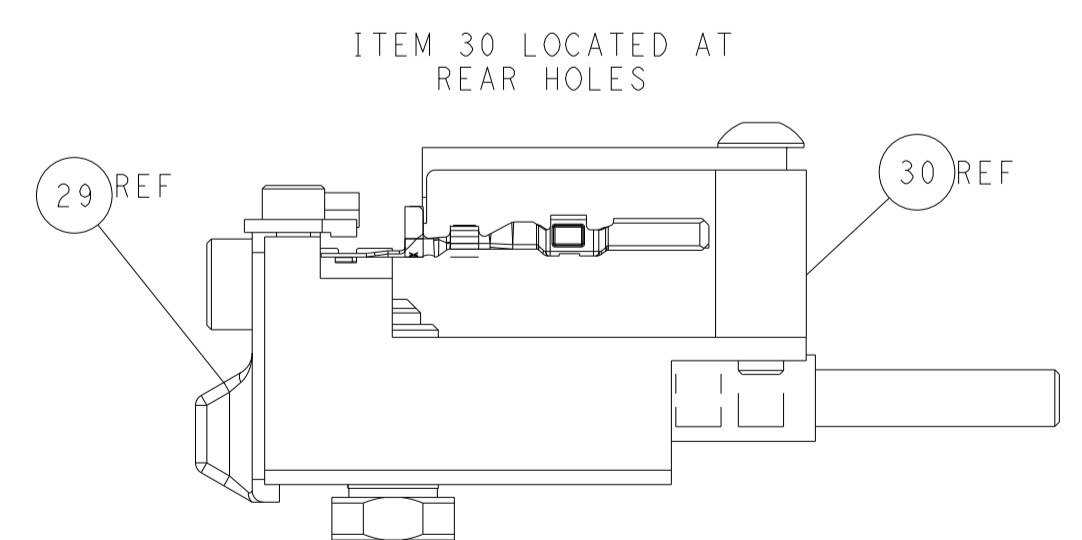
SHEAR DEPRESSOR DETAIL



TERMINAL SUPPORT LOCATION

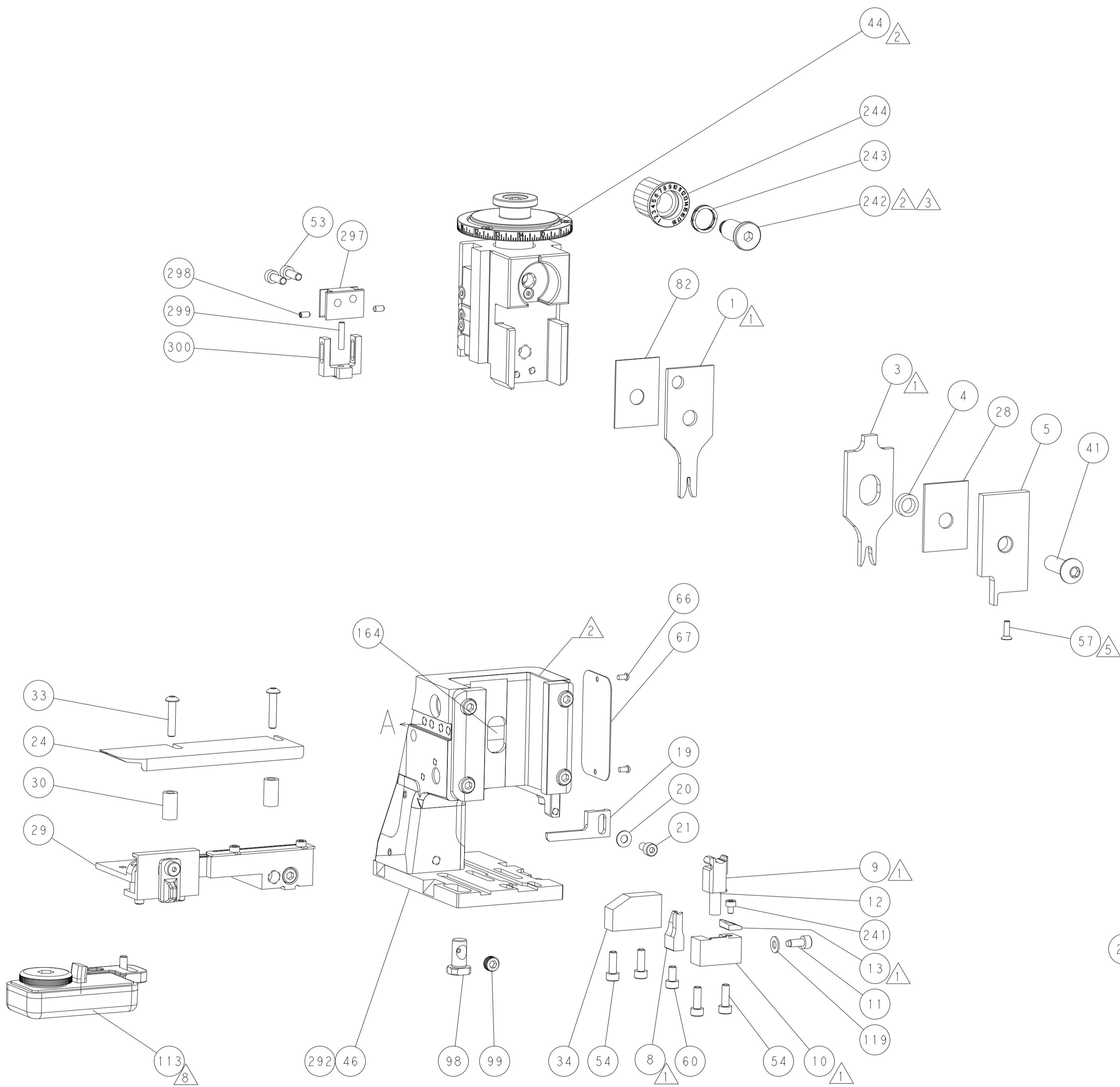
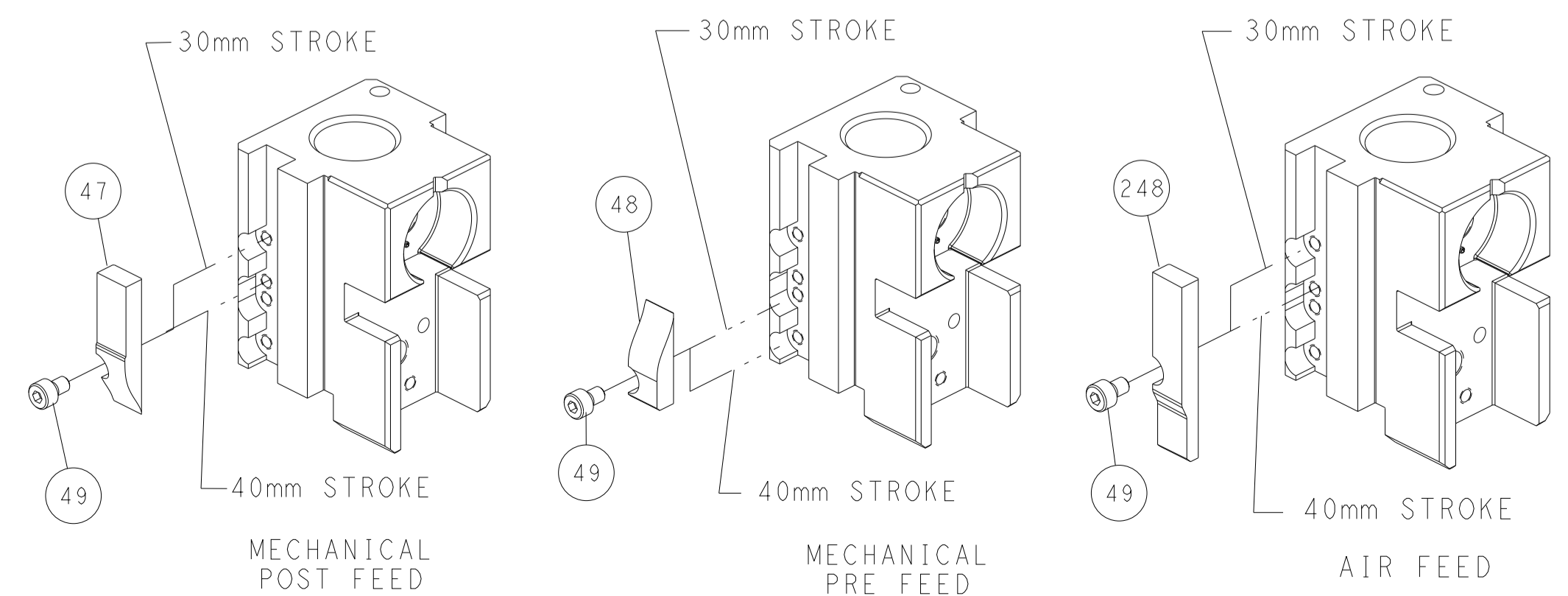


RAM SET-UP



FEED TRACK POSITION GUIDE BY INSULATION BARREL

CAM POSITIONS



ATLANTIC VERSION
 Shown on sheets 1 of 4 & 2 of 4
 (Pacific version shown on sheets 3 of 4 & 4 of 4)

