COM UNIT STRAP BOARD ASSEMBLY - REMOVAL/INSTALLATION

EFFECTIVITY: ALL

1. General

   A. This section gives the procedures to remove and install the COM Unit Strap-Board Assembly.

   B. The COM Unit Strap-Board Assembly is installed on the back side of the Integrated-Communication-Unit mounting tray.

   C. The procedures in this section are given in the sequence below. The tasks identified with (♦) are part of the Scheduled Maintenance Requirements Document (SMRD).

TASK NUMBER	*DESCRIPTION*	*EFFECTIVITY*
34-52-09-000-801-A	COM UNIT STRAP-BOARD ASSEMBLY - REMOVAL	ALL
34-52-09-400-801-A	COM UNIT STRAP-BOARD ASSEMBLY - INSTALLATION	ALL

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TASK 34-52-09-000-801-A
EFFECTIVITY: ALL

2. COM UNIT STRAP-BOARD ASSEMBLY - REMOVAL

A. General

(1) This task gives the procedures to remove the COM Unit Strap-Board Assembly.

B. References

REFERENCE	*DESIGNATION*
AMM MPP 06-41-01/100	-
AMM TASK 23-00-01-000-801-A/400	INTEGRATED COMMUNICATION UNIT - REMOVAL
AMM TASK 32-00-02-910-801-A/200	SAFETY PIN OF THE NLG DOORS SOLENOID VALVE - INSTALLATION AND REMOVAL
SB 145-34-0118	-

C. Zones and Accesses

ZONE	*PANEL/DOOR*	*LOCATION*
213	113CZ	Electronic compartment - LH upper side
214	113CZ	Electronic compartment - RH upper side

D. Tools and Equipment

Not Applicable

E. Auxiliary Items

Not Applicable

F. Consumable Materials

Not Applicable

G. Expandable Parts

Not Applicable

H. Persons Recommended

QTY	*FUNCTION*	*PLACE*
1	Does the task	Forward electronic compartment

I. Preparation

SUBTASK 841-002-A

(1) On the circuit breaker panel, open the VHF 1, VHF 2, XPDR 1, XPDR 2, INTPH 1, and INTPH 2 circuit breakers and attach a DO-NOT-CLOSE tag to them.

(2) Make sure that the landing gear safety pin is installed on the NLG (AMM TASK 32-00-02-910-801-A/200).

(3) Open access door 113CZ (AMM MPP 06-41-01/100).

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J. Removal (Figure 401)

SUBTASK 020-002-A

(1) Remove the Integrated Communication Unit from its mounting tray (AMM TASK 23-00-01-000-801-A/400) to make the access to the COM Unit Strap-Board Assembly (2) easier.

(2) (AIRCRAFT PRE-MOD SB 145-34-0118) Release the screws (4), lock washers (5), and washers (6) which attach the COM Unit Strap-Board Assembly (2) to the mounting tray.

(3) (AIRCRAFT POST-MOD SB 145-34-0118) Release the screws (4), lock washers (5), washers (6) and posts (7) which attach the COM Unit Strap-Board Assembly (2) to the mounting tray.

(4) Remove the acrylic cover (3).

CAUTION: DAMAGE TO THE COM UNIT STRAP-BOARD ASSEMBLY FROM ELECTROSTATIC DISCHARGE CAN OCCUR. GROUND YOURSELF BEFORE YOU TOUCH THE COM UNIT STRAP-BOARD ASSEMBLY. ALWAYS TOUCH IT BY THE EDGES.

(5) Carefully pull the COM Unit Strap-Board Assembly (2) out and disconnect the flat connector (1) from it.

(6) Remove the COM Unit Strap-Board Assembly (2).

