Conversion Wiring Diagrams for RM7800/RM7840

These diagrams and instructions are for converting the following model programmers to RM7800/RM7840 microprocessor based integrated burner control.

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⚠ WARNING

Improper configuration jumper selection could cause a fire or explosion hazard that could lead to property damage, severe injury or death.

⚠ CAUTION

1. Installer must be a trained, experienced, flame safeguard control service technician.
2. Disconnect power supply before beginning installation to prevent electrical shock and equipment damage. More than one power supply disconnect may be involved.
3. All wiring must comply with applicable local electrical codes, ordinances, and regulations.
4. All line voltage terminal wiring shall be no. 14, 16 or 18 copper conductor TTW (60C) or THW (75C) or THHN (90C), 600 volt insulation wire. A maximum of two conductors can be wired to each Q7800 Subbase terminal.
5. Voltage and frequency of the power supply and flame detector(s) connected to this control must agree with those marked on the device.
6. Loads connected to the control terminals must not exceed ratings listed in Specification sheets 65-0087 or 65-0117, or on the RM7800/RM7840 label.
7. All external timers must be listed or component recognized by authorities having jurisdiction for the specific purpose for which they are used.
8. Perform all required checkout tests after installation is complete.

IMPORTANT:

1. *For on-off gas-fired systems, some authorities having jurisdiction prohibit the wiring of any limit or operating contacts in series between the flame safeguard control and the main fuel valve(s).*

2. *Do not connect more than two C7012E,F or C7076A,D Ultraviolet Flame Detectors (with self-checking shutter) in parallel to the same terminals.*

3. *This equipment generates, uses and can radiate radio frequency energy and if not installed and used in accordance with the instructions may cause interference to radio communications. It has been tested and found to comply with the limits for a Class B computing device of Part 15 of FCC rules which are designed to provide reasonable protection against such interference when operated in a commercial environment. Operation of this equipment in a residential area may cause interference, in which case, users at their own expense may be required to take whatever measures are required to correct this interference.*

4. *This digital apparatus does not exceed the Class B limits for radio noise for digital apparatus set out on the Radio Interference Regulations of the Canadian Department of Communications.*

NORMAL OPERATION:

Device	Initiate	Standby	Purge	Pilot Flame Establishing Period (PFEP)	Main Flame Establishing Period (MFEP)[1]	Run	Postpurge
RM7800/7840E	10 sec.	*	**	4 or 10 sec.	10 or 15 sec.	*	15 sec.
RM7800/7840G	10 sec.	*	**	4 or 10 sec.	10, 15, 30 or Int.	*	15 sec.
RM7800/7840L	10 sec.	*	**	4 or 10 sec.	10 or 15 sec.	*	15 sec.
RM7800/7840M	10 sec.	*	**	4 or 10 sec.	10 sec. or Int.	*	15 sec.

  * STANDBY and RUN can be an infinite time period.

 ** PURGE will be determined by which ST7800A Purge Card is selected.

 [1] The MFEP will be determined by which terminal, configuration jumper and jumper wire is selected.

APPROVAL BODIES:
  Underwriters Laboratories Inc. Listed: File No. MP268
    Guide No. MCCZ.
  Canadian Standards Association Certified, LR9S329-3.
  Factory Mutual Approved: Report No. JI1V9A0.AF.
  Industrial Risk Insurers Acceptable.
  Federal Communications Commission: Part 15, Class B.
  Canadian Department of Communications: CS-03, Certification No. 5733459A.
MOUNTING: Q7800A for panel mount or Q7800B for wall or burner mount.
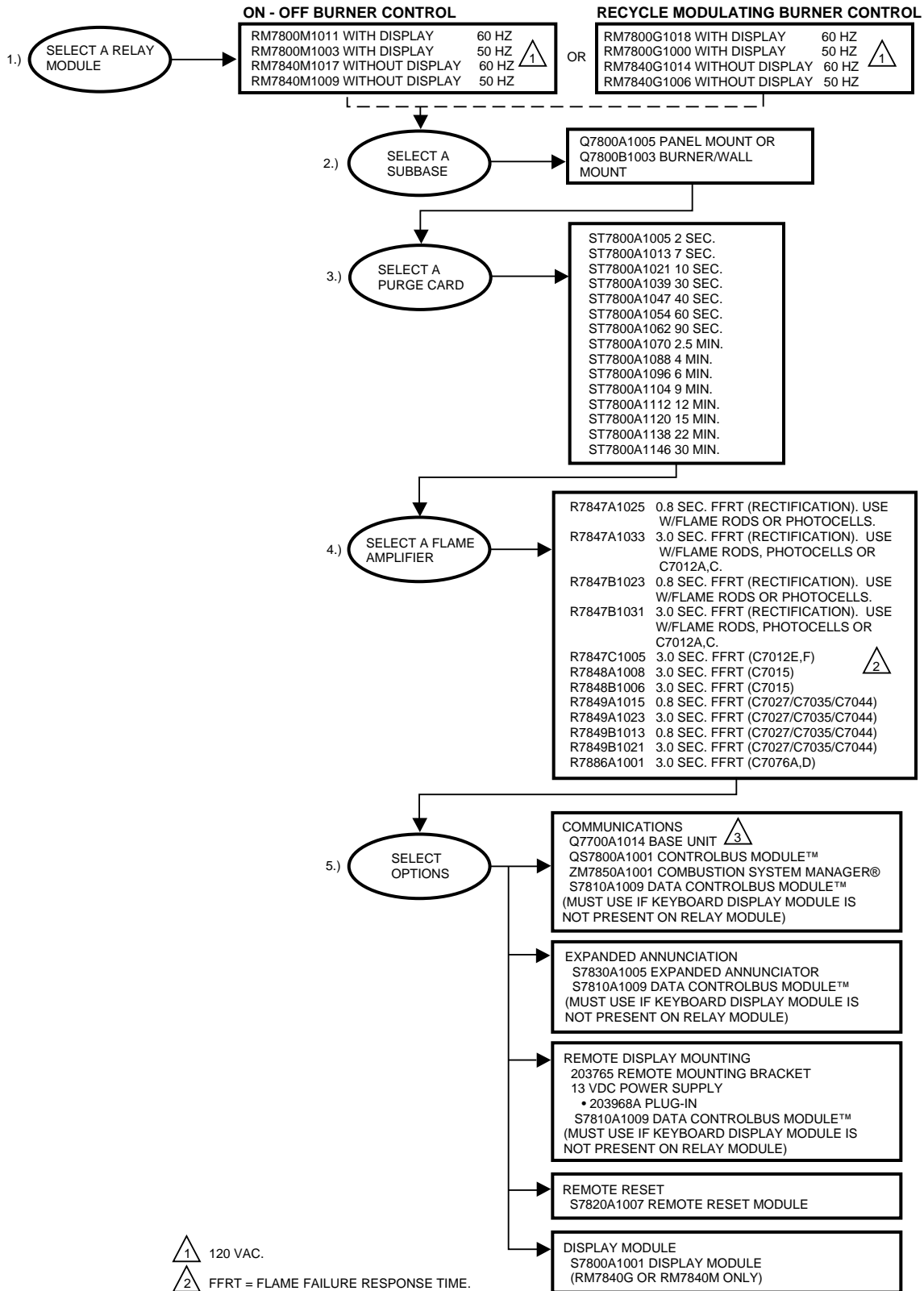REQUIRED COMPONENTS:
  Q7800 Subbase
  ST7800 Purge Timer
  RM7847/48/49/86 Flame Amplifier
ACCESSORIES:
  5-Wire Connector
    —part no. 203541.
  Combustion Service Manager
    —part no. ZM7850A1001.
  Communication Interface Base Unit
    —part no. Q7700A1014.
  Communication Interface ControlBus Module
    —part no. QS7800A1001.

DATA CONTROLBUS MODULE™
  —part no. S7810A1009.
Dust Cover
  —part no. 221729 (RM7840 only).
Electrical Access Slot Cover
  —part no. 203765.
Expanded Annunciator
  —part no. S7830A1005
Flame Simulators
  —part no. 203659 UV Flame Simulator.
  —part no. 123514A Rectification Simulator.
Keyboard Display Module
  —part no. S7800A1001 (RM7840 only).
Remote Display Mounting Bracket
  —part no. 203765.
Remote Reset Module
  —part no. S7820A1007.
Tester
  —part no. A7800A1002.
Remote Display Power Supply
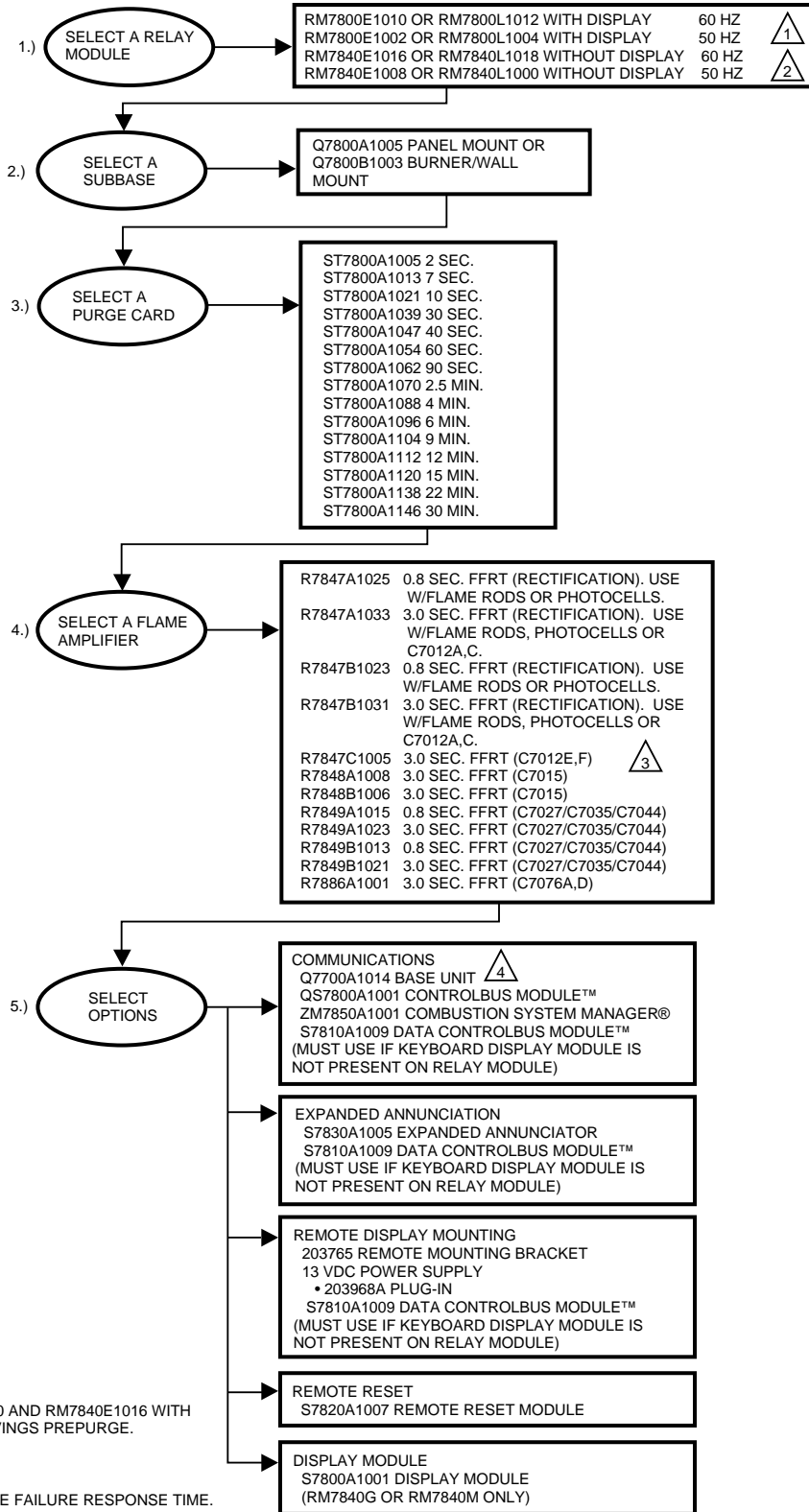 —part no. 203968 Plug-in.

ON - OFF BURNER CONTROL

RECYCLE MODULATING BURNER CONTROL

1.) SELECT A RELAY MODULE

RM7800M1011 WITH DISPLAY 60 HZ
RM7800M1003 WITH DISPLAY 50 HZ △1
RM7840M1017 WITHOUT DISPLAY 60 HZ
RM7840M1009 WITHOUT DISPLAY 50 HZ

OR

RM7800G1018 WITH DISPLAY 60 HZ
RM7800G1000 WITH DISPLAY 50 HZ △1
RM7840G1014 WITHOUT DISPLAY 60 HZ
RM7840G1006 WITHOUT DISPLAY 50 HZ

2.) SELECT A SUBBASE

Q7800A1005 PANEL MOUNT OR
Q7800B1003 BURNER/WALL MOUNT

3.) SELECT A PURGE CARD

ST7800A1005 2 SEC.
ST7800A1013 7 SEC.
ST7800A1021 10 SEC.
ST7800A1039 30 SEC.
ST7800A1047 40 SEC.
ST7800A1054 60 SEC.
ST7800A1062 90 SEC.
ST7800A1070 2.5 MIN.
ST7800A1088 4 MIN.
ST7800A1096 6 MIN.
ST7800A1104 9 MIN.
ST7800A1112 12 MIN.
ST7800A1120 15 MIN.
ST7800A1138 22 MIN.
ST7800A1146 30 MIN.

4.) SELECT A FLAME AMPLIFIER

R7847A1025 0.8 SEC. FFRT (RECTIFICATION). USE W/FLAME RODS OR PHOTOCELLS.
R7847A1033 3.0 SEC. FFRT (RECTIFICATION). USE W/FLAME RODS, PHOTOCELLS OR C7012A,C.
R7847B1023 0.8 SEC. FFRT (RECTIFICATION). USE W/FLAME RODS OR PHOTOCELLS.
R7847B1031 3.0 SEC. FFRT (RECTIFICATION). USE W/FLAME RODS, PHOTOCELLS OR C7012A,C.
R7847C1005 3.0 SEC. FFRT (C7012E,F) △2
R7848A1008 3.0 SEC. FFRT (C7015)
R7848B1006 3.0 SEC. FFRT (C7015)
R7849A1015 0.8 SEC. FFRT (C7027/C7035/C7044)
R7849A1023 3.0 SEC. FFRT (C7027/C7035/C7044)
R7849B1013 0.8 SEC. FFRT (C7027/C7035/C7044)
R7849B1021 3.0 SEC. FFRT (C7027/C7035/C7044)
R7886A1001 3.0 SEC. FFRT (C7076A,D)

5.) SELECT OPTIONS

COMMUNICATIONS
Q7700A1014 BASE UNIT △3
QS7800A1001 CONTROLBUS MODULE™
ZM7850A1001 COMBUSTION SYSTEM MANAGER®
S7810A1009 DATA CONTROLBUS MODULE™
(MUST USE IF KEYBOARD DISPLAY MODULE IS NOT PRESENT ON RELAY MODULE)

EXPANDED ANNUNCIATION
S7830A1005 EXPANDED ANNUNCIATOR
S7810A1009 DATA CONTROLBUS MODULE™
(MUST USE IF KEYBOARD DISPLAY MODULE IS NOT PRESENT ON RELAY MODULE)

REMOTE DISPLAY MOUNTING
203765 REMOTE MOUNTING BRACKET
13 VDC POWER SUPPLY
• 203968A PLUG-IN
S7810A1009 DATA CONTROLBUS MODULE™
(MUST USE IF KEYBOARD DISPLAY MODULE IS NOT PRESENT ON RELAY MODULE)

REMOTE RESET
S7820A1007 REMOTE RESET MODULE

DISPLAY MODULE
S7800A1001 DISPLAY MODULE
(RM7840G OR RM7840M ONLY)

△1 120 VAC.

△2 FFRT = FLAME FAILURE RESPONSE TIME.

△3 ONE Q7700 WILL SUPPORT ANY COMBINATION OF UP TO SIX (6) QS7700s/QS7800s.

M1940C

LOCKOUT MODULATION BURNER CONTROL

1.) SELECT A RELAY MODULE →

RM7800E1010 OR RM7800L1012 WITH DISPLAY	60 HZ	△1
RM7800E1002 OR RM7800L1004 WITH DISPLAY	50 HZ	
RM7840E1016 OR RM7840L1018 WITHOUT DISPLAY	60 HZ	△2
RM7840E1008 OR RM7840L1000 WITHOUT DISPLAY	50 HZ	

2.) SELECT A SUBBASE →

Q7800A1005 PANEL MOUNT OR
Q7800B1003 BURNER/WALL MOUNT

3.) SELECT A PURGE CARD →

ST7800A1005 2 SEC.
ST7800A1013 7 SEC.
ST7800A1021 10 SEC.
ST7800A1039 30 SEC.
ST7800A1047 40 SEC.
ST7800A1054 60 SEC.
ST7800A1062 90 SEC.
ST7800A1070 2.5 MIN.
ST7800A1088 4 MIN.
ST7800A1096 6 MIN.
ST7800A1104 9 MIN.
ST7800A1112 12 MIN.
ST7800A1120 15 MIN.
ST7800A1138 22 MIN.
ST7800A1146 30 MIN.

4.) SELECT A FLAME AMPLIFIER →

R7847A1025 0.8 SEC. FFRT (RECTIFICATION). USE
              W/FLAME RODS OR PHOTOCELLS.
R7847A1033 3.0 SEC. FFRT (RECTIFICATION). USE
              W/FLAME RODS, PHOTOCELLS OR
              C7012A,C.
R7847B1023 0.8 SEC. FFRT (RECTIFICATION). USE
              W/FLAME RODS OR PHOTOCELLS.
R7847B1031 3.0 SEC. FFRT (RECTIFICATION). USE
              W/FLAME RODS, PHOTOCELLS OR
              C7012A,C.
R7847C1005 3.0 SEC. FFRT (C7012E,F)   △3
R7848A1008 3.0 SEC. FFRT (C7015)
R7848B1006 3.0 SEC. FFRT (C7015)
R7849A1015 0.8 SEC. FFRT (C7027/C7035/C7044)
R7849A1023 3.0 SEC. FFRT (C7027/C7035/C7044)
R7849B1013 0.8 SEC. FFRT (C7027/C7035/C7044)
R7849B1021 3.0 SEC. FFRT (C7027/C7035/C7044)
R7886A1001 3.0 SEC. FFRT (C7076A,D)

5.) SELECT OPTIONS →

COMMUNICATIONS
Q7700A1014 BASE UNIT △4
 QS7800A1001 CONTROLBUS MODULE™
 ZM7850A1001 COMBUSTION SYSTEM MANAGER®
 S7810A1009 DATA CONTROLBUS MODULE™
(MUST USE IF KEYBOARD DISPLAY MODULE IS
NOT PRESENT ON RELAY MODULE)

EXPANDED ANNUNCIATION
 S7830A1005 EXPANDED ANNUNCIATOR
 S7810A1009 DATA CONTROLBUS MODULE™
(MUST USE IF KEYBOARD DISPLAY MODULE IS
NOT PRESENT ON RELAY MODULE)

REMOTE DISPLAY MOUNTING
 203765 REMOTE MOUNTING BRACKET
 13 VDC POWER SUPPLY
  • 203968A PLUG-IN
 S7810A1009 DATA CONTROLBUS MODULE™
(MUST USE IF KEYBOARD DISPLAY MODULE IS
NOT PRESENT ON RELAY MODULE)

REMOTE RESET
 S7820A1007 REMOTE RESET MODULE

DISPLAY MODULE
 S7800A1001 DISPLAY MODULE
 (RM7840G OR RM7840M ONLY)

△1 RM7800E1010 AND RM7840E1016 WITH
   ENERGY SAVINGS PREPURGE.

△2 120 VAC.

△3 FFRT = FLAME FAILURE RESPONSE TIME.

△4 ONE Q7700 WILL SUPPORT ANY COMBINATION OF UP TO SIX (6) QS7700s/QS7800s.

M1941C

DIRECTIONS:

1. Disconnect all power to control being replaced. Note that more than one power supply disconnect may be involved.
2. Remove old control from subbase.
3. Mark all wires on subbase; i.e., wires connected to terminal 1 should be marked 1.
4. Disconnect wires from subbase.
5. Remove old subbase.
6. Mount Q7800 Subbase.
7. Connect wires to subbase according to wiring conversion for control being replaced. Pay close attention to footnotes. The triangle symbol △1 with a number or letter inside designates a footnote.
8. Install the RM7800/RM7840 control. Make sure the proper ST7800 purge card and flame detector were selected for the application.
9. The RM7800/RM7840 have two or three site configurable jumper options. (depends on model number).
   JUMPERS:
   - JR1 selects Pilot Flame Establishing Period.
   - JR2 (RM7800G/RM7840G only) selects intermittent or interrupted pilot.
   - JR3 selects lockout/running interlock input check. Refer to RM7800 instructions, 60-0117 or RM7840 instructions, 60-0087, for assistance and proper selection.
10. Refer to instructions, 60-0087 or 60-0117, for checkout and start-up.

GENERAL FOOTNOTES:

△1 RM7840 operates the same as the RM7800 but does not have the Display Module. (Display Module S7800A1001 can be added later.) The RM7800 must have Display Module installed to operate.

△2 Select proper prepurge timer according to the Firing Line cross reference, 70-8313.

△3 Select proper flame amplifier according to the Firing Line amplifier cross reference.

△4 Proper grounding of the green subbase terminal screw to an electrical earth ground is a MUST for proper operation of the 7800 SERIES device.

△5 NOTE: UL allows only two electrical wires to each subbase terminal. Wiring information may show more than two wires to a particular terminal, which may require an external connection to accomplish the connection.

△6 Q520 Subbase terminal 16 connection may have been a wire nut connection. Remove wire nut and connect to the Q7800 Subbase terminal 6.
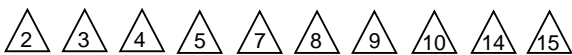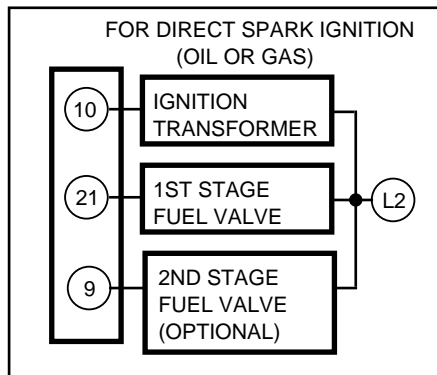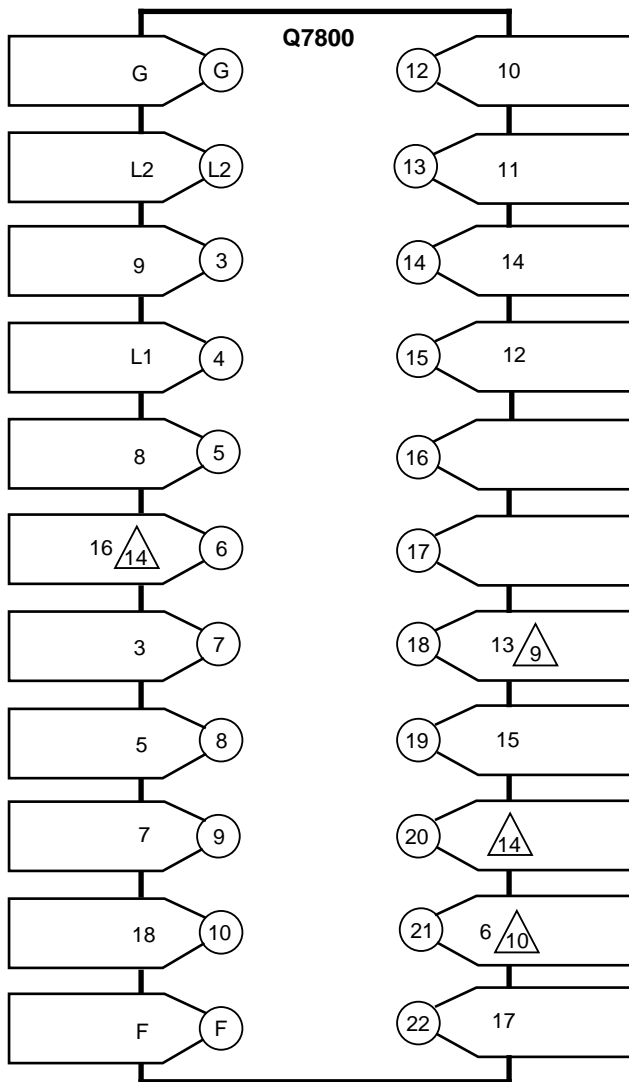
△7 Select proper site configurable jumpers specified in the cross reference and shown in the Specifications, 65-0087 for RM7840 or 65-0117 for RM7800.

△8 Select proper site configurable PFEP/MFEP specified in the cross reference and shown in the Specifications, 65-0087 for RM7840 or 65-0117 for RM7800.

△9 If low fire switch is not used, a jumper is required between Q7800 Subbase terminals 5 and 18. NOTE: This jumper will add 30 seconds to prepurge timing.

△10 If replaced device had interrupted pilot on terminal 6, connect to Q7800 Subbase terminal 8.

△11 Locate the start interlock on the Q520 Subbase terminal 16 and connect between Q7800 terminals 4 and 20. The start interlocks now become preignition interlocks. If start interlocks are not used, jumper the Q7800 Subbase terminal 4 to terminal 20.

△12 Locate the preignition interlocks on the Q520 Subbase terminals 4 and 16. Connect the preignition interlock between the Q7800 Subbase terminals 4 and 20. If preignition interlocks are not used, jumper the Q7800 Subbase terminal 4 to terminal 20.

△13 Jumper Q7800 subbase terminal 8 to terminal 19 for 30 second MFEP.

△14 Locate the preignition interlock connection on the Q520 Subbase terminal 16 and connect to the Q7800 subbase terminal 20.

△15 For direct spark ignition, discard any jumpers between Q520 Subbase terminals 5, 6, and 7 and connect according to the diagram shown.

△16 Many R4181 devices were used on North American Company Burners. Because North American uses many unique external circuits, such as Automatic Fuel Changeover, Valve Leak Checker, etc., it is recommended that you contact Honeywell through your local distributor or sales representative before attempting conversions of North American Burners.

△17 For models without damper motors, jumper Q7800 Subbase terminal 14 to terminal 18, and terminal 4 to terminal 13.

△18 Be sure system is modernized to 120 Vac. The replacement 7800 SERIES control is 120 volts.

△19 Select proper flame detector when converting from a non-Honeywell control or when a different flame detection system is desired; i.e., the old flame amplifier was flame rectification and the new flame amplifier is to be ultraviolet. Refer to product selection matrixes on pages 3 and 4.

Section I
BC7000

7800 SERIES CONVERSION WIRING DIAGRAM

FROM _____BC700L1000 WITH PM720G2005 OR G2103_____ TO _____RM7800G1018_____

(DEVICE TO BE MODERNIZED)   (O.S. NUMBER OF RELAY MODULE TO BE USED)

Q7800

Q7800		RM7800
G	G	12 → 10
L2	L2	13 → 11
9	3	14 → 14
L1	4	15 → 12
8	5	16
16 /14\	6	17
3	7	18 → 13 /9\
5	8	19 → 15
7	9	20 → /14\
18	10	21 → 6 /10\
F	F	22 → 17

FOR DIRECT SPARK IGNITION
(OIL OR GAS)

10	IGNITION TRANSFORMER
21	1ST STAGE FUEL VALVE
9	2ND STAGE FUEL VALVE (OPTIONAL)

L2

/2\ /3\ /4\ /5\ /7\ /8\ /9\ /10\ /14\ /15\

GENERAL FOOTNOTES, SEE PAGE 5.

M2530B

65-0100—2

7800 SERIES CONVERSION WIRING DIAGRAM

FROM _____ BC7000L1000 WITH
PM720L1030, 1139, L2020 _____ TO _____ RM7800L1012 OR RM7800E1010 _____

(DEVICE TO BE MODERNIZED)   (O.S. NUMBER OF RELAY MODULE TO BE USED)

Q7800

Left (Q7800)	Left pin		Right pin	Right
G	G		12	10
L2	L2		13	11
9	3		14	14
L1&4 △A	4		15	12
8 △A	5		16	
16	6		17	
3	7		18	13
5	8		19	15
7	9		20	△14
18	10		21	6
F	F		22	17

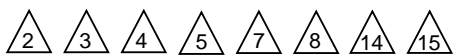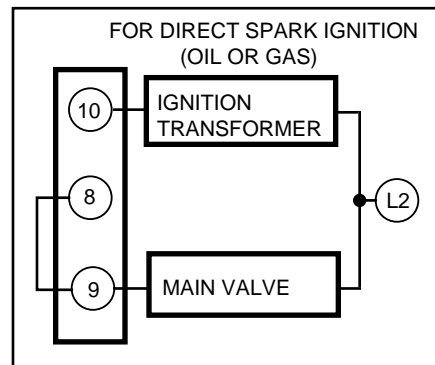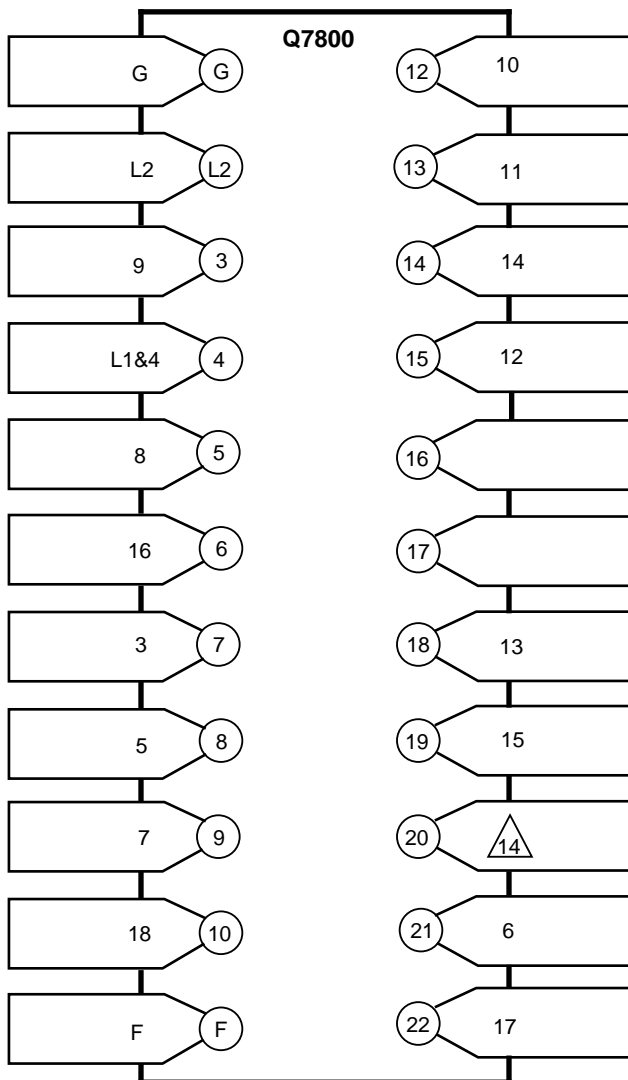FOR DIRECT SPARK IGNITION
(OIL OR GAS)

10 — IGNITION TRANSFORMER
8
9 — MAIN VALVE
L2
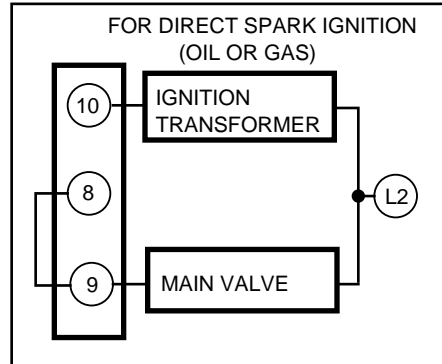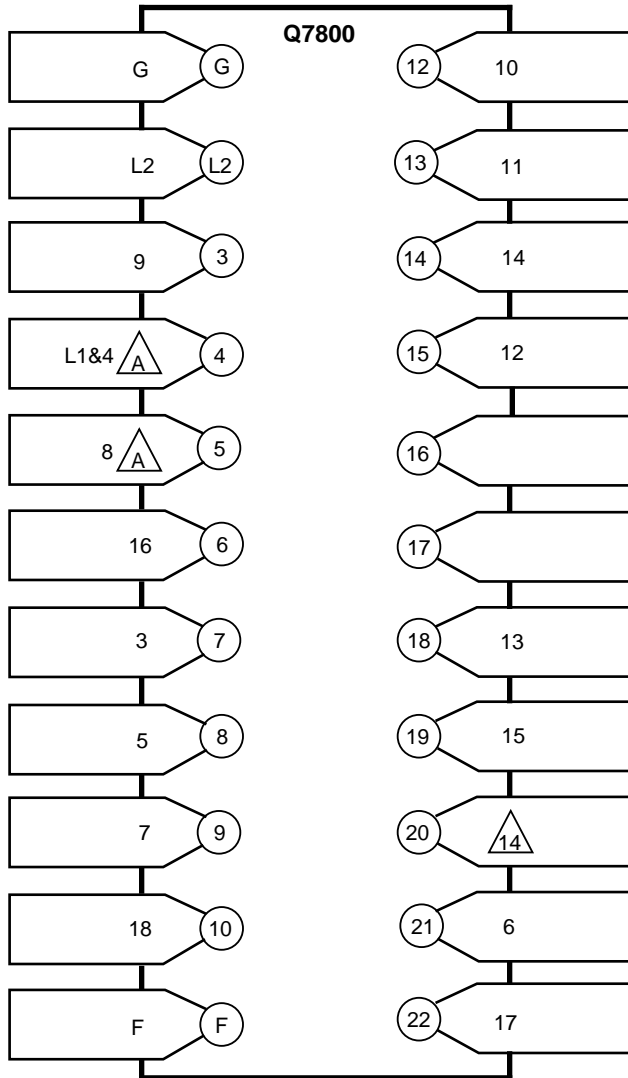
△A RM7800E ONLY – LOCATE HIGH FIRE
SWITCH ON THE Q520 SUBBASE
TERMINAL 8 AND CONNECT TO
THE Q7800 SUBBASE TERMINAL 4.

