



AIRCRAFT MAINTENANCE MANUAL

VOR/LOC ANTENNA - REMOVAL/INSTALLATION

EFFECTIVITY: ALL

1. General

- A. This section gives the procedures to remove and install the VOR/LOC antennas.
- B. 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
34-32-03-000-801-A	VOR/LOC ANTENNA - REMOVAL	ALL
34-32-03-400-801-A	VOR/LOC ANTENNA - INSTALLATION	ALL



EMB145 - EMB135

AIRCRAFT
MAINTENANCE MANUAL

TASK 34-32-03-000-801-A

EFFECTIVITY: ALL

2. VOR/LOC ANTENNA - REMOVAL

A. General

- (1) This procedure gives the instructions to remove the VOR/LOC antennas.

B. References

REFERENCE	DESIGNATION
AMM MPP 06-42-00/100	-

C. Zones and Accesses

ZONE	PANEL/DOOR	LOCATION
324	324DL	Vertical stabilizer
325	325KR	Vertical stabilizer

D. Tools and Equipment

ITEM	DESCRIPTION	PURPOSE	QTY
GSE 036	Platform-hydraulic, aircraft	To get access to the task area	

E. Auxiliary Items

ITEM	DESCRIPTION	PURPOSE	QTY
Commercially available	Polyethylene spatula	To remove the sealant	AR

F. Consumable Materials

Not Applicable

G. Expandable Parts

Not Applicable

H. Persons Recommended

QTY	FUNCTION	PLACE
1	Does the task	Vertical stabilizer

I. Preparation

SUBTASK 841-002-A

WARNING: MAKE SURE THAT THE AIRCRAFT IS IN A SAFE CONDITION BEFORE YOU DO THE MAINTENANCE PROCEDURES. THIS IS TO PREVENT INJURY TO PERSONS AND/OR DAMAGE TO THE EQUIPMENT.

- (1) Make sure that the aircraft is safe for maintenance.

- (2) On the circuit breaker panel, open the VOR/ILS 1 or VOR/ILS 2 circuit breaker and attach a DO-NOT-CLOSE tag to it.
- (3) Remove access panels 324DL and 325KR (AMM MPP 06-42-00/100).

J. Removal

SUBTASK 020-002-A

- (1) Put the hydraulic platform (GSE 036) at the necessary height.
- (2) (AIRCRAFT WITH ANTENNAS THAT DO NOT HAVE GEL CONDUCTIVE GASKET). To remove the VOR/LOC antenna, do as follows: ([Figure 401](#)).

CAUTION: IDENTIFY THE COAXIAL CONNECTORS TO PREVENT A POSSIBLE INVERSION DURING THE INSTALLATION. INCORRECT CONNECTIONS CAN CAUSE MALFUNCTION OR DAMAGE TO THE COMPONENT.

- (a) Disconnect the coaxial connector (4) from the VOR/LOC antenna (3).

CAUTION: BE CAREFUL WHEN YOU USE THE POLYETHYLENE SPATULA TO BREAK THE ANTENNA SEAL. TOO MUCH FORCE CAN CAUSE DAMAGE TO THE AIRCRAFT SKIN, THE COAXIAL CABLE, OR THE ANTENNA.

- (b) Use a spatula to remove the sealant from around the fuselage skin hole and the VOR/LOC antenna (3), on the inner surface of the fuselage skin hole.
- (c) Use a spatula to remove the sealant from around the VOR/LOC antenna (3) and from the aircraft skin.
- (d) Remove the screws (2) and washers (1).

CAUTION: BE CAREFUL WHEN YOU USE THE POLYETHYLENE SPATULA TO BREAK THE ANTENNA SEAL. TOO MUCH FORCE CAN CAUSE DAMAGE TO THE AIRCRAFT SKIN, THE COAXIAL CABLE, OR THE ANTENNA.

- (e) Use a spatula between the baseplate of the VOR/LOC antenna (3) and the aircraft skin to make the separation.
- (f) Carefully pull the VOR/LOC antenna (3) away from the fuselage.
- (g) Remove the VOR/LOC antenna (3).

