



MCP01-120 Bell 212 Eagle Single Master Caution Panel ASM-MCP01 Installation and Operation Manual Supplement

This supplement contains installation and operation information that is unique to the MCP01-120 Bell 212 Eagle Single MCP. Installation and operation information common to the MCP01-000 base unit can be found in the ASM-MCP01 Installation and Operation Manual.

Prepared By:  Kris Erickson Designer June 18, 2019	Checked By:  Adam Pembleton Designer June 19, 2019	 Tom Betzelt Product Support Manager June 20th, 2019	Approved By:  Ron Briggs R&D Mgr Designate 02-Jul-19
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Section 1.0 Description

The MCP01-120 Bell 212 Eagle Single MCP is identical to the MCP01-000 with the following exceptions:

- a) Changes to the legend text and front panel as shown in Figure 1.

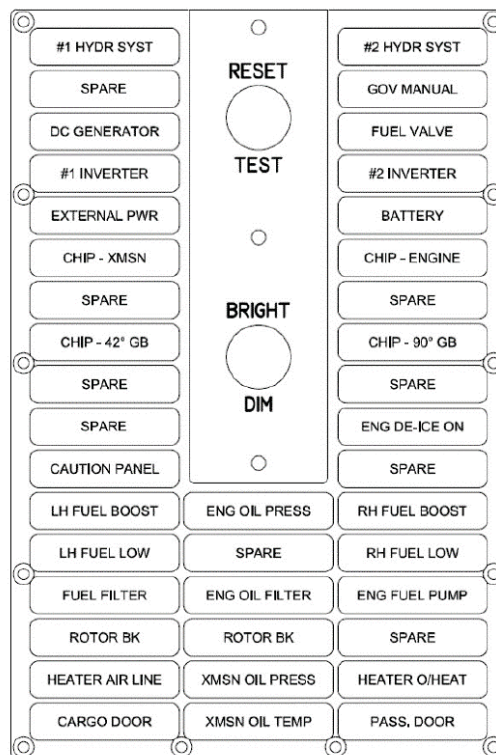


Figure 1.

- b) Legend positions 23 (LH FUEL LOW), 25 (RH FUEL LOW), 29 (FUEL FILTER), and 31 (ENG FUEL PUMP) are changed to yellow colour text with black background. Legend positions 24 (ENG OIL PRESS) and 32 (ROTOR BK) are changed to black text with red background.
- c) Backlighting (PANEL LIGHT CONT) is configured for +28Vdc and legend position 3 (SPARE) is configured as a NEG trigger.



MCP01-120 Bell 212 Eagle Single Master Caution Panel ASM-MCP01 Installation and Operation Manual Supplement

- d) The MCP01-SR State Recorder subassembly and associated mounting hardware is removed. Any references to the State Recorder are not applicable.
- e) The external 9-pin D-sub connector locking hardware is removed and a 9-pin D-sub cap is installed.

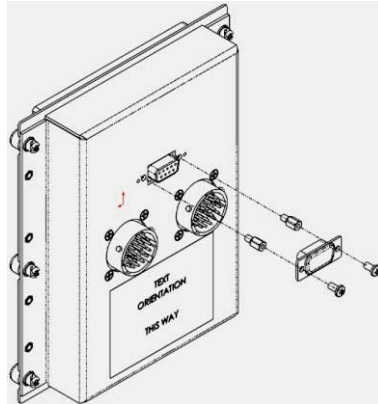


Figure 2.

Section 2.0 Installation

For installation information and drawings, see ASM-MCP01 Section 2.0. Select the appropriate revision of the drawing for the serial number of the unit. The drawings specific to this derivative are listed below and can be found at the end of this supplement.

2.1 Installation Drawings

DOCUMENT	REV.	DESCRIPTION	TYPE	SERIAL NO.
MCP01-120-403-0	1.10	B212 Eagle Single MCP	Interconnect	1011 and Up
MCP01-120-404-0	1.10	B212 Eagle Single MCP	Configuration Settings	1090 and Up
MCP01-120-405-0	1.10	B212 Eagle Single MCP	Connector Map	1011 and Up
MCP01-120-922-0	1.00	B212 Eagle Single MCP	Mechanical Installation	1011 and Up

Section 3.0 Operation

For operation information, see ASM-MCP01 Section 3.0.

