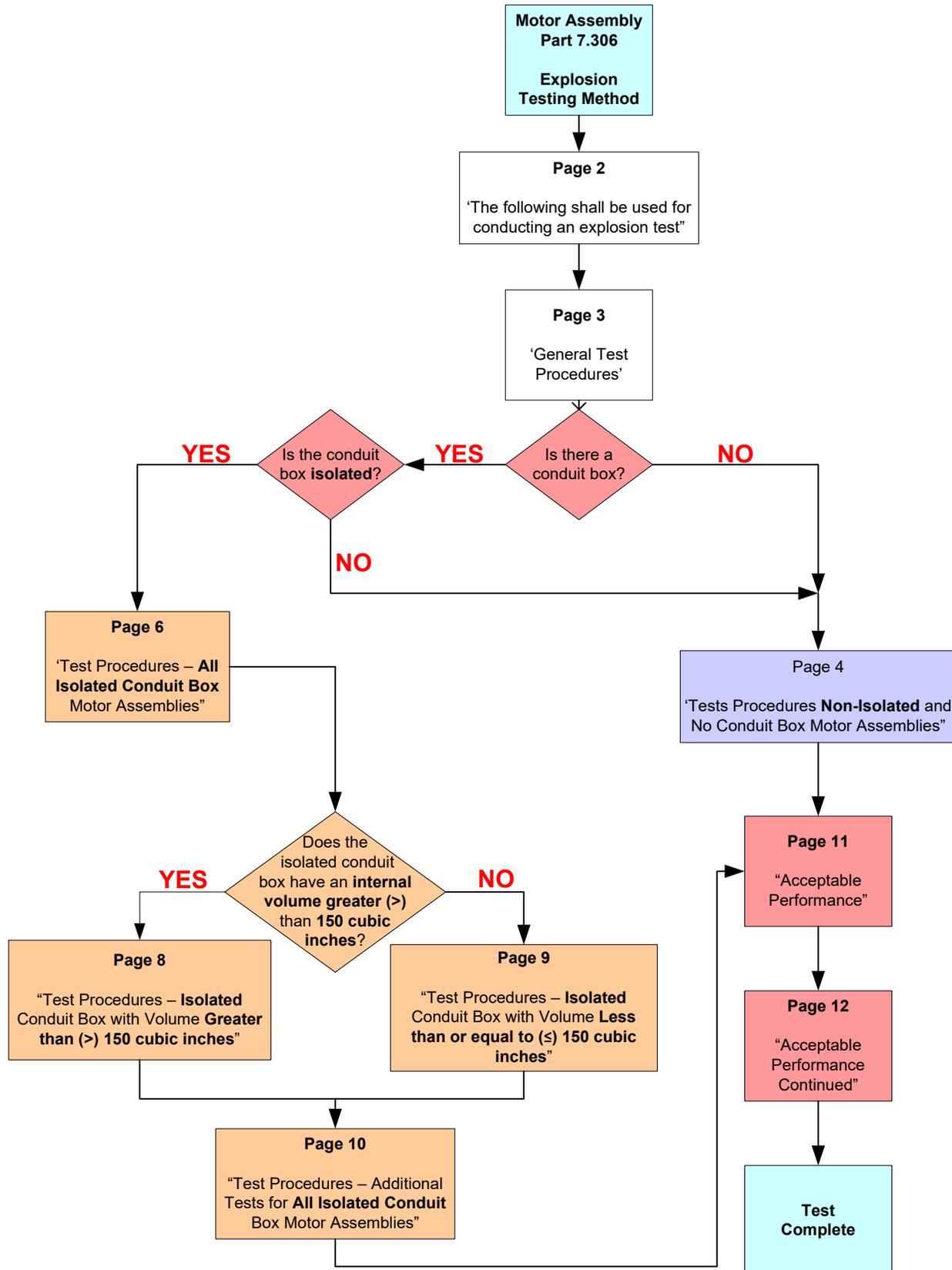


EXPLOSION TESTS

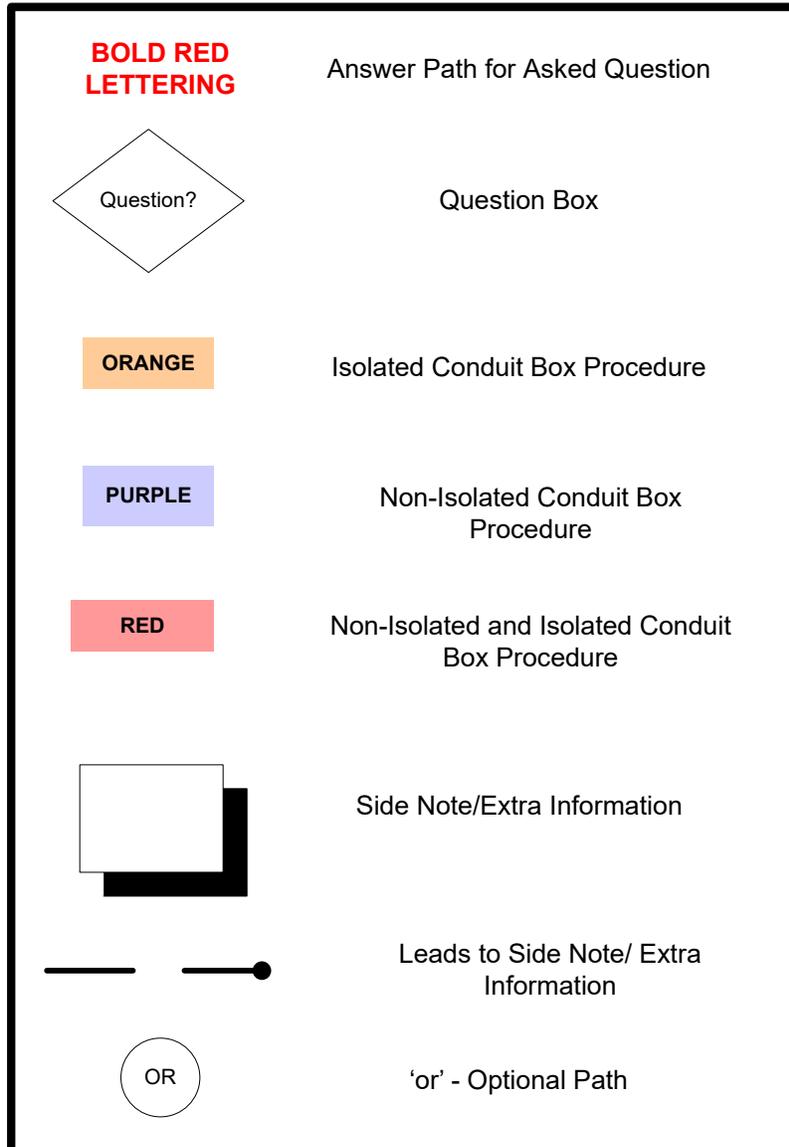
TITLE 30 CFR PART 7.306

FLOW CHARTS



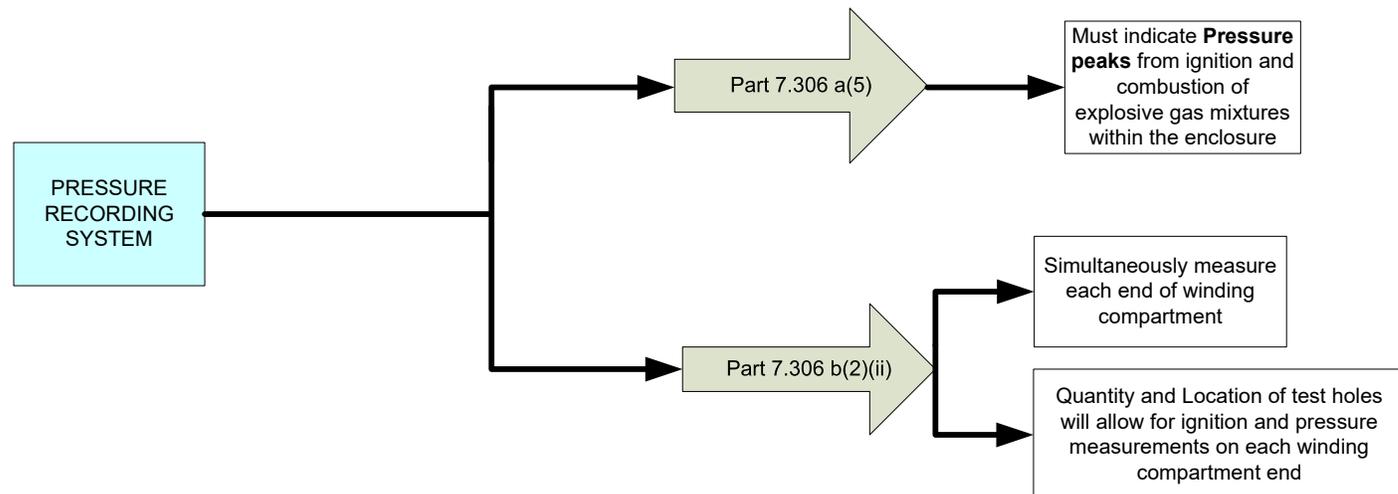