<small>THIS DRAWING IS UNPUBLISHED. RELEASED FOR PUBLICATION. ALL RIGHTS RESERVED. THIS DRAWING IS CONTROLLED DOCUMENT. THIS ELECTRONIC CORPORATION IS THE PROPRIETOR OF ALL RIGHTS IN THIS DRAWING. REPRODUCTION OR TRANSMISSION OF THIS DRAWING WITHOUT THE WRITTEN PERMISSION OF THIS CORPORATION IS STRICTLY PROHIBITED.</small>		DWN C. CHEN 04DEC2012 CHK S. XI 04DEC2012 APVD J. CRUZ 04DEC2012	TE Connectivity Harrisburg, PA 17105-3608
DIMENSIONS: mm TOLERANCES UNLESS OTHERWISE SPECIFIED: 0 PLC ± 1 PLC ± 2 PLC ± 3 PLC ± 4 PLC ± ANGLES FINISH ±		NAME Ocean Side Feed Applicator PRODUCT SPEC APPLICATION SPEC WEIGHT SCALE 1:2	SIZE CAGE CODE DRAWING NO. RESTRICTED TO A1 00779 ©=2151840 SHEET 2 OF 4 REV D1
MATERIAL:		Customer Accessible Production Drawing	

PART NUMBER	REVISION	DESCRIPTION	FEED TYPE
2-2151840-1	D	FINE CRIMP HEIGHT ADJUST	MECHANICAL
2-2151840-2	D	FINE CRIMP HEIGHT ADJUST	PNEUMATIC
7-2151840-7	A	CRIMP TOOLING KIT	-

PACIFIC VERSION TERMINATOR
INTERFACE ADAPTER



APPLICATOR DATA		
CRIMP	SIZE	TYPE
WIRE	1.57 mm [.062]	F
INSUL	3.94 mm [.155]	O

APPLICATOR INSTRUCTIONS
408-35042

TERMINAL DATA: TE TERMINAL		TE CRIMP SPECIFICATION	
TERMINAL NAME: TAB 2.8 X 0.8			
WIRE STRIP LENGTH		INSULATION DIAMETER RANGE	
3.70-4.30 mm [.146-.169 IN]		∅ 3.4mm [.134 IN] MAX	7
TERMINAL APPLICATION SPECIFICATION	114-18051	-	-
TERMINALS APPLIED 8			
TE TERMINAL	TE TERMINAL	TE SEAL	TE SEAL
1-965982-1	1-965982-3	828904	
		CABLE DIAMETER	
		∅ 1.2-2.1mm 7	

TERMINAL DATA: TE TERMINAL		TE CRIMP SPECIFICATION	
TERMINAL NAME: AMP MCP 2.8K FLAT TYPE RECEPTACLE			
WIRE STRIP LENGTH		INSULATION DIAMETER RANGE	
.171-.186 IN [4.34-4.72 mm]		∅ 3.4mm [.134 IN] MAX	7
TERMINAL APPLICATION SPECIFICATION	114-18051	-	-
TERMINALS APPLIED 8			
TE TERMINAL	TE TERMINAL	TE SEAL	TE SEAL
5-965982-1	5-965982-3	828904	
		CABLE DIAMETER	
		∅ 1.2-2.1mm 7	

WIRE SIZE	CRIMP HEIGHT mm [INCH]	CRIMP HEIGHT REFERENCE SETTING
0.50mm2	1.12 +/- 0.03 [.044 +/- .001]	5.5
0.35mm2	1.05 +/- 0.03 [.041 +/- .001]	6.3
0.25mm2	1.00 +/- 0.03 [.039 +/- .001]	6.8
0.20mm2	0.98 +/- 0.03 [.039 +/- .001]	7.0

WIRE SIZE	CRIMP HEIGHT mm [INCH]	CRIMP HEIGHT REFERENCE SETTING
0.50mm2	1.08 +/- 0.03 [.043 +/- .001]	4.2
0.35mm2	1.02 +/- 0.03 [.040 +/- .001]	4.8

- 1 RECOMMENDED SPARE PARTS
- 2 REFER TO SUPPLIED INSTRUCTION SHEET FOR CLEANING, LUBRICATION AND STORAGE OF APPLICATOR.
- 3 APPLY PART NUMBER 2-23419-6 LOCTITE TO THREADS OF ITEM 242.
- 4 CRIMP HEIGHT REFERENCE SETTING WAS THE SETTING USED WHEN THE APPLICATOR WAS QUALIFIED AT THE FACTORY. ADJUSTMENT MAY BE NECESSARY WHEN RUNNING APPLICATOR IN THE FIELD.
- 5 APPLY TORO-SEAL IN ALLEN SOCKET TO FILL HOLE AFTER FLAT HD HAS BEEN ADJUSTED TO CORRECT HEIGHT AT QUALIFICATION. APPLY #1-23419-5 LOC-TITE TO THREADS.
- 6 UNLESS SPECIFIED OTHERWISE TORQUE VALUES SHALL BE USED PER DOCUMENT, 101-35000.
- 7 INSULATION RANGLE QUOTED IS THAT OF THE TERMINAL. THE SEAL INSULATION RANGE IS 1.2-2.1mm [.047-.083 IN.]
- 8 TERMINAL LUBRICANT IS RECOMMENDED.