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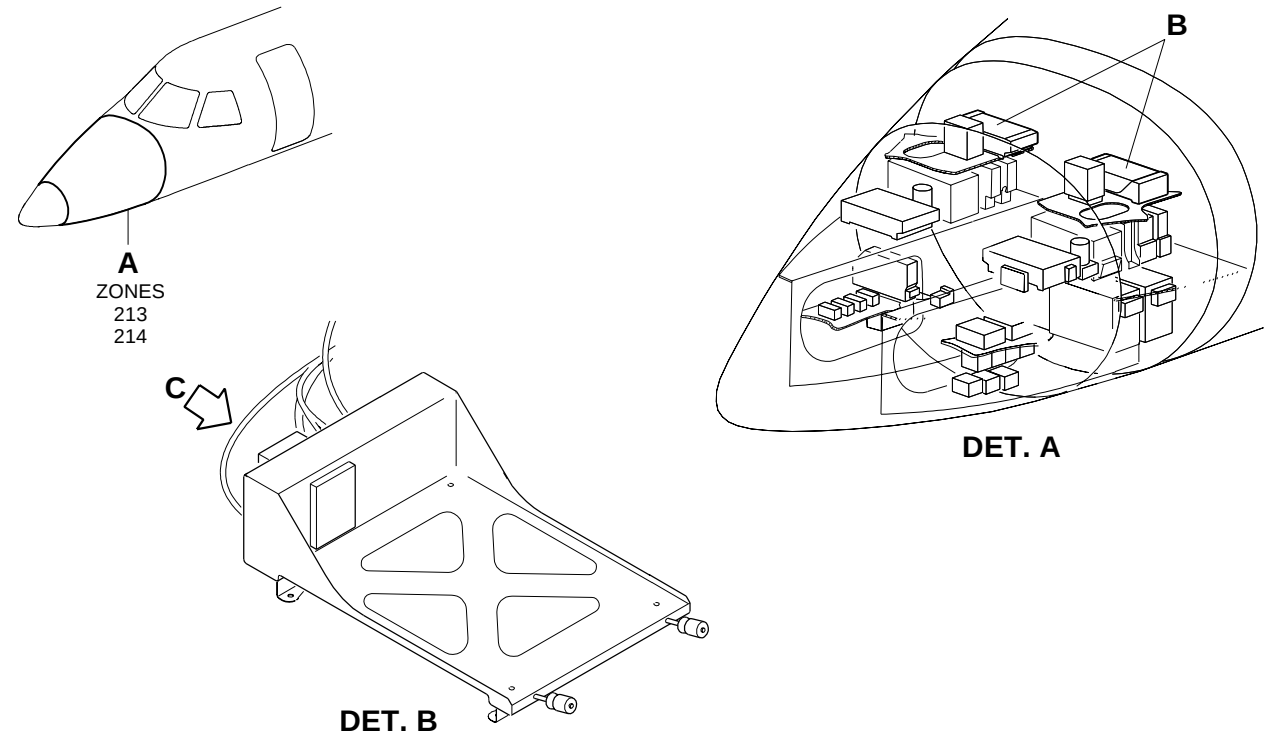
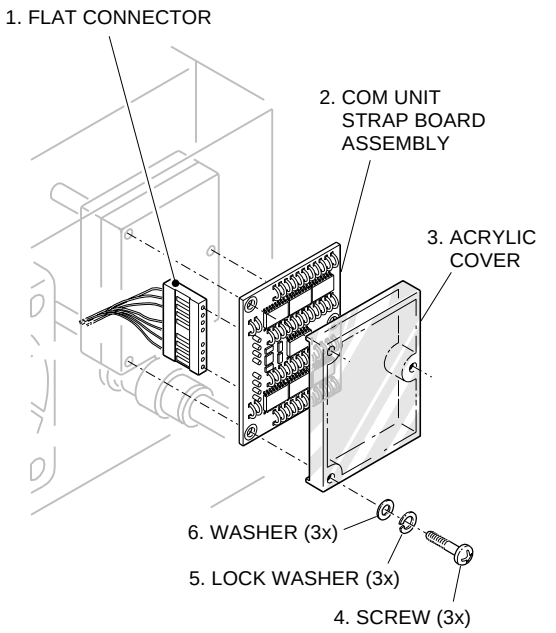
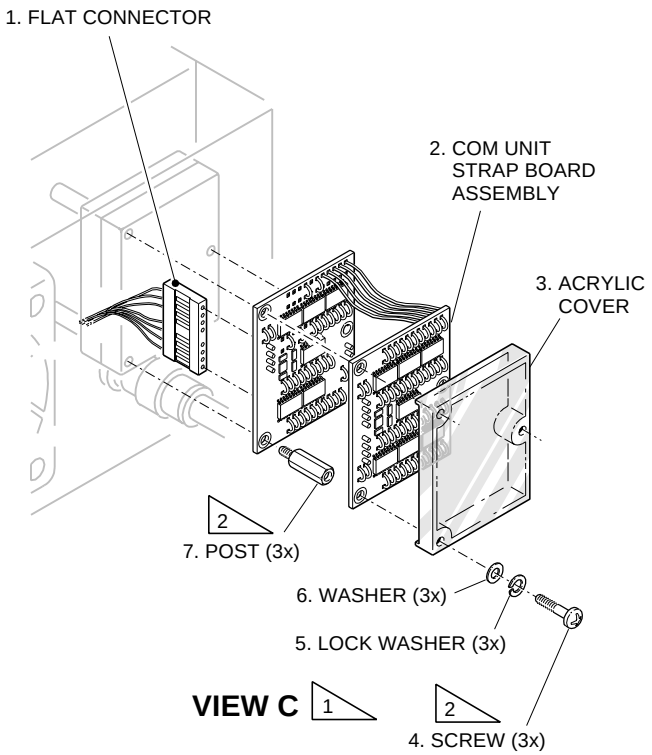
EFFECTIVITY: ALL