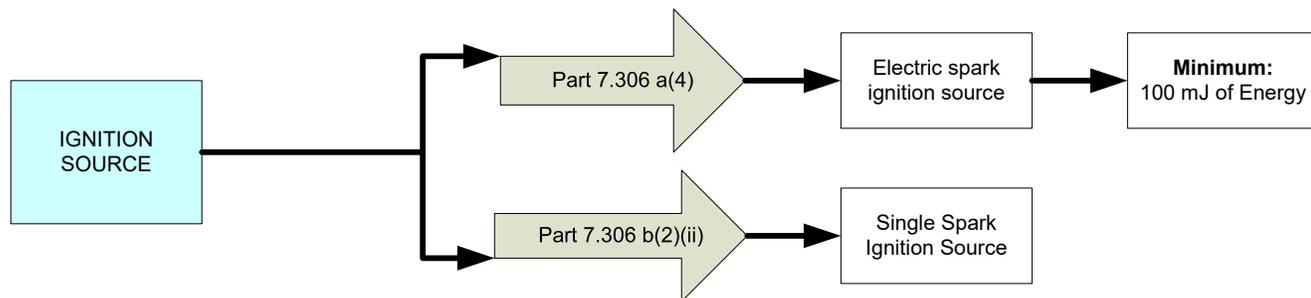
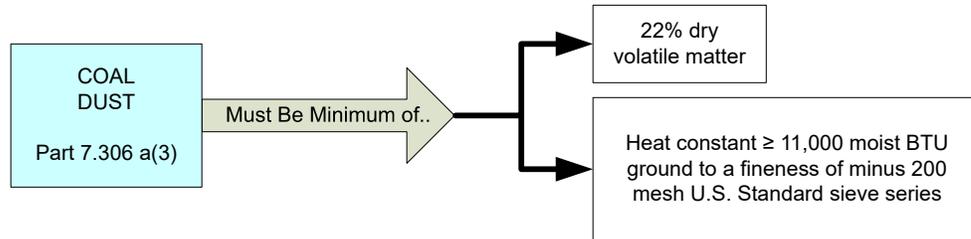
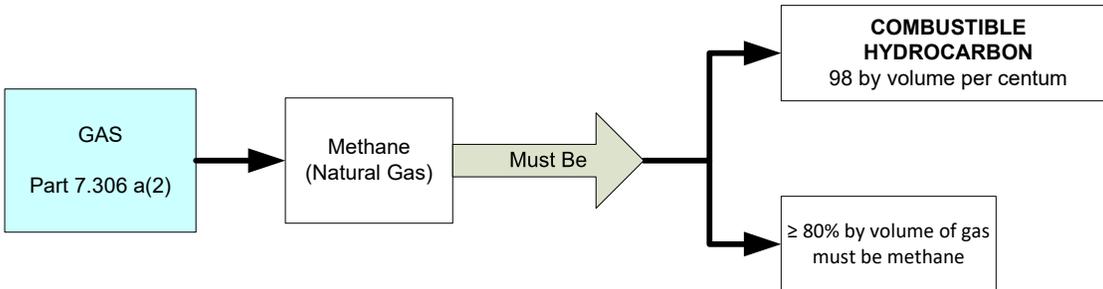
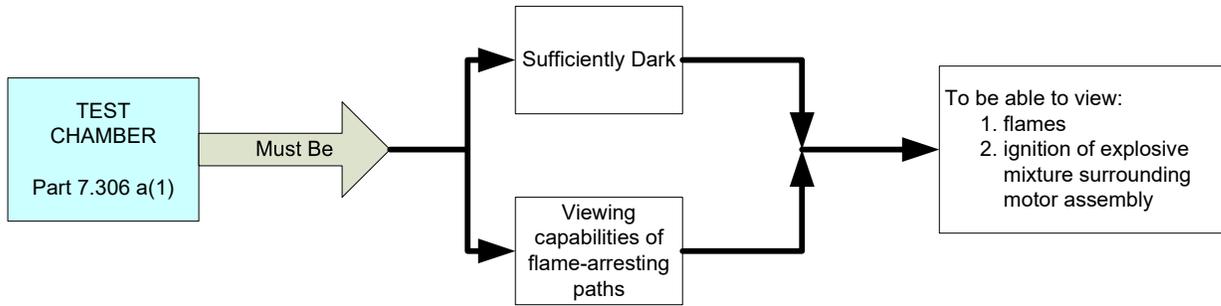