- (3) (AIRCRAFT WITH ANTENNAS THAT HAVE GEL CONDUCTIVE GASKET) To remove the VOR/LOC antenna, do as follows: ([Figure 402](#)).

CAUTION: IDENTIFY THE COAXIAL CONNECTORS TO PREVENT A POSSIBLE INVERSION DURING THE INSTALLATION. INCORRECT CONNECTIONS CAN CAUSE MALFUNCTION OR DAMAGE TO THE COMPONENT.

- (a) Disconnect the coaxial connector (5) from the VOR/LOC antenna (4).

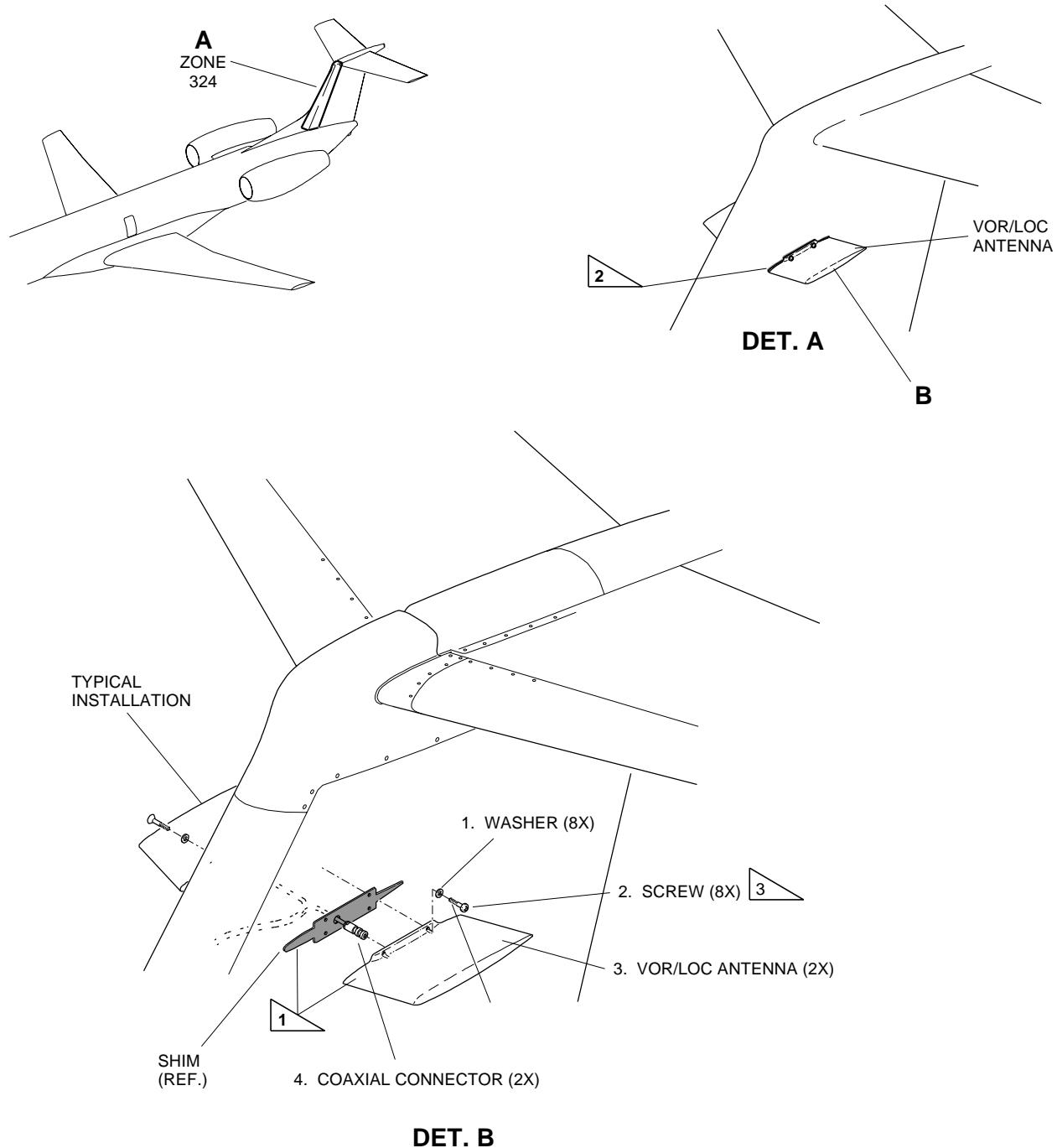
CAUTION: BE CAREFUL WHEN YOU USE THE POLYETHYLENE SPATULA TO BREAK THE ANTENNA SEAL. TOO MUCH FORCE CAN CAUSE DAMAGE TO THE AIRCRAFT SKIN, THE COAXIAL CABLE, OR THE ANTENNA.