COM Unit Strap-Board Assembly - Removal/Installation
Figure 401





VIEW C



VIEW C 1 2

1 AIRCRAFT POST−MOD S.B. 145−34−0118

2 TORQUE: 0.23 − 0.34 N.m (2.0 − 3.0 lb.in)

EM145AMM341468A.DGN

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TASK 34-52-09-400-801-A
EFFECTIVITY: ALL

3. COM UNIT STRAP-BOARD ASSEMBLY - INSTALLATION

A. General

(1) This task gives the procedures to install the COM Unit Strap-Board Assembly and Mode-S address-code strap configuration.

B. References

REFERENCE	*DESIGNATION*
AMM MPP 06-41-01/100	-
AMM TASK 23-00-01-400-801-A/400	INTEGRATED COMMUNICATION UNIT - INSTALLATION
AMM TASK 32-00-02-910-801-A/200	SAFETY PIN OF THE NLG DOORS SOLENOID VALVE - INSTALLATION AND REMOVAL
AMM TASK 34-52-00-700-801-A/500	TRANSPONDER SYSTEM - FUNCTIONAL CHECK
SB 145-34-0118	-
WM 20-30-00	-
WM 34-90-01	-
WM 34-90-02	-
WM 34-90-03	-

C. Zones and Accesses

ZONE	*PANEL/DOOR*	*LOCATION*
213	113CZ	Electronic compartment - LH upper side
214	113CZ	Electronic compartment - RH upper side

D. Tools and Equipment

ITEM	*DESCRIPTION*	*PURPOSE*	*QTY*
Commercially available	Cutter Pliers	To cut the jumper wires	

E. Auxiliary Items

Not Applicable

F. Consumable Materials

Not Applicable

G. Expandable Parts

Not Applicable

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H. Persons Recommended

QTY	*FUNCTION*	*PLACE*
1	Does the task	Forward electronic compartment.

I. Installation (Figure 402) (Figure 403) (Figure 401)

SUBTASK 420-002-A

CAUTION: • DAMAGE TO THE COM UNIT STRAP-BOARD ASSEMBLY FROM ELECTROSTATIC DISCHARGE CAN OCCUR. GROUND YOURSELF BEFORE YOU TOUCH THE COM UNIT STRAP-BOARD ASSEMBLY. ALWAYS TOUCH IT BY THE EDGES.