△2 △3 △4 △5 △7 △8 △14 △15

GENERAL FOOTNOTES, SEE PAGE 5.

M2531B

7800 SERIES CONVERSION WIRING DIAGRAM

FROM _____BC7000L1000 WITH PM720L2004_____ TO _____RM7800E1010_____

(DEVICE TO BE MODERNIZED)   (O.S. NUMBER OF RELAY MODULE TO BE USED)

Q7800

Left Column		Right Column	
G	G	12	10
L2	L2	13	11
9	3	14	14
L1&4	4	15	12
8	5	16	
16	6	17	
3	7	18	13
5	8	19	15
7	9	20	△14
18	10	21	6
F	F	22	17

FOR DIRECT SPARK IGNITION
(OIL OR GAS)

10	IGNITION TRANSFORMER
8	L2
9	MAIN VALVE

△2 △3 △4 △5 △7 △8 △14 △15

GENERAL FOOTNOTES, SEE PAGE 5.

M2532B

9   65-0100—2

7800 SERIES CONVERSION WIRING DIAGRAM

FROM _____BC700L1000 WITH_____ TO _____RM7800M1011_____
          PM720M2002
(DEVICE TO BE MODERNIZED)   (O.S. NUMBER OF RELAY MODULE TO BE USED)

Q7800

Q7800 left		Q7800 right	
G	G	12	
L2	L2	13	12
9	3	14	
L1&4	4	15	11
8	5	16	
16 △14	6	17	
3	7	18	13
5	8	19	
7	9	20	△14
18	10	21	6
F	F	22	17

FOR DIRECT SPARK IGNITION
(OIL OR GAS)

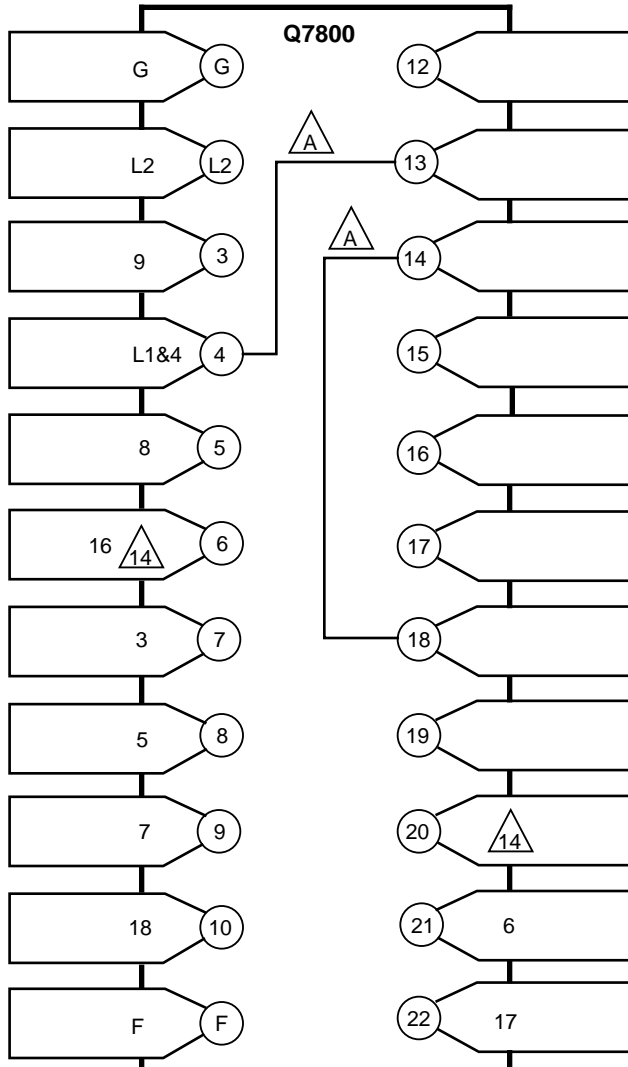|	
10	IGNITION TRANSFORMER
21	1ST STAGE FUEL VALVE
9	2ND STAGE FUEL VALVE (OPTIONAL)

L2
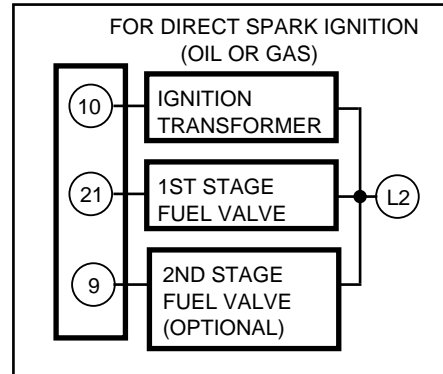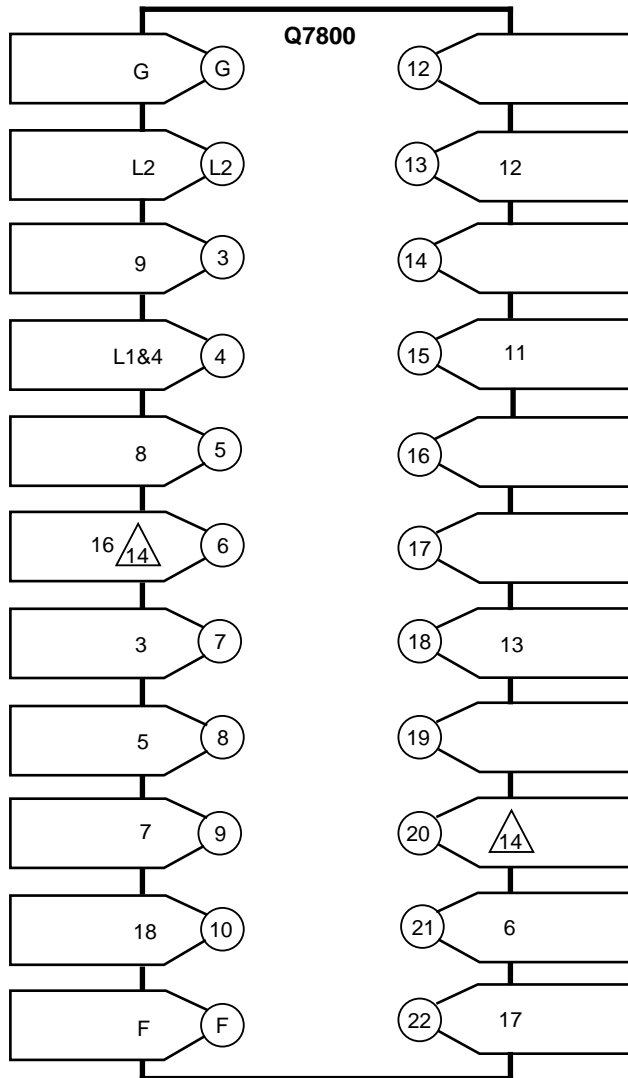
△2 △3 △4 △5 △7 △8 △14 △15
GENERAL FOOTNOTES, SEE PAGE 5.

M2533B

7800 SERIES CONVERSION WIRING DIAGRAM

FROM _____ BC7000L1000 WITH PM720M2036 _____ TO _____ RM7800M1011 _____

(DEVICE TO BE MODERNIZED)   (O.S. NUMBER OF RELAY MODULE TO BE USED)

Q7800

Left terminals		Right terminals
G	G	12
L2	L2	13
9	3	14
L1&4	4	15
8	5	16
16 △14	6	17
3	7	18
5	8	19
7	9	20 △14
18	10	21 6
F	F	22 17

△A

FOR DIRECT SPARK IGNITION
(OIL OR GAS)

10	IGNITION TRANSFORMER
21	1ST STAGE FUEL VALVE
9	2ND STAGE FUEL VALVE (OPTIONAL)

L2
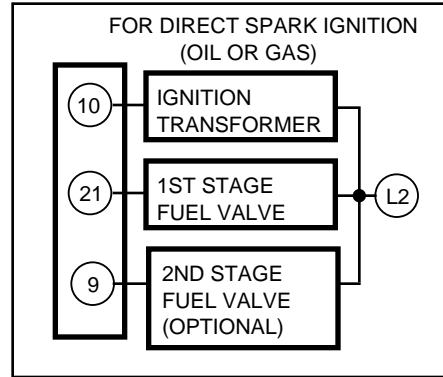
△A JUMPER Q7800 SUBBASE TERMINAL 14 TO 18 AND 4 TO 13.

△2 △3 △4 △5 △7 △8 △14 △15

GENERAL FOOTNOTES, SEE PAGE 5.

M2534B

65-0100—2

Section II
Honeywell R4140, R4150

7800 SERIES CONVERSION WIRING DIAGRAM

FROM ___R4140G WITH START INTERLOCKS___ TO ___RM7840G1014 OR RM7800G1018___

(DEVICE TO BE MODERNIZED) (O.S. NUMBER OF RELAY MODULE TO BE USED)

Q7800

FROM	TO
G — (G)	(12) 10
L2 — (L2)	(13) 11
9 — (3)	(14) 14
L1&4 — (4)	(15) 12
8 — (5)	(16)
16 /6\ — (6)	(17)
3 — (7)	(18) 13
5 — (8)	(19) /13\
7 — (9)	(20) /11\
18 — (10)	(21) 6 /10\ /A\
F — (F)	(22) 17

FOR DIRECT SPARK IGNITION (OIL OR GAS)

- (10) IGNITION TRANSFORMER
- (21) 1ST STAGE FUEL VALVE
- (9) 2ND STAGE FUEL VALVE (OPTIONAL)

(L2)

/A\ R4140G1171 0NLY–REPLACEMENT CONTROL CANNOT PROVIDE 60 SECOND MFEP.
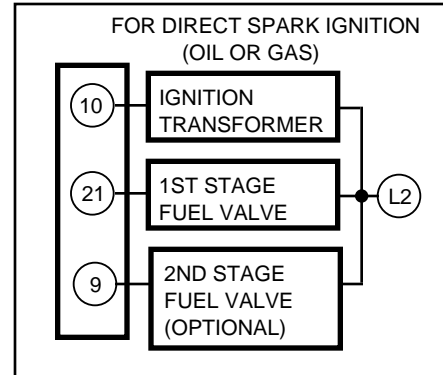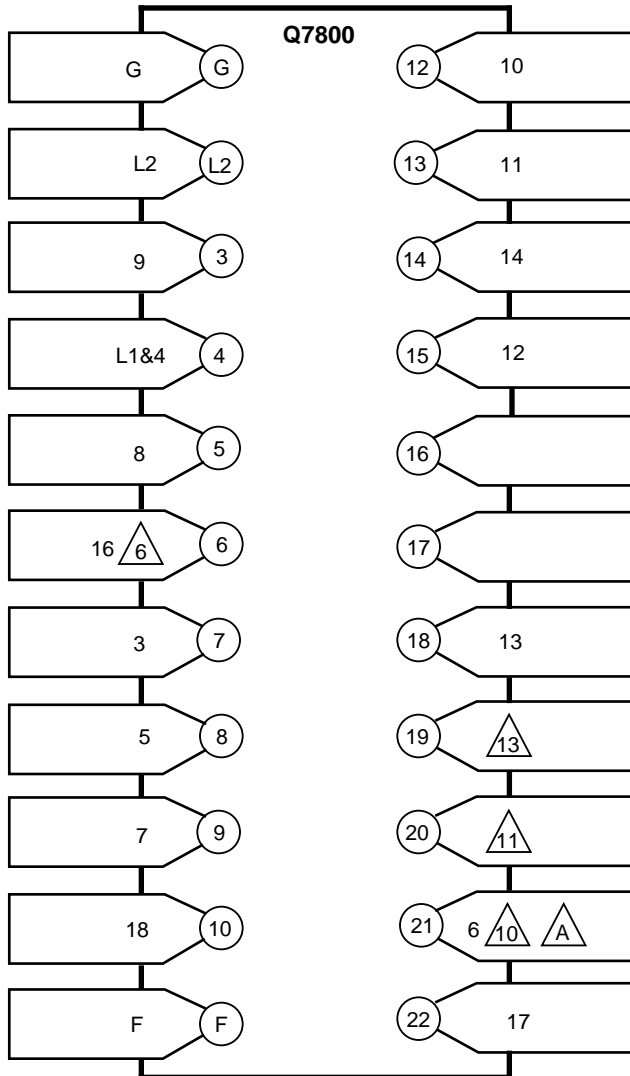
M2536B

/1\ /2\ /3\ /4\ /5\ /6\ /7\ /8\ /11\ /13\ /15\

GENERAL FOOTNOTES, SEE PAGE 5.

65-0100—2

7800 SERIES CONVERSION WIRING DIAGRAM

FROM ___R4140G WITH PREIGNITION INTERLOCK___ TO ___RM7840G1014 OR RM7800G1018___

(DEVICE TO BE MODERNIZED)   (O.S. NUMBER OF RELAY MODULE TO BE USED)

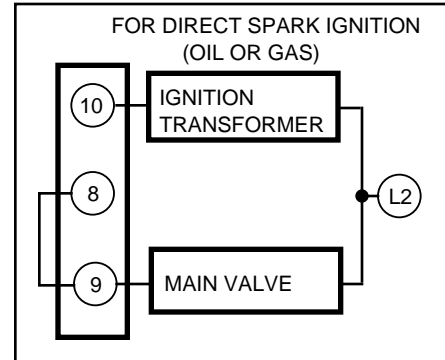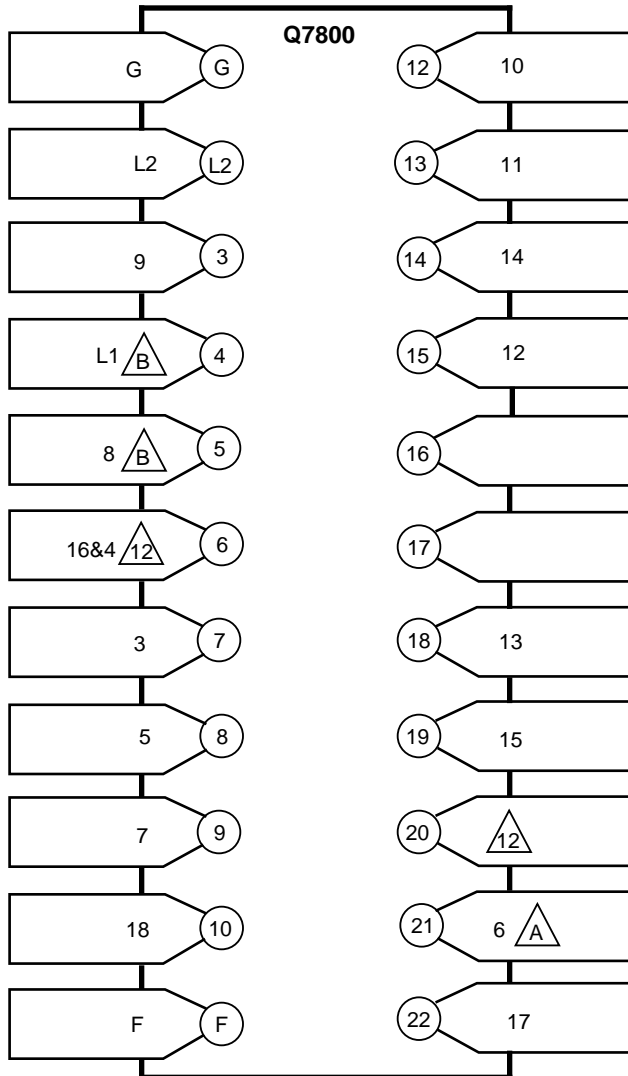**Q7800**

Q7800 Left		Q7800 Right	
G	G	12	10
L2	L2	13	11
9	3	14	14
L1	4	15	12
8	5	16	
16&4 △12 △6	6	17	
3	7	18	13 △9
5	8	19	△13
7	9	20	△12
18	10	21	6 △10
F	F	22	17

FOR DIRECT SPARK IGNITION
(OIL OR GAS)

10	IGNITION TRANSFORMER	
21	1ST STAGE FUEL VALVE	L2
9	2ND STAGE FUEL VALVE (OPTIONAL)	

M2535B

△1 △2 △3 △4 △5 △6

△7 △8 △9 △10 △12 △13 △14 △15
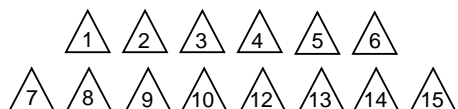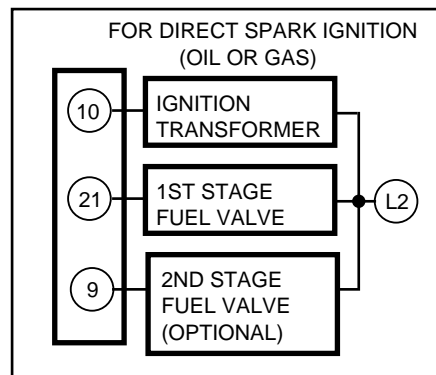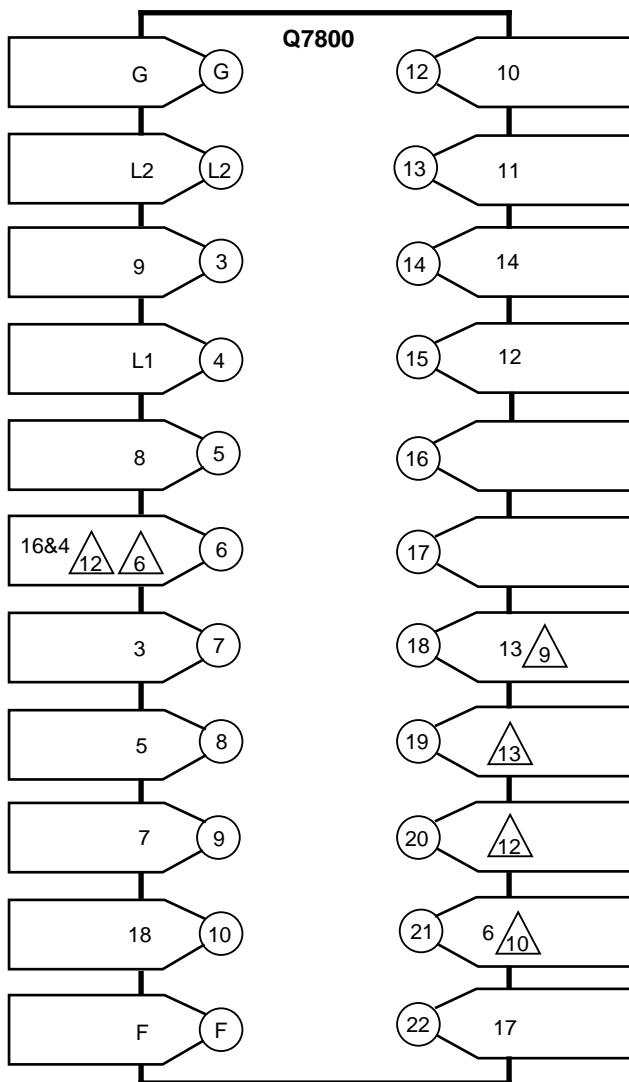
GENERAL FOOTNOTES, SEE PAGE 5.

7800 SERIES CONVERSION WIRING DIAGRAM

FROM ___R4140L/R4150L_____ TO ___RM7840E1016 OR RM7800E1010___
                                                  ___RM7840L1018 OR RM7800L1012___

(DEVICE TO BE MODERNIZED)   (O.S. NUMBER OF RELAY MODULE TO BE USED)

Q7800

Left column		Right column	
G	G	12	10
L2	L2	13	11
9	3	14	14
L1 △B	4	15	12
8 △B	5	16	
16&4 △12	6	17	
3	7	18	13
5	8	19	15
7	9	20	△12
18	10	21	6 △A
F	F	22	17

FOR DIRECT SPARK IGNITION
(OIL OR GAS)

10	IGNITION TRANSFORMER
8	
9	MAIN VALVE

L2

△A NO INTERMITTENT RM7840L/RM7800L MODELS AVAILABLE.

△B RM7840E OR RM7800E ONLY–LOCATE HIGH FIRE SWITCH CONNECTION ON Q520 SUBBASE TERMINAL 8. CONNECT TO Q7800 SUBBASE TERMINAL 4.
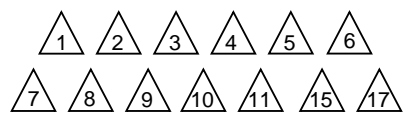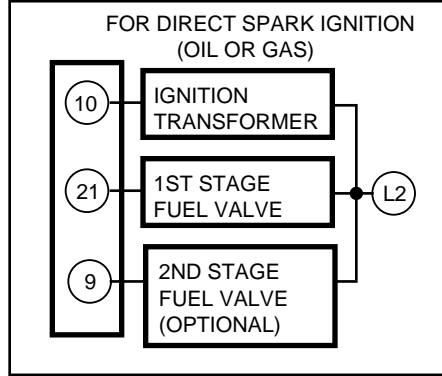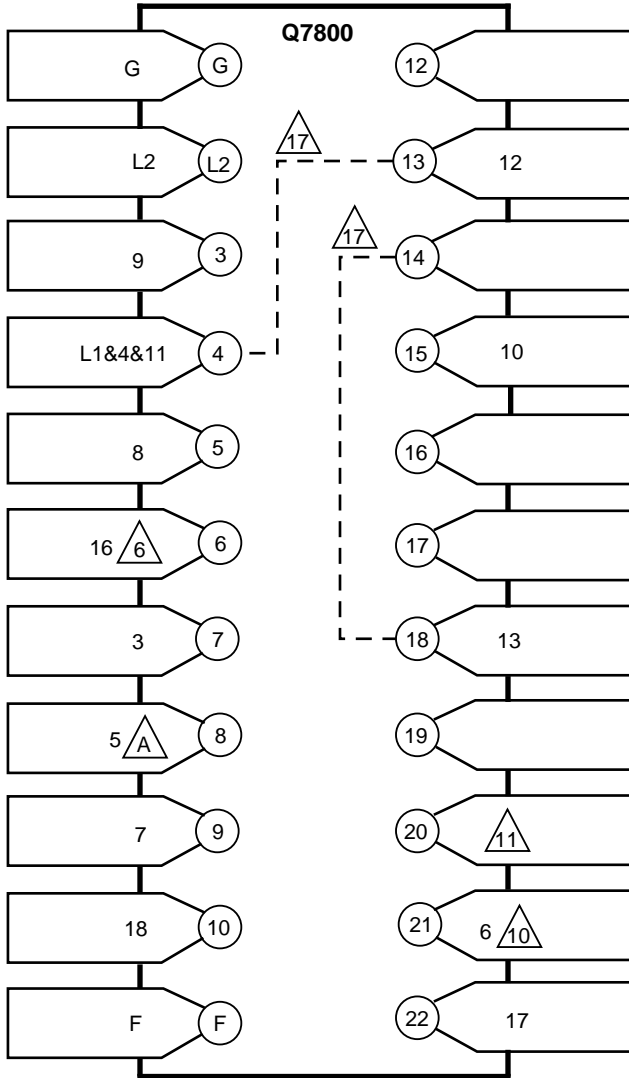
△1 △2 △3 △4 △5 △7 △8 △12 △15
GENERAL FOOTNOTES, SEE PAGE 5.

M2537B

7800 SERIES CONVERSION WIRING DIAGRAM

FROM R4140M/R4150M WITH START INTERLOCKS

(DEVICE TO BE MODERNIZED)

TO RM7840M1017 OR RM7800M1011

(O.S. NUMBER OF RELAY MODULE TO BE USED)

Q7800

From	To
G — G	12
L2 — L2	13 — 12
9 — 3	14
L1&4&11 — 4	15 — 10
8 — 5	16
16 /6/ — 6	17
3 — 7	18 — 13
5 /A/ — 8	19
7 — 9	20 /11/
18 — 10	21 — 6 /10/
F — F	22 — 17

/17/ /17/

FOR DIRECT SPARK IGNITION
(OIL OR GAS)

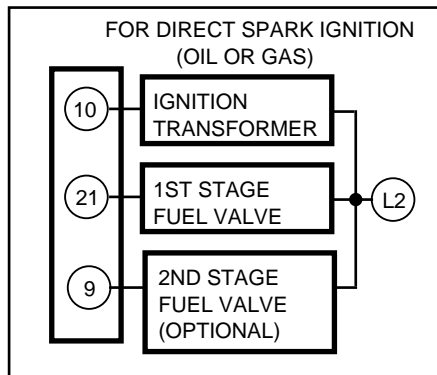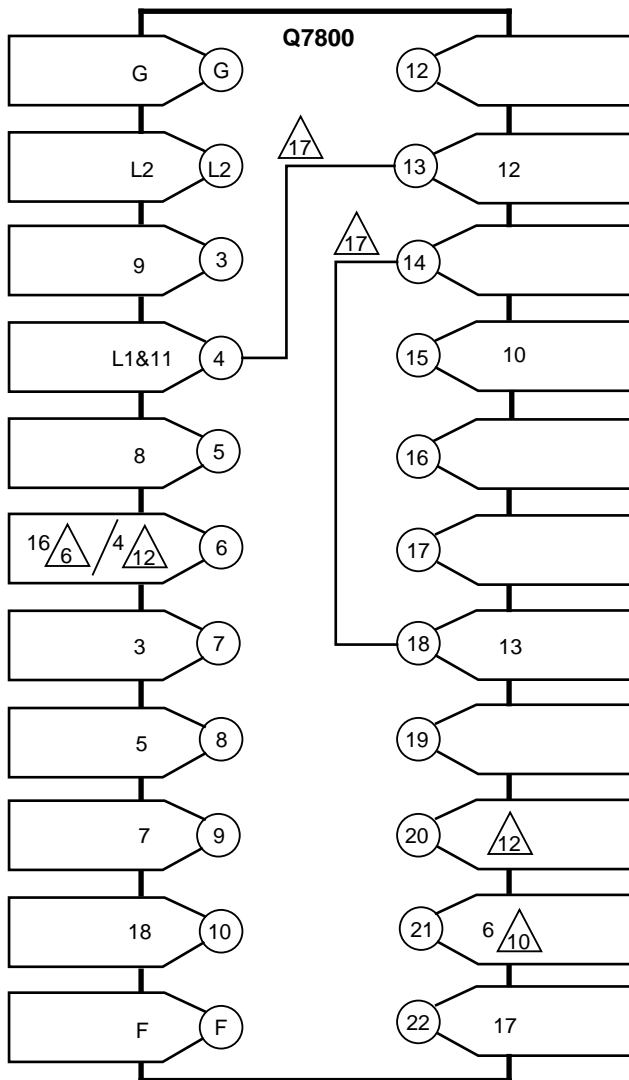|	
10	IGNITION TRANSFORMER
21	1ST STAGE FUEL VALVE
9	2ND STAGE FUEL VALVE (OPTIONAL)

L2

/A/ R4140M1103 AND M1111 HAVE 10 OR 30 SECOND MFEP OPTION. REPLACEMENT RELAY MODULE HAS 10 SECOND MFEP OR INTERMITTENT PILOT.

/1/ /2/ /3/ /4/ /5/ /6/

/7/ /8/ /9/ /10/ /11/ /15/ /17/

GENERAL FOOTNOTES, SEE PAGE 5.

M2538B

7800 SERIES CONVERSION WIRING DIAGRAM

FROM ___R4140M/R4150M WITH PREIGNITION INTERLOCK___ TO ___RM7840M1017 OR RM7800M1011___

(DEVICE TO BE MODERNIZED)   (O.S. NUMBER OF RELAY MODULE TO BE USED)
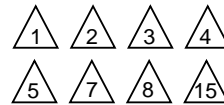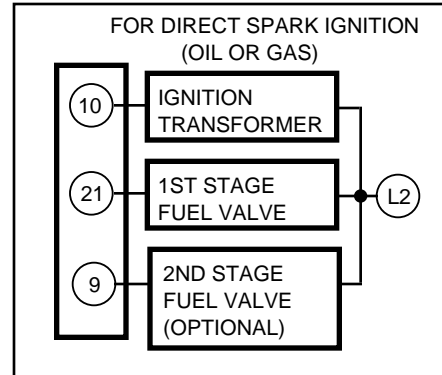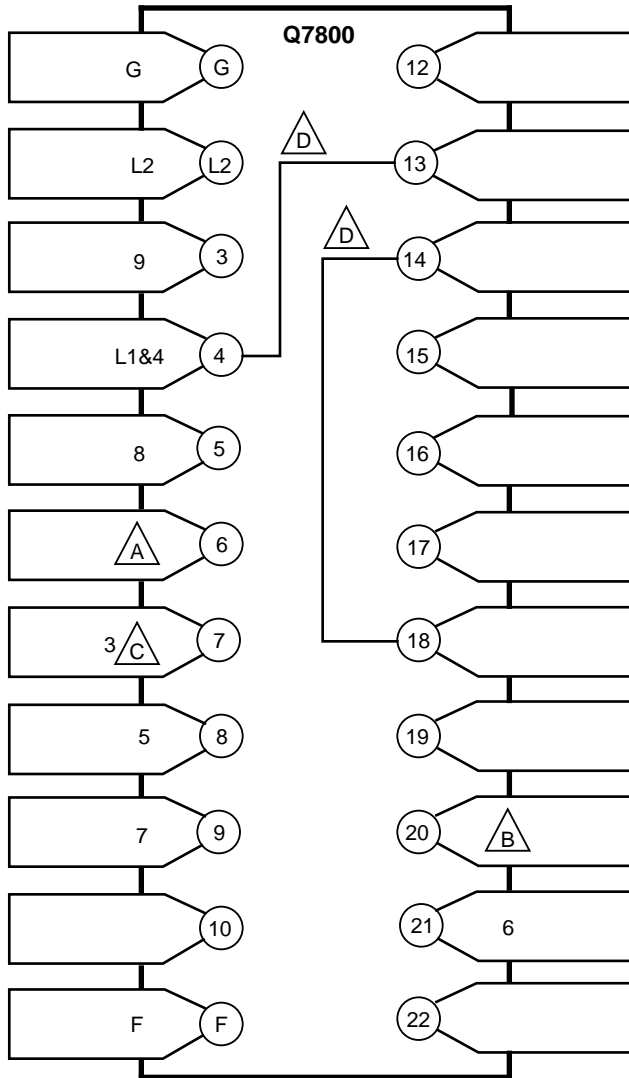
Q7800

Left (FROM)	Right (TO)
G — G	12
L2 — L2	13 — 12
9 — 3	14
L1&11 — 4	15 — 10
8 — 5	16
16△6 / 4△12 — 6	17
3 — 7	18 — 13
5 — 8	19
7 — 9	20 — △12
18 — 10	21 — 6△10
F — F	22 — 17

△17 (between L2/13)
△17 (between 3/14)

FOR DIRECT SPARK IGNITION
(OIL OR GAS)

10	IGNITION TRANSFORMER
21	1ST STAGE FUEL VALVE
9	2ND STAGE FUEL VALVE (OPTIONAL)

L2

△1 △2 △3 △4 △5 △6
△7 △8 △9 △10 △11 △15 △17

GENERAL FOOTNOTES, SEE PAGE 5.
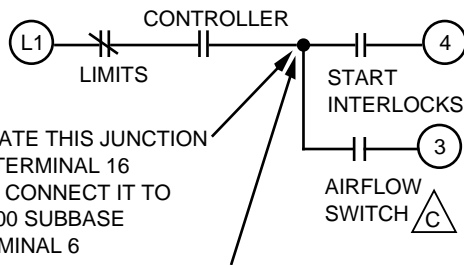
M2539B

17   65-0100—2

7800 SERIES CONVERSION WIRING DIAGRAM

FROM **R4150A1007, A1023, A1122, A1247, A1254, A1288, B1005, C1003, C1029**   TO **RM7840M1017 OR RM7800M1011**

(DEVICE TO BE MODERNIZED)   (O.S. NUMBER OF RELAY MODULE TO BE USED)

Q7800

Left terminals	Right terminals
G — G	12
L2 — L2	△D — 13
9 — 3	△D — 14
L1&4 — 4	15
8 — 5	16
△A — 6	17
3 △C — 7	18
5 — 8	19
7 — 9	20 △B
10	21 — 6
F — F	22

FOR DIRECT SPARK IGNITION
(OIL OR GAS)

10	IGNITION TRANSFORMER
21	1ST STAGE FUEL VALVE	—● L2
9	2ND STAGE FUEL VALVE (OPTIONAL)

△1 △2 △3 △4
△5 △7 △8 △15

GENERAL FOOTNOTES, SEE PAGE 5.

