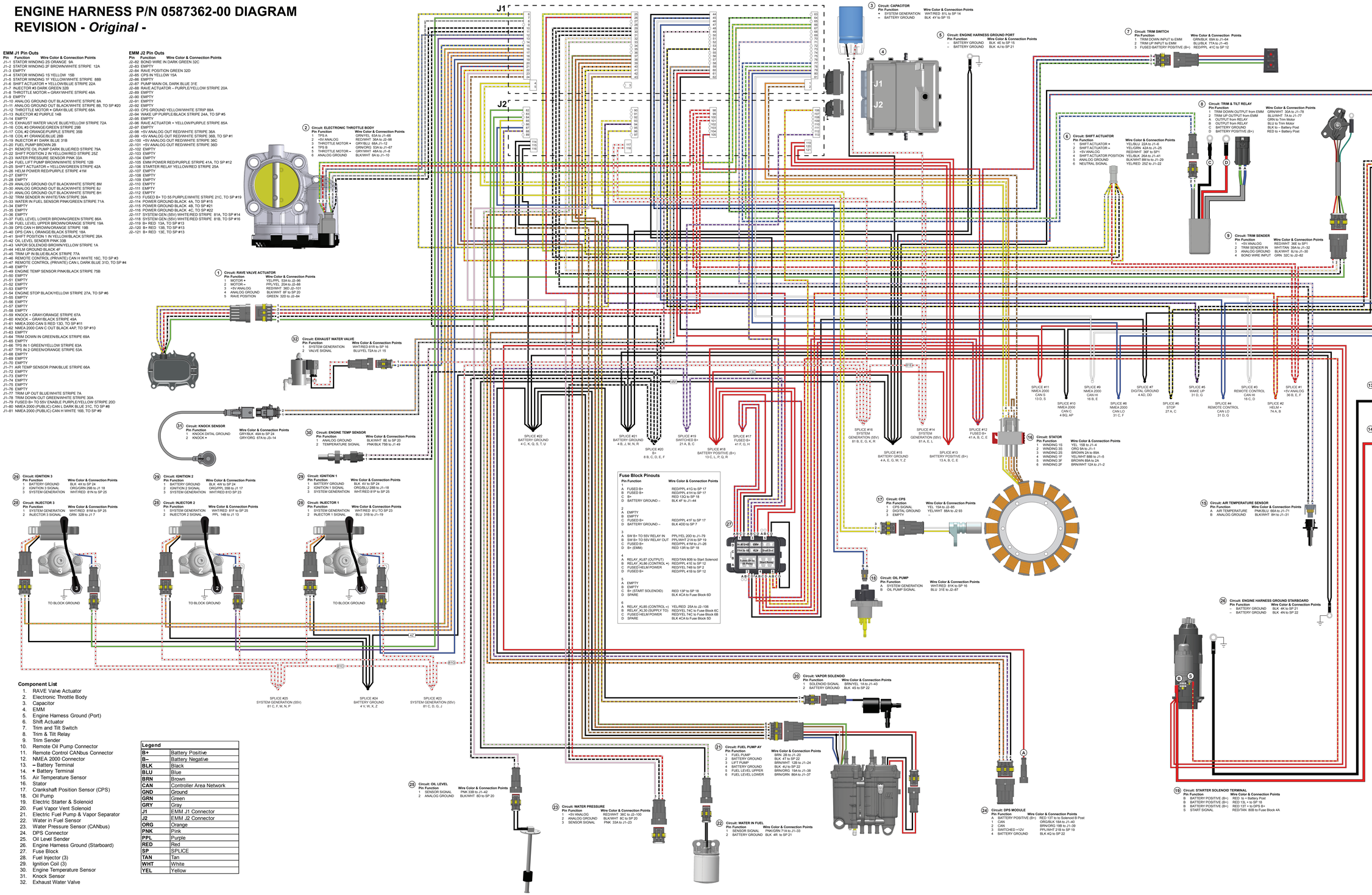
ENGINE HARNESS P/N 0587362-00 DIAGRAM
REVISION - *Original* -



EMM J1 Pin Outs

Pin	Function	Wire Color & Connection Points
J1–1	STATOR WINDING 2S	ORANGE 9A
J1–2	STATOR WINDING 2F	BROWN/WHITE STRIPE 12A
J1–3	EMPTY	
J1–4	STATOR WINDING 1S	YELLOW 15B
J1–5	STATOR WINDING 1F	YELLOW/WHITE STRIPE 88B
J1–6	SHIFT ACTUATOR +	YELLOW/BLUE STRIPE 22A
J1–7	INJECTOR #3	DARK GREEN 32B
J1–8	THROTTLE MOTOR –	GRAY/WHITE STRIPE 48A
J1–9	EMPTY	
J1–10	ANALOG GROUND OUT	BLACK/WHITE STRIPE 8A
J1–11	ANALOG GROUND OUT	BLACK/WHITE STRIPE 8B, TO SP #20
J1–12	THROTTLE MOTOR +	GRAY/BLUE STRIPE 68A
J1–13	INJECTOR #2	PURPLE 14B
J1–14	EMPTY	
J1–15	EXHAUST WATER VALVE	BLUE/YELLOW STRIPE 72A
J1–16	COIL #3	ORANGE/GREEN STRIPE 29B
J1–17	COIL #2	ORANGE/PURPLE STRIPE 35B
J1–18	COIL #1	ORANGE/BLUE 28B
J1–19	INJECTOR #1	DARK BLUE 31B
J1–20	FUEL PUMP	BROWN 2B
J1–21	REMOTE OIL PUMP	DARK BLUE/RED STRIPE 79A
J1–22	SHIFT POSITION 2	N YELLOW/RED STRIPE 25Z
J1–23	WATER PRESSURE SENSOR	PINK 33A
J1–24	FUEL LIFT PUMP	BROWN/WHITE STRIPE 12B
J1–25	SHIFT ACTUATOR –	YELLOW/GREEN STRIPE 42A
J1–26	HELM POWER	RED/PURPLE STRIPE 41M
J1–27	EMPTY	
J1–28	EMPTY	
J1–29	ANALOG GROUND OUT	BLACK/WHITE STRIPE 8M
J1–30	ANALOG GROUND OUT	BLACK/WHITE STRIPE 8J
J1–31	ANALOG GROUND OUT	BLACK/WHITE STRIPE 8H
J1–32	TRIM SENDER IN	WHITE/TAN STRIPE 39A
J1–33	WATER IN FUEL SENSOR	PINK/GREEN STRIPE 71A
J1–34	EMPTY	
J1–35	EMPTY	
J1–36	EMPTY	
J1–37	FUEL LEVEL LOWER	BROWN/GREEN STRIPE 86A
J1–38	FUEL LEVEL UPPER	BROWN/ORANGE STRIPE 19A
J1–39	DPS CAN H	BROWN/ORANGE STRIPE 19B
J1–40	DPS CAN L	ORANGE/BLACK STRIPE 18A
J1–41	SHIFT POSITION 1	N YELLOW/BLACK STRIPE 26A
J1–42	OIL LEVEL SENDER	PINK 33B
J1–43	VAPOR SOLENOID	BROWN/YELLOW STRIPE 1A
J1–44	HELM GROUND	BLACK 4F
J1–45	TRIM UP	IN BLUE/BLACK STRIPE 77A
J1–46	REMOTE CONTROL (PRIVATE) CAN H	WHITE 16C, TO SP #3
J1–47	REMOTE CONTROL (PRIVATE) CAN L	DARK BLUE 31D, TO SP #4
J1–48	EMPTY	
J1–49	ENGINE TEMP SENSOR	PINK/BLACK STRIPE 75B
J1–50	EMPTY	
J1–51	EMPTY	
J1–52	EMPTY	
J1–53	EMPTY	
J1–54	ENGINE STOP	BLACK/YELLOW STRIPE 27A, TO SP #6
J1–55	EMPTY	
J1–56	EMPTY	
J1–57	EMPTY	
J1–58	EMPTY	
J1–59	KNOCK +	GRAY/ORANGE STRIPE 67A
J1–60	KNOCK –	GRAY/BLACK STRIPE 49A
J1–61	NMEA 2000 CAN S	RED 13D, TO SP #11
J1–62	NMEA 2000 CAN C	OUT BLACK 4AP, TO SP #10
J1–63	EMPTY	
J1–64	TRIM DOWN IN	GREEN/BLACK STRIPE 69A
J1–65	EMPTY	
J1–66	TPS IN 1	GREEN/YELLOW STRIPE 63A
J1–67	TPS IN 2	GREEN/ORANGE STRIPE 53A
J1–68	EMPTY	
J1–69	EMPTY	
J1–70	EMPTY	
J1–71	AIR TEMP SENSOR	PINK/BLUE STRIPE 66A
J1–72	EMPTY	
J1–73	EMPTY	
J1–74	EMPTY	
J1–75	EMPTY	
J1–76	EMPTY	
J1–77	TRIM UP	OUT BLUE/WHITE STRIPE 7A
J1–78	TRIM DOWN	OUT GREEN/WHITE STRIPE 30A
J1–79	FUSED B+	TO 55V ENABLE PURPLE/YELLOW STRIPE 20D
J1–80	NMEA 2000 (PUBLIC) CAN L	DARK BLUE 31C, TO SP #8
J1–81	NMEA 2000 (PUBLIC) CAN H	WHITE 16B, TO SP #9

EMM J2 Pin Outs

Pin	Function	Wire Color & Connection Points
J2–82	BOND WIRE IN	DARK GREEN 32C
J2–83	EMPTY	
J2–84	RAVE POSITION	GREEN 32D
J2–85	CPS IN	YELLOW 15A
J2–86	EMPTY	
J2–87	PUMP MAIN OIL	DARK BLUE 31E
J2–88	RAVE ACTUATOR –	PURPLE/YELLOW STRIPE 20A
J2–89	EMPTY	
J2–90	EMPTY	
J2–91	EMPTY	
J2–92	EMPTY	
J2–93	CPS GROUND	YELLOW/WHITE STRIPE 88A
J2–94	WAKE UP	PURPLE/BLACK STRIPE 24A, TO SP #5
J2–95	EMPTY	
J2–96	RAVE ACTUATOR +	YELLOW/PURPLE STRIPE 85A
J2–97	EMPTY	
J2–98	+5V ANALOG OUT	RED/WHITE STRIPE 36A
J2–99	+5V ANALOG OUT	RED/WHITE STRIPE 36B, TO SP #1
J2–100	+5V ANALOG OUT	RED/WHITE STRIPE 36C
J2–101	+5V ANALOG OUT	RED/WHITE STRIPE 36D
J2–102	EMPTY	
J2–103	EMPTY	
J2–104	EMPTY	
J2–105	EMM POWER	RED/PURPLE STRIPE 41A, TO SP #12
J2–106	STARTER RELAY	YELLOW/RED STRIPE 25A
J2–107	EMPTY	
J2–108	EMPTY	
J2–109	EMPTY	
J2–110	EMPTY	
J2–111	EMPTY	
J2–112	EMPTY	
J2–113	FUSED B+	TO 55 PURPLE/WHITE STRIPE 21C, TO SP #19
J2–114	POWER GROUND BLACK	4A, TO SP #15
J2–115	POWER GROUND BLACK	4B, TO SP #21
J2–116	POWER GROUND BLACK	4C, TO SP #22
J2–117	SYSTEM GEN (55V)	WHITE/RED STRIPE 81A, TO SP #14
J2–118	SYSTEM GEN (55V)	WHITE/RED STRIPE 81B, TO SP #16
J2–119	B+ RED	13A, TO SP #13
J2–120	B+ RED	13B, TO SP #13
J2–121	B+ RED	13E, TO SP #13

Component List

1. RAVE Valve Actuator
2. Electronic Throttle Body
3. Capacitor
4. EMM
5. Engine Harness Ground (Port)
6. Shift Actuator
7. Trim and Tilt Switch
8. Trim & Tilt Relay
9. Trim Sender
10. Remote Oil Pump Connector
11. Remote Control CANbus Connector
12. NMEA 2000 Connector
13. – Battery Terminal
14. + Battery Terminal
15. Air Temperature Sensor
16. Stator
17. Crankshaft Position Sensor (CPS)
18. Oil Pump
19. Electric Starter & Solenoid
20. Fuel Vapor Vent Solenoid
21. Electric Fuel Pump & Vapor Separator
22. Water in Fuel Sensor
23. Water Pressure Sensor (CANbus)
24. DPS Connector
25. Oil Level Sender
26. Engine Harness Ground (Starboard)
27. Fuse Block
28. Fuel Injector (3)
29. Ignition Coil (3)
30. Engine Temperature Sensor
31. Knock Sensor
32. Exhaust Water Valve

Legend	
B+	Battery Positive
B–	Battery Negative
BLK	Black
BLU	Blue
BRN	Brown
CAN	Controller Area Network
GND	Ground
GRN	Green
GRY	Gray
J1	EMM J1 Connector
J2	EMM J2 Connector
ORG	Orange
PNK	Pink
PPL	Purple
RED	Red
SP	SPLICE
TAN	Tan
WHT	White
YEL	Yellow

Fuse Block Pinouts

Pin	Function	Wire Color & Connection Points
1		
A	FUSED B+	RED/PPL 41G to SP 17
B	FUSED B+	RED/PPL 41H to SP 17
C	B+	RED 13Q to SP 18
D	BATTERY GROUND –	BLK 4F to J1–44
2		
A	EMPTY	
B	EMPTY	
C	FUSED B+	RED/PPL 41F to SP 17
D	BATTERY GROUND –	BLK 4DD to SP 7
3		
A	SW B+ TO 55V RELAY IN	PPL/YEL 20D to J1–79
B	SW B+ TO 55V RELAY OUT	PPL/WHT 21A to SP 19
C	FUSED B+	RED/PPL 41M to J1–26
D	B+ (EMM)	RED 13R to SP 18
4		
A	RELAY_XL87 (OUTPUT)	RED/TAN 80B to Start Solenoid
B	RELAY_XL86 (CONTROL +)	RED/PPL 41E to SP 12
C	FUSED HELM POWER	RED/YEL 74B to SP 2
D	FUSED B+	RED/PPL 41B to SP 12
5		
A	EMPTY	
B	EMPTY	
C	B+ (START SOLENOID)	RED 13P to SP 18
D	SPARE	BLK 4CA to Fuse Block 6D
6		
A	RELAY_XL85 (CONTROL –)	YEL/RED 25A to J2–106
B	RELAY_XL30 (SUPPLY TO)	RED/YEL 74C to Fuse Block 6C
C	FUSED HELM POWER	RED/YEL 74C to Fuse Block 6B
D	SPARE	BLK 4CA to Fuse Block 6D

1 Circuit: RAVE VALVE ACTUATOR

Pin	Function	Wire Color & Connection Points
1	MOTOR +	YEL/PPL 53A to J2–96
2	MOTOR –	PPL/YEL 20A to J2–88
3	+5V ANALOG	RED/WHT 36D J2–101
4	ANALOG GROUND	BLK/WHT 8F to SP 20
5	RAVE POSITION	GREEN 32D to J2–84

2 Circuit: ELECTRONIC THROTTLE BODY

Pin	Function	Wire Color & Connection Points
1	TPS A	GRN/YEL 63A to J1–66
2	+5V ANALOG	RED/WHT 36A to J2–98
3	THROTTLE MOTOR +	GRY/BLU 68A J1–12
4	TPS B	GRN/ORG 53A to J1–67
5	THROTTLE MOTOR –	GRY/WHT 48A to J1–8
6	ANALOG GROUND	BLK/WHT 8A to J1–10

3 Circuit: CAPACITOR

Pin	Function	Wire Color & Connection Points
+	SYSTEM GENERATION	WHT/RED 81L to SP 14
–	BATTERY GROUND	BLK 4Y to SP 15

5 Circuit: ENGINE HARNESS GROUND PORT

Pin	Function	Wire Color & Connection Points
–	BATTERY GROUND	BLK 4E to SP 15
–	BATTERY GROUND	BLK 4J to SP 21

6 Circuit: SHIFT ACTUATOR

Pin	Function	Wire Color & Connection Points
1	SHIFT ACTUATOR +	YEL/BLU 22A to J1–6
2	SHIFT ACTUATOR –	YEL/GRN 42A to J1–25
3	+5V ANALOG	RED/WHT 36F to SP 1
4	SHIFT ACTUATOR POSITION	YEL/BLK 26A to J1–41
5	ANALOG GROUND	BLK/WHT 8M to to J1–29
6	NEUTRAL SIGNAL	YEL/RED 25Z to J1–22

7 Circuit: TRIM SWITCH

Pin	Function	Wire Color & Connection Points
1	TRIM DOWN INPUT to EMM	GRN/BLK 55A to J1–64
2	TRIM UP INPUT to EMM	BLU/BLK 77A to J1–45
3	FUSED BATTERY POSITIVE (B+)	RED/PPL 41C to SP 12

8 Circuit: TRIM & TILT RELAY

Pin	Function	Wire Color & Connection Points
1	TRIM DOWN OUTPUT from EMM	GRN/WHT 30A to J1–78
2	TRIM UP OUTPUT from EMM	LU/WHT 79A to J1–77
A	OUTPUT from RELAY	GRN to Trim Motor
B	OUTPUT from RELAY	BLU to Trim Motor
C	BATTERY GROUND	BLK to – Battery Post
D	BATTERY POSITIVE (B+)	RED to + Battery Post

9 Circuit: TRIM SENDER

Pin	Function	Wire Color & Connection Points
1	+5V ANALOG	RED/WHT 36E to SP 1
2	TRIM SENDER IN	WHT/TAN 39A to J1–32
3	ANALOG GROUND	BLK/WHT 8J to J1–30
4	BOND WIRE INPUT	GRN 32C to J2–82

10 Circuit: REMOTE OIL PUMP

Pin	Function	Wire Color & Connection Points
1	PUMP SIGNAL	BLU/RED 79A to J1 21
2	BATTERY GROUND	BLK 4Y to SP 15

11 Circuit: REMOTE CONTROL (Private) CANbus

Pin	Function	Wire Color & Connection Points
1	WAKE UP	BLK/WHT 8Z to SP 5
2	FUSED HELM POWER	RED/YEL 74A to SP 2
3	FUSED HELM GROUND	BLK 4AD to to SP 7
4	CAN HI	WHT 16D to SP 3
5	CAN LO	BLU 31D to SP 4
6	STOP	BLK/YEL 27C to SP 6

12 Circuit: NMEA 2000 (Public) CANbus

Pin	Function	Wire Color & Connection Points
1	EMPTY	
2	CAN S	RED 13S to SP 11
3	CAN C	BLK 4BQ to SP 10
4	CAN HI	WHT 16E to SP 99
5	CAN LO	BLU 31F to SP 8

13 Circuit: – BATTERY POST

Pin	Function	Wire Color & Connection Points
–	BATTERY NEGATIVE	BLK Battery Post to Upper Starter Bracket

14 Circuit: + BATTERY POST

Pin	Function	Wire Color & Connection Points
+	BATTERY POSITIVE (B+)	RED 13T to SOLENOID B Post

16 Circuit: STATOR

Pin	Function	Wire Color & Connection Points
1	WINDING 1S	YEL 15B to J1–4
2	WINDING 3S	ORG 9A to J1–1
3	WINDING 2S	BROWN 2B to J1–9
4	WINDING 1F	YEL/WHT 88B to J1–5
5	WINDING 3F	BROWN 8A to 2A
6	WINDING 2F	BRN/WHT 12A to J1–2

17 Circuit: CPS

Pin	Function	Wire Color & Connection Points
1	CPS SIGNAL	YEL 15A to J2–85
2	DIGITAL GROUND	YEL/WHT 88A to J2 93
3	EMPTY	–

18 Circuit: OIL PUMP

Pin	Function	Wire Color & Connection Points
A	SYSTEM GENERATION	WHT/RED 81K to SP 16
B	OIL PUMP SIGNAL	BLU 31E to J2–87

19 Circuit: STARTER SOLENOID TERMINAL

Pin	Function	Wire Color & Connection Points
B	BATTERY POSITIVE (B+)	RED to + Battery Post
B	BATTERY POSITIVE (B+)	RED 13T + to SP 18
B	BATTERY POSITIVE (B+)	RED 13T + to DPS B+
S	START SIGNAL	RED/TAN 80B to Fuse Block 4A

20 Circuit: VAPOR SOLENOID

Pin	Function	Wire Color & Connection Points
1	SOLENOID SIGNAL	BRN/YEL 1A to J1–43
2	BATTERY GROUND	BLK 4S to SP 22

21 Circuit: FUEL PUMP AY

Pin	Function	Wire Color & Connection Points
1	FUEL PUMP	BRN 2B to J1–20
2	BATTERY GROUND	BLK 4T to SP 22
3	LIFT PUMP	BRN/WHT 12B to J1–24
4	BATTERY GROUND	BLK 4U to SP 22
5	FUEL LEVEL UPPER	BRN/ORG 19A to J1–38
6	FUEL LEVEL LOWER	BRN/GRN 86A to J1–37

22 Circuit: WATER IN FUEL

Pin	Function	Wire Color & Connection Points
1	SENSOR SIGNAL	PNK/GRN 71A to J1–33
2	BATTERY GROUND	BLK 4R to SP 21

23 Circuit: WATER PRESSURE

Pin	Function	Wire Color & Connection Points
1	+5V ANALOG	RED/WHT 36C to J2–100
2	ANALOG GROUND	BLK/WHT 8C to SP 20
3	SENSOR SIGNAL	PNK 33A to J1–23

24 Circuit: DPS MODULE

Pin	Function	Wire Color & Connection Points
A	BATTERY POSITIVE (B+)	RED 13T to to Solenoid B Post
1	CAN	ORG/BLK 18A to J1–40
2	CAN	BRN/ORG 19B to J1–39
3	SWITCHED +12V	PPL/WHT 21B to SP 19
4	BATTERY GROUND	BLK 4Q to SP 22

25 Circuit: OIL LEVEL

Pin	Function	Wire Color & Connection Points
1	SENSOR SIGNAL	PNK 33B to J1–42
2	ANALOG GROUND	BLK/WHT 8D to SP 20

26 Circuit: ENGINE HARNESS GROUND STARBOARD

Pin	Function	Wire Color & Connection Points
–	BATTERY GROUND	BLK 4K to SP 21
–	BATTERY GROUND	BLK 4N to SP 22

27 Circuit: FUSE BLOCK

28 Circuit: INJECTOR 3

Pin	Function	Wire Color & Connection Points
1	SYSTEM GENERATION	WHT/RED 81M to SP 25
2	INJECTOR 3 SIGNAL	GRN 32B to J1 7

28 Circuit: INJECTOR 2

Pin	Function	Wire Color & Connection Points
1	SYSTEM GENERATION	WHT/RED 81F to SP 25
2	INJECTOR 2 SIGNAL	PPL 14B to J1 13

28 Circuit: INJECTOR 1

Pin	Function	Wire Color & Connection Points
1	SYSTEM GENERATION	WHT/RED 81J TO SP 23
2	INJECTOR 1 SIGNAL	BLU 31B to J1–19

29 Circuit: IGNITION 3

Pin	Function	Wire Color & Connection Points
1	BATTERY GROUND	BLK 4K to SP 24
2	IGNITION 3 SIGNAL	ORG/GRN 29B to J1 18
3	SYSTEM GENERATION	WHT/RED 81N to SP 25

29 Circuit: IGNITION 2

Pin	Function	Wire Color & Connection Points
1	BATTERY GROUND	BLK 4W to SP 24
2	IGNITION 2 SIGNAL	ORG/PPL 35B to J1 17
3	SYSTEM GENERATION	WHT/RED 81D SP 23

29 Circuit: IGNITION 1

Pin	Function	Wire Color & Connection Points
1	BATTERY GROUND	BLK 4V to SP 24
2	IGNITION 1 SIGNAL	ORG/BLU 28B to J1–18
3	SYSTEM GENERATION	WHT/RED 81P to SP 25

30 Circuit: ENGINE TEMP SENSOR

Pin	Function	Wire Color & Connection Points
1	ANALOG GROUND	BLK/WHT 8E to SP 20
2	TEMPERATURE SIGNAL	PNK/BLK 75B to J1 49

31 Circuit: KNOCK SENSOR

Pin	Function	Wire Color & Connection Points
1	KNOCK DITAL GROUND	GRY/BLK 49A to SP 24
2	KNOCK +	GRY/ORG 67A to J3–14

32 Circuit: EXHAUST WATER VALVE

Pin	Function	Wire Color & Connection Points
1	SYSTEM GENERATION	WHT/RED 81R to SP 16
2	VALVE SIGNAL	BLU/YEL 72A to J1 15