• CAREFULLY CUT THE JUMPER WIRES (STRAPS) WITH THE AID OF SHARPEN CUTTER PLIERS TO PREVENT DAMAGE TO THE COM UNIT STRAP-BOARD ASSEMBLY.

(1) NOTE: If you cut the incorrect jumper wire (strap) (1), refer to Wiring Manual (WM 20-30-00) to repair the strap board.

If necessary, configure the COM Unit Strap-Board Assembly (2). Refer to the Wiring Manual (WM 34-90-01 or WM 34-90-02 or WM 34-90-03 as applicable to the related aircraft serial number). If the Wiring Manual does not have the Mode-S address code applicable to your aircraft serial number, do as follows:

NOTE: The Mode-S Transponder module has one 24-bit code (Mode-S address in binary) for each aircraft. If you do not have the Mode-S address code, tell the aviation authority of the country in which the aircraft is registered to give you the Mode-S address code. The Mode-S address code can be supplied in an octal or binary or hexadecimal mode.

(a) If you received the Mode-S address code in octal or hexadecimal mode, convert the octal or hexadecimal code into a binary number (24-bit).

1 Example: Conversion from octal to binary mode.

Octal address code = 1 2 3 4 5 6 7 0

The octal number converted to binary number is: 001 010 011 100 101 110 111 000.

Table 401

Code in Octal	1	2	3	4	5	6	7	0
Code in Binary	001	010	011	100	101	110	111	000

2 Example: Conversion from hexadecimal to binary mode.

Hexadecimal address code = 2 9 C B B 8.

The hexadecimal number converted into binary number is: 0010 1001 1100 1011 1011 1000.

Table 402

Code in Hexadecimal	2	9	C	B	B	8

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Table 402 (Continued)

Code in Binary	0010	1001	1100	1011	1011	1000

(b) (AIRCRAFT PRE-MOD SB 145-34-0118) After the code is converted into binary number, write the binary code in Mode-S address-code configuration table (3) for the jumpers (most significant bit - MSB) W32 to (least significant bit - LSB) W9. Refer to Figure 402.

(c) (AIRCRAFT POST-MOD SB 145-34-0118) After the code is converted into binary number, write the binary code in Mode-S address-code configuration table (3) for the jumpers (most significant bit - MSB) W32 to (least significant bit - LSB) W9. Refer to Figure 403.

CAUTION: Before you cut the jumper wires (straps) (1) on the COM unit strap board (2), make the Mode-S address-code configuration in the Mode-S address code configuration table (3) . Thus, you will not cut the incorrect jumper wires (straps) (1).

(d) On the code converted, on a piece of paper, configure the jumpers (straps) from W32 to W9, filling the spaces that mean bit equal to "1". You can use the Mode-S configuration table (3) to help you.

NOTE: Each binary 0 represents a grounded (not cut = blank space) strap and 1 represents an open strap (cut = filled space).

CAUTION: CUT THE JUMPER WIRES (STRAPS) (1) CAREFULLY TO PREVENT DAMAGE TO THE CIRCUIT BOARD.

(e) To configure the COM unit strap board (2), cut the jumper wires that represent the Bit "1" (filled space) in the Mode-S address-code configuration table (3). Use sharp cutter pliers to cut the jumper wires (straps) (1).

CAUTION: DO NOT CUT JUMPER WIRES (STRAPS) W3 AND W4 NOW BECAUSE THESE JUMPER WIRES (STRAPS) WILL BE CUT FOR PARITY BIT.

(f) (AIRCRAFT PRE-MOD SB 145-34-0118) Configure (cut) jumper wires (straps) W1, W2, W5 thru W8, and W33 thru W50 as configured before in the old COM unit strap board. Or you can configure (cut) them as given in WM 34-90-01 or WM 34-90-02 or WM 34-90-03, as applicable to your aircraft serial number. Refer to Figure 402.