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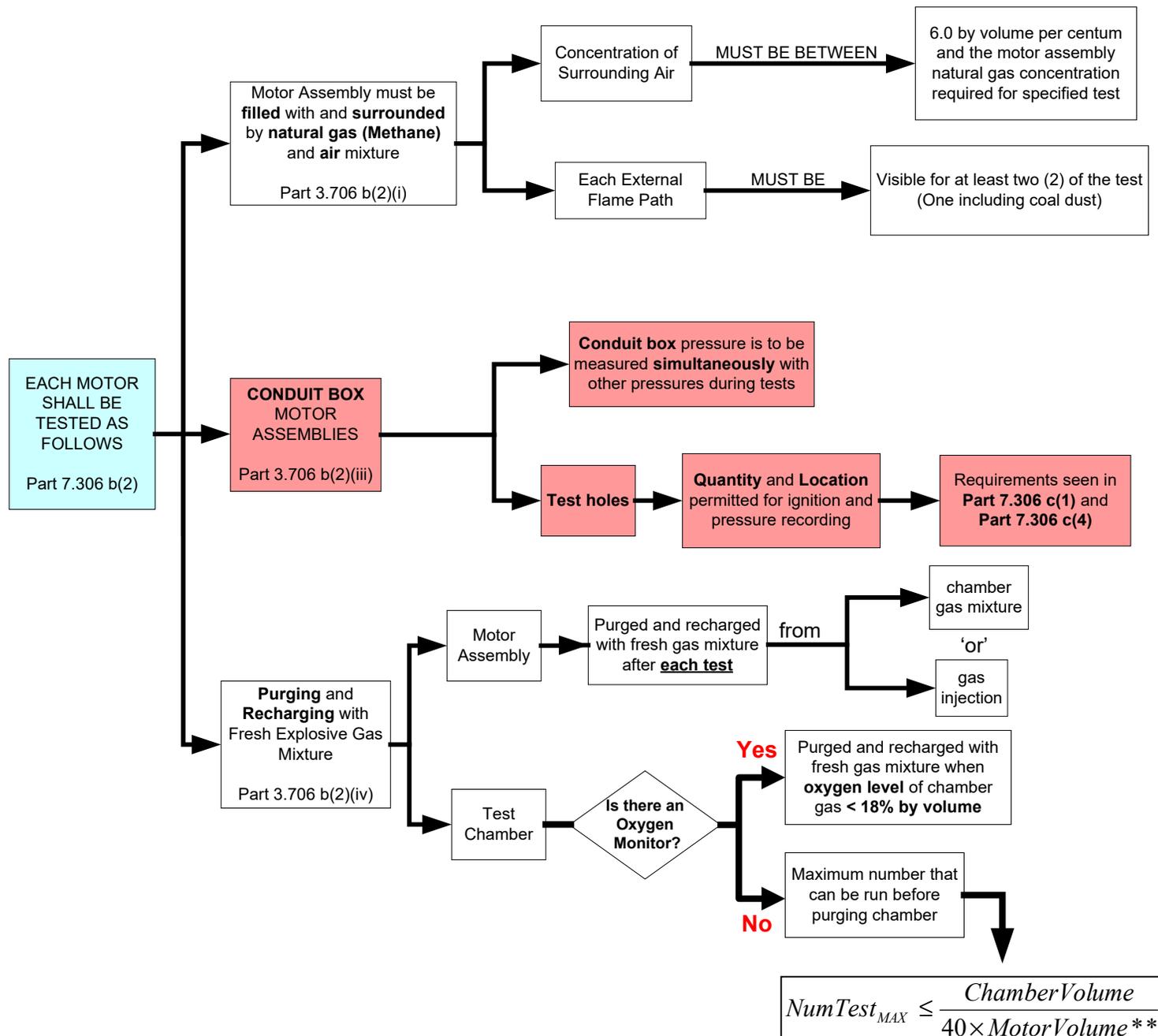
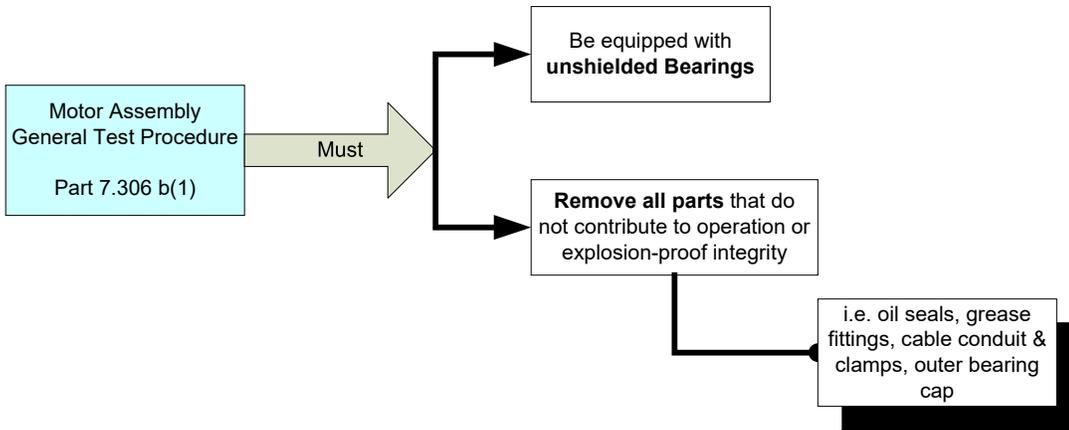
PAGE 1



