CT7-2E INCREMENTAL CHANGE Release Notification Date: 02/02/2021

MM 74-00-00
ELECTRICAL SYSTEM - REMOVAL AND INSTALLATION

DISCLAIMER

The Incremental Changes published by GE Aviation are considered Instructions for Continued Airworthiness. These Incremental Changes, along with the current Manual revision and published Temporary Revisions, constitute the latest Instructions for Continued Airworthiness.

GE Designated: -CONFIDENTIAL-

HIGHLIGHTS

HIGHLIGHT REFERENCE	DESCRIPTION OF CHANGE
tk74-00-00-400-801	Technical Change: Changed the wrench arc applied to the T45 harness connector on the blue harness in paragraph 8.B.(8).
tk74-00-00-400-801	Technical Change: Changed the WARNINGS throughout the pageblock to update to the latest format.
tk74-00-00-400-801	Technical Change: Added metric equivalents throughout the pageblock where applicable.

*** * * FOR CT7-2E1**

TASK 74-00-00-400-801

1. General Information.

A. This section provides instructions for removing and installing components of the electrical system. Before starting any of the following procedures, read ASSEMBLY AND DISASSEMBLY TECHNIQUES in Standard Practices Manual GEK 9250, 70-10-00.

WARNING: REFER TO THE PRODUCT LABEL AND THE MANUFACTURER'S (MATERIAL) SAFETY DATA SHEET (SDS) FOR INSTRUCTIONS ON THE HAZARDS, STORAGE, SAFE HANDLING AND PROPER USE OF THIS PRODUCT.

CAUTION: TO PREVENT MOISTURE INSIDE OF ELECTRICAL CONNECTORS, DO NOT LUBRICATE THREADS OF ELECTRICAL CONNECTORS.

B. Unless otherwise specified, lubricate packings (O-rings), and threads of all nuts, bolts, studs, and threaded connectors (except electrical) with a light coat of lubricating oil.

WARNING: DELETED

C. Deleted.

WARNING: ELECTRICAL COMPONENTS

BE SURE THAT POWER SOURCE IS DISCONNECTED BEFORE WORKING WITH ELECTRICAL COMPONENTS. DANGEROUS OR POSSIBLY FATAL VOLTAGE MAY BE PRESENT.

WARNING: ELECTRICAL SHOCK HAZARD

* PERSONS WORKING ON LINE ELECTRICAL SYSTEMS SHOULD HAVE PROPER TRAINING BEFORE DOING SO. USE PROPER PERSONAL PROTECTIVE EQUIPMENT.
* USE CARE WHEN APPLYING INPUT POWER AND WHEN MEASURING VOLTAGE. DANGEROUS OR POSSIBLY FATAL VOLTAGE MAY BE PRESENT.

CAUTION: ENSURE THAT ELECTRICAL POWER IS OFF BEFORE ATTEMPTING ANY ENGINE WORK INVOLVING REMOVAL OF LRUs FROM ENGINE INSTALLED IN AIRCRAFT.

D. The following is a list of major line replaceable units (LRUs) that can be removed and installed, per this section, with the engine installed on the aircraft.
* Igniter plugs
* Electronic Engine Control Unit (EECU)
* Ignition Leads
* Exciter Assembly
* Green Electrical Cable
* Blue Electrical Cable
* Alternator Stator
* Alternator Rotor
* Thermocouple Assembly
* Np/Q Sensor

*** * * FOR CT7-2E1 MODIFIED TO SB 72-0013**
* Torque Identification (ID) Plug

*** * * FOR CT7-2E1**

2. Removal and Installation of Electrical Connectors with Knurled Coupling Rings.

NOTE: * Throughout this chapter, there are procedures to remove and install electrical cable assemblies. The procedures that follow apply to cable assemblies that have knurled coupling rings.
* The use of soft-jaw pliers (padded) is recommended to loosen and tighten the electrical connectors to ensure that the colored ring (witness line) on the non-coupling type connectors will be covered, and to tighten the connector to its maximum extent.

A. Loosen the electrical connectors of cable assemblies as follows:

CAUTION: DO NOT USE HARD-JAW PLIERS WHEN YOU LOOSEN THE KNURLED COUPLING RINGS ON THE ELECTRICAL CONNECTORS. DAMAGE TO THE CABLE ASSEMBLY CAN OCCUR.

(1) Use soft-jaw pliers and loosen the knurled coupling ring on the electrical cable connector.
(2) Use your hand and disconnect the cable connector from the mating connector.

B. Install the electrical connectors of cable assemblies as follows:

CAUTION: * DO NOT USE HARD-JAW PLIERS WHEN YOU TIGHTEN THE KNURLED COUPLING RINGS ON THE ELECTRICAL CONNECTORS. DAMAGE TO THE CABLE ASSEMBLY CAN OCCUR.
* DO NOT LUBRICATE THE ELECTRICAL CONNECTORS. DAMAGE TO THE SYSTEM CAN OCCUR.

(1) Use your hand and thread the knurled coupling ring (on the cable connector) onto the mating receptacle connector. If the coupling ring is difficult to thread, do an inspection of the connectors for crossed threads, bent pins, and damaged keys or slots.
(2) Alternately, push the backshell of the cable connector into the receptacle, and turn the coupling with your hand until the connector is firmly seated onto its mating connector (the colored witness line is covered). Tighten the knurled coupling ring to its maximum extent.
(3) If you cannot turn the knurled coupling ring beyond the colored witness line or to its maximum extent, use soft-jaw pliers and turn the knurled coupling to fully cover the colored witness line, and to tighten the connector to its maximum extent.

3. Igniter Plugs.

A. Removal.

WARNING: DISCONNECTING IGNITION LEADS
* HIGH VOLTAGE MAY BE PRESENT. CONTACT WITH CENTER CONDUCTOR OF ELECTRICAL CABLE OR CENTER ELECTRODE OF IGNITER PLUG WILL CAUSE ELECTRIC SHOCK IF THE BLEED RESISTORS INSIDE IGNITION UNIT HAVE FAILED.
* BEFORE REMOVING IGNITER PLUG, BE SURE THAT DISCHARGE CONNECTOR IS GROUNDED.

CAUTION: DO NOT DAMAGE FUEL START MANIFOLD TUBE (1, Figure 401) WITH WRENCH WHEN REMOVING IGNITION LEAD AND NUT.

NOTE: Igniter plugs are located at 4 and 8 o'clock positions on midframe. The procedure that follows will be used to remove both igniter plugs.

(1) Disconnect coupling nut (5, Figure 401) on ignition lead (6) from igniter plug (2).
(2) Ground center conductor (4) as follows:
(a) Push back coupling nut (5) on lead (6) to expose center conductor (4).
(b) Hold an insulated screwdriver by the handle, and touch tip of screwdriver to midframe.
(c) Touch conductor (4) to shank of screwdriver. Sparks observed during grounding indicate a defective ignition exciter; replace defective ignition exciter.
(3) Loosen nut (3) of igniter plug (2) from midframe port (7).

WARNING: EXCESSIVE FORCE/TORQUE ON IGNITER PLUG
DO NOT USE EXCESSIVE FORCE/TORQUE WHEN REMOVING OR INSTALLING AN IGNITER PLUG. EXCESSIVE FORCE/TORQUE WILL DAMAGE THE IGNITER PLUG BOSS AND MAY CAUSE THE MIDFRAME TO RUPTURE.

(4) Remove igniter plug (2) from midframe port (7).

WARNING: REFER TO THE PRODUCT LABEL AND THE MANUFACTURER'S (MATERIAL) SAFETY DATA SHEET (SDS) FOR INSTRUCTIONS ON THE HAZARDS, STORAGE, SAFE HANDLING AND PROPER USE OF THIS PRODUCT.

(5) If igniter plug (2) is hard to remove, apply Zyglo penetrant to threads of igniter plug; let the penetrant soak for 30 minutes; then remove igniter plug.

NOTE: * Tip of igniter plug can enlarge due to swelling of the semiconductor material inside the

tip as well as the outer shell material itself.

*When tip of igniter plug enlarges, igniter plug may be difficult to remove from combustion liner.

(6) If igniter plug (2) is still hard to remove (due to tip enlargement), do the following:

(a) Remove fuel injector (73-00-00), the one adjacent to igniter plug that is hard to remove.

(b) Using igniter removal fixture 2C90765G01 (Figure 402), remove igniter plug (11) as follows:

1 Pull out igniter plug (11) as far as possible.

2 Insert arm 2C90765P02 (part of 2C90765G01) (8) into fuel injector port (13) so that slotted foot (7) is perpendicular to axial centerline of engine and pointing downward.

3 Pull the arm (8) outward slightly so that it clears combustion liner igniter ferrule (12).

4 Slowly rotate arm (8) 90° clockwise until the slotted foot (7) engages the igniter barrel. Slowly push the arm (8) in until it bottoms on igniter ferrule (12).

5 Thread knurled nut 2C90765P03 (part of 2C90765G01) (9) into fuel injector port (13). While holding arm (8) firmly against igniter ferrule (12), hand-tighten nut (9).

6 Thread igniter plug retaining nut (10) into igniter boss before installing puller 2C90765P05 (part of 2C09765G01) (6). This will prevent igniter plug (11) from rotating and will ease assembly of puller (6) onto igniter plug (11).

CAUTION: BE SURE THAT PULLER (6) IS FULLY THREADED ONTO IGNITER PLUG (11) TO PREVENT DAMAGING IGNITER THREADS.

7 Thread puller (6) onto igniter plug (11). Be sure that puller (6) is fully threaded onto igniter plug (11).

8 Back off igniter plug retaining nut (10) from igniter boss. Be sure that nut is fully disengaged from the igniter boss.

9 Install one end of strap 2C90765P06 (part of 2C90765G01) (3), resting against stop (1), on arm (8) and other end of strap (3) on puller (6).

10 Secure strap (3), using hex nut MS51972-2 (part of 2C90765G01) (2) on arm (8). Secure strap (3) on puller (6), using spherical washer (part of 2C90765G01) (5) and hex nut MS51972-3 (part of 2C90765G01) (4). Tighten (15° wrench-arc) both hex nuts (2, 4).

11 Using a 9/16-inch open-end wrench on puller hex nut (4) and a 7/8-inch open-end wrench on flat of puller (6), hold puller (6) to prevent it from rotating while wrenching clockwise on puller hex nut (4). Continue wrenching nut until igniter tip is free from igniter ferrule (12).

12 Remove strap (3), two hex nuts (2, 4), washer (5), puller/igniter assembly, and arm (8) from engine.

13 Remove igniter plug (11) from the puller (6) and reassemble parts of fixture.

14 Discard igniter plug (11).

15 Install previously removed fuel injector (73-00-00).

B. Installation.

WARNING: REFER TO THE PRODUCT LABEL AND THE MANUFACTURER'S (MATERIAL) SAFETY DATA SHEET (SDS) FOR INSTRUCTIONS ON THE HAZARDS, STORAGE, SAFE HANDLING AND PROPER USE OF THIS PRODUCT.

NOTE: Igniter plugs are located at 4 and 8 o'clock positions on midframe. The procedure that follows will be used to install both igniter plugs.

(1) Before installing igniter plug (2, Figure 401) into midframe port (7), inspect threads of nut (3) for dry lubricant. If threads are dry, coat threads with antiseize thread compound (Braycote 655).

WARNING: EXCESSIVE FORCE/TORQUE ON IGNITER PLUG

DO NOT USE EXCESSIVE FORCE/TORQUE WHEN REMOVING OR INSTALLING AN IGNITER PLUG. EXCESSIVE FORCE/TORQUE WILL DAMAGE THE IGNITER PLUG BOSS AND MAY CAUSE THE MIDFRAME TO RUPTURE.

(2) Install plug (2) into midframe port (7). Hand-tighten nut (3) until a sharp rise in resistance is felt. Tighten (15° wrench-arc) nut (3).

(3) Connect ignition lead (6) to igniter plug (2) as follows:

(a) Pull back coupling nut (5) to expose center conductor (4).

CAUTION: BE SURE NOT TO BEND CENTER ELECTRODE OF PIN IN IGNITER PLUG; OTHERWISE, IGNITION LEAD WILL NOT ALIGN WITH IGNITER PLUG.

(b) Align and place center conductor (4) of ignition lead (6) over center electrode of igniter plug (2). Be sure conductor is firmly seated.

WARNING: EXCESSIVE FORCE/TORQUE ON IGNITER PLUG

DO NOT USE EXCESSIVE FORCE/TORQUE WHEN REMOVING OR INSTALLING AN IGNITER PLUG. EXCESSIVE FORCE/TORQUE WILL DAMAGE THE IGNITER PLUG BOSS AND MAY CAUSE THE MIDFRAME TO RUPTURE.

CAUTION: *DO NOT EXCEED 15° WRENCH-ARC. OTHERWISE, MIDFRAME BOSS WILL CRACK.

*IGNITION LEAD MAY BE DAMAGED IF ROTATED WHEN TIGHTENING COUPLING NUT.

(c) To prevent lead from rotating, jiggle lead while hand-tightening coupling nut (5) until a sharp rise in resistance is felt. Tighten (15° wrench-arc) coupling nut.

(4) Do required checks (72-00-00, TEST). If leaks occur at igniter plugs, do not exceed 15° wrench arc when retightening nuts (3).