CAUTION: DO NOT CUT JUMPER WIRES (STRAPS) W3 AND W4 NOW BECAUSE THESE JUMPER WIRES (STRAPS) WILL BE CUT FOR PARITY BIT.

(g) (AIRCRAFT POST-MOD SB 145-34-0118) Configure (cut) jumper wires (straps) W1, W2, W5 thru W8, and W33 thru W66 as configured before in the old COM unit strap board. Refer to Figure 403.

NOTE: Jumper wires (straps) W67 thru W72 are spare straps and must not be configured (do not cut them).

(h) (AIRCRAFT PRE-MOD SB 145-34-0118) After all other straps are configured, configure the strap for parity bit as follows:

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NOTE: • Do not consider jumper wires (straps) W3, W4, and W49 to W50 for the parity bit configuration.

• The parity straps (W3 or W4) are used to make sure that the straps data is valid. For you to have correct parity, cut jumper wire (strap) W3 or jumper wire (strap) W4, but do not cut the two of them.

1 Count the number of binary 0 (grounded = not cut = blank space) straps in positions W1, W2, and W5 thru W48.

a If the number of binary 0 (grounded = not cut = blank space) is EVEN, cut jumper wire (strap) W3.

b If the number of binary 0 (grounded = not cut = blank space) is ODD, cut jumper wire (strap) W4.

(i) (AIRCRAFT POST-MOD SB 145-34-0118) After all other straps are configured, configure the strap for parity bit as follows:

NOTE: • Do not consider jumper wires (straps) W3 and W4 for the parity bit configuration.

• The parity straps (W3 or W4) are used to make sure that the straps data is valid. For you to have correct parity, cut jumper wire (strap) W3 or jumper wire (strap) W4, but do not cut the two of them.

1 Count the number of binary 0 (grounded = not cut = blank space) straps in positions W1, W2, and W5 thru W72.

a If the number of binary 0 (grounded = not cut = blank space) is EVEN, cut jumper wire (strap) W3.

b If the number of binary 0 (grounded = not cut = blank space) is ODD, cut jumper wire (strap) W4.

(2) Carefully connect the flat connector (1) to the COM Unit Strap-Board Assembly (2).

(3) Put the COM Unit Strap-Board Assembly (2) in position.

(4) Put the acrylic cover (3) in position.

(5) (AIRCRAFT PRE-MOD SB 145-34-0118) Install the screws (4), lock washers (5), and washers (6) which attach the COM Unit Strap-Board Assembly (2) to the mounting tray.

(6) (AIRCRAFT POST-MOD SB 145-34-0118) Install the screws (4), lock washers (5), washers (6) and posts (7) which attach the COM Unit Strap-Board Assembly (2) to the mounting tray.

(7) (AIRCRAFT POST-MOD SB 145-34-0118) Torque the posts (7) and screws (4) to 0.23 - 0.34 N.m (2.0 - 3.0 lb.in). Refer to Figure 401.

(8) Install the Integrated Communication Unit in the mounting tray (AMM TASK 23-00-01-400-801-A/400).

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J. Follow-on

SUBTASK 842-002-A

(1) On the circuit breaker panel, remove the DO-NOT-CLOSE tag from VHF 1, VHF 2, XPDR 1, XPDR 2, INTPH 1, and INTPH2 circuit breakers and close them.

(2) On RMU 1, push the "PGE" key to get access to the "System 1 Page Menu".

(3) Push the "Maintenance" key to get access to the "Maintenance Data System 1" page.

(4) On the "Maintenance Data System 1" page, push the "Strap" key to get access to the "System 1 Strap".

(5) Push the "COM Unit" key to get access to the "COM Unit 1 System" page.

(6) Make sure that the straps are correctly cut.

(7) On the "COM Unit 1 System", push the "Return to Radios" key to go back to the normal operation.

(8) Do steps 2 thru 7 again for system 2; use RMU 2.