***WARNING**
ON INSTALLATION, SET WIRE DISC TO CRIMP HEIGHT REFERENCE SETTING FOR LARGEST WIRE SIZE. CRIMP HEIGHT REFERENCE SETTINGS GREATER THAN THE VALUE SHOWN MAY CAUSE DAMAGE TO THE CRIMP TOOLING. REFER TO THE INSTRUCTION SHEET FOR PROPER SETUP AND ADJUSTMENTS.

PACIFIC VERSION
Shown on sheets 3 of 4 & 4 of 4
(Atlantic version shown on sheets 1 of 4 & 2 of 4)

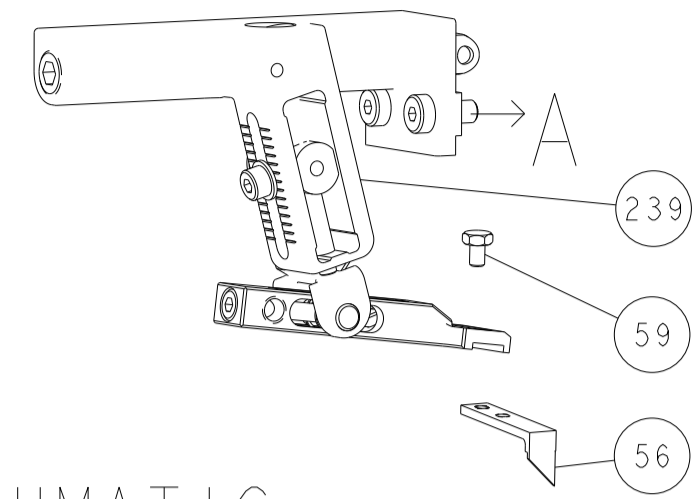
LOC	DIST	REVISIONS					
A	66	P	LTN	DESCRIPTION	DATE	OWN	APVD
-	-	-	-	SEE SHEET 1	-	-	-

-	1	1	1803945-4	TONKER	300
-	1	1	22278-9	SPRING, COMPRESSION	299
-	2	2	4-18032-3	SCR, SET, FLT PNT, M3 X 6.0	298
-	1	1	1803944-1	SPACER, TONKER	297
-	1	1	2119082-9	CAM, SNAIL, INSULATION ADJUSTMENT	244
-	1	1	2079764-1	WASHER, WAVE SPRING, CREST-TO-CREST	243
-	1	1	2119083-1	RETAINER, INSULATION DIAL	242
-	1	1	7-18023-7	SCR, SKT HD CAP M3 X 4.0	241
-	-	1	2119580-1	MECHANICAL FEED ASSEMBLY	239
-	1	-	2844940-1	AIR FEED MODULE	238
-	REF	REF	994970-2	COUNTER, MAGNETIC	164
-	1	-	2119641-2	FEED CAM, AIR FEED	151
-	1	1	2168083-8	SCR, SKT HD CAP, RoHS, M4 X 16	144
-	4	4	2168083-9	SCR, SKT HD CAP, RoHS, M4 X 20	143
-	-	1	2119653-2	FEED CAM, POST FEED	142
-	1	1	1-1803583-0	APPLICATOR BASIC ASSEMBLY, SF	141
-	1	1	1803516-1	RAM ASSEMBLY, SF PACIFIC	140
-	1	1	1-18028-2	WASHER, FLAT, REG M4	119
-	1	1	2119955-1	ASSY, LUBRICATOR, SIDE FEED	113
-	1	1	2844908-1	SCREW, LOCKING	99
-	1	1	2844907-1	POST, LOCKING	98
-	1	1	455888-7	SPACER, CRIMPER	82
-	1	1	1803607-3	DOCUMENTATION PACKAGE	71
-	1	1	2119740-1	TAG, IDENTIFICATION	67
-	2	2	2168078-1	SCREW, DRIVE, RH, RoHS, 2 x .188	66
-	1	1	5-18022-5	SCR, HEX HD CAP, M4 X 6.0	59
-	1	1	985575-3	SCR, FLT SKT HD CAP M3 X 10.0	57
-	1	1	1338685-1	PAWL, FEED	56
-	2	2	2168083-3	SCR, SKT HD CAP, RoHS, M4 X 12.0	53
-	1	2	18023-9	SCR, SKT HD CAP M4 X 6.0	49
-	-	1	2119652-1	FEED CAM, PRE FEED	48
-	1	1	1803602-1	SCR, BHSC, RoHS (M8 X 25)	41
-	1	1	1-1752356-7	SUPPORT, TERMINAL	34
-	2	2	2079383-5	SCR, BHSC, RoHS (M4 X 20)	33
-	2	2	2-2844962-8	SPACER, CYLINDRICAL, STRIP GUIDE	30
-	1	1	2844992-2	ASSEMBLY, STRIP GUIDE	29
-	1	1	1-455888-4	SPACER, CRIMPER	28
-	1	1	1320928-2	STRIP GUIDE	24
-	1	1	2168083-2	SCR, SKT HD CAP, RoHS, M4 X 8.0	21
-	1	1	1-18028-2	WASHER, FLAT, REG M4	20
-	1	1	2119533-1	STRIPPER, SIDE FEED	19
-	1	1	2119806-1	INSERT, SHEAR	13
-	1	1	3-22280-3	SPRING, COMPRESSION	12
-	1	1	1-356885-5	STOP, SHEAR	11
-	1	1	2119805-1	SHEAR HOLDER, FRONT	10
-	1	1	318707-1	FLOATING SHEAR, FRONT	9
-	1	1	2-1333202-7	ANVIL, COMBINATION	8
-	-	-	-	-	7
-	-	-	-	-	6
-	1	1	2119781-1	DEPRESSOR, SHEAR	5
-	1	1	238011-1	BLOCK, CRIMPER SPACER	4
-	1	1	2-2119784-6	CRIMPER, INSULATION O PREMIUM	3
-	-	-	-	-	2
-	1	1	1-456403-3	CRIMPER, WIRE PREMIUM	1
-77	-22	-21	PART NO	DESCRIPTION	ITEM NO