*** * * FOR CT7-2E1**

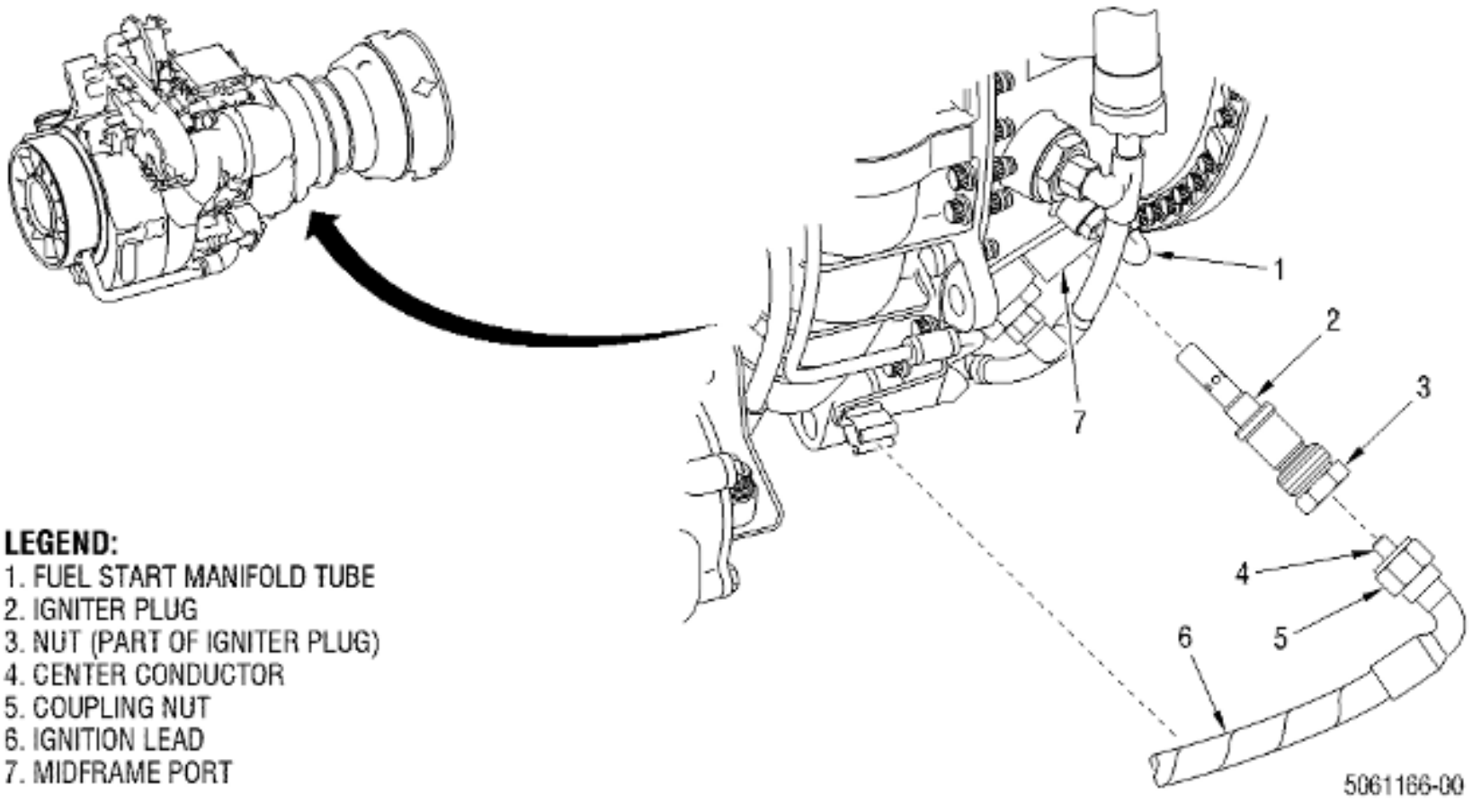

Figure 401 Igniter Plugs - Removal and Installation

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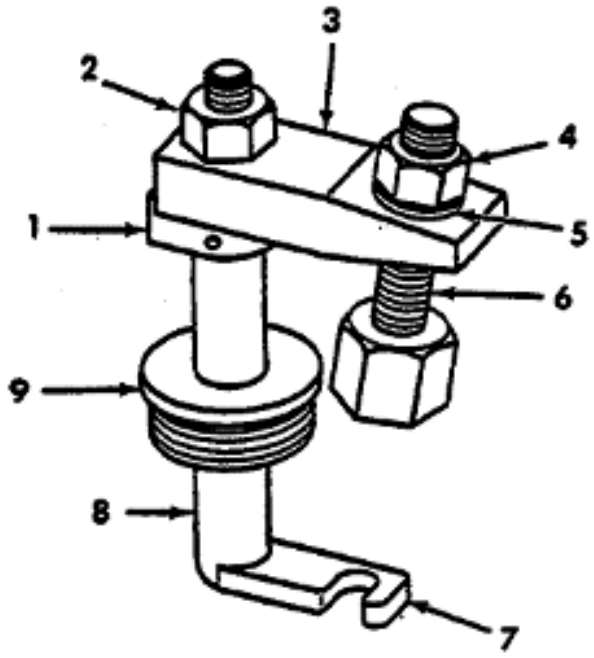

1. Stop
2. Hex nut
3. Strap
4. Hex nut
5. Spherical washer
6. Puller
7. Slotted foot
8. Arm
9. Knurled nut
10. Igniter plug retaining nut
11. Igniter plug
12. Combustion liner igniter ferrule
13. Fuel injector port

IGNITER REMOVAL FIXTURE

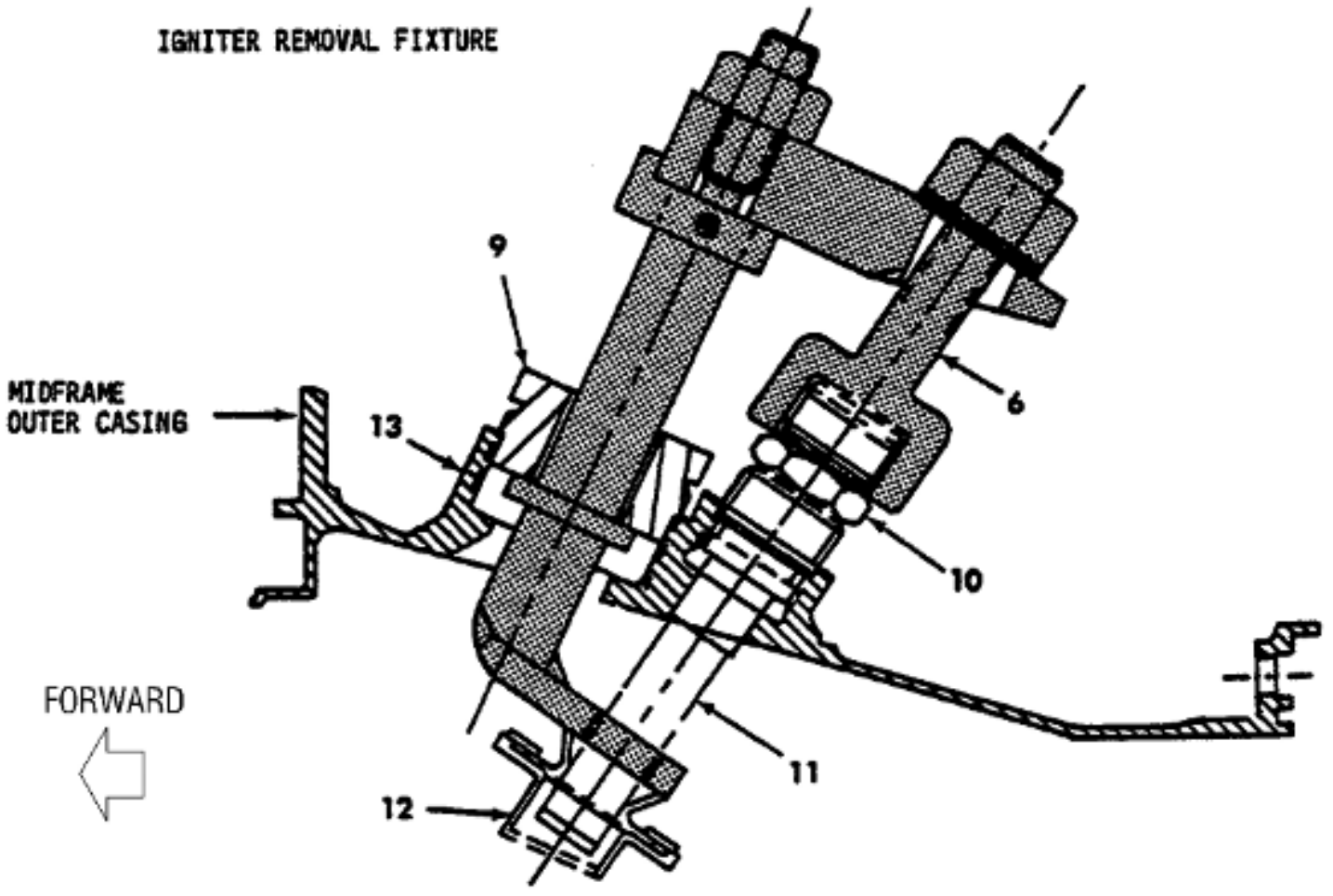

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Figure 402 Bulged Igniter Plug - Removal

4. Electronic Engine Control Unit (EECU), Scroll Seal, and Bracket.

A. Removal.

(1) Disconnect electrical connectors (1, 2, Figure 403) from EECU (3). If either electrical connector is difficult to loosen, do as follows:

NOTE: The use of soft-jaw pliers (padded) is recommended to loosen the electrical connector.

(a) Use soft-jaw pliers and loosen the knurled coupling ring on the electrical connector of the cable.

(b) Use your hand and disconnect the electrical connector from the mating connector on the FMU (3).

(2) Use protective caps and cover the electrical connectors.
(3) Loosen two bolts (4), but do not remove them.
(4) Loosen captive bolt (5).
(5) Remove EECU (3) by sliding it out of bracket (6).

NOTE: If the EECU does not already have a GE SOFTWARE NO. label, attach a tag to the EECU to show the software version that is installed. This will help confirm the software configuration when the EECU is reinstalled.

(6) Remove scroll seal (7) and save seal for installation.
(7) If bracket (6) will not be removed, cover scroll case opening with masking tape or equivalent. Otherwise, go to paragraph 4.A.(8).
(8) Remove bracket (6) as follows:
(a) Remove two bolts (8) that secure bracket (6) to forward flange of compressor case.
(b) Remove two bolts (9) and two self-locking nuts (10) that secure bracket to compressor case rib.
(c) Remove bracket (6).
(d) Cover scroll case opening with masking tape or equivalent.

B. Installation.
(1) If bracket (6, Figure 403) was not removed, remove masking tape from scroll case opening. Otherwise, go to paragraph 4.B.(2).
(2) Install bracket (6) as follows:
(a) If present, remove masking tape from scroll case opening.
(b) Align aft holes in bracket (6) with holes in compressor case rib and install two bolts (9) and two self-locking nuts (10). Torque bolts to 45 to 50 lb in. (5.1 to 5.6 N.m).
(c) Attach forward end of bracket (6) to forward flange of compressor case, using two bolts (8). Torque bolts to 45 to 50 lb in. (5.1 to 5.6 N.m).

NOTE: Before installing the EECU, check the EECU software version that is installed. The EECU software version must be the same on each engine on an aircraft.

(3) Install scroll seal (7) onto EECU (3).
(4) Slide EECU (3) into bracket (6) so that two bolts (4) fit into slots in bracket (6).
(5) Tighten captive bolt (5). Torque bolt to 45 to 50 lb in. (5.1 to 5.6 N.m).
(6) Tighten two bolts (4). Be sure there is metal-to-metal contact between bracket (6) and EECU (3).
(7) Connect electrical connectors (1, 2) to EECU (3) as follows:
(a) Remove the protective caps from the electrical connectors.

CAUTION: * DO NOT USE HARD-JAW PLIERS WHEN YOU TIGHTEN THE KNURLED COUPLING RING ON THE ELECTRICAL CONNECTOR. DAMAGE TO THE CABLE ASSEMBLY CAN OCCUR.
* DO NOT LUBRICATE THE ELECTRICAL CONNECTORS. DAMAGE TO THE ELECTRICAL SYSTEM CAN OCCUR.

(b) Use your hand and thread the knurled coupling ring (on the cable connector) onto the mating receptacle connector. If the coupling ring is difficult to thread, do an inspection of the connectors for crossed threads, bent pins, and damaged keys or slots.
(c) Alternately, push the backshell of the cable connector into the receptacle and turn the coupling ring with your hand until the connector is firmly seated into its mating connector (the colored witness line is covered). Tighten the knurled coupling ring to its maximum extent.
(d) If you cannot turn the knurled coupling ring beyond the colored witness line or to its maximum extent, use soft-jaw pliers and turn the knurled coupling ring to fully cover the colored witness line and to tighten the connector to its maximum extent.
(8) Do required checks (72-00-00, TEST).

*** * * FOR CT7-2E1**

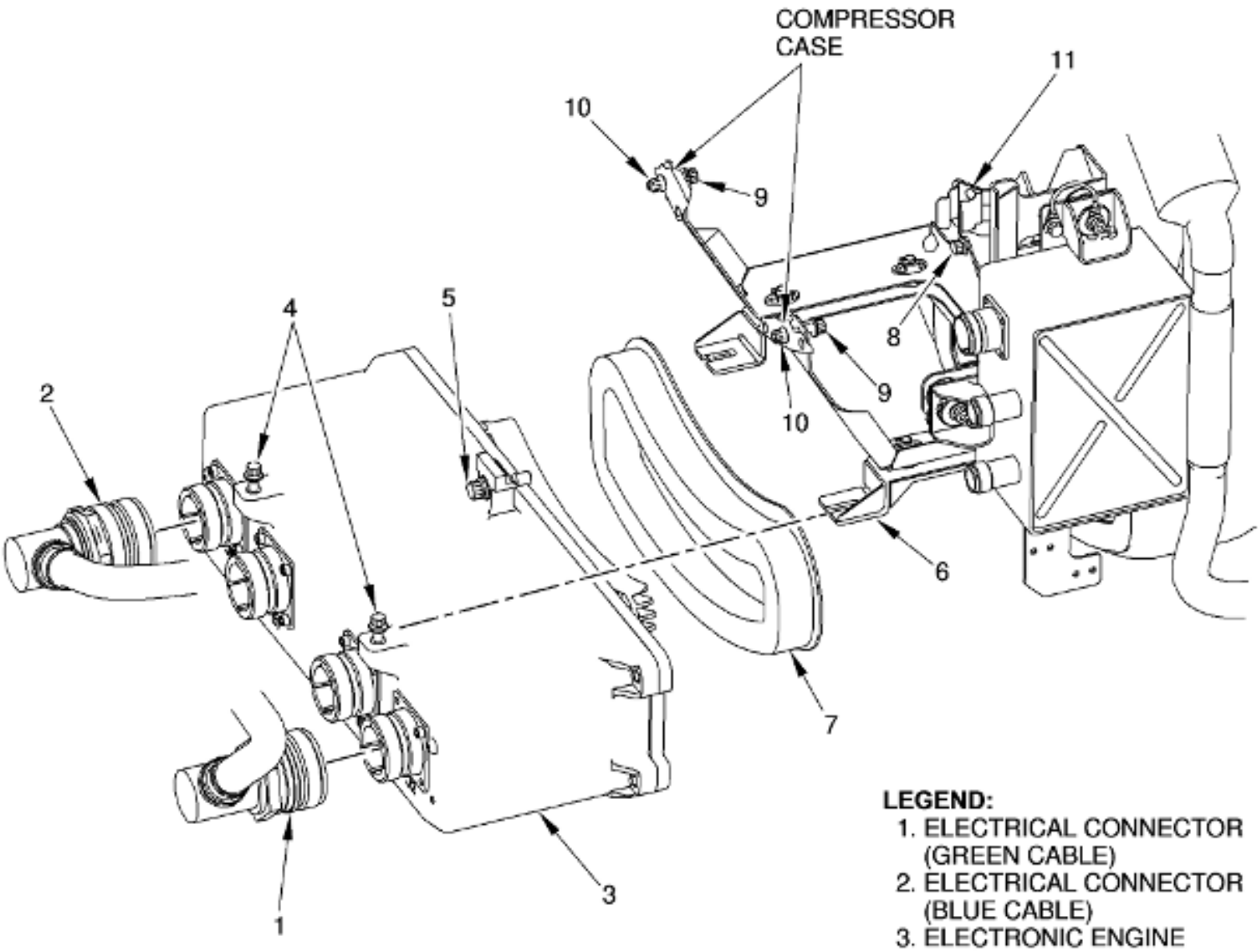

Figure 403 Electronic Engine Control Unit (EECU), Scroll Seal, and Bracket - Removal and Installation

5. Electrical Ignition Leads.

A. Removal.

WARNING: DISCONNECTING IGNITION LEADS

* HIGH VOLTAGE MAY BE PRESENT. CONTACT WITH CENTER CONDUCTOR OF ELECTRICAL CABLE OR CENTER ELECTRODE OF IGNITER PLUG WILL CAUSE ELECTRIC SHOCK IF THE BLEED RESISTORS INSIDE IGNITION UNIT HAVE FAILED.
* BEFORE REMOVING IGNITER PLUG, BE SURE THAT DISCHARGE CONNECTOR IS GROUNDED.

