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Wiring 1994-1995 Miata with 1994-1995 Mustang 5.0 Engine

Subsystems

Miata Starter
Black from Battery to Starter (motor)
> Black from Starter to Engine Compartment Fuse Box

White from 80A Main Fuse to Ignition Switch
> Black/Blue from Ignition Switch to Starter Interlock Switch
>> Black/Red from Starter Interlock Switch to Starter (solenoid)

Mustang Starter
Red from Battery to Starter (motor)
> Red from Battery to Engine Compartment Fuse Box

Yellow from 40A Ignition Fuse to Ignition Switch
> White/Pink from Ignition Switch to Clutch Switch
>> White/Pink from Clutch Switch to Starter (solenoid)

Starter Connections
Connect Miata Black from Battery to Mustang Starter (motor)

Connect Miata Black/Red from Starter Interlock Switch to Mustang Starter (solenoid)

Miata Alternator
White from 80A Main Fuse to Alternator
> Alternator to Ground through housing

White/Green from 30A Fuel Injection Fuse to Main Relay
> White/Green from Main Relay to Alternator

Black/Yellow from 10A Meter Fuse to Charge Light
> White/Black from Charge Light to Alternator

Mustang Alternator
Gray from Engine Compartment Fuse Box to Fuse Link
> Black/Orange from Fuse Link to Alternator
>> Alternator to Ground through housing

Yellow/White from 20A Alternator Fuse to Alternator
Red/Light Green from 20A "18" Fuse to Charge Light
> Light Green/Red from Charge Light to Alternator

Alternator Connections
Cut (@ Alternator terminal) Miata White from 80A Main Fuse, cut (near Alternator) Mustang Black/Orange to Alternator, and butt splice White to Black/Orange

Cut (@ Alternator terminal) Miata White/Green from Main Relay, cut (near Alternator) Mustang Yellow/White to Alternator, and butt splice White/Green to Yellow/White

Cut (@ Alternator terminal) Miata White/Black from Charge Light, cut (near Alternator) Mustang Light Green/Red to Alternator, and butt splice White/Black to Light Green/Red

Miata Oil Pressure

Black/Yellow from 10A Meter Fuse to Oil Pressure Gauge
> Yellow/Red from Oil Pressure Gauge to Oil Pressure Sensor
>> Sensor to Ground through housing

Mustang Oil Pressure

Red/Yellow from 10A "15" Fuse to Oil Pressure Gauge
> White/Red from Oil Pressure Gauge to Oil Pressure Switch
>> Sensor to Ground through housing

Oil Pressure Connections

Install Miata Oil Pressure Sensor in Mustang Engine (for 1994 Sensor/Gauge, use 1/4" FNPT to 1/8" FNPT adapter, 1/8" NPT close nipple, and 1/8" NPT 90 elbow; for 1995 Switch/Gauge use 1/4" FNPT to 1/8" FNPT adapter only)

Replace round connector @ Mustang Oil Pressure Switch with flat blade connector and connect to Miata Oil Pressure Sensor (or Switch)

Cut (@ inside passenger firewall) Miata Yellow/Red from Oil Pressure Gauge, cut (@ inside passenger firewall harness connector) Mustang White/Red to (Miata) Oil Pressure Sensor, and butt splice Yellow/Red to White/Red

Miata Coolant Temperature

Black/Yellow from 10A Meter Fuse to Coolant Temperature Gauge
> Black/Blue from Coolant Temperature Gauge to Coolant Temperature Sensor
>> Sensor to Ground through housing

Mustang Coolant Temperature

Red/Yellow from 10A "15" Fuse to Coolant Temperature Gauge
> Red/White from Coolant Temperature Gauge to Coolant Temperature Sensor
>> Sensor to Ground through housing

Coolant Temperature Connections

Install Miata Coolant Temperature Sensor in Mustang Engine (use 3/8" NPT plug, drilled and tapped for 1/8" NPT)

Replace round connector @ Mustang Coolant Temperature Sensor with flat blade connector and connect to Miata Coolant Temperature Sensor

Cut (@ inside passenger firewall) Miata Black/Blue from Coolant Temperature Gauge, cut (@ inside passenger firewall harness connector) Mustang Red/White to (Miata) Coolant Temperature Sensor, and butt splice Black/Blue to Red/White

Miata Cooling Fan
Black/Red from 20A Fan Fuse to Fan Relay (switch)
      Yellow from Fan Relay (switch) to Cooling Fan
            Black from Cooling Fan to Ground
Black/White from 30A Engine Fuse to Main Relay
      Black/White from Main Relay to Fan Relay (coil)
            Black/Green from Fan Relay (coil) to ECU
                  ECU to Ground (programmed)

Mustang Cooling Fan
Black/Orange from 60A Fan Fuse to CCRM (Constant Control Relay Module)
      Red/Orange from CCRM to Fan (speed 1)
            Black from Fan to Ground
      Orange/Light Blue from CCRM to Fan (speed 2)
            Black from Fan to Ground

Cooling Fan 1 Connections
Connect (butt splice or connectors as desired) Miata Yellow from Fan Relay (switch) to Cooling Fan 1 + (recommend augmenting wire gauge for increased current capacity)

Connect (butt splice or connectors as desired) from Cooling Fan 1 - to Miata Black to Ground (recommend augmenting wire gauge for increased current capacity)

Install Coolant Temperature Switch (recommend Zirgo ZFSWF or Painless 30111, drill and tap Mustang Thermostat Housing for 3/8" FNPT)

Cut (@ HEGO harness connector) Mustang White/Pink to Low Oil Level Sensor, pull back to harness "Y" near Coolant Temperature Sensor, cut to desired length, terminate with appropriate connector, and connect to Coolant Temperature Switch

Cut (@ ECU connector) Miata Black/Green from Fan Relay (coil), cut (@ inside passenger firewall harness connector) Mustang White/Pink to Coolant Temperature Switch, and butt splice Black/Green to White/Pink

Miata Condenser Fan
Blue/Yellow from 20A AD Fuse to Condenser Fan Relay (switch)
      Black/Yellow from Condenser Fan Relay (switch) to Condenser Fan
            Black from Condenser Fan to Ground
Black/White from 30A Engine Fuse to Main Relay
      Black/White from Main Relay to Condenser Fan Relay (coil)
            Blue/White from Condenser Fan Relay (coil) to ECU
                  ECU to Ground (programmed)

Cooling Fan 2 Connections
Connect (butt splice or connectors as desired) Miata Black/Yellow from Condenser Fan Relay (switch) to Cooling Fan 2 + (recommend augmenting wire gauge for increased current capacity)

Connect (butt splice or connectors as desired) Cooling Fan 2 - to Miata Black to Ground (recommend augmenting wire gauge for increased current capacity)

Install new relay to actuate Cooling Fan 2 whenever Cooling Fan 1 is actuated (recommend locating near AC Fan Relay):

Cut (@ outside passenger firewall) Miata Blue/White from Condenser Fan Relay (coil) and jumper to new relay terminal 30

Connect a jumper from new relay terminal 87a and butt splice to Miata Blue/White to ECU

Cut (@ ECU connector) Miata Blue/White from Condenser Fan Relay (coil) (now from new relay terminal 30), cut (@ ECU connector) Miata Light Green/Black to Refrigerant Pressure Switch, and Y splice Blue/White to Light Green/Black (with Blue/Black from AC Relay- see AC Clutch Connections below)

Jumper new relay terminal 87 to Ground

T splice (@ Miata Cooling Fan Relay) a jumper from Miata Black/White from Main Relay and connect to new relay terminal 85

T splice (@ Miata Cooling Fan Relay) a jumper from Miata Black/Green from Cooling Fan Relay (coil) and connect to new relay terminal 86

Miata AC Clutch
Blue/Yellow from 20A AD Fan Relay Fuse to AC Relay (switch)
     Black/Red from AC Relay (switch) to AC Clutch
          AC Clutch to Ground through housing
Blue from 20A Wiper Fuse to AC Relay (coil)
     Blue/Black from AC Relay (coil) to ECU
          Light Green/Black from ECU to Refrigerant Pressure Switch
               Black/Blue from Refrigerant Pressure Switch to Temperature Switch
                    Green/Red from Temperature Switch to AC Switch
                         AC Switch to Blower Switch
                              Blower Switch to Ground

Mustang AC Clutch
White/Pink from 15A "5" Fuse to AC/Heater Control
     Purple from AC/Heater Control to AC Cycle Switch
          Dark Blue/Yellow from AC Cycle Switch to AC High Pressure Switch
               Dark Green/Orange from AC High Pressure Switch to CCRM
                    Black/Yellow from CCRM to AC Clutch
                    Black from AC Clutch to CCRM
                        Black from CCRM to Ground

AC Clutch Connections

Cut (@ AC Clutch connector) Miata Black/Red from AC Relay (switch), cut (near AC Clutch connector) Mustang Black/Yellow to AC Clutch, and butt splice Black/Red to Black/Yellow

Cut (near AC Clutch connector) Mustang Black from AC Clutch and butt splice a jumper to Ground

Cut (@ ECU connector) Miata Blue/Black from AC Relay (coil), cut (@ ECU connector) Miata Light Green/Black to Refrigerant Pressure Switch, and Y splice Blue/Black to Light Green/Black (with Blue/White from Condenser Fan Relay- see Cooling Fan 2 Connections above)

Miata Fuel Pump

White/Red from Main Relay to Fuel Pump Relay (switch)
      Blue/Red from Fuel Pump Relay (switch) to Fuel Pump
          Black from Fuel Pump to Ground
White/Red from Main Relay to Fuel Pump Relay (coil)
      Light Green from Fuel Pump Relay (coil) to ECU
          ECU to Ground (programmed)
      Light Green from Fuel Pump Relay (coil) to Diagnostics Port

Mustang Fuel Pump

Pink/Black from Fuse Link D to Fuel Pump Relay (switch)
      Dark Green/Yellow from Fuel Pump Relay (switch) to Inertia Switch
          Brown/Pink from Inertia Switch to Pink/Black to Fuel Pump
              Black from Fuel Pump to Ground
      Dark Green/Yellow from Fuel Pump Relay (coil) to ECU #8
Yellow from Fuse Link G to PCM Power Relay (switch)
      Red from PCM Power Relay (switch) to Fuel Pump Relay (coil)
          Light Blue/Orange from Fuel Pump Relay (coil) to ECU #22
Red/Green from Ignition Switch to PCM Power Relay (coil)
      Black/White from PCM Power Relay (coil) to Ground

Fuel Pump Connections

Remove Mustang Inertia Switch: cut (@ harness) Mustang Dark Green/Yellow from Fuel Pump Relay (switch) to Inertia Switch and cut Brown/Pink from Inertia Switch to Pink/Black to Fuel Pump

Cut (near Fuel Pump Relay) Miata Blue/Red from Fuel Pump Relay (switch)

Butt splice (near Fuel Pump Relay) Miata Blue/Red **from** Miata Fuel Pump Relay (switch) to Mustang Dark Green/Yellow to Inertia Switch

Butt splice (near Fuel Pump Relay) Mustang Brown/Pink from Inertia Switch to Miata Blue/Red **to** Fuel Pump

Cut (@ ECU connector) Miata Light Green from Fuel Pump Relay (coil), cut (near ECU) Mustang Light Blue/Orange to ECU #22, and butt splice Light Green to Light Blue/Orange

T splice (near Fuel Pump Relay) a jumper from Miata Blue/Red from Fuel Pump Relay, cut (near ECU) Mustang Dark Green/Yellow to ECU #8, and butt splice jumper to Dark Green/Yellow

Miata Backup Lights
Black/Yellow from 10A Meter Fuse to Backup Light Switch
  Red/Green from Backup Light Switch to Backup Lights
    Black from Backup Lights to Ground

Mustang Backup Lights
Purple/Orange from 15A "1" Fuse to Backup Light Switch
  Black/Pink from Backup Light Switch to Backup Lights
    Black from Backup Lights to Ground

Backup Light Connections
Cut (@ inside passenger firewall harness) Miata Black/Yellow from 10A Meter Fuse, cut (@ inside passenger firewall harness connector) Mustang Purple/Orange to Backup Light Switch, and butt splice Black/Yellow to Purple/Orange

Cut (@ inside passenger firewall harness connector) Mustang Black/Pink from Backup Light Switch, cut (@ inside passenger firewall harness) Miata Red/Green to Backup Lights, and butt splice Black/Pink to Red/Green

Miata Neutral Switch
Brown/White from ECU to Neutral Switch
  Black from Neutral Switch to Ground

Mustang Neutral Switch
Light blue/Yellow from ECU #30 to Neutral Switch
  Gray/Red from Neutral Switch to ECU #46

Neutral Switch Connections
None- Mustang transmission harness connects Neutral Switch to ECU

Miata Clutch Switch
Brown/White from ECU to Clutch Switch
  Black from Clutch Switch to Ground

Mustang Clutch Switch
Light Blue/Yellow from ECU #30 to Clutch Switch
  Gray/Red from Clutch Switch to ECU #46

Clutch Switch Connections

Cut (@ ECU connector) Miata Brown/White to Clutch Switch, cut (near ECU) Mustang Light Blue/Yellow from ECU #30 and butt splice Brown/White to Light Blue/Yellow

Cut (@ Ground) Miata Black from Clutch Switch, butt splice a jumper, cut (near ECU) Mustang Gray/Red to ECU #46, and butt splice jumper to Gray/Red

Mustang ECU Connections

Hot at all times
Cut (@ ECU connector) Miata Blue/Red from 10A Room Fuse, cut (near ECU) Mustang Yellow to ECU #1, and butt splice Blue/Red to Yellow

Hot in run
Cut (@ ECU connector) Miata White/Red from Main Relay, cut (near ECU) Mustang Red to ECU #37 & #57, and butt splice White/Red to Red

Ground
Cut (near ECU) Black from Mustang ECU #20, #40, & #60, cut (@ ECU connector) Miata Black to Ground, and Y splice Black (3X) to Black

Fuel Pump
See Fuel Pump Connections above

Clutch Switch
See Clutch Switch Connections above

Ignition Signal
Cut (@ ECU connector) Miata Black/White from Tachometer and T splice (near ECU) to Mustang Tan/Yellow to ECU #4

Check Engine Light
Cut (@ ECU connector) Miata Yellow/Black from Check Engine Light, cut (near ECU) Mustang Pink/Light Green to ECU #17, and butt splice Yellow/Black to Pink/Light Green

References

Haynes Repair Manual, Mazda MX-5 Miata, 1990 thru 1997

Haynes Repair Manual, Ford Mustang, 1994 thru 2004

http://www.veryuseful.com/mustang/tech/engine/images/

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