End of Supplement

MCP01-120 INSTALLATION NOTES

NOTES:

1. THE MCP01-120 IS INTENDED TO BE INSTALLED IN THE SINGLE ENGINE BELL 212 HELICOPTER, AS A DIRECT REPLACEMENT FOR THE ORIGINAL GRIMES MASTER CAUTION PANEL. THE MCP01-120 IS A "PLUG AND PLAY" DEVICE, AND IS INTENDED TO BE CONNECTED TO THE EXISTING MCP WIRING HARNESS IN THE HELICOPTER WITHOUT ANY MODIFICATIONS TO SAME.
2. THE INTERCONNECT INFORMATION SHOWN ON PAGE 2 AND 3 ARE FOR REFERENCE ONLY, AND PROVIDE INFORMATION TO ASSOCIATE THE SPECIFIC PLUG AND PIN NUMBER TO ITS ASSOCIATED MCP01-120 LEGEND POSITION. PLEASE REFER TO THE APPLICABLE B212 WIRING DIAGRAM FOR COMPLETE INFORMATION.
3. THIS DOCUMENT IS ALSO APPLICABLE TO MCP01-120N.

DEFINITIONS:

N/C:	NO CONNECTION. THE PIN IS <u>NOT</u> CONNECTED TO ANYTHING INTERNALLY, AND THEREFORE SHALL HAVE NO CONNECTION EXTERNALLY.
N/C SPARE:	NO CONNECTION INTERNALLY, BUT A SPARE WIRE SHALL BE INSTALLED IN THE WIRE HARNESS.
RESERVED:	MAY BE CONNECTED AND USED IN THE FUTURE. THE CIRCUITRY MAY BE PRESENT OR ADDED TO ACTIVATE THE FUNCTION. THE PIN MAY BE USED FOR TEST PURPOSES. <u>THERE IS NO EXTERNAL CONNECTION.</u>
RESERVED SPARE: (RSV SP)	RESERVED, BUT INSTRUCTIONS SHALL BE FOLLOWED TO ACTIVATE THE CIRCUITRY. A SPARE WIRE SHALL BE INSTALLED IN THE WIRE HARNESS.

	NAME	DATE	UNLESS OTHERWISE SPECIFIED:	 ANODYNE ELECTRONICS MANUFACTURING CORP.				KELOWNA BC CANADA (250)-763-1088 WWW.AEM-CORP.COM			
DRAWN	NB	19-OCT-17	DIMENSIONS ARE IN INCHES [MM] TOLERANCES: FRACTIONAL _____ ±0.0625" ANGULAR _____ ±0.5° TWO DECIMAL PLACE _____ ±0.010" THREE DECIMAL PLACE _____ ±0.005"	TITLE: BELL 212 EAGLE SINGLE MCP INTERCONNECT							
CHECKED		23-OCT-17								PAPER SIZE: A	
APPROVED		Oct 24/17	MATERIAL: N/A FINISH: N/A	SCALE: 1:1		DO NOT SCALE DRAWING		DRAWING No.: 403-0		SHEET: 1 of 3	
CONFIDENTIAL AND PROPRIETARY THE INFORMATION CONTAINED IN THIS DRAWING IS THE SOLE PROPERTY OF ANODYNE ELECTRONICS MANUFACTURING. ANY REPRODUCTION IN PART OR AS A WHOLE WITHOUT THE WRITTEN PERMISSION OF ANODYNE ELECTRONICS MANUFACTURING IS PROHIBITED.											