(1) Disconnect coupling nut (12, Figure 404) on right ignition lead (11) from igniter plug (1).
(2) Ground center conductor of ignition lead to engine. Sparks observed during grounding indicate a defective ignition exciter. Replace defective ignition exciter when installing ignition leads.
(3) Disconnect coupling nut (9) on left ignition lead (3) from igniter plug (8).
(4) Ground center conductor of ignition lead to engine. Sparks observed during grounding indicate a defective ignition exciter. Replace defective ignition exciter when installing ignition leads.
(5) Disconnect coupling nuts (4, 10) on ignition leads (3,11) from ignition exciter (5).

(6) Remove right ignition lead (11) from bracket (2).

(7) Remove left ignition lead (3) from clip support (6) and bracket (7).

B. Installation.

(1) Pull back coupling nuts (4, 10, Figure 404) on straight ends of left and right ignition leads (3, 11) and expose connectors.

CAUTION: BE SURE NOT TO BEND PIN IN IGNITION EXCITER CONNECTOR. OTHERWISE, PIN MAY BE DAMAGED.

(2) Align and place connector of left ignition lead (3) over pin in center connector of ignition exciter (5). Align and place connector of right ignition lead (11) over pin in lower connector of ignition exciter (5). Be sure connectors are firmly seated.

(3) Loosely connect coupling nuts (4, 10).

(4) Route end of left ignition lead (3) under engine.

(5) Pull back coupling nut (9) on angled-end of left ignition lead (3) to expose connector.

CAUTION: BE SURE NOT TO BEND PIN IN IGNITER PLUG. OTHERWISE, PIN MAY BE DAMAGED.

(6) Align and place ignition lead connector over pin of igniter plug (8). Be sure connector is firmly seated.

(7) Pull back coupling nut (12) on angled-end of right ignition lead (11) to expose connector.

CAUTION: BE SURE NOT TO BEND PIN IN IGNITER PLUG.

(8) Align and place ignition lead connector over pin of igniter plug (1). Be sure connector is firmly seated.

(9) Loosely connect coupling nuts (9, 12) onto igniter plugs (1, 8).

(10) Snap right ignition lead (11) into clip support on bracket (2). Snap left ignition lead (3) into clip support (6) and clip support on bracket (7).

(11) Tighten coupling nuts (4, 9, 10, 12) on ignition leads (3, 11) until a sharp rise in resistance is felt. Then tighten (15° wrench-arc) coupling nuts.

(12) Do required checks (72-00-00, TEST).

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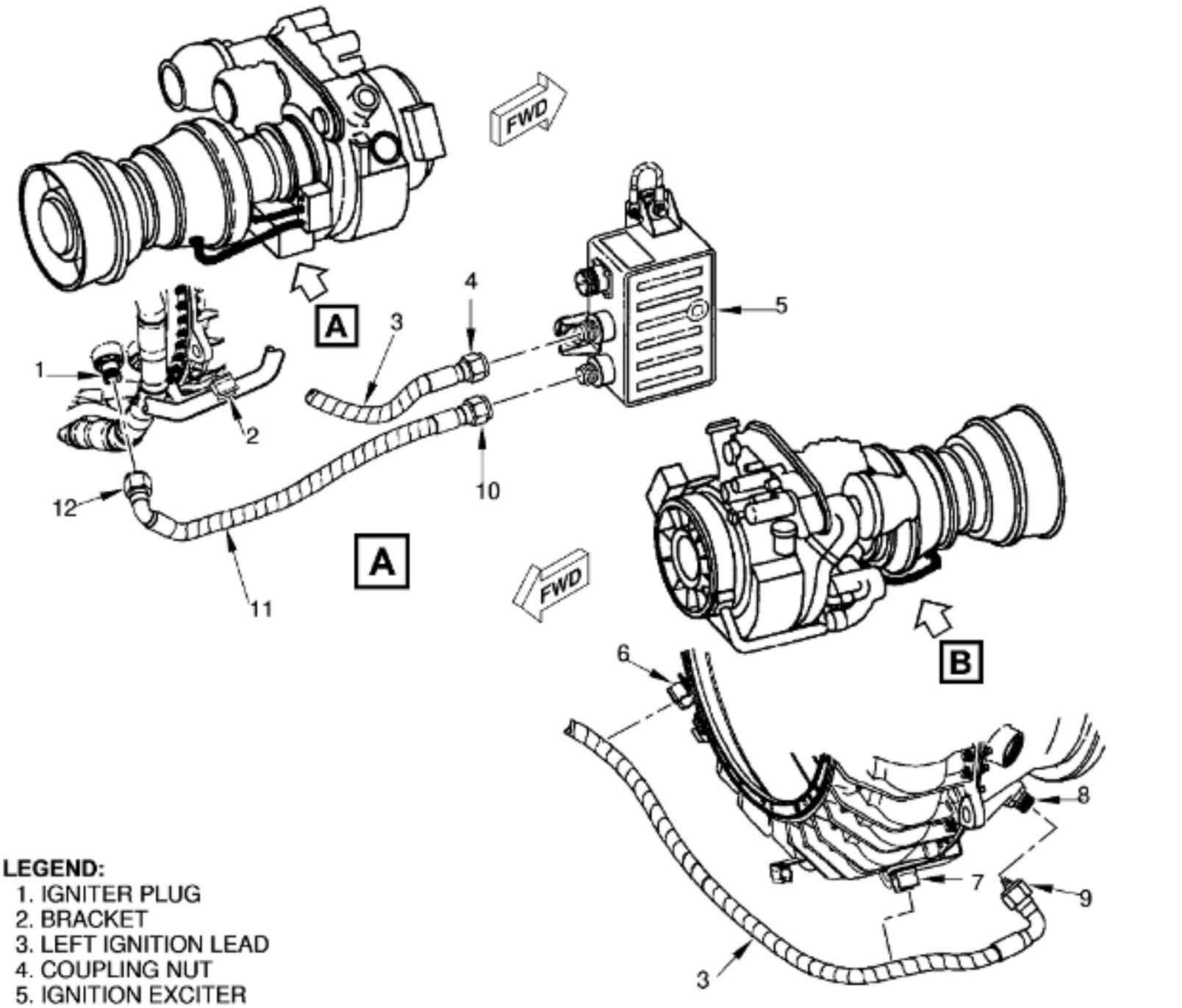

LEGEND:

1. IGNITER PLUG
2. BRACKET
3. LEFT IGNITION LEAD
4. COUPLING NUT
5. IGNITION EXCITER
6. CLIP SUPPORT
7. BRACKET
8. IGNITER PLUG
9. COUPLING NUT
10. COUPLING NUT
11. RIGHT IGNITION LEAD
12. COUPLING NUT

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Figure 404 Electrical Ignition Leads - Removal and Installation

6. Ignition Exciter Assembly and Bracket.

A. Removal.

WARNING: DISCONNECTING IGNITION LEADS

* HIGH VOLTAGE MAY BE PRESENT. CONTACT WITH CENTER CONDUCTOR OF ELECTRICAL CABLE OR CENTER ELECTRODE OF IGNITER PLUG WILL CAUSE ELECTRIC SHOCK IF THE BLEED RESISTORS INSIDE IGNITION UNIT HAVE FAILED.
* BEFORE REMOVING IGNITER PLUG, BE SURE THAT DISCHARGE CONNECTOR IS GROUNDED.

(1) Disconnect coupling nut (2, Figure 405) on right ignition lead (3) from ignition plug (1).
(2) Ground center conductor of ignition leads to engine. Sparks observed during grounding indicate a defective ignition exciter. Replace defective ignition exciter at installation.
(3) Disconnect coupling nut (6) on left ignition lead (4) from igniter plug (5).
(4) Ground center conductor of ignition lead to engine. Sparks observed during grounding indicate a defective ignition exciter. Replace defective ignition exciter at installation.
(5) Disconnect coupling nuts (10, 11) on ignition leads (3, 4) from ignition exciter assembly (9).
(6) Disconnect electrical connector (12).

CAUTION: DO NOT ALLOW GROUNDING STRAP (7) TO TWIST WHEN LOOSENING BOLT. OTHERWISE, GROUNDING

STRAP MAY BE DAMAGED.

(7) Loosen three bolts (8).

NOTE: The ignition exciter assembly is an electronic device and may be damaged if dropped.

(8) Remove ignition exciter assembly (9) from its mounting bracket.

(9) Remove ignition exciter bracket as follows:

(a) Remove three bolts and nuts that secure ignition exciter bracket (11, Figure 403) to compressor case.

(b) Remove exciter bracket (11).

B. Installation.

CAUTION: DO NOT ALLOW GROUNDING STRAP (7, Figure 405) TO TWIST WHEN TIGHTENING BOLT. OTHERWISE, GROUNDING STRAP MAY BE DAMAGED.

(1) Align holes in ignition exciter bracket (11, Figure 403) over holes on compressor case. Secure bracket with three bolts and nuts to compressor case. Torque bolts to 45 to 50 lb in. (5.1 to 5.6 N.m).

(2) Install ignition exciter assembly (9, Figure 405) on mounting bracket, and secure it with three bolts (8). Torque bolts to 18 to 22 lb in. (2.0 to 2.5 N.m).

(3) Pull back coupling nuts (10, 11) on straight ends of right and left ignition leads (3, 4), and expose connectors.

CAUTION: BE SURE NOT TO BEND PIN IN IGNITION EXCITER CONNECTOR. OTHERWISE, PIN MAY BE DAMAGED.

(4) Align and place connector of left ignition lead (4) over pin in center connector of ignition exciter assembly (9). Align and place connector of right ignition lead (3) over pin in lower connector of ignition exciter assembly (9). Be sure connectors are firmly seated.

(5) Loosely connect coupling nuts (10, 11).

(6) Pull back coupling nut (6) on angled end of left ignition lead (4) to expose connector.

CAUTION: BE SURE NOT TO BEND PIN IN IGNITER PLUG. OTHERWISE, PIN MAY BE DAMAGED.

(7) Align and place ignition lead connector over pin of igniter plug (5). Be sure connector is firmly seated.

(8) Pull back coupling nut (2) on angled end of right ignition lead (3) to expose connector.

CAUTION: BE SURE NOT TO BEND PIN IN IGNITER PLUG. OTHERWISE, PIN MAY BE DAMAGED.

(9) Align and place ignition lead connector over pin of igniter plug (1). Be sure connector is firmly seated.

(10) Loosely connect coupling nuts (2, 6) onto igniter plugs (1, 5).

(11) Tighten coupling nuts (2, 6, 10, 11) on ignition leads (3, 4) until a sharp rise in resistance is felt. Then tighten (15° wrench-arc) coupling nuts.

(12) Connect electrical connector (12).

(13) Do required checks (72-00-00, TEST).

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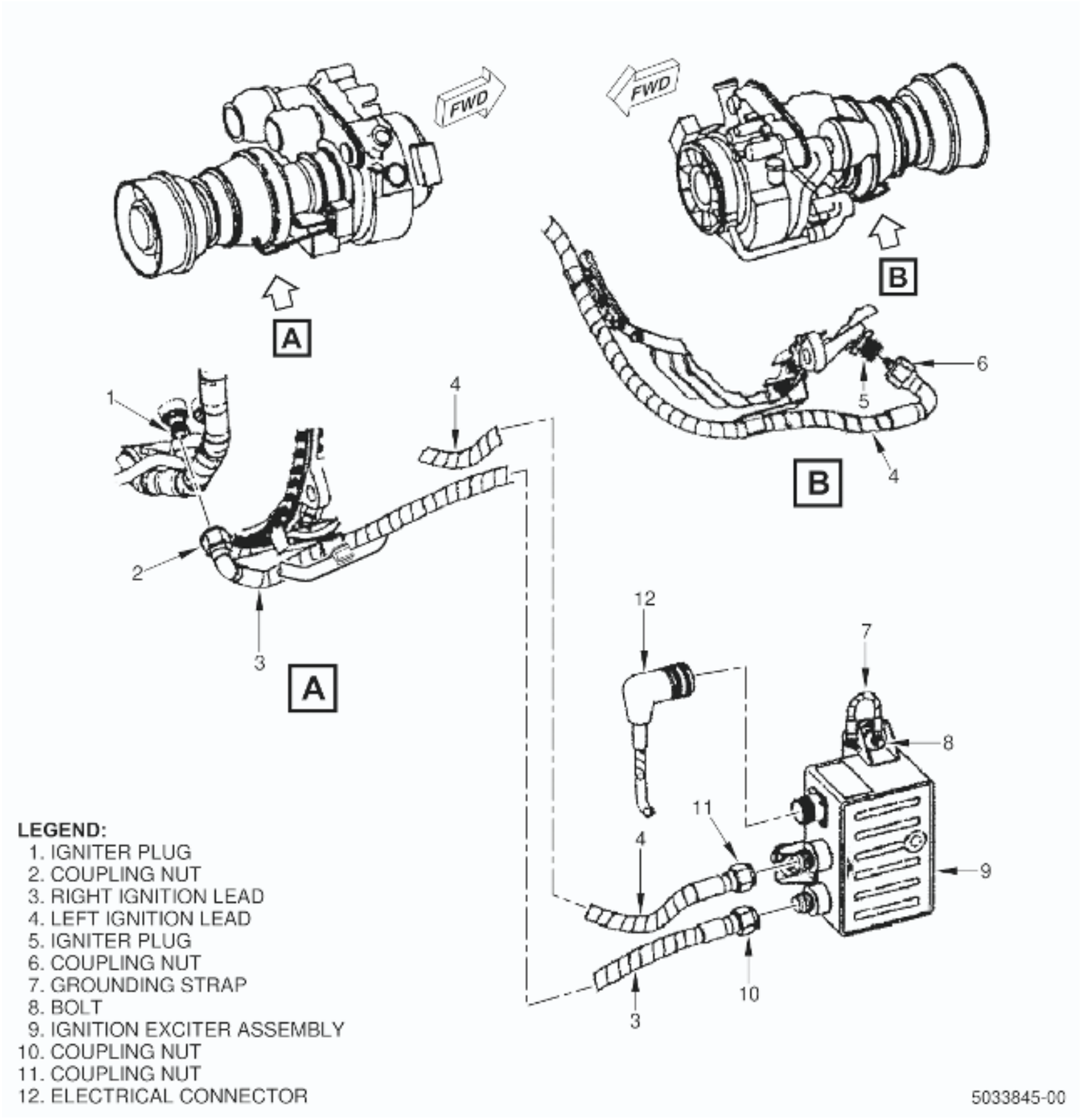


Figure 405 Ignition Exciter Assembly - Removal and Installation

7. Green Electrical Cable.

A. Removal.

CAUTION: INSTALL PROTECTIVE CAPS ON ALL CONNECTOR FITTINGS FROM WHICH THE GREEN CABLE IS DISCONNECTED.