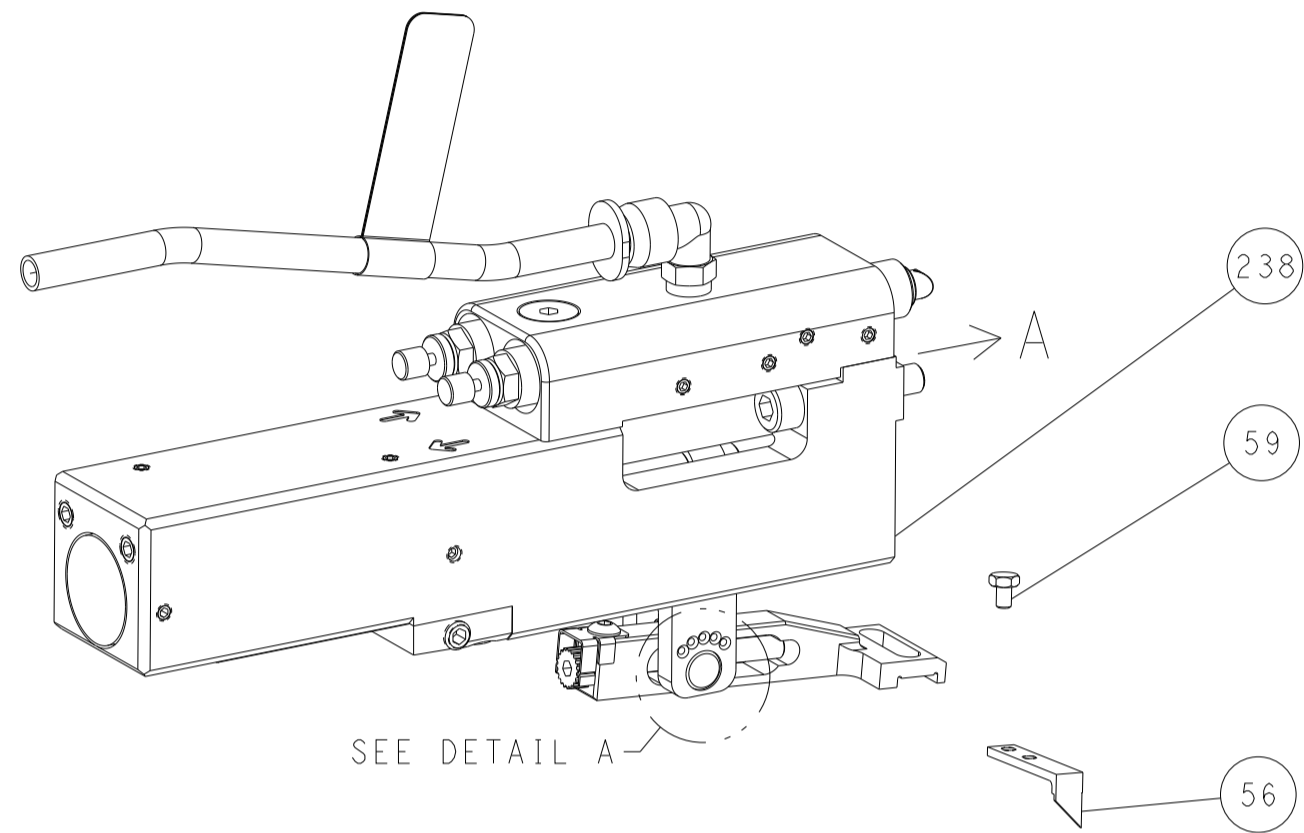
DIMENSIONS:		TOLERANCES UNLESS OTHERWISE SPECIFIED:		DWG: C.CHEN 04DEC2012		CHK: S.XI 04DEC2012		APVD: J.CRUIZ 04DEC2012		NAME: Ocean Side Feed Applicator	
mm		0 PLC ±		SIZE: A1		CAGE CODE: 00779		DRAWING NO: C=2151840		RESTRICTED TO: -	
MATERIAL: -		FINISH: -		WEIGHT: -		SCALE: 1:2		SHEET: 3 OF 4		REV: D1	