(9) Do the Mode S Transponder Functional Test (AMM TASK 34-52-00-700-801-A/500).

(10) Close access door 113CZ (AMM MPP 06-41-01/100).

(11) Remove the landing-gear safety pin from the NLG (AMM TASK 32-00-02-910-801-A/200).

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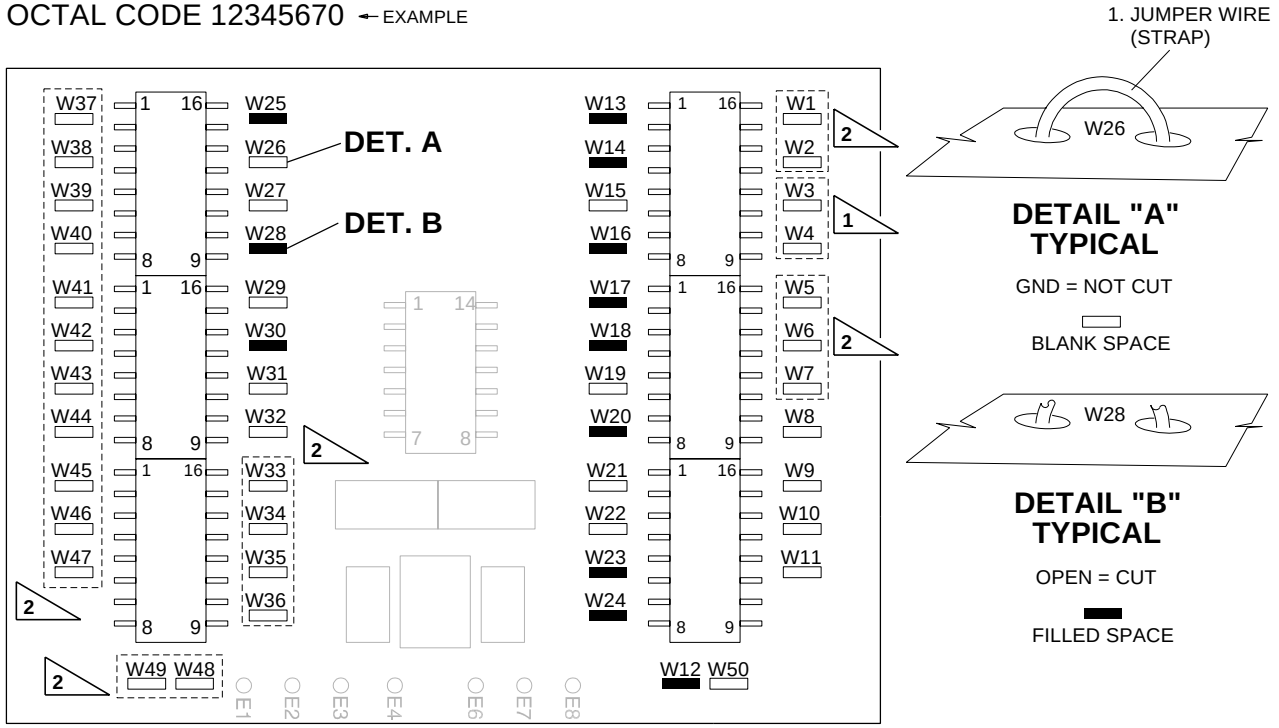
EFFECTIVITY: AIRCRAFT PRE-MOD SB 145-34-0118