(1) Disconnect green cable (Figure 406) from torque and overspeed sensor (6) as follows:

(a) Remove RTV 106 sealant from coupling nut on electrical cable and, if applicable, silicone tape under RTV 106 sealant. Remove electrical connector on Np/Q sensor (6).

(b) Using two wrenches, disconnect coupling nut on electrical cable from electrical connector on Np/Q sensor (6).

(2) Disconnect green cable from the remaining components:

(a) Electrical connector (1) from anti-icing bleed and start valve.

*** * * FOR CT7-2E1 NOT MODIFIED TO SB 72-0013**

(b) Electrical connector (11) from fuel pressure switch.

*** * * FOR CT7-2E1 MODIFIED TO SB 72-0013**

(b) Electrical connector (11) from torque ID plug.

*** * * FOR CT7-2E1**

(c) Electrical connector (9) from electrical chip detector.
(d) Electrical connector (10) from oil filter impending bypass sensor.
(e) Electrical connector (2) from alternator stator.
(f) Electrical connector (8) from oil pressure transmitter.
(g) Electrical connector (3) from P3 sensor.
(h) Electrical connector (4) from ignition exciter.
(i) Electrical connector (7) from electronic engine control unit.
(j) Electrical connector (5) from fuel metering unit.

*** * * FOR CT7-2E1 MODIFIED TO SB 72-0013**

(3) Remove two bolts (13) that secure the cable connector plate to the AGB bracket.

*** * * FOR CT7-2E1**

(4) Remove green electrical cable from seven clip supports (12) (typical).

B. Installation.

(1) Remove protective caps or equivalent from all connector fittings on which the green cable attaches (Figure 406).
(2) Inspect connectors to be sure they are clean and free of fuel and oil. If not, clean and dry them (CLEANING).
(3) Stabilant 22 may be applied to specific green cable connectors on the forward portion of the engine, at operator option, to enhance connection reliability.

WARNING: REFER TO THE PRODUCT LABEL AND THE MANUFACTURER'S (MATERIAL) SAFETY DATA SHEET (SDS) FOR INSTRUCTIONS ON THE HAZARDS, STORAGE, SAFE HANDLING AND PROPER USE OF THIS PRODUCT.

CAUTION:
* SEE Table 401 FOR A LIST, BY CONNECTOR, OF WHERE STABILANT 22 CAN, AND CANNOT, BE APPLIED. APPLICATION TO THE WRONG CONNECTOR MAY RESULT IN EXCEEDING THE BREAK-DOWN TEMPERATURE OF THE STABILANT 22 AND DISTRESS TO THE CONNECTOR, REQUIRING REPLACEMENT OF THE COMPONENT AND THE CABLE.
* CONNECTORS MUST BE NEW, OR RECENTLY CLEANED, PRIOR TO APPLYING STABILANT 22. IF NECESSARY, CLEAN CONNECTORS (CLEANING).
* ONLY APPLY STABILANT 22 IF CONNECTOR WILL BE ASSEMBLED IMMEDIATELY.

(a) Apply Stabilant 22 as follows:
1 Apply a small quantity to the connector pins and/or sockets to get a thin surface coating. Mix Stabilant 22 with a small quantity of isopropyl alcohol (suggested 15:1 Stabilant to alcohol) to help in flow down the pin or socket to create a thin film on the surface.
2 Assemble connector per applicable manual procedure.
3 Use a cotton swab and isopropyl alcohol to remove unwanted Stabilant 22 on the connector surfaces other than pins and sockets.

(4) Position green cable as shown (Figure 406).
(5) Install green cable in seven clip supports (12) (typical).
(6) Before connecting green electrical cable to components listed in paragraph 7.B.(7), refer to paragraph 2 for instructions on mating electrical connectors with knurled coupling rings.

CAUTION: IMPROPERLY ENGAGED/BACKED-OFF HARNESS ELECTRICAL CONNECTORS CAN CREATE A POTENTIAL FLAME-OUT CONDITION.

(7) Connect green cable connectors to the following connectors:
(a) Electrical connector (1) to anti-icing bleed and start valve.

*** * * FOR CT7-2E1 NOT MODIFIED TO SB 72-0013**

(b) Electrical connector (11) to fuel pressure switch.

*** * * FOR CT7-2E1 MODIFIED TO SB 72-0013**

(b) Electrical connector (11) to torque ID plug.

*** * * FOR CT7-2E1**

(c) Electrical connector (9) to electrical chip detector.
(d) Electrical connector (10) to oil filter impending bypass sensor.
(e) Electrical connector (2) to alternator stator.
(f) Electrical connector (8) to oil pressure transmitter.
(g) Electrical connector (3) to P3 sensor.
(h) Electrical connector (4) to ignition exciter.
(i) Electrical connector (7) to electronic engine control unit.
(j) Electrical connector (5) to fuel metering unit.

*** * * FOR CT7-2E1 MODIFIED TO SB 72-0013**

(8) Install two bolts (13) that secure the cable connector plate to the AGB bracket and torque to 45 to 50 lb in. (5.1 to 5.6 N.m).

*** * * FOR CT7-2E1**

(9) Connect green cable to connector on Np/Q sensor (6). Using two wrenches, tighten (15° wrench arc) coupling nut.
(10) Seal electrical cable connector to connector (2, Figure 407) on Np/Q sensor connector (1), as follows:

WARNING: REFER TO THE PRODUCT LABEL AND THE MANUFACTURER'S (MATERIAL) SAFETY DATA SHEET (SDS) FOR INSTRUCTIONS ON THE HAZARDS, STORAGE, SAFE HANDLING AND PROPER USE OF THIS PRODUCT.

(a) Using trichlorotrifluoroethane, clean the external surfaces of connectors (1, 2) and adjacent surfaces beyond coupling nut area.

WARNING: USE EYE PROTECTION WHEN YOU USE COMPRESSED AIR TO CLEAN, COOL, OR DRY PARTS OR TOOLS. PARTICLES CAN CAUSE AN INJURY TO YOUR EYES. ENSURE COMPRESSED AIR PRESSURE IS LESS THAN 30 PSIG (207 KPA). DO NOT POINT COMPRESSED AIR AT YOURSELF OR OTHER PERSONS.

(b) Using dry, filtered, compressed air, blow-dry the external surfaces of the connectors and adjacent surfaces.

(c) Use silicone tape PN LW401 (orange with green stripe), and cover the connectors (1, 2). Apply the tape in the middle of the connection and wrap the tape from one end to the other end, then back again to the middle. The overlap on both ends must be a minimum of 0.25 inch (6.4 mm) (views A and B).

WARNING: REFER TO THE PRODUCT LABEL AND THE MANUFACTURER'S (MATERIAL) SAFETY DATA SHEET (SDS) FOR INSTRUCTIONS ON THE HAZARDS, STORAGE, SAFE HANDLING AND PROPER USE OF THIS PRODUCT.

(d) Clean the coupling nut and the adjacent surfaces of the connector (2) with isopropyl alcohol or equivalent.

WARNING: REFER TO THE PRODUCT LABEL AND THE MANUFACTURER'S (MATERIAL) SAFETY DATA SHEET (SDS) FOR INSTRUCTIONS ON THE HAZARDS, STORAGE, SAFE HANDLING AND PROPER USE OF THIS PRODUCT.

(e) Using RTV 106 sealant, seal entire coupling nut (view C) and adjacent surfaces. Sealant must be applied 360° all around connectors within the dimensions given in view C.

(f) Allow sealant to dry; inspect connectors to be sure that the sealant has been applied 360° all around. If necessary, use a flashlight and a mirror to inspect the area near the turbine casing.

(11) Do required checks (72-00-00, TEST).

TABLE 401. GREEN CABLE CONNECTORS WHERE STABILANT 22 CAN BE APPLIED

STABILANT 22 CAN BE APPLIED TO THE FOLLOWING CONNECTORS

Ignition Exciter
AISBV
P3 Sensor

*** * * FOR CT7-2E1 NOT MODIFIED TO SB 72-0013**

Fuel Pressure Switch

*** * * FOR CT7-2E1 MODIFIED TO SB 72-0013**

Torque ID Plug

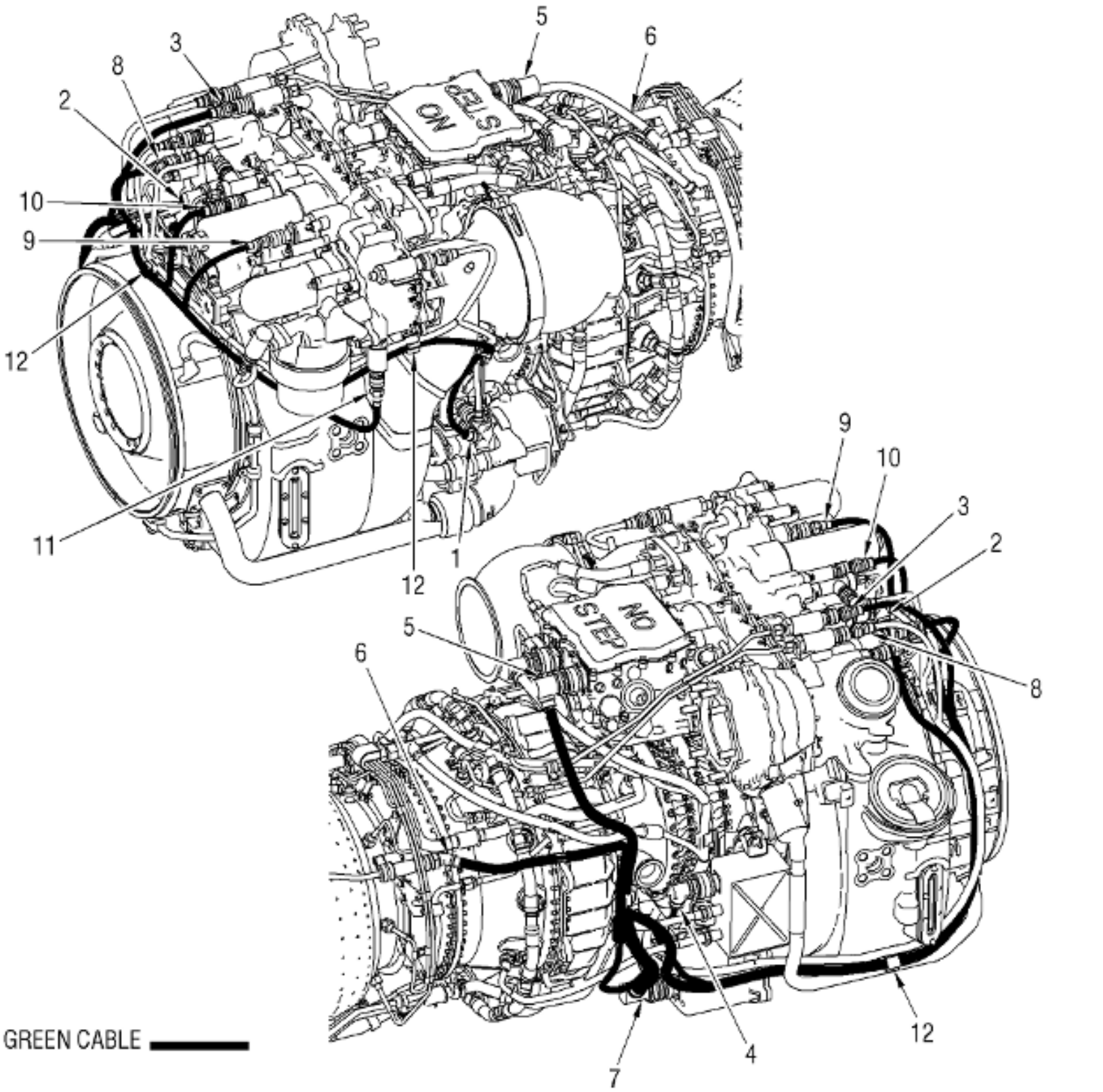
*** * * FOR CT7-2E1**

Electrical Chip Detector
Oil Filter Impending Bypass Switch
Alternator Stator
Oil Pressure Transmitter

DO NOT APPLY STABILANT 22 TO THE FOLLOWING CONNECTORS

EECU
Fuel Metering Unit (FMU)
Power Turbine Speed and Torque Sensor

*** * * FOR CT7-2E1 NOT MODIFIED TO SB 72-0013**

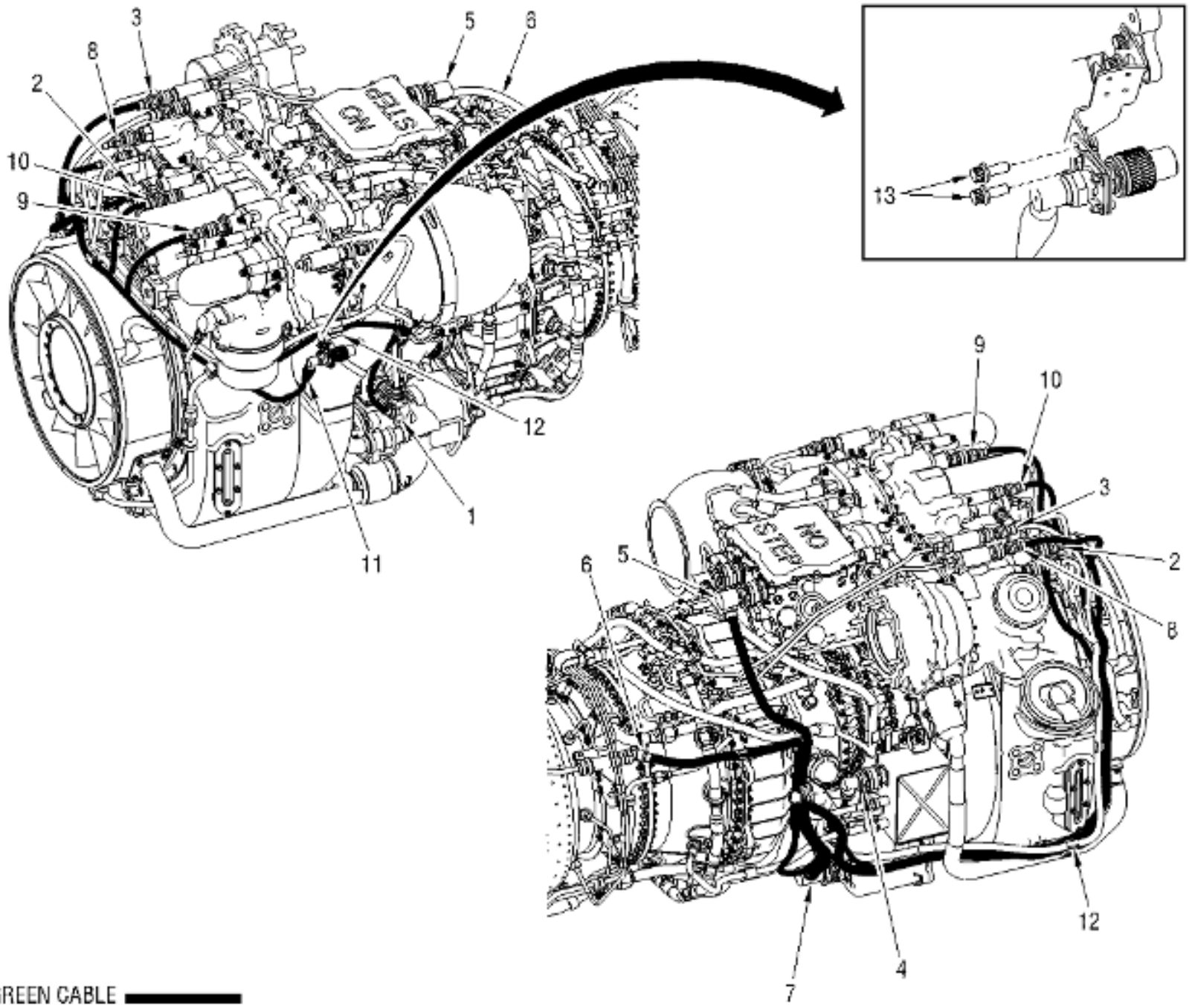


1. Electrical connector (Anti-Icing bleed valve)
2. Electrical connector (Alternator stator)
3. Electrical connector (P3 sensor)
4. Electrical connector (Ignition exciter)
5. Electrical connector (Fuel metering unit)(FMU)
6. Electrical connector (Np/Q sensor)
7. Electrical connector (Electronic engine control unit) (EECU)
8. Electrical connector (Oil pressure transmitter)
9. Electrical connector (Electrical chip detector)
10. Electrical connector (Oil filter impending bypass sensor)
11. Electrical connector (Fuel pressure switch)
12. Clip support