MCP01-120
J1

P43
26 PIN FEMALE CIRCULAR
MATING CONNECTOR

(SPARE)	POS 3	A		
(#1 HYDR SYST)	POS 1	B		
(DC GENERATOR)	POS 5	C		
(#1 INVERTER)	POS 7	D		
(EXTERNAL PWR)	POS 9	E		
(CHIP - XMSN)	POS 11	F		
(SPARE)	POS 13	G		
(CHIP - 42° GB)	POS 15	H		
(SPARE)	POS 17	J		
(SPARE)	POS 19	K		
(CAUTION PANEL)	POS 21	L		
(LH FUEL BOOST)	POS 23	M		
(ENG OIL PRESS)	POS 24	N		
(LH FUEL LOW)	POS 26	P		
(SPARE)	POS 27	R		
(FUEL FILTER)	POS 29	S		
(ENG OIL FILTER)	POS 30	T		
(ROTOR BK)	POS 32	U		
(ROTOR BK)	POS 33	V		
(HEATER AIR LINE)	POS 35	W		
(XMSN OIL PRESS)	POS 36	X		
(CARGO DOOR)	POS 38	Y		
(XMSN OIL TEMP)	POS 39	Z		
	RESET	a		
CAUTION PANEL FAIL IN		b		
CAUTION PANEL FAIL OUT		c		

SEE APPLICABLE
EXISTING AIRCRAFT
WIRING DIAGRAM

	NAME	DATE	UNLESS OTHERWISE SPECIFIED:	ANODYNE ELECTRONICS MANUFACTURING CORP. KELOWNA BC CANADA (250)-763-1088 WWW.AEM-CORP.COM			
DRAWN	NB	19-OCT-17	DIMENSIONS ARE IN INCHES [MM] TOLERANCES: FRACTIONAL _____ ±0.0625" ANGULAR _____ ±0.5° TWO DECIMAL PLACE _____ ±0.010" THREE DECIMAL PLACE _____ ±0.005"	TITLE: BELL 212 EAGLE SINGLE MCP INTERCONNECT			
CHECKED		23-OCT-17		PAPER SIZE: A	CAGE CODE: L9015	PART No.: MCP01-120	REVISION: 1.10
APPROVED		Oct 24/17		SCALE: 1:1	DO NOT SCALE DRAWING	DRAWING No.: 403-0	SHEET: 2 of 3
CONFIDENTIAL AND PROPRIETARY THE INFORMATION CONTAINED IN THIS DRAWING IS THE SOLE PROPERTY OF ANODYNE ELECTRONICS MANUFACTURING. ANY REPRODUCTION IN PART OR AS A WHOLE WITHOUT THE WRITTEN PERMISSION OF ANODYNE ELECTRONICS MANUFACTURING IS PROHIBITED.			MATERIAL: N/A FINISH: N/A				

MCP01-120
J2

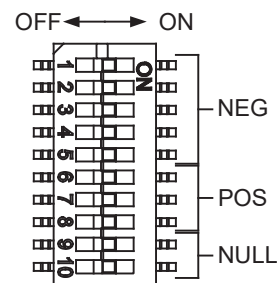
P42
26 PIN 60° FEMALE CIRCULAR
MATING CONNECTOR

(GOV MANUAL)	POS 4	A
(#2 HYDR SYST)	POS 2	B
(FUEL VALVE)	POS 6	C
(#2 INVERTER)	POS 8	D
(BATTERY)	POS 10	E
(CHIP - ENGINE)	POS 12	F
(SPARE)	POS 14	G
(CHIP - 90° GB)	POS 16	H
(SPARE)	POS 18	J
(ENG DE-ICE ON)	POS 20	K
(SPARE)	POS 22	L
(RH FUEL BOOST)	POS 25	M
(RH FUEL LOW)	POS 28	N
(ENG FUEL PUMP)	POS 31	P
(SPARE)	POS 34	R
(HEATER O/HEAT)	POS 37	S
(PASS. DOOR)	POS 40	T
TEST 1		U
TEST 2		V
DIMMING RELAY		W
MASTER CAUTION LT OUT		X
SYSTEM GND		Y
SYSTEM POWER IN		Z
EXT GND DIM CKT CONT		a
PANEL LIGHT CONT		b
TEST 3		c