Typical WM 34-90-0X Strap-Board Configuration
Figure 402



2. COM UNIT STRAP BOARD

MODE−S XPDR ADDRESS RCZ−8XX ( ) (J1162) XPDR 1 AND (J1164) XPDR2

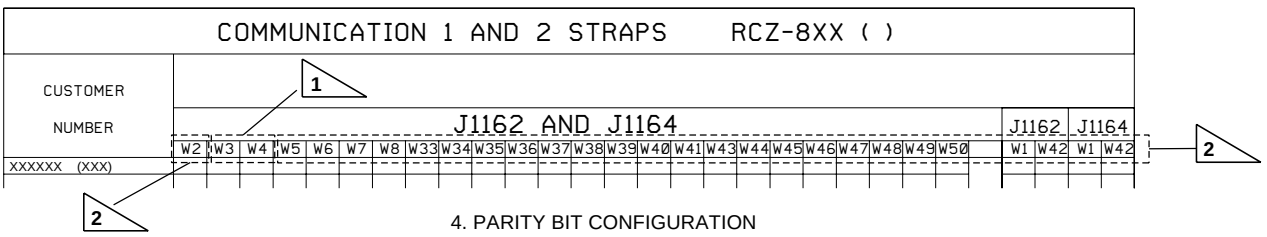
REMOVE THE JUMPER WIRES MARKED " ■ " FROM STRAPPING ASSY ACCORDING TO THE TABLE BELOW

CUSTOMER NUMBER	AIRCRAFT "N" NUMBER	MODE−S CODE	OCTAL	1			2			3			4			5			6			7			0		
			BINARY	0	0	1	0	1	0	0	1	1	1	0	0	1	0	1	1	1	0	1	1	1	0	0	0
			JUMPER	W32	W31	W30	W29	W28	W27	W26	W25	W24	W23	W22	W21	W20	W19	W18	W17	W16	W15	W14	W13	W12	W11	W10	W9
XXXXXX (XXX)	XXXXX	12345670				■		■			■	■	■			■		■	■	■		■	■	■			

← EXAMPLE

3

3. MODE−S ADDRESS CODE CONFIGURATION TABLE



4. PARITY BIT CONFIGURATION

1 STRAPS FOR PARITY BIT

2 AS PREVIOUSLY STRAPPED

3 STRAPS TO BE CONFIGURED AS MODE−S ADDRESS CODE

EM145AMM341035C.DGN

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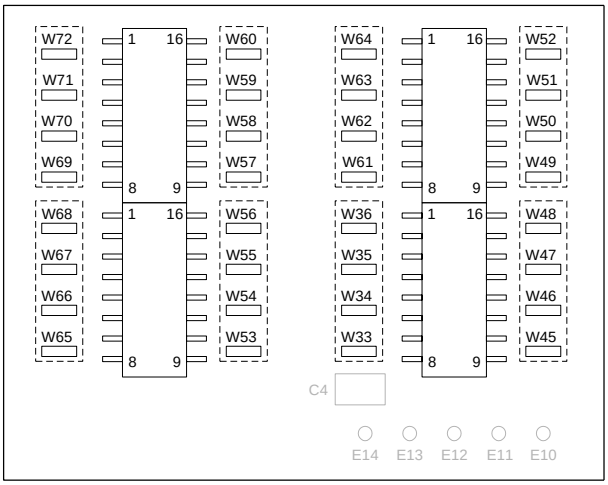
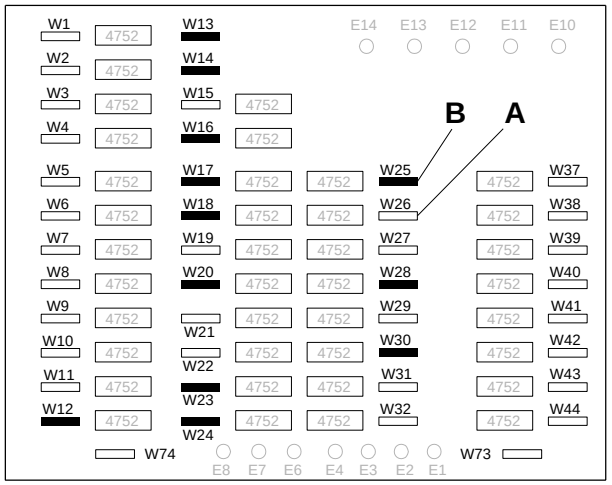
EFFECTIVITY: AIRCRAFT POST-MOD SB 145-34-0118

Typical Strap-Board Configuration
Figure 403

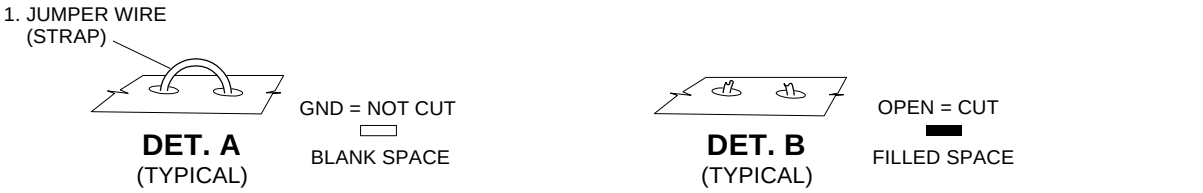
OCTAL CODE 12345670 ← EXAMPLE



2. COM UNIT STRAP BOARD



2. COM UNIT STRAP BOARD



MODE–S XPDR ADDRESS RCZ–8XX ( ) (J1162) XPDR 1 AND (J1164) XPDR2

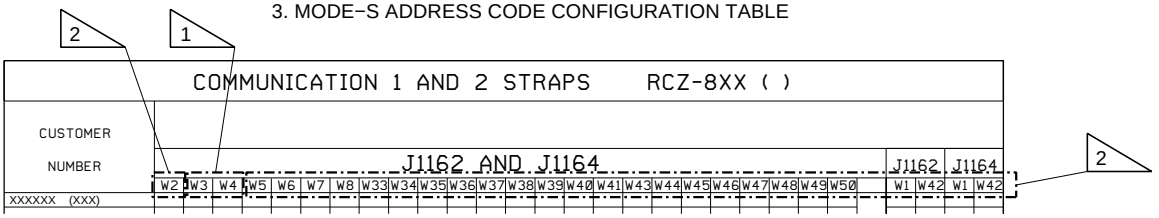
REMOVE THE JUMPER WIRES MARKED " ■ " FROM STRAPPING ASSY ACCORDING TO THE TABLE BELOW

CUSTOMER NUMBER	AIRCRAFT "N" NUMBER	MODE–S CODE	OCTAL	1			2			3			4			5			6			7			0		
			BINARY	0	0	1	0	1	0	0	1	1	1	0	0	1	0	1	1	1	0	1	1	1	0	0	0
			JUMPER	W32	W31	W30	W29	W28	W27	W26	W25	W24	W23	W22	W21	W20	W19	W18	W17	W16	W15	W14	W13	W12	W11	W10	W9
XXXXXX (XXX)	XXXXX	12345670				■		■			■	■	■			■		■	■	■		■	■	■			

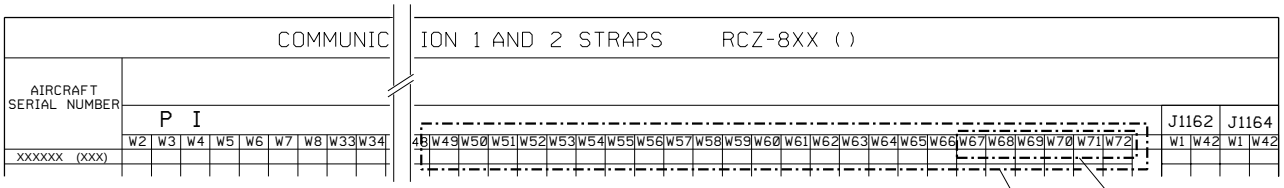
← EXAMPLE

3

3. MODE–S ADDRESS CODE CONFIGURATION TABLE



4. PARITY BIT CONFIGURATION



1 STRAPS FOR PARITY BIT.

2 AS PREVIOUSLY STRAPPED.

3 STRAPS TO BE CONFIGURED AS MODE–S ADDRESS CODE.

4 STRAPS TO CONFIGURE ADS–B CAPABILITY.

5 SPARE STRAPS.

EM145AMM341473A.DGN

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