Customer Accessible Production Drawing

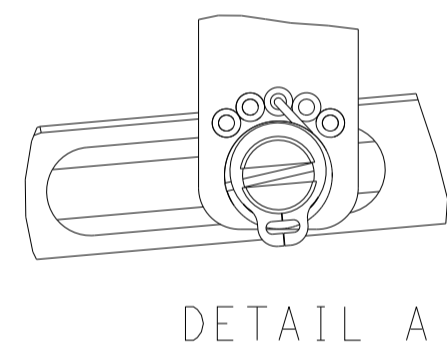
FEED TYPE MECHANICAL



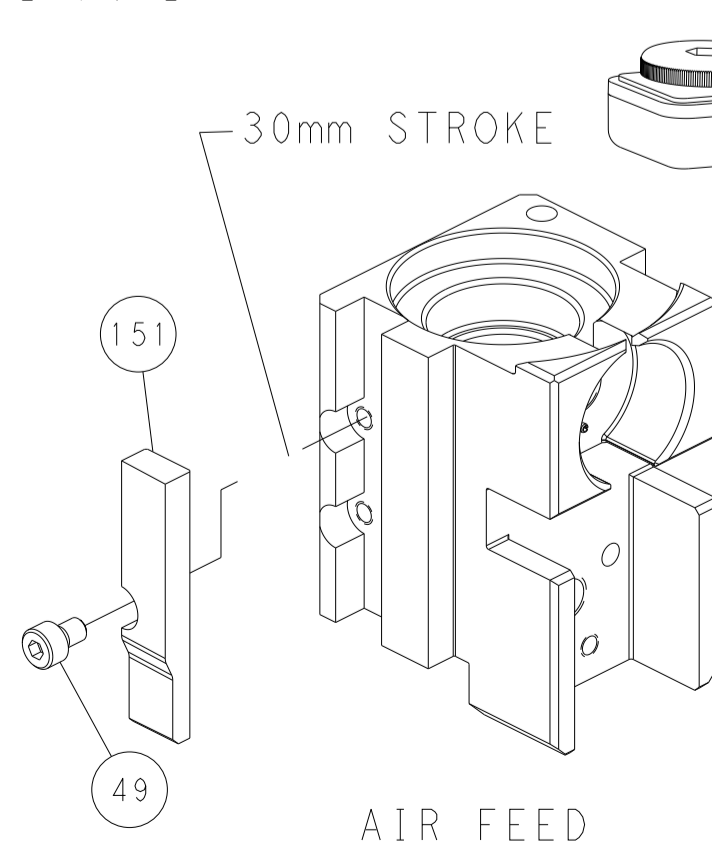
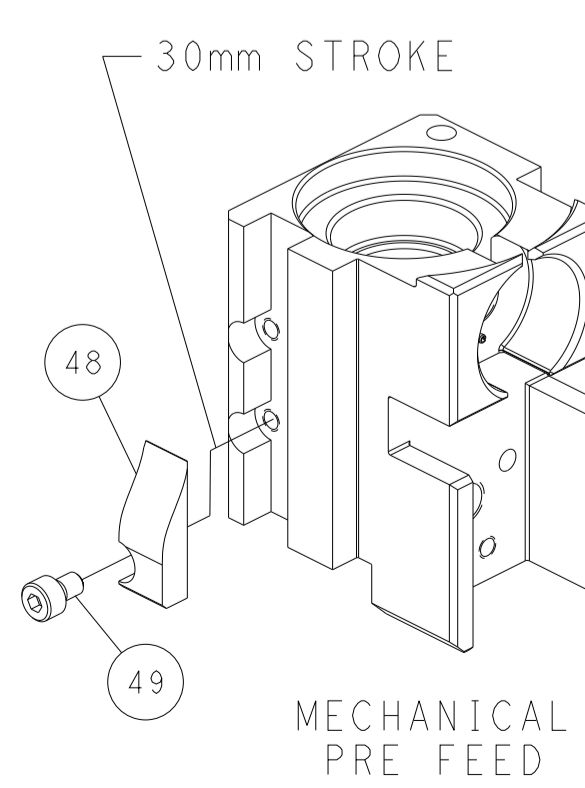
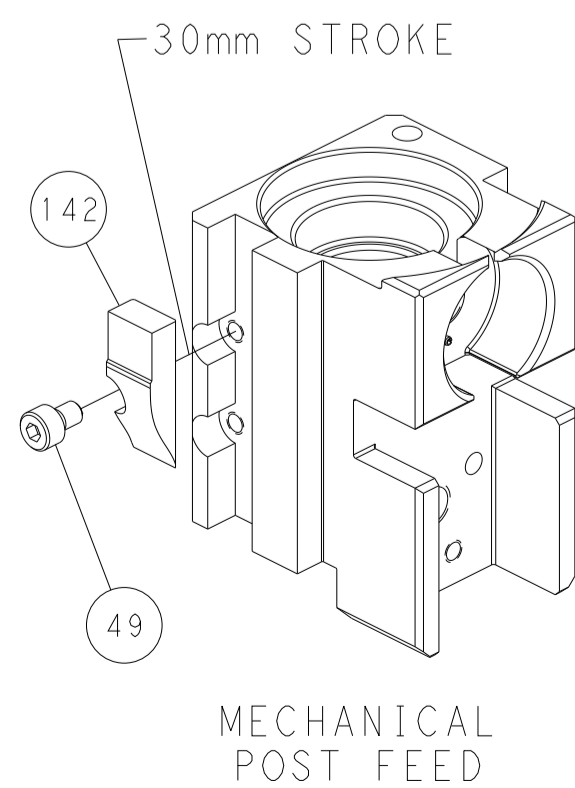
PNEUMATIC