THE FOLLOWING SHALL BE USED FOR CONDUCTING AN EXPLOSION TEST

PAGE 2



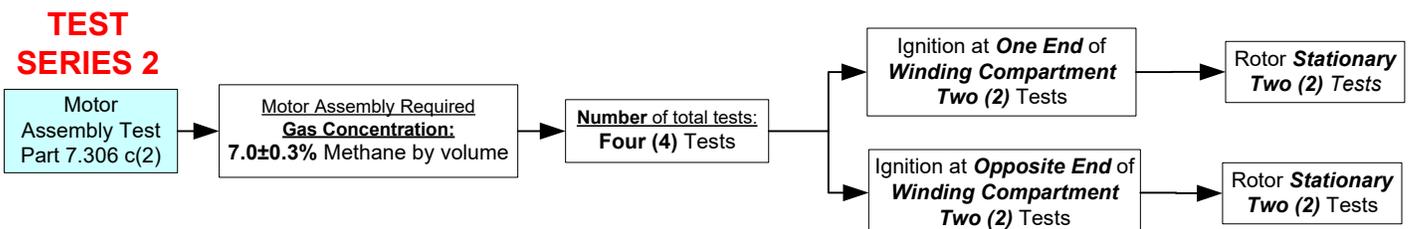
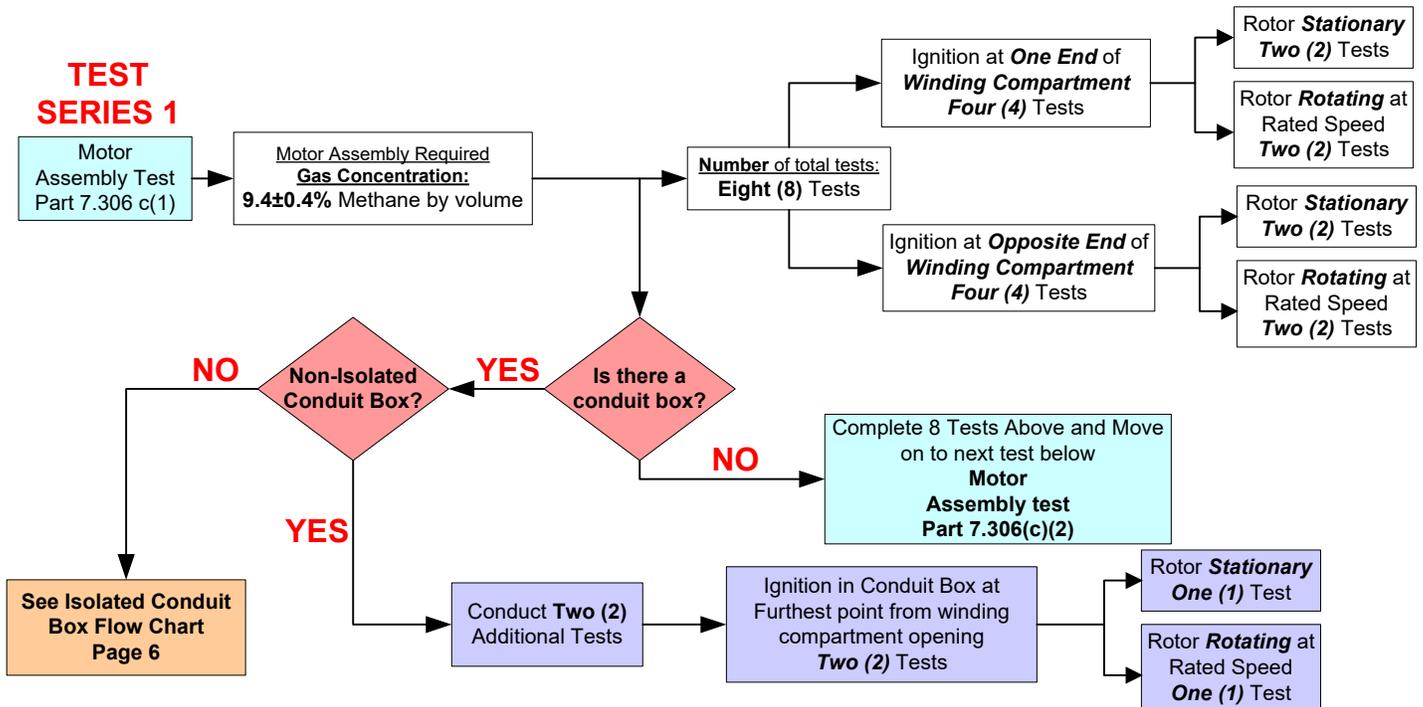
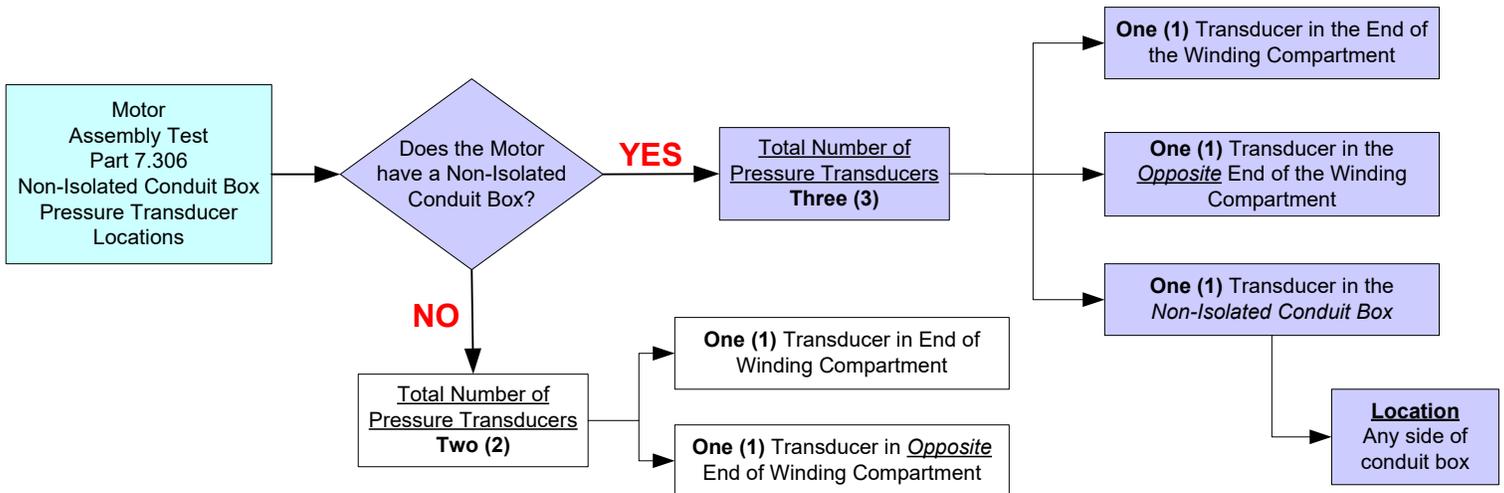


** Motor Volume = the Volume occupied by Motor

TEST PROCEDURES