CONTROLLER
L1 —||— LIMITS —||— ● —||— 4
START INTERLOCKS
—||— 3
AIRFLOW SWITCH △C

△A LOCATE THIS JUNCTION OR TERMINAL 16 AND CONNECT IT TO Q7800 SUBBASE TERMINAL 6.

△B LOCATE THE START INTERLOCKS AT THIS POINT AND CONNECT IT TO Q7800 SUBBASE TERMINAL 20. START INTERLOCKS NOW BECOME PREIGNITION INTERLOCKS. IF START INTERLOCKS ARE NOT USED, JUMPER Q7800 TERMINALS 4 TO 20.
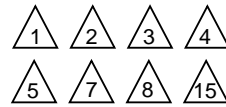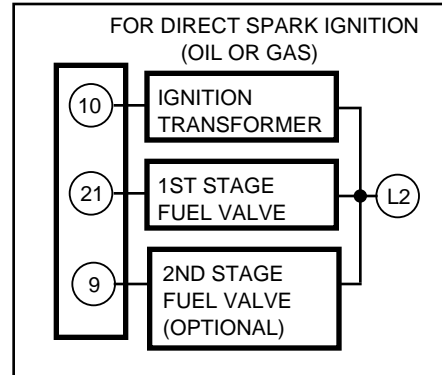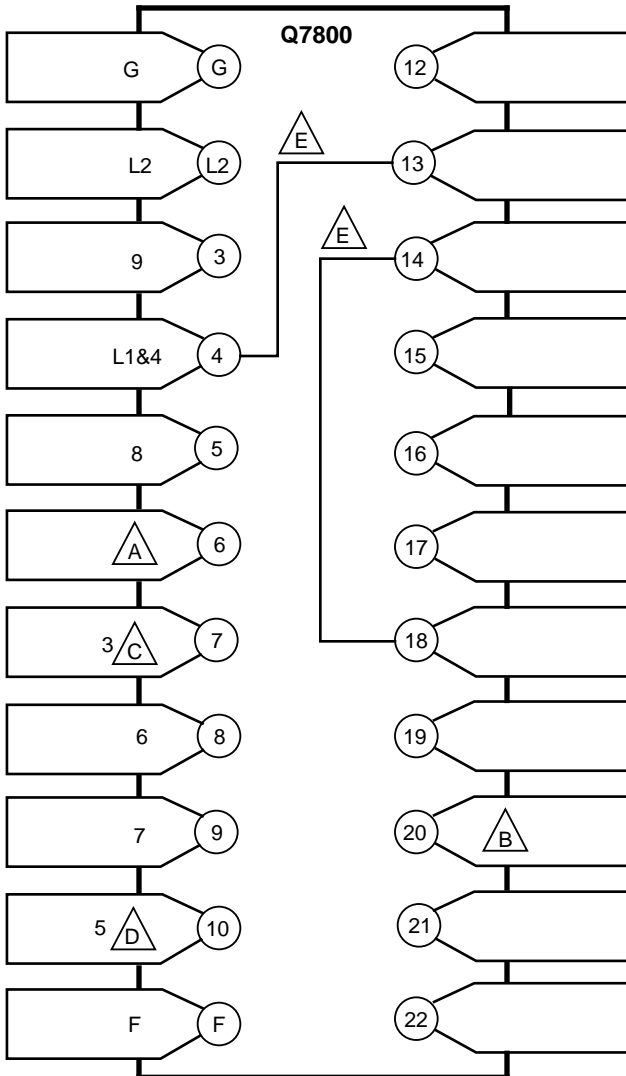
△C AIR FLOW SWITCH MAY HAVE BEEN CONNECTED BETWEEN Q520 TERMINALS 10 AND 11. CONNECT BETWEEN Q7800 SUBBASE TERMINALS 6 AND 7. BE SURE AIR FLOW SWITCH IS RATED TO HANDLE LOADS ON Q7800 SUBBASE TERMINALS 8, 9, 10 AND 21.

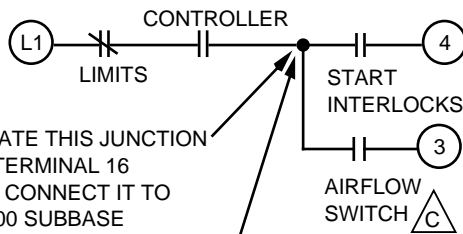△D JUMPER Q7800 SUBBASE TERMINAL 4 TO 13 AND TERMINAL 14 TO 18.

M2540B

7800 SERIES CONVERSION WIRING DIAGRAM

FROM _____ R4150A1056, A1163, A1189, A1239 _____ TO _____ RM7840M1017 OR RM7800M1011 _____

(DEVICE TO BE MODERNIZED)   (O.S. NUMBER OF RELAY MODULE TO BE USED)

Q7800

G — G	12
L2 — L2	13
9 — 3	14
L1&4 — 4	15
8 — 5	16
A — 6	17
3 C — 7	18
6 — 8	19
7 — 9	20 B
5 D — 10	21
F — F	22

E (jumper markings)

FOR DIRECT SPARK IGNITION
(OIL OR GAS)

10	IGNITION TRANSFORMER
21	1ST STAGE FUEL VALVE
9	2ND STAGE FUEL VALVE (OPTIONAL)

L2

△1 △2 △3 △4
△5 △7 △8 △15

GENERAL FOOTNOTES, SEE PAGE 5.

CONTROLLER

L1 —||— LIMITS —||— •—||— 4

START INTERLOCKS

—||— 3

AIRFLOW SWITCH C

A LOCATE THIS JUNCTION OR TERMINAL 16 AND CONNECT IT TO Q7800 SUBBASE TERMINAL 6

B LOCATE THE START INTERLOCKS AT THIS POINT AND CONNECT IT TO Q7800 SUBBASE TERMINAL 20. START INTERLOCKS NOW BECOME PREIGNITION INTERLOCKS. IF START INTERLOCKS ARE NOT USED, JUMPER Q7800 TERMINALS 4 TO 20.

C AIR FLOW SWITCH MAY HAVE BEEN CONNECTED BETWEEN Q520 TERMINALS 10 AND 11. CONNECT BETWEEN Q7800 SUBBASE TERMINALS 6 AND 7. BE SURE AIR FLOW SWITCH IS RATED TO HANDLE LOADS ON Q7800 SUBBASE TERMINALS 8, 9, 10 AND 21.
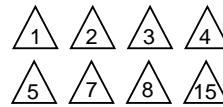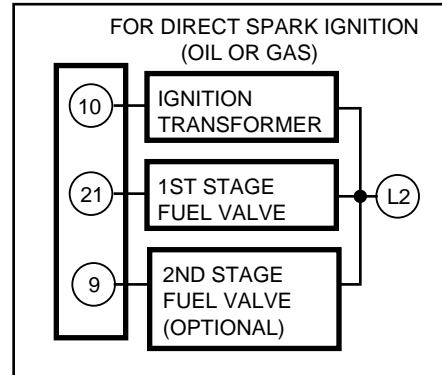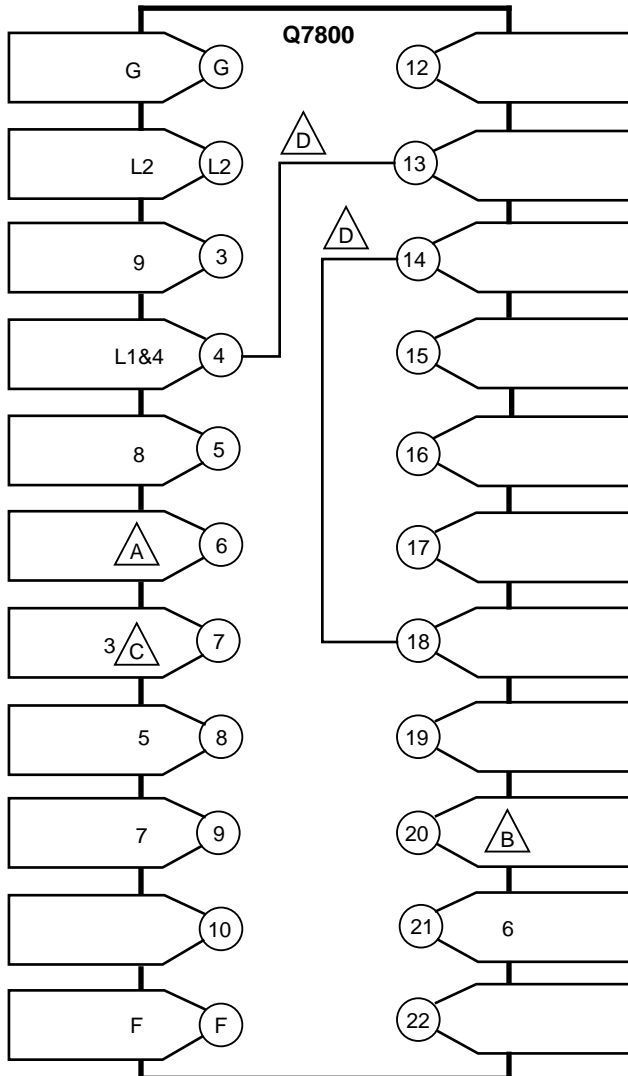
D REPLACEMENT RM7840/RM7800 PROVIDE 5 SECOND IGNITION VS. 10.

E JUMPER Q7800 SUBBASE TERMINAL 4 TO 13 AND TERMINAL 14 TO 18.
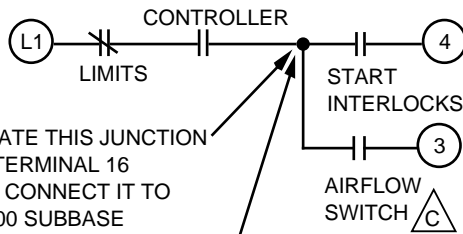
M2544B

7800 SERIES CONVERSION WIRING DIAGRAM

FROM ___R4150A1064, A1130, A1148___ TO ___RM7840G1014 OR RM7800G1018___

(DEVICE TO BE MODERNIZED)   (O.S. NUMBER OF RELAY MODULE TO BE USED)

Q7800

Left subbase	Terminal		Right subbase
G	G	12	
L2	L2	13	▲D
9	3	14	▲D
L1&4	4	15	
8	5	16	
▲A	6	17	
3 ▲C	7	18	
5	8	19	
7	9	20	▲B
	10	21	6
F	F	22	

FOR DIRECT SPARK IGNITION
(OIL OR GAS)

10	IGNITION TRANSFORMER
21	1ST STAGE FUEL VALVE
9	2ND STAGE FUEL VALVE (OPTIONAL)

→ L2

▲1 ▲2 ▲3 ▲4
▲5 ▲7 ▲8 ▲15

GENERAL FOOTNOTES, SEE PAGE 5.

L1 —||— LIMITS —||— CONTROLLER —||— •—||— 4
START INTERLOCKS
—||— 3
AIRFLOW SWITCH ▲C

▲A LOCATE THIS JUNCTION OR TERMINAL 16 AND CONNECT IT TO Q7800 SUBBASE TERMINAL 6

▲B LOCATE THE START INTERLOCKS AT THIS POINT AND CONNECT IT TO Q7800 SUBBASE TERMINAL 20. START INTERLOCKS NOW BECOME PREIGNITION INTERLOCKS. IF START INTERLOCKS ARE NOT USED, JUMPER Q7800 TERMINALS 4 TO 20.
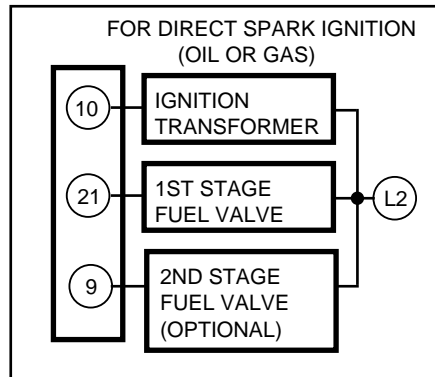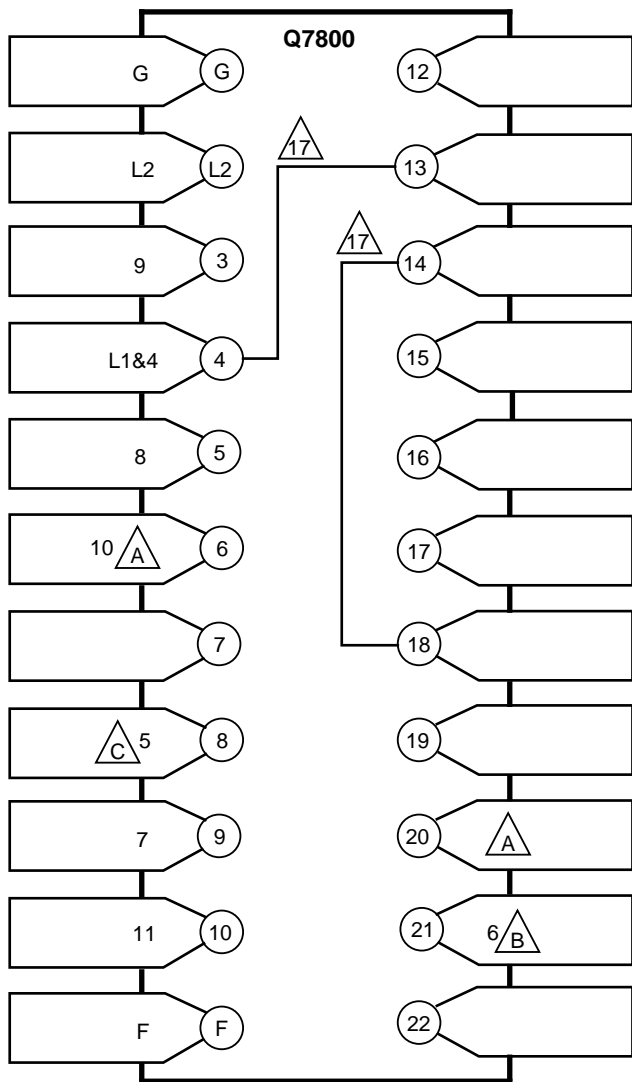
▲C AIR FLOW SWITCH MAY HAVE BEEN CONNECTED BETWEEN Q520 TERMINALS 10 AND 11. CONNECT BETWEEN Q7800 SUBBASE TERMINALS 6 AND 7. BE SURE AIR FLOW SWITCH IS RATED TO HANDLE LOADS ON Q7800 SUBBASE TERMINALS 8, 9, 10 AND 21.

▲D JUMPER Q7800 SUBBASE TERMINAL 4 TO 13 AND TERMINAL 14 TO 18.

M2541B

7800 SERIES CONVERSION WIRING DIAGRAM

FROM __R4150A1080, A1155_____ TO __RM7840G1014 OR RM7800G1018__

(DEVICE TO BE MODERNIZED)   (O.S. NUMBER OF RELAY MODULE TO BE USED)

Q7800

FROM	TO
G — G	12
L2 — L2	⟨17⟩ 13
9 — 3	⟨17⟩ 14
L1&4 — 4	15
8 — 5	16
10 ⟨A⟩ — 6	17
7	18
⟨C⟩5 — 8	19
7 — 9	20 ⟨A⟩
11 — 10	21 — 6 ⟨B⟩
F — F	22

FOR DIRECT SPARK IGNITION (OIL OR GAS)

10	IGNITION TRANSFORMER
21	1ST STAGE FUEL VALVE
9	2ND STAGE FUEL VALVE (OPTIONAL)

L2

⟨A⟩ LOCATE START INTERLOCK CONNECTION ON Q520 SUBBASE TERMINAL 10 AND CONNECT TO Q7800 SUBBASE TERMINAL 20. IF START INTERLOCK WAS NOT USED, JUMPER Q7800 SUBBASE TERMINAL 4 TO 20 START INTERLOCKS WILL NOW BECOME PREIGNITION INTRLOCKS.

⟨B⟩ R4150 TERMINAL 6 PROVIDES 30 SECOND MFEP. JUMPER Q7800 SUBBASE TERMINAL 5 TO 19 AND CLIP JUMPER JR2 TO ACHIEVE 30 SECOND MFEP.

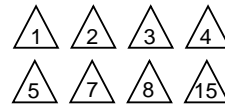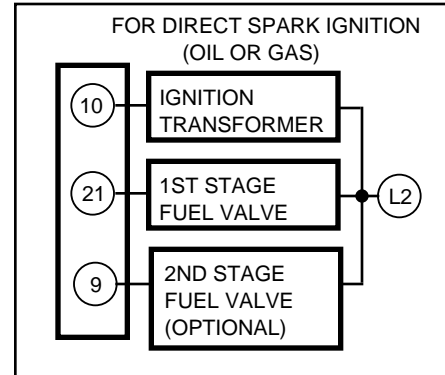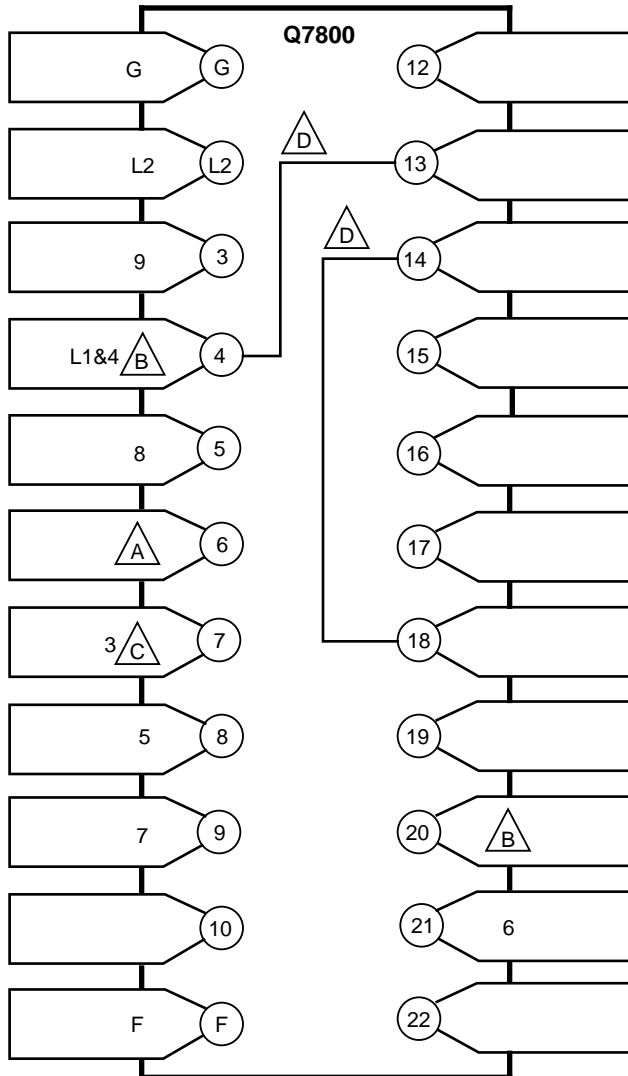⟨C⟩ R4150 TERMINAL 5 PROVIDES A 15 SECOND MFEP. TERMINAL 8 OF THE 7800 SERIES CONTROL PROVIDES A 10 SECOND MFEP.

M2545B

⟨1⟩ ⟨2⟩ ⟨3⟩ ⟨4⟩ ⟨5⟩ ⟨7⟩ ⟨8⟩ ⟨15⟩ ⟨17⟩
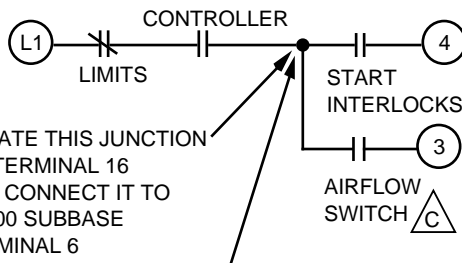GENERAL FOOTNOTES, SEE PAGE 5.

65-0100—2

7800 SERIES CONVERSION WIRING DIAGRAM

FROM ___R4150A1106, A1171___ TO ___RM7840M1017 OR RM7800M1011___

(DEVICE TO BE MODERNIZED)   (O.S. NUMBER OF RELAY MODULE TO BE USED)

Q7800

From		To
G	G	12
L2	L2 /D\	13
9	3	14 /D\
L1&4 /B\	4	15
8	5	16
/A\	6	17
3 /C\	7	18
5	8	19
7	9	20 /B\
	10	21 6
F	F	22

FOR DIRECT SPARK IGNITION
(OIL OR GAS)

10	IGNITION TRANSFORMER
21	1ST STAGE FUEL VALVE
9	2ND STAGE FUEL VALVE (OPTIONAL)

L2

/1\ /2\ /3\ /4\
/5\ /7\ /8\ /15\

GENERAL FOOTNOTES, SEE PAGE 5.

CONTROLLER

L1 —||— LIMITS —| |— • —| |— 4

START INTERLOCKS

—| |— 3

AIRFLOW SWITCH /C\

/A\ LOCATE THIS JUNCTION OR TERMINAL 16 AND CONNECT IT TO Q7800 SUBBASE TERMINAL 6

/B\ LOCATE THE START INTERLOCKS AT THIS POINT AND CONNECT IT TO Q7800 SUBBASE TERMINAL 20. START INTERLOCKS NOW BECOME PREIGNITION INTERLOCKS. IF START INTERLOCKS ARE NOT USED, JUMPER Q7800 TERMINALS 4 TO 20.
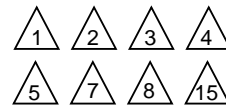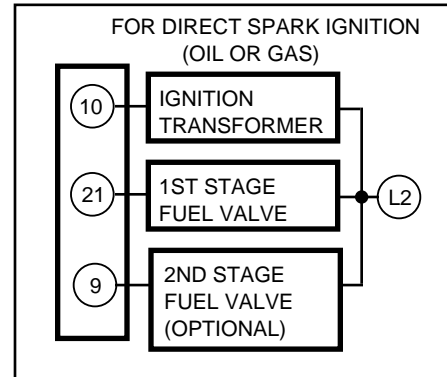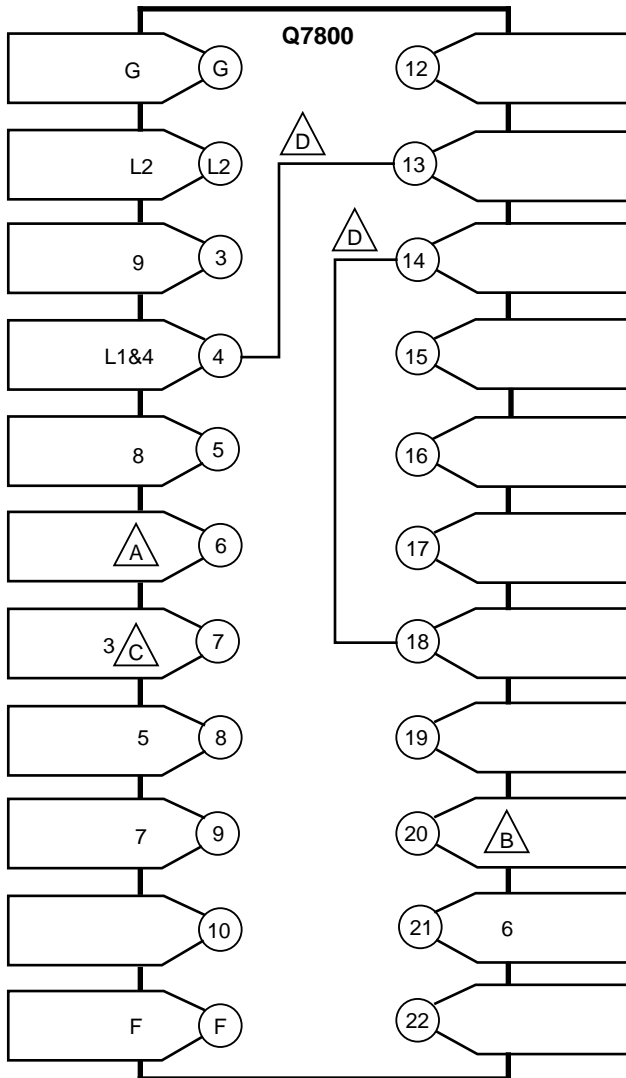
/C\ AIR FLOW SWITCH MAY HAVE BEEN CONNECTED BETWEEN Q520 TERMINALS 10 AND 11. CONNECT BETWEEN Q7800 SUBBASE TERMINALS 6 AND 7. BE SURE AIR FLOW SWITCH IS RATED TO HANDLE LOADS ON Q7800 SUBBASE TERMINALS 8, 9, 10 AND 21.

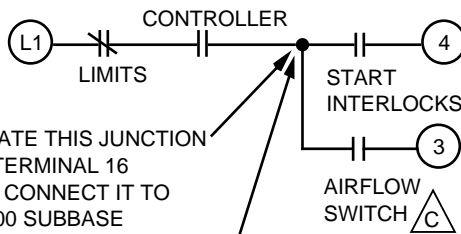/D\ JUMPER Q7800 SUBBASE TERMINAL 4 TO 13 AND TERMINAL 14 TO 18.

M2543B

7800 SERIES CONVERSION WIRING DIAGRAM

FROM ___R4150A1197_____ TO ___RM7840M1009, OR RM7800M1003___

(DEVICE TO BE MODERNIZED)   (O.S. NUMBER OF RELAY MODULE TO BE USED)

Q7800

Left side		Right side
G — G		12
L2 — L2	△D	13
9 — 3	△D	14
L1&4 — 4		15
8 — 5		16
△A — 6		17
3 △C — 7		18
5 — 8		19
7 — 9		20 △B
10		21 — 6
F — F		22

FOR DIRECT SPARK IGNITION (OIL OR GAS)

10	IGNITION TRANSFORMER
21	1ST STAGE FUEL VALVE
9	2ND STAGE FUEL VALVE (OPTIONAL)

— L2

△1 △2 △3 △4
△5 △7 △8 △15

GENERAL FOOTNOTES, SEE PAGE 5.

L1 —||— CONTROLLER —||—●—||— 4
LIMITS   START INTERLOCKS

—||— 3

AIRFLOW SWITCH △C

△A LOCATE THIS JUNCTION OR TERMINAL 16 AND CONNECT IT TO Q7800 SUBBASE TERMINAL 6

△B LOCATE THE START INTERLOCKS AT THIS POINT AND CONNECT IT TO Q7800 SUBBASE TERMINAL 20. START INTERLOCKS NOW BECOME PREIGNITION INTERLOCKS. IF START INTERLOCKS ARE NOT USED, JUMPER Q7800 TERMINALS 4 TO 20.
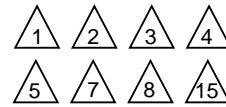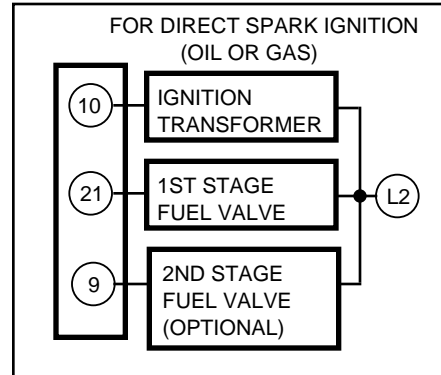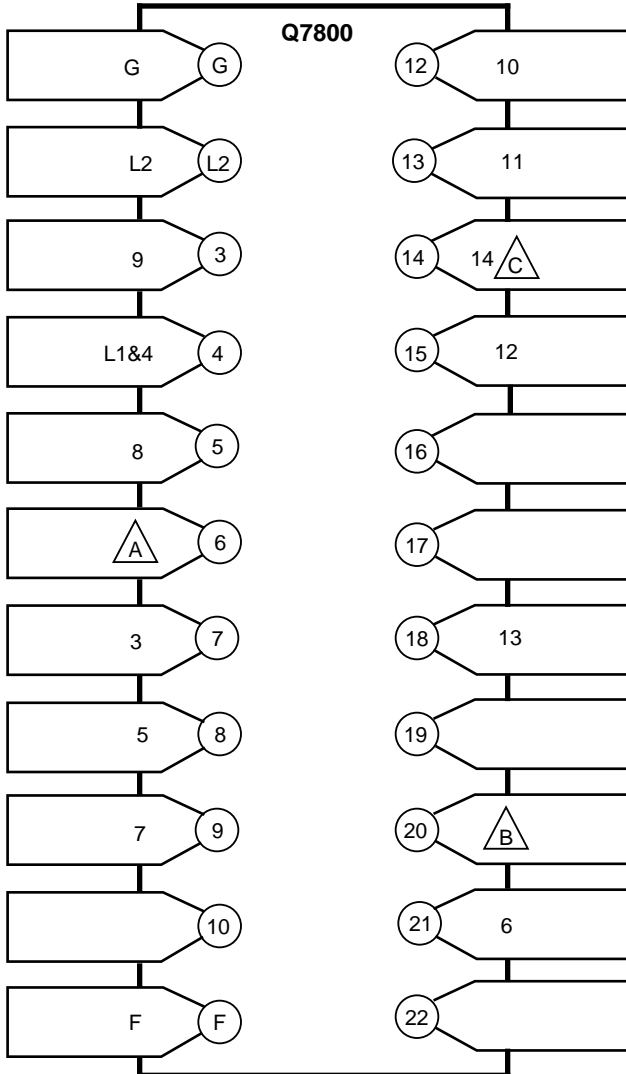
△C AIR FLOW SWITCH MAY HAVE BEEN CONNECTED BETWEEN Q520 TERMINALS 10 AND 11. CONNECT BETWEEN Q7800 SUBBASE TERMINALS 6 AND 7. BE SURE AIR FLOW SWITCH IS RATED TO HANDLE LOADS ON Q7800 SUBBASE TERMINALS 8, 9, 10 AND 21.

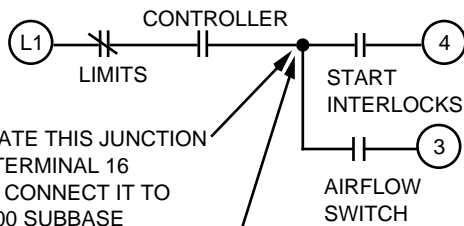△D JUMPER Q7800 SUBBASE TERMINAL 4 TO 13 AND TERMINAL 14 TO 18.

M2542B

7800 SERIES CONVERSION WIRING DIAGRAM

FROM __R4150G1004, 1046, 1111, 1145, 1178__ TO __RM7840G1014, OR RM7800G1018__

(DEVICE TO BE MODERNIZED)   (O.S. NUMBER OF RELAY MODULE TO BE USED)

Q7800

Q7800		
G — G	12 — 10	
L2 — L2	13 — 11	
9 — 3	14 — 14 △C	
L1&4 — 4	15 — 12	
8 — 5	16	
△A — 6	17	
3 — 7	18 — 13	
5 — 8	19	
7 — 9	20 — △B	
— 10	21 — 6	
F — F	22	

FOR DIRECT SPARK IGNITION
(OIL OR GAS)

10	IGNITION TRANSFORMER
21	1ST STAGE FUEL VALVE
9	2ND STAGE FUEL VALVE (OPTIONAL)

L2

△1 △2 △3 △4
△5 △7 △8 △15

GENERAL FOOTNOTES, SEE PAGE 5.