FEED SPRING SETTING POSITION (SHOWN FROM REAR SIDE)

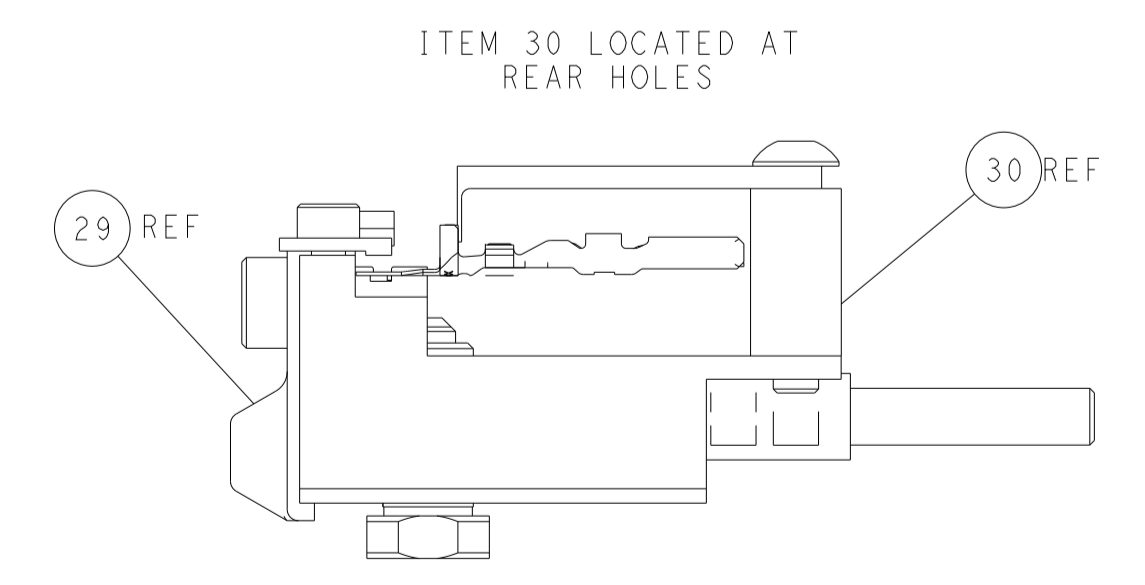
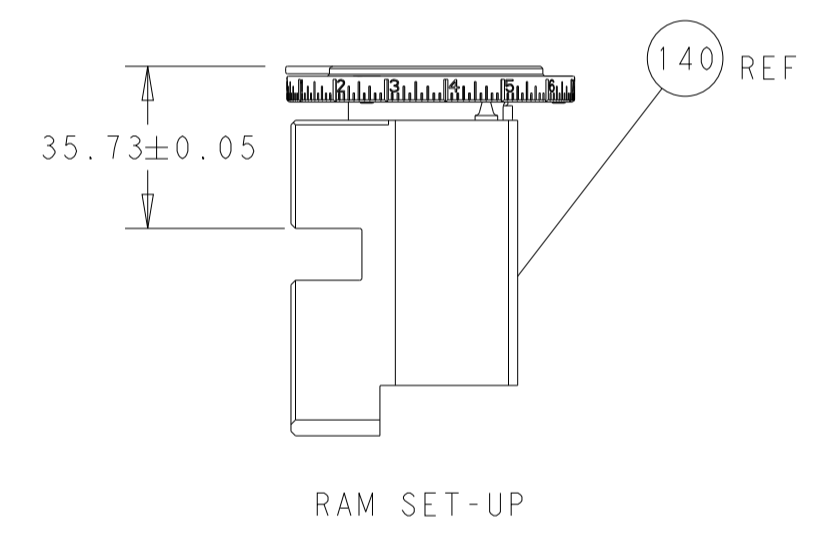
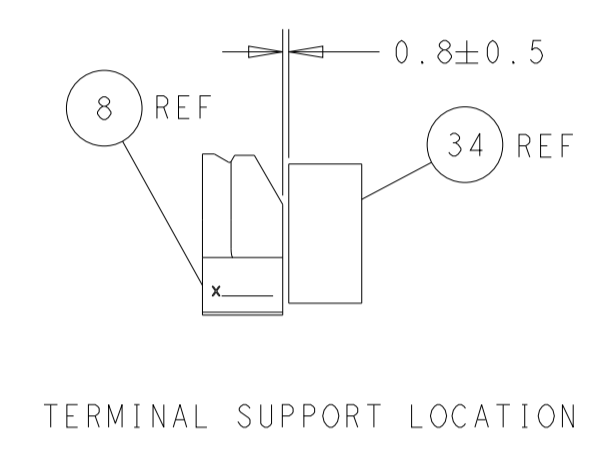
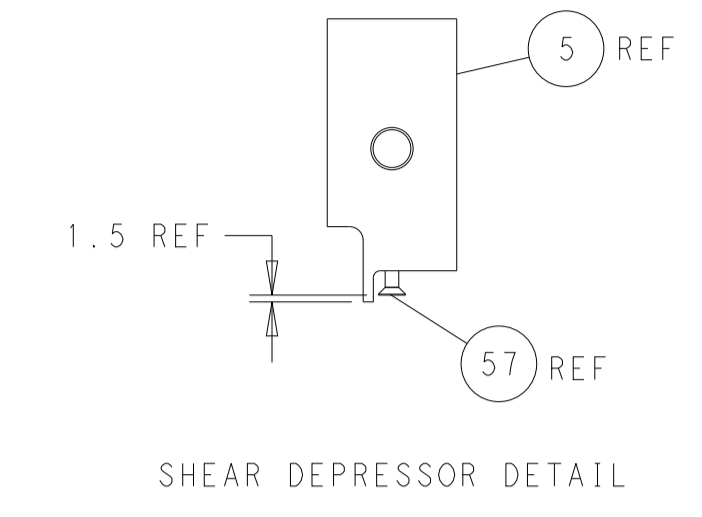


