WIRING DIAGRAMS
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# Wiring Colors for MerCruiser

**NOTE:** Color codes listed below DO NOT apply to fuel injection system harnesses.

<table>
<thead>
<tr>
<th>BIA COLOR CODE AND ABBREVIATIONS</th>
<th>WHERE USED</th>
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<tbody>
<tr>
<td>BLACK (BLK)</td>
<td>All Grounds</td>
</tr>
<tr>
<td>BROWN (BLU)</td>
<td>Reference Electrode - MerCathode</td>
</tr>
<tr>
<td>ORANGE (ORN)</td>
<td>Anode Electrode-MerCathode</td>
</tr>
<tr>
<td>LT. BLUE/WHITE (LT BLU/WHT)</td>
<td>Trim - “Up” Switch</td>
</tr>
<tr>
<td>GRAY (GRY)</td>
<td>Tachometer Signal</td>
</tr>
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<td>GREEN/WHITE (GRN/WHT)</td>
<td>Trim - “Down” Switch</td>
</tr>
<tr>
<td>TAN (TAN)</td>
<td>Water Temperature Sender to Gauge</td>
</tr>
<tr>
<td>LIGHT BLUE (LIT BLU)</td>
<td>Oil Pressure Sender to Gauge</td>
</tr>
<tr>
<td>PINK (PNK)</td>
<td>Fuel Gauge Sender to Gauge</td>
</tr>
<tr>
<td>BROWN/WHITE (BRN/WHT)</td>
<td>Trim Sender to Trim Gauge</td>
</tr>
<tr>
<td>PURPLE/WHITE (PUR/WHT)</td>
<td>Trim - “Trailer” Switch</td>
</tr>
<tr>
<td>RED (RED)</td>
<td>Unprotected Wires from Battery</td>
</tr>
<tr>
<td>RED/PURPLE (RED/PUR)</td>
<td>Protected (Fused) Wires from Battery</td>
</tr>
<tr>
<td>RED/PURPLE (RED/PUR)</td>
<td>Protected (+12V) to Trim Panel</td>
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<tr>
<td>ORANGE (ORN)</td>
<td>Alternator Output</td>
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<tr>
<td>PURPLE/YELLOW (PUR/YEL)</td>
<td>Ballast Bypass</td>
</tr>
<tr>
<td>PURPLE (PUR)</td>
<td>Ignition Switch (+12V)</td>
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<tr>
<td>YELLOW/RED (YEL/RED)</td>
<td>Starter Switch to Starter Solenoid to Neutral Start Switch</td>
</tr>
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</table>
A - Ignition And Choke System
1 - Distributor
2 - Ignition Module
3 - Ignition Coil

B - Starting And Charging System
1 - Alternator
2 - Ground Stud
3 - Battery
4 - Starter Motor
5 - Circuit Breaker
6 - Starter Slave Solenoid

C - Audio Warning System
1 - Oil Pressure Sender
2 - Water Temperature Sender
3 - Trim Sender

D - Instrumentation System
1 - Water Temperature
2 - Oil Pressure Switch
3 - Drive Unit Oil Bottle (Old And New Style)

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4F-2 - WIRING DIAGRAMS
A - Ignition And Choke System
1 - Distributor With Ignition Module
2 - Ignition Module
3 - Ignition Coil

B - Starting And Charging System
1 - Alternator
2 - Ground Stud
3 - Battery
4 - Starter Motor
5 - Circuit Breaker
6 - Starter Slave Solenoid

C - Audio Warning System
1 - Oil Pressure Sender
2 - Water Temperature Sender
3 - Trim Sender

D - Instrumentation System
1 - Water Temperature
2 - Oil Pressure Switch
3 - Drive Unit Oil Bottle (Old And New Style)
A - Ignition And Choke System
1 - Distributor With Ignition Module
2 - Timing Lead
3 - Knock Sensor
4 - Ignition Coil

B - Starting And Charging System
1 - Alternator
2 - Electric Choke
3 - Ground Stud
4 - Battery
5 - Starter Motor
6 - Circuit Breaker
7 - Starter Slave Solenoid

C - Audio Warning System
1 - Oil Pressure Sender
2 - Water Temperature Sender
3 - Trim Sender

D - Instrumentation System
1 - Water Temperature
2 - Oil Pressure Switch
3 - Drive Unit Oil Bottle (Old And New Style)
A - Charging And Starting System
1 - Alternator
2 - Ground Stud
3 - Starter Motor
4 - Battery
5 - Circuit Breaker
6 - Starter Slave Solenoid

B - Audio Warning System / Power Reduction Circuit (Not Present On 1996 And Newer Models)
1 - Oil Pressure
2 - Drive Unit Oil Level Bottle (New And Old Style)

C - Instrumentation System
1 - Oil Pressure Sender
2 - Water Temperature Sender
3 - Trim Sender
a - Positive (12V) Power Wire To Furl Injection System Harness
b - Harness Connector To Fuel Injection System Harness
c - Auxiliary Tachometer Lead
d - 90 Amp. Fuse (DO NOT Remove)
NOTE 1: Taped back BROWN and BLACK wire may be used for an accessory. LOAD MUST NOT EXCEED 5 AMPS

A - Audio Warning System
1 - Oil Pressure Switch
2 - Transmission Fluid Temperature

B - Instrumentation System
1 - Oil Pressure Sender
2 - Water Temperature Sender

C - Charging And Starting System
1 - Alternator
2 - Ground Stud
3 - Starter
4 - Circuit Breaker
5 - Starter Slave Solenoid
6 - Neutral Safety Switch

a - Positive (12V) Power Wire To Fuel Injection System Harness
b - Harness Connector To Fuel Injection System Harness
c - Auxiliary Tachometer Lead
d - 90 Amp. System Fuse
MCM 7.4LX / MIE 7.4L THROTTLE BODY INJECTION

1 - Fuel Pump
2 - Throttle Body
3 - Distributor
4 - Coil
5 - Electronic Spark Control (KS) Module
6 - Data Link Connector (DLC)
7 - Manifold Absolute Pressure (MAP) Sensor
8 - Knock Sensor
9 - Idle Air Control (IAC)
10 - Throttle Position (TP) Sensor
11 - Engine Coolant Temperature (ECT) Sensor
12 - Electronic Control Module (ECM)
13 - Fuel Pump Relay
14 - Ignition/System Relay
15 - Fuse (15 Amp) Fuel Pump
16 - Fuse (15 Amp) ECM/DLC/Battery
17 - Fuse (10 Amp) ECM/Injector/Ignition/Knock Module
18 - Harness Connector To Starting/Charging Harness
19 - Positive (+) Power Wire To Engine Circuit Breaker

Note: All BLACK Wires With A Ground Symbol Are Interconnected Within The Fuel Injection System Harness.

NOTE 1: As a mid year (96-1/2) model change, the Throttle Body and Multi-Port Injection models have the lanyard stop connector removed from the wiring harness. The dual engine capability is relocated by routing the YEL wire to the Data Link Connector (DLC).
NOTE 1: As a mid year (96-1/2) model change, the Throttle Body and Multi Port Injection models have the lanyard stop connector removed from the wiring harness. The dual engine capability is relocated by routing the YEL wire to the Data Link Connector (DLC).

NOTE 2: All BLACK wires with a ground symbol are interconnected within the fuel injection system harness.

1 - Vapor Separator Tank
2 - Throttle Body
3 - Distributor
4 - Coil
5 - Knock Sensor (KS) Module
6 - Data Link Connector (DLC)
7 - Manifold Absolute Pressure (MAP) Sensor
8 - Intake Air Temperature (IAT) Sensor
9 - Knock Sensor (KS)
10 - Idle Air Control (IAC)
11 - Throttle Positive Sensor (TP)
12 - Engine Coolant Temperature (ECT) Sensor
13 - Electronic Control Module (ECM) Sensor
14 - Fuel Pump Relay
15 - Ignition Relay
16 - Fuel Pump Relay (15 Amp)
17 - Injector Fuse 15 Amp.) ECM, DLC, Battery
18 - ECM Fuse (10 Amp.) ECM, Ignition, Injectors, Knock Sensor Module
19 - Harness Connector To Starting / Charging Harness
20 - Harness Connector To Lanyard Stop Switch (Optional)
21 - Harness Connector For Dual Engine Data Link Cable
22 - Positive (+) Power Wire To Engine Circuit Breaker

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NOTE: All BLACK wires with a ground symbol are interconnected within the EFI system harness.

1 - Fuel Pump
2 - Throttle Body
3 - Distributor
4 - Coil
5 - Electronic Spark Control (KS) Module
6 - Data Link Connector (DLC)
7 - Manifold Absolute Pressure (MAP) Sensor
8 - Knock Sensor
9 - Idle Air Control (IAC)
10 - Throttle Position (TP) Sensor

11 - Engine Coolant Temperature (ECT) Sensor
12 - Electronic Control Module (ECM)
13 - Fuel Pump Relay
14 - Ignition/System Relay
15 - Fuse (15 Amp) Fuel Pump
16 - Fuse (15 Amp) ECM/DLC/Battery
17 - Fuse (10 Amp) ECM/Injector/Ignition/Knock Module
18 - Harness Connector To Starting/Charging Harness
19 - Positive (+) Power Wire To Engine Circuit Breaker
NOTE: Taped Back BROWN-WHITE wire may be used for an accessory. LOAD MUST NOT EXCEED 5 AMPS.

**A - Ignition And Choke System**
1 - Distributor
2 - Ignition Module
3 - Ignition Coil

**B - Starting And Charging System**
1 - Alternator
2 - Ground Stud
3 - Battery
4 - Starter Motor
5 - Circuit Breaker
6 - Neutral Start Safety Switch
7 - Starter Slave Solenoid

**C - Audio Warning System**
1 - Water Temperature
2 - Oil Pressure
3 - Transmission Fluid Temperature

**D - Instrumentation System**
1 - Oil Pressure Sender
2 - Water Temperature Sender
THUNDERBOLT IV IGNITION MODULE MOUNTED ON DISTRIBUTOR

A - Ignition And Choke System
1 - Distributor
2 - Ignition Module
3 - Ignition Coil

B - Starting And Charging System
1 - Alternator
2 - Ground Stud
3 - Battery
4 - Starter Motor
5 - Circuit Breaker
6 - Neutral Start Safety Switch
7 - Starter Slave Solenoid

C - Audio Warning System
1 - Water Temperature
2 - Oil Pressure
3 - Transmission Fluid Temperature

D - Instrumentation System
1 - Oil Pressure Sender
2 - Water Temperature Sender

NOTE: Taped Back BROWN-WHITE wire may be used for an accessory. LOAD MUST NOT EXCEED 5 AMPS.
NOTE: Taped Back BROWN-WHITE wire may be used for an accessory. LOAD MUST NOT EXCEED 5 AMPS.

A - Ignition And Choke System
1 - Distributor With Ignition Module
2 - Timing Lead
3 - Knock Sensor
4 - Ignition Coil

B - Starting And Charging System
1 - Alternator
2 - Electric Choke
3 - Ground Stud
4 - Battery
5 - Starter Motor
6 - Circuit Breaker
7 - Starter Slave Solenoid
8 - Neutral Start Safety Switch

C - Audio Warning System
1 - Water Temperature Sender
2 - Oil Pressure Sender
3 - Transmission Fluid Temperature

D - Instrumentation System
1 - Water Temperature
2 - Oil Pressure Switch

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4F-12 - WIRING DIAGRAMS
Refer to gauge manufacturer’s instructions for specific connections.

NOTE 1: Connect wires together with screw and hex nut. Apply Liquid Neoprene to connection and slide rubber sleeve over connection.

NOTE 2: Power for a fused accessory panel may be taken from this connection. Load MUST NOT exceed 35-40 amps. Panel ground wire MUST BE connected to instrument terminal that has an 8 gauge BLACK (Ground) harness wire connected to it.

1 - Audio Warning Buzzer (If So Equipped)  5 - Battery Meter
2 - Tachometer  6 - Ignition Switch
3 - Oil Pressure  7 - Trim Indicator
4 - Water Temperature  8 - 20 Amp. Fuse
Refer to gauge manufacturer’s instructions for specific connections.

NOTE 1: Connect wires together with screw and hex nut. Apply Liquid Neoprene to connection and slide rubber sleeve over connection.

NOTE 2: Power for a fused accessory panel may be taken from this connection. Load MUST NOT exceed 40 amps. Panel ground wire MUST BE connected to instrument terminal that has an 8 gauge BLACK (Ground) harness wire connected to it.

1 - Audio Warning Buzzer (If Equipped)
2 - Tachometer
3 - Oil Pressure
4 - Water Temperature
5 - Battery Meter
6 - Ignition Switch
7 - Trim Indicator
8 - 20 Amp. Fuse
Refer to gauge manufacturer’s instructions for specific connections.

NOTE 1: Connect wires together with screw and hex nut. Apply Liquid Neoprene to connection and slide rubber sleeve over connection.

NOTE 2: Power for a fused accessory panel may be taken from this connection. Load MUST NOT exceed 40 amps. Panel ground wire MUST BE connected to instrument terminal that has an 8 gauge BLACK (Ground) harness wire connected to it.

1 - Audio Warning Buzzer (If Equipped)  5 - Battery Meter
2 - Tachometer  6 - Ignition Switch
3 - Oil Pressure  7 - Trim Indicator
4 - Water Temperature  8 - 20 Amp. Fuse
Refer to gauge manufacturer’s instructions for specific connections.

NOTE 1: Connect wires together with screw and hex nut. Apply Liquid Neoprene to connection and slide rubber sleeve over connection.

NOTE 2: Power for a fused accessory panel may be taken from this connection. Load MUST NOT exceed 40 amps. Panel ground wire MUST BE connected to instrument terminal that has an 8 gauge BLACK (Ground) harness wire connected to it.

1 - Audio Warning Buzzer (If So Equipped)     5 - Battery Meter
2 - Tachometer                               6 - Ignition Switch
3 - Oil Pressure                              7 - 20 Amp. Fuse
4 - Water Temperature
Refer to gauge manufacturer’s instructions for specific connections.

NOTE 1: Connect wires together with screw and hex nut. Apply Quicksilver Liquid Neoprene to connection and slide rubber sleeve over connection.

NOTE 2: Power for a second fused accessory panel may be taken from this connection. Load **MUST NOT** exceed 35-40 amps. Panel ground wire **MUST BE** connected to instrument terminal that has an 8 gauge BLACK (ground) harness wire connected to it.

1 - Audio Warning Buzzer (If So Equipped)
2 - Tachometer
3 - Oil Pressure
4 - Water Temperature
5 - Battery Meter
6 - Ignition Switch
7 - To 12 Volt Source (PURPLE Wire Connection)
8 - 20 Amp. Fuse
Dual Station Wiring (Using a Neutral Safety Switch in Only One Remote Control)

NOTE 1: BROWN/WHITE wire is taped back at instrument end. If installing on boat that is equipped with MerCruiser stern drive, BROWN/WHITE wire is connected to trim sender terminal block. If installing on MerCruiser Inboard, BROWN/WHITE wire is taped back at engine end, or it may be used for an accessory (limit 5 amperes).

NOTE 2: An accessory fuse panel may be connected at this location. The combined current draw of the primary station and secondary station MUST NOT exceed 35 amperes.

NOTE 3: Connect wires together with screw and hex nut. Apply Quicksilver Liquid Neoprene to connection and slide rubber sleeve over connection.

**B - Secondary Station**
1. Start - Stop Panel
2. Tachometer
3. Oil Pressure
4. Water Temperature
5. Battery Meter

**B - Primary Station**
1. Ignition Switch
2. Tachometer
3. Oil Pressure
4. Water Temperature
5. Battery Meter
Dual Station Wiring (Using A Neutral Safety Switch In Both Remote Controls)

**NOTE 1:** BROWN/WHITE wire is taped back at instrument end. If installing on boat that is equipped with MerCruiser stern drive, BROWN/WHITE wire is connected to trim sender terminal block. If installing on MerCruiser Inboard, BROWN/WHITE wire is taped back at engine end, or it may be used for an accessory (limit 5 amperes).

**NOTE 2:** An accessory fuse panel may be connected at this location. The combined current draw of the primary station and secondary station **MUST NOT** exceed 35 amperes.

**NOTE 3:** Connect wires together with screw and hex nut. Apply Quicksilver Liquid Neoprene to connection and slide rubber sleeve over connection.

**A - Secondary Station**
1. Start - Stop Panel
2. Tachometer
3. Oil Pressure
4. Water Temperature
5. Battery Meter

**B - Primary Station**
1. Ignition Switch
2. Tachometer
3. Oil Pressure
4. Water Temperature
5. Battery Meter
6. To Engine
7. 20 Ampere Fuse

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Dual Station Wiring (Using a Neutral Safety Switch in Engine Wiring Harness)

NOTE 1: BROWN/WHITE wire is taped back at instrument end. If installing on boat that is equipped with MerCruiser stern drive, BROWN/WHITE wire is connected to trim sender terminal block. If installing on MerCruiser Inboard, BROWN/WHITE wire is taped back at engine end, or it may be used for an accessory (limit 5 amperes).

NOTE 2: An accessory fuse panel may be connected at this location. The combined current draw of the primary station and secondary station MUST NOT exceed 35 amperes.

NOTE 3: Connect wires together with screw and hex nut. Apply Quicksilver Liquid Neoprene to connection and slide rubber sleeve over connection.

A - Secondary Station
1 - Start - Stop Panel
2 - Tachometer
3 - Oil Pressure
4 - Water Temperature
5 - Battery Meter

B - Primary Station
1 - Ignition Switch
2 - Tachometer
3 - Oil Pressure
4 - Water Temperature
5 - Battery Meter
6 - To Engine
7 - 20 Ampere Fuse

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4F-20 - WIRING DIAGRAMS

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Multi-Port Injection Wiring Diagram (Chart 1 Of 4)
Throttle Body Injection Wiring Diagram (Chart 2 Of 4)
Throttle Body Injection Wiring Diagram (Chart 4 Of 4)

- ECM
- TO IGN COIL TERM B
- TO FUEL PUMP RELAY FUSE 15A
- TO INJECTORS

SYSTEM/IGNITION RELAY
- TO IGN 3 PNK 8
- TO B 2 RED 30
- ECM BAT FUSE/ DLC 15A 2 RED
- TO DLC CONNECTOR 440 ORN

TO DLC CONNECTOR 440 ORN

IGNITION FEED
- J1-11

- SYSTEM/IGNITION RELAY
- TO INJECTORS 150 BLK
- TO FUEL PUMP RELAY FUSE 15A 902 RED
- TO INJECTORS INJ/ECM FUSE 10A

- KNOCK SENSOR (KS) MODULE
- A
- B
- C
- D
- E
- 485 BLK
- 486 BRN
- 496 DK BLU

- KNOCK SENSOR

LANYARD STOP SWITCH CIRCUIT (OPTIONAL)
- J1-21
- 1-942 PNK

CONNECTOR NOT PRESENT ON SOME EFI MODELS
- A
- B
- BLK

BATTERY FEED
- J1-32
- J1-16
- J1-15

BATTERY FEED
- J1-32
- J1-16

TO DLC CONNECTOR 440 ORN

ECM

TO FUEL PUMP RELAY FUSE 15A

TO INJECTORS

TO IGN COIL TERM B
THIS PAGE IS INTENTIONALLY BLANK TO ALLOW FOR CORRECTIONS OR ADDITIONS AT A LATER DATE