1293738-00

Figure 406 (Sheet 1) Green Electrical Cable - Removal and Installation

*** * * FOR CT7-2E1 MODIFIED TO SB 72-0013**



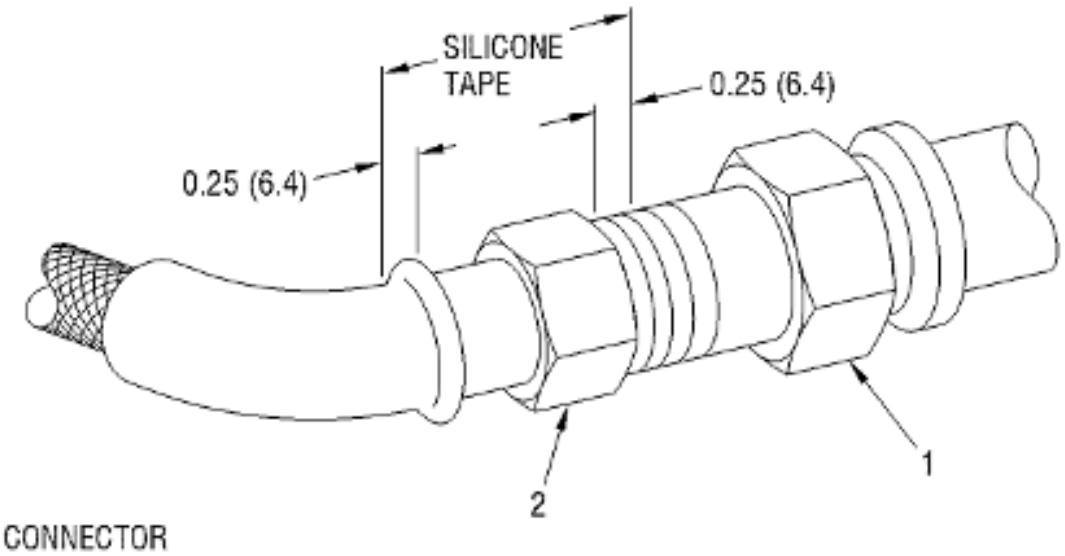
LEGEND:

1. ELECTRICAL CONNECTOR (ANTI-ICING BLEED VALVE)
2. ELECTRICAL CONNECTOR (ALTERNATOR STATOR)
3. ELECTRICAL CONNECTOR (P3 SENSOR)
4. ELECTRICAL CONNECTOR (IGNITION EXCITER)
5. ELECTRICAL CONNECTOR (FUEL METERING UNIT) (FMU)
6. ELECTRICAL CONNECTOR (Np/Q SENSOR)
7. ELECTRICAL CONNECTOR (ELECTRONIC ENGINE CONTROL UNIT) (EECU)
8. ELECTRICAL CONNECTOR (OIL PRESSURE TRANSMITTER)
9. ELECTRICAL CONNECTOR (ELECTRICAL CHIP DETECTOR)
10. ELECTRICAL CONNECTOR (OIL FILTER IMPENDING BYPASS SENSOR)
11. ELECTRICAL CONNECTOR (TORQUE ID PLUG)
12. CLIP SUPPORT
13. BOLT

5050779-00

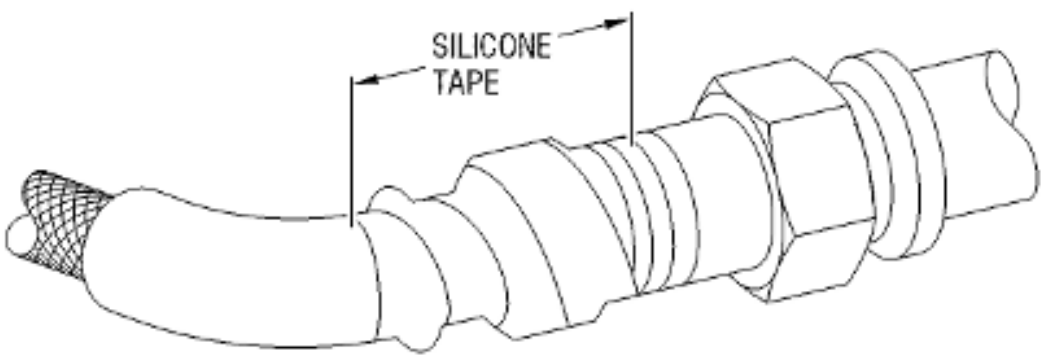
Figure 406 (Sheet 2) Green Electrical Cable - Removal and Installation

*** * * FOR CT7-2E1**

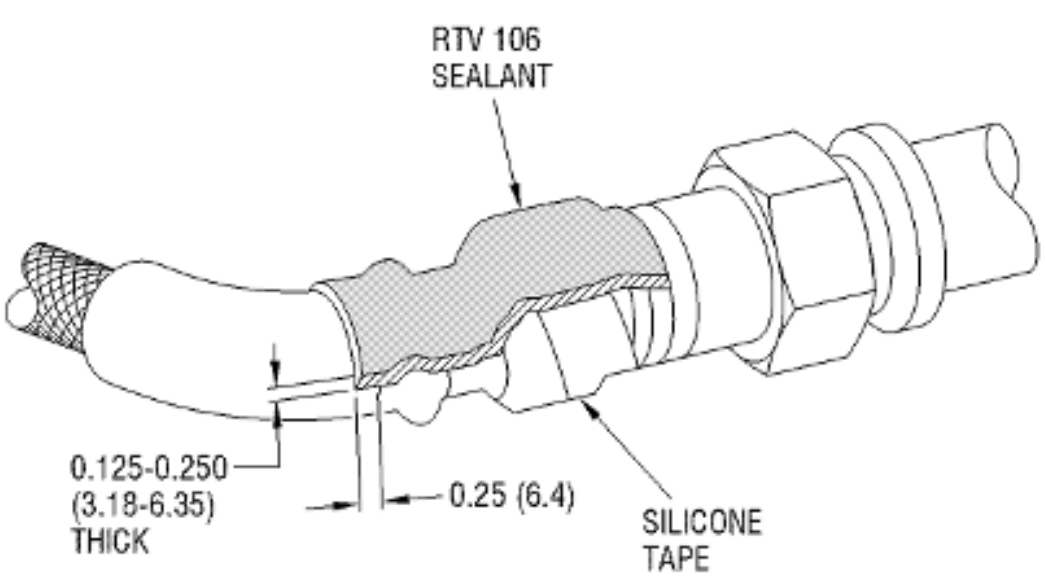


LEGEND:
1. Np/Q SENSOR CONNECTOR
2. ELECTRICAL CABLE CONNECTOR

VIEW A



VIEW B



VIEW C

ALL DIMENSIONS ARE IN INCHES WITH MILLIMETERS IN PARENTHESES.

6021747-00

Figure 407 Electrical Cable Connector and Sensor Connector - Sealing

8. Blue Electrical Cable.
   A. Removal.
      CAUTION: INSTALL PROTECTIVE CAPS ON ALL CONNECTOR FITTINGS FROM WHICH THE BLUE CABLE IS DISCONNECTED.
      (1) Disconnect blue cable (Figure 408) from Np sensor (5) as follows:
         (a) Remove RTV 106 sealant from coupling nut on electrical cable and, if applicable, silicone tape under RTV 106 sealant. Remove electrical connector on Np/Q sensor (5).
         (b) Using two wrenches, disconnect coupling nuts on electrical cables from electrical connectors on Np/Q sensor (5) and thermocouple assembly (6).

(2) Disconnect blue cable from the remaining components:
  (a) Electrical connector (1) from anti-icing bleed and start valve.
  (b) Electrical connector (2) from P0 sensor.
  (c) Electrical connector (8) from impending bypass switch.
  (d) Electrical connector (9) from low oil indicator sensor.
  (e) Electrical connector (3) from P3 sensor.
  (f) Electrical connector (10) from oil temperature detector.
  (g) Electrical connector (7) from electronic engine control unit.
  (h) Electrical connector (4) from fuel metering unit.
(3) Remove blue electrical cable from eight clip supports (11) (typical).

B. Installation.
(1) Remove protective caps or equivalent from all connector fittings on which the blue cable attaches (Figure 408).
(2) Inspect connectors to be sure they are clean and free of fuel and oil. If not, clean and dry them (CLEANING).
(3) Stabilant 22 may be applied to specific blue cable connectors on the forward portion of the engine, at operator option, to enhance connection reliability.

WARNING: REFER TO THE PRODUCT LABEL AND THE MANUFACTURER'S (MATERIAL) SAFETY DATA SHEET (SDS) FOR INSTRUCTIONS ON THE HAZARDS, STORAGE, SAFE HANDLING AND PROPER USE OF THIS PRODUCT.

CAUTION:
* SEE Table 402 FOR A LIST, BY CONNECTOR, OF WHERE STABILANT 22 CAN, AND CANNOT, BE APPLIED. APPLICATION TO THE WRONG CONNECTOR MAY RESULT IN EXCEEDING THE BREAK-DOWN TEMPERATURE OF THE STABILANT 22 AND DISTRESS TO THE CONNECTOR, REQUIRING REPLACEMENT OF THE COMPONENT AND THE CABLE.
* CONNECTORS MUST BE NEW, OR RECENTLY CLEANED, PRIOR TO APPLYING STABILANT 22. IF NECESSARY, CLEAN CONNECTORS (CLEANING).
* ONLY APPLY STABILANT 22 IF CONNECTOR WILL BE ASSEMBLED IMMEDIATELY.

(a) Apply Stabilant 22 as follows:
  1 Apply a small quantity to the connector pins and/or sockets to get a thin surface coating. Mix Stabilant 22 with a small quantity of isopropyl alcohol (suggested 15:1 Stabilant to alcohol) to help in flow down the pin or socket to create a thin film on the surface.
  2 Assemble connector per applicable manual procedure.
  3 Use a cotton swab and isopropyl alcohol to remove unwanted Stabilant 22 on the connector surfaces other than pins and sockets.
(4) Position blue cable as shown (Figure 408).
(5) Install blue cable in eight clip supports (11) (typical). Ensure the FMU branch passes over the Np/Q branch as show (Figure 409).
(6) Before connecting blue electrical cable to components listed in paragraph 8.B.(7), refer to paragraph 2 for instructions on mating electrical connectors with knurled coupling rings.

CAUTION: IMPROPERLY ENGAGED/BACKED-OFF HARNESS ELECTRICAL CONNECTORS CAN CREATE A POTENTIAL FLAME-OUT CONDITION.

(7) Connect blue cable connectors to the following connectors:
  (a) Electrical connector (1) to anti-icing bleed and start valve.
  (b) Electrical connector (2) to P0 sensor.
  (c) Electrical connector (8) to impending bypass switch.
  (d) Electrical connector (9) to low oil indicator sensor.
  (e) Electrical connector (3) to P3 sensor.
  (f) Electrical connector (10) to oil temperature detector.
  (g) Electrical connector (7) to electronic engine control unit.
  (h) Electrical connector (4) to fuel metering unit.
(8) Using two wrenches, tighten (90° wrench arc) coupling nut to thermocouple assembly (6).
(9) Connect blue cable to connector on Np/Q sensor (5). Using two wrenches, tighten (15° wrench arc) coupling nut.
(10) Seal electrical cable connector to connector (2, Figure 407) on Np/Q sensor connector (1), as follows:

WARNING: REFER TO THE PRODUCT LABEL AND THE MANUFACTURER'S (MATERIAL) SAFETY DATA SHEET (SDS) FOR INSTRUCTIONS ON THE HAZARDS, STORAGE, SAFE HANDLING AND PROPER USE OF THIS PRODUCT.

(a) Using trichlorotrifluoroethane, clean the external surfaces of connectors (1, 2) and adjacent surfaces beyond coupling nut area.

WARNING: USE EYE PROTECTION WHEN YOU USE COMPRESSED AIR TO CLEAN, COOL, OR DRY PARTS OR TOOLS. PARTICLES CAN CAUSE AN INJURY TO YOUR EYES. ENSURE COMPRESSED AIR PRESSURE IS LESS THAN 30 PSIG (207 KPA). DO NOT POINT COMPRESSED AIR AT YOURSELF OR OTHER PERSONS.

(b) Using dry, filtered, compressed air, blow-dry the external surfaces of the connectors and adjacent surfaces.
(c) Use silicone tape PN LW401 (orange with green stripe), and cover the connectors (1, 2). Apply the tape in the middle of the connection, and wrap the tape from one end to the other end; then back again to the middle. The overlap on both ends must be a minimum of 0.25 inch (6.4 mm) (views A and B).

WARNING: REFER TO THE PRODUCT LABEL AND THE MANUFACTURER'S (MATERIAL) SAFETY DATA SHEET (SDS) FOR INSTRUCTIONS ON THE HAZARDS, STORAGE, SAFE HANDLING AND PROPER USE OF

THIS PRODUCT.

(d) Clean the coupling nut and the adjacent surfaces of the connector (2) with isopropyl alcohol or equivalent.

WARNING: REFER TO THE PRODUCT LABEL AND THE MANUFACTURER'S (MATERIAL) SAFETY DATA SHEET (SDS) FOR INSTRUCTIONS ON THE HAZARDS, STORAGE, SAFE HANDLING AND PROPER USE OF THIS PRODUCT.

(e) Using RTV 106 sealant, seal entire coupling nut (view C) and adjacent surfaces. Sealant must be applied 360° all around connectors within the dimensions given in view C.