CAM POSITIONS



PACIFIC VERSION
Shown on sheets 3 of 4 & 4 of 4
(Atlantic version shown on sheets 1 of 4 & 2 of 4)

LOC	DIST	REVISIONS					
A	66	P	LTN	DESCRIPTION	DATE	DWN	APVD
		-		SEE SHEET 1	-	-	-



<small>THIS DRAWING IS UNPUBLISHED. RELEASED FOR PUBLICATION 20</small> <small>BY TYCO ELECTRONICS CORPORATION. ALL RIGHTS RESERVED.</small>		<small>THIS DRAWING IS UNPUBLISHED. RELEASED FOR PUBLICATION 20</small> <small>BY TYCO ELECTRONICS CORPORATION. ALL RIGHTS RESERVED.</small>		<small>THIS DRAWING IS UNPUBLISHED. RELEASED FOR PUBLICATION 20</small> <small>BY TYCO ELECTRONICS CORPORATION. ALL RIGHTS RESERVED.</small>		<small>THIS DRAWING IS UNPUBLISHED. RELEASED FOR PUBLICATION 20</small> <small>BY TYCO ELECTRONICS CORPORATION. ALL RIGHTS RESERVED.</small>		<small>THIS DRAWING IS UNPUBLISHED. RELEASED FOR PUBLICATION 20</small> <small>BY TYCO ELECTRONICS CORPORATION. ALL RIGHTS RESERVED.</small>		
DIMENSIONS: mm		TOLERANCES UNLESS OTHERWISE SPECIFIED: 0 PLC ± 1 PLC ± 2 PLC ± 3 PLC ± 4 PLC ± ANGLES ± FINISH		DWN C. CHEN 04DEC2012 CHK S. XI 04DEC2012 APVD J. CRUZ 04DEC2012 PRODUCT SPEC APPLICATION SPEC		NAME Ocean Side Feed Applicator		SIZE CAGE CODE DRAWING NO A1 00779 C-2151840		RESTRICTED TO -
MATERIAL:		WEIGHT:		SCALE: 1:2		SHEET 4 OF 4		REV D1		

SHEETS 1 & 2 ARE NOT REQUIRED FOR PACIFIC VERSION