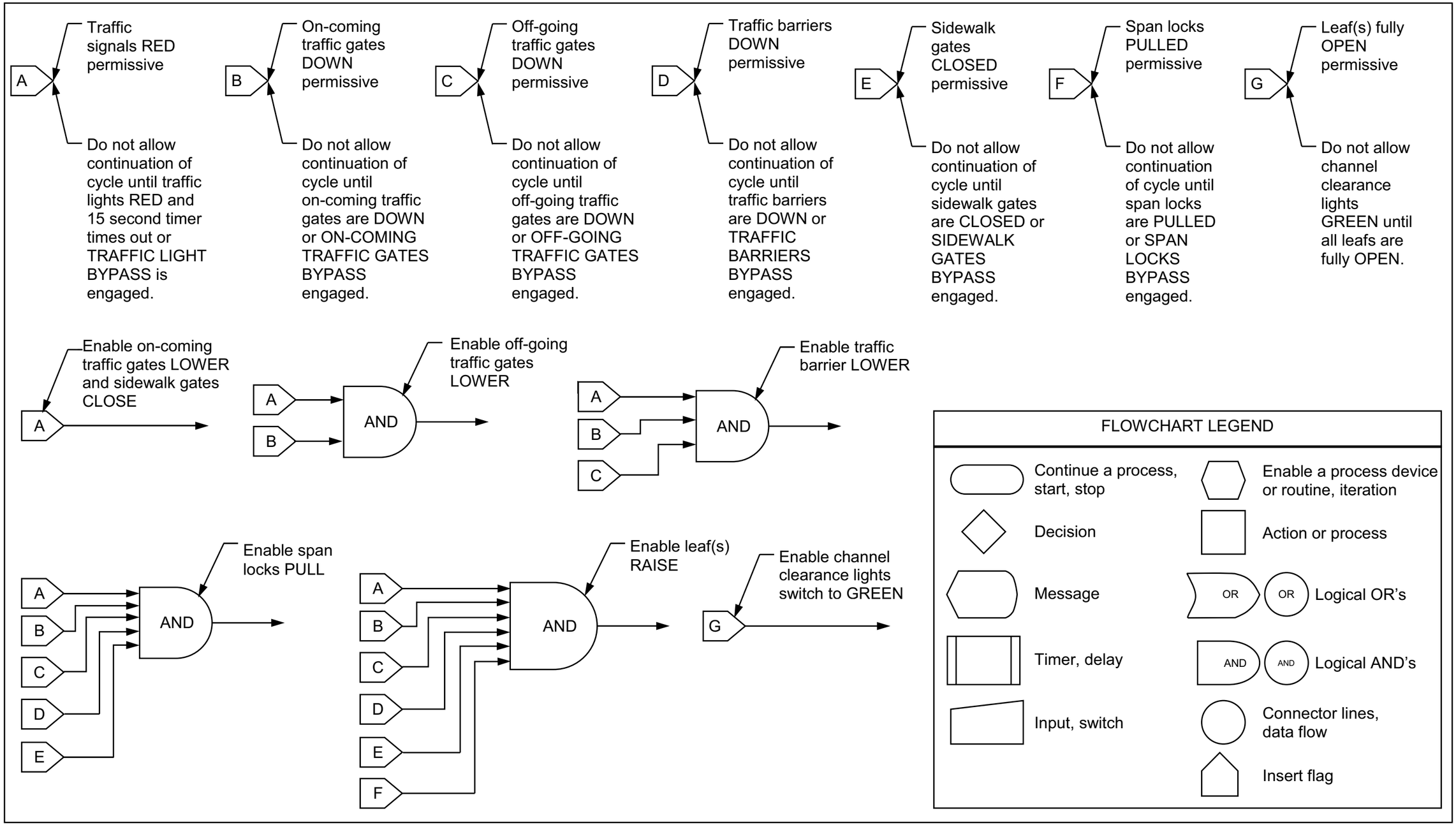
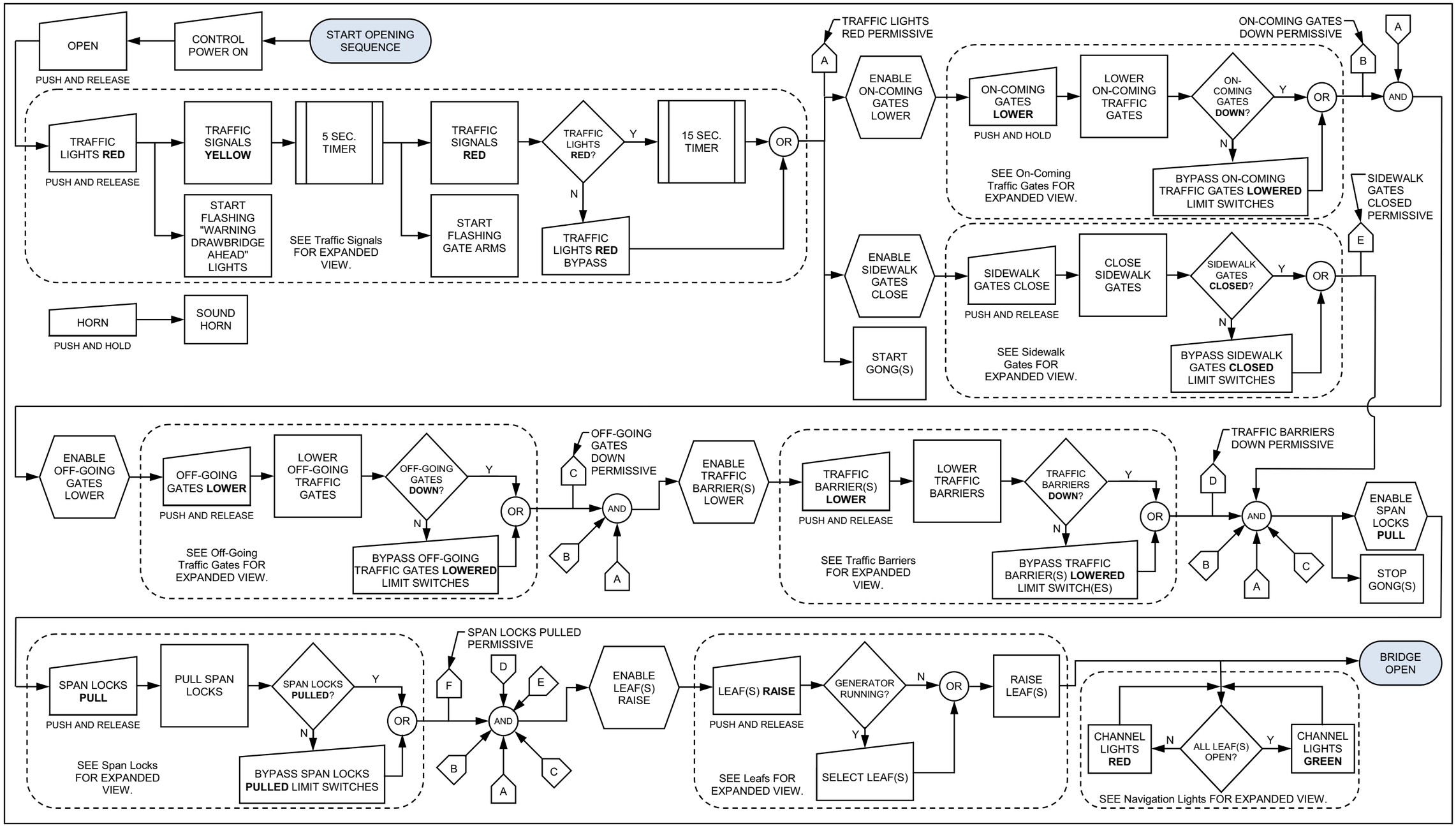
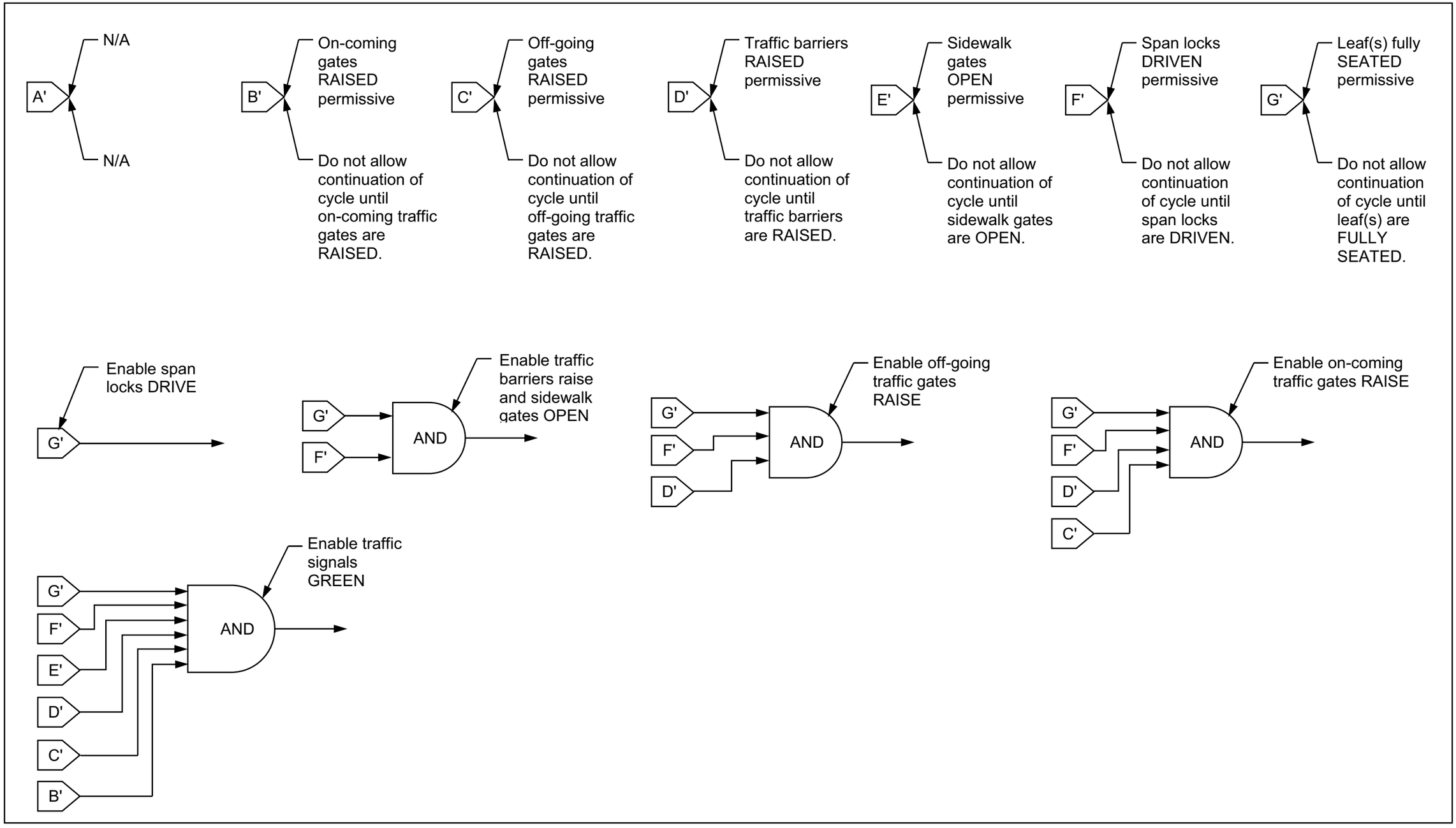
OPENING PERMISSIVES



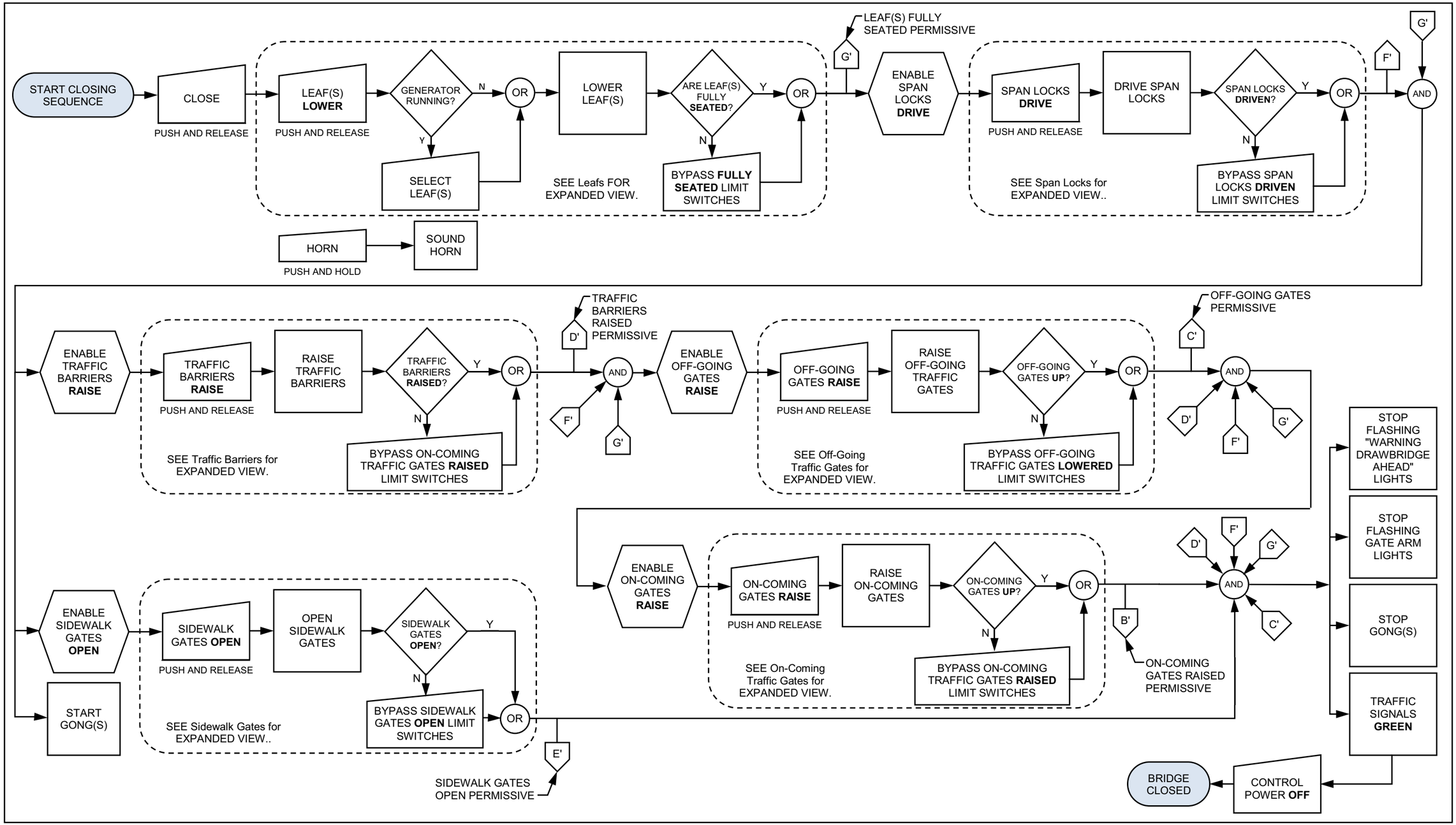
OPENING SEQUENCE



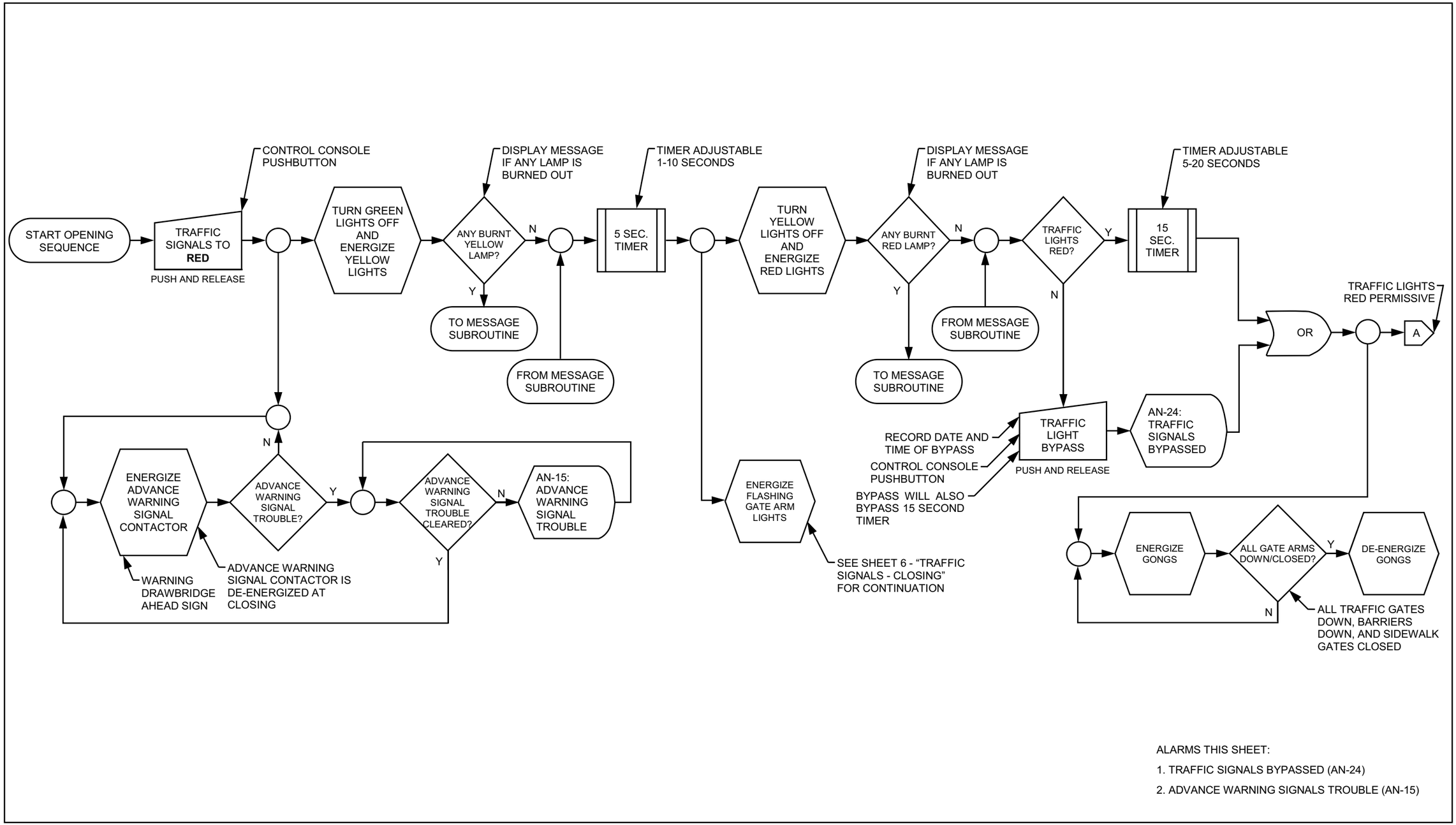
CLOSING PERMISSIVES



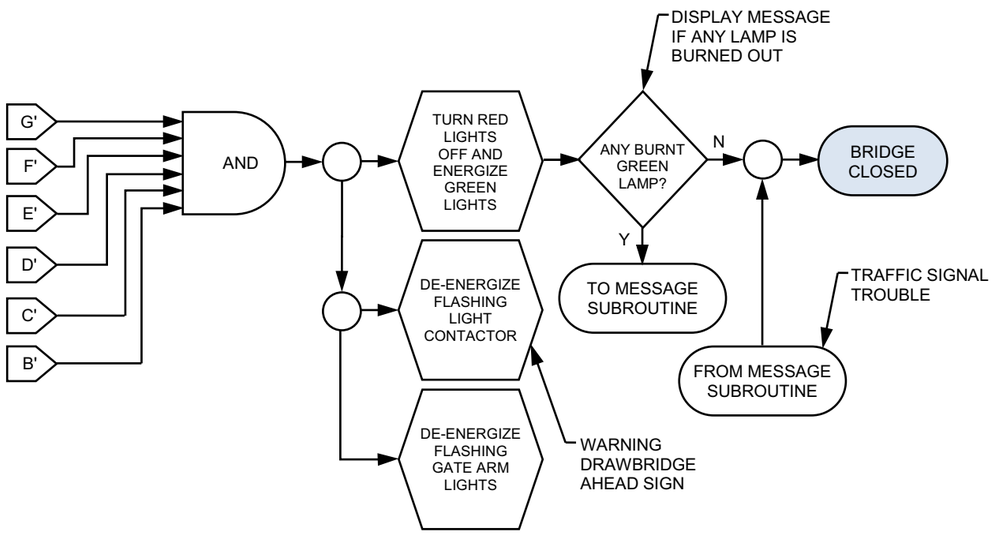
CLOSING SEQUENCE

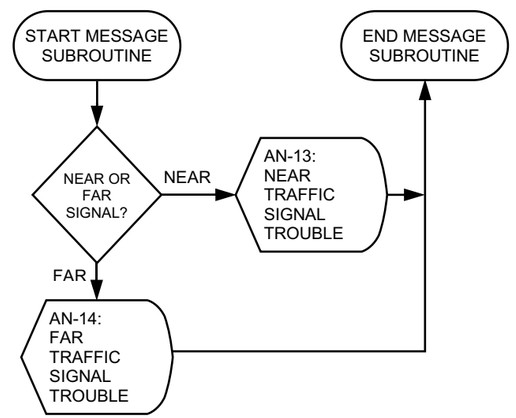


TRAFFIC SIGNALS - OPENING



TRAFFIC SIGNALS - CLOSING





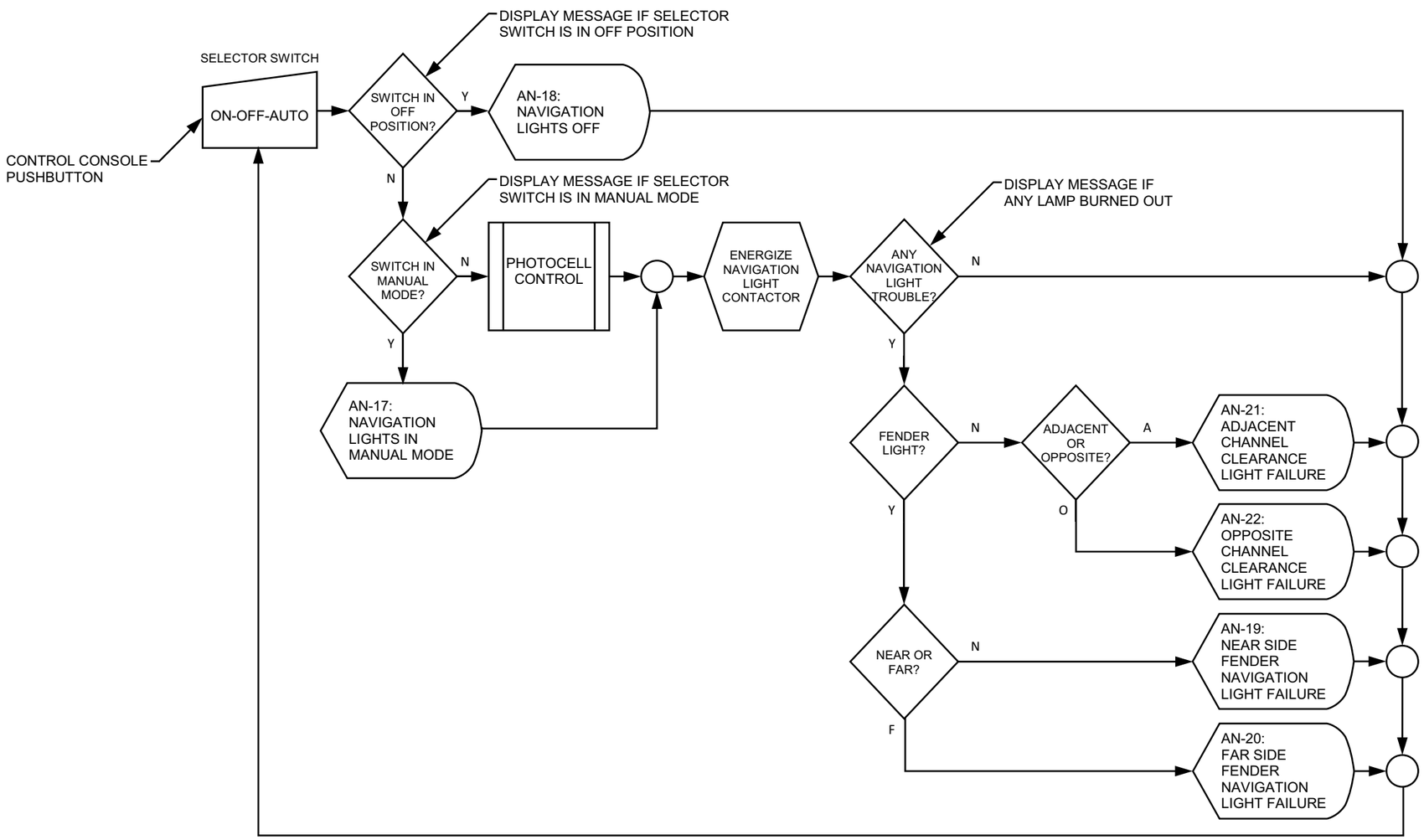
MESSAGE SUBROUTINE

(TRAFFIC SIGNAL TROUBLE)

ALARMS THIS SHEET:

1. TRAFFIC SIGNALS TROUBLE (AN-13, AN-14)

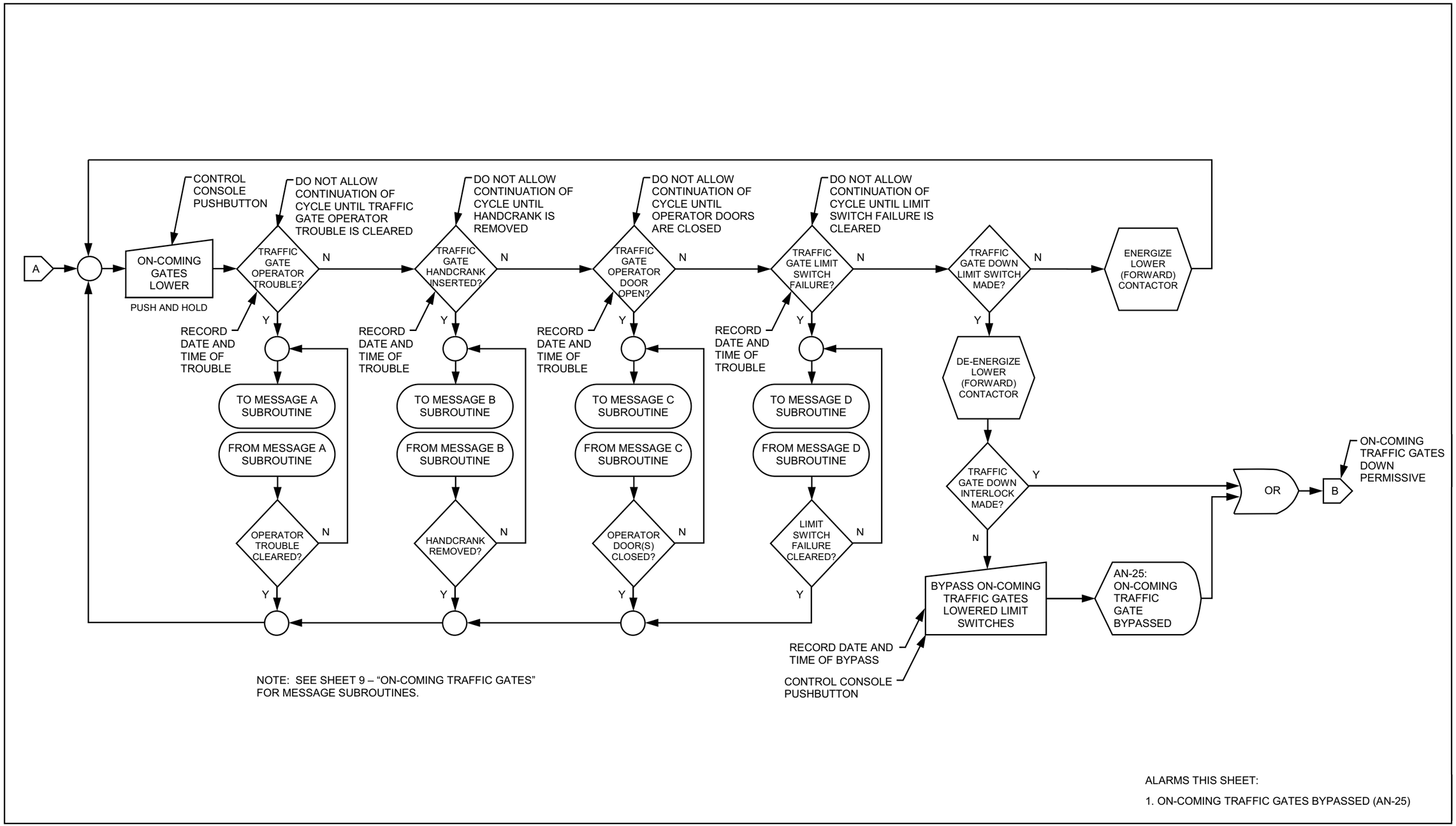
NAVIGATION LIGHTS



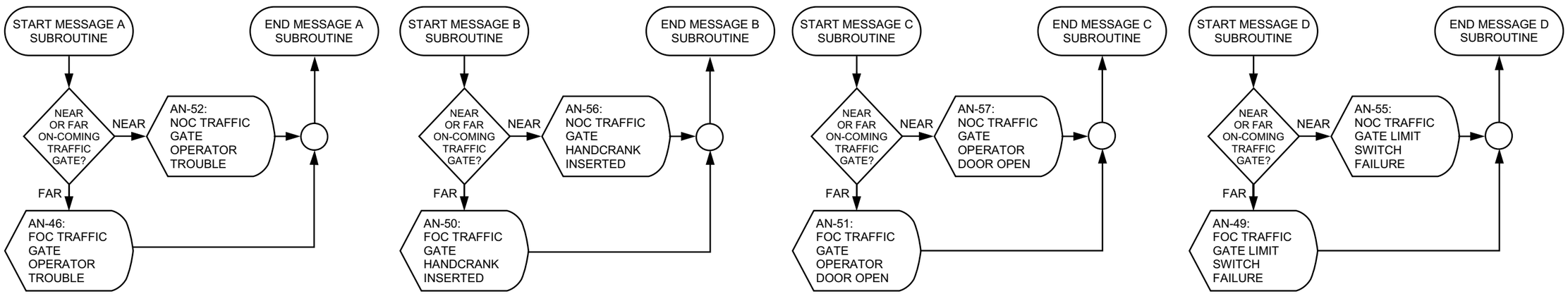
ALARMS THIS SHEET:

1. NAVIGATION LIGHTS MODE (AN-17, AN-18)
2. NAVIGATION FENDER LIGHTS FAILURE (AN-19, AN-20)
3. CHANNEL CLEARANCE LIGHTS FAILURE (AN-21, AN-22)

ON-COMING TRAFFIC GATES - OPENING



ON-COMING TRAFFIC GATES



MESSAGE A SUBROUTINE (ON-COMING TRAFFIC GATE OPERATOR TROUBLE)

MESSAGE B SUBROUTINE (ON-COMING TRAFFIC GATE HANDCRANK INSERTED)

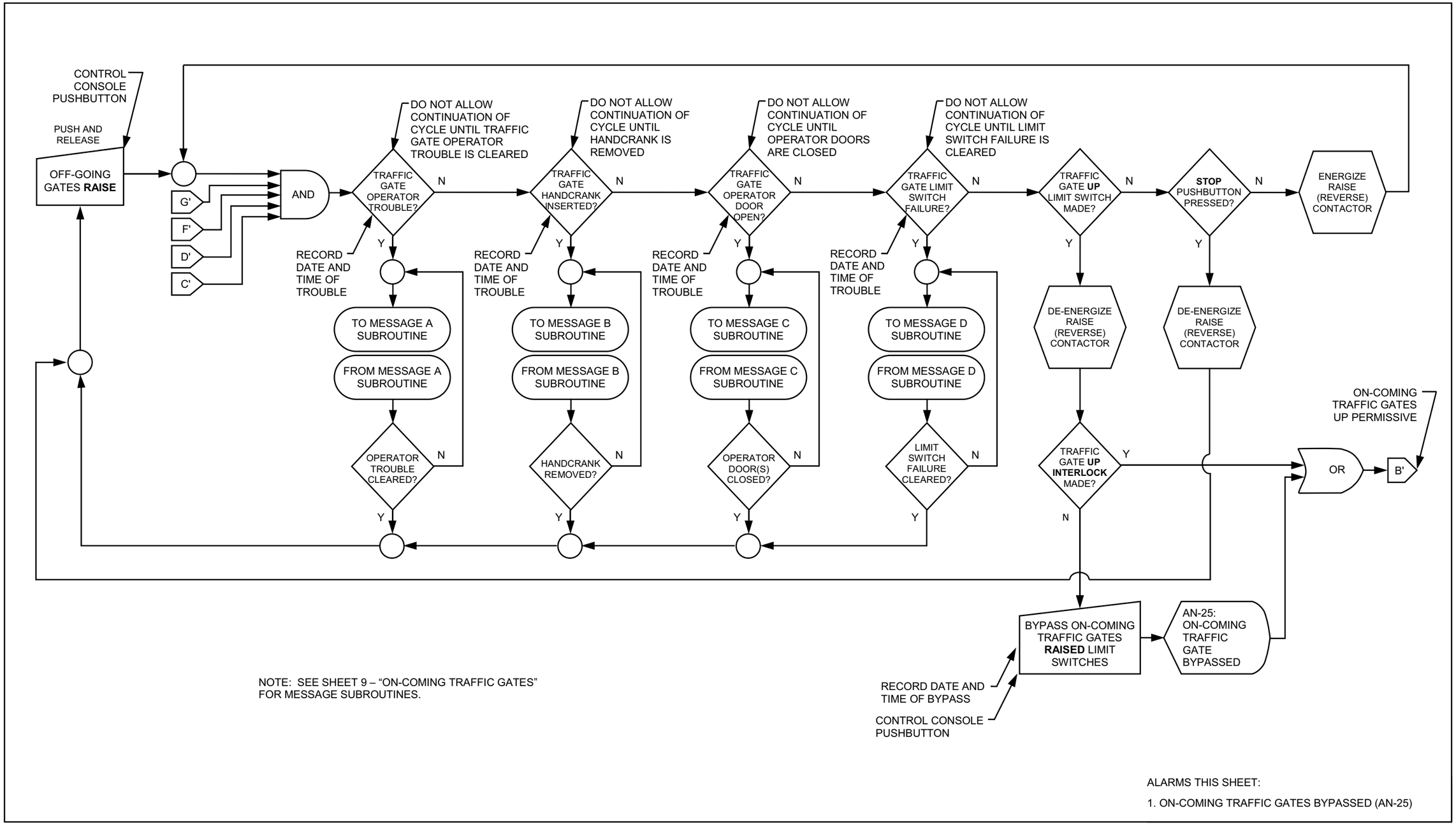
MESSAGE C SUBROUTINE (ON-COMING TRAFFIC GATE OPERATOR DOOR OPEN)

MESSAGE D SUBROUTINE (ON-COMING TRAFFIC GATE LIMIT SWITCH FAILURE)

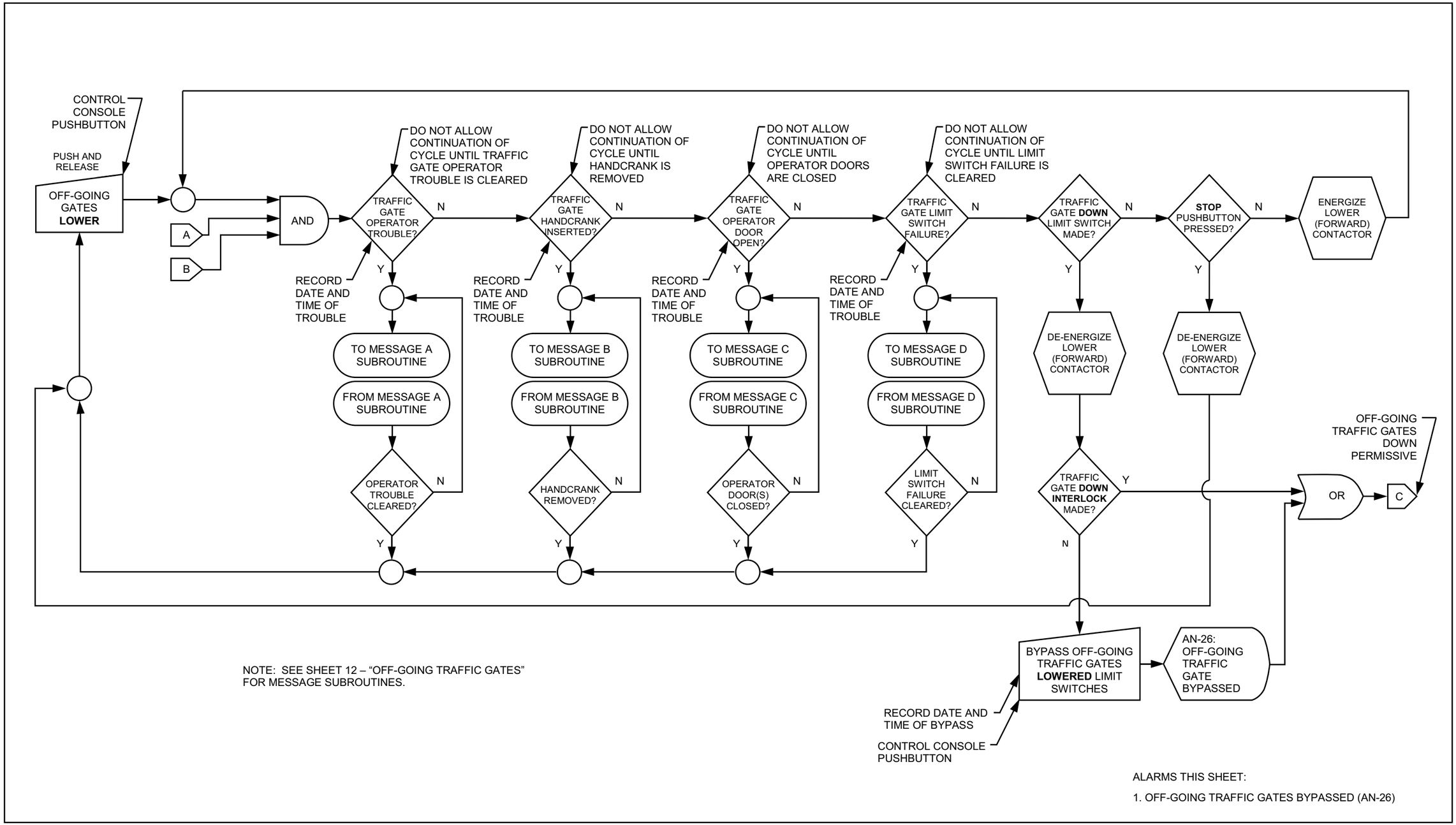
ALARMS THIS SHEET:

1. TRAFFIC GATE OPERATOR TROUBLE (AN-46, AN-52)
2. TRAFFIC GATE LIMIT SWITCH FAILURE (AN-49, AN-55)
3. TRAFFIC GATE OPERATOR DOOR OPEN (AN-51, AN-57)
4. TRAFFIC GATE HANDCRANK INSERTED (AN-50, AN-56)

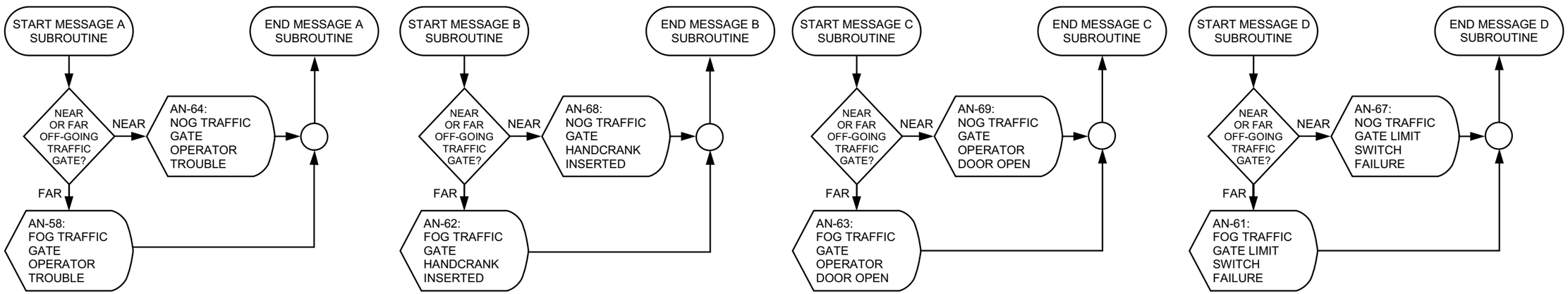
ON-COMING TRAFFIC GATES - CLOSING



OFF-GOING TRAFFIC GATES - OPENING



OFF-GOING TRAFFIC GATES



MESSAGE A SUBROUTINE (OFF-GOING TRAFFIC GATE OPERATOR TROUBLE)

MESSAGE B SUBROUTINE (OFF-GOING TRAFFIC GATE HANDCRANK INSERTED)

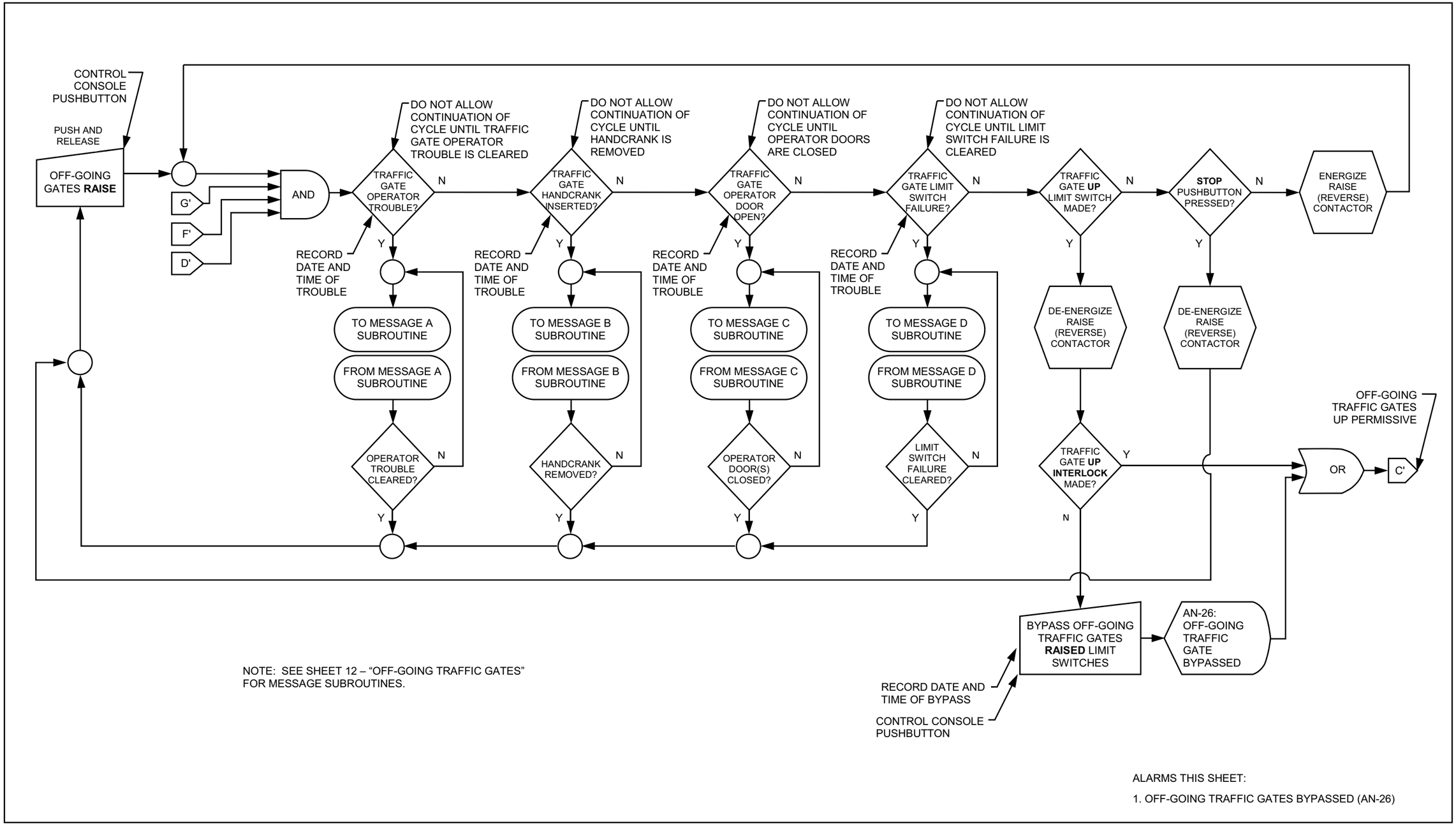
MESSAGE C SUBROUTINE (OFF-GOING TRAFFIC GATE OPERATOR DOOR OPEN)

MESSAGE D SUBROUTINE (OFF-GOING TRAFFIC GATE LIMIT SWITCH FAILURE)

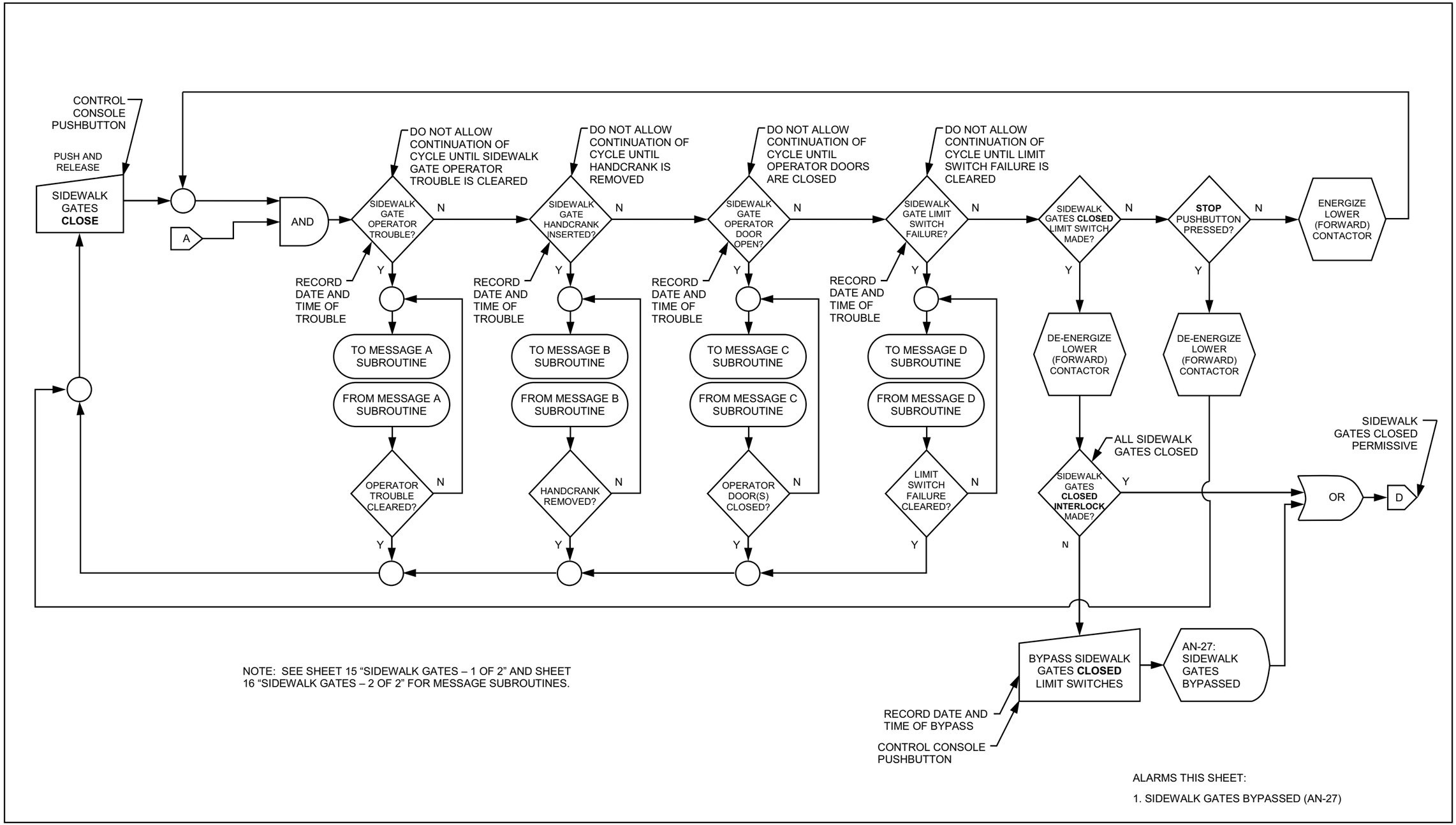
ALARMS THIS SHEET:

1. TRAFFIC GATE OPERATOR TROUBLE (AN-58, AN-64)
2. TRAFFIC GATE LIMIT SWITCH FAILURE (AN-61, AN-67)
3. TRAFFIC GATE OPERATOR DOOR OPEN (AN-63, AN-69)
4. TRAFFIC GATE HANDCRANK INSERTED (AN-62, AN-68)

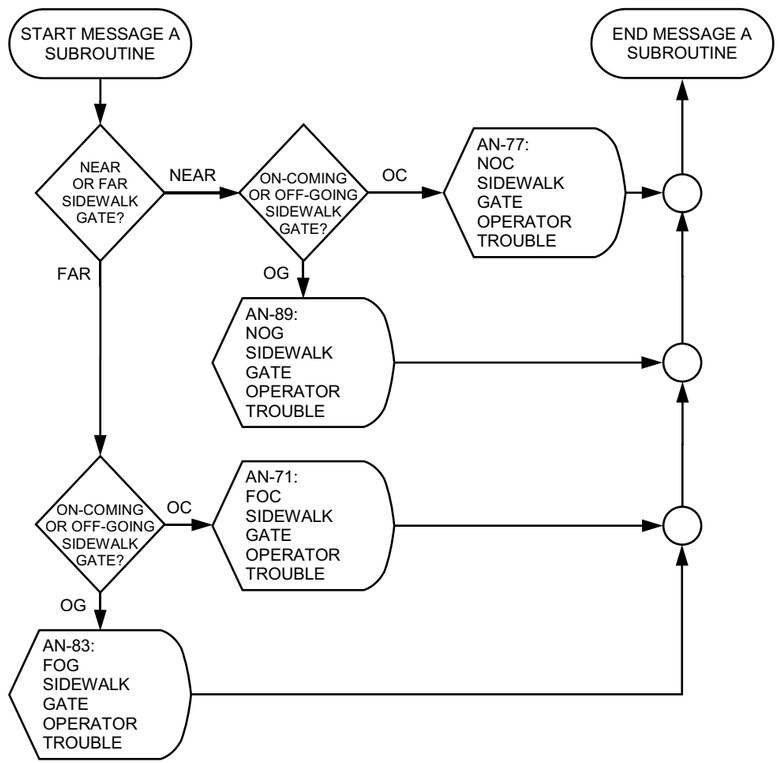
OFF-GOING TRAFFIC GATES - CLOSING



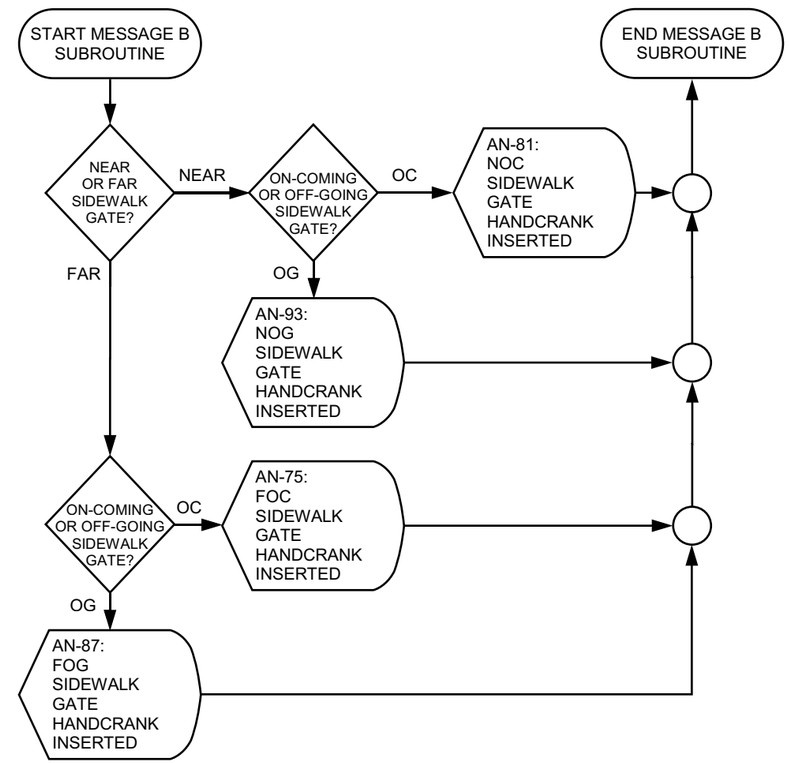
SIDEWALK GATES - OPENING



SIDEWALK GATES - 1 OF 2



MESSAGE A SUBROUTINE
(SIDEWALK GATE OPERATOR TROUBLE)

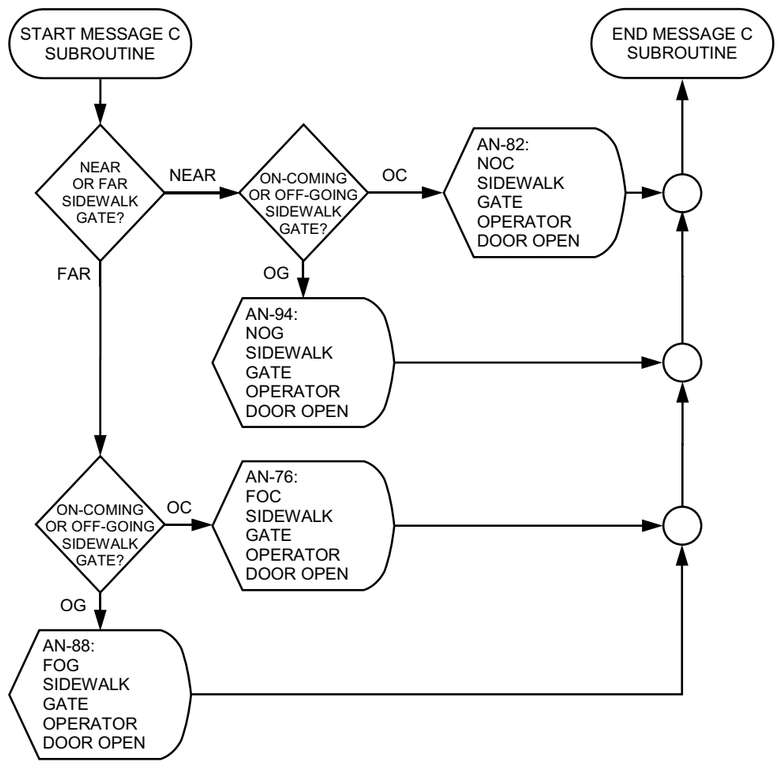


MESSAGE B SUBROUTINE
(SIDEWALK GATE HANDCRANK INSERTED)

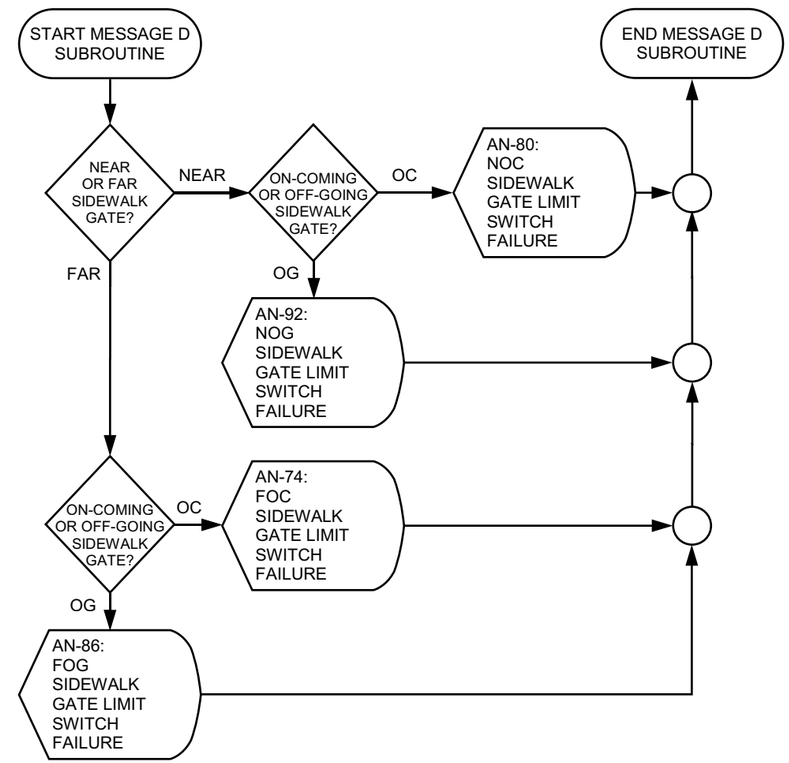
ALARMS THIS SHEET:

1. SIDEWALK GATE OPERATOR TROUBLE (AN-71, AN-77, AN-83, AN-89)
2. SIDEWALK GATE HANDCRANK INSERTED (AN-75, AN-81, AN-87, AN-93)

SIDEWALK GATES - 2 OF 2



MESSAGE C SUBROUTINE
(SIDEWALK GATE OPERATOR DOOR OPEN)

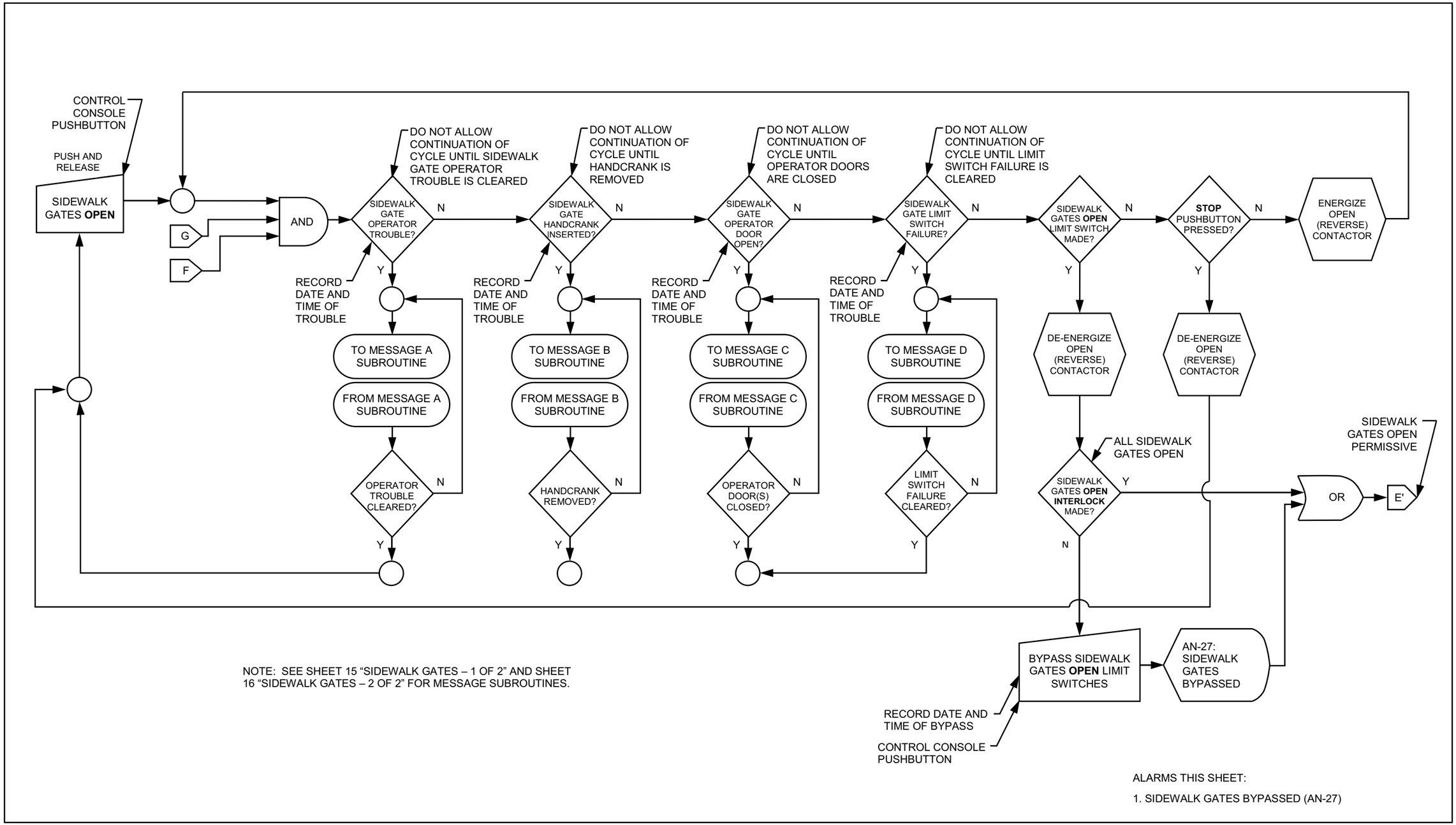


MESSAGE D SUBROUTINE
(SIDEWALK GATE LIMIT SWITCH FAILURE)

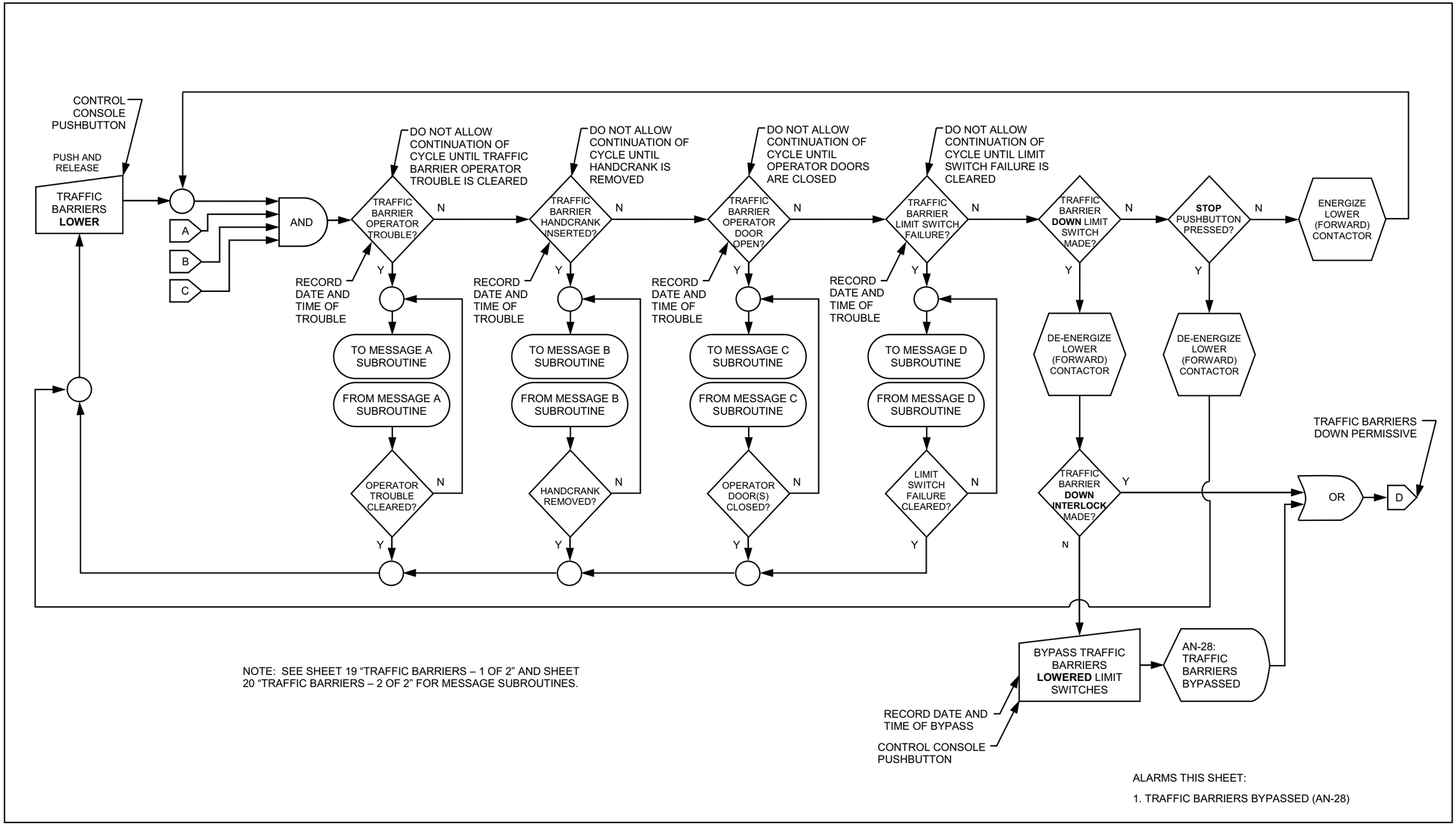
ALARMS THIS SHEET:

1. SIDEWALK GATE OPERATOR DOOR OPEN (AN-76, AN-82, AN-88, AN-94)
2. SIDEWALK GATE LIMIT SWITCH FAILURE (AN-74, AN-80, AN-86, AN-92)

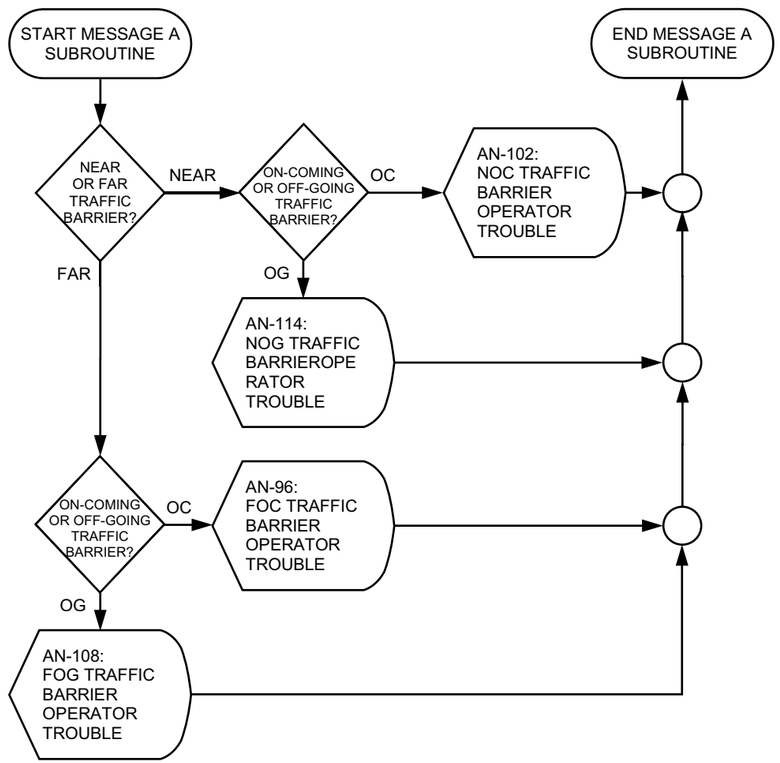
SIDEWALK GATES - CLOSING



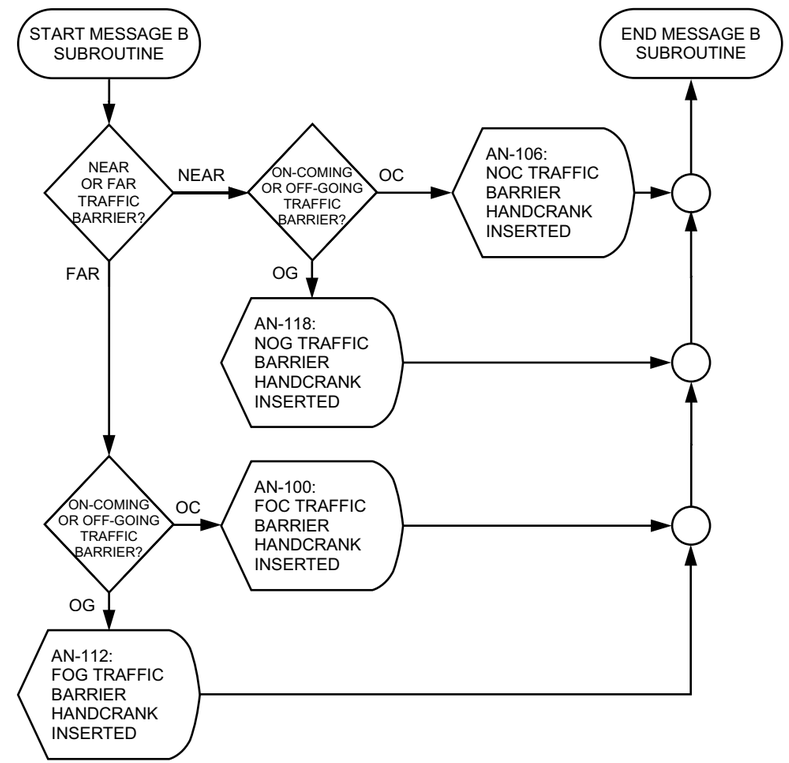
TRAFFIC BARRIERS - OPENING



TRAFFIC BARRIERS - 1 OF 2



MESSAGE A SUBROUTINE
(TRAFFIC BARRIER OPERATOR TROUBLE)

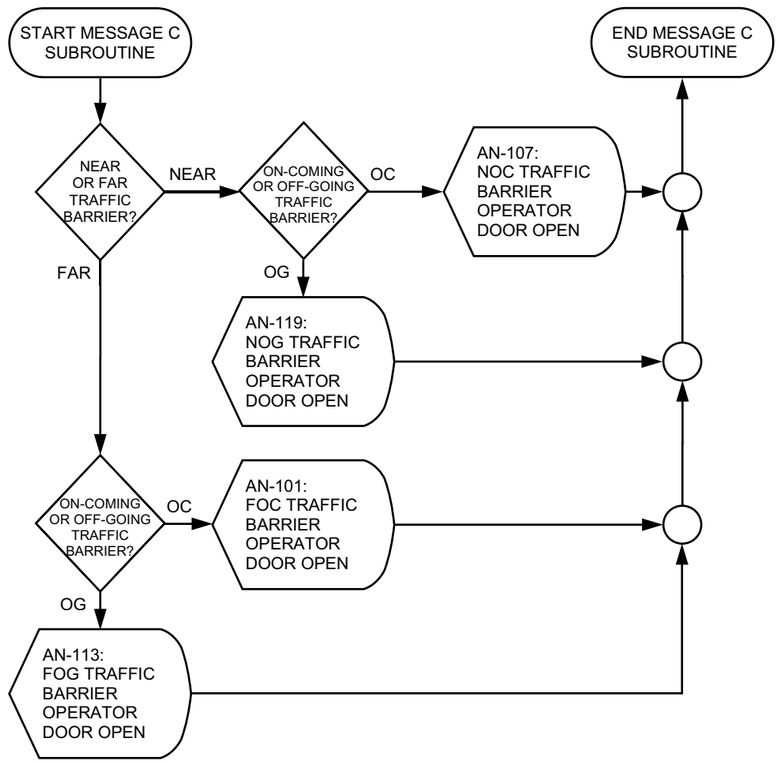


MESSAGE B SUBROUTINE
(TRAFFIC BARRIER HANDCRANK INSERTED)

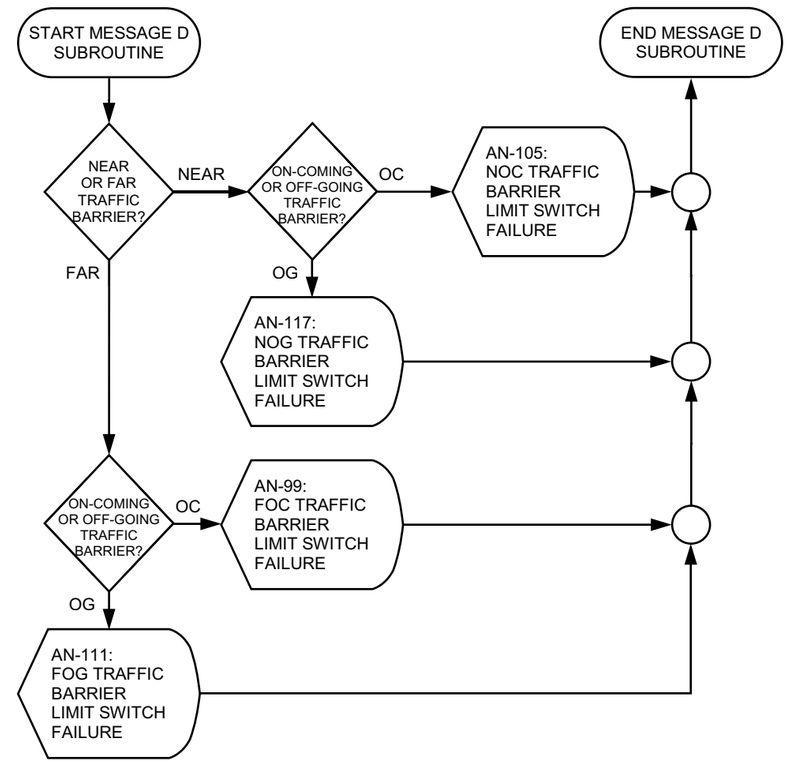
ALARMS THIS SHEET:

1. TRAFFIC BARRIER OPERATOR TROUBLE (AN-96, AN-102, AN-108, AN-114)
2. TRAFFIC BARRIER HANDCRANK INSERTED (AN-100, AN-106, AN-112, AN-118)

TRAFFIC BARRIERS - 2 OF 2



MESSAGE C SUBROUTINE
(TRAFFIC BARRIER OPERATOR DOOR OPEN)

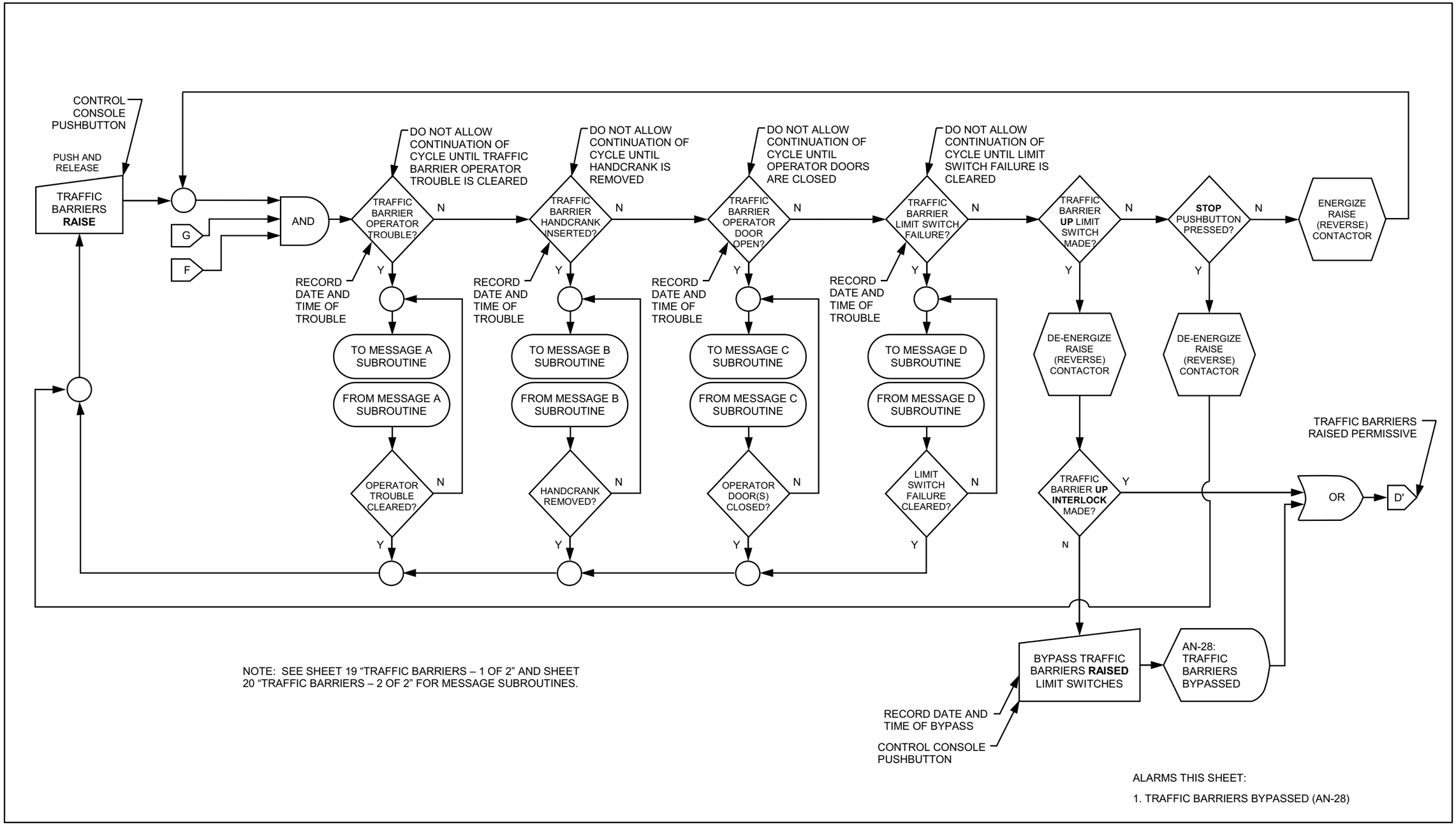


MESSAGE D SUBROUTINE
(TRAFFIC BARRIER LIMIT SWITCH FAILURE)

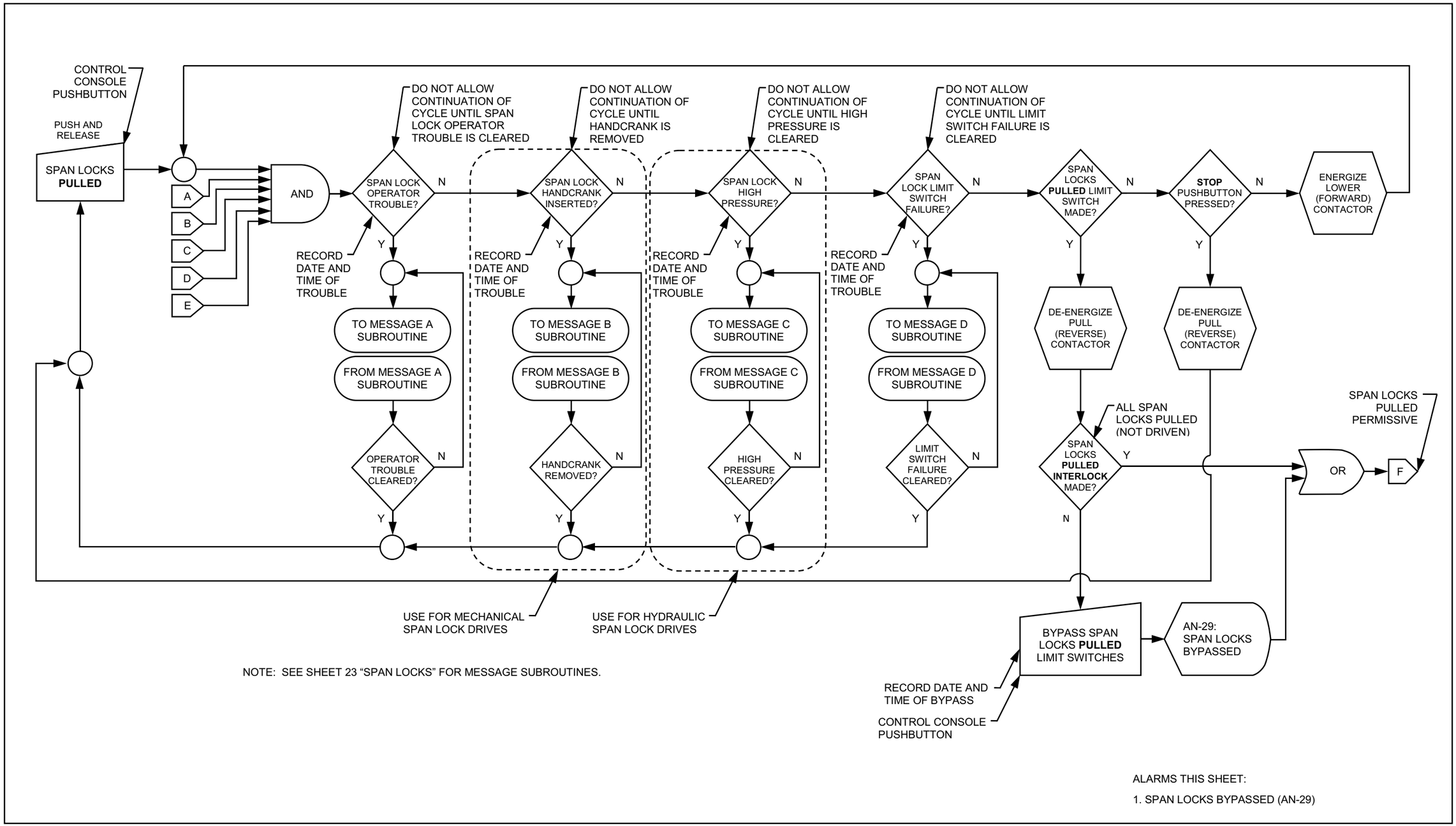
ALARMS THIS SHEET:

1. TRAFFIC BARRIER OPERATOR DOOR OPEN (AN-101, AN-107, AN-113, AN-119)
2. TRAFFIC BARRIER LIMIT SWITCH FAILURE (AN-99, AN-105, AN-111, AN-117)

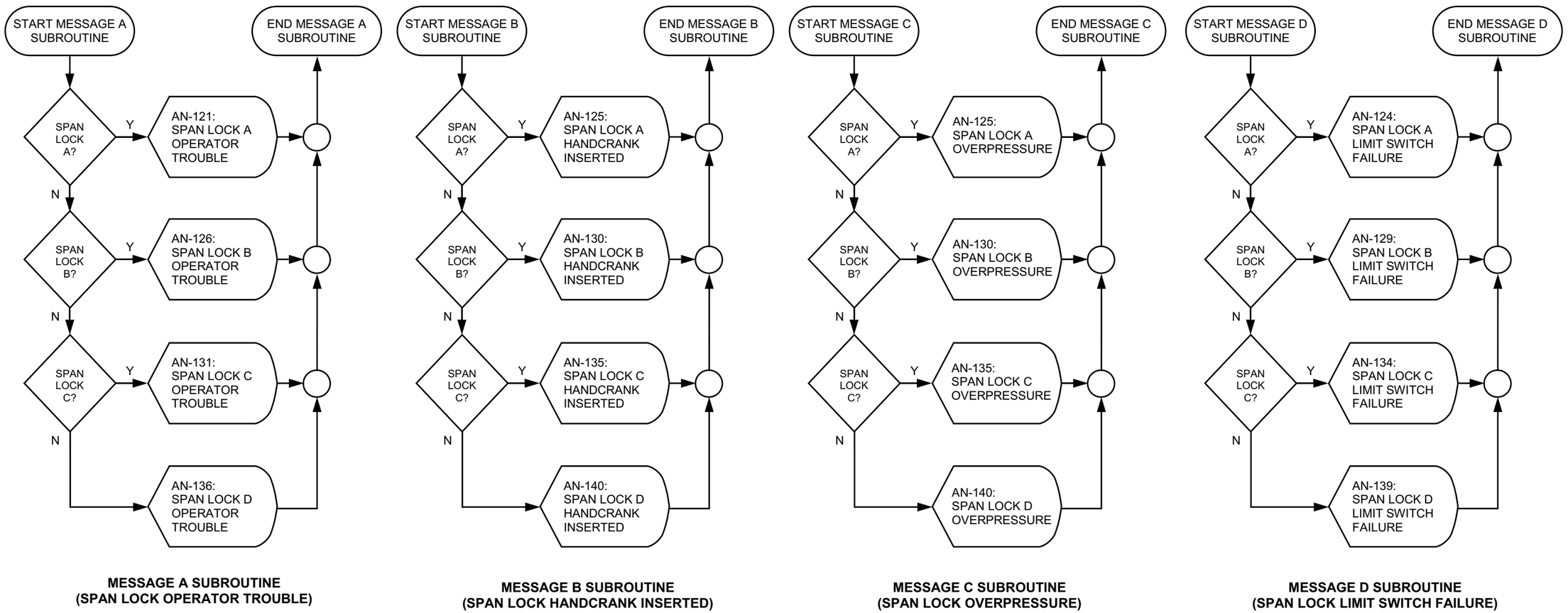
TRAFFIC BARRIERS - CLOSING



SPAN LOCKS - OPENING



SPAN LOCKS



MESSAGE A SUBROUTINE
(SPAN LOCK OPERATOR TROUBLE)

MESSAGE B SUBROUTINE
(SPAN LOCK HANDCRANK INSERTED)

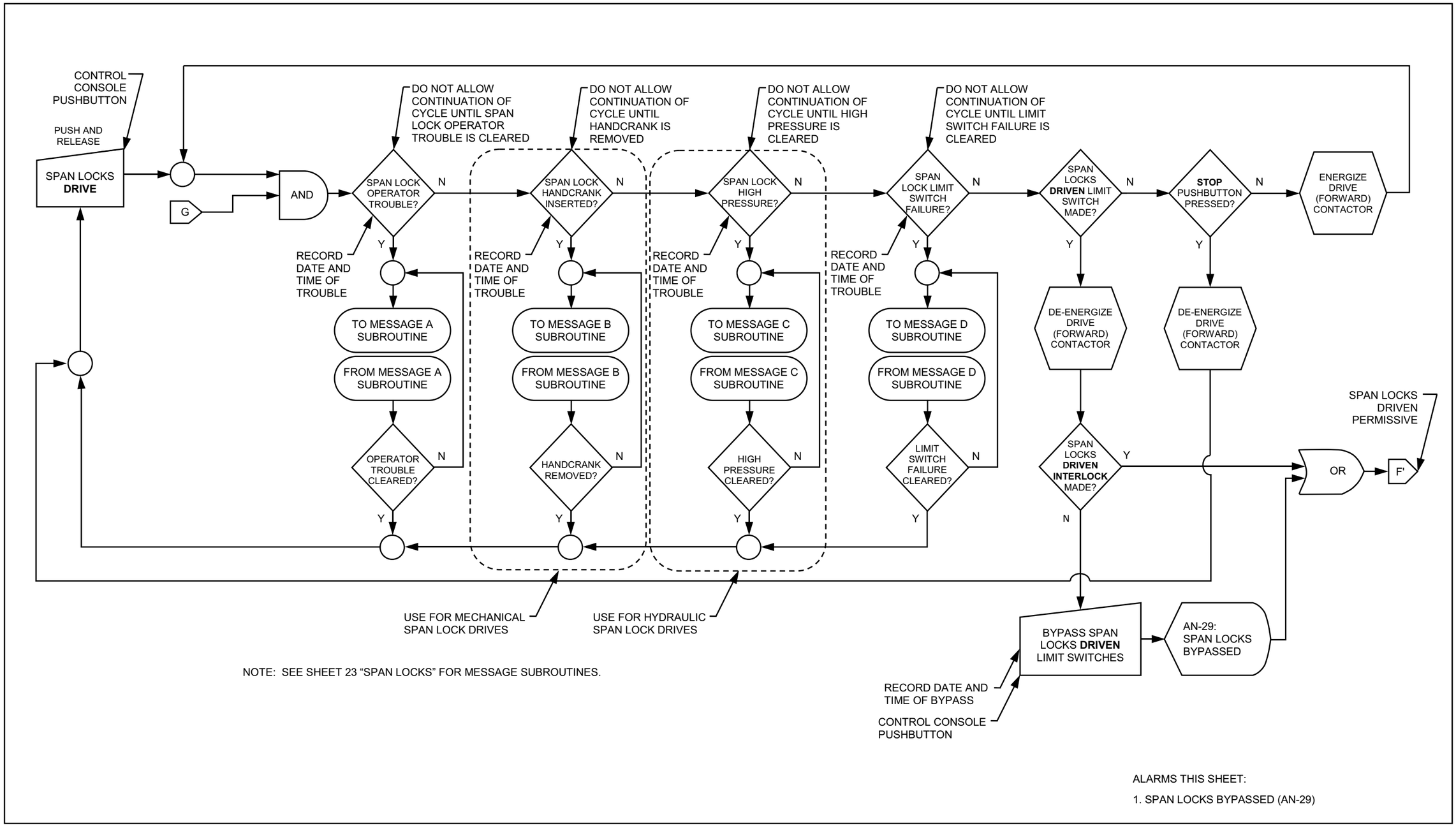
MESSAGE C SUBROUTINE
(SPAN LOCK OVERPRESSURE)

MESSAGE D SUBROUTINE
(SPAN LOCK LIMIT SWITCH FAILURE)

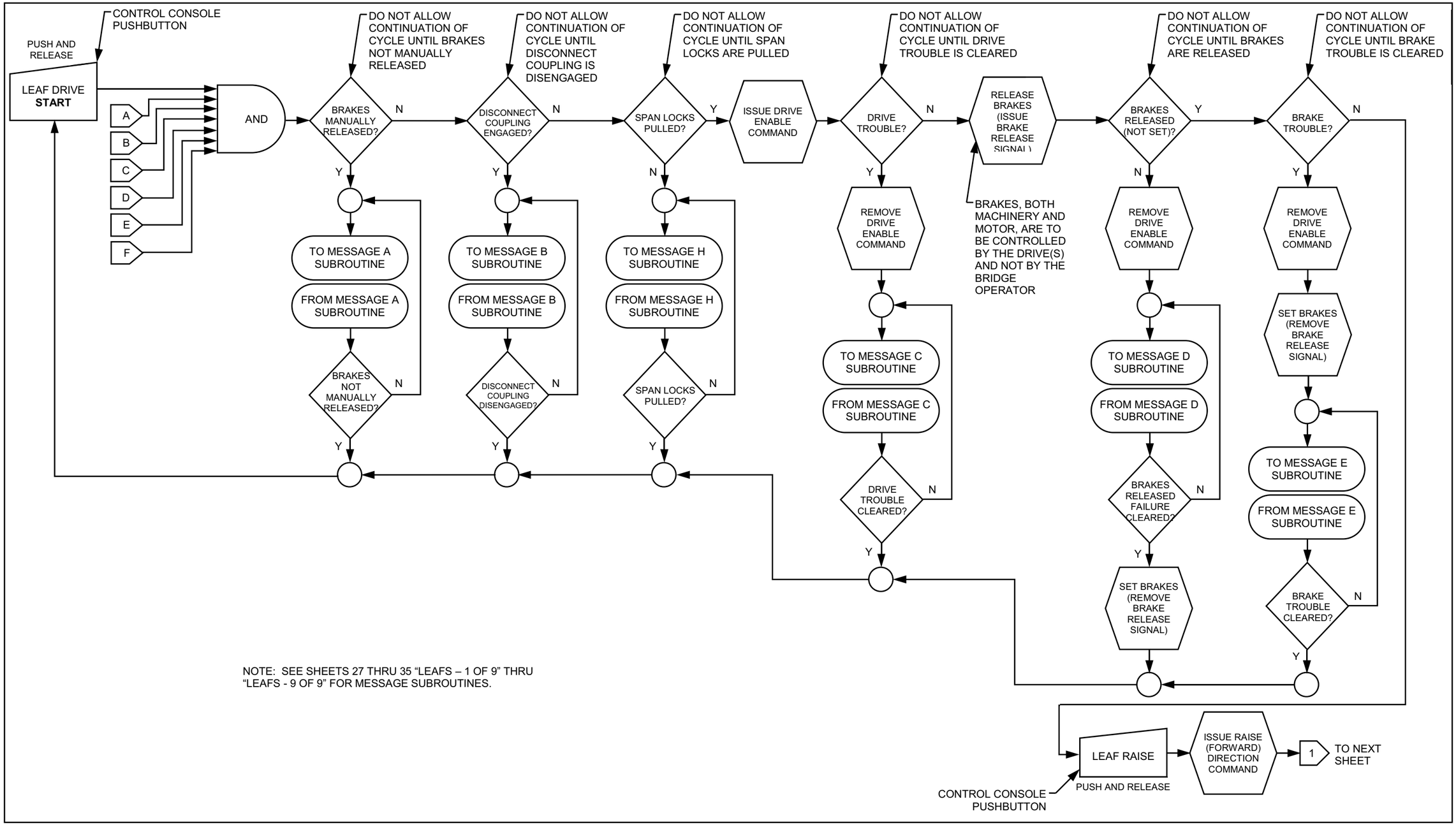
ALARMS THIS SHEET:

1. SPAN LOCK OPERATOR TROUBLE (AN-121, AN-126, AN-131, AN-136)
2. SPAN LOCK HANDCRANK INSERTED OR OVERPRESSURE (AN-125, AN-130, AN-135, AN-140)
3. SPAN LOCK LIMIT SWITCH FAILURE (AN-124, AN-129, AN-134, AN-139)

SPAN LOCKS - CLOSING

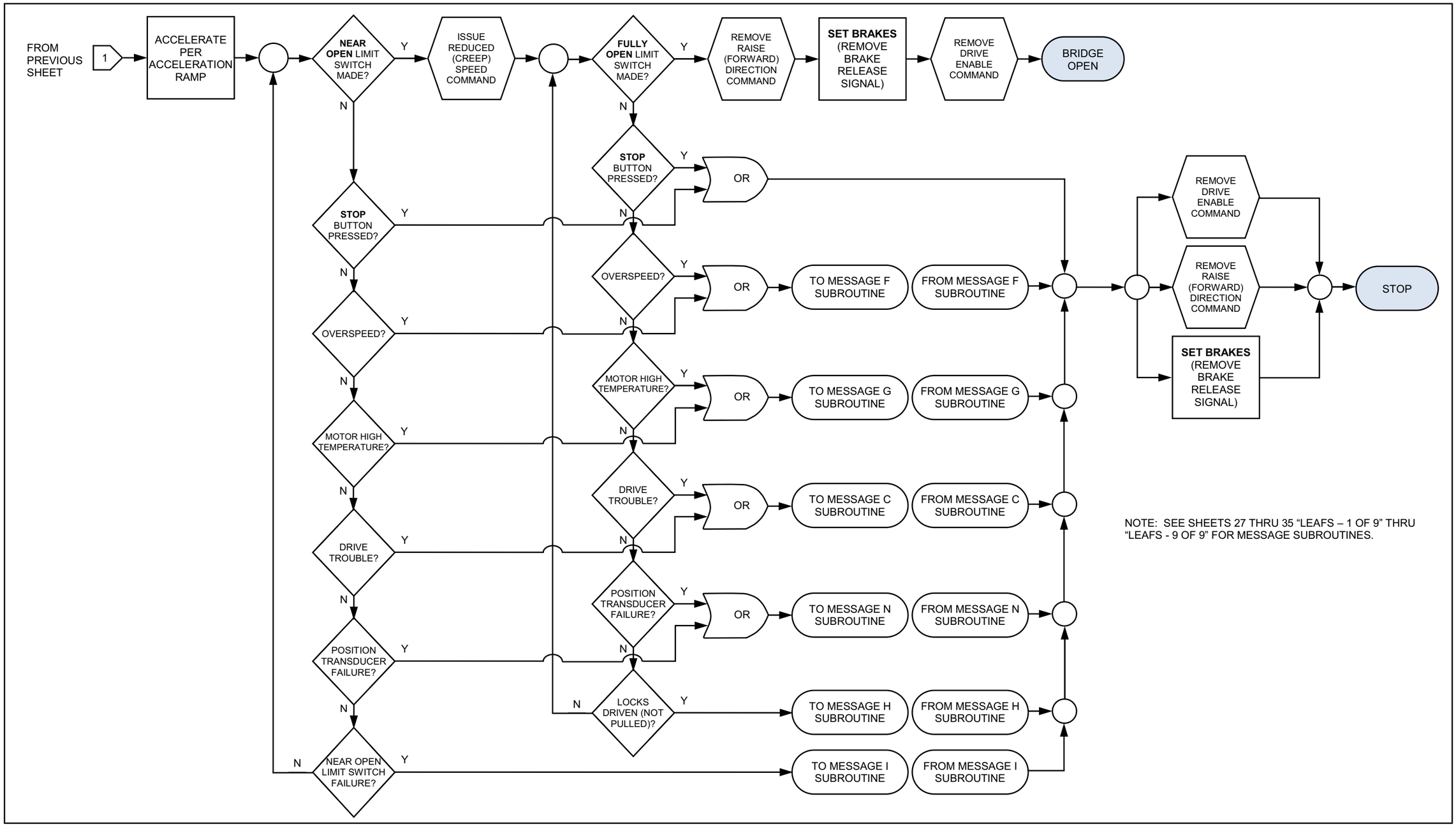


LEAFS - OPENING - 1 OF 2

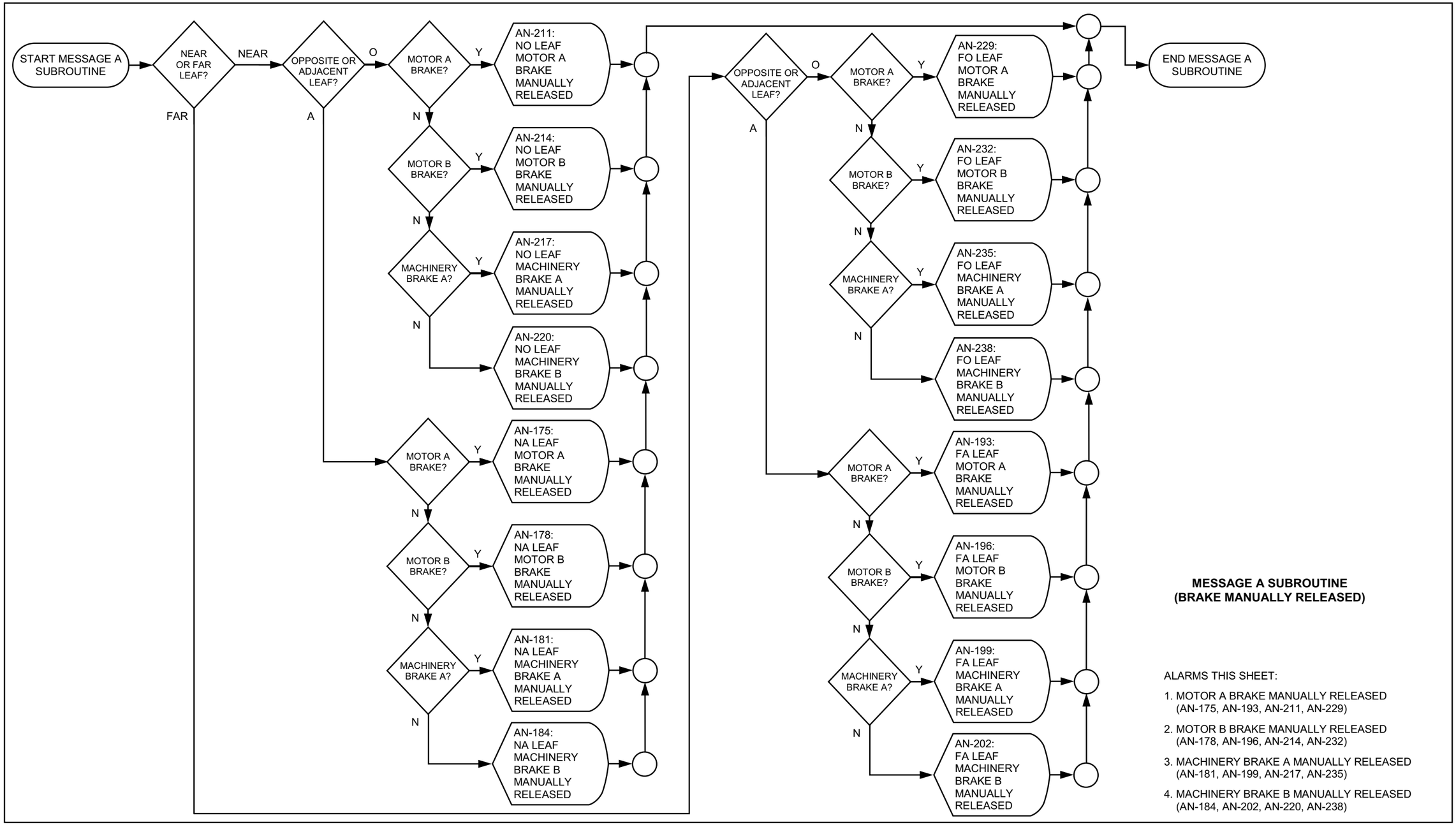


NOTE: SEE SHEETS 27 THRU 35 “LEAFS – 1 OF 9” THRU “LEAFS - 9 OF 9” FOR MESSAGE SUBROUTINES.

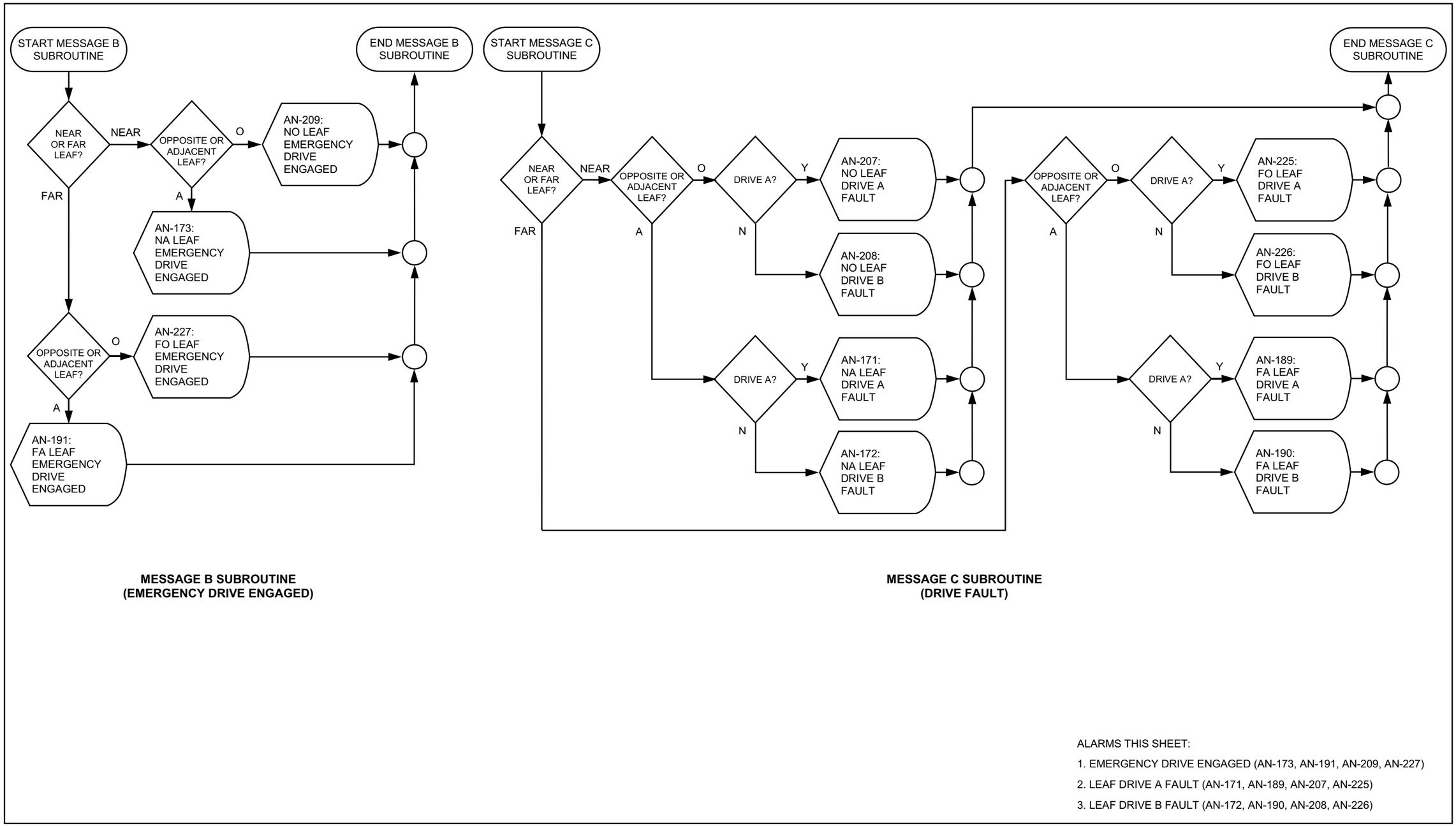
LEAFS - OPENING - 2 OF 2



LEAFS - 1 OF 9


START MESSAGE A SUBROUTINE
NEAR OR FAR LEAF?
NEAR
FAR
OPPOSITE OR ADJACENT LEAF?
O
A
MOTOR A BRAKE?
Y
N
AN-211: NO LEAF MOTOR A BRAKE MANUALLY RELEASED
MOTOR B BRAKE?
AN-214: NO LEAF MOTOR B BRAKE MANUALLY RELEASED
MACHINERY BRAKE A?
AN-217: NO LEAF MACHINERY BRAKE A MANUALLY RELEASED
AN-220: NO LEAF MACHINERY BRAKE B MANUALLY RELEASED
AN-175: NA LEAF MOTOR A BRAKE MANUALLY RELEASED
AN-178: NA LEAF MOTOR B BRAKE MANUALLY RELEASED
AN-181: NA LEAF MACHINERY BRAKE A MANUALLY RELEASED
AN-184: NA LEAF MACHINERY BRAKE B MANUALLY RELEASED
AN-229: FO LEAF MOTOR A BRAKE MANUALLY RELEASED
AN-232: FO LEAF MOTOR B BRAKE MANUALLY RELEASED
AN-235: FO LEAF MACHINERY BRAKE A MANUALLY RELEASED
AN-238: FO LEAF MACHINERY BRAKE B MANUALLY RELEASED
AN-193: FA LEAF MOTOR A BRAKE MANUALLY RELEASED
AN-196: FA LEAF MOTOR B BRAKE MANUALLY RELEASED
AN-199: FA LEAF MACHINERY BRAKE A MANUALLY RELEASED
AN-202: FA LEAF MACHINERY BRAKE B MANUALLY RELEASED
END MESSAGE A SUBROUTINE
MESSAGE A SUBROUTINE
(BRAKE MANUALLY RELEASED)
ALARMS THIS SHEET:
1. MOTOR A BRAKE MANUALLY RELEASED (AN-175, AN-193, AN-211, AN-229)
2. MOTOR B BRAKE MANUALLY RELEASED (AN-178, AN-196, AN-214, AN-232)
3. MACHINERY BRAKE A MANUALLY RELEASED (AN-181, AN-199, AN-217, AN-235)
4. MACHINERY BRAKE B MANUALLY RELEASED (AN-184, AN-202, AN-220, AN-238)

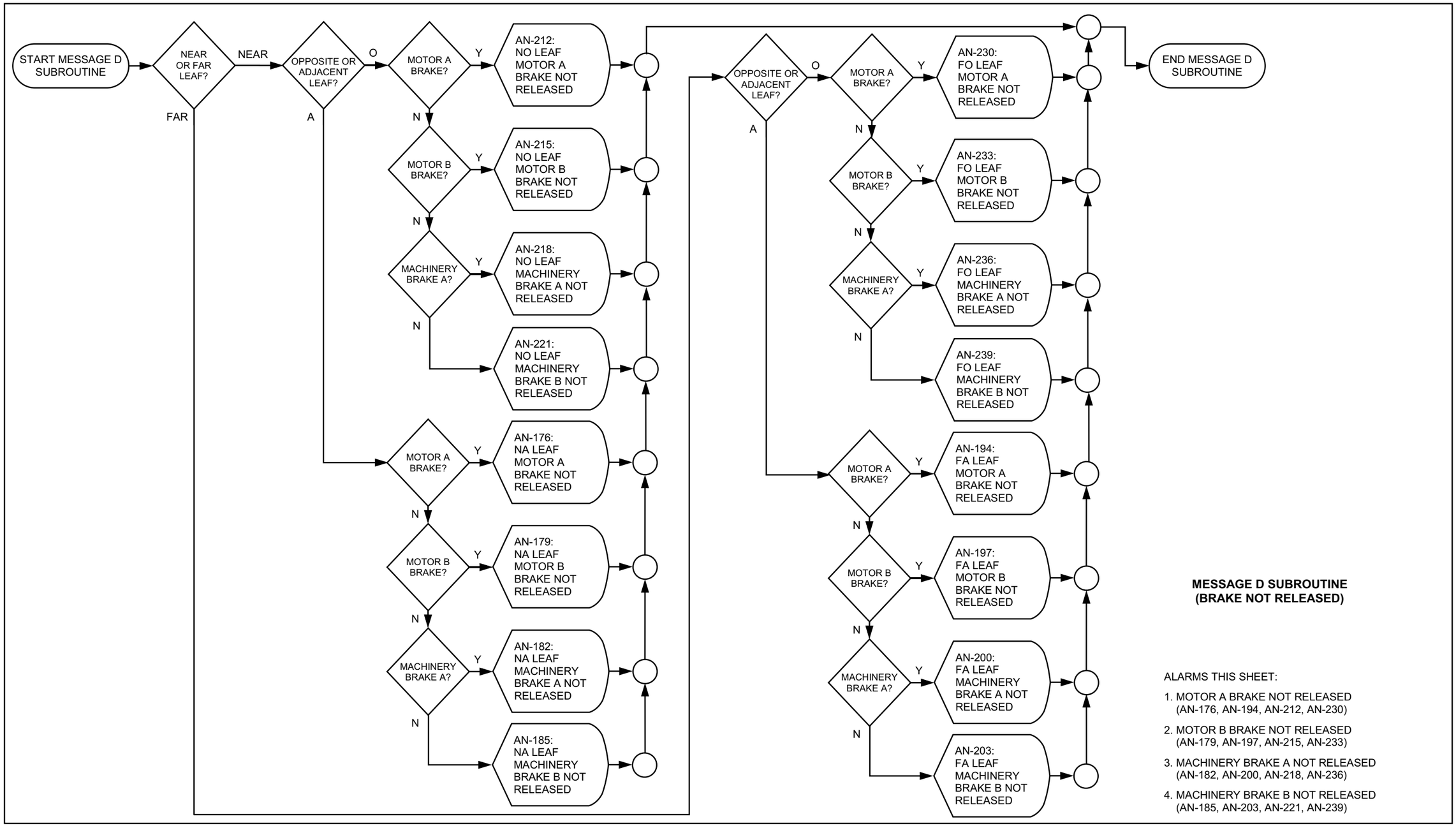
LEAFS - 2 OF 9



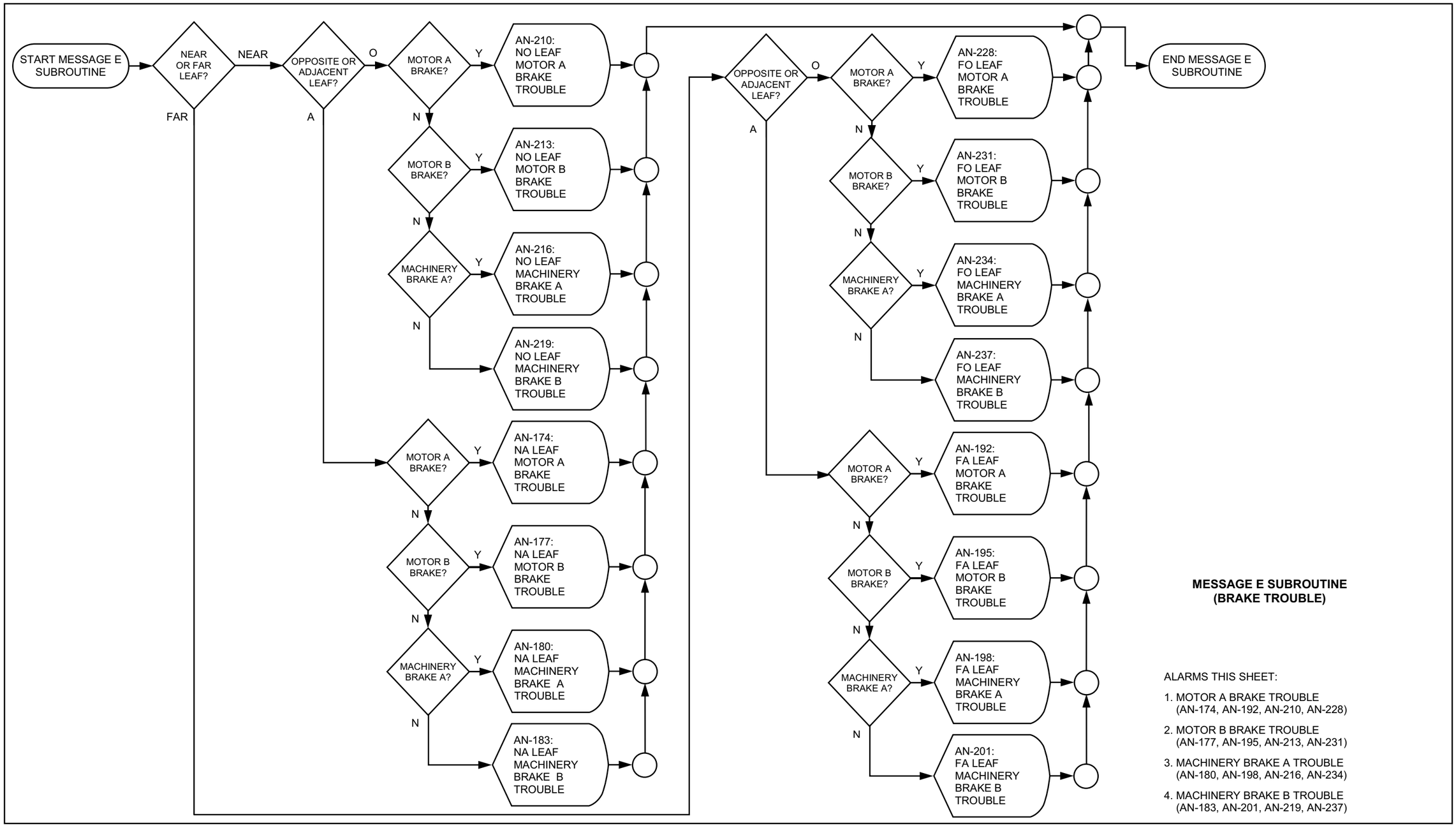
ALARMS THIS SHEET:

1. EMERGENCY DRIVE ENGAGED (AN-173, AN-191, AN-209, AN-227)
2. LEAF DRIVE A FAULT (AN-171, AN-189, AN-207, AN-225)
3. LEAF DRIVE B FAULT (AN-172, AN-190, AN-208, AN-226)

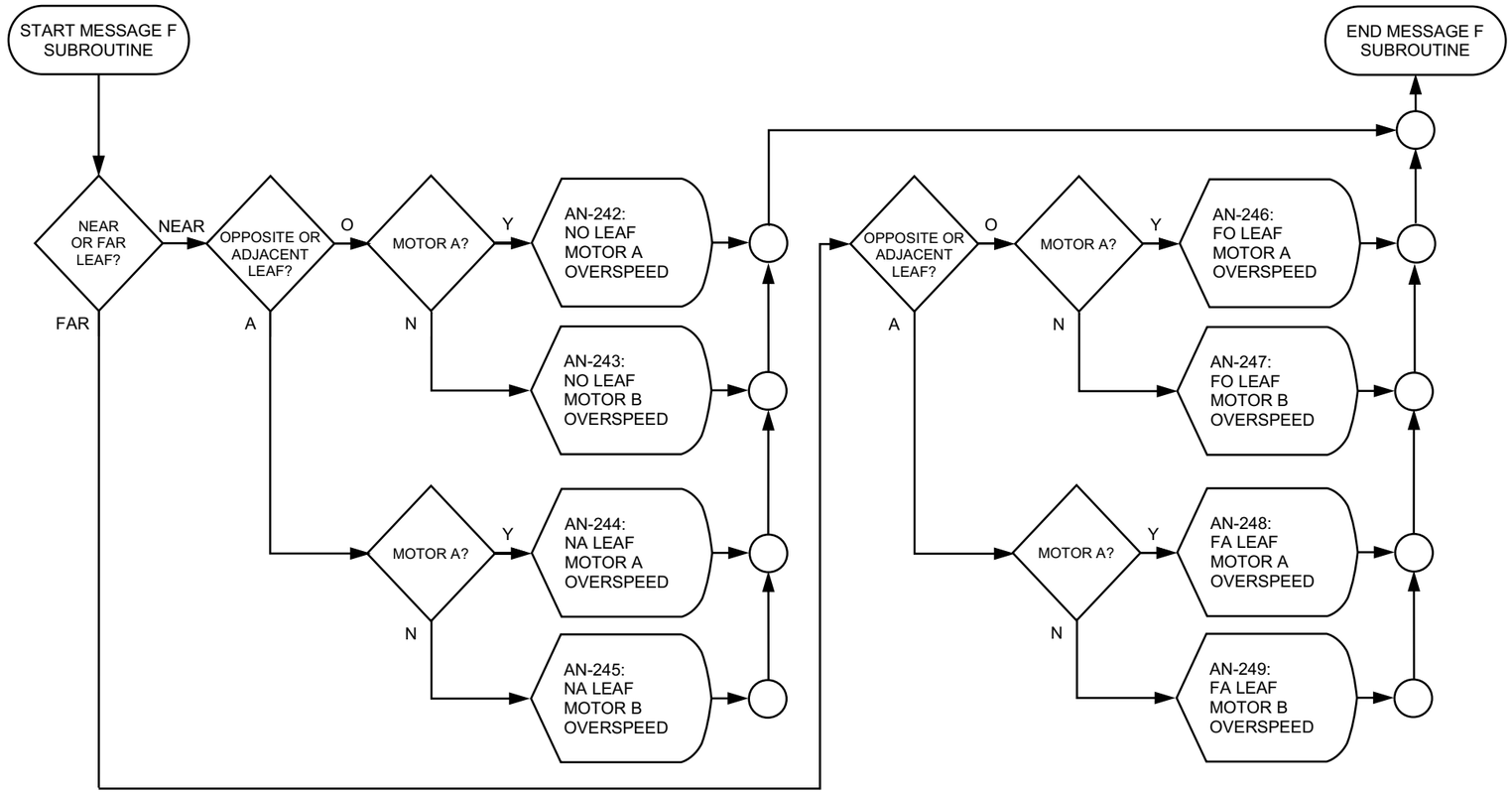
LEAFS - 3 OF 9


START MESSAGE D SUBROUTINE
NEAR OR FAR LEAF?
NEAR
FAR
OPPOSITE OR ADJACENT LEAF?
O
A
MOTOR A BRAKE?
Y
N
AN-212: NO LEAF MOTOR A BRAKE NOT RELEASED
MOTOR B BRAKE?
AN-215: NO LEAF MOTOR B BRAKE NOT RELEASED
MACHINERY BRAKE A?
AN-218: NO LEAF MACHINERY BRAKE A NOT RELEASED
AN-221: NO LEAF MACHINERY BRAKE B NOT RELEASED
MOTOR A BRAKE?
AN-176: NA LEAF MOTOR A BRAKE NOT RELEASED
MOTOR B BRAKE?
AN-179: NA LEAF MOTOR B BRAKE NOT RELEASED
MACHINERY BRAKE A?
AN-182: NA LEAF MACHINERY BRAKE A NOT RELEASED
AN-185: NA LEAF MACHINERY BRAKE B NOT RELEASED
OPPOSITE OR ADJACENT LEAF?
O
A
MOTOR A BRAKE?
AN-230: FO LEAF MOTOR A BRAKE NOT RELEASED
MOTOR B BRAKE?
AN-233: FO LEAF MOTOR B BRAKE NOT RELEASED
MACHINERY BRAKE A?
AN-236: FO LEAF MACHINERY BRAKE A NOT RELEASED
AN-239: FO LEAF MACHINERY BRAKE B NOT RELEASED
MOTOR A BRAKE?
AN-194: FA LEAF MOTOR A BRAKE NOT RELEASED
MOTOR B BRAKE?
AN-197: FA LEAF MOTOR B BRAKE NOT RELEASED
MACHINERY BRAKE A?
AN-200: FA LEAF MACHINERY BRAKE A NOT RELEASED
AN-203: FA LEAF MACHINERY BRAKE B NOT RELEASED
END MESSAGE D SUBROUTINE
MESSAGE D SUBROUTINE
(BRAKE NOT RELEASED)
ALARMS THIS SHEET:
1. MOTOR A BRAKE NOT RELEASED (AN-176, AN-194, AN-212, AN-230)
2. MOTOR B BRAKE NOT RELEASED (AN-179, AN-197, AN-215, AN-233)
3. MACHINERY BRAKE A NOT RELEASED (AN-182, AN-200, AN-218, AN-236)
4. MACHINERY BRAKE B NOT RELEASED (AN-185, AN-203, AN-221, AN-239)

LEAFS - 4 OF 9


START MESSAGE E SUBROUTINE
NEAR OR FAR LEAF?
NEAR
FAR
OPPOSITE OR ADJACENT LEAF?
O
A
MOTOR A BRAKE?
Y
N
AN-210: NO LEAF MOTOR A BRAKE TROUBLE
MOTOR B BRAKE?
AN-213: NO LEAF MOTOR B BRAKE TROUBLE
MACHINERY BRAKE A?
AN-216: NO LEAF MACHINERY BRAKE A TROUBLE
AN-219: NO LEAF MACHINERY BRAKE B TROUBLE
AN-174: NA LEAF MOTOR A BRAKE TROUBLE
AN-177: NA LEAF MOTOR B BRAKE TROUBLE
AN-180: NA LEAF MACHINERY BRAKE A TROUBLE
AN-183: NA LEAF MACHINERY BRAKE B TROUBLE
AN-228: FO LEAF MOTOR A BRAKE TROUBLE
AN-231: FO LEAF MOTOR B BRAKE TROUBLE
AN-234: FO LEAF MACHINERY BRAKE A TROUBLE
AN-237: FO LEAF MACHINERY BRAKE B TROUBLE
AN-192: FA LEAF MOTOR A BRAKE TROUBLE
AN-195: FA LEAF MOTOR B BRAKE TROUBLE
AN-198: FA LEAF MACHINERY BRAKE A TROUBLE
AN-201: FA LEAF MACHINERY BRAKE B TROUBLE
END MESSAGE E SUBROUTINE
MESSAGE E SUBROUTINE
(BRAKE TROUBLE)
ALARMS THIS SHEET:
1. MOTOR A BRAKE TROUBLE (AN-174, AN-192, AN-210, AN-228)
2. MOTOR B BRAKE TROUBLE (AN-177, AN-195, AN-213, AN-231)
3. MACHINERY BRAKE A TROUBLE (AN-180, AN-198, AN-216, AN-234)
4. MACHINERY BRAKE B TROUBLE (AN-183, AN-201, AN-219, AN-237)

LEAFS - 5 OF 9

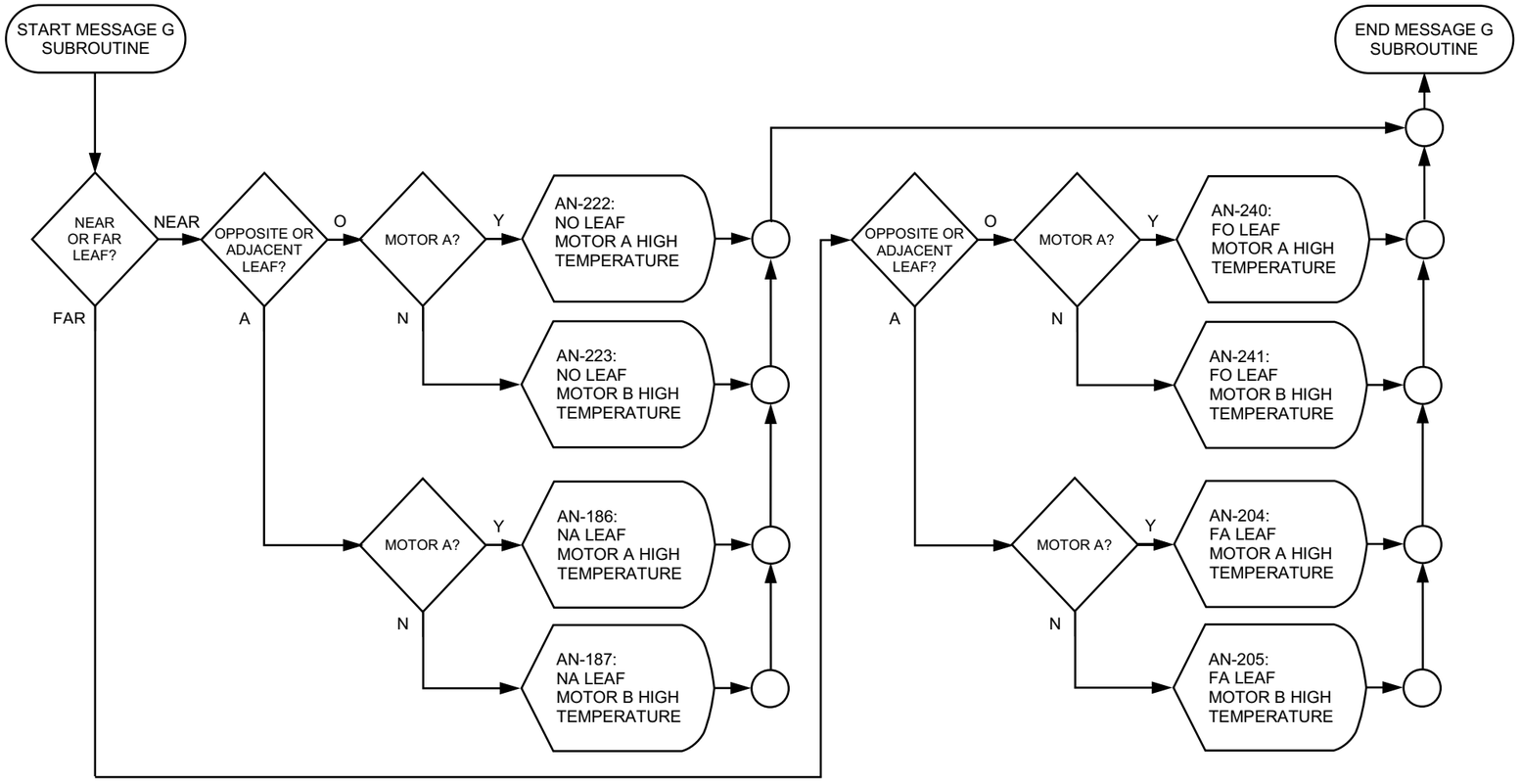


MESSAGE F SUBROUTINE
(MOTOR OVERSPEED)

ALARMS THIS SHEET:

1. MOTOR A OVERSPEED (AN-242, AN-244, AN-246, AN-248)
2. MOTOR B OVERSPEED (AN-243, AN-245, AN-247, AN-249)

LEAFS - 6 OF 9

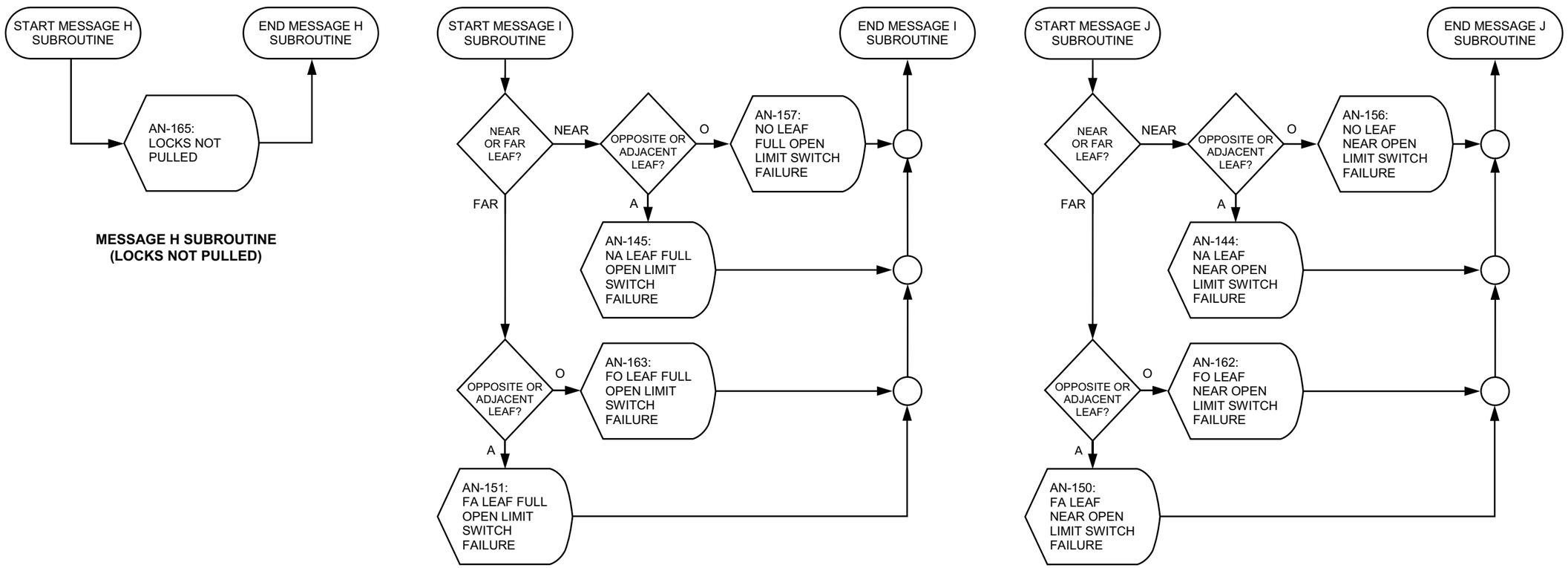


MESSAGE G SUBROUTINE
(MOTOR HIGH TEMPERATURE)

ALARMS THIS SHEET:

1. MOTOR A HIGH TEMPERATURE (AN-186, AN-204, AN-222, AN-240)
2. MOTOR B HIGH TEMPERATURE (AN-187, AN-205, AN-223, AN-241)

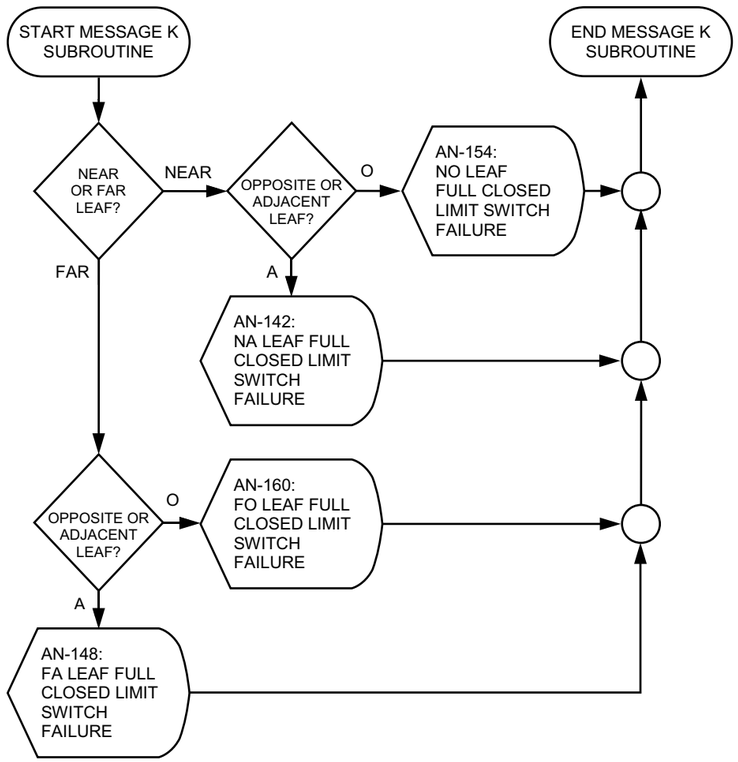
LEAFS - 7 OF 9



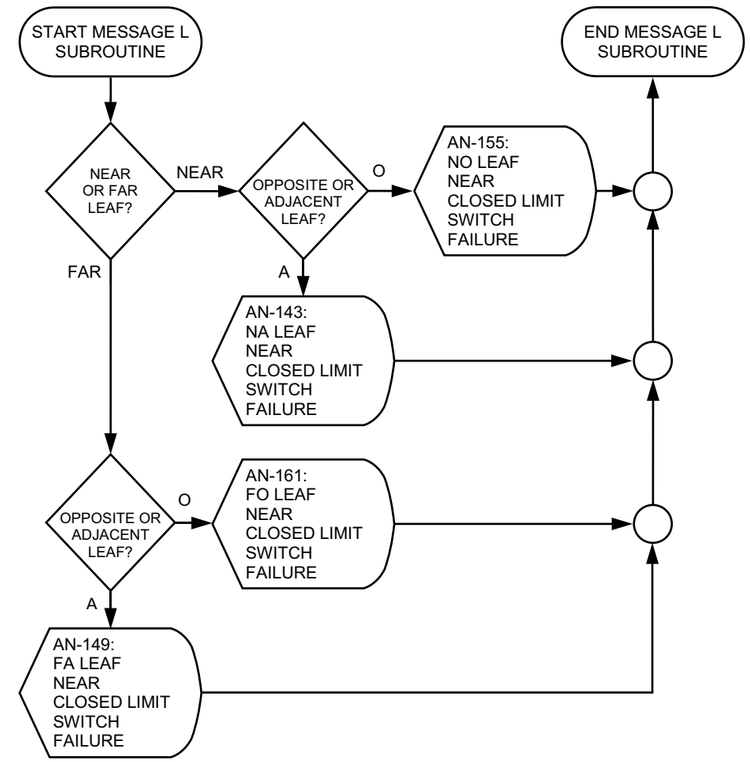
ALARMS THIS SHEET:

1. LOCKS NOT PULLED (AN-165)
2. FULL OPEN LIMIT SWITCH FAILURE (AN-145, AN-151, AN-157, AN-163)
3. NEAR OPEN LIMIT SWITCH FAILURE (AN-144, AN-150, AN-156, AN-162)

LEAFS - 8 OF 9



MESSAGE K SUBROUTINE
(FULL CLOSED LIMIT SWITCH FAILURE)

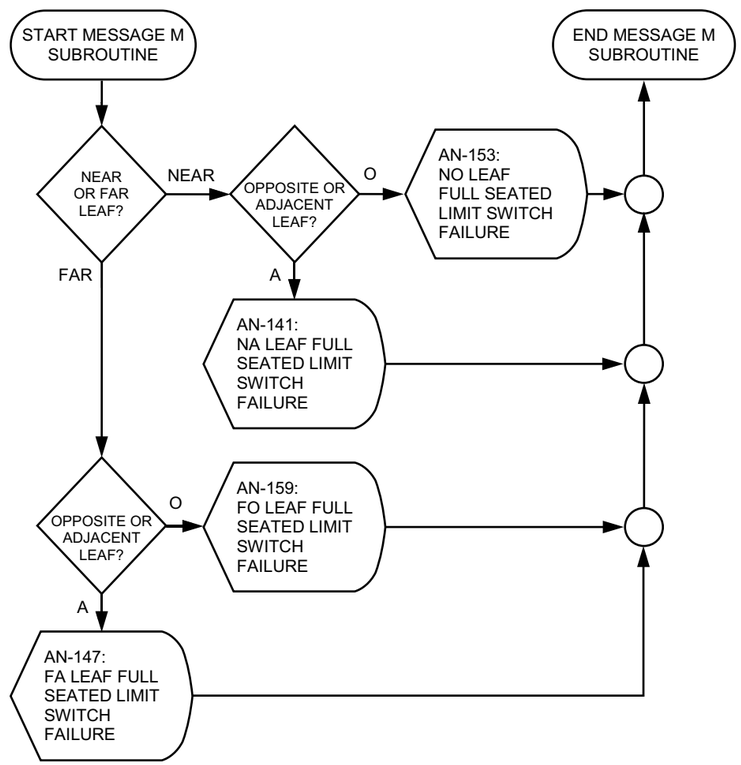


MESSAGE L SUBROUTINE
(NEAR CLOSED LIMIT SWITCH FAILURE)

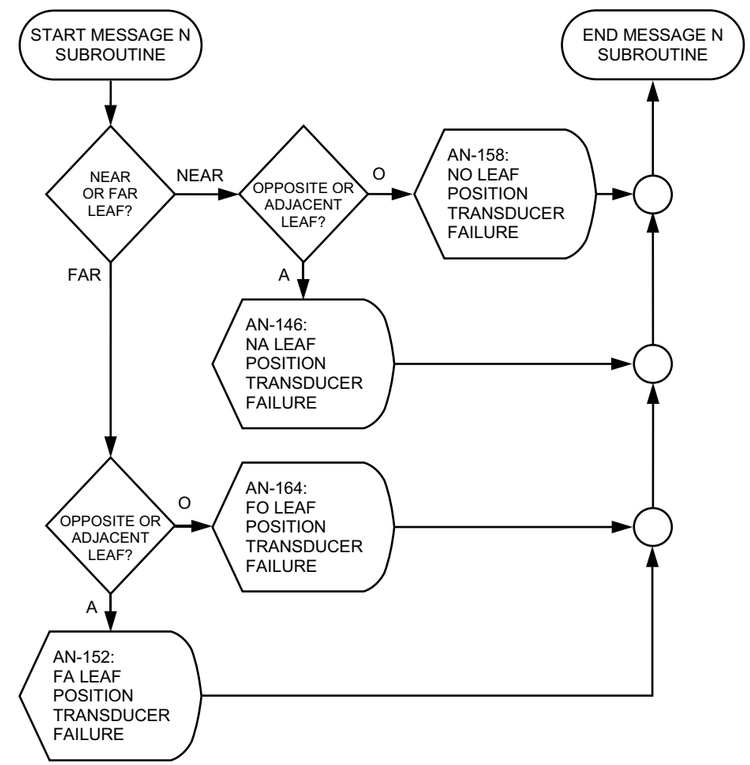
ALARMS THIS SHEET:

1. FULL CLOSED LIMIT SWITCH FAILURE (AN-142, AN-148, AN-154, AN-160)
2. NEAR CLOSED LIMIT SWITCH FAILURE (AN-143, AN-149, AN-155, AN-161)

LEAFS - 9 OF 9



MESSAGE M SUBROUTINE
(FULL SEATED LIMIT SWITCH FAILURE)

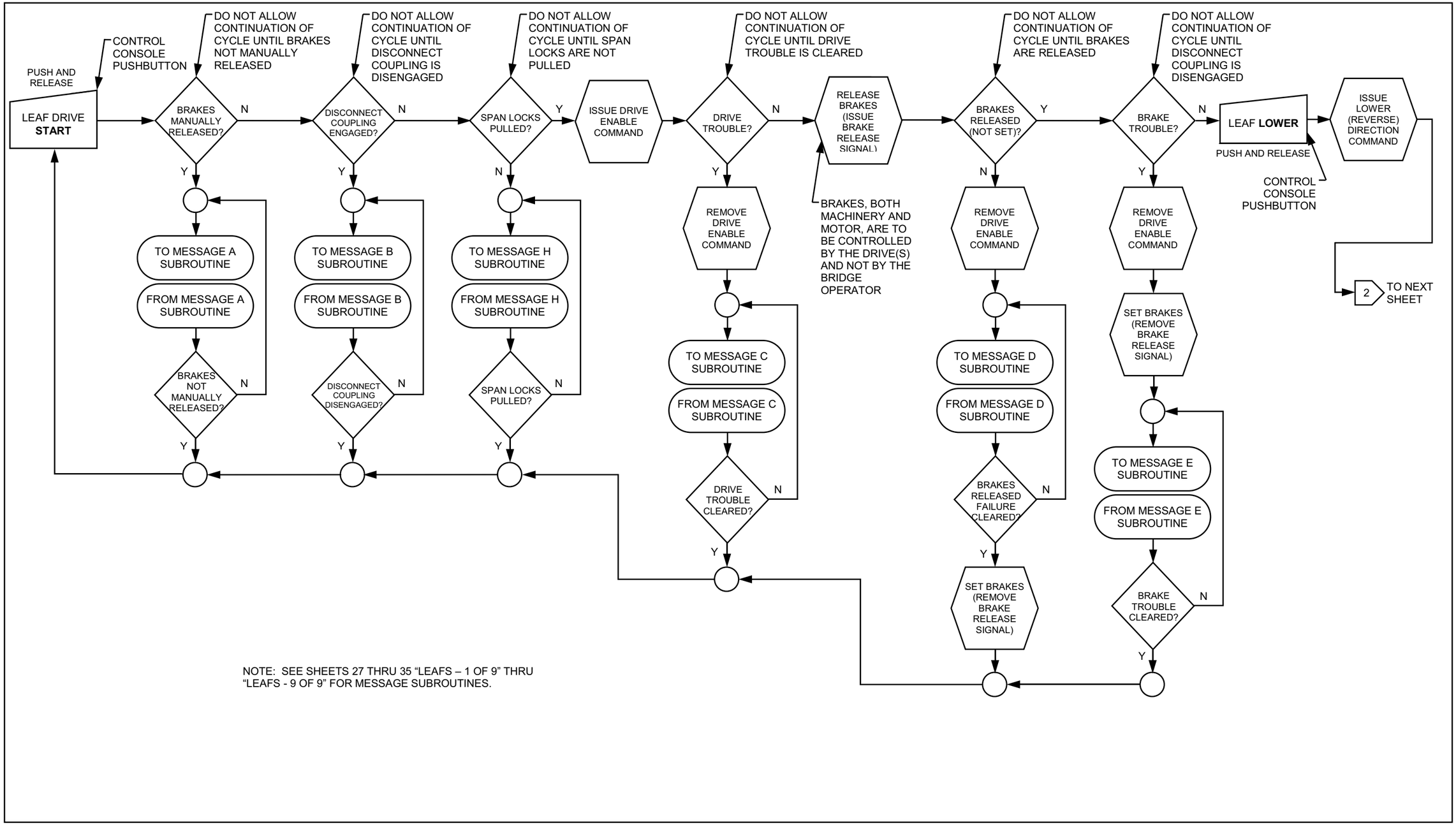


MESSAGE N SUBROUTINE
(POSITION TRANSDUCER FAILURE)

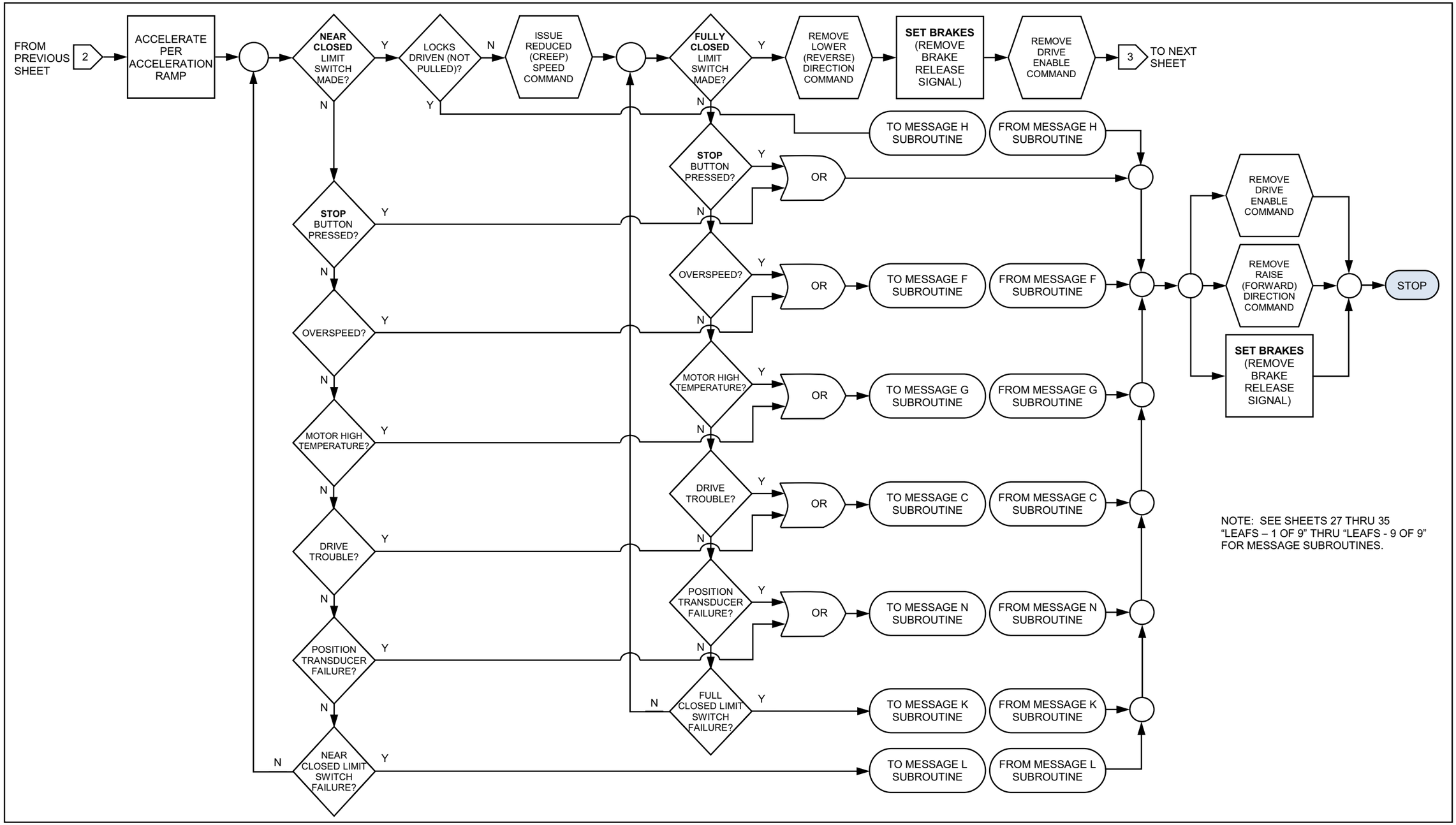
ALARMS THIS SHEET:

1. FULL SEATED LIMIT SWITCH FAILURE (AN-141, AN-147, AN-153, AN-159)
2. POSITION TRANSDUCER FAILURE (AN-146, AN-152, AN-158, AN-164)

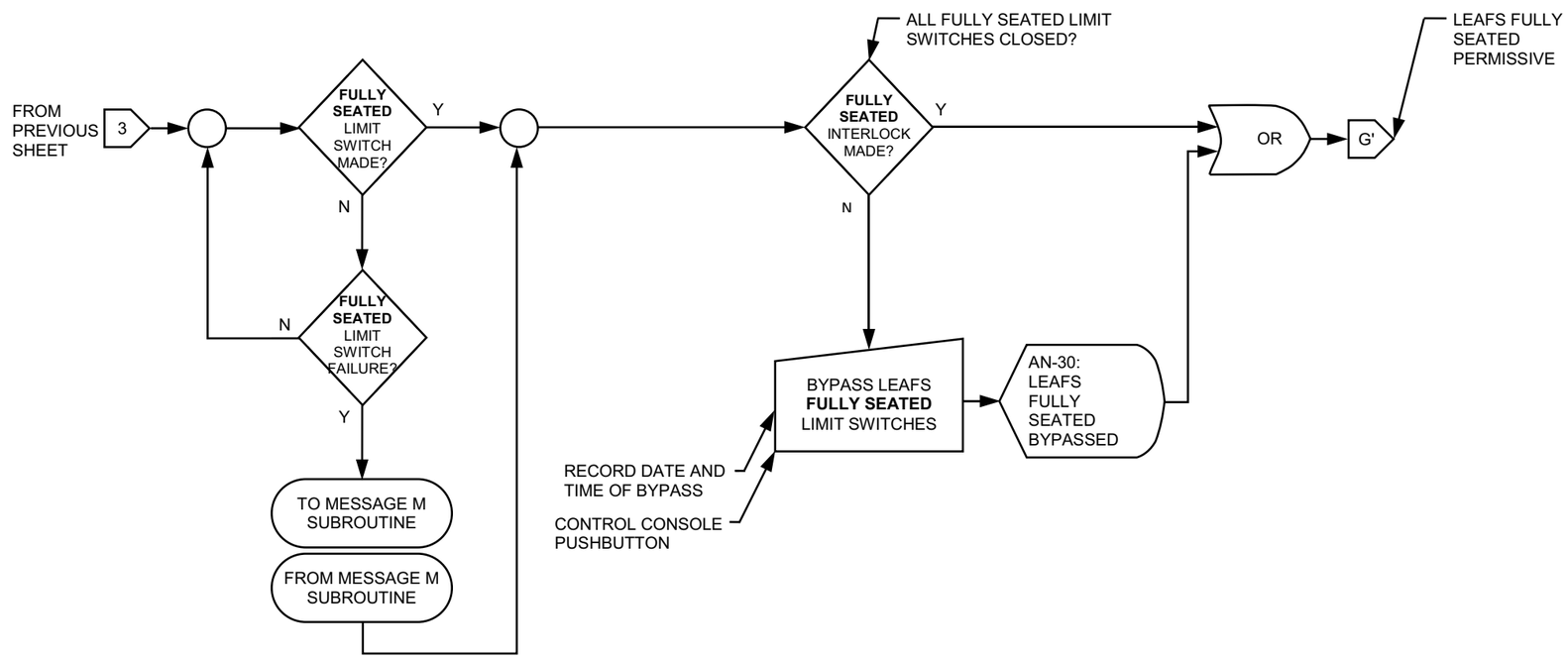
LEAFS - CLOSING - 1 OF 2



LEAFS - CLOSING - 2 OF 2



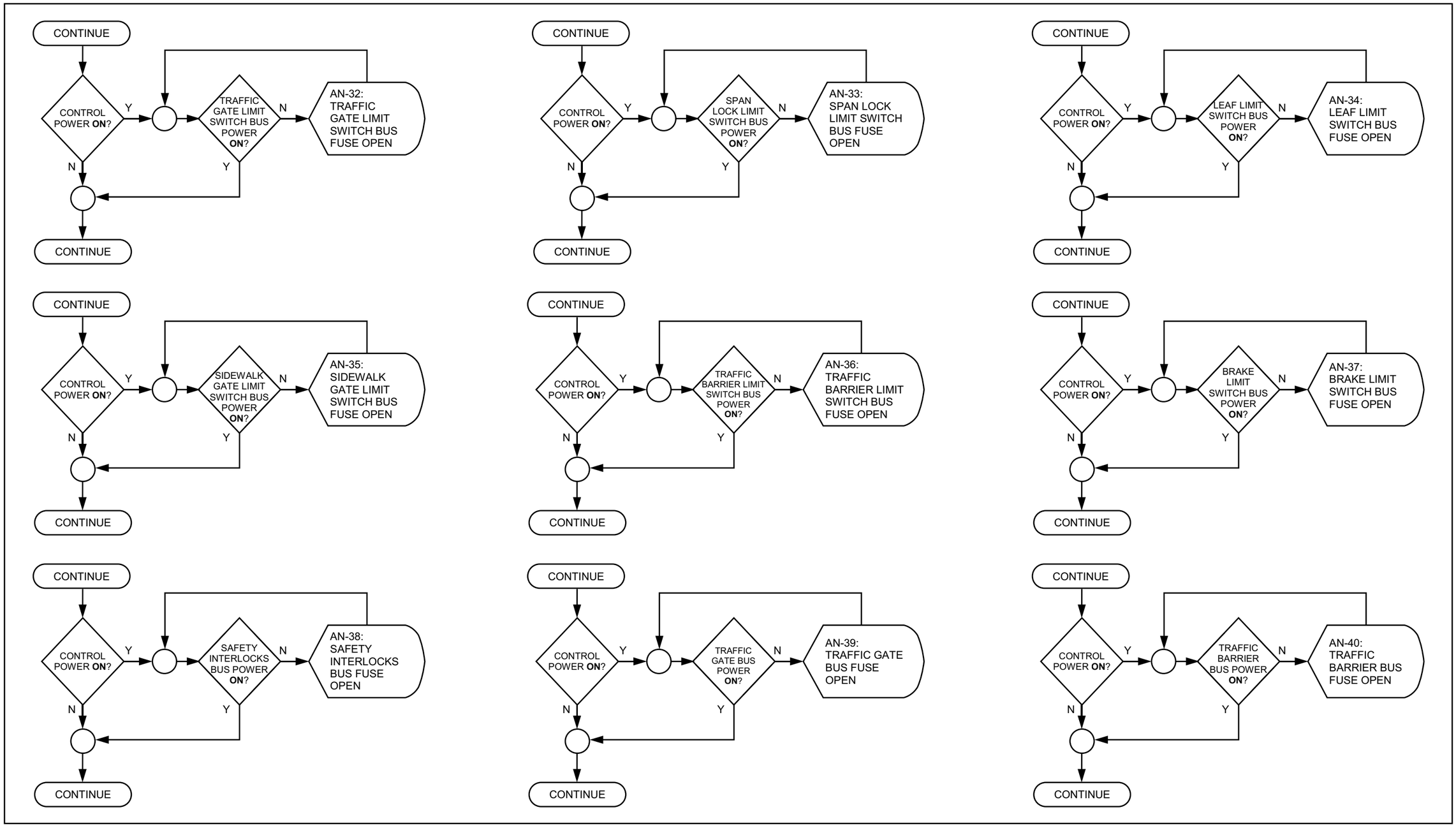
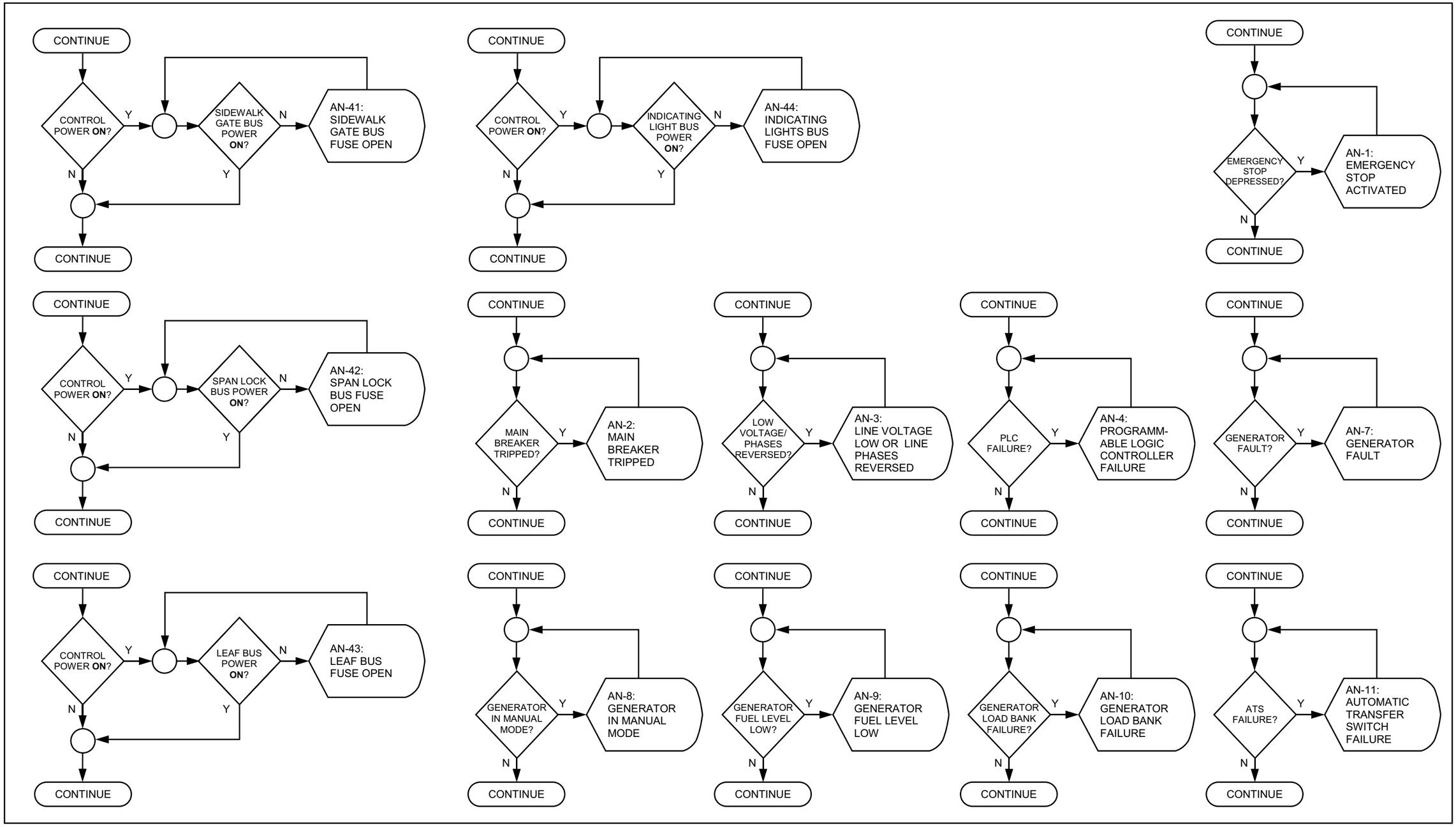
LEAFS - SEATED



ALARMS THIS SHEET:

1. LEAF(S) FULLY SEATED BYPASSED (AN-30)

MISCELLANEOUS - 1 OF 2



MISCELLANEOUS - 2 OF 2