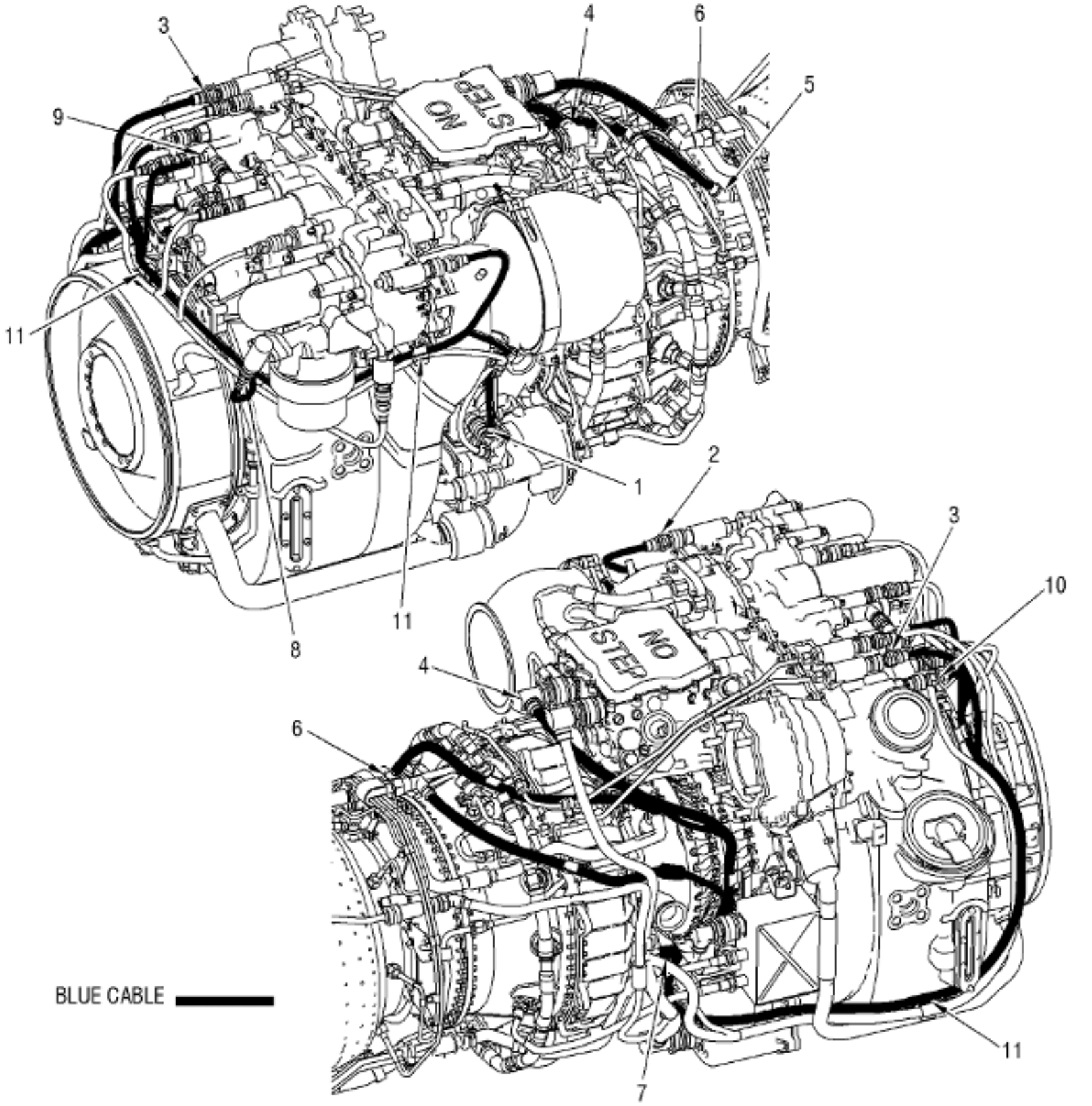
(f) Allow sealant to dry; inspect connectors to be sure that the sealant has been applied 360° all around. If necessary, use a flashlight and a mirror to inspect the area near the turbine casing.

(11) Do required checks (72-00-00, TEST).

TABLE 402. BLUE CABLE CONNECTORS WHERE STABILANT 22 CAN BE APPLIED

STABILANT 22 CAN BE APPLIED TO THE FOLLOWING CONNECTORS
Low Oil Indicator Sensor
AISBV
P3 Sensor
Oil Temperature Detector
P0 Sensor
Fuel Filter Impending Bypass Switch
DO NOT APPLY STABILANT 22 TO THE FOLLOWING CONNECTORS
EECU
Fuel Metering Unit (FMU)
Power Turbine Speed and Torque Sensor
Thermocouple Harness (T4.5)

*** * * FOR CT7-2E1**



1. Electrical connector (Anti-icing bleed valve)
2. Electrical connector (P0 sensor)
3. Electrical connector (P3 Sensor)
4. Electrical connector (Fuel metering unit)(FMU)
5. Electrical connector (Np/Q sensor)
6. Electrical connector (Thermocouple assembly)
7. Electrical connector (Electronic engine control unit)(EECU)
8. Electrical connector (Impending bypass switch)
9. Electrical connector (Low oil indicator sensor)
10. Electrical connector (Oil temperature detector)
11. Clip support

Figure 408 Blue Electrical Cable - Removal and Installation

*** * * FOR CT7-2E1**

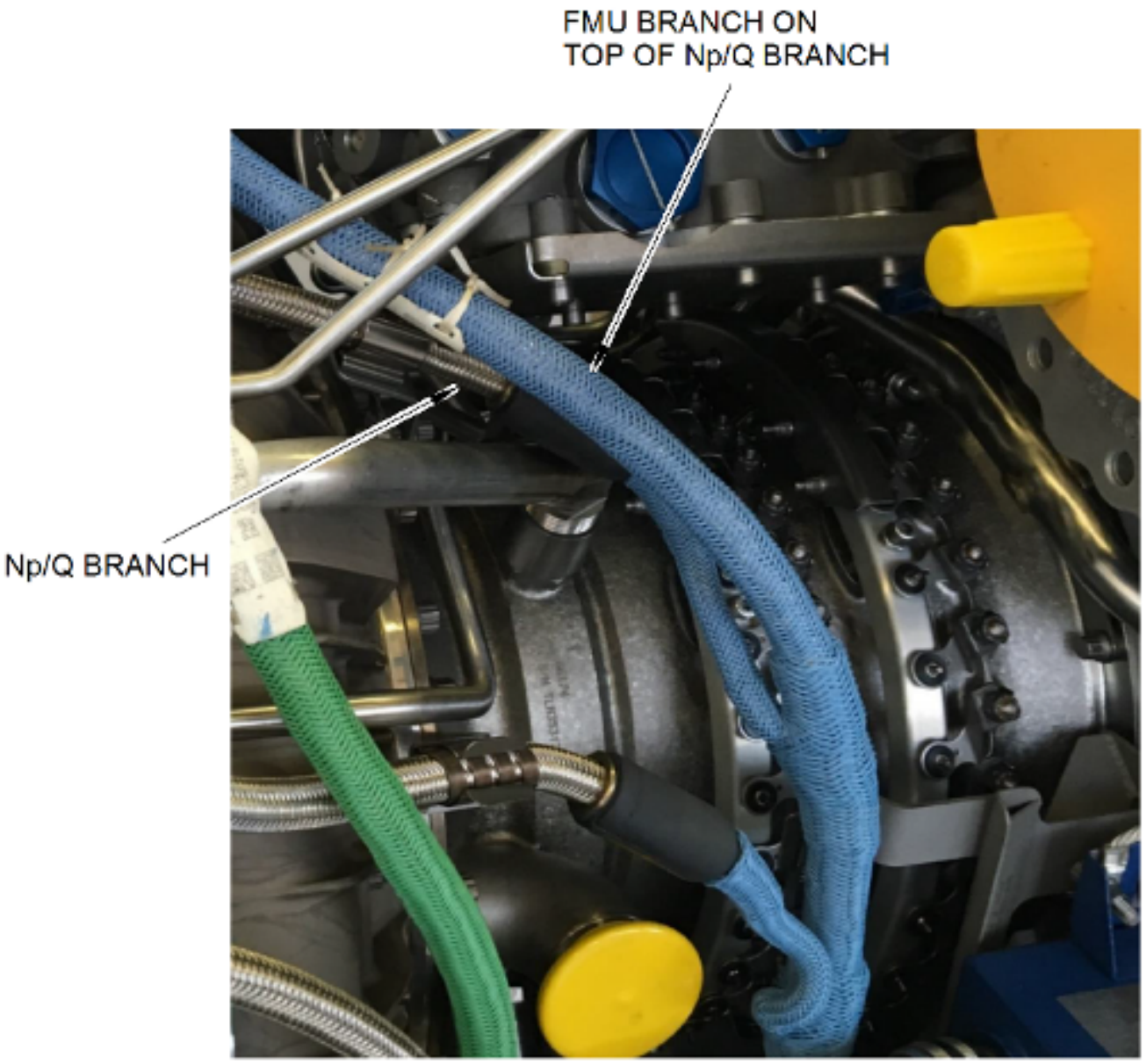
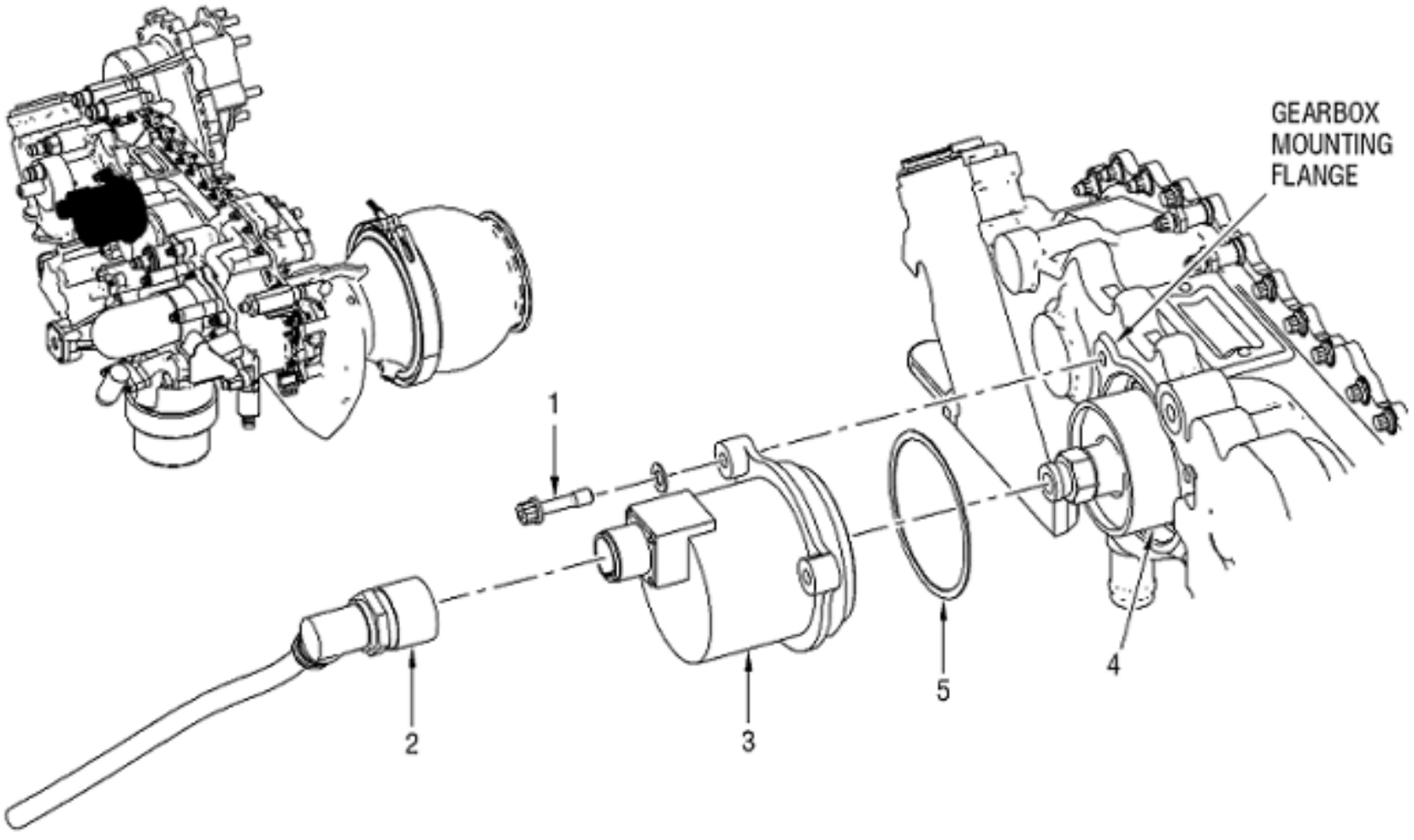


Figure 409 Correct Blue Cable Routing - FMU Branch Over Np/Q Branch

9. Alternator Stator.
   A. Removal.
      (1) Disconnect electrical connector (green cable) (2, Figure 410) from alternator stator (3).
      (2) Loosen three captive bolts (1).
      CAUTION: MAGNETIC FORCES ATTRACT STATOR TO ROTOR. BE SURE THAT STATOR DOES NOT COCK DURING REMOVAL AND INSTALLATION. DO NOT FORCE ALTERNATOR STATOR WITH A TOOL DURING REMOVAL.
      (3) Remove alternator stator (3). If stator cocks during removal, reseat stator and then remove stator from alternator rotor (4).
      (4) Remove and discard packing (5).
   B. Installation.
      (1) Install packing (5, Figure 410) on smaller shoulder of alternator stator (3).
      CAUTION: MAGNETIC FORCES ATTRACT STATOR TO ROTOR. BE SURE THAT STATOR DOES NOT COCK DURING REMOVAL AND INSTALLATION. DO NOT FORCE ALTERNATOR STATOR WITH A TOOL DURING REMOVAL.
      (2) Install alternator stator (3) over alternator rotor (4) in gearbox.
      (3) Tighten three captive bolts (1). Torque bolts to 45 to 50 lb in. (5.1 to 5.6 N.m).
      (4) Connect electrical connector (2).

(5) Do required checks (72-00-00, TEST).

*** * * FOR CT7-2E1**



1. Captive bolt (qty 3)
2. Electric connector (Green cable)
3. Alternator stator
4. Alternator rotor
5. Packing

5031872-00

Figure 410 Alternator Stator - Removal and Installation

10. Alternator Rotor.
    A. Removal.
        (1) Remove alternator stator (para 9).
        (2) Insert short end of hex key (Allen wrench) (4, Figure 411) into drive shaft.
        (3) Position long end of hex key so that it rests on bottom of oil and scavenge pump housing (3) (View A).
        (4) Place open-end wrench (1) on locknut (5).
        (5) Holding hex key in place, remove locknut.
        (6) Remove alternator rotor (2).
    B. Installation.
        (1) Slide alternator rotor (2, Figure 411) onto drive shaft.
        (2) Thread locknut (5) onto drive shaft, hand-tight.
        (3) Insert short end of hex key (Allen wrench) (4) into end of drive shaft.
        (4) Place hex key so that it rests on top of oil and scavenge pump housing (3) (View B).
        (5) Place a torque wrench (7) with a crowfoot (6) on locknut (5).
        (6) Holding hex key in place, turn locknut enough to check run-on torque. Run-on torque must be at least 14 lb in. (1.6 N.m). If it is not, use a new nut.

