RON FRANCIS Wiring

(ML-95)

WIRING INSTRUCTIONS

Thank you for purchasing the absolute finest of wiring kits for the Ford Motor Co. fuel injection engine. We have taken considerable time to work out the circuitry so that you, the customer will understand at least some of what this is all about. We ask that you follow our instructions closely. We recommend using a high pressure in tank fuel (45 PBS min.) pump. Custom installations are available from Tanks Inc. (phone #320-558-6882) and Rock Valley (phone #800-344-1934).

Should you eliminate a sensor, your injection system will not work at its peak and will probably be in some variation of back up mode. There are many factors that will help you get a trouble free start up that you must consider.

NOTE!!

FORD diagnostic procedures are very detailed, lengthy and impossible to cover in this set of instructions. Purchasing the FORD ENGINE/ EMISSIONS DIAGNOSIS shop manual will help you learn about the engine you installed and guide you through the correct diagnostic procedures Ford recommends. This book is available through your local Ford dealer or Helm Inc. Helm is the distributor for the shop manuals for General Motors and Ford Motor Company. Helm can be contacted at 800-782-4356 or on their web site www.helminc.com

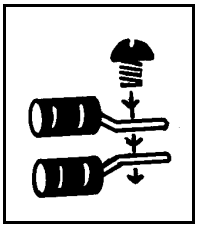
WARNING!

After the kit installation is complete and it is necessary to diagnose a starting or drive ability problem, follow the procedures recommended in the shop manual. All voltage tests must be preformed using a HIGH impedance, digital voltmeter. DO NOT use a test light on this system! DAMAGE WILL BE DONE to the engine computer if a test light is used on this system.

STARTING INSTALLATION

Since there are so many individual circuits to complete, we recommend that you connect them in the order that we prescribe. Disconnect the battery before starting and do not reconnect until instructed.

There will be many connections to the TELORVEK panel so plan the location of the panel in an area with room to work. We suggest mounting the panel in an assessable location, in the trunk, under the seat or under the dash are good. In order to allow for the proper spacing between the computer and the Telorvek panel, plug the connector into the computer (ECM) and mount the panel and computer. **For safety, disconnect the ECM connector until finished the installation.** A poor installation will result in a poor running car. **The number referred to from this point on will be the location on one of the terminal blocks located on the TELORVEK panel.**



Always put the first terminal under a screw with the fat wire side down as in the drawing. Install any second terminals just the opposite as this will allow the screw to hold squarely and tight. The insulation from one terminal should not interfere with the one next to it.

Use a crimping tool that is designed for insulated terminals. If the tool punctures the insulation (plastic) or damages it in any way, you are using the wrong tool. The proper tool will only "flatten" the plastic and if the handles are squeezed completely, the proper crimp has been made. Get in the habit of test pulling at each terminal as you crimp it to the wire.

After all wires are connected to the engine, wire tie them together or use 3/4 inch Zip loom to protect them. This can be done before any connections are made to the panel. Since all wires are marked, running the entire group to the panel at one time is fine. Some terminals on the panel may not be used!

****

Important! We have supplied three sizes of terminals for your use on the panels itself. The Yellow is used on the 10-12 gauge wire, Blue is used on 14-16 gauge wire and Red is used for the bulk of the smaller wires. Each individual bag instructions will be marked as to when to use the yellow or blue, terminals, all other wires will use the red terminals.

☞ NOTE ☜

You will be moving around to different terminals on the TELORVEK panel to make connections. For this reason extra care is needed when making all connections to the panel.

☞ NOTE ☜

If you have a 1996 model engine/transmission and your ECM uses a 104 pin connection you cannot use this ECM with this wiring kit. You will need to acquire a 1995 Ford Truck/Bronco that matches your engine size and transmission.

Injectors

Two different wiring scenarios are listed below. Based on the part of country you live in as well as the engine and transmission you are using, the correct injector harness wiring bag has been supplied. Look at the bag number supplied in your kit and follow the paragraph below that pertains to that bag.

Always follow the printing on the wires themselves!!