NON-ISOLATED AND NO CONDUIT BOX MOTOR ASSEMBLIES

PAGE 4



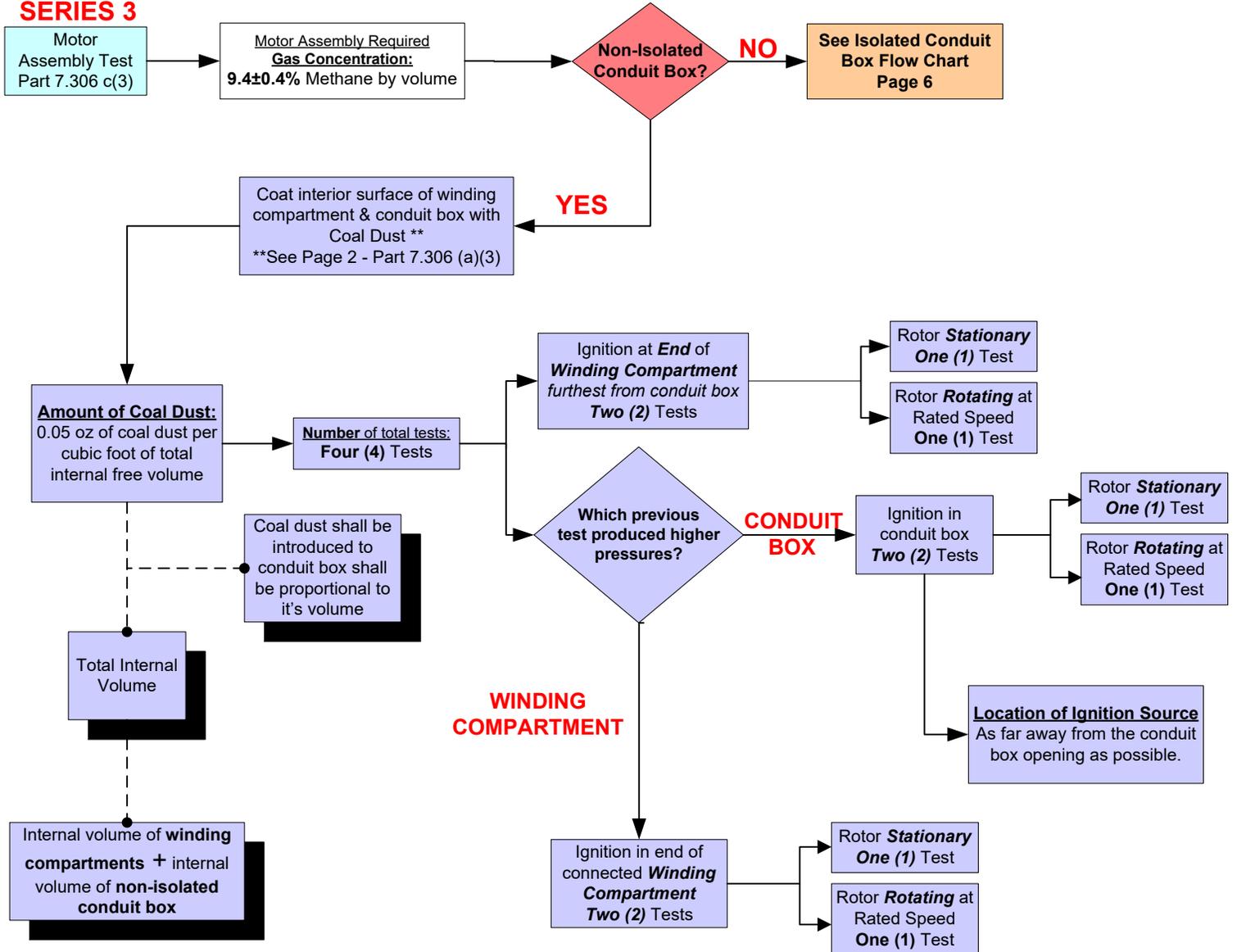
Continue on to Next Page – Page 5 for Test Series 3 of Non-Isolated Conduit Box Motors

TEST PROCEDURES

NON-ISOLATED AND NO CONDUIT BOX MOTOR ASSEMBLIES CONT.