(7) Torque locknut (5) to 275 to 300 lb in. (31.1 to 33.9 N.m).
(8) Loosen locknut (5) again (View A).
(9) Retorque nut (5) to 275 to 300 lb in. (31.1 to 33.9 N.m) (View B).
(10) Do required checks (72-00-00, TEST).

11. Thermocouple Assembly.

A. Removal.

(1) Disconnect electrical connector (12, Figure 412) from thermocouple assembly connector (11).
(2) Loosen seven coupling nuts on lower, middle, upper, and center probes (6, 7, 8, 9).
(3) Remove two bolts (10) from top of junction box bracket (2).
(4) Remove six bolts (1) that secure thermocouple harness to brackets (3).

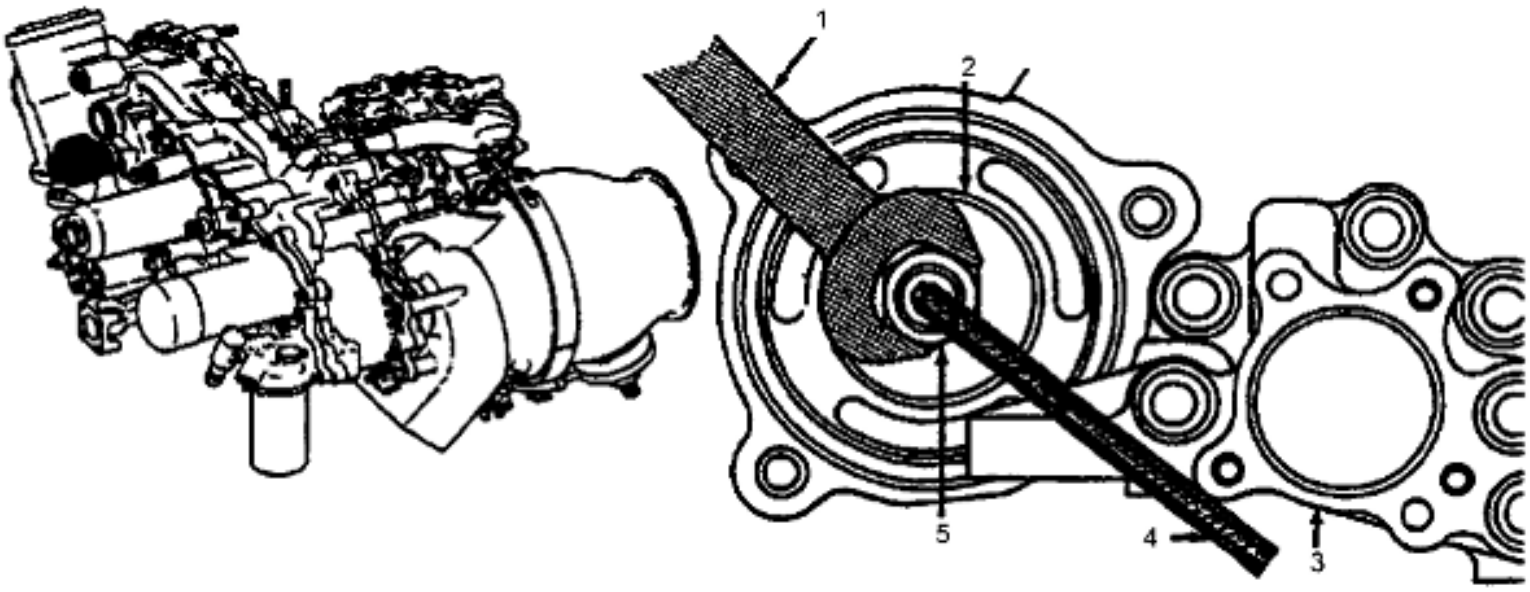
CAUTION: USE EXTRA CARE WHEN REMOVING PROBES BECAUSE TIPS CAN BE EASILY DEMAGED.

(5) Remove thermocouple assembly by carefully withdrawing lower probes (6) and middle probes (7) and expanding thermocouple harness radially outward. Then, withdraw upper probes (8) and center probes (9).

B. Installation.

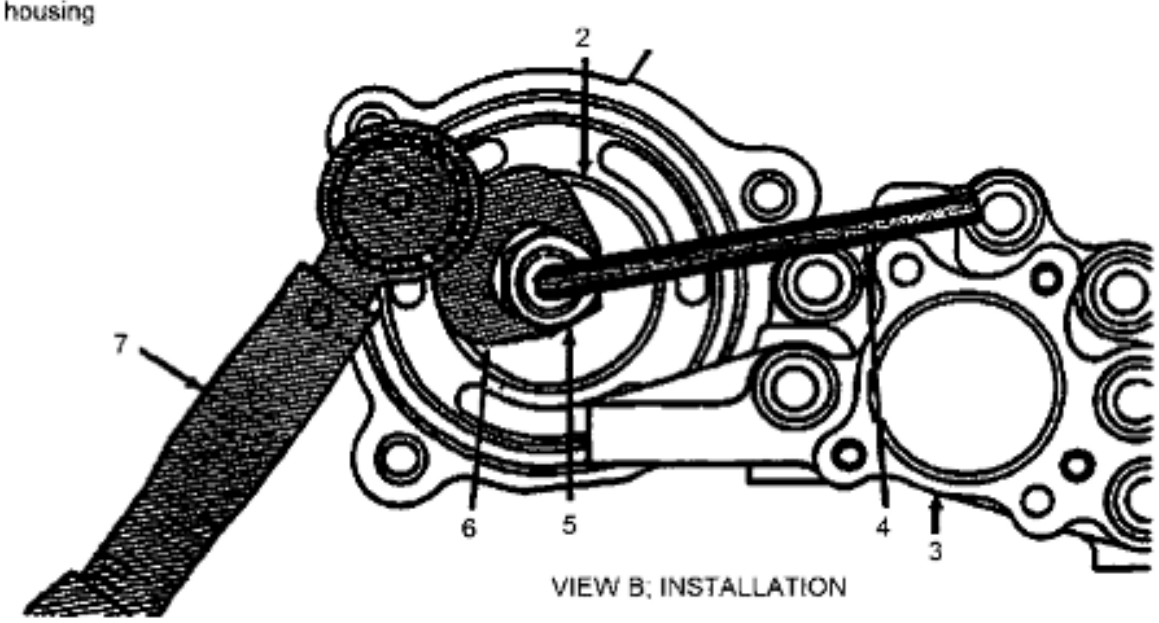
(1) Spread lower probes enough to clear engine casing, oil lines and leads and place thermocouple assembly around engine. Insert center probe (9, Figure 412) into mounting port at 11 o'clock position.
(2) Working from center, insert upper probes (8), middles probes (7), and lower probes (6) so that mounting tabs (4) are forward of brackets (3).
(3) Using an open-end wrench, snug down coupling nuts (5) on probes. Tighten (15° wrench-arc) coupling nuts.
(4) Secure thermocouple assembly to forward side of bracket (2) with two bolts (10). Torque bolts to 45 to 50 lb in. (5.1 to 5.6 N.m).
(5) Secure thermocouple assembly to forward side of 6 remaining brackets (3) with 6 bolts (1). Torque bolts to 45 to 50 lb in. (5.1 to 5.6 N.m).
(6) Install electrical connector (12) onto electrical connector (11). Tighten (60° wrench-arc) connector.
(7) Do required check (72-00-00, TEST).

*** * * FOR CT7-2E1**



VIEW A; REMOVAL

1. Open-end wrench
2. Alternator rotor
3. Oil and scavenge pump housing
4. Hex key
5. Locknut
6. Crowfoot
7. Torque wrench



VIEW B; INSTALLATION

5015414-00

Figure 411 Alternator Rotor - Removal and Installation

*** * * FOR CT7-2E1**

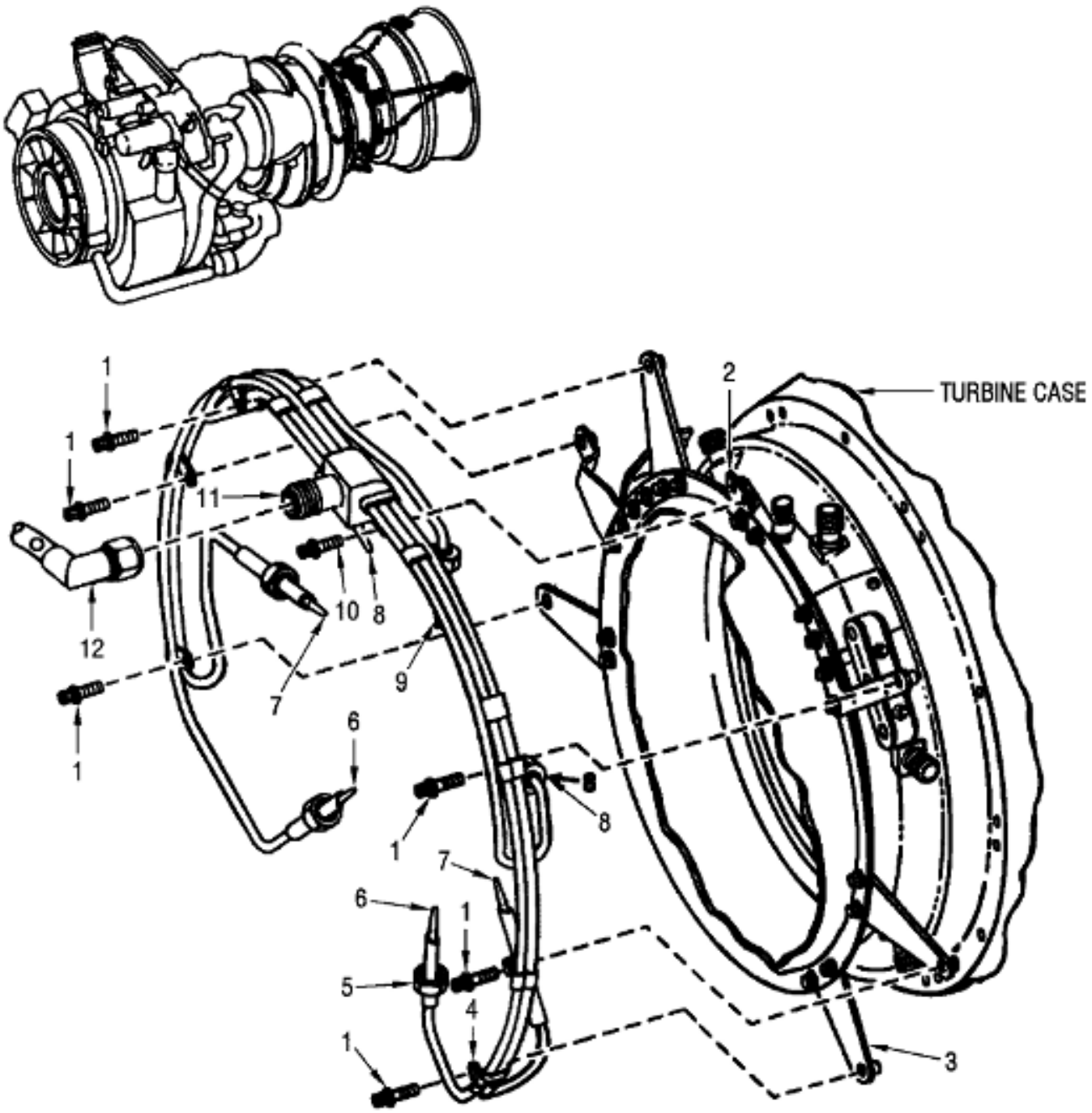


Figure 412 Thermocouple Assembly - Removal and Installation

12. Np/Q Sensor (1:30 O'clock Position - ALF).

A. Removal.

(1) Remove RTV sealant as follows:

NOTE: The connection between Np/Q sensor (3, Figure 413) and electrical connector (5) is covered with RTV 106 sealant. To aid in the removal of the RTV 106 sealant, some connections have silicone tape under RTV 106 sealant.

(a) Using a knife, scrape off a portion of RTV sealant in the center of connection to determine if silicone tape has been used.

(b) If silicone tape has been used under the RTV 106 sealant, pull tape to remove RTV 106 sealant from electrical connector (7) and electrical connector (5).

(c) If silicone tape has not been used under the RTV 106 sealant, use a knife and remove RTV 106 sealant from connector (7) and electrical connector (5).

(2) Using two wrenches, disconnect connector (7) from connector (5) on blue cable.

WARNING: DELETED

(3) Remove bolt (4) from clamp (6).

(4) Hold sensor flange (2) and remove three bolts (1).

NOTE: Do not remove scavenge tube flange bolt (9).

(5) Remove Np/Q sensor (3).
(6) Remove and discard two packings (8).
(7) Spread clamp (6) open and remove it from connector (7).

B. Installation.

(1) Install two packings (8, Figure 413).

WARNING: DELETED

(2) Slide clamp (6) over end of electrical connector (7). Squeeze clamp (6) to fit around connector (7).
(3) Carefully install sensor (3) into exhaust frame with tab on shaft of sensor (3) aligned with slot in strut.

CAUTION: USE EXTRA CARE WHEN SEATING SENSOR FLANGE ON EXHAUST FRAME FLANGE USING BOLTS. IF EXCESSIVE FORCE IS USED TO SEAT SENSOR, THE SENSOR FLANGE MAY BE BENT.

(4) Install three bolts (1). Tighten bolts evenly until sensor flange (2) is seated on exhaust frame flange. Torque bolts to 70 to 75 lb in. (7.9 to 8.5 N.m).
(5) Clean electrical connector (5) and electrical connector (7) (CLEANING). Connect connector (5) to electrical connector (7). Using two wrenches, tighten (15° wrench-arc) coupling nut.
(6) Seal electrical cable connector (2, Figure 407) to connector on Np/Q sensor connector (1) as follows:

WARNING: REFER TO THE PRODUCT LABEL AND THE MANUFACTURER'S (MATERIAL) SAFETY DATA SHEET (SDS) FOR INSTRUCTIONS ON THE HAZARDS, STORAGE, SAFE HANDLING AND PROPER USE OF THIS PRODUCT.

(a) Using trichlorotrifluoroethane, clean the external surfaces of connectors (1, 2) and adjacent surfaces beyond coupling nut area.

WARNING: USE EYE PROTECTION WHEN YOU USE COMPRESSED AIR TO CLEAN, COOL, OR DRY PARTS OR TOOLS. PARTICLES CAN CAUSE AN INJURY TO YOUR EYES. ENSURE COMPRESSED AIR PRESSURE IS LESS THAN 30 PSIG (207 KPA). DO NOT POINT COMPRESSED AIR AT YOURSELF OR OTHER PERSONS.

(b) Using dry, filtered, compressed air, blow-dry external surfaces of connectors and adjacent surfaces.
(c) Using silicone tape PN LW401 (orange with green stripe), cover the connectors (1, 2). Apply the tape in the middle of the connection, and wrap tape from one end to the other end, then back again to the middle. Minimum overlap on both ends must be 0.25 inch (6.4 mm) (views A and B).