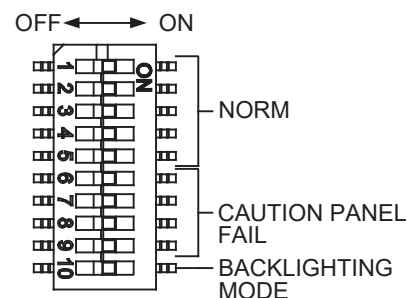
SEE APPLICABLE
EXISTING AIRCRAFT
WIRING DIAGRAM

	NAME	DATE	UNLESS OTHERWISE SPECIFIED:	 ANODYNE ELECTRONICS MANUFACTURING CORP.			KELOWNA BC CANADA (250)-763-1088 WWW.AEM-CORP.COM	
DRAWN	NB	19-OCT-17	DIMENSIONS ARE IN INCHES [MM]	TITLE: BELL 212 EAGLE SINGLE MCP INTERCONNECT				
CHECKED		23-OCT-17	TOLERANCES:					
APPROVED		Oct 24/17	FRACTIONAL _____ ±0.0625"					
			ANGULAR _____ ±0.5°					
			TWO DECIMAL PLACE _____ ±0.010"	PAPER SIZE: A	CAGE CODE: L9015	PART No.: MCP01-120		REVISION: 1.10
			THREE DECIMAL PLACE _____ ±0.005"	SCALE: 1:1	DO NOT SCALE DRAWING		DRAWING No.: 403-0	
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			FINISH: N/A					

LEGEND CONFIGURATION				
LEGEND POSITION	CONFIGURATION DIP SWITCH	TRIGGER TYPE	SWITCHES ON	SWITCHES OFF
1	S1004	NEG	1, 2, 3, 4, 5	6, 7, 8, 9, 10
2	S1008	NEG	1, 2, 3, 4, 5	6, 7, 8, 9, 10
3	S1005	NEG	1, 2, 3, 4, 5	6, 7, 8, 9, 10
4	S1009	NULL	9, 10	1, 2, 3, 4, 5, 6, 7, 8
17	S1006	NULL	9, 10	1, 2, 3, 4, 5, 6, 7, 8
18	S1010	NULL	9, 10	1, 2, 3, 4, 5, 6, 7, 8
19	S1007	NEG	1, 2, 3, 4, 5	6, 7, 8, 9, 10
20	S1011	NEG	1, 2, 3, 4, 5	6, 7, 8, 9, 10
21	S1012	NEG	1, 2, 3, 4, 5	6, 7, 8, 9, 10
22	S1015	NEG	1, 2, 3, 4, 5	6, 7, 8, 9, 10
28	S1016	NEG	1, 2, 3, 4, 5	6, 7, 8, 9, 10
34	S1017	NULL	9, 10	1, 2, 3, 4, 5, 6, 7, 8
35	S1013	NEG	1, 2, 3, 4, 5	6, 7, 8, 9, 10
36	S1018	NEG	1, 2, 3, 4, 5	6, 7, 8, 9, 10
38	S1014	NEG	1, 2, 3, 4, 5	6, 7, 8, 9, 10
39	S1019	NEG	1, 2, 3, 4, 5	6, 7, 8, 9, 10
40	S1020	NEG	1, 2, 3, 4, 5	6, 7, 8, 9, 10

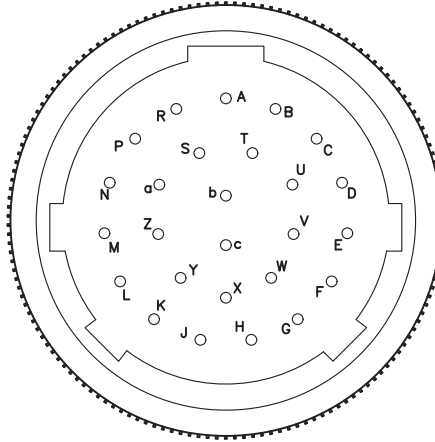


MODE CONFIGURATION			
POSITION 21 MODE	CONFIGURATION DIP SWITCH	SWITCHES ON	SWITCHES OFF
CAUTION PANEL FAIL	S2000	6, 7, 8, 9	1, 2, 3, 4, 5
BACKLIGHTING MODE	CONFIGURATION DIP SWITCH	SWITCHES ON	SWITCHES OFF
+28 VDC	S2000	N/A	10