- (b) Use a spatula to remove the sealant from around the fuselage skin hole and the VOR/LOC antenna (4), on the inner surface of the fuselage skin hole.
- (c) Use a spatula to remove the sealant from around the VOR/LOC antenna (4) and from the aircraft skin.
- (d) Remove the screws (3) and washers (2).

CAUTION: BE CAREFUL WHEN YOU USE THE POLYETHYLENE SPATULA TO BREAK THE ANTENNA SEAL. TOO MUCH FORCE CAN CAUSE DAMAGE TO THE AIRCRAFT SKIN, THE COAXIAL CABLE, OR THE ANTENNA.

- (e) Use a spatula between the baseplate of the VOR/LOC antenna (4) and the aircraft skin to make the separation.
- (f) Carefully pull the VOR/LOC antenna (4) away from the fuselage.
- (g) Remove the VOR/LOC antenna (4).
- (h) Remove and discard the gel conductive gasket (1).
- (i) Use a spatula to remove the sealant from around the connector of the VOR/LOC antenna (4).

EFFECTIVITY: AIRCRAFT WITH ANTENNAS THAT DO NOT HAVE GEL CONDUCTIVE GASKET
VOR/LOC Antenna - Removal/Installation
Figure 401



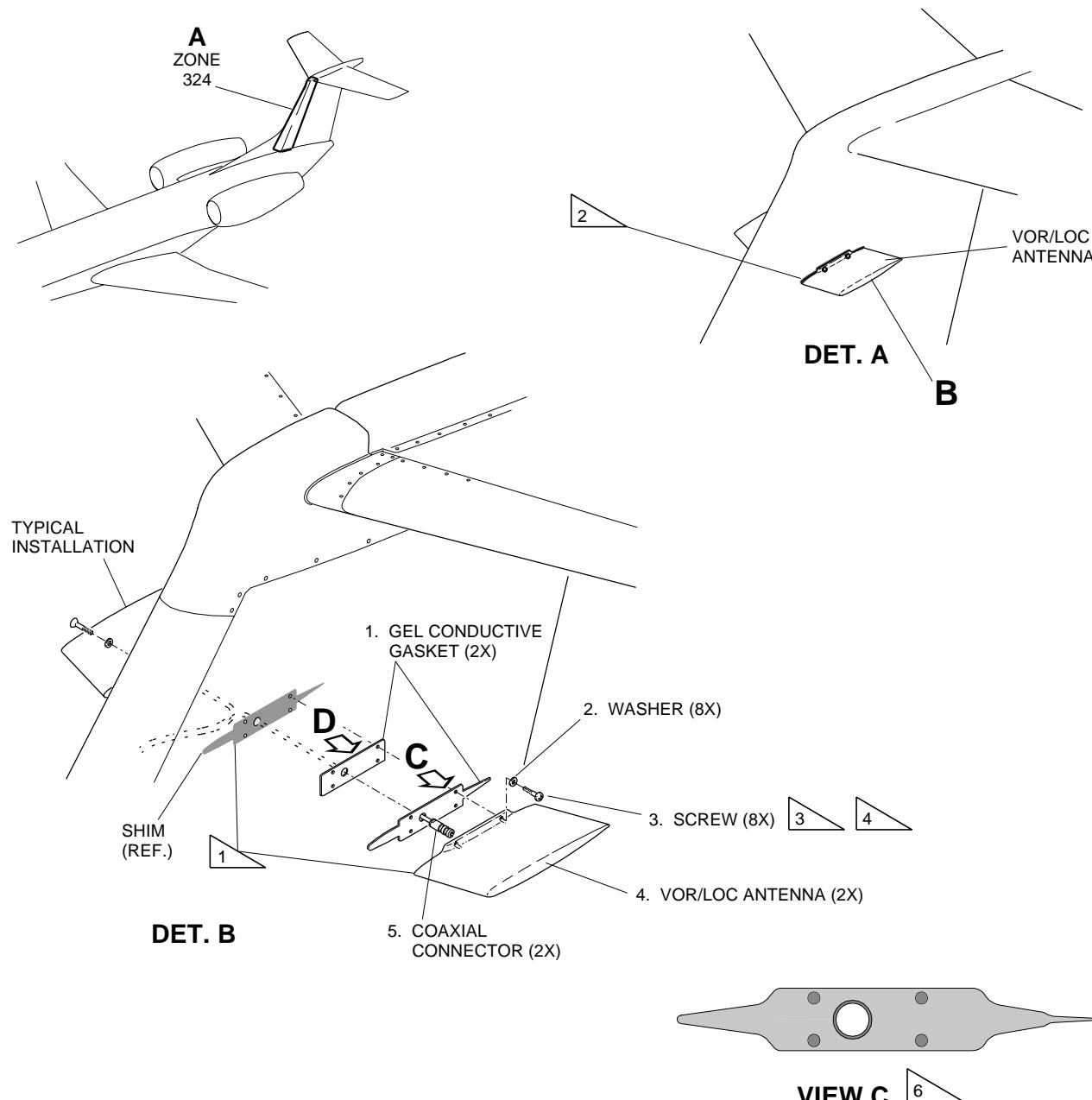
-  1 ELECTRICAL BONDING (METHOD 12)
-  2 SEALANT P/S 870B-2
-  3 TORQUE: 2.8 TO 3.4Nm (25 TO 30 lb.in)