WARNING: REFER TO THE PRODUCT LABEL AND THE MANUFACTURER'S (MATERIAL) SAFETY DATA SHEET (SDS) FOR INSTRUCTIONS ON THE HAZARDS, STORAGE, SAFE HANDLING AND PROPER USE OF THIS PRODUCT.

(d) Clean the coupling nut and the adjacent surfaces of the connector (2) with isopropyl alcohol or equivalent.

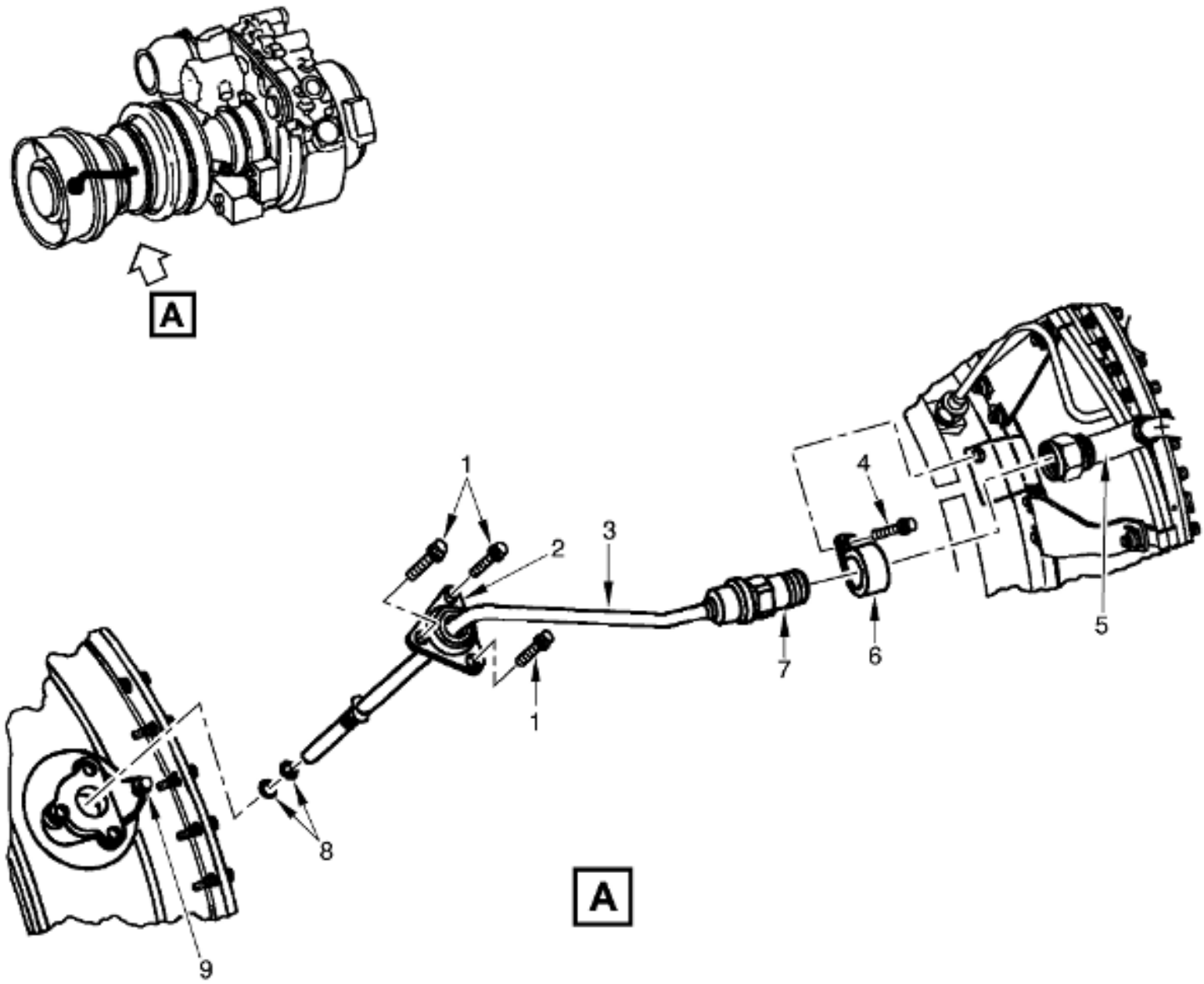
WARNING: REFER TO THE PRODUCT LABEL AND THE MANUFACTURER'S (MATERIAL) SAFETY DATA SHEET (SDS) FOR INSTRUCTIONS ON THE HAZARDS, STORAGE, SAFE HANDLING AND PROPER USE OF THIS PRODUCT.

(e) Use RTV 106 sealant, and seal the entire coupling nut (view c) and adjacent surfaces. The sealant must be applied 360° all around the connectors within the dimensions given in view C.
(f) Allow the sealant to dry; inspect the connectors to make sure that the sealant has been applied 360° all around. If necessary, use a flashlight and a mirror to inspect the area near the turbine casing.

WARNING: DELETED

(7) Install bolt (4, Figure 413) to secure clamp (6). Torque the bolt to 45 to 50 lb in. (5.1 to 5.6 N.m).
(8) Do the required checks (72-00-00, TEST).

*** * * FOR CT7-2E1**



LEGEND:

1. BOLT (QTY-3)
2. SENSOR FLANGE
3. NP/Q SENSOR
4. BOLT
5. ELECTRICAL CONNECTOR
6. CLAMP
7. ELECTRICAL CONNECTOR
8. PACKING (QTY-2)
9. SCAVENGE TUBE FLANGE BOLT

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Figure 413 Np/Q Sensor (1:30 O'clock Position - ALF) - Removal and Installation

13. Np/Q Sensor (10:30 O'Clock Position - ALF).
    A. Removal.
        (1) Remove RTV 106 sealant as follows:
        NOTE: The connection between the Np/Q sensor (4, Figure 414) and electrical connector (9) is covered with RTV 106 sealant. To aid in the removal of the RTV 106 sealant, some connections have silicone tape under RTV 106 sealant.
            (a) Using a knife, scrape off a portion of RTV sealant in the center of connection to determine if silicone tape has been used.
            (b) If silicone tape has been used under the RTV 106 sealant, pull tape to remove RTV 106 sealant from electrical connector (3) and electrical connector (9).
            (c) If silicone tape has not been used under the RTV 106 sealant, use a knife and remove RTV 106 sealant from connector (3) and electrical connector (9).
        (2) Using two wrenches, disconnect electrical connector (9) from Np/Q sensor electrical connector (3).
        WARNING: DELETED
        (3) Remove bolt (2) from clamp (1).
        (4) Hold sensor flange (6) and remove three bolts (5).

NOTE: Do not remove aft scavenge C-sump tube flange bolt (10).

(5) Remove Np/Q sensor (4).

(6) Remove and discard two packings (7).

(7) Spread clamp (1) open and remove it from electrical connector (3).

B. Installation.

(1) Install two packings (7, Figure 414) on lower end of Np/Q sensor (4).

WARNING: DELETED

(2) Slide clamp (1) over end of electrical connector (3). Squeeze clamp (1) to fit around connector (3).

(3) Carefully install sensor (4) into exhaust frame (8) with tab on shaft of sensor (4) aligned with slot in strut.

CAUTION: USE EXTRA CARE WHEN SEATING SENSOR FLANGE ON EXHAUST FRAME FLANGE USING BOLTS. IF EXCESSIVE FORCE IS USED TO SEAT SENSOR, THE SENSOR FLANGE MAY BE BENT.

(4) Install three bolts (5). Tighten them evenly until sensor flange (6) is seated on exhaust frame flange. Torque bolts to 70 to 75 lb in. (7.9 to 8.5 N.m).

(5) Clean electrical connector (9) and electrical connector (3) (CLEANING). Connect connector (9) to electrical connector (3). Using two wrenches, tighten (15° wrench-arc) coupling nut.

(6) Seal electrical cable connector (2, Figure 407) to connector on Np/Q sensor connector (1) as follows:

WARNING: REFER TO THE PRODUCT LABEL AND THE MANUFACTURER'S (MATERIAL) SAFETY DATA SHEET (SDS) FOR INSTRUCTIONS ON THE HAZARDS, STORAGE, SAFE HANDLING AND PROPER USE OF THIS PRODUCT.

(a) Using trichlorotrifluoroethane, clean the external surfaces of connectors (1, 2) and adjacent surfaces beyond coupling nut area.

WARNING: USE EYE PROTECTION WHEN YOU USE COMPRESSED AIR TO CLEAN, COOL, OR DRY PARTS OR TOOLS. PARTICLES CAN CAUSE AN INJURY TO YOUR EYES. ENSURE COMPRESSED AIR PRESSURE IS LESS THAN 30 PSIG (207 KPA). DO NOT POINT COMPRESSED AIR AT YOURSELF OR OTHER PERSONS.

(b) Using dry, filtered, compressed air, blow-dry external surfaces of connectors and adjacent surfaces.

(c) Using silicone tape PN LW401 (orange with green stripe), cover connectors (1, 2). Apply tape in the middle of connection and wrap tape from one end to the other end, then back again to the middle. Minimum overlap on both ends must be 0.25 inch (6.4 mm) (views A and B).

WARNING: REFER TO THE PRODUCT LABEL AND THE MANUFACTURER'S (MATERIAL) SAFETY DATA SHEET (SDS) FOR INSTRUCTIONS ON THE HAZARDS, STORAGE, SAFE HANDLING AND PROPER USE OF THIS PRODUCT.

(d) Clean the coupling nut and the adjacent surfaces of the connector (2) with isopropyl alcohol or equivalent.

WARNING: REFER TO THE PRODUCT LABEL AND THE MANUFACTURER'S (MATERIAL) SAFETY DATA SHEET (SDS) FOR INSTRUCTIONS ON THE HAZARDS, STORAGE, SAFE HANDLING AND PROPER USE OF THIS PRODUCT.

(e) Use RTV 106 sealant, and seal the entire coupling nut (view c) and the adjacent surfaces. The sealant must be applied 360° all around the connectors within the dimensions given in view C.

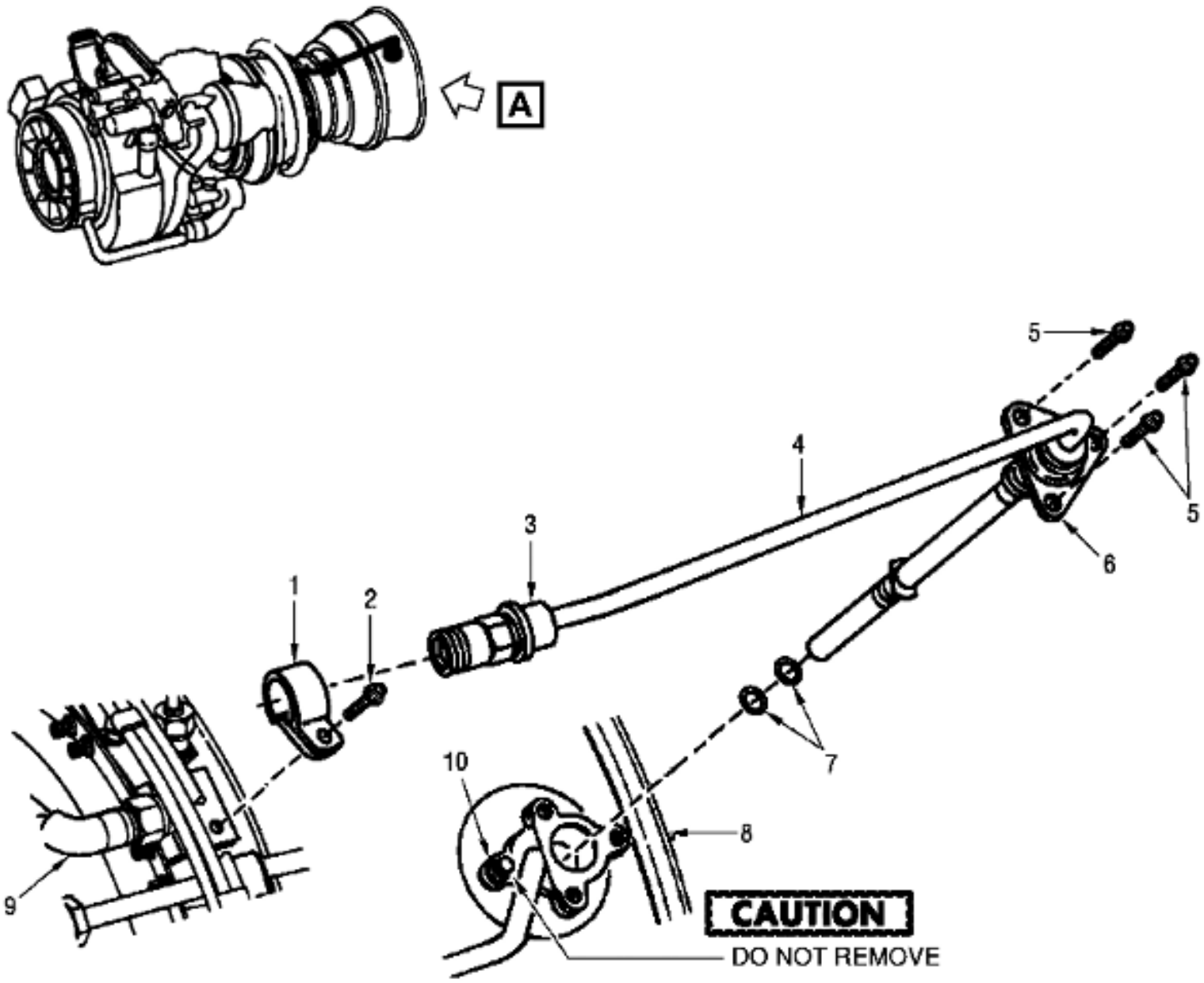
(f) Allow the sealant to dry; then, inspect the connectors to make sure that the sealant has been applied 360° all around. If necessary, use a flashlight and a mirror to inspect the area near the turbine casing.

WARNING: DELETED

(7) Install bolt (2, Figure 414) in clamp (1). Torque bolt to 45 to 50 lb in. (5.1 to 5.6 N.m).

(8) Do required checks (72-00-00, TEST).

*** * * FOR CT7-2E1**



LEGEND:

1. CLAMP
2. BOLT
3. ELECTRICAL CONNECTOR
4. Np/Q SENSOR
5. BOLTS (QTY-3)
6. SENSOR FLANGE
7. PACKINGS (QTY-2)
8. EXHAUST FRAME
9. ELECTRICAL CONNECTOR
10. AFT C-SUMP TUBE FLANGE BOLT

A

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Figure 414 Np/Q Sensor (10:30 O'Clock Position - ALF) - Removal and Installation

*** * * FOR CT7-2E1 MODIFIED TO SB 72-0013**

14. Torque Identification (ID) Plug.
    A. Removal.
       Disconnect green cable electrical connector (11, Figure 406) from torque ID plug.
    B. Installation.
       Connect green cable electrical connector (11, Figure 406) to torque ID plug.