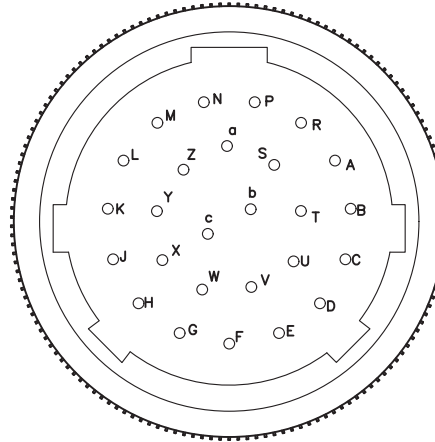


NAME	DATE	UNLESS OTHERWISE SPECIFIED:	 ANODYNE ELECTRONICS MANUFACTURING CORP. KELOWNA BC CANADA (250)-763-1088 WWW.AEM-CORP.COM							
DRAWN	KE	18-JUN-19				DIMENSIONS ARE IN INCHES TOLERANCES: FRACTIONAL ± 0.5 Deg ANGULAR: MACH $\pm$ BEND $\pm$ TWO PLACE DECIMAL ± 0.01 THREE PLACE DECIMAL ± 0.005				
CHECKED		19-JUN-19				TITLE:				
APPROVED		02-Jul-19				MCP01-120 CONFIGURATION SETTINGS				
PROPRIETARY AND CONFIDENTIAL		INTERPRET GEOMETRIC TOLERANCING PER:	SIZE A							
THE INFORMATION CONTAINED IN THIS DRAWING IS THE SOLE PROPERTY OF ANODYNE ELECTRONICS MANUFACTURING. ANY REPRODUCTION IN PART OR AS A WHOLE WITHOUT THE WRITTEN PERMISSION OF ANODYNE ELECTRONICS MANUFACTURING IS PROHIBITED.		MATERIAL					CAGE CODE		PART No.	REV
		FINISH					L9015			
		DO NOT SCALE DRAWING					DRAWING No.: 404-0			
			SCALE: 1:1		SHEET 1 of 1					

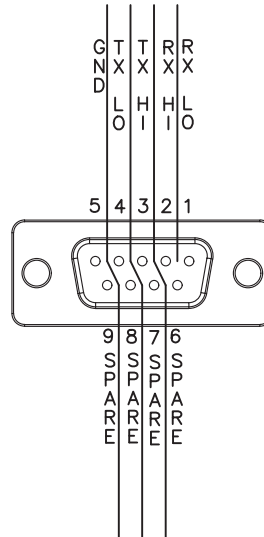
P43
26 PIN FEMALE CONTACT CIRCULAR
MATING CONNECTOR



P42
26 PIN 60° FEMALE CONTACT CIRCULAR
MATING CONNECTOR



P3
9 PIN MALE CONTACT DSUB
MATING CONNECTOR



CONNECTOR P3 NOT APPLICABLE

A	POS 3 (SPARE)
B	POS 1 (#1 HYDR SYST)
C	POS 5 (DC GENERATOR)
D	POS 7 (#1 INVERTER)
E	POS 9 (EXTERNAL PWR)
F	POS 11 (CHIP - XMSN)
G	POS 13 (SPARE)
H	POS 15 (CHIP - 42° GB)
J	POS 17 (SPARE)
K	POS 19 (SPARE)
L	POS 21 (CAUTION PANEL)
M	POS 23 (LH FUEL BOOST)
N	POS 24 (ENG OIL PRESS)
P	POS 26 (LH FUEL LOW)
R	POS 27 (SPARE)
S	POS 29 (FUEL FILTER)
T	POS 30 (ENG OIL FILTER)
U	POS 32 (ROTOR BK)
V	POS 33 (ROTOR BK)
W	POS 35 (HEATER AIR LINE)
X	POS 36 (XMSN OIL PRESS)
Y	POS 38 (CARGO DOOR)
Z	POS 39 (XMSN OIL TEMP)
a	RESET
b	CAUTION PANEL FAIL IN
c	CAUTION PANEL FAIL OUT