L1 —✕— LIMITS — CONTROLLER — 4
START INTERLOCKS
— 3
AIRFLOW SWITCH

△A LOCATE THIS JUNCTION OR TERMINAL 16 AND CONNECT IT TO Q7800 SUBBASE TERMINAL 6

△B LOCATE THE START INTERLOCKS AT THIS POINT AND CONNECT IT TO Q7800 SUBBASE TERMINAL 20. START INTERLOCKS NOW BECOME PREIGNITION INTERLOCKS. IF START INTERLOCKS ARE NOT USED, JUMPER Q7800 TERMINALS 4 TO 20.
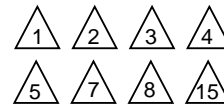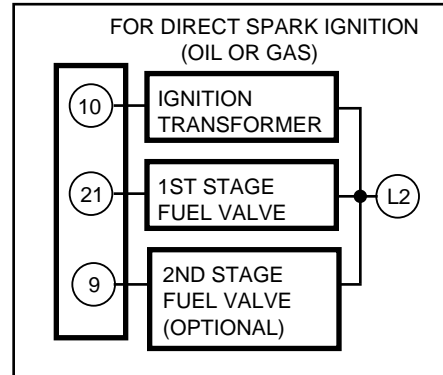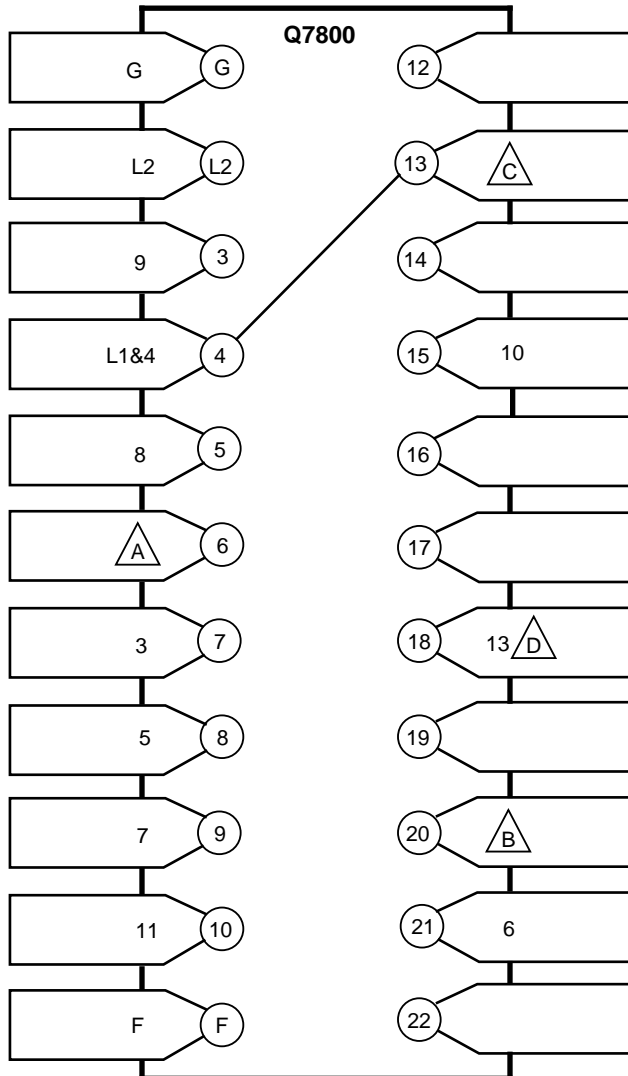
△C R4150G1004, 1046 ARE 3 WIRE MODULATION DEVICES THAT WILL NOT HAVE Q520 SUBBASE TERMINAL 14 CONNECTION.
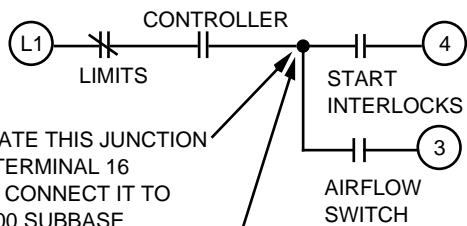
M2526B

7800 SERIES CONVERSION WIRING DIAGRAM

FROM ___R4150G1012, G1079___ TO ___RM7840M1017, OR RM7800M1011___

(DEVICE TO BE MODERNIZED)　　　(O.S. NUMBER OF RELAY MODULE TO BE USED)

Q7800

Left		Right	
G	G	12	
L2	L2	13	△C
9	3	14	
L1&4	4	15	10
8	5	16	
△A	6	17	
3	7	18	13 △D
5	8	19	
7	9	20	△B
11	10	21	6
F	F	22	

FOR DIRECT SPARK IGNITION
(OIL OR GAS)

10	IGNITION TRANSFORMER
21	1ST STAGE FUEL VALVE
9	2ND STAGE FUEL VALVE (OPTIONAL)

L2

△1 △2 △3 △4
△5 △7 △8 △15

GENERAL FOOTNOTES, SEE PAGE 5.

CONTROLLER

L1 ——||— LIMITS —||—— • ——||—— 4
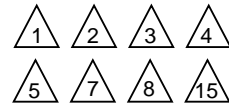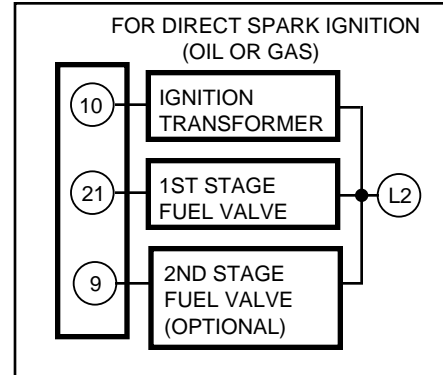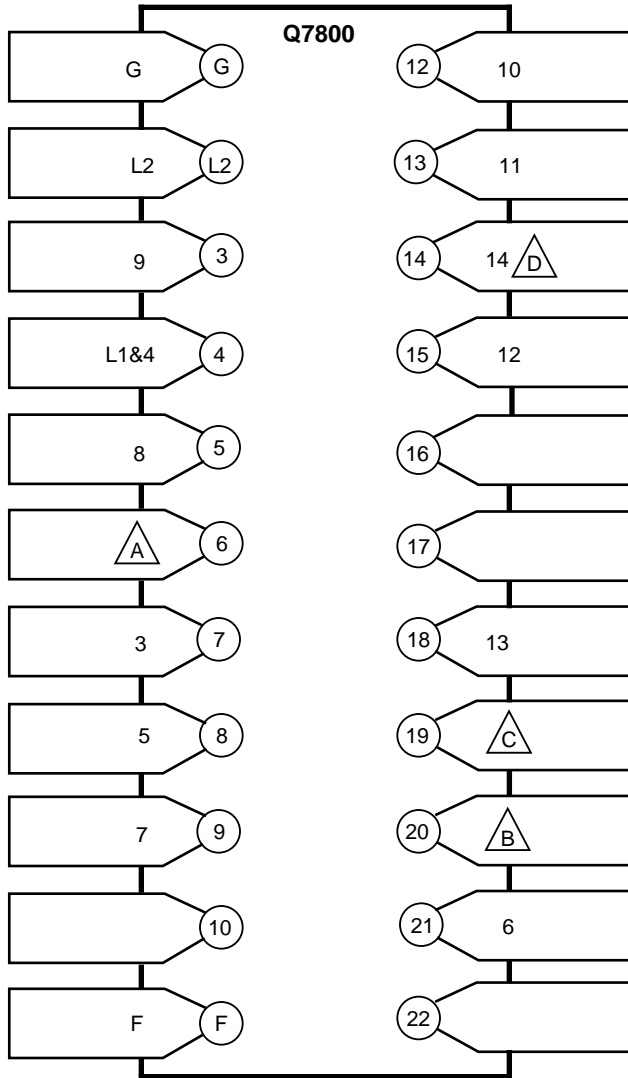　　　　　　　　　　　START INTERLOCKS
　　　　　　　　　　　——||—— 3
　　　　　　　　　　　AIRFLOW SWITCH

△A LOCATE THIS JUNCTION OR TERMINAL 16 AND CONNECT IT TO Q7800 SUBBASE TERMINAL 6

△B LOCATE THE START INTERLOCKS AT THIS POINT AND CONNECT IT TO Q7800 SUBBASE TERMINAL 20. START INTERLOCKS NOW BECOME PREIGNITION INTERLOCKS. IF START INTERLOCKS ARE NOT USED, JUMPER Q7800 TERMINALS 4 TO 20.

△C INSTALL JUMPER BETWEEN Q7800 SUBBASE TERMINALS 4 AND 13.

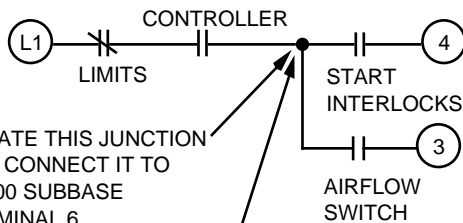△D IF LOW FIRE SWITCH IS NOT USED, JUMPER Q7800 SUBBASE TERMINAL 5 TO 18. NOTE: THIS WILL EXTEND PREPURGE 30 SECONDS.

M2527B

7800 SERIES CONVERSION WIRING DIAGRAM

FROM___R4150G1103, G1137_____ TO___RM7840G1014, OR RM7800G1018___

(DEVICE TO BE MODERNIZED)   (O.S. NUMBER OF RELAY MODULE TO BE USED)

Q7800

Left column		Right column	
G	(G)	(12)	10
L2	(L2)	(13)	11
9	(3)	(14)	14 △D
L1&4	(4)	(15)	12
8	(5)	(16)	
△A	(6)	(17)	
3	(7)	(18)	13
5	(8)	(19)	△C
7	(9)	(20)	△B
	(10)	(21)	6
F	(F)	(22)	

FOR DIRECT SPARK IGNITION
(OIL OR GAS)

(10)	IGNITION TRANSFORMER
(21)	1ST STAGE FUEL VALVE
(9)	2ND STAGE FUEL VALVE (OPTIONAL)

— (L2)

△1 △2 △3 △4

△5 △7 △8 △15

GENERAL FOOTNOTES, SEE PAGE 5.

(L1) —||— ‖ —||—•—||— (4)
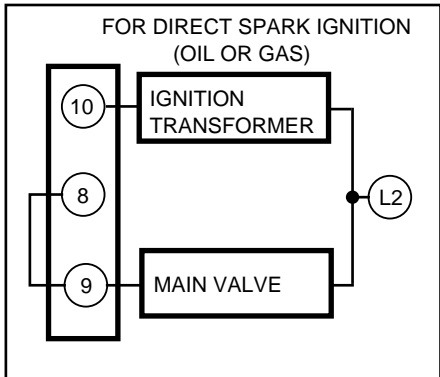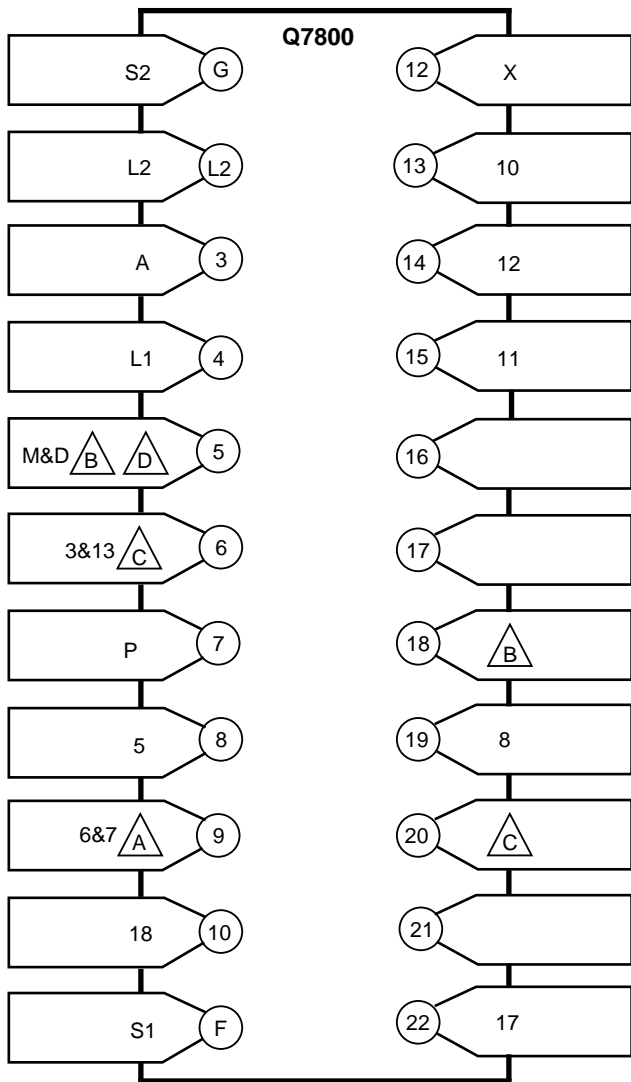
CONTROLLER

LIMITS

START INTERLOCKS

—||— (3)

AIRFLOW SWITCH

△A LOCATE THIS JUNCTION AND CONNECT IT TO Q7800 SUBBASE TERMINAL 6

△B LOCATE THE START INTERLOCKS AT THIS POINT AND CONNECT IT TO Q7800 SUBBASE TERMINAL 20. START INTERLOCKS NOW BECOME PREIGNITION INTERLOCKS. IF START INTERLOCKS ARE NOT USED, JUMPER Q7800 TERMINALS 4 TO 20.

△C Q520 SUBBASE TERMINAL 6 PROVIDED 30 SECOND MFEP. JUMPER Q7800 SUBBASE TERMINAL 19 TO 5 AND CLIP JUMPER JR2.

△D R4150G1103 HAD 3 WIRE MODULATION AND DID NOT HAVE Q520 SUBBASE TERMINAL 14 CONNECTION.

M2528B

7800 SERIES CONVERSION WIRING DIAGRAM

FROM R4150G1129(GP200) R4140G1189(GP201)
R4150L1078(GP300) R4140L1089(GP301)

TO RM7840E1016 OR RM7800E1010
RM7840L1018 OR RM7800L1012

(DEVICE TO BE MODERNIZED)

(O.S. NUMBER OF RELAY MODULE TO BE USED)

Q7800

S2 — G	12 — X
L2 — L2	13 — 10
A — 3	14 — 12
L1 — 4	15 — 11
M&D △B △D — 5	16
3&13 △C — 6	17
P — 7	18 △B
5 — 8	19 — 8
6&7 △A — 9	20 △C
18 — 10	21
S1 — F	22 — 17

FOR DIRECT SPARK IGNITION
(OIL OR GAS)
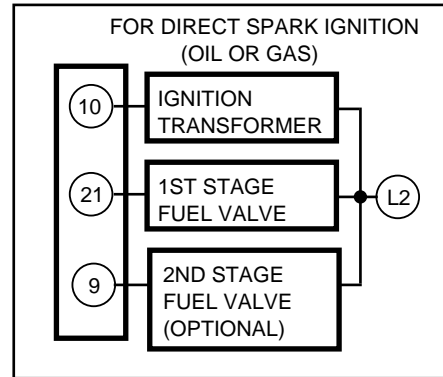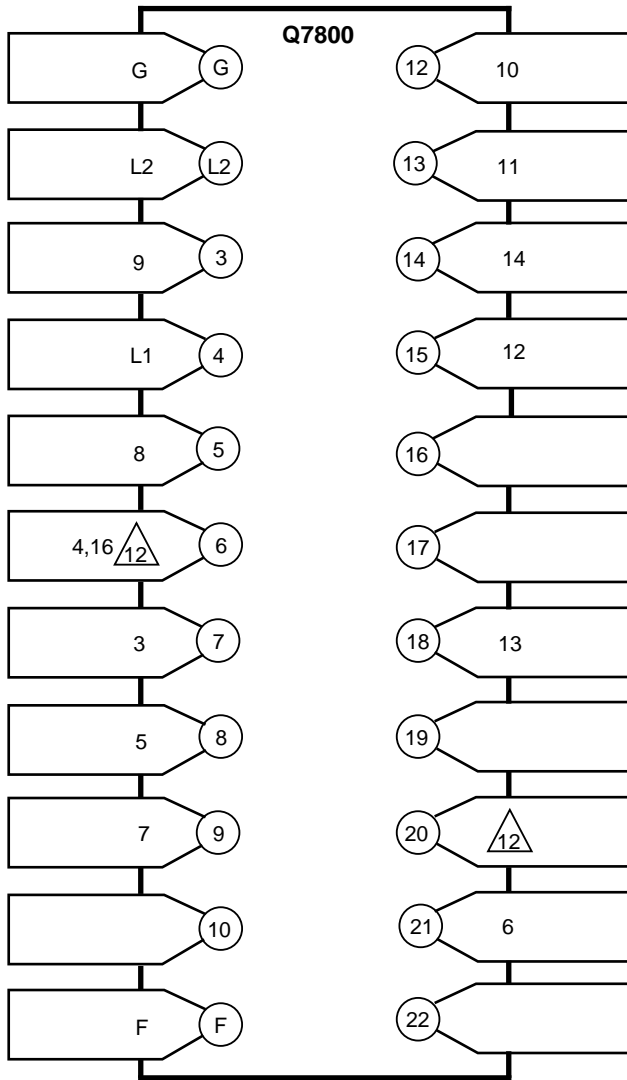
- 10 — IGNITION TRANSFORMER
- 8
- 9 — MAIN VALVE
- L2

△A IF Q520 SUBBASE TERMINAL 6 IS USED, CONNECT RM7840, RM7800 FOR DIRECT SPARK IGNITION. NOTE: GP TERMINAL 6 PROVIDED INTERMITTENT PILOT; RM7840L/RM7800L DOES NOT.

△B LOCATE LOW FIRE SWITCH CONNECTION TO Q520 SUBBASE TERMINAL D AND CONNECT TO Q7800 SUBBASE TERMINAL 18.

△C LOCATE PREIGNITION INTERLOCK ON Q520 SUBBASE TERMINALS 3 AND 13. CONNECT ONE LEAD TO Q7800 SUBBASE TERMINAL 20 AND THE OTHER LEAD TO Q7800 SUBBASE TERMINAL 4.

△D RM7840E/RM7800E CONNECT D TO Q7800 SUBBASE TERMINAL 4.

M2523B

△1 △2 △3 △4 △5 △7 △8 △15
GENERAL FOOTNOTES, SEE PAGE 5.

7800 SERIES CONVERSION WIRING DIAGRAM

FROM ____R4150G1186_____ TO ___RM7840G1014 OR RM7800G1018___

(DEVICE TO BE MODERNIZED)   (O.S. NUMBER OF RELAY MODULE TO BE USED)

Q7800

Left terminal	Circle	Circle	Right terminal
G	G	12	10
L2	L2	13	11
9	3	14	14
L1	4	15	12
8	5	16	
4,16 △12	6	17	
3	7	18	13
5	8	19	
7	9	20 △12	
	10	21	6
F	F	22	

FOR DIRECT SPARK IGNITION
(OIL OR GAS)

10	IGNITION TRANSFORMER
21	1ST STAGE FUEL VALVE
9	2ND STAGE FUEL VALVE (OPTIONAL)

L2

△1 △2 △3 △4 △5 △7 △8 △12 △15

GENERAL FOOTNOTES, SEE PAGE 5.

M2529B

7800 SERIES CONVERSION WIRING DIAGRAM

FROM ___R4150H1002_____ TO ___RM7840G1014, OR RM7800G1018___

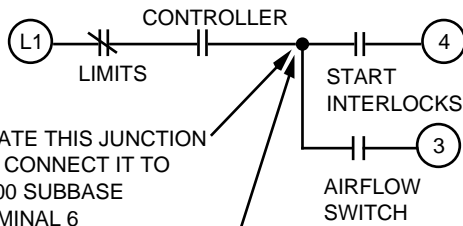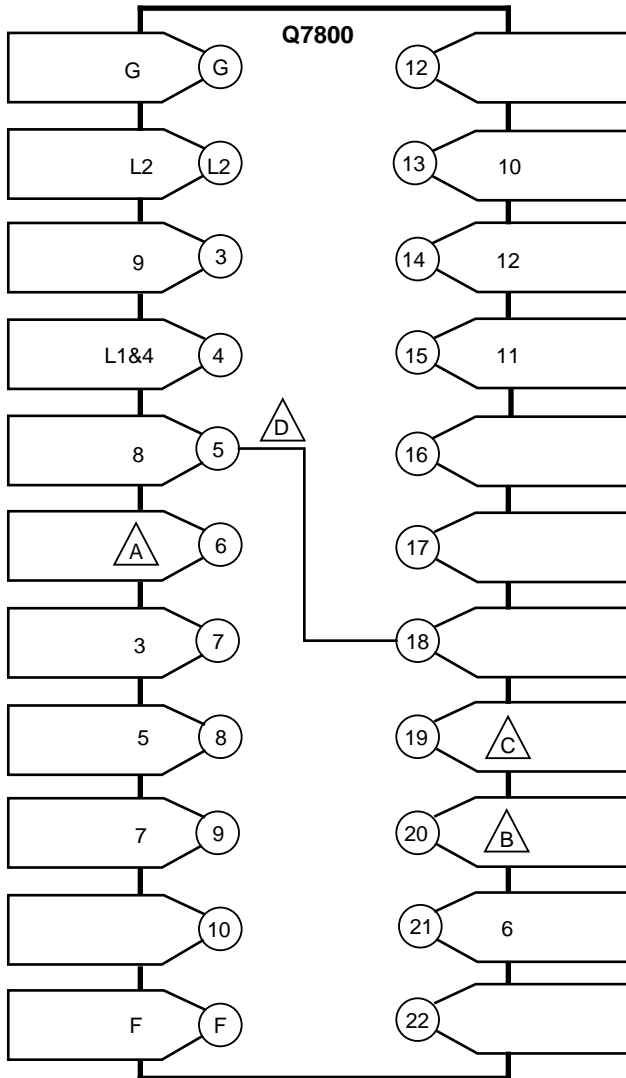(DEVICE TO BE MODERNIZED)   (O.S. NUMBER OF RELAY MODULE TO BE USED)

Q7800

G — G		12
L2 — L2		13 — 10
9 — 3		14 — 12
L1&4 — 4		15 — 11
8 — 5 — △D		16
△A — 6		17
3 — 7		18
5 — 8		19 — △C
7 — 9		20 — △B
10		21 — 6
F — F		22

FOR DIRECT SPARK IGNITION (OIL OR GAS)

- 10 — IGNITION TRANSFORMER
- 21 — 1ST STAGE FUEL VALVE — L2
- 9 — 2ND STAGE FUEL VALVE (OPTIONAL)

△1 △2 △3 △4 △7 △8 △15
GENERAL FOOTNOTES, SEE PAGE 5.

CONTROLLER

L1 —|/|— LIMITS —||— • —||— 4

START INTERLOCKS

—||— 3

AIRFLOW SWITCH

△A LOCATE THIS JUNCTION AND CONNECT IT TO Q7800 SUBBASE TERMINAL 6

△B LOCATE THE START INTERLOCKS AT THIS POINT AND CONNECT IT TO Q7800 SUBBASE TERMINAL 20. START INTERLOCKS NOW BECOME PREIGNITION INTERLOCKS. IF START INTERLOCKS ARE NOT USED, JUMPER Q7800 TERMINALS 4 TO 20.
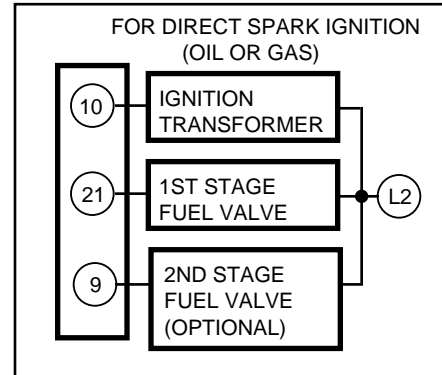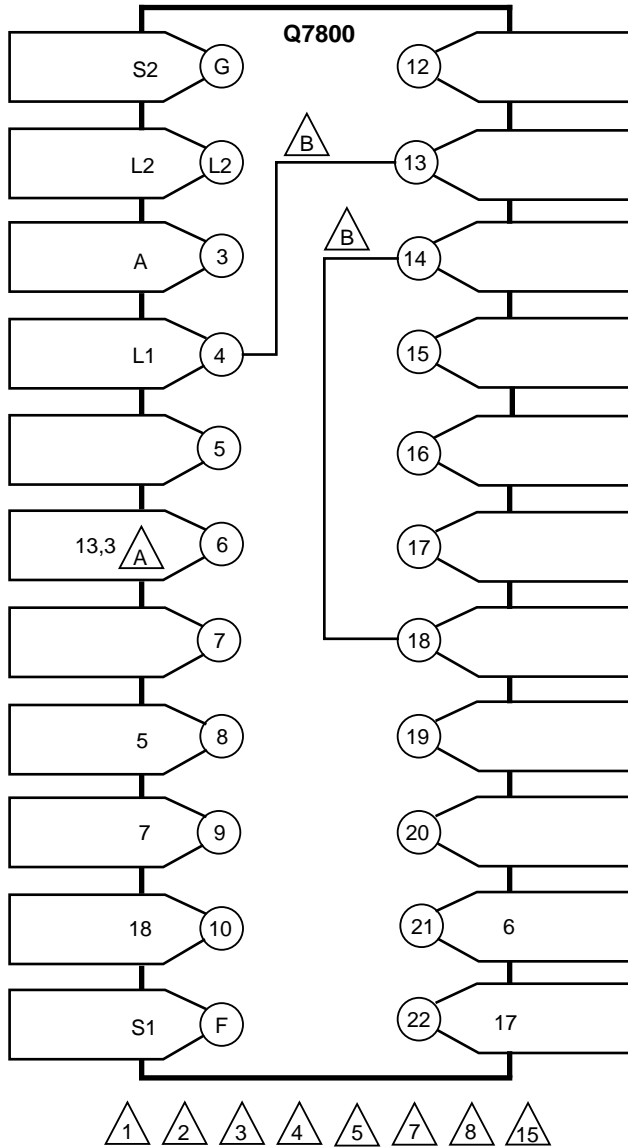
△C Q520 SUBBASE TERMINAL 6 PROVIDED 60 SECOND MFEP. RM7840/RM7800 PROVIDE 30 SECONDS WITH Q7800 SUBBASE TERMINALS 19 TO 5 JUMPED AND JUMPER JR2 CLIPPED.

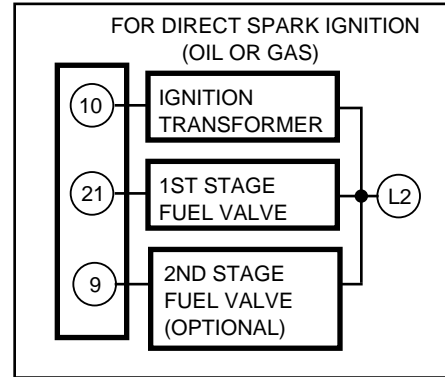△D JUMPER Q7800 TERMINAL 5 TO 18. NOTE: 30 SECONDS WILL BE ADDED TO PREPURGE TIMING.

M2525B

7800 SERIES CONVERSION WIRING DIAGRAM

FROM R4150M1175(GP100) R4140M1079(GP101) TO RM7840M1017 OR RM7800M1011

(DEVICE TO BE MODERNIZED) (O.S. NUMBER OF RELAY MODULE TO BE USED)

Q7800

Left terminal	Circle	Circle	Right terminal
S2	G	12	
L2	L2	13	
A	3	14	
L1	4	15	
	5	16	
13,3 △A	6	17	
	7	18	
5	8	19	
7	9	20	
18	10	21	6
S1	F	22	17

△B (between L2/13 and 3/14)

FOR DIRECT SPARK IGNITION (OIL OR GAS)

- 10 — IGNITION TRANSFORMER
- 21 — 1ST STAGE FUEL VALVE — L2
- 9 — 2ND STAGE FUEL VALVE (OPTIONAL)

△A LOCATE PREIGNITION INTERLOCK CONNECTION ON Q520 SUBBASE TERMINALS 13 AND 3. CONNECT PREIGNITION INTERLOCK BETWEEN Q7800 SUBBASE TERMINALS 4 AND 20.

△B JUMPER Q7800 SUBBASE TERMINALS 14 TO 18 AND TERMINAL 4 TO 13.

△1 △2 △3 △4 △5 △7 △8 △15

GENERAL FOOTNOTES, SEE PAGE 5.

M2524B

Section III
Honeywell R4126, R4127, R4181

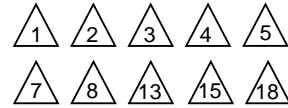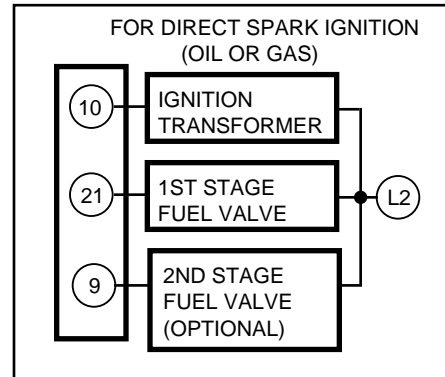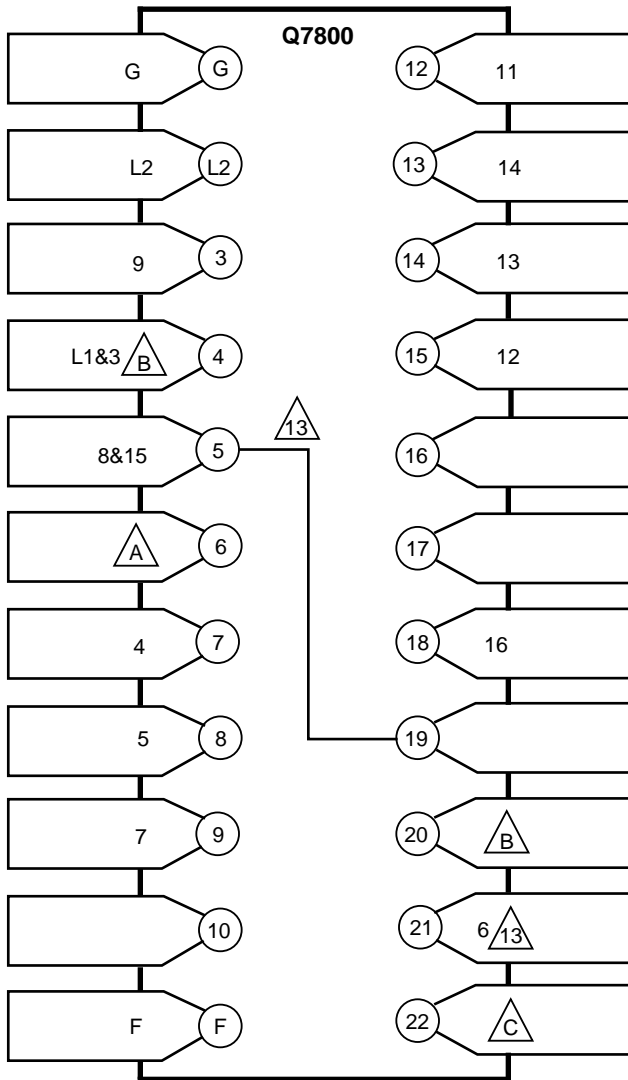# 7800 SERIES CONVERSION WIRING DIAGRAM

R4126A1008, 1016, A1024, A1032, A1040,
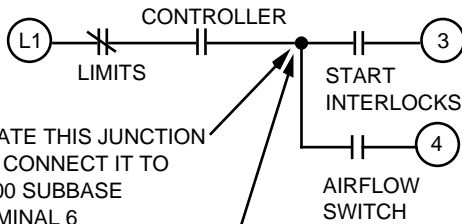A1057, A1081, A1149

FROM _R4126B1066, B1014, B1022_____ TO _RM7840G1014, OR RM7800G1018_

(DEVICE TO BE MODERNIZED)   (O.S. NUMBER OF RELAY MODULE TO BE USED)

Q7800

Left terminal	Pin		Pin	Right terminal
G	G		12	11
L2	L2		13	14
9	3		14	13
L1&3 /B\	4		15	12
8&15	5	/13\	16	
/A\	6		17	
4	7		18	16
5	8		19	
7	9		20	/B\
	10		21	6 /13\
F	F		22	/C\

FOR DIRECT SPARK IGNITION
(OIL OR GAS)

10	IGNITION TRANSFORMER
21	1ST STAGE FUEL VALVE	L2
9	2ND STAGE FUEL VALVE (OPTIONAL)

/1\ /2\ /3\ /4\ /5\
/7\ /8\ /13\ /15\ /18\

GENERAL FOOTNOTES, SEE PAGE 5.

L1 —|/|— LIMITS —||— CONTROLLER —||— START INTERLOCKS — 3

—||— AIRFLOW SWITCH — 4

/A\ LOCATE THIS JUNCTION AND CONNECT IT TO Q7800 SUBBASE TERMINAL 6

/B\ LOCATE THE START INTERLOCKS AT THIS POINT AND CONNECT IT TO Q7800 SUBBASE TERMINAL 20. START INTERLOCKS NOW BECOME PREIGNITION INTERLOCKS. IF START INTERLOCKS ARE NOT USED, JUMPER Q7800 TERMINALS 4 TO 20.

/C\ Q535 OR Q536 SUBBASE HAD U1 AND U2 TERMINALS THAT WERE USED FOR C7020 AND C7012E,F FLAME DETECTORS.
A. TO MODERNIZE C7020 APPLICATIONS, CHOOSE A NEW DECTOR AND REWIRE PER RM7840/RM7800 SPECIFICATIONS.
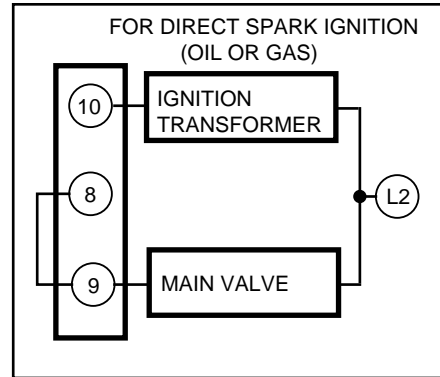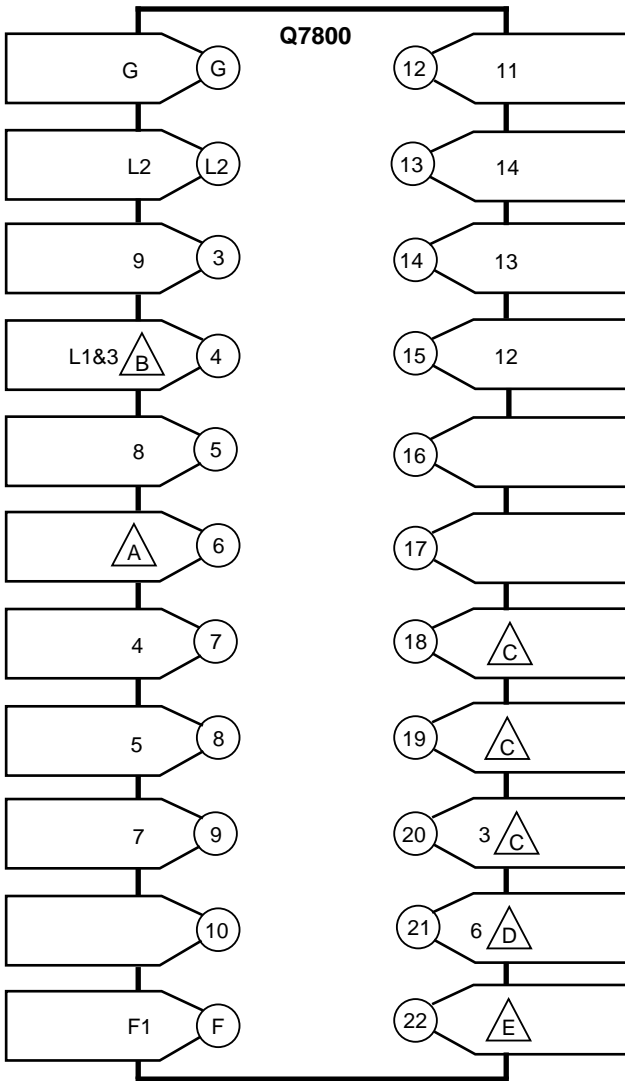B. TO MODERNIZE A C7012E,F APPLICATION, USE THE EXISTING SENSOR AND REWIRE PER RM7840/RM7800 SPECIFICATIONS.

M2513B

7800 SERIES CONVERSION WIRING DIAGRAM

For Insurance Requirements

FROM ___R4126A1008, A1016, A1024, A1032 A1040, A1057, A1081, A1149 R4126B1006, B1014, B1022___ TO ___RM7840E1016, RM7800E1010 RM7840L1018, RM7800L1012___

(DEVICE TO BE MODERNIZED)   (O.S. NUMBER OF RELAY MODULE TO BE USED)

Q7800

Left column	Right column
G — G	12 — 11
L2 — L2	13 — 14
9 — 3	14 — 13
L1&3 /B\ — 4	15 — 12
8 — 5	16
/A\ — 6	17
4 — 7	18 — /C\
5 — 8	19 — /C\
7 — 9	20 — 3 /C\
10	21 — 6 /D\
F1 — F	22 — /E\

FOR DIRECT SPARK IGNITION (OIL OR GAS)

10 — IGNITION TRANSFORMER
8
9 — MAIN VALVE
L2

/1\ /2\ /3\ /4\ /5\ /7\ /8\ /15\ /18\

GENERAL FOOTNOTES, SEE PAGE 5.

/C\ TO MODERNIZE TO AN RM7840L,E OR RM7800L,E TO MEET INSURANCE REQUIREMENTS, THE FOLLOWING INTERLOCKS ARE NORMALLY REQUIRED. (CONNECT OR JUMPER INTERLOCKS AS SHOWN TO THE Q7800 SUBBASE TERMINALS).

INTERLOCKS	RM7840E/ RM7800E	RM7840L/ RM7800L
RUNNING INTERLOCKS	6–7	6–7
PREIGNITION INTERLOCKS	4–20	4–20
HIGHFIRE SWITCH*	5–19	4–19
LOWFIRE SWITCH*	5–18	5–18

* JUMPER WILL ADD ADDITIONAL 30 SECONDS TO THE PREPURGE TIMING

/D\ TERMINAL 6 PROVIDED 30 SECOND MFEP. THE REPLACEMENT CONTROL WILL PROVIDE 15 SECOND MFEP.

/E\ Q535 OR Q536 SUBBASE HAD U1 AND U2 TERMINALS THAT WERE USED FOR C7020 AND C7012E,F FLAME DETECTORS.
A. TO MODERNIZE C7020 APPLICATIONS, CHOOSE A NEW DETECTION AND REWIRE PER RM7840/RM7800 SPECIFICATIONS.
B. TO MODERNIZE A C7012E,F APPLICATION, USE THE EXISTING SENSOR AND REWIRE PER RM7840/RM7800 SPECIFICATIONS.
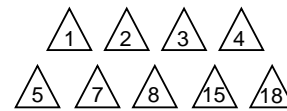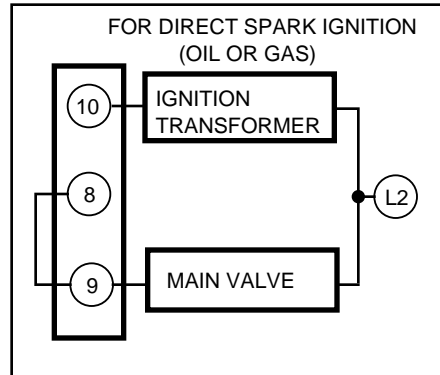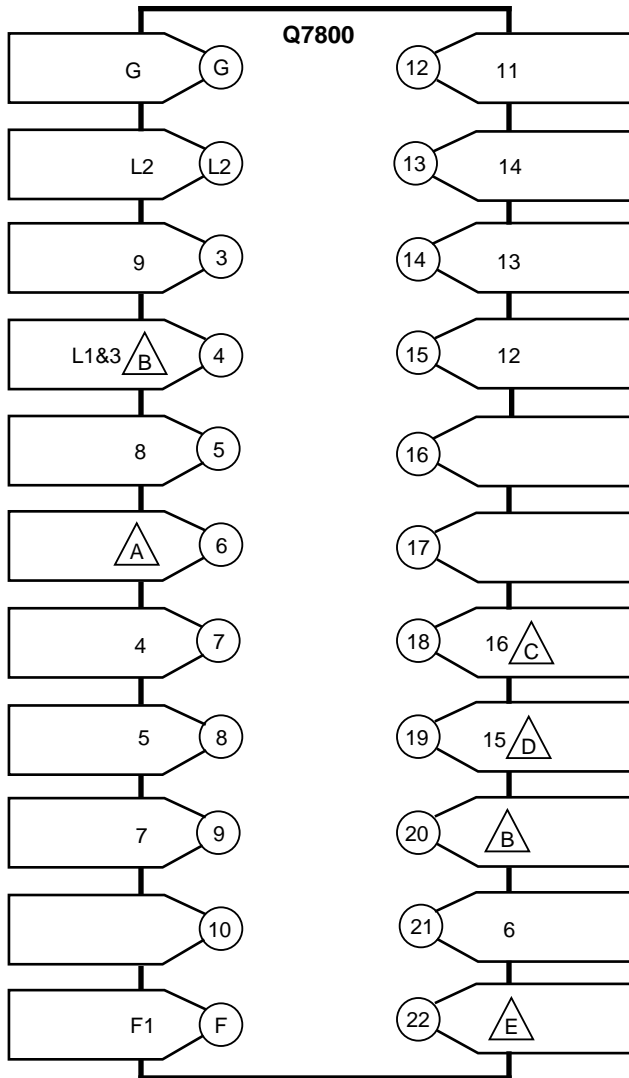
CONTROLLER

L1 — LIMITS — CONTROLLER — START INTERLOCKS — 3
— AIRFLOW SWITCH — 4

/A\ LOCATE THIS JUNCTION AND CONNECT IT TO Q7800 SUBBASE TERMINAL 6

/B\ LOCATE THE START INTERLOCKS AT THIS POINT AND CONNECT IT TO Q7800 SUBBASE TERMINAL 20. START INTERLOCKS NOW BECOME PREIGNITION INTERLOCKS. IF START INTERLOCKS ARE NOT USED, JUMPER Q7800 TERMINALS 4 TO 20.
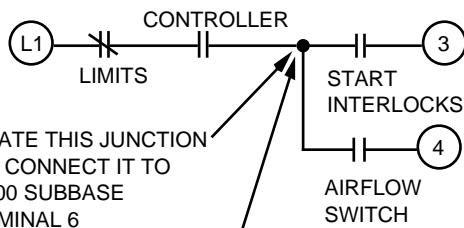
M2514B

7800 SERIES CONVERSION WIRING DIAGRAM

FROM ___R4126A1073, A1164_____ TO ___RM7840E1016 OR RM7800E1010___
___RM7840L1018 0R RM7800L1012___

(DEVICE TO BE MODERNIZED)   (O.S. NUMBER OF RELAY MODULE TO BE USED)

Q7800

G — G	12 — 11
L2 — L2	13 — 14
9 — 3	14 — 13
L1&3 /B\ — 4	15 — 12
8 — 5	16
/A\ — 6	17
4 — 7	18 — 16 /C\
5 — 8	19 — 15 /D\
7 — 9	20 — /B\
— 10	21 — 6
F1 — F	22 — /E\

FOR DIRECT SPARK IGNITION
(OIL OR GAS)

10 — IGNITION TRANSFORMER
8
9 — MAIN VALVE
L2

/1\ /2\ /3\ /4\
/5\ /7\ /8\ /15\ /18\

GENERAL FOOTNOTES, SEE PAGE 5.

/C\ LOCATE LOW FIRE SWITCH WIRE ON Q535 OR Q536 SUBBASE TERMINAL 15 AND CONNECT TO Q7800 SUBBASE TERMINAL 5. IF LOWFIRE SWITCH IS NOT USED, INSTALL A JUMPER. NOTE: JUMPER WILL ADD 30 SECONDS TO PREPURGE TIMING.
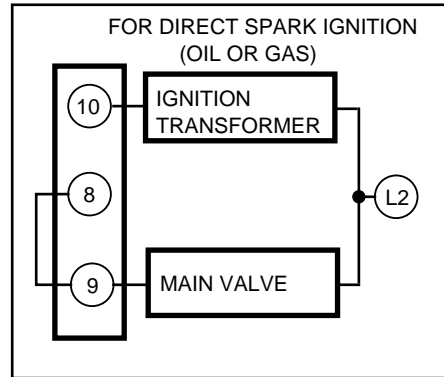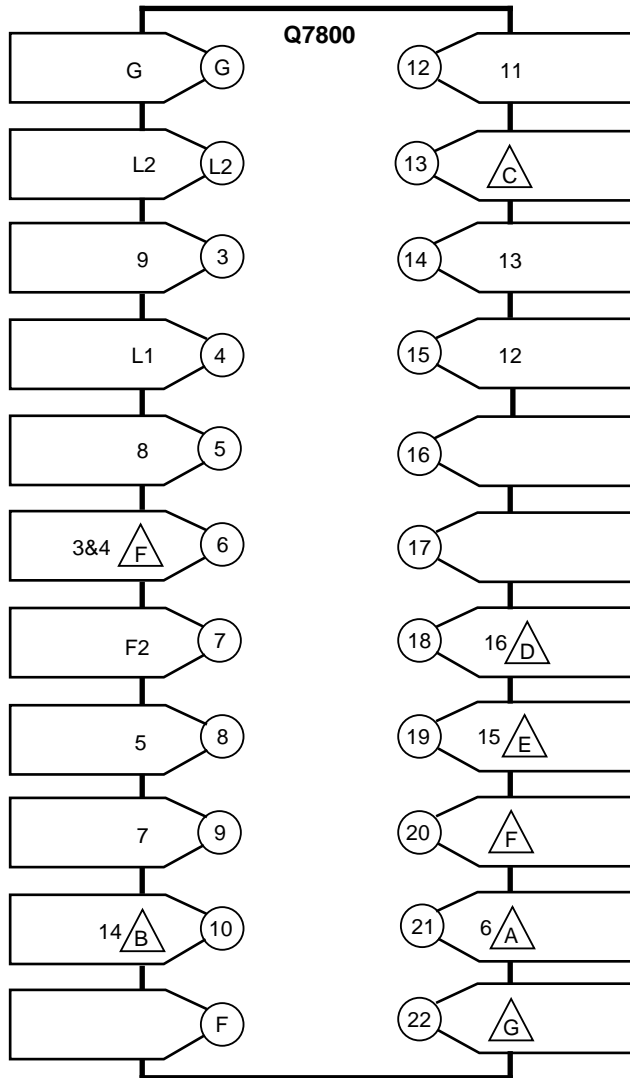
/D\ RN7840L/RM7800L–LOCATE Q535 OR Q536 SUBBASE L1 SIDE OF HIGH FIRE SWITCH AND CONNECT TO Q7800 SUBBASE TERMINAL 5. IF HIGH FIRE SWITCH IS NOT USED, INSTALL A JUMPER. NOTE: JUMPER WILL ADD 30 SECONDS TO PREPURGE TIMING.

/E\ Q535 OR Q536 SUBBASE HAD U1 AND U2 TERMINALS THAT WERE USED FOR C7020 AND C7012E,F FLAME DETECTORS.
A. TO MODERNIZE C7020 APPLICATIONS, CHOOSE A NEW DECTOR AND REWIRE PER RM7840/RM7800 SPECIFICATIONS.
B. TO MODERNIZE A C7012E,F APPLICATION, USE THE EXISTING SENSOR AND REWIRE PER RM7840/RM7800 SPECIFICATIONS.

CONTROLLER

L1 —||— ——||— •—||— 3

LIMITS   START INTERLOCKS

——||— 4

AIRFLOW SWITCH

/A\ LOCATE THIS JUNCTION AND CONNECT IT TO Q7800 SUBBASE TERMINAL 6

/B\ LOCATE THE START INTERLOCKS AT THIS POINT AND CONNECT IT TO Q7800 SUBBASE TERMINAL 20. START INTERLOCKS NOW BECOME PREIGNITION INTERLOCKS. IF START INTERLOCKS ARE NOT USED, JUMPER Q7800 TERMINALS 4 TO 20.

M2511B

7800 SERIES CONVERSION WIRING DIAGRAM

FROM ___R4126A1172, A1180, A1198___ TO ___RM7840E1016 OR RM7800E1010 / RM7840L1018 OR RM7800L1012___

(DEVICE TO BE MODERNIZED)   (O.S. NUMBER OF RELAY MODULE TO BE USED)

Q7800

Left side		Right side	
G	G	12	11
L2	L2	13	C
9	3	14	13
L1	4	15	12
8	5	16	
3&4 F	6	17	
F2	7	18	16 D
5	8	19	15 E
7	9	20	F
14 B	10	21	6 A
	F	22	G

GENERAL FOOTNOTES, SEE PAGE 5.
Footnote triangles: 1 2 3 4 5 7 8 15 18

FOR DIRECT SPARK IGNITION
(OIL OR GAS)

10 — IGNITION TRANSFORMER
8
9 — MAIN VALVE
L2

/C\ A. TO USE EXISTING GROUNDED MODULATING CIRCUIT, JUMPER Q7800 TERMINALS 13 AND G.
B. IF A NONGROUNDED MODULATING CIRCUIT IS DESIRED, IDENTIFY WIRE FROM MOD MOTOR TERMINAL R AND Q535 OR Q536 TERMINAL G. DISCONNECT WIRE AND CONNECT TO Q7800 SUBBASE TERMINAL 13.

/D\ LOCATE LOW FIRE SWITCH WIRE ON Q535 OR Q536 SUBBASE TERMINAL 15 AND CONNECT TO Q7800 SUBBASE TERMINAL 5.

/E\ FOR RM7840E/RM7800E APPLICATION ONLY. LOCATE HIGH FIRE SWITCH WIRE ON Q535 OR Q536 SUBBASE TERMINAL 8 AND CONNECT TO Q7800 SUBBASE TERMINAL 4.

/F\ LOCATE PREIGNITION INTERLOCK WIRE ON Q535 OR Q536 TERMINALS 3 AND 4. CONNECT PREIGNITION INTERLOCK BETWEEN Q7800 SUBBASE TERMINALS 4 AND 20. IF PREIGNITION INTERLOCK WAS NOT USED, INSTALL JUMPER.

/G\ Q535 OR Q536 SUBBASE HAD U1 AND U2 TERMINALS THAT WERE USED FOR C7020 AND C7012E,F FLAME DETECTORS.
A. TO MODERNIZE C7020 APPLICATIONS, CHOOSE A NEW DETECTION AND REWIRE PER RM7840/RM7800 SPECIFICATIONS.
B. TO MODERNIZE A C7012E,F APPLICATION, USE THE EXISTING SENSOR AND REWIRE PER RM7840/RM7800 SPECIFICATIONS.

/A\ R4126A1172, A1180, A1198 HAD 30 SECOND MFEP ON TERMINAL 6. REPLACEMENT RM7840/RM7800 PROVIDE 15 SECOND MFEP ONLY.

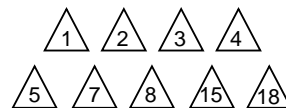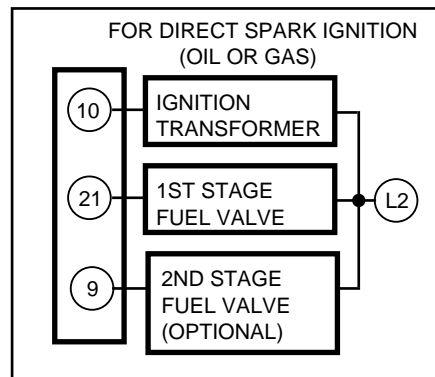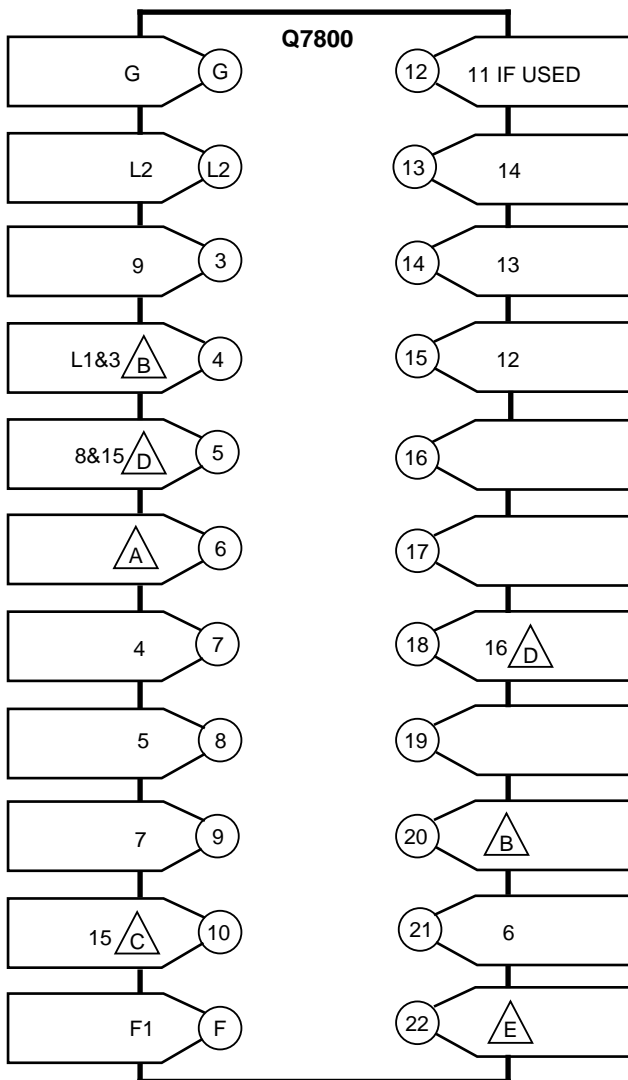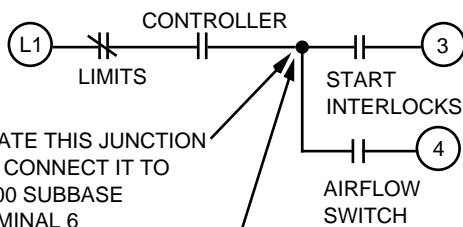/B\ R4126 PROVIDED 10 SECOND IGNITION TIMING. REPLACEMENT RM7840/RM7800 PROVIDES 5 SECONDS.

M2515B

7800 SERIES CONVERSION WIRING DIAGRAM

R4127A1007, A1015,1023, A1031, A1049
A1064, A1089, A1130, A1189, B1005,
B1013, B1021, B1047, C1003

FROM _____ TO   RM7840G1014 OR RM7800G1018

(DEVICE TO BE MODERNIZED)   (O.S. NUMBER OF RELAY MODULE TO BE USED)

Q7800

Left (Q7800)		Right	
G	G	12	11 IF USED
L2	L2	13	14
9	3	14	13
L1&3 /B\	4	15	12
8&15 /D\	5	16	
/A\	6	17	
4	7	18	16 /D\
5	8	19	
7	9	20	/B\
15 /C\	10	21	6
F1	F	22	/E\

FOR DIRECT SPARK IGNITION
(OIL OR GAS)

10	IGNITION TRANSFORMER
21	1ST STAGE FUEL VALVE
9	2ND STAGE FUEL VALVE (OPTIONAL)

L2

/1\ /2\ /3\ /4\
/5\ /7\ /8\ /15\ /18\

GENERAL FOOTNOTES, SEE PAGE 5.

CONTROLLER
L1 —||— —||— • —||— 3
LIMITS   START
              INTERLOCKS
              —||— 4
              AIRFLOW
              SWITCH

/A\ LOCATE THIS JUNCTION
AND CONNECT IT TO
Q7800 SUBBASE
TERMINAL 6

/B\ LOCATE THE START INTERLOCKS AT THIS POINT AND
CONNECT IT TO Q7800 SUBBASE TERMINAL 20.
START INTERLOCKS NOW BECOME PREIGNITION
INTERLOCKS. IF START INTERLOCKS ARE NOT USED,
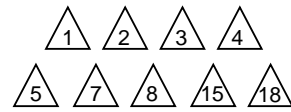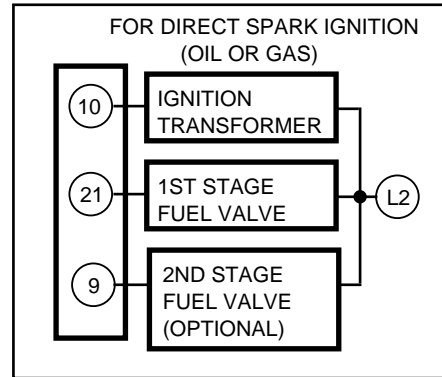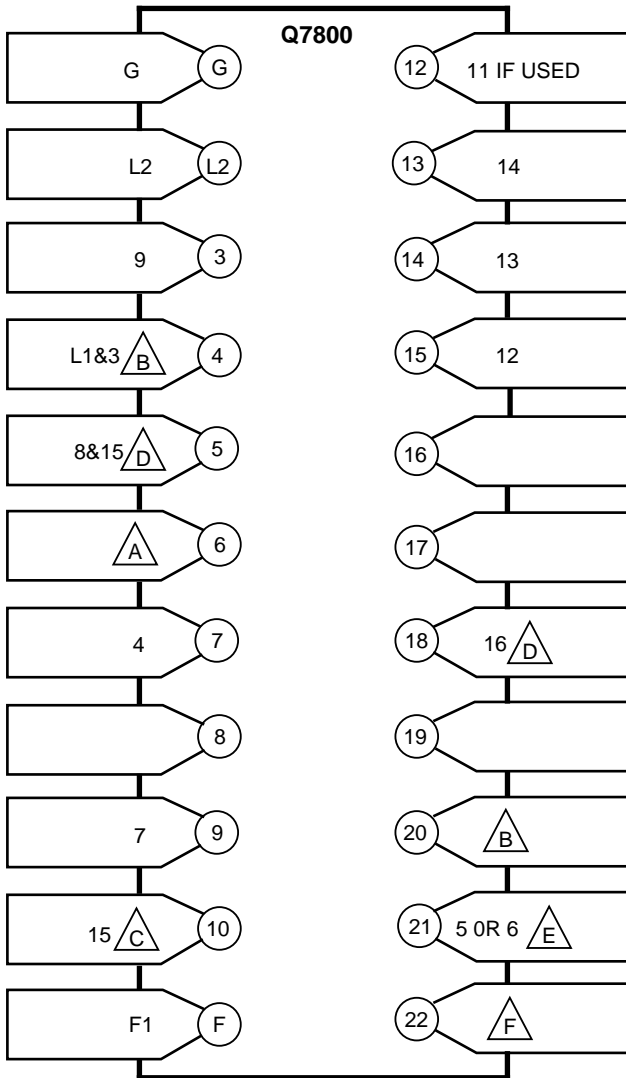JUMPER Q7800 TERMINALS 4 TO 20.

/C\ R4127 PROVIDED 10 SECOND IGNITION-
REPLACEMENT. RM7840/RM7800
PROVIDES 5 SECONDS

/D\ IF LOW FIRE SWITCH IS NOT USED,
JUMPER Q7800 SUBBASE TERMINALS 5
AND 18. NOTE: THIS WILL ADD 30 SECONDS
TO THE PREPURGE TIMING.

/E\ Q535 OR Q536 SUBBASE HAD U1 AND U2
TERMINALS THAT WERE USED FOR
C7020 AND C7012E,F FLAME DETECTORS.
A. TO MODERNIZE C7020 APPLICATIONS,
   CHOOSE A NEW DECTOR AND
   REWIRE PER RM7840/RM7800
   SPECIFICATIONS.
B. TO MODERNIZE A C7012E,F
   APPLICATION, USE THE EXISTING
   SENSOR AND REWIRE PER
   RM7840/RM7800 SPECIFICATIONS.

M2517B

7800 SERIES CONVERSION WIRING DIAGRAM

FROM **R4127A1056, A1080, A1122, A1148 A1155, A1171, A1197, B1039, B1054** TO **RM7840G1014 OR RM7800G1018**

(DEVICE TO BE MODERNIZED) (O.S. NUMBER OF RELAY MODULE TO BE USED)

Q7800

Left column		Right column	
G	G	12	11 IF USED
L2	L2	13	14
9	3	14	13
L1&3 /B\	4	15	12
8&15 /D\	5	16	
/A\	6	17	
4	7	18	16 /D\
	8	19	
7	9	20	/B\
15 /C\	10	21	5 0R 6 /E\
F1	F	22	/F\

FOR DIRECT SPARK IGNITION
(OIL OR GAS)

10 — IGNITION TRANSFORMER
21 — 1ST STAGE FUEL VALVE — L2
9 — 2ND STAGE FUEL VALVE (OPTIONAL)

/1\ /2\ /3\ /4\
/5\ /7\ /8\ /15\ /18\

GENERAL FOOTNOTES, SEE PAGE 5.

/C\ R4127 PROVIDED 10 SECOND IGNITION-REPLACEMENT. RM7840/RM7800 PROVIDES 5 SECONDS

/D\ IF LOW FIRE SWITCH IS NOT USED, JUMPER Q7800 SUBBASE TERMINALS 5 AND 18. NOTE: THIS WILL ADD 30 SECONDS TO THE PREPURGE TIMING.

/E\ Q535 OR Q536 TERMINAL 5 PROVIDED 15 SECOND MFEP. Q535 OR Q536 TERMINAL 6 PROVIDED EITHER 30, 55, OR 60 SECOND MFEP (DEPENDS ON R4127 MODEL). JUMPER RM7840G/RM7800G TERMINAL 19 TO 5 TO GET 30 SECOND MFEP. 55 AND 60 SECOND MFEP IS NOT ATTAINABLE.

/F\ Q535 OR Q536 SUBBASE HAD U1 AND U2 TERMINALS THAT WERE USED FOR C7020 AND C7012E,F FLAME DETECTORS.
A. TO MODERNIZE C7020 APPLICATIONS, CHOOSE A NEW DECTOR AND REWIRE PER RM7840/RM7800 SPECIFICATIONS.
B. TO MODERNIZE A C7012E,F APPLICATION, USE THE EXISTING SENSOR AND REWIRE PER RM7840/RM7800 SPECIFICATIONS.

L1 — CONTROLLER LIMITS — 3 START INTERLOCKS — 4 AIRFLOW SWITCH

/A\ LOCATE THIS JUNCTION AND CONNECT IT TO Q7800 SUBBASE TERMINAL 6

/B\ LOCATE THE START INTERLOCKS AT THIS POINT AND CONNECT IT TO Q7800 SUBBASE TERMINAL 20. START INTERLOCKS NOW BECOME PREIGNITION INTERLOCKS. IF START INTERLOCKS ARE NOT USED, JUMPER Q7800 TERMINALS 4 TO 20.

M2516B

65-0100—2

7800 SERIES CONVERSION WIRING DIAGRAM
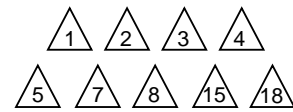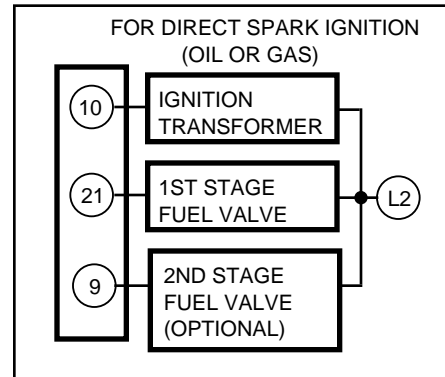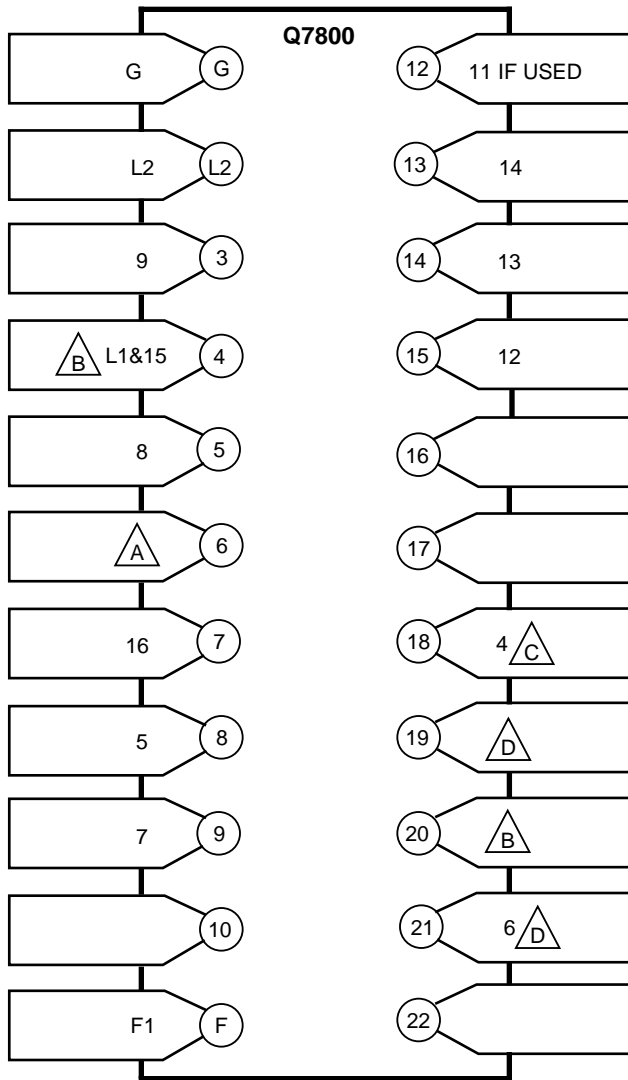
R4127A1171, B1039, B1047, B1054

FROM _____(RAY BURNER)_____ TO ___RM7800G1018 OR RM7840G1014___

(DEVICE TO BE MODERNIZED)   (O.S. NUMBER OF RELAY MODULE TO BE USED)

Q7800

Left side			Right side		
G	G		12	11 IF USED	
L2	L2		13	14	
9	3		14	13	
⚠B L1&15	4		15	12	
8	5		16		
⚠A	6		17		
16	7		18	4 ⚠C	
5	8		19	⚠D	
7	9		20	⚠B	
	10		21	6 ⚠D	
F1	F		22		

FOR DIRECT SPARK IGNITION (OIL OR GAS)

10	IGNITION TRANSFORMER
21	1ST STAGE FUEL VALVE
9	2ND STAGE FUEL VALVE (OPTIONAL)

(connected to L2)

⚠1 ⚠2 ⚠3 ⚠4
⚠5 ⚠7 ⚠8 ⚠15 ⚠18

GENERAL FOOTNOTES, SEE PAGE 5.

CONTROLLER

L1 —||— —||— • —||— 15
LIMITS   START INTERLOCKS
              —||— 16
              AIRFLOW SWITCH

⚠A LOCATE THIS JUNCTION AND CONNECT IT TO Q7800 SUBBASE TERMINAL 6

⚠B LOCATE THE START INTERLOCKS AT THIS POINT AND CONNECT IT TO Q7800 SUBBASE TERMINAL 20. START INTERLOCKS NOW BECOME PREIGNITION INTERLOCKS. IF START INTERLOCKS ARE NOT USED, JUMPER Q7800 TERMINALS 4 TO 20.

⚠C IF NO LOW FIRE SWITCH, JUMPER Q7800 SUBBASE TERMINALS 5 TO 18. NOTE: ADDING THE JUMPER ADDS 30 SECONDS TO THE PURGE TIMING.
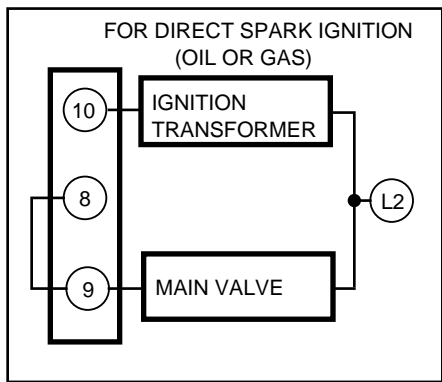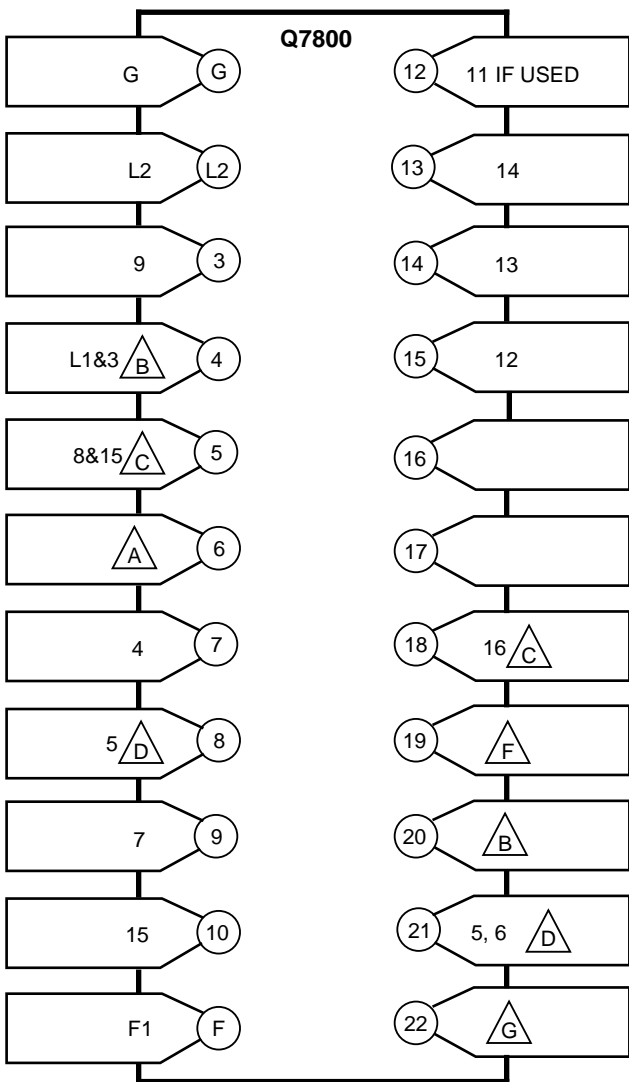
⚠D Q535 OR Q536 TERMINAL 5 PROVIDED A 15 SECOND MFEP. Q7800 TERMINAL 8 PROVIDES A 10 SECOND MFEP. Q535 OR Q536 TERMINAL 6 PROVIDED A 30, 55 OR 60 SECOND MFEP (SELECTED BY MODEL NUMBER). JUMPER Q7800 SUBBASE TERMINAL 4 TO TERMINAL 19 AND CLIP JUMPER JR2 OF THE RM7800G/7840G RELAY MODEL TO GET A 30 SECOND MFEP. 55 AND 60 SECOND MFEP ARE NOT AVAILABLE.

M7447

7800 SERIES CONVERSION WIRING DIAGRAM
For Insurance Requirements

FROM _____R4127 (ALL MODELS)_____ TO RM7840E1016 OR RM7800E1010
RM7840L1018 OR RM7800L1012

(DEVICE TO BE MODERNIZED)   (O.S. NUMBER OF RELAY MODULE TO BE USED)

Q7800

Left column		Right column	
G	G	12	11 IF USED
L2	L2	13	14
9	3	14	13
L1&3 /B\	4	15	12
8&15 /C\	5	16	
/A\	6	17	
4	7	18	16 /C\
5 /D\	8	19	/F\
7	9	20	/B\
15	10	21	5, 6 /D\
F1	F	22	/G\

FOR DIRECT SPARK IGNITION
(OIL OR GAS)

10 — IGNITION TRANSFORMER
8 —
9 — MAIN VALVE
L2

/1\ /2\ /3\ /4\ /5\ /7\ /8\ /15\ /18\
GENERAL FOOTNOTES, SEE PAGE 5.

/C\ IF LOW FIRE SWITCH IS NOT USED, JUMPER Q7800 SUBBASE TERMINALS 5 AND 18. NOTE: THIS WILL ADD 30 SECONDS TO THE PREPURGE TIMING.

/D\ R4127 DEVICE MAY HAVE 15, 30, 55, OR 60 SECOND MFEP. REPLACEMENT DEVICE PROVIDES 10 OR 15 SECONDS ONLY. INSURANCE CODES REQUIRE 10 SECOND MFEP. FOR GAS, NO.2 OIL AND NO.4 OIL APPLICATIONS.

/E\ R4127 PROVIDES 10 SECONDS IGNITION-REPLACEMENT RM7840/RM7800 PROVIDE 5 SECONDS.

/F\ FOR RM7840L/RM7800L, JUMPER Q7800 SUBBASE TERMINAL 19 TO 5. NOTE: THIS WILL EXTEND PREPURGE TIME 30 SECONDS. FOR RM7840E/RM7800E,J JUMPER Q7800 SUBBASE TERMINAL 19 TO 4. NOTE: THIS WILL EXTEND PREPURGE TIME 30 SECONDS.

/G\ Q535 OR Q536 SUBBASE HAD U1 AND U2 TERMINALS THAT WERE USED FOR C7020 AND C7012E,F FLAME DETECTORS.
A. TO MODERNIZE C7020 APPLICATIONS, CHOOSE A NEW DECTOR AND REWIRE PER RM7840/RM7800 SPECIFICATIONS.
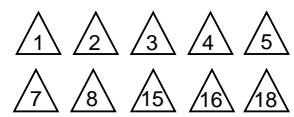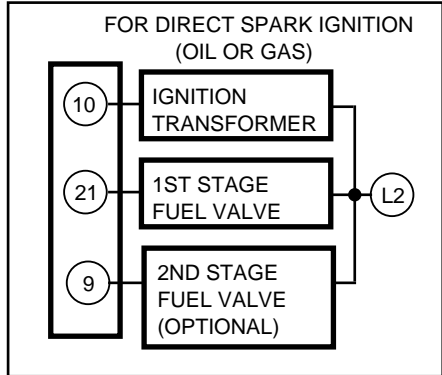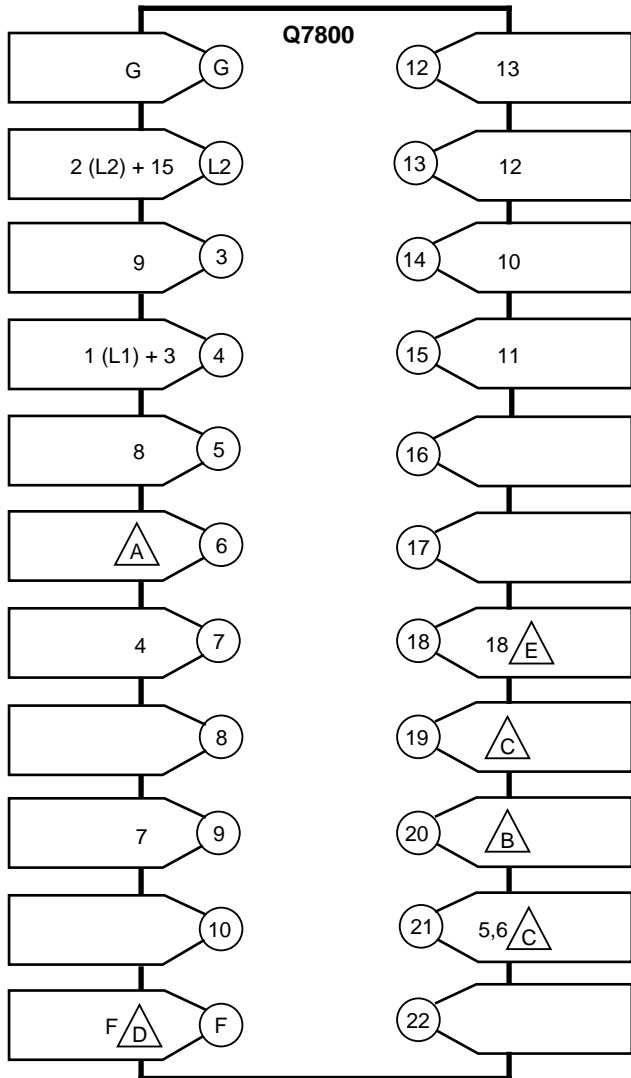B. TO MODERNIZE A C7012E,F APPLICATION, USE THE EXISTING SENSOR AND REWIRE PER RM7840/RM7800 SPECIFICATIONS.

CONTROLLER

L1 — LIMITS — | — START INTERLOCKS — 3
| — 4
AIRFLOW SWITCH
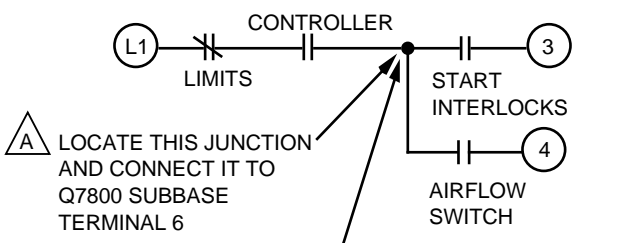
/A\ LOCATE THIS JUNCTION AND CONNECT IT TO Q7800 SUBBASE TERMINAL 6

/B\ LOCATE THE START INTERLOCKS AT THIS POINT AND CONNECT IT TO Q7800 SUBBASE TERMINAL 20. START INTERLOCKS NOW BECOME PREIGNITION INTERLOCKS. IF START INTERLOCKS ARE NOT USED, JUMPER Q7800 TERMINALS 4 TO 20.
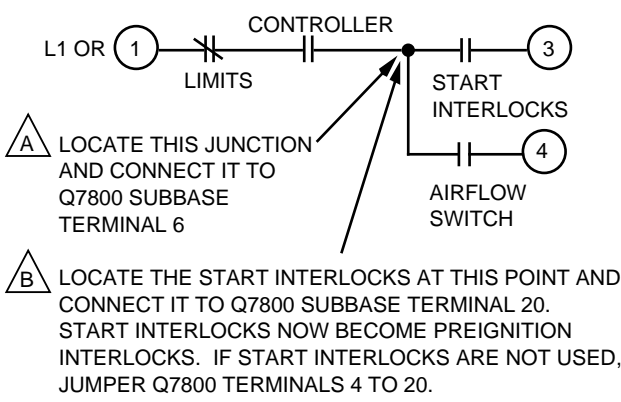
M2518B

7800 SERIES CONVERSION WIRING DIAGRAM

FROM ___R4181A1000, A1026___ TO ___RM7840G1014 OR RM7800G1018___

(DEVICE TO BE MODERNIZED)   (O.S. NUMBER OF RELAY MODULE TO BE USED)

Q7800

Left column	Right column
G — G	12 — 13
2 (L2) + 15 — L2	13 — 12
9 — 3	14 — 10
1 (L1) + 3 — 4	15 — 11
8 — 5	16
A — 6	17
4 — 7	18 — 18 E
— 8	19 — C
7 — 9	20 — B
— 10	21 — 5,6 C
F D — F	22

FOR DIRECT SPARK IGNITION (OIL OR GAS)

10 — IGNITION TRANSFORMER
21 — 1ST STAGE FUEL VALVE — L2
9 — 2ND STAGE FUEL VALVE (OPTIONAL)

△1 △2 △3 △4 △5
△7 △8 △15 △16 △18

GENERAL FOOTNOTES, SEE PAGE 5.

L1 OR ① ⊣⊢ CONTROLLER ⊣⊢ • ⊣⊢ ③
LIMITS   START INTERLOCKS
                    ⊣⊢ ④
                AIRFLOW SWITCH

△A LOCATE THIS JUNCTION AND CONNECT IT TO Q7800 SUBBASE TERMINAL 6

△B LOCATE THE START INTERLOCKS AT THIS POINT AND CONNECT IT TO Q7800 SUBBASE TERMINAL 20. START INTERLOCKS NOW BECOME PREIGNITION INTERLOCKS. IF START INTERLOCKS ARE NOT USED, JUMPER Q7800 TERMINALS 4 TO 20.

△C CONNECT JUMPER BETWEEN Q7800 SUBBASE TERMINAL 5 AND 19 FOR 30 SECOND MFEP REQUIRED FOR TERMINAL 6 APPLICATION.

△D DISCARD JUMPER WIRES FROM Q477 OR Q514 SUBBASE TERMINALS F TO 14 OR F TO 16.

△E THE LOW FIRE SWITCH, IF REQUIRED, WAS CONNECTED BETWEEN Q477 OR Q514 SUBBASE TERMINALS 1 AND 18. THE WIRE FROM THE LOW FIRE SWITCH AND 1 MUST BE IDENTIFIED AND CONNECTED TO Q7800 SUBBASE TERMINAL 8.
  IF NO LOW FIRE SWITCH WAS USED, Q477,Q514 TERMINALS 1 AND 18 WERE JUMPED. REMOVE TERMINAL 1 AND CONNECT TO Q7800 SUBBASE TERMINAL 8. NOTE: THIS JUMPER ADDS 30 SECONDS TO THE PURGE TIMING.
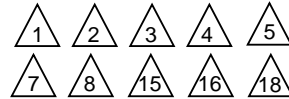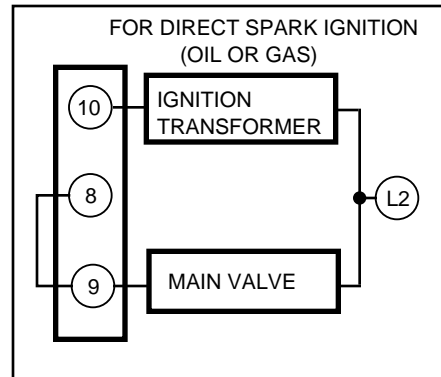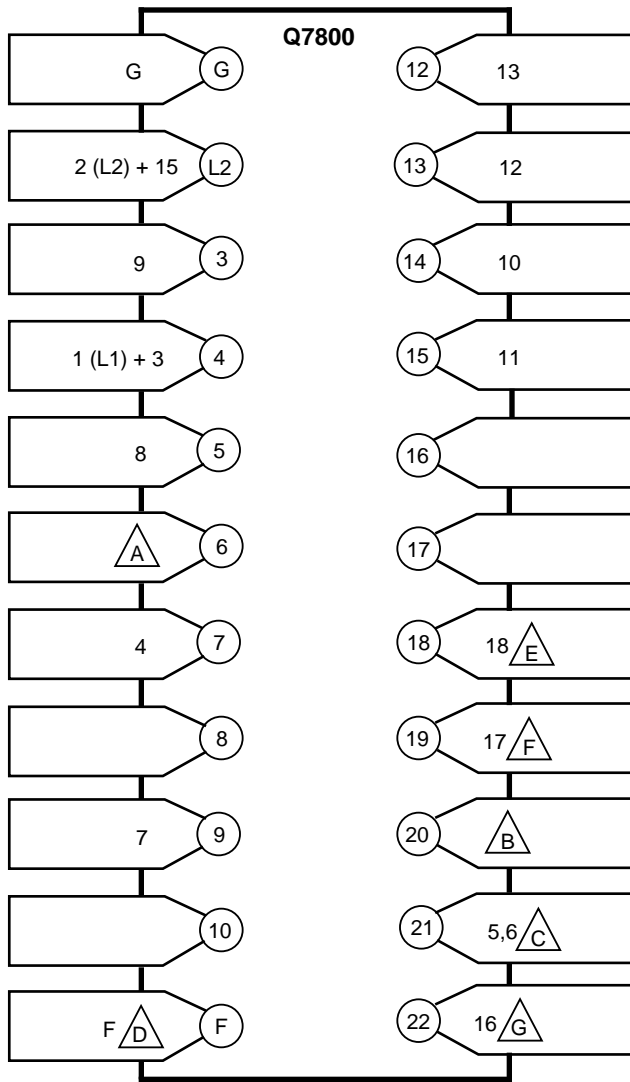
M2522B

7800 SERIES CONVERSION WIRING DIAGRAM

For Insurance Requirements

FROM _____R4181A1000, A1026_____ TO RM7840E1016 OR RM7800E1010
RM7840L1018 OR RM7800L1012

(DEVICE TO BE MODERNIZED)   (O.S. NUMBER OF RELAY MODULE TO BE USED)

GENERAL FOOTNOTES, SEE PAGE 5.

△C R4181A, TERMINAL 6, PROVIDES 30 SECOND MFEP. REPLACEMENT RM7840/RM7800 PROVIDES 15 SECONDS ONLY.

△D REMOVE AND DISCARD ANY JUMPERS BETWEEM Q477 OR Q514 SUBBASE TERMINALS F TO 14 OR F TO 16.

△E RM7840L/RM7800L ONLY – LOCATE LOW FIRE SWITCH CONNECTED TO Q477 OR Q514 SUBBASE TERMINAL 1(L1) AND CONNECT TO Q7800 SUBBASE TERMINAL 5. IF LOWFIRE SWITCH IS NOT USED, CONNECT A JUMPER FROM TERMINAL 18 TO 5. NOTE: THIS JUMPER WILL EXTEND PREPURGE TIME BY 30 SECONDS.

△F RM7840L/RM7800L – CONNECT JUMPER BETWEEN Q7800 SUBBASE TERMINALS 5 AND 19. NOTE: THIS WILL EXTEND PREPURGE TIME BY 30 SECONDS.
RM7840E/RM7800E – CONNECT JUMPER BETWEEN Q7800 SUBBASE TERMINALS 4 AND 19. NOTE: THIS JUMPER WILL EXTEND PREPURGE TIME BY 30 SECONDS.

△G NOTE: R4181 TERMINAL 16 MAY HAVE BEEN USED FOR THE FLAME DETECTOR. IF R4181 TERMINAL 16 IS NOT CONNECTED TO R4181 TERMINAL F, CONNECT R4181 TERMINAL 16 TO Q7800 TERMINAL 22.
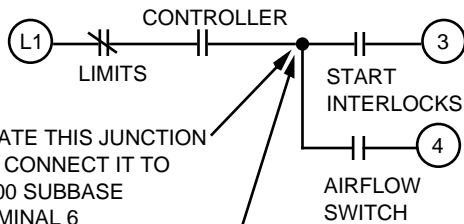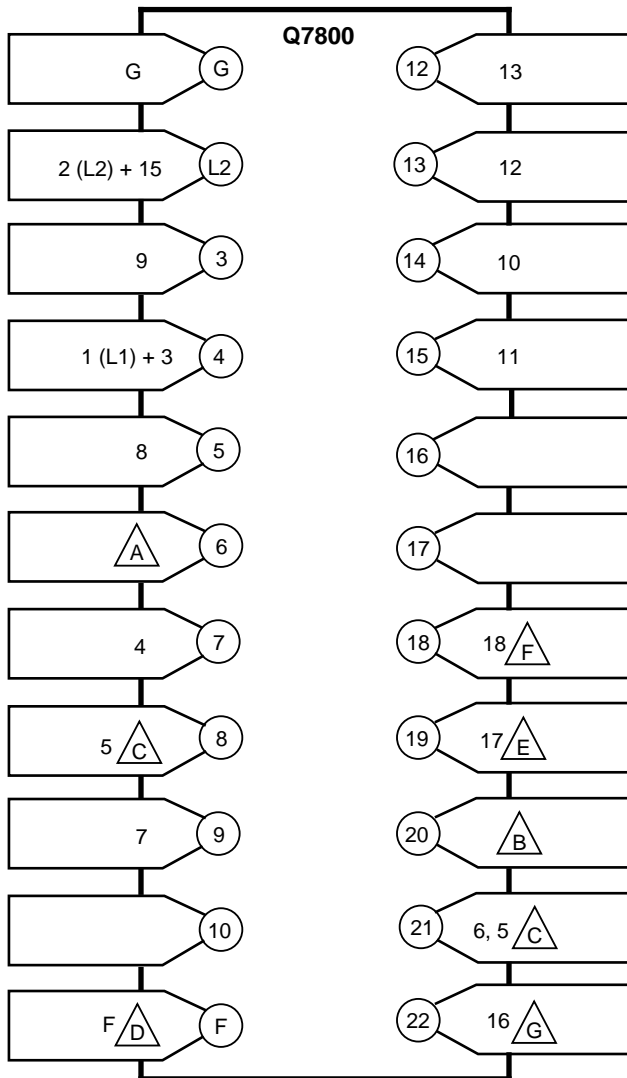
△A LOCATE THIS JUNCTION AND CONNECT IT TO Q7800 SUBBASE TERMINAL 6

△B LOCATE THE START INTERLOCKS AT THIS POINT AND CONNECT IT TO Q7800 SUBBASE TERMINAL 20. START INTERLOCKS NOW BECOME PREIGNITION INTERLOCKS. IF START INTERLOCKS ARE NOT USED, JUMPER Q7800 TERMINALS 4 TO 20.

M2521B

7800 SERIES CONVERSION WIRING DIAGRAM

FROM __R4181A1018, A1034__ TO RM7840E1016 OR RM7800E1010 / RM7840L1018 OR RM7800L1012

(DEVICE TO BE MODERNIZED)   (O.S. NUMBER OF RELAY MODULE TO BE USED)

Q7800

From	To
G → G	12 → 13
2 (L2) + 15 → L2	13 → 12
9 → 3	14 → 10
1 (L1) + 3 → 4	15 → 11
8 → 5	16
A → 6	17
4 → 7	18 → 18 F
5 C → 8	19 → 17 E
7 → 9	20 → B
→ 10	21 → 6, 5 C
F D → F	22 → 16 G

GENERAL FOOTNOTES, SEE PAGE 5.
(1) (2) (3) (4) (5) (7) (8) (15) (16) (18)

FOR DIRECT SPARK IGNITION (OIL OR GAS)
10 — IGNITION TRANSFORMER
8
9 — MAIN VALVE
L2

CONTROLLER
L1 — LIMITS — (junction) — START INTERLOCKS — 3
AIRFLOW SWITCH — 4

A LOCATE THIS JUNCTION AND CONNECT IT TO Q7800 SUBBASE TERMINAL 6

B LOCATE THE START INTERLOCKS AT THIS POINT AND CONNECT IT TO Q7800 SUBBASE TERMINAL 20. START INTERLOCKS NOW BECOME PREIGNITION INTERLOCKS. IF START INTERLOCKS ARE NOT USED, JUMPER Q7800 TERMINALS 4 TO 20.
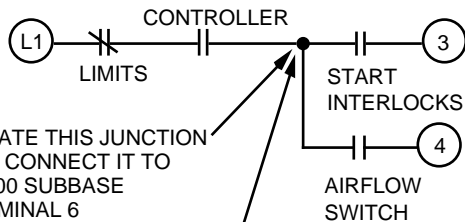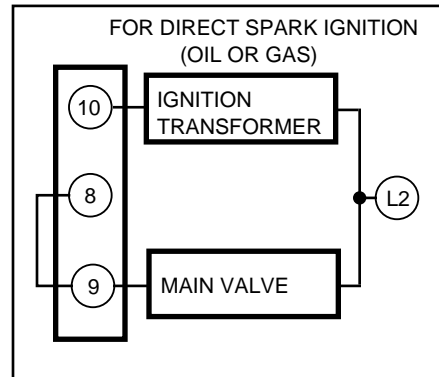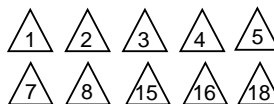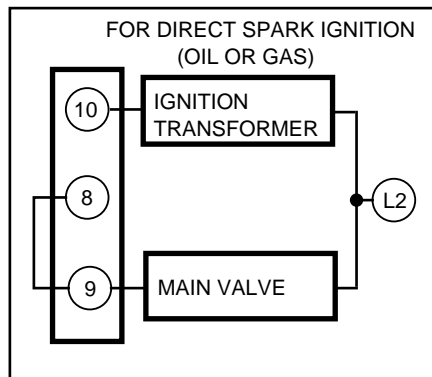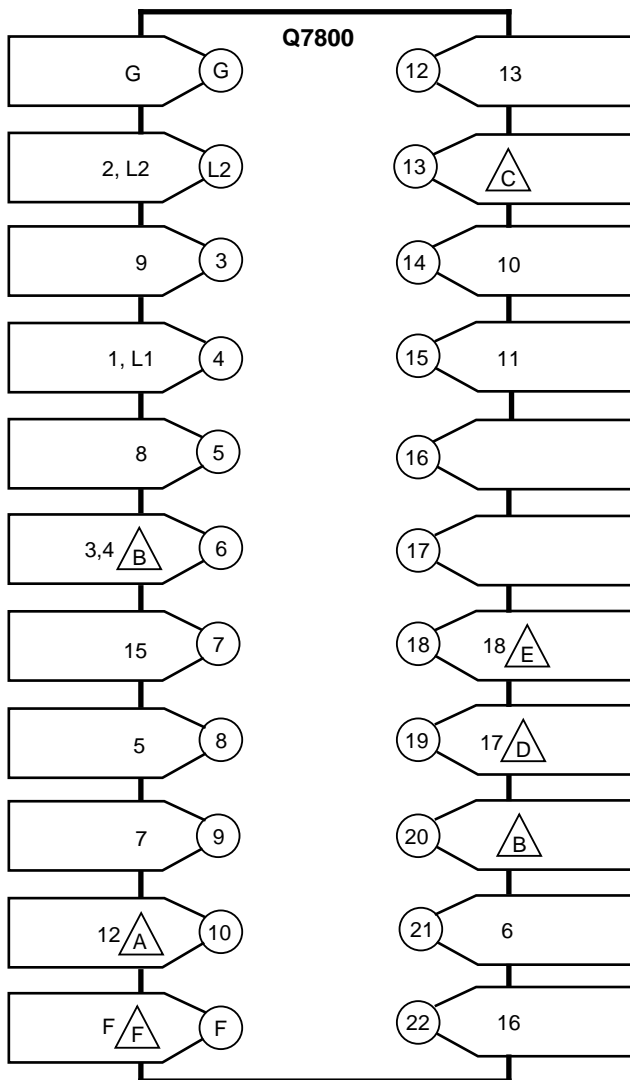
C A. R4181A1018 ONLY - IF Q477 OR Q514 SUBBASE TERMINAL 5 WAS USED, 15 SECOND MFEP WAS PROVIDED, AND TERMINAL 6 PROVIDED 30 SECOND MFEP. REPLACEMENT RM7840/RM7800 PROVIDE ONLY 10 OR 15 SECOND MFEP. SELECT 15 SECOND PER SPECIFICATION 65-0087 FOR 7840 OR 65-0088 FOR RM7800.
B. R4181A1034 ONLY - IF Q477 OR Q514 SUBBASE TERMINAL 5 WAS USED, 10 SECOND MFEP WAS PROVIDED. TERMINAL 6 WAS USED FOR 15 SECONDS. SELECT PROPER CONFIGURATION JUMPER PER SPECIFICATION 65-0087 FOR RM7840 OR 65-0088 FOR RM7800.

D REMOVE AND DISCARD ANY JUMPERS BETWEEN Q477 OR Q514 SUBBASE TERMINAL F TO 14 OR F TO 16.

E RM7840L/RM7800L APPLICATIONS ONLY- LOCATE Q477 OR Q514 SUBBASE TERMINAL (L1) SIDE OF THE HIGH FIRE SWITCH AND CONNECT TO Q7800 SUBBASE TERMINAL 5. NOTE: IF HIGH FIRESWITCH IS NOT USED, INSTALL A JUMPER. PREPURGE TIMING IS EXTENDED 30 SECONDS.

F LOCATE LOW FIRE SWITCH WIRE CONNECTED TO Q477 OR Q514 SUBBASE TERMINAL 17 AND CONNECT TO Q7800 SUBBASE TERMINAL 5. IF LOWFIRE SWITCH IS NOT USED, INSTALL A JUMPER. NOTE: PREPURGE TIMING IS EXTENDED 30 SECONDS.

G NOTE: R4181 TERMINAL 16 MAY HAVE BEEN USED FOR THE FLAME DETECTOR. IF R4181 TERMINAL 16 IS NOT CONNECTED TO R4181 TERMINAL F, CONNECT R4181 TERMINAL 16 TO Q7800 TERMINAL 22.

M2520B

7800 SERIES CONVERSION WIRING DIAGRAM

FROM ___R4181A1042, A1059___ TO RM7840E1016 OR RM7800E1010
RM7840L1018 OR RM7800L1012

(DEVICE TO BE MODERNIZED)   (O.S. NUMBER OF RELAY MODULE TO BE USED)

Q7800

G — G	12 — 13
2, L2 — L2	13 — △C
9 — 3	14 — 10
1, L1 — 4	15 — 11
8 — 5	16 —
3,4 △B — 6	17 —
15 — 7	18 — 18 △E
5 — 8	19 — 17 △D
7 — 9	20 — △B
12 △A — 10	21 — 6
F △F — F	22 — 16

FOR DIRECT SPARK IGNITION
(OIL OR GAS)

10 — IGNITION TRANSFORMER

8 ———— ● L2

9 — MAIN VALVE

△1 △2 △3 △4 △5
△7 △8 △15 △16 △18

GENERAL FOOTNOTES, SEE PAGE 5.

△C A. TO USE EXISTING GROUNDED MODULATING CIRCUIT, JUMPER Q7800 TERMINALS 13 AND G.
B. IF AN ISOLATED MODULATING CIRCUIT IS DESIRED, IDENTIFY THE WIRE CONNECTED BETWEEN THE MODULATING MOTOR TERMINAL R AND Q477 OR Q514 TERMINAL G. DISCONNECT THE WIRE AND CONNECT TO Q7800 SUBBASE TERMINAL 13.

△D RM7840E, RM7800E ONLY: LOCATE HIGH FIRE SWITCH CONNECTED TO Q477 OR Q514 TERMINAL 8 AND CONNECT TO Q7800 SUBBASE TERMINAL 4. IF HIGH FIRE SWITCH IS NOT USED, A JUMPER IS REQUIRED BETWEEN Q7800 SUBBASE TERMINAL 4 AND 19. NOTE: THIS ADDS 30 SECONDS TO THE PREPURGE TIMING.

△E LOCATE THE LOW FIRE SWITCH CONNECTION ON Q477 OR Q514 SUBBASE TERMINAL 17 AND CONNECT TO THE Q7800 SUBBASE TERMINAL 5. NOTE: IF LOW FIRE SWITCH IS NOT USED, JUMPER Q7800 SUBBASE TERMINAL 5 TO 18. 30 SECONDS WILL BE ADDED TO THE PREPURGE TIMING.

△F REMOVE AND DISCARD JUMPER FROM Q477 OR Q514 SUBBASE TERMINAL F TO 14 OR F TO 16.

△A R4181 HAD 10 SECOND EARLY SPARK TERMINATION; REPLACEMENT RM7840/RM7800 HAS 5 SECONDS.

△B LOCATE PREIGNITION INTERLOCKS ON Q514 OR Q477 SUBBASE TERMINALS 3 AND 4. CONNECT ONE LEADWIRE TO Q7800 SUBBASE TERMINAL 4 AND THE OTHER TO Q7800 SUBBASE TERMINAL 20. IF PREIGNITION INTERLOCK IS NOT USED, JUMPER Q7800 TERMINALS 4 TO 20.

M2519B

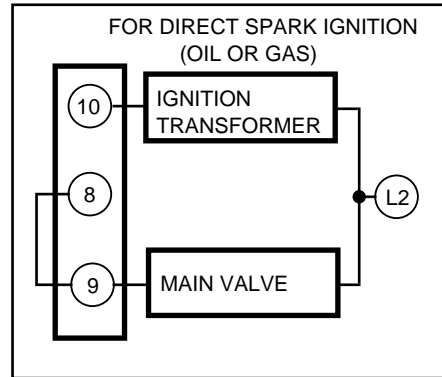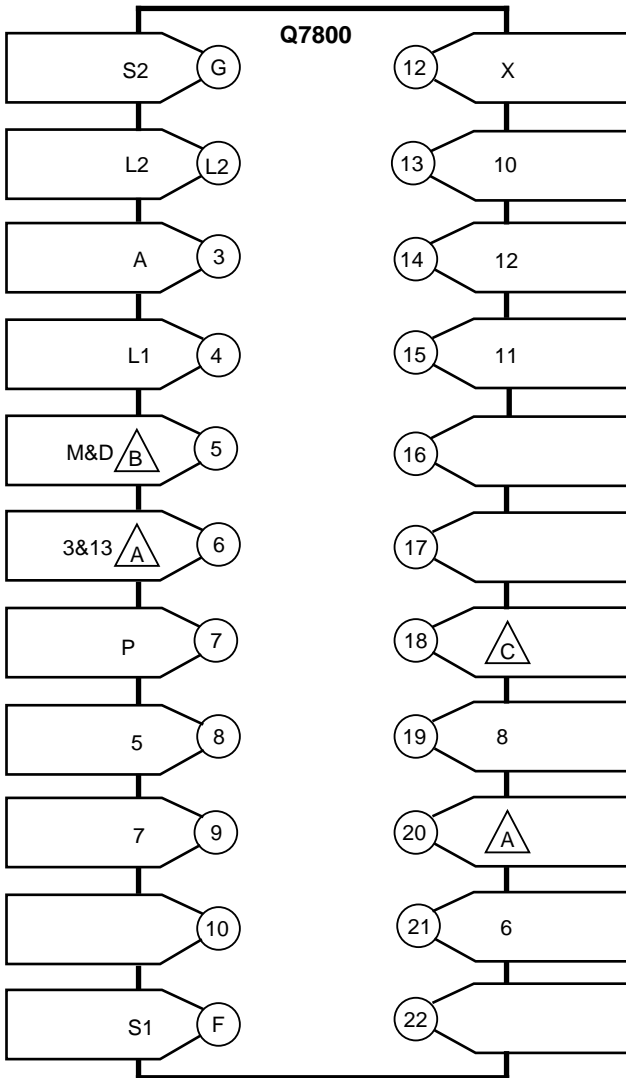# Section IV
Fireye C, D, and E Series

7800 SERIES CONVERSION WIRING DIAGRAM

FROM ___FIREYE 70D10, 26CF6 5022, 26CU6 5065 EP160/EP161/EP170___ TO ___RM7840E1016 OR RM7800E1010 RM7840L1018 OR RM7800L1012___

(DEVICE TO BE MODERNIZED)   (O.S. NUMBER OF RELAY MODULE TO BE USED)

Q7800

FIREYE	Q7800		Q7800	FIREYE
S2	G		12	X
L2	L2		13	10
A	3		14	12
L1	4		15	11
M&D /B\	5		16	
3&13 /A\	6		17	
P	7		18	/C\
5	8		19	8
7	9		20	/A\
	10		21	6
S1	F		22	

FOR DIRECT SPARK IGNITION (OIL OR GAS)

10 — IGNITION TRANSFORMER
8
9 — MAIN VALVE
L2

/A\ LOCATE PREIGNITION INTERLOCK LEADWIRES AND CONNECT IT BETWEEN THE Q7800 SUBBASE TERMINALS 4 AND 20.

/B\ FOR RM7840E/RM7800E ONLY - CONNECT FIREYE TERMINAL D TO Q7800 SUBBASE TERMINAL 4.

/C\ LOCATE LOW FIRE SWITCH LEADWIRE OFF FIREYE TERMINAL M AND CONNECT IT TO Q7800 SUBBASE TERMINAL 18.
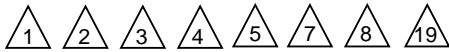
M2549B

/1\ /2\ /3\ /4\ /5\ /7\ /8\ /19\
GENERAL FOOTNOTES, SEE PAGE 5.
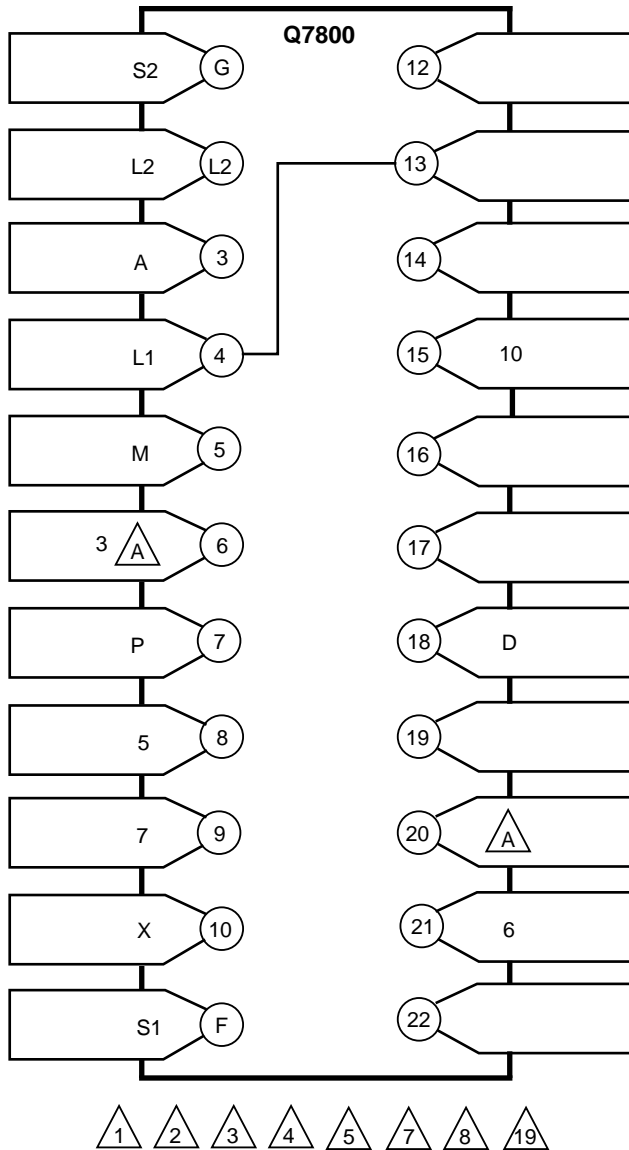
7800 SERIES CONVERSION WIRING DIAGRAM
For Replacement

FIREYE 24CJ5 5010/5011/3010/3011
        25CU6 5062/5063/RS2E
        26CF6 5020/5021/1010/1011
        70D30
        EP380/EP381/EP390

FROM _____ TO RM7840M1017 OR RM7800M1011

(DEVICE TO BE MODERNIZED)   (O.S. NUMBER OF RELAY MODULE TO BE USED)

Q7800

Left terminal	Circle		Circle	Right terminal
S2	G		12	
L2	L2		13	
A	3		14	
L1	4		15	10
M	5		16	
3 /A\	6		17	
P	7		18	D
5	8		19	
7	9		20	/A\
X	10		21	6
S1	F		22	

FOR DIRECT SPARK IGNITION
(OIL OR GAS)

10	IGNITION TRANSFORMER
21	1ST STAGE FUEL VALVE
9	2ND STAGE FUEL VALVE (OPTIONAL)

L2

/A\ LOCATE JUNCTION OF CONTROLLER, PREIGNITION INTERLOCK AND RUNNING INTERLOCKS AND CONNECT TO Q7800 SUBBASE TERMINAL 6. LOCATE AND IDENTIFY PREIGNITION INTERLOCK, AND CONNECT ONE LEAD TO Q7800 SUBBASE TERMINAL 4 AND THE OTHER LEAD TO TERMINAL 20. IF NO PREIGNITION INTERLOCK IS USED, JUMPER Q7800 SUBBASE TERMINALS 4 TO 20.

M2551B

/1\ /2\ /3\ /4\ /5\ /7\ /8\ /19\
GENERAL FOOTNOTES, SEE PAGE 5.

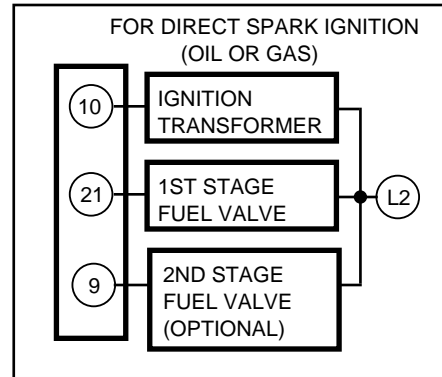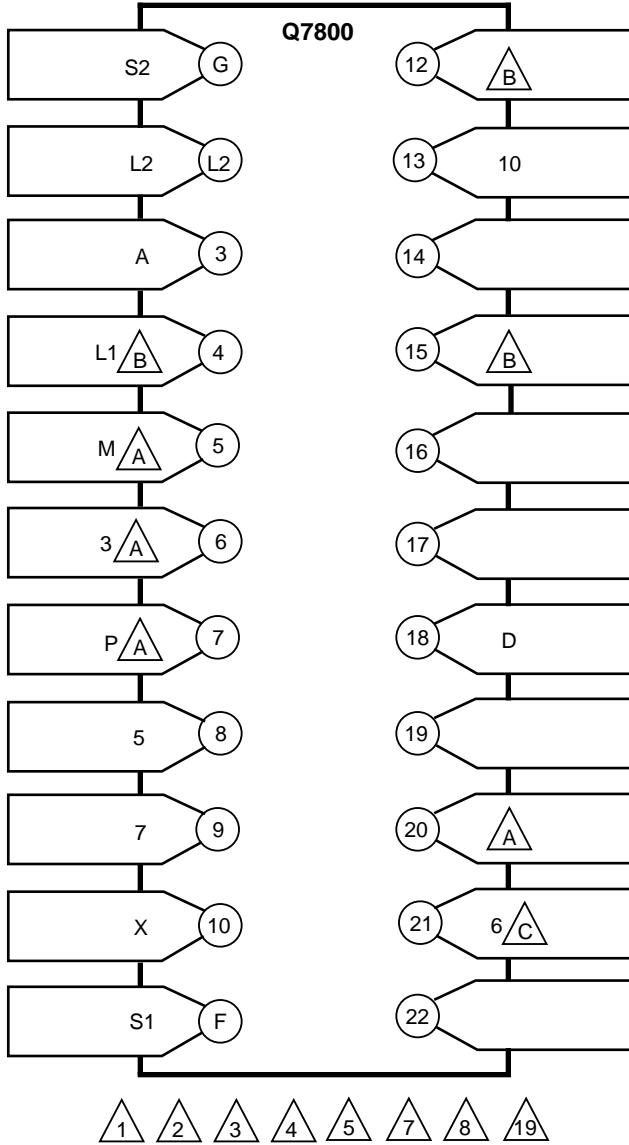# 7800 SERIES CONVERSION WIRING DIAGRAM
For Insurance Requirements

FIREYE 24CJ5 5010/5011/3010/3011
25CU6 5062/5063/RS2E
26CF6 5020/5021/1010/1011
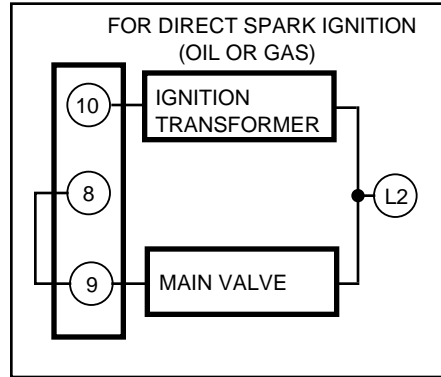70D30

FROM ___EP380/EP381/EP390_____ TO ___RM7840E1016 OR RM7800E1010___
RM7840L1018 OR RM7800L1012

(DEVICE TO BE MODERNIZED)   (O.S. NUMBER OF RELAY MODULE TO BE USED)

Q7800

Left terminals	Right terminals
S2 — (G)	(12) — B
L2 — (L2)	(13) — 10
A — (3)	(14)
L1 /B\ — (4)	(15) — B
M /A\ — (5)	(16)
3 /A\ — (6)	(17)
P /A\ — (7)	(18) — D
5 — (8)	(19)
7 — (9)	(20) — A
X — (10)	(21) — 6 /C\
S1 — (F)	(22)

/1\ /2\ /3\ /4\ /5\ /7\ /8\ /19\

GENERAL FOOTNOTES, SEE PAGE 5.

FOR DIRECT SPARK IGNITION
(OIL OR GAS)

(10) — IGNITION TRANSFORMER
(8)
(9) — MAIN VALVE
L2

/A\ TO MODERNIZE TO MEET INSURANCE
REQUIREMENTS, THE FOLLOWING
INTERLOCKS ARE NORMALLY REQUIRED:
LOCKOUT INTERLOCK, PREIGNITION
INTERLOCK, HIGH FIRE SWITCH AND LOW
FIRE SWITCH (CONNECT OR JUMPER
INTERLOCK TERMINALS ON Q7800 SUBBASE
AS SHOWN).

INTERLOCKS	RM7840L/ RM7800L	RM7840E/ RM7800E
LOCKOUT INTERLOCKS	6–7	6–7
PREIGNITION INTERLOCKS	4–20	4–20
HIGH FIRE INTERLOCK*	5–19	4–19
LOW FIRE INTERLOCK*	5–18	5–18

* JUMPER ADDS ADDITIONAL 30 SECONDS
TO THE PREPURGE TIMING.

/B\ JUMPER Q7800 SUBBASE TERMINALS 12
AND 15 TO TERMINAL 4.

/C\ FIREYE TERMINAL 6 PROVIDED
INTERMITTENT PILOT. RM7840L,E/
RM7800L,E PROVIDE 15 SECOND
INTERRUPTED PILOT.

M2550B

7800 SERIES CONVERSION WIRING DIAGRAM
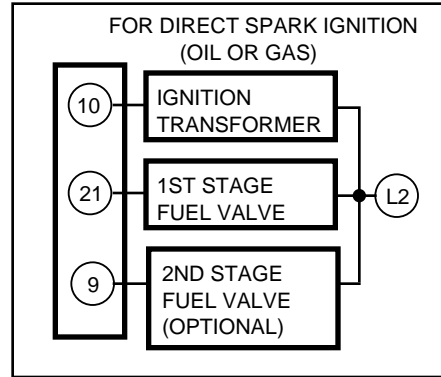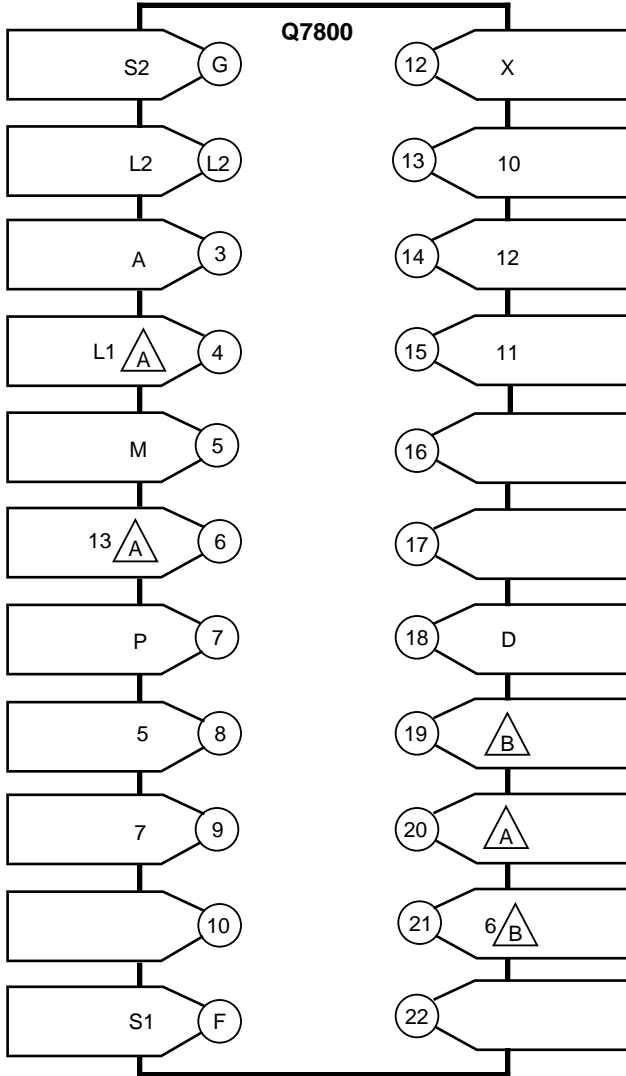
For Replacement

FROM _____FIREYE 24CJ5 5015_____ TO RM7840G1014 OR RM7800G1018
　　　　　　　　　　25CU6 5066
　　　　　　　　　　26CF6 5023
　　　　　　　　　　70D20
　　　　　　　　　　EP260&EP261/EP270
(DEVICE TO BE MODERNIZED)　　　　　　　　(O.S. NUMBER OF RELAY MODULE TO BE USED)

Q7800

Left column		Right column	
S2	G	12	X
L2	L2	13	10
A	3	14	12
L1 △A	4	15	11
M	5	16	
13 △A	6	17	
P	7	18	D
5	8	19	△B
7	9	20	△A
	10	21	6 △B
S1	F	22	

FOR DIRECT SPARK IGNITION (OIL OR GAS)

10	IGNITION TRANSFORMER
21	1ST STAGE FUEL VALVE
9	2ND STAGE FUEL VALVE (OPTIONAL)

L2

△A LOCATE PREIGNITION INTERLOCK, FIREYE SUBBASE TERMINAL 3 AND CONNECT BETWEEN Q7800 SUBBASE TERMINAL 4 AND 20.

△B TRMINAL 6 PROVIDED 30 SECONDS MFEP. SELECT PROPER CONFIGURATION JUMPER AND JUMPER Q7800 TERMINAL 5 TO 19 IF TERMINAL 6 WAS USED.

M2552B

△1 △2 △3 △4 △5 △7 △8 △19
GENERAL FOOTNOTES, SEE PAGE 5.

7800 SERIES CONVERSION WIRING DIAGRAM
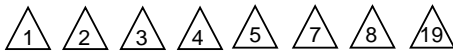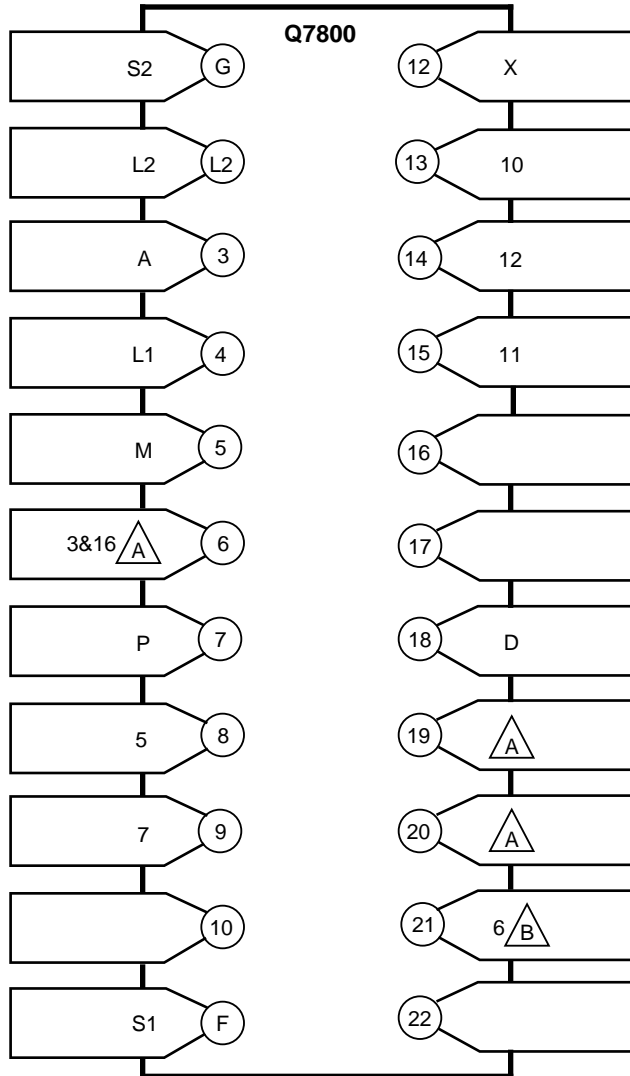
For Insurance Requirements

FIREYE 24CJ5 5015
       25CU5 5066
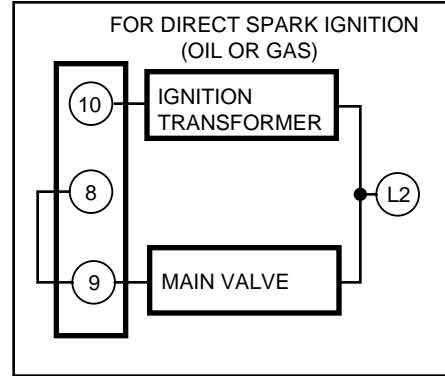   26CF6 5023
       70D20

FROM   EP260/EP261/EP270   TO

RM7840E1016 OR RM7800E1010
RM7840L1018 OR RM7800L1012

(DEVICE TO BE MODERNIZED)   (O.S. NUMBER OF RELAY MODULE TO BE USED)

Q7800

S2 — G	12 — X
L2 — L2	13 — 10
A — 3	14 — 12
L1 — 4	15 — 11
M — 5	16
3&16 /A\ — 6	17
P — 7	18 — D
5 — 8	19 — /A\
7 — 9	20 — /A\
10	21 — 6 /B\
S1 — F	22

FOR DIRECT SPARK IGNITION
(OIL OR GAS)

10 — IGNITION TRANSFORMER
8
9 — MAIN VALVE
L2

/A\ TO MODERNIZE TO MEET INSURANCE
REQUIREMENTS THE FOLLOWING
INTERLOCKS ARE NORMALLY REQUIRED:
LOCKOUT INTERLOCK, PREIGNITION
INTERLOCK, HIGH FIRE SWITCH AND LOW
FIRE SWITCH (CONNECT OR JUMPER
INTERLOCK TERMINALS ON Q7800 SUBBASE
AS SHOWN).

INTERLOCKS	RM7840L/ RM7800L	RM7840E/ RM7800E
LOCKOUT INTERLOCKS	6–7	6–7
PREIGNITION INTERLOCKS	4–20	4–20
HIGH FIRE INTERLOCK*	5–19	4–19
LOW FIRE INTERLOCK*	5–18	5–18

  * JUMPER ADDS ADDITIONAL 30 SECONDS
    TO THE PREPURGE TIMING.

/B\ FIREYE TERMINAL 6 PROVIDES 30 SECOND
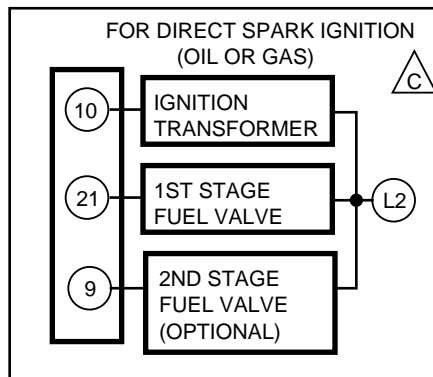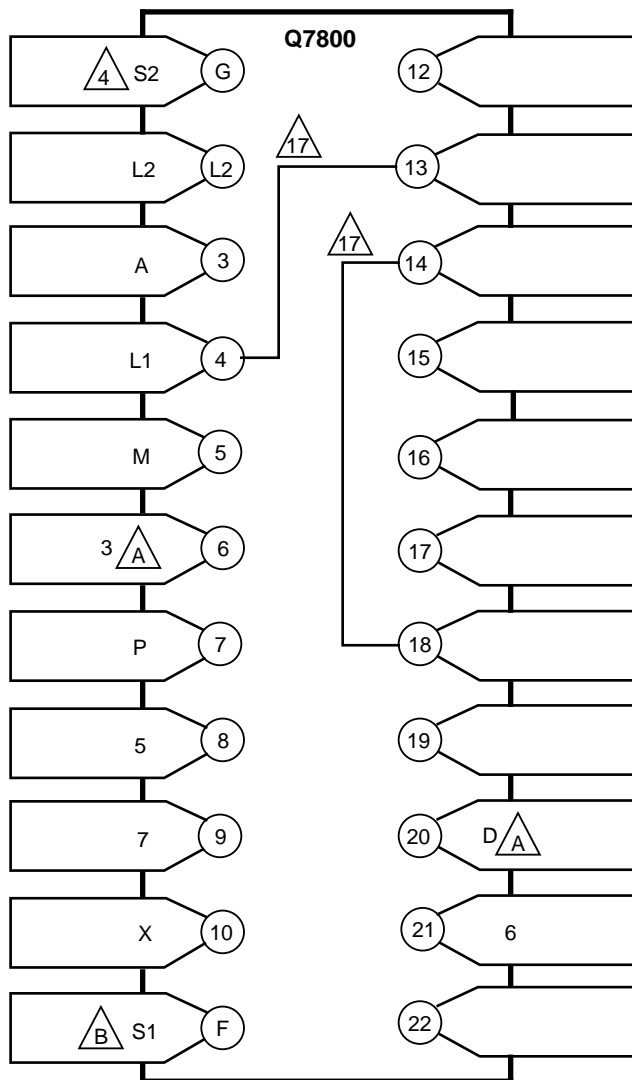MFEP. REPLACEMENT CONTROL
PROVIDES ONLY 15 SECONDS.

M2553B

/1\ /2\ /3\ /4\ /5\ /7\ /8\ /19\

GENERAL FOOTNOTES, SEE PAGE 5.

Section V
Fireye P Series

7800 SERIES CONVERSION WIRING DIAGRAM

FROM ___25CU6 - 1050_____ TO ___RM7840M1017_____

(DEVICE TO BE MODERNIZED) (O.S. NUMBER OF RELAY MODULE TO BE USED)

Q7800

Q7800	
△4 S2 — G	12
L2 — L2 △17 — 13	
A — 3 △17 — 14	
L1 — 4 — 15	
M — 5 — 16	
3 △A — 6 — 17	
P — 7 — 18	
5 — 8 — 19	
7 — 9 — 20 D △A	
X — 10 — 21 6	
△B S1 — F — 22	

FOR DIRECT SPARK IGNITION
(OIL OR GAS) △C

10 — IGNITION TRANSFORMER
21 — 1ST STAGE FUEL VALVE — L2
9 — 2ND STAGE FUEL VALVE (OPTIONAL)

△A IDENTIFY THE STARTING INTERLOCK CONNECTION (USUALLY PROOF OF CLOSURE SWITCH ON GAS VALVE) TO FIREYE CONNECTION 3. MOVE TO Q7800 TERMINAL 4.

△B USE UV FLAME DETECTION:
• R7847A1033 OR R7847B1031 WITH C7012A,C DETECTOR.
  OR
• R7849A1023 OR R7849B1021 WITH C7027 OR C7035 DETECTOR.

△C CLIP CONFIGURATION JUMPER JR1 (4 SECONDS PFEP).

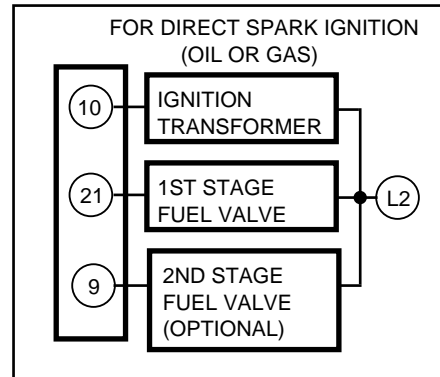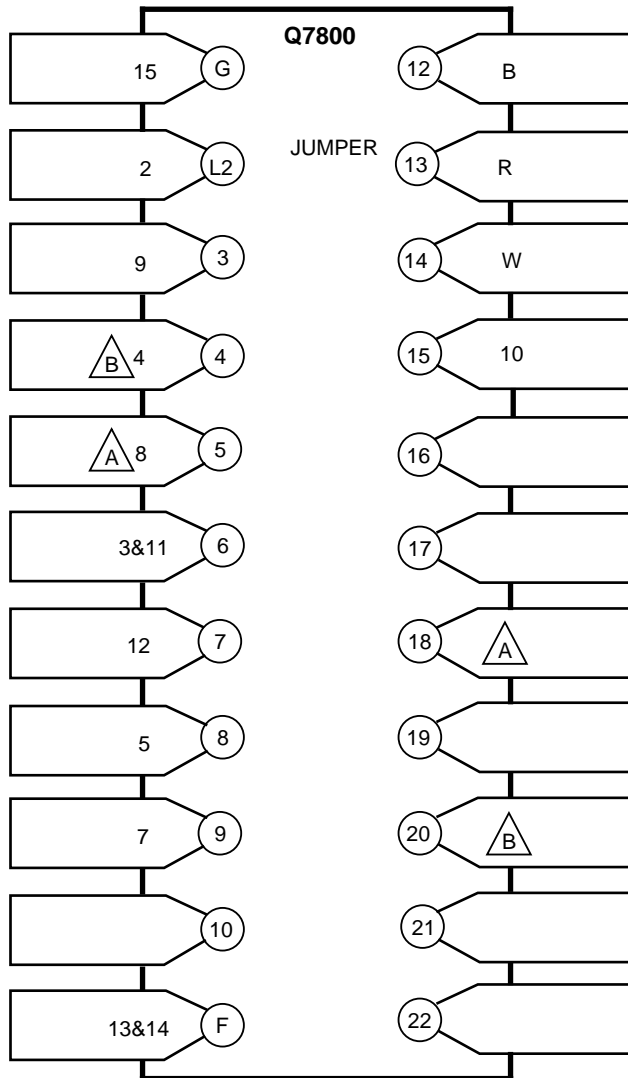M7446

△2 △4 △5 △7 △8 △17 △18 △19
GENERAL FOOTNOTES, SEE PAGE 5.

65-0100—2

7800 SERIES CONVERSION WIRING DIAGRAM

For Replacement

FROM ___FIREYE 26RJ8 1016, 1016T / 26RJ8 1012, 1012T, 6012, 6016___ TO ___RM7840G1014 OR RM7800G1018___

(DEVICE TO BE MODERNIZED)   (O.S. NUMBER OF RELAY MODULE TO BE USED)

Q7800

Left (subbase → Q7800)		Right (Q7800 → terminal)	
15	G	12	B
2	L2 (JUMPER)	13	R
9	3	14	W
△B 4	4	15	10
△A 8	5	16	
3&11	6	17	
12	7	18	△A
5	8	19	
7	9	20	△B
	10	21	
13&14	F	22	

FOR DIRECT SPARK IGNITION (OIL OR GAS)

10	IGNITION TRANSFORMER
21	1ST STAGE FUEL VALVE
9	2ND STAGE FUEL VALVE (OPTIONAL)

— L2

△A CONNECT LOW FIRE INTERLOCK BETWEEN Q7800 SUBBASE TERMINAL 5 AND 18. IF NO LOW FIRE INTERLOCK, ADD JUMPER. NOTE: JUMPER ADDS 30 SECONDS TO THE PREPURGE TIMING.

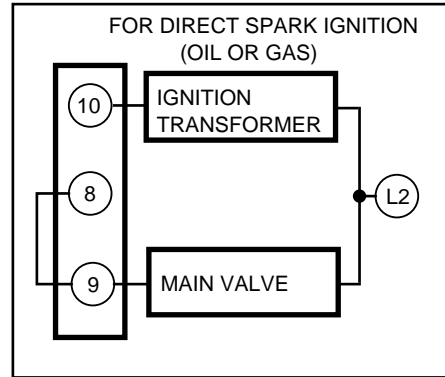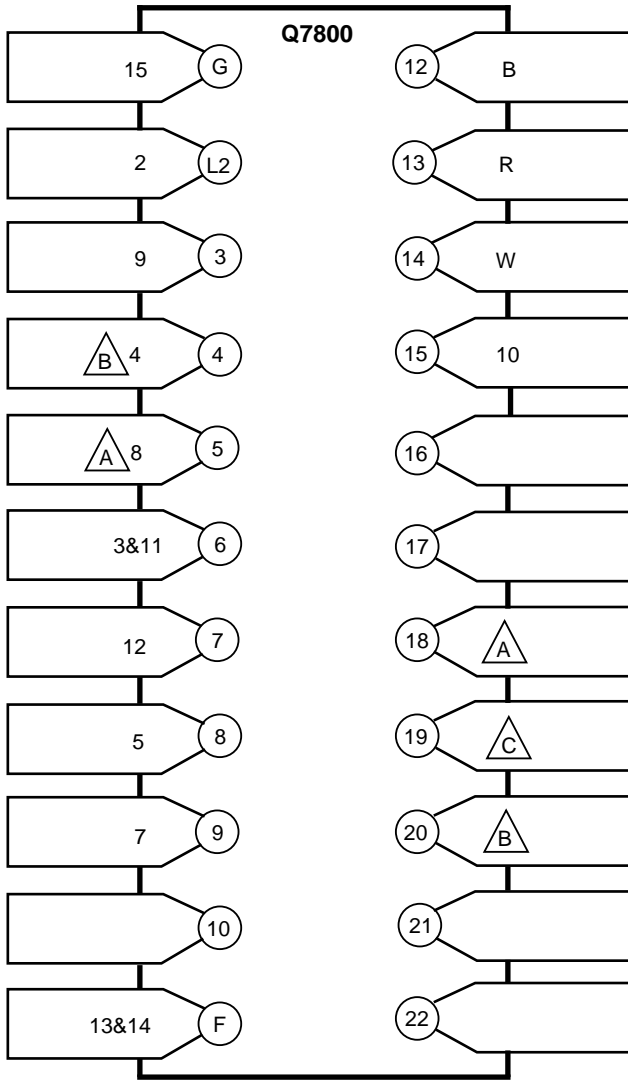△B CONNECT PREIGNITION INTERLOCK BETWEEN Q7800 SUBBASE TERMINALS 4 AND 20. IF PREIGNITION INTERLOCK, ADD A JUMPER.

△1 △2 △3 △4 △5 △7 △8 △19
GENERAL FOOTNOTES, SEE PAGE 5.

M2554B

7800 SERIES CONVERSION WIRING DIAGRAM

FROM ___FIREYE 26RJ8 1016, 1016T / 26RJ8 1012, 1012T, 6012, 6016___ TO ___RM7840E1016 OR RM7800E1010 / RM7840L1018 OR RM7800L1012___

(DEVICE TO BE MODERNIZED) (O.S. NUMBER OF RELAY MODULE TO BE USED)

Q7800

Left terminal	Pin		Pin	Right terminal
15	G		12	B
2	L2		13	R
9	3		14	W
△B 4	4		15	10
△A 8	5		16	
3&11	6		17	
12	7		18	△A
5	8		19	△C
7	9		20	△B
	10		21	
13&14	F		22	

△1 △2 △3 △4 △5 △7 △8 △19
GENERAL FOOTNOTES, SEE PAGE 5.

FOR DIRECT SPARK IGNITION (OIL OR GAS)

10 — IGNITION TRANSFORMER
8
9 — MAIN VALVE
L2

△A CONNECT LOW FIRE INTERLOCK BETWEEN Q7800 SUBBASE TERMINAL 5 AND 18. IF NO LOW FIRE INTERLOCK, ADD JUMPER. NOTE: JUMPER ADDS 30 SECONDS TO THE PREPURGE TIMING.

△B CONNECT PREIGNITION INTERLOCK BETWEEN Q7800 SUBBASE TERMINALS 4 AND 20. IF NO PREIGNITION INTERLOCK, ADD A JUMPER.

△C RM7840L/RM7800L CONNECT HIGH FIRE SWITCH BETWEEN Q7800 SUBBASE TERMINAL 5 TO 19.
RM7840E/RM7800E CONNECT HIGH FIRE SWITCH BETWEEN Q7800 SUBBASE TERMINAL 4 TO 19.
IF HIGH FIRE SWITCH IS NOT USED, CONNECT A JUMPER BETWEEN THE TERMINALS NOTED. NOTE: JUMPER ADDS 30 SECONDS TO THE PREPURGE TIMING.
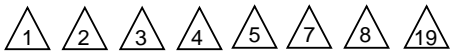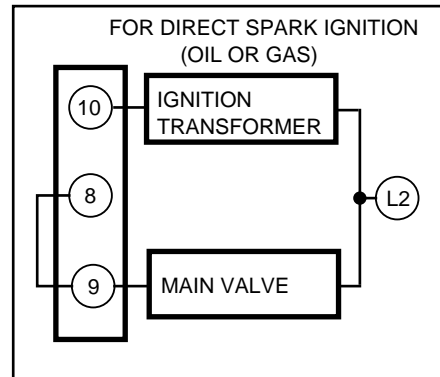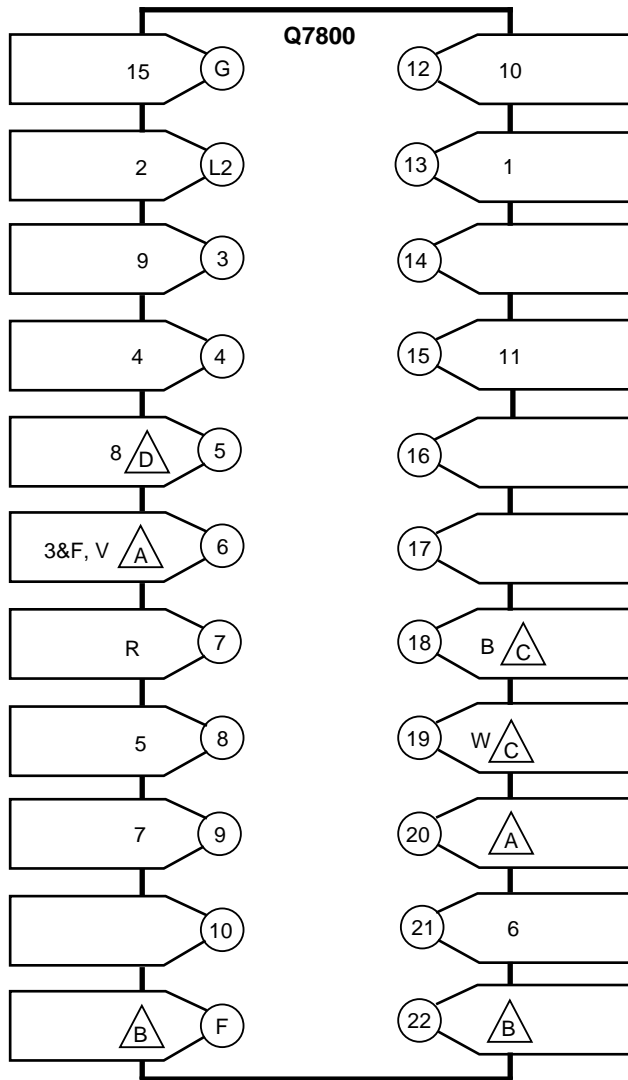
M2555B

7800 SERIES CONVERSION WIRING DIAGRAM

FROM _____ FIREYE 25RU8 4580 _____

(DEVICE TO BE MODERNIZED)   (O.S. NUMBER OF RELAY MODULE TO BE USED)

Q7800

Left Column		Right Column	
15	G	12	10
2	L2	13	1
9	3	14	
4	4	15	11
8 △D	5	16	
3&F, V △A	6	17	
R	7	18	B △C
5	8	19	W △C
7	9	20	△A
	10	21	6
△B	F	22	△B

FOR DIRECT SPARK IGNITION
(OIL OR GAS)

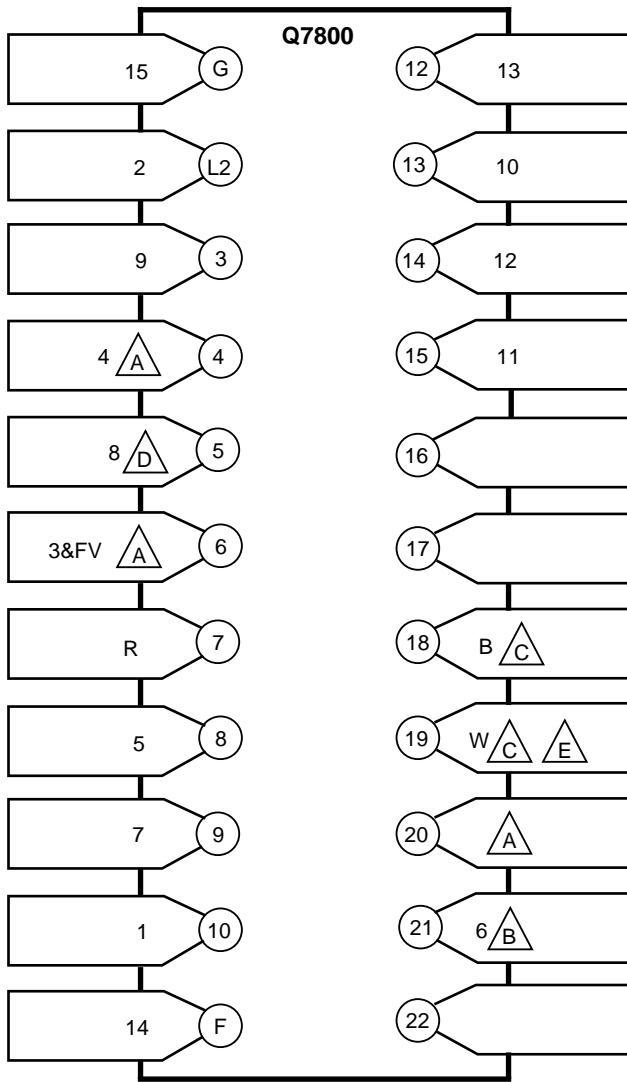|	
10	IGNITION TRANSFORMER
8	
9	MAIN VALVE

L2

△A LOCATE FUEL VALVE CLOSED INTERLOCK ON FIREYE TERMINALS 3 AND FV. CONNECT TO Q7800 SUBBASE TERMINALS 4 AND 20. INSTALL JUMPER BETWEEN Q7800 TERMINAL 4 AND TERMINAL 20 IF VALVE CLOSED INTERLOCK IS NOT USED.

△B WIRE REPLACEMENT DETECTOR AS SPECIFIED IN DETECTOR SPECIFICATIONS.

△C LOCATE LOW FIRE IGNITION INTERLOCK CONNECTION TO FIREYE W TERMINAL AND CONNECT TO Q7800 SUBBASE TERMINAL 5.

△D RM7840E/RM7800E ONLY – LOCATE PURGE AIRFLOW INTERLOCK CONNECTION ON FIREYE TERMINAL 8 AND CONNECT TO Q7800 SUBBASE TERMINAL 4.

M2556B
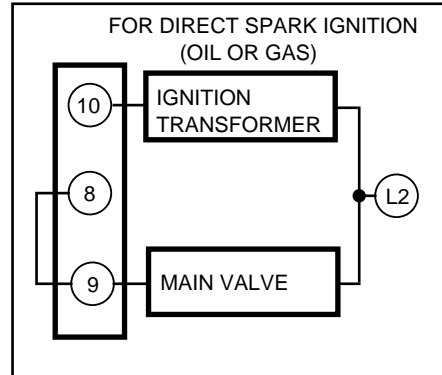
△1 △2 △3 △4 △5 △7 △8 △19
GENERAL FOOTNOTES, SEE PAGE 5.

7800 SERIES CONVERSION WIRING DIAGRAM

FROM FIREYE 25RU8 6560, 6570, 6580
26RJ8 6060, 6070, 6080(D), 6160
(DEVICE TO BE MODERNIZED)

TO RM7840E1016 OR RM7800E1010
RM7840L1018 OR RM7800L1012
(O.S. NUMBER OF RELAY MODULE TO BE USED)

Q7800

Left (Fireye → Q7800)	Right (Q7800 → Fireye)
15 → G	12 → 13
2 → L2	13 → 10
9 → 3	14 → 12
4 △A → 4	15 → 11
8 △D → 5	16
3&FV △A → 6	17
R → 7	18 → B △C
5 → 8	19 → W △C △E
7 → 9	20 → △A
1 → 10	21 → 6 △B
14 → F	22

△1 △2 △3 △4 △5 △7 △8 △19
GENERAL FOOTNOTES, SEE PAGE 5.

FOR DIRECT SPARK IGNITION
(OIL OR GAS)

10 → IGNITION TRANSFORMER
8
9 → MAIN VALVE
L2

△A LOCATE FUEL VALVE CLOSED INTERLOCK, IF USED ON FIREYE TERMINALS 3 AND FV. CONNECT TO Q7800 SUBBASE TERMINALS 4 AND 20. INSTALL JUMPER BETWEEN Q7800 TERMINAL 4 AND TERMINAL 20 IF INTERLOCK NOT USED.

△B REPLACEMENT RM7840/RM7800 PROVIDE 15 SECOND MFEP. FIREYE CONTROL PROVIDED 15, 30, OR 40 SECONDS.

△C LOCATE LOW FIRE SWITCH OR IGNITION INTERLOCK, IF USED CONNECTION TO FIREYE TERMINAL W AND CONNECT TO Q7800 SUBBASE TERMINAL 5. IF LOW FIRE SWITCH OR IGNITION INTERLOCK NOT USED, JUMPER Q7800 SUBBASE TERMINALS 5 AND 18. NOTE: JUMPER ADDS 30 SECONDS TO PURGE TIME.

△D RM7840E/RM7800E ONLY – LOCATE HIGH FIRE SWITCH CONNECTION ON FIREYE SUBBASE TERMINAL 8 AND CONNECT TO Q7800 SUBBASE TERMINAL 4.

△E IF THERE IS NO CONNECTION ON FIREYE SUBBASE TERMINAL W, INSTALL A JUMPER BETWEEN Q7800 SUBBASE TERMINAL 5 AND TERMINAL 19. NOTE: INSTALLING THE JUMPER ADDS 30 SECONDS TO THE PURGE TIME.
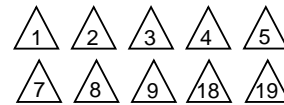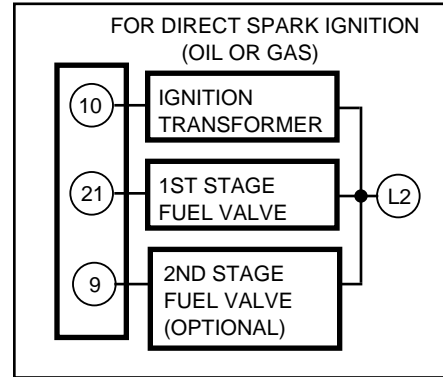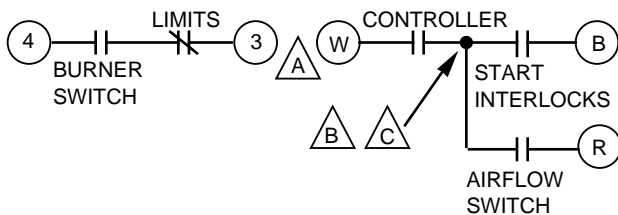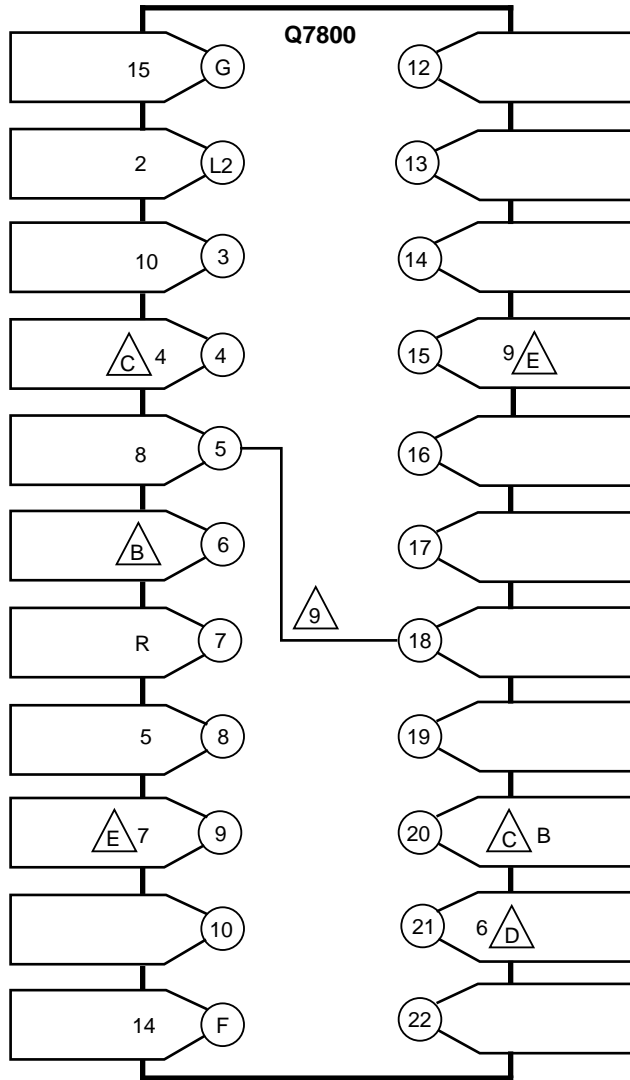
M2557B

7800 SERIES CONVERSION WIRING DIAGRAM

FROM ___FIREYE 29RF5 1001, 1009, 6009___ TO ___RM7840G1014 OR RM7800G1018___

(DEVICE TO BE MODERNIZED)   (O.S. NUMBER OF RELAY MODULE TO BE USED)

Q7800

Fireye	Q7800		Q7800	Fireye
15	G		12	
2	L2		13	
10	3		14	
C 4	4		15	9 E
8	5		16	
B	6		17	
R	7	9	18	
5	8		19	
E 7	9		20	C B
	10		21	6 D
14	F		22	

FOR DIRECT SPARK IGNITION
(OIL OR GAS)

| 10 | IGNITION TRANSFORMER |
| 21 | 1ST STAGE FUEL VALVE | L2
| 9 | 2ND STAGE FUEL VALVE (OPTIONAL) |

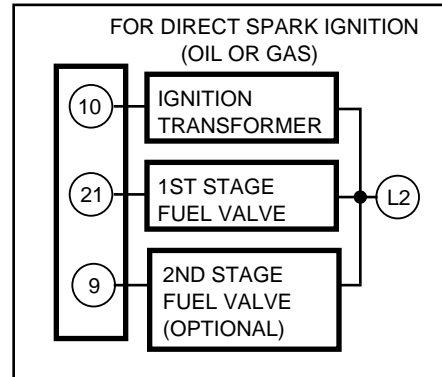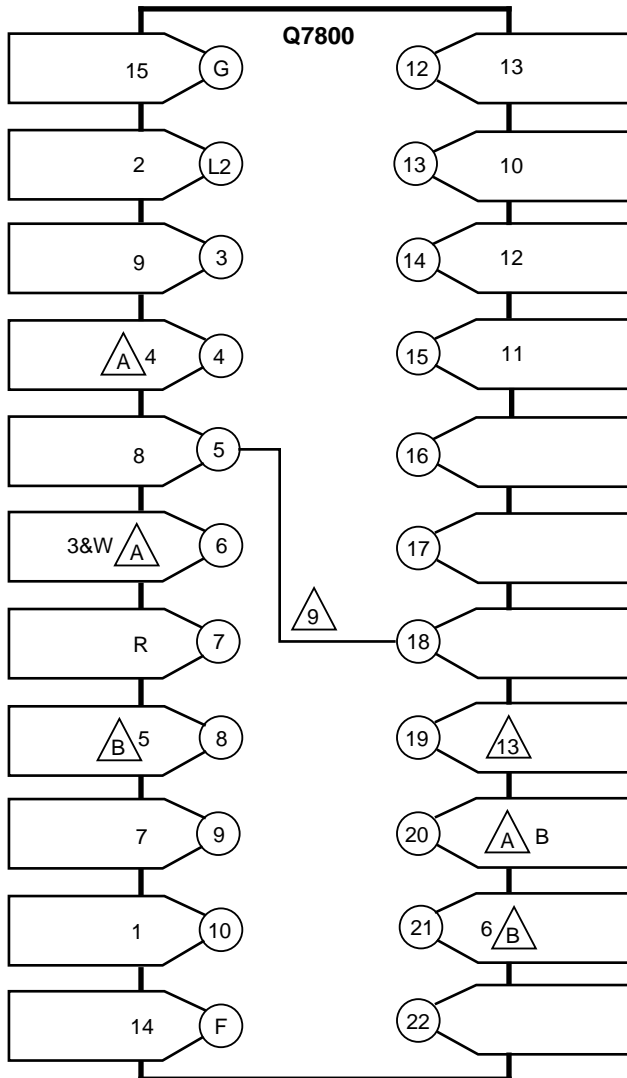△1 △2 △3 △4 △5
△7 △8 △9 △18 △19

GENERAL FOOTNOTES, SEE PAGE 5.

△A WIRE NUT FIREYE TERMINAL 3 AND W TOGETHER. **NOTE**: CHECK ELECTRICAL RATINGS OF THE CONTROLLER, START INTERLOCKS AND AIRFLOW SWITCH. THEY *MUST BE* RATED 120 VAC AND THE CONTROLLER ALSO *MUST BE* CAPABLE OF HANDLING LOADS OF FIREYE TERMINALS 5,6,7 AND 9.

△B CONNECT THIS JUNCTION TO Q7800 SUBBASE TERMINAL 6.

△C IDENTIFY AND REMOVE START INTERLOCK CONNECTION AT THIS POINT AND CONNECT TO Q7800 SUBBASE TERMINAL 4. START INTERLOCK NOW BECOMES A PREIGNITION INTERLOCK. JUMPER Q7800 SUBBASE TERMINAL 4 TO 20 IF START INTERLOCK IS NOT USED.

△D IF TERMINAL 6 WAS USED, CONFIGURE R7840/RM7800 FOR INTERMITTENT PILOT.

△E IF APPLICATION HAS A SECOND STAGE FUEL VALVE, INSTALL A JUMPER BETWEEN Q7800 TERMINALS 9 AND 13. CONNECT THE SECOND STAGE FUEL VALVE, FIREYE SUBBASE TERMINAL 9 TO Q7800 TERMINAL 15.

M2558B

4 —||— LIMITS —|/|— 3 △A W CONTROLLER —||— B
BURNER SWITCH   START INTERLOCKS
△B △C
AIRFLOW SWITCH —||— R

7800 SERIES CONVERSION WIRING DIAGRAM

FROM ___ FIREYE 26RJ8 6058, 6066, 6068 25RU8 6558, 6566 ___ TO ___ RM7840G1014 OR RM7800G1018 ___

(DEVICE TO BE MODERNIZED)   (O.S. NUMBER OF RELAY MODULE TO BE USED)

Q7800

15 — G	12 — 13
2 — L2	13 — 10
9 — 3	14 — 12
A 4 — 4	15 — 11
8 — 5	16
3&W A — 6	17
R — 7	9 — 18
B 5 — 8	19 — 13
7 — 9	20 — A B
1 — 10	21 — 6 B
14 — F	22

FOR DIRECT SPARK IGNITION
(OIL OR GAS)

10	IGNITION TRANSFORMER
21	1ST STAGE FUEL VALVE
9	2ND STAGE FUEL VALVE (OPTIONAL)

— L2

A LOCATE LOW FIRE START INTERLOCK CONNECTION ON FIREYE TERMINAL W. DISCONNECT AND RECONNECT TO Q7800 SUBBASE TERMINAL 4. START INTERLOCK NOW BECOMES A PREIGNITION INTERLOCK. IF NO START INTERLOCK, CONNECT JUMPER BETWEEN Q7800 SUBBASE TERMINALS 4 AND 20.

B FIREYE 26RJ8 6058 MFEP TIMINGS ARE 15 AND 55 SECONDS. RM7800G AND RM7840G MFEP TIMINGS ARE 10,15 OR 30 SECONDS AND INTERMITTENT PILOT.
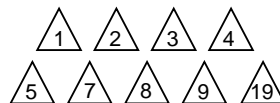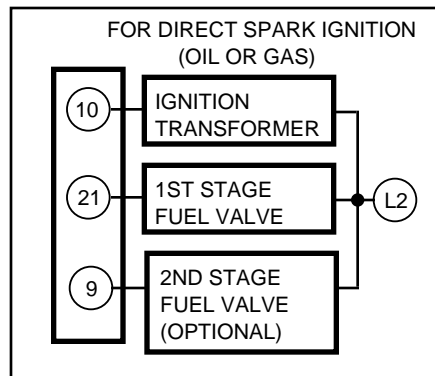
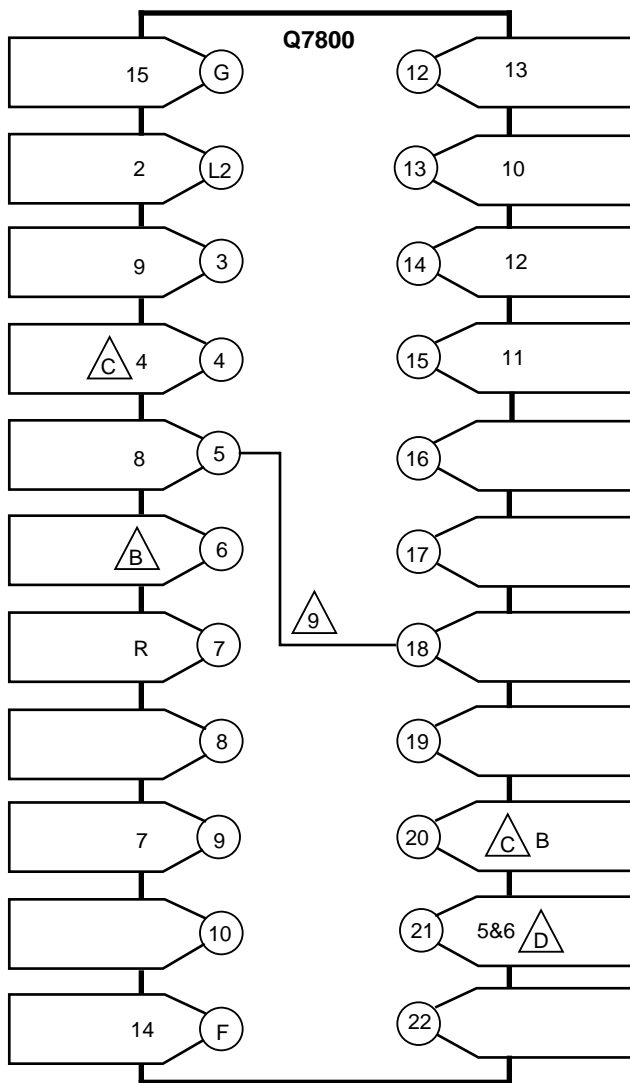M2560B

△1 △2 △3 △4 △5 △7 △8 △9 △13 △19
GENERAL FOOTNOTES, SEE PAGE 5.

7800 SERIES CONVERSION WIRING DIAGRAM

FIREYE 26RJ8 1002, 1003, 1008, 1011, 1018, 6008, 6018
29RF5 1000, 1002, 1005, 1015, 1104

FROM __29RF5 6015_____ TO __RM7840G1014 OR RM7800G1018__

(DEVICE TO BE MODERNIZED)   (O.S. NUMBER OF RELAY MODULE TO BE USED)

Q7800

Left side		Right side	
15	G	12	13
2	L2	13	10
9	3	14	12
△C 4	4	15	11
8	5	16	
△B	6	17	
R	7	18	△9
	8	19	
7	9	20	△C B
	10	21	5&6 △D
14	F	22	

FOR DIRECT SPARK IGNITION (OIL OR GAS)

10	IGNITION TRANSFORMER
21	1ST STAGE FUEL VALVE
9	2ND STAGE FUEL VALVE (OPTIONAL)

(1ST STAGE FUEL VALVE connects to L2)

△1 △2 △3 △4
△5 △7 △8 △9 △19

GENERAL FOOTNOTES, SEE PAGE 5.

△A WIRE NUT FIREYE TERMINAL 3 AND W TOGETHER. NOTE: CHECK ELECTRICAL RATINGS OF THE CONTROLLER, START INTERLOCKS AND AIRFLOW SWITCH. THEY *MUST* BE RATED 120 VAC AND THE CONTROLLER ALSO *MUST* BE CAPABLE OF HANDLING LOADS OF FIREYE TERMINALS 5,6 AND 7.

△B IDENTIFY THIS JUNCTION AND CONNECT TO Q7800 SUBBASE TERMINAL 6.

△C IDENTIFY AND REMOVE START INTERLOCK CONNECTION AT THIS POINT AND CONNECT TO Q7800 SUBBASE TERMINAL 4. START INTERLOCK NOW BECOMES A PREIGNITION INTERLOCK. JUMPER Q7800 SUBBASE TERMINAL 4 TO 20 IF START INTERLOCK IS NOT USED.

△D FIREYE TERMINAL 5 PROVIDED 15 SECOND MFEP. TERMINAL 6 PROVIDED 30 SECOND MFEP. SELECT PROPER CONFIGURATION JUMPER FOR 15 SECONDS OR ADD JUMPER FROM Q7800 SUBBASE TERMINAL 5 TO 19 FOR 30 SECOND MFEP TIMING.
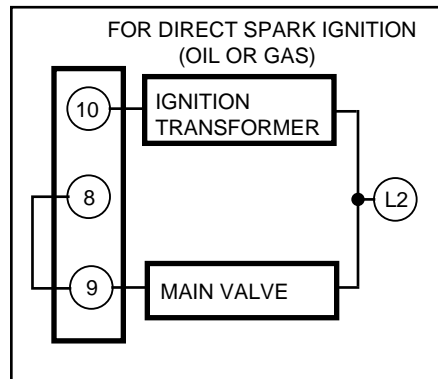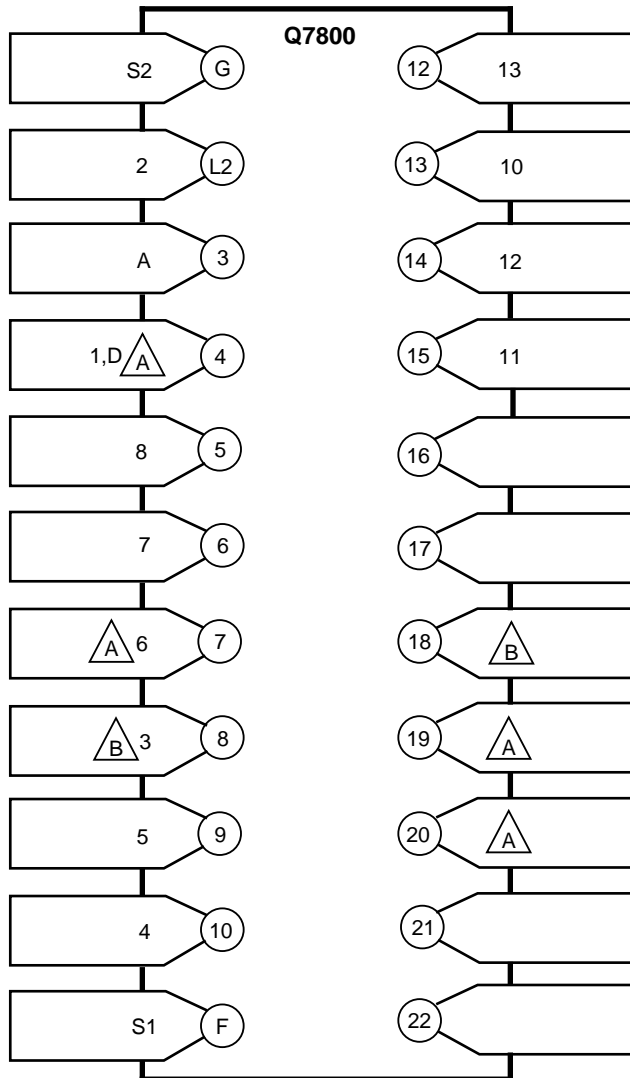
M2559B

4 —||— LIMITS —||— 3 △A W CONTROLLER —||— B
BURNER SWITCH   START INTERLOCKS
△B △C
AIRFLOW SWITCH —||— R
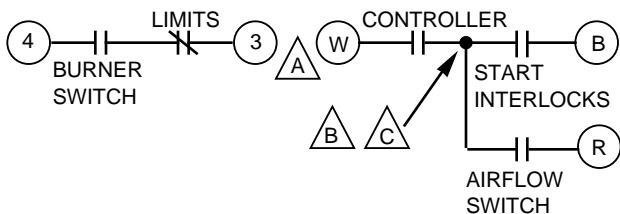
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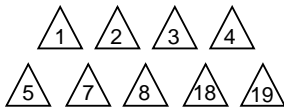# Eclipse

7800 SERIES CONVERSION WIRING DIAGRAM
Lockout Modulation

FROM ___ECLIPSE 5602_____ TO ___RM7800L1012 OR RM7840L1018___

(DEVICE TO BE MODERNIZED) (O.S. NUMBER OF RELAY MODULE TO BE USED)

Q7800

S2 — G		12 — 13
2 — L2		13 — 10
A — 3		14 — 12
1,D △A — 4		15 — 11
8 — 5		16
7 — 6		17
△A 6 — 7		18 — △B
△B 3 — 8		19 — △A
5 — 9		20 — △A
4 — 10		21
S1 — F		22

FOR DIRECT SPARK IGNITION (OIL OR GAS)

10 — IGNITION TRANSFORMER
8
9 — MAIN VALVE — L2

△A 5602 HAS PROOF OF CLOSURE AND HIGH PURGE DAMPER SWITCH LOCATED BETWEEN 6 AND D. LOCATE PROOF OF CLOSURE SWITCH AND CONNECT BETWEEN Q7800 TERMINALS 4 AND 20. LOCATE HIGH PURGE DAMPER SWITCH AND CONNECT BETWEEN Q7800 TERMINALS 4 AND 19.

△B 5602 HAS LOW FIRE PROVING IN SERIES WITH THE PILOT VALVE. LOCATE PILOT VALVE CONNECTION AND CONNECT TO Q7800 TERMINAL 8. LOCATE WIRE TO LOW FIRE PROVING SWITCH AND CONNECT SWITCH BETWEEN Q7800 TERMINALS 5 AND 18. 5602 HAD PURGE TIME, INTERMITTENT/INTERRUPTED PILOT, AND RECYCLE/NONRECYCLE SELECTIONS MADE BY A DIP SWITCH LOCATED ON THE REAR PLATE OF THE CONTROL UNIT. THE REPLACEMENT RM7800L/RM7840L IS A LOCKOUT DEVICE WITH INTERRUPTED PILOT. SELECT ST7800 TO MATCH 5602 TIMING.

△1 △2 △3 △4
△5 △7 △8 △18 △19

GENERAL FOOTNOTES, SEE PAGE 5.

M7448