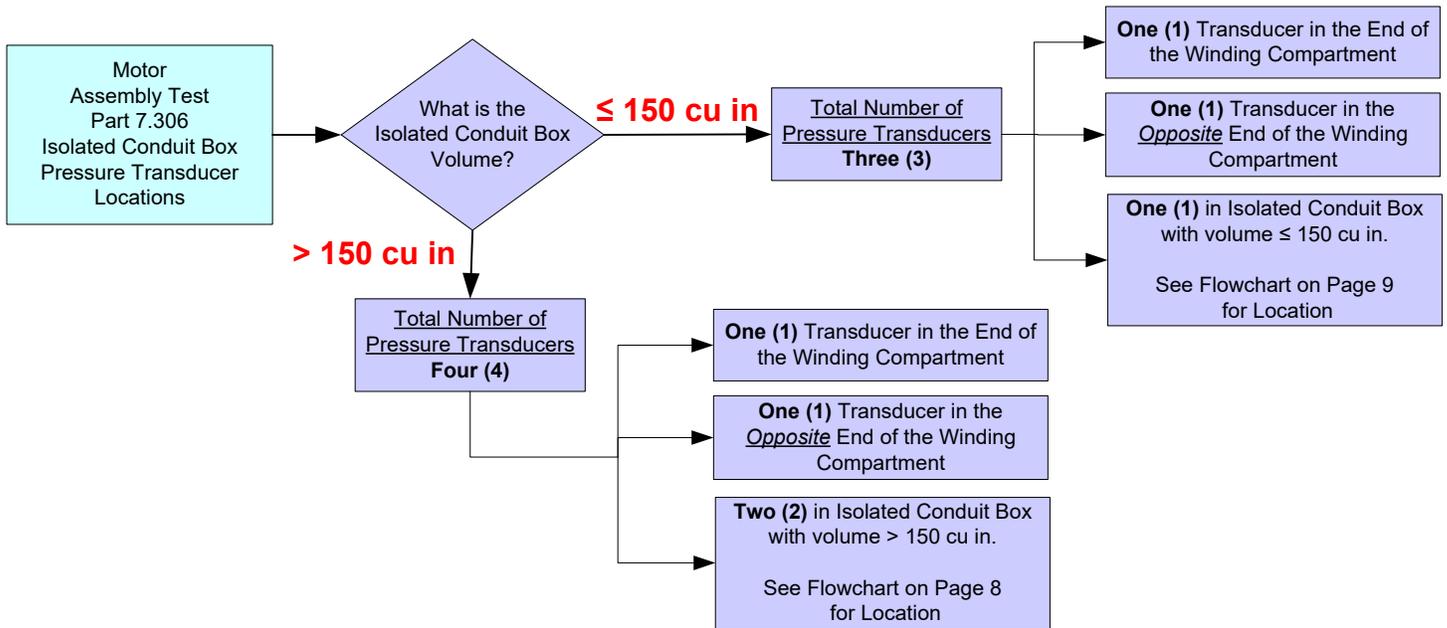
PAGE 5

TEST SERIES 3

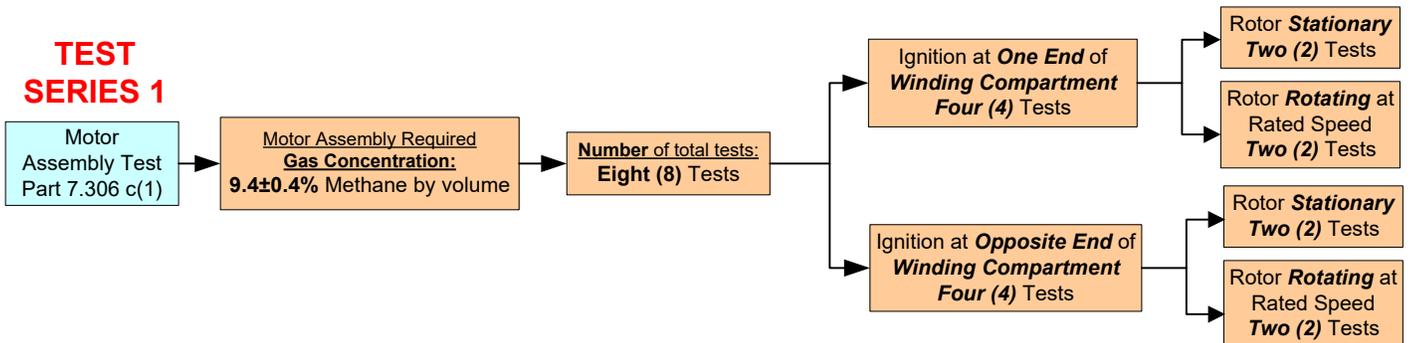


ALL ISOLATED CONDUIT BOX MOTOR ASSEMBLIES

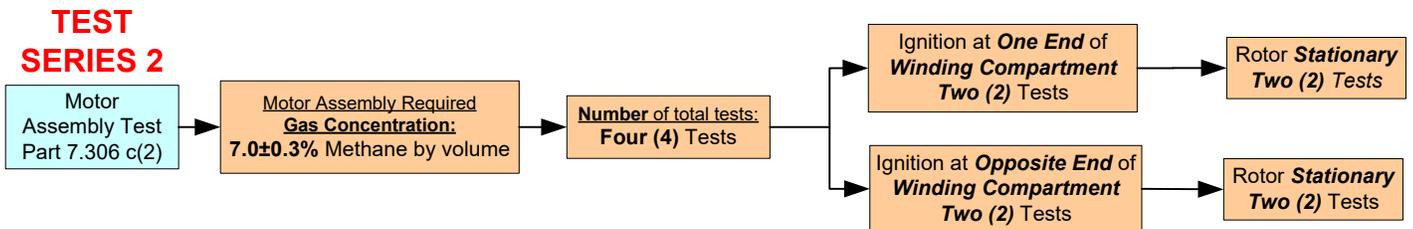
PAGE 6



TEST SERIES 1



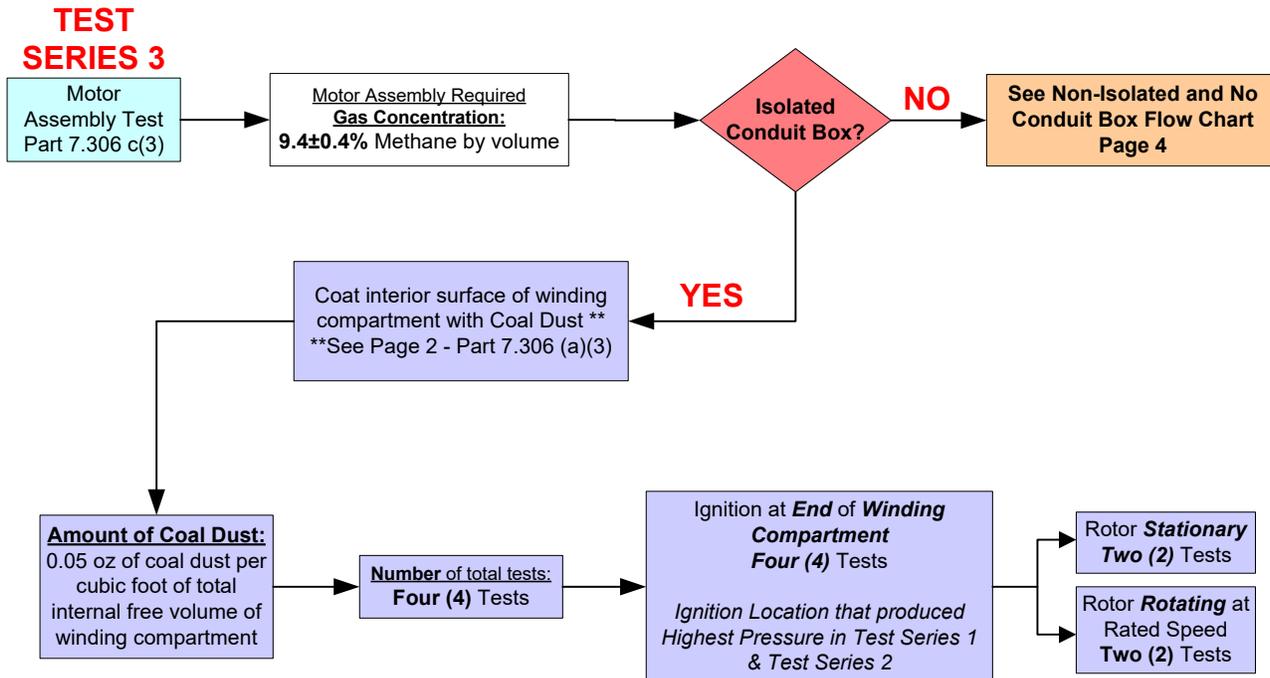
TEST SERIES 2



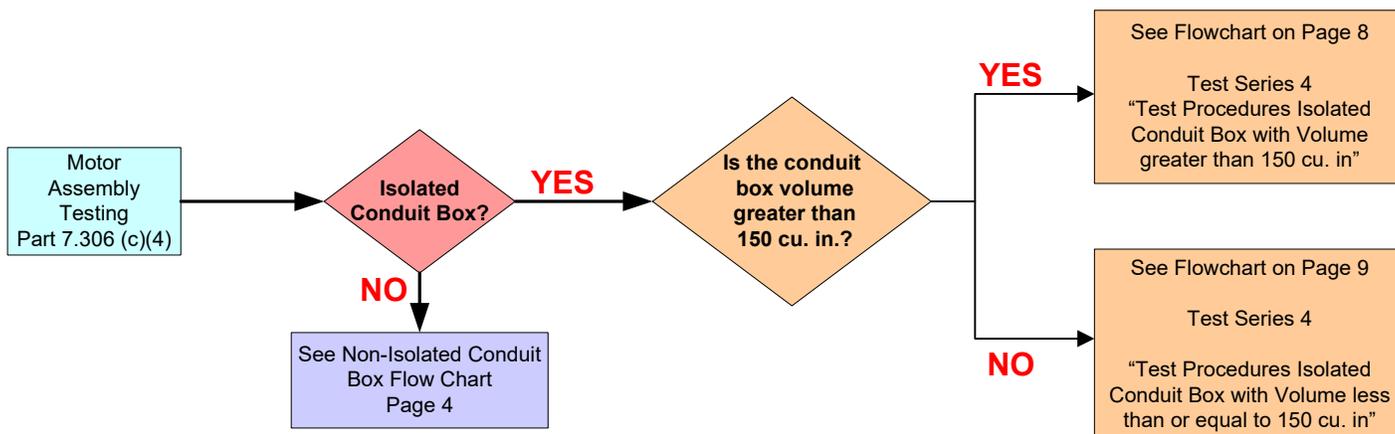
TEST PROCEDURES

ALL ISOLATED MOTOR ASSEMBLIES CONT.

PAGE 7



Part 7.306 (c)(4) Additional Testing for Isolated Conduit Box

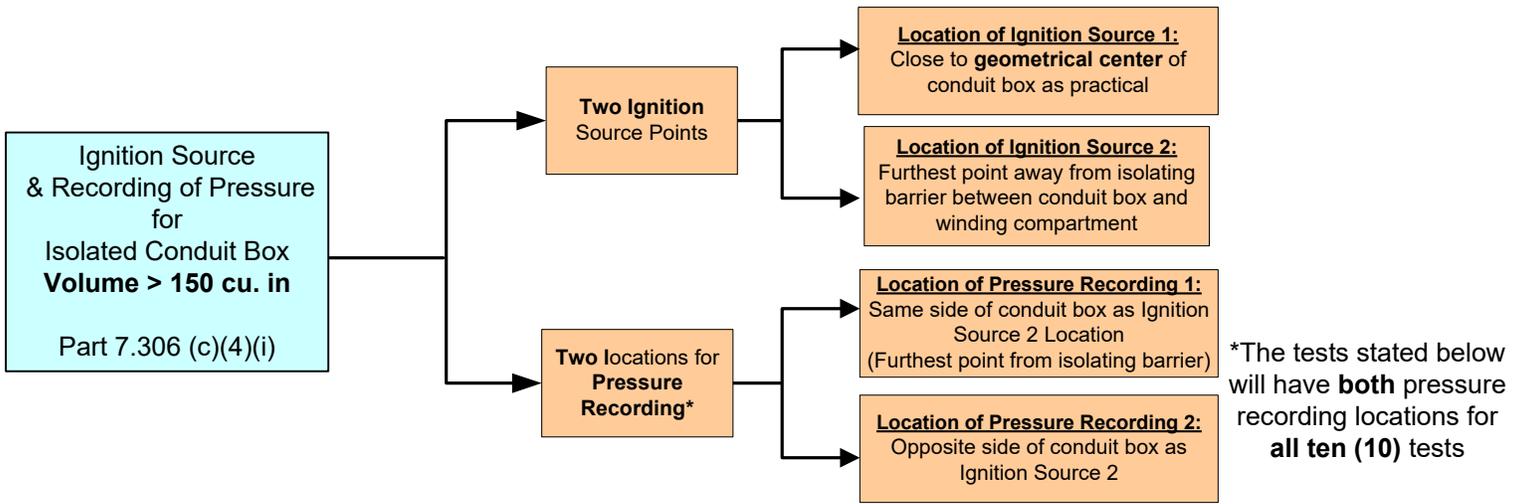


TEST PROCEDURES

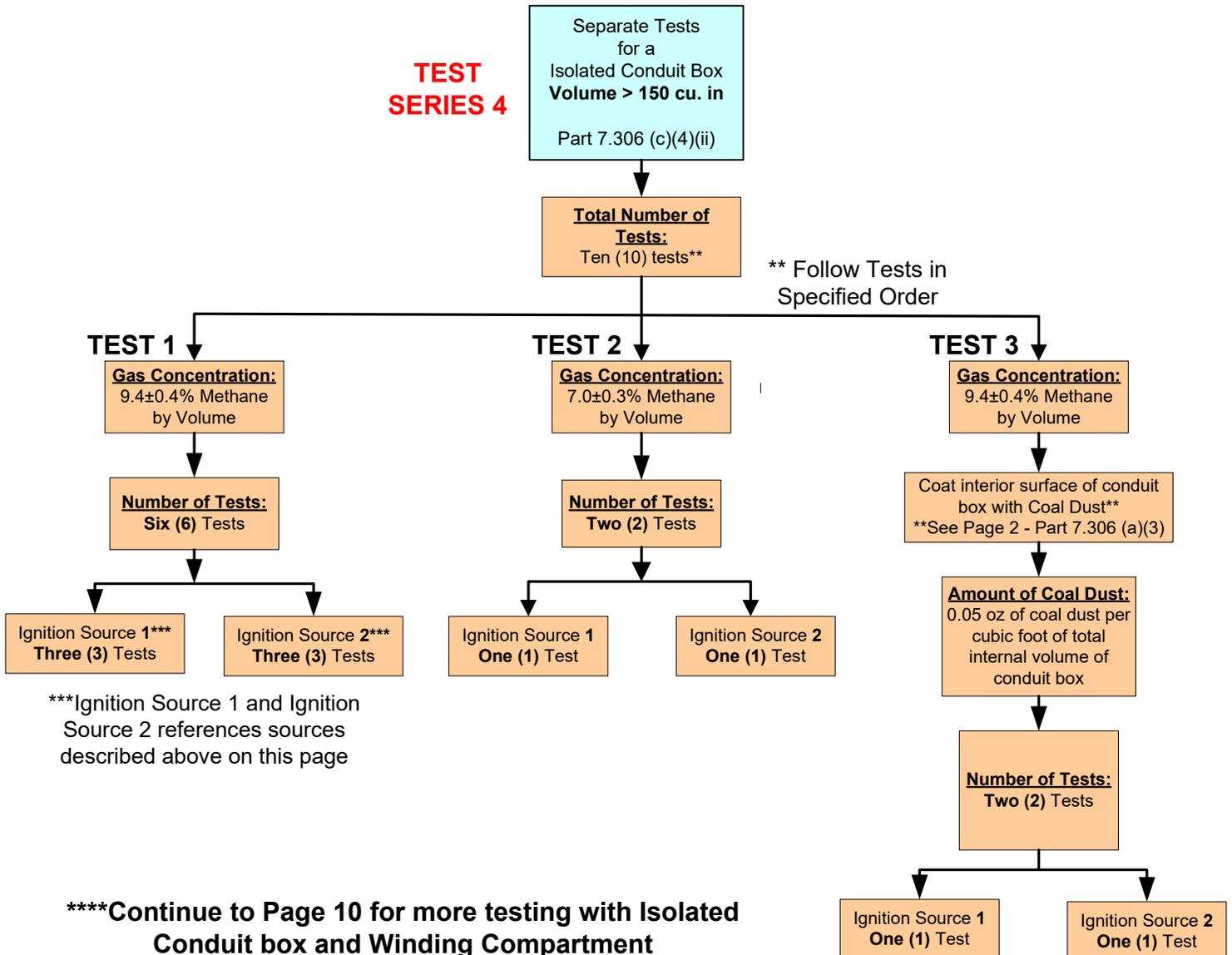
ISOLATED CONDUIT BOX WITH VOLUME GREATER THAN (>) 150 CUBIC INCHES

PAGE 8

Part 7.306 (c)(4)(ii) – Isolated conduit box must also be tested separately



TEST SERIES 4



TEST PROCEDURES

ISOLATED CONDUIT BOX WITH VOLUME LESS THAN (\leq) 150 CUBIC INCHES

PAGE 9

Part 7.306 (c)(4)(ii) – Isolated conduit box must also be tested separately

TEST SERIES 4

Separate Tests for a Isolated Conduit Box Volume \leq 150 cu. in
Part 7.306 (c)(4)(ii)

Total Number of Separate Tests:
Ten (10) tests***

*** Follow Tests in Specified Order

TEST 1

Gas Concentration:
9.4 \pm 0.4% Methane by Volume

Number of Tests:
Six (6) Tests

Ignition Source & Recording of Pressure for **Separate Testing of Isolated Conduit Box** Volume \leq 150 cu. in
Part 7.306 (c)(4)(i)

One Ignition Source location

One location for Pressure Recording

Location of Ignition Source:
Close to geometrical center of conduit box as practical

Location of Pressure Recording:
Any side of the conduit box

TEST 2

Gas Concentration:
7.0 \pm 0.3% Methane by Volume

Number of Tests:
Two (2) Tests

Ignition Source & Recording of Pressure for **Separate Testing of Isolated Conduit Box** Volume \leq 150 cu. in
Part 7.306 (c)(4)(i)

One Ignition Source location

One location for Pressure Recording

Location of Ignition Source:
Close to geometrical center of conduit box as practical

Location of Pressure Recording:
Any side of the conduit box

TEST 3

Gas Concentration:
9.4 \pm 0.4% Methane by Volume

Coat interior surface of conduit box with Coal Dust**
**See Page 2 - Part 7.306 (a)(3)

Amount of Coal Dust:
0.05 oz of coal dust per cubic foot of total internal volume of conduit box

Number of Tests:
Two (2) Tests

Ignition Source & Recording of Pressure for **Separate Testing of Isolated Conduit Box** Volume \leq 150 cu. in
Part 7.306 (c)(4)(i)

One Ignition Source location

One location for Pressure Recording

Location of Ignition Source:
Close to geometrical center of conduit box as practical

Location of Pressure Recording:
Any side of the conduit box

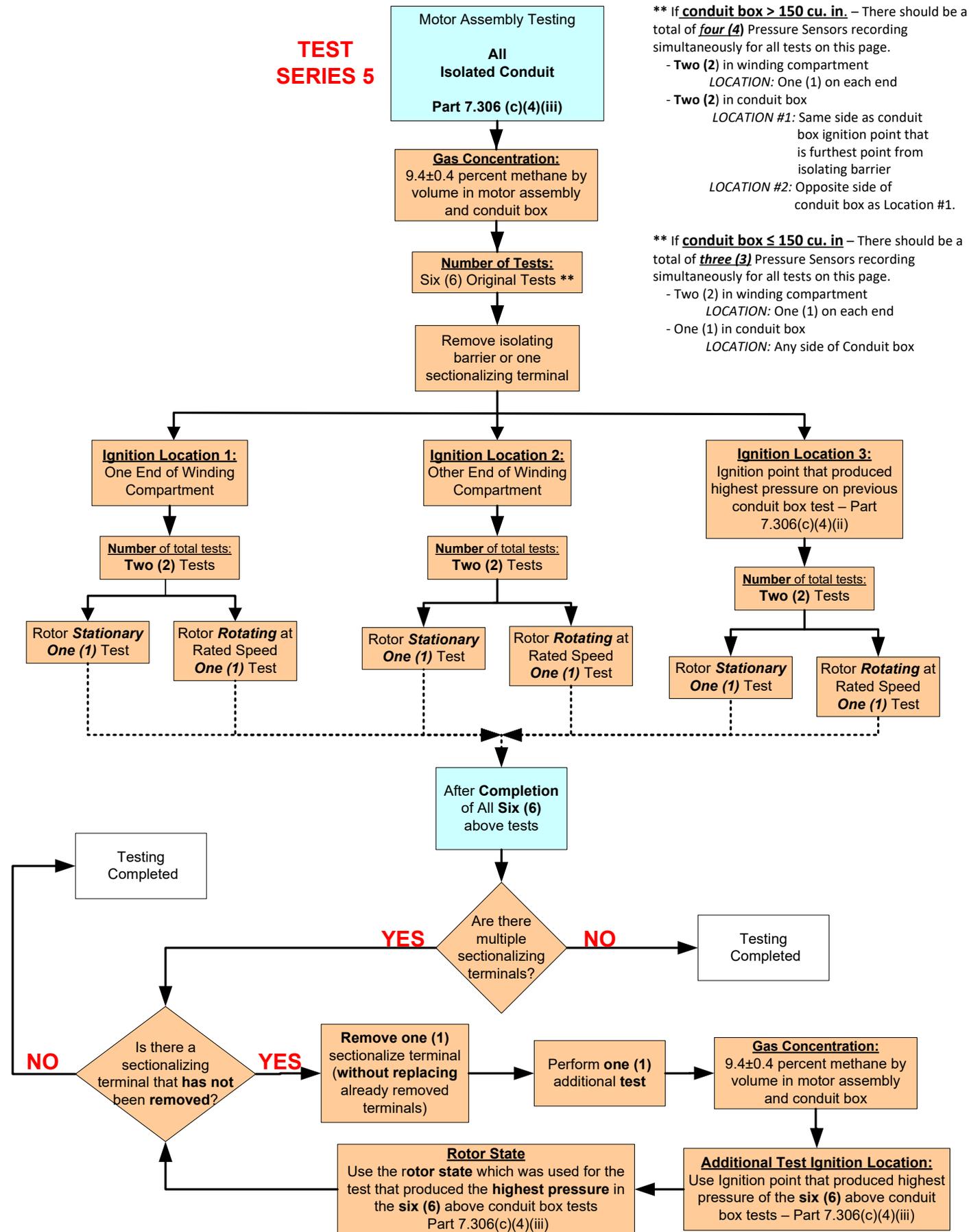
**Continue to Page 10 for more testing with Isolated Conduit box and Winding Compartment

TEST PROCEDURES

ADDITIONAL TESTS FOR ALL ISOLATED CONDUIT BOX MOTOR ASSEMBLIES

PAGE 10

TEST SERIES 5



** If **conduit box > 150 cu. in.** – There should be a total of **four (4)** Pressure Sensors recording simultaneously for all tests on this page.

- **Two (2)** in winding compartment
LOCATION: One (1) on each end
- **Two (2)** in conduit box
LOCATION #1: Same side as conduit box ignition point that is furthest point from isolating barrier
LOCATION #2: Opposite side of conduit box as Location #1.

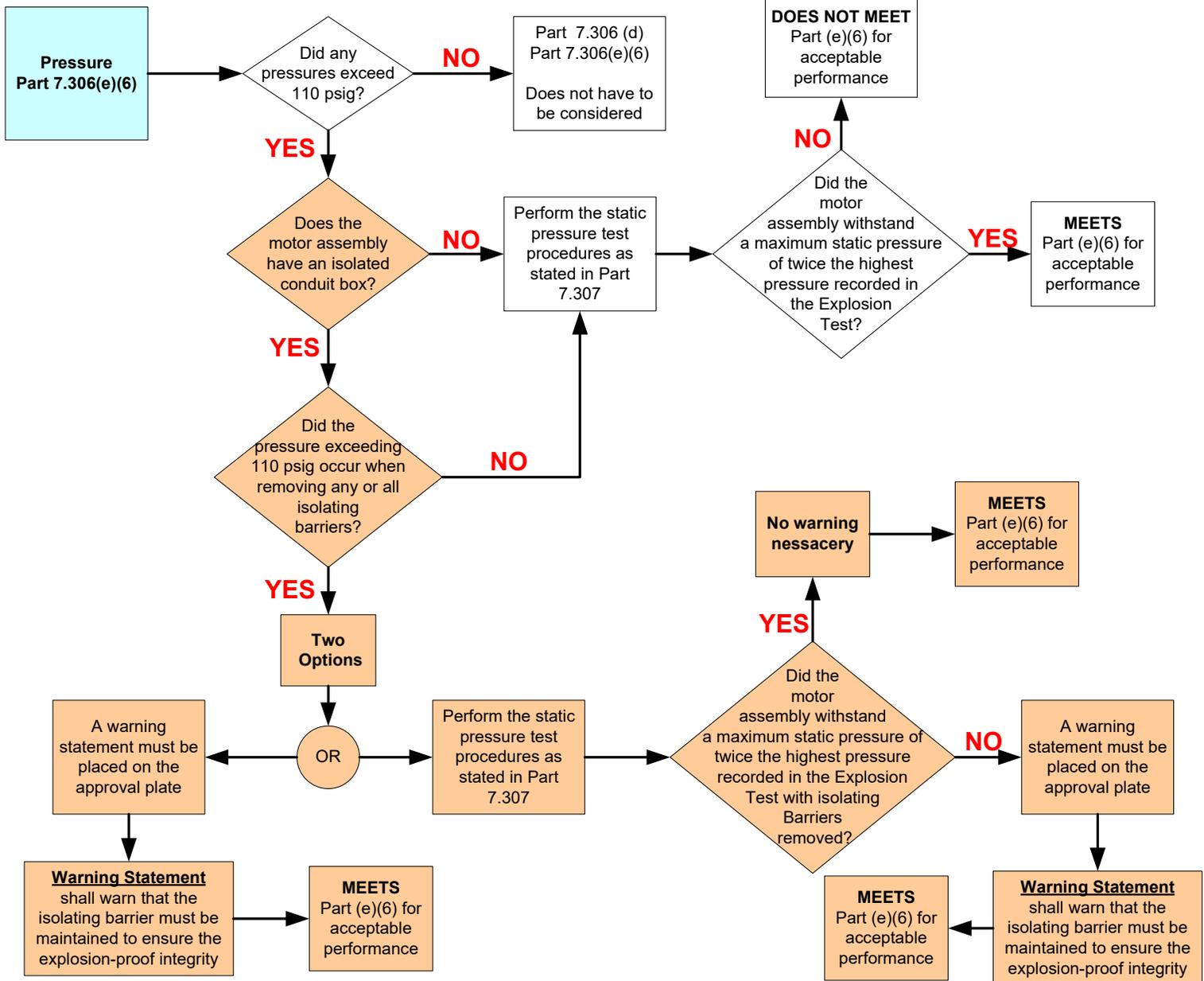
** If **conduit box ≤ 150 cu. in.** – There should be a total of **three (3)** Pressure Sensors recording simultaneously for all tests on this page.

- **Two (2)** in winding compartment
LOCATION: One (1) on each end
- **One (1)** in conduit box
LOCATION: Any side of Conduit box

ACCEPTABLE PERFORMANCE

PAGE 11

Motor Assemblies that exhibits **Pressure Exceeding 110 psig**
Part 7.306 (d) and Part 7.306 (e)(6)



ACCEPTABLE PERFORMANCE CONTINUED

PAGE 12