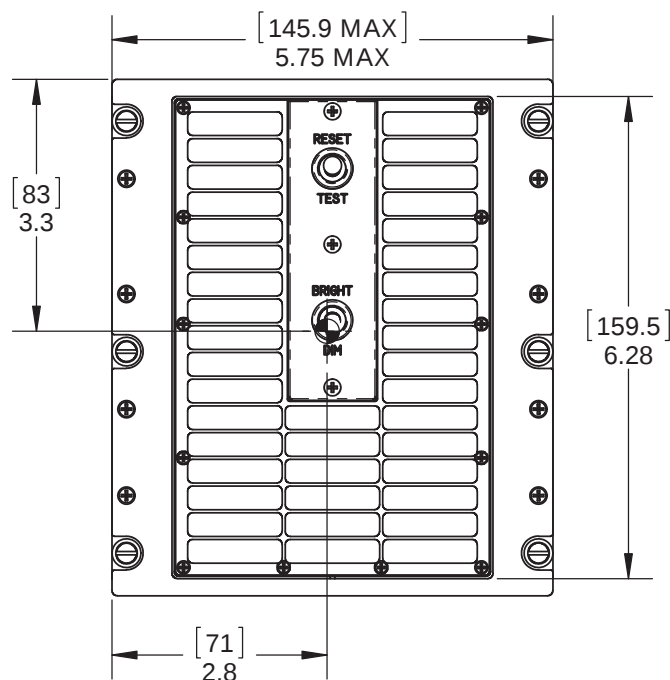
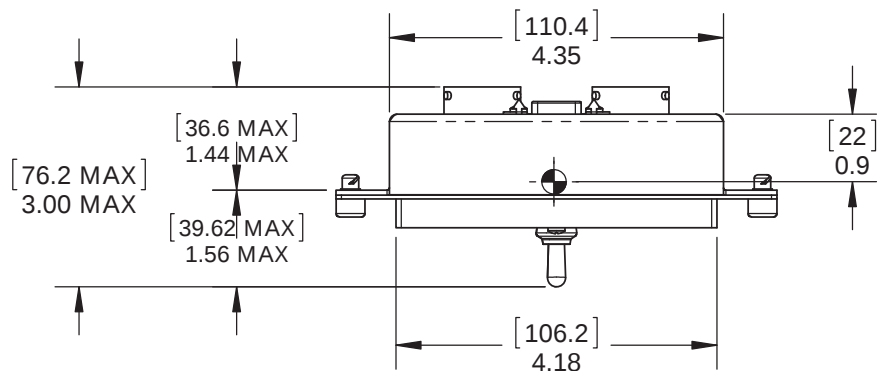
A	POS 4 (GOV MANUAL)
B	POS 2 (#2 HYDR SYST)
C	POS 6 (FUEL VALVE)
D	POS 8 (#2 INVERTER)
E	POS 10 (BATTERY)
F	POS 12 (CHIP - ENGINE)
G	POS 14 (SPARE)
H	POS 16 (CHIP - 90° GB)
J	POS 18 (SPARE)
K	POS 20 (ENG DE-ICE ON)
L	POS 22 (SPARE)
M	POS 25 (RH FUEL BOOST)
N	POS 28 (RH FUEL LOW)
P	POS 31 (ENG FUEL PUMP)
R	POS 34 (SPARE)
S	POS 37 (HEATER O/HEAT)
T	POS 40 (PASS. DOOR)
U	TEST 1
V	TEST 2
W	DIMMING RELAY
X	MASTER CAUTION LT OUT
Y	SYSTEM GND
Z	SYSTEM POWER IN
a	EXT GND DIM CKT CONT
b	PANEL LIGHT CONT
c	TEST 3

THE FOLLOWING PART NUMBER(S)
ARE APPLICABLE TO THIS DOCUMENT:

- 1) MCP01-120
- 2) MCP01-120N

VIEW IS FROM REAR OF AIRFRAME CONNECTOR

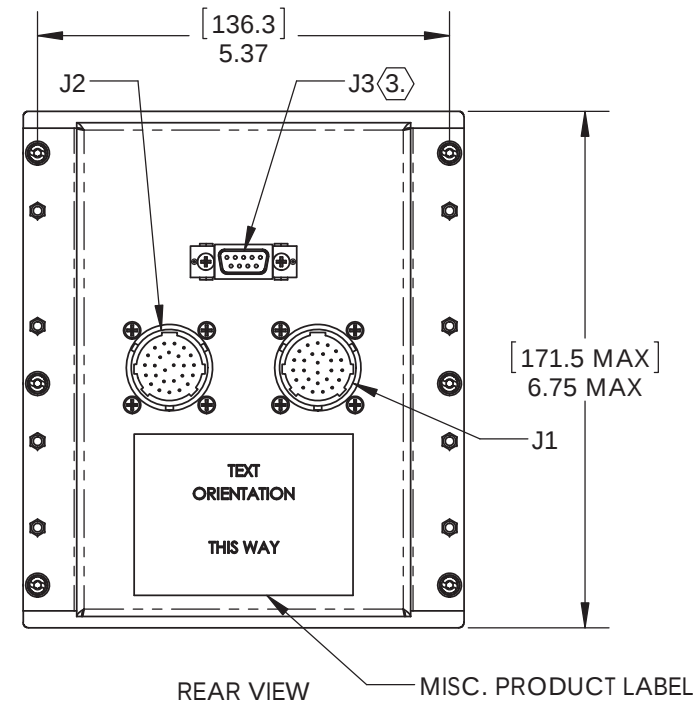
NAME	DATE	UNLESS OTHERWISE SPECIFIED:	 ANODYNE ELECTRONICS MANUFACTURING CORP.				KELOWNA BC CANADA (250)-763-1088 WWW.AEM-CORP.COM
DRAWN	NB	19-OCT-17	DIMENSIONS ARE IN INCHES [MM]	TITLE: BELL 212 EAGLE SINGLE MCP CONNECTOR MAP			
CHECKED		24-OCT-17	FRACTIONAL _____ ±0.0625"				
APPROVED		Oct 24/17	ANGULAR _____ ±0.5°				
			TWO DECIMAL PLACE _____ ±0.010"				
			THREE DECIMAL PLACE _____ ±0.005"				
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			FINISH:				
			N/A				
			N/A				
				SCALE: 1:1 DO NOT SCALE DRAWING DRAWING No.: 405-0 SHEET: 1 of 1			



NOTES:

*** THIS DOCUMENT IS APPLICABLE TO BOTH MCP01-12X & MCP01-12XN UNITS ***

1. WEIGHT: 1.75 lbs MAX [0.80 kg MAX]
2.  DENOTES CENTER OF GRAVITY EST.
3. J3 NOT FUNCTIONAL. CONNECTOR DUST CAP INSTALLED.



	NAME	DATE	UNLESS OTHERWISE SPECIFIED:
DRAWN	LAC	03-Mar-16	DIMENSIONS ARE IN INCHES [MM]
CHECKED		04-Mar-16	TOLERANCES:
APPROVED		Apr 14/16	ANGULAR ±0.5°
CONFIDENTIAL AND PROPRIETARY THE INFORMATION CONTAINED IN THIS DRAWING IS THE SOLE PROPERTY OF ANODYNE ELECTRONICS MANUFACTURING. ANY REPRODUCTION IN PART OR AS A WHOLE WITHOUT THE WRITTEN PERMISSION OF ANODYNE ELECTRONICS MANUFACTURING IS PROHIBITED.			FRACTIONAL ±0.0625"
			ONE DECIMAL PLACE ±0.100"
			TWO DECIMAL PLACE ±0.030"
			THREE DECIMAL PLACE ±0.010"
			MATERIAL:
			N/A
			FINISH:
			N/A



**ANODYNE
ELECTRONICS
MANUFACTURING CORP.**

15-1925 KIRSCHNER RD.
KELOWNA BC V1Y 4N7
(250)-763-1088
WWW.AEM-CORP.COM

TITLE:

**BELL 212 EAGLE SINGLE MCP
MECHANICAL INSTALLATION**

PAPER SIZE:	CAGE CODE	PART No. :	REVISION
A	L9015	MCP01-120	1.00
SCALE: 2:5	DO NOT SCALE DRAWING	DRAWING No. : 922-0	SHEET: 1 OF 1