EM145AMM340151F.DGN

EFFECTIVITY: AIRCRAFT WITH ANTENNAS THAT HAVE GEL CONDUCTIVE GASKET

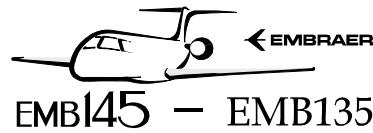
VOR/LOC Antenna - Removal/Installation

Figure 402



- 1 ELECTRICAL BONDING (METHOD 12)
- 2 SEALANT P/S 870B-2
- 3 TORQUE: 2.8 TO 3.4Nm (25 TO 30 lb.in)
- 4 PAINT ECL-G-46/PL-233/TR109
- 5 POST-MOD S.B. 145-34-0050 AND PRE-MOD 145-34-0108
- 6 POST-MOD S.B. 145-34-0018 OR POST-MOD S.B. 145-34-0108

EM145AMM340637H.DGN



EMB145 - EMB135

AIRCRAFT
MAINTENANCE MANUAL

TASK 34-32-03-400-801-A

EFFECTIVITY: ALL

3. VOR/LOC ANTENNA - INSTALLATION

A. General

(1) This procedure gives the instructions to install the VOR/LOC antennas.

B. References

REFERENCE	DESIGNATION
AMM MPP 06-42-00/100	-
AMM TASK 20-13-21-700-801-A/200	ELECTRICAL BONDING TEST - STANDARD PROCEDURES
AMM TASK 20-13-21-910-801-A/200	TYPES OF ELECTRICAL BONDING AND SURFACE PREPARATION - STANDARD PROCEDURES
AMM TASK 34-32-00-700-801-A/500	VOR/ILS SYSTEM OPERATIONAL TEST
AMM TASK 34-32-03-000-801-A/400	VOR/LOC ANTENNA - REMOVAL
AMM TASK 55-32-02-400-801-A/400	VOR-ANTENNA POLYURETHANE FILM - INSTALLATION
CPM 51-21-06	-
IPC 34-32-05	VOR/LOC ANTENNA
SRM 51-20-01	-
WM 20-50-00/201	-

C. Zones and Accesses

ZONE	PANEL/DOOR	LOCATION
324	324DL	Vertical stabilizer
325	325KR	Vertical stabilizer

D. Tools and Equipment

ITEM	DESCRIPTION	PURPOSE	QTY
GSE 036	Platform-hydraulic, aircraft	To get access to the task area	
Commercially available	Torque wrench	To torque	

E. Auxiliary Items

ITEM	DESCRIPTION	PURPOSE	QTY
Commercially available	Polyethylene spatula	To remove the sealant	AR
Commercially available	Clean dry cloth	To clean the antenna base	AR



EMB145 - EMB135

AIRCRAFT
MAINTENANCE MANUAL

F. Consumable Materials

SPECIFICATION (BRAND)	DESCRIPTION	QTY
ASTM-D-740	Methyl Ethyl Ketone (MEK)	AR
P/S870 B-2 (MIL-PRF-81733)	Type II CL B-2 Polysulfide Aerodynamic Sealant	AR
ECL-G-46/PC-233/TR109 (MEP 10-069)	High Solids Polyurethane White Paint	AR
DOW CORNING No. 4 (MIL-S-8660)	Lubricant Compound	AR

G. Expendable Parts

ITEM	IPC REFERENCE (VENDOR REFERENCE)	QTY
Gel Conductive Gasket	IPC 34-32-05	2

H. Persons Recommended

QTY	FUNCTION	PLACE
1	Does the task	Vertical stabilizer

I. Installation

SUBTASK 420-002-A

- (1) Make sure that the aircraft is in the same configuration as it was at the end of the removal task ([AMM TASK 34-32-03-000-801-A/400](#)).
- (2) If there is not a protection film on the antenna leading edge, install it ([AMM TASK 55-32-02-400-801-A/400](#)).
- (3) Put the hydraulic platform (GSE 036) at the necessary height.
- (4) Examine and clean or replace the coaxial connector as required (WM 20-50-00/201).
- (5) (AIRCRAFT WITH ANTENNAS THAT DO NOT HAVE GEL CONDUCTIVE GASKET). To install the VOR/LOC antenna, do as follows: (Figure 401)

WARNING: BE CAREFUL WHEN YOU USE THE METHYL ETHYL KETONE (MEK). PUT ON SAFETY GOGGLES, PROTECTIVE GLOVES AND CLOTHING. DO NOT BREATHE THE GAS. DO THE WORK IN AN AREA WHICH HAS A GOOD FLOW OF AIR. THE METHYL ETHYL KETONE (MEK) IS POISONOUS AND HIGHLY FLAMMABLE.

- (a) With a clean cloth soaked in Methyl Ethyl Ketone (MEK), clean the antenna base surface.

CAUTION: MAKE SURE THAT THE ELECTRICAL BONDING GIVES A GOOD ELECTRIC CONDUCTIVE PATH. IF NOT, DAMAGE TO THE AIRCRAFT AND TO THE EQUIPMENT CAN OCCUR.

- (b) Do the bonding procedure, method 12, on the antenna installation surface on the aircraft skin ([AMM TASK 20-13-21-910-801-A/200](#))

- (c) Put the VOR/LOC antenna (3) in installation position.
- (d) Install the screws (2) and washers (1).
- (e) Use a torque wrench to torque the screws (2) to 2.8 to 3.4 N.m. (25 to 30 lb.in) in a crisscross pattern.
- (f) Do the bonding test between the connector of the VOR/LOC antenna (3) and aircraft ground ([AMM TASK 20-13-21-700-801-A/200](#)).
- (g) Apply aerodynamic sealant P/S870 B-2 around the contour of the VOR/LOC antenna (3), on the skin (SRM 51-20-01).
- (h) Fill the internal part of the coaxial connector (4) and its mate with Dow Corning No. 4 Lubricant Compound (WM 20-50-00/201).

CAUTION: LOOK AT THE IDENTIFICATION OF THE COAXIAL CONNECTORS TO MAKE SURE THAT YOU MAKE THE CORRECT CONNECTIONS. INCORRECT CONNECTIONS CAN CAUSE MALFUNCTION OF THE SYSTEM OR DAMAGE TO THE COMPONENT.

- (i) Connect the coaxial connector (4) to the VOR/LOC antenna (3).
- (6) (AIRCRAFT WITH ANTENNAS THAT HAVE GEL CONDUCTIVE GASKET). To install the VOR/LOC antenna, do as follows: (Figure 402)

WARNING: BE CAREFUL WHEN YOU USE THE METHYL ETHYL KETONE (MEK). PUT ON SAFETY GOGGLES, PROTECTIVE GLOVES AND CLOTHING. DO NOT BREATHE THE GAS. DO THE WORK IN AN AREA WHICH HAS A GOOD FLOW OF AIR. THE METHYL ETHYL KETONE (MEK) IS POISONOUS AND HIGHLY FLAMMABLE.

- (a) With a clean cloth soaked in Methyl Ethyl Ketone (MEK), clean the antenna base surface.
- (b) Carefully remove the protective release film from the gel conductive gasket (1).
- (c) Carefully remove the protective release film identified with "ANTENNA SIDE" from the gel conductive gasket (1).
- (d) Carefully align the gel conductive gasket (1) with the screw holes and connector, and install it to the base of the VOR/LOC antenna (4).
- (e) Carefully remove the other protective release film from the gel conductive gasket (1).
- (f) Carefully remove the protective release film identified with "AIRCRAFT SIDE" from the gel conductive gasket (1).

CAUTION: MAKE SURE THAT THE ELECTRICAL BONDING GIVES A GOOD ELECTRIC CONDUCTIVE PATH. IF NOT, DAMAGE TO THE AIRCRAFT AND TO THE EQUIPMENT CAN OCCUR.

- (g) Do the bonding procedure, method 12, on the antenna installation surface on the aircraft skin ([AMM TASK 20-13-21-910-801-A/200](#))

- (h) Put the VOR/LOC antenna (4) in installation position.
- (i) Install the screws (3) and washers (2).
- (j) Use a torque wrench to torque the screws (3) to 2.8 to 3.4 N.m. (25 to 30 lb.in) in a crisscross pattern.

CAUTION: BE CAREFUL WHEN YOU USE THE POLYETHYLENE SPATULA TO BREAK THE ANTENNA SEAL. TOO MUCH FORCE CAN CAUSE DAMAGE TO THE AIRCRAFT SKIN, THE COAXIAL CABLE, OR THE ANTENNA.

- (k) If necessary, with a spatula, remove the excess gel of the conductive gel gasket (1) from around the VOR/LOC antenna (4) and from the aircraft skin.
- (l) Do the bonding test between the connector of the VOR/LOC antenna (4) and aircraft ground ([AMM TASK 20-13-21-700-801-A/200](#)).
- (m) Apply aerodynamic sealant P/S870 B-2 around the contour of the VOR/LOC antenna (4), on the skin (SRM 51-20-01).
- (n) Apply paint ECL-G-46/PC-233/TR109 on the screw (3) heads (CPM 51-21-06).
- (o) Fill the internal part of the coaxial connector (5) and its mate with Dow Corning No. 4 Lubricant Compound (WM 20-50-00/201).

CAUTION: LOOK AT THE IDENTIFICATION OF THE COAXIAL CONNECTORS TO MAKE SURE THAT YOU MAKE THE CORRECT CONNECTIONS. INCORRECT CONNECTIONS CAN CAUSE MALFUNCTION OF THE SYSTEM OR DAMAGE TO THE COMPONENT.

- (p) Connect the coaxial connector (5) to the VOR/LOC antenna (4).

J. Follow-on

SUBTASK 842-002-A

- (1) On the circuit breaker panel, close the VOR/ILS 1 or VOR/ILS 2 circuit breaker and remove the DO-NOT-CLOSE tag from it.
- (2) Do the VOR/ILS System Operational Test ([AMM TASK 34-32-00-700-801-A/500](#)).
- (3) Install access panels 324DL and 325KR (AMM MPP 06-42-00/100).
- (4) Remove all tools, equipment and unwanted materials from the work area.