Bag #20. INJECTORS 5.0 automatic transmission or 5.8 California emissions: The injector wiring is made up in a harness with two branches, one branch for the left side (drivers side) injectors and one for the right side injectors. Locate the right side injector connectors (injectors 1 through 4) and lay them out on the manifold. Now lay the left side injector (5 through 8) connectors out on the manifold. Note the printing on the wires running from the injector connectors making sure the correct connectors are plugged onto the correct injectors: red & tan to INJ 1, red & white to INJ 2, red & brown to INJ 3, red & lt blue to INJ 4, red & black to INJ 5, red & lt green to INJ 6, red & purple to INJ 7 and red and dk blue to INJ 8.

Now run the wires back to the panel. Connect the reds INJ 1->7 and INJ 5->7 to **#7**. Connect the tan INJ 1->100 to **#100**, white INJ 2->101 to **#101**, brown INJ 3->102 to **#102**, lt blue INJ 4->103 to **#103**, black INJ 5->104 to **#104**, lt green INJ 6->105 to **#105**, purple INJ 7->106 to **#106** and dk blue INJ 8->107 to **#107**.

Bag #20A. INJECTORS 5.0 manual transmission or 5.8 standard emissions: The injector wiring is made up in a harness with two branches, one branch for the left side (drivers side) injectors and one for the right side injectors. Locate the right side injector connectors (injectors 1 through 4) and lay them out on the manifold. Now lay the left side injector (5 through 8) connectors out on the manifold. Note the printing on the wires running from the injector connectors making sure the correct connectors are plugged onto the correct injectors: red & tan to INJ 1, red & white to INJ 2, red & white to INJ 3, red & tan to INJ 4, red & tan to INJ 5, red & white to INJ 6, red & white to INJ 7 and red and tan to INJ 8.

Now run the wires back to the panel. Connect the reds INJ 1->7 and INJ 2->7 to **#7**. Connect the tan INJECTORS->100 to **#100** and the white INJECTORS->101 to **#101**.

Bag #21. IGNITION COIL: The ignition coil is mounted on the rear of the intake manifold. Plug in the connector and run the wires back to the Telorvek panel. Using blue terminals connect the red wire (IGN COIL->10) to **#10** and using red terminals connect the purple wire (IGN COIL->12) to **#12**.

Bag #22. COOLANT TEMPERATURE SENSOR: After attaching the plug to the sensor located on the top front of the motor next to the distributor run the two wires to the panel. Using the red terminals, connect the lt green wire (ECT->15) to **#15** and the gray wire (ECT->94) to **#94**.

Bag #23. INTAKE AIR TEMPERATURE SENSOR (IAT): Plug the connector onto the IAT sensor and run the wires to the Telorvek Panel. Using the red terminals connect the yellow wire (IAT->16) to **#16** and the gray wire (IAT->94) to **#94**.

Bag #24. IDLE SPEED CONTROL: The ISC is located on the top front of the throttle body. Plug in the connector and run the wires back to the panel. Using the red terminals, connect the white wire (ISC->17) to **#17** and the red wire (IAC->8) to **#8**.

Bag #25. THROTTLE POSITION SENSOR (TPS): Plug the connector into the sensor located in the throttle body and run the wires back to the panel. Using the red terminals connect the brown (TPS->36) to **#36**, white (TPS->38) to **#38** and gray (TPS->96) to **#96**.

Bag #26. EXHAUST GAS RECIRCULATION VALVE POSITION SENSOR (EGRVP): Plug the connector onto the EGRVP. Using red terminals run the lt green wire (EGRVP->39) to **#39**, brown wire (EGRVP->36) to **#36** and the gray (EGRVP->96) to **#96**.

Bag #27. IGNITION CONTROL MODULE CONNECTION: The ICM requires some of the wires to be shielded from any electrical interference, that is why three of the wires (pink, gray, solid strand) in the connector are wrapped.

Carefully uncoil the harness and plug it into the ICM then run all the wires to the Telorvek panel. Remove the tape and shielding material back only as far as it is necessary for the length of the wire to be cut and allowing enough wire to make the connections on the panel. In the shielded harness there is a solid strand wire with no insulation. Install a blue terminal on it and connect it to **#26**. After the connection is made wrap the exposed wire from the shielded harness to **#26** with electrical tape. Using red terminals the other two wires in the shielded harness are connected as follows, pink (ICM->19) to **#19** and gray (ICM->20) to **#20**. Connect the four remaining wires running from the ICM connector as follows: purple (ICM->12) to **#12**, red (ICM->10) to **#10**, black (ICM->25) to **#25** and purple (ICM->18) to **#18**.

If you are installing a tach in your vehicle, connect the purple wire 13->TACH to **#13** and run the wire to the tach. Follow the tach manufactures installation instructions on the wiring of this instrument.

Bag #28 DISTRIBUTOR: The distributor wiring requires the wires to be shielded from any electrical interference, that is why the orange, gray and solid strand in the connector are wrapped.

Carefully uncoil the harness and plug it into the distributor then run all the wires to the Telorvek panel. Remove the tape and shielding material back only as far as it is necessary for the length of the wire to be cut and allowing enough wire to make the connections on the panel. In the shielded harness there is a solid strand wire with no insulation, install a blue terminal on it and connect it to **#26**. After the connection is made wrap the exposed wire from the shielded harness to **#26** with electrical tape. Using red terminals are connect the remaining wires in the shielded harness as follows, orange (DIST->21) to **#21** and gray (DIST->20) to **#20**. Now connect the black wire (DIST->25 to **#25** and the red wire (DIST->9) to **#9**.

Oxygen Sensor(s)

Three different wiring scenarios are listed below. Based on the part of country you live in as well as the engine and transmission you are using the correct o2 sensor wiring bag has been supplied. Look at the bag number supplied in your kit and follow the paragraph below that pertains to that bag.

Always follow the printing on the wires themselves!!

Bag #29. OXYGEN SENSOR 94-95 5.0 w/E4OD automatic transmission: This area of the vehicle is hot so keep the wires away from the exhaust. **Install the sensor as close to the block as possible.** Plug in the connector into the O2 sensor and run the wires to the Telorvek panel. Using the red terminals connect the red wire (02 SENSOR->11) to **#11** and the black wire (O2 SENSOR->28 to **#28.** Connect the lt blue (O2 SENSOR->22) to **#22** and the orange wire (O2 SENSOR->92) to **#92**.

Bag #29A. OXYGEN SENSOR 95 5.0 w/4R70W automatic transmission or 94-95 5.8 w/automatic or manual transmission with standard emissions: This area of the vehicle is hot so keep the wires away from the exhaust. **Install the sensor as close to the block as possible.** Plug in the connector into the O2 sensor and run the wires to the Telorvek panel. Using the red terminals connect the red wire (02 SENSOR->11) to **#11** and the black wire (O2 SENSOR->28 to **#28.** Connect the lt blue (O2 SENSOR->99) to **#99** and the orange wire (O2 SENSOR->92) to **#92**.

Bag #29B. OXYGEN SENSORS (2) 94-95 5.8 automatic or manual transmission w/California emission: This area of the vehicle is hot so keep the wires away from the exhaust. **Install the right and left side o2 sensors in the exhaust system as close to the block as possible.** After the sensors are installed, plug the connector with the dk blue, red, gray and black into the left sensor. Plug the connector with the black, gray, lt blue and red wires into the right o2 sensor and run all the wires back to the panel. Using the red terminals connect the red wires (LEFT 02 SEN->11) and the (RIGHT O2 SEN->11) to **#11.** Connect the black wire (RIGHT O2 SEN->28) to **#28** and the other black wire (LEFT O2 SEN->27) to **#27**. Connect the lt blue (RIGHT O2 SEN->22) to **#22**, gray (RIGHT O2 SEN->95) to **#95**, dk blue (LEFT O2 SEN->83) to **#83** and the gray (LEFT O2 SEN->95) to **#95**.

Bag #30 MANIFOLD ABSOLUTE PRESSURE SENSOR (MAP) 5.0,5.8 engine w/manual transmission and standard emission only: Mount the MAP sensor in the engine compartment. Plug in the connector and run the wires back to the panel. Connect the brown wire (MAP->37) to **#37**, black (MAP->40) to **#40** and gray (MAP->95) to **#95**.

Bag #30A MASS AIR FLOW SENSOR (MAF) 5.0 engine w/automatic transmission or 5.8 engine w/California emission: Mount the MAF sensor in the air inlet tube between the air filter and throttle body. Plug in the connector and run the wires back to the panel. Using the blue terminals connect the black wire (MAF->27) to **#27** and the red MAF->8 to **#8**. Using the red terminals connect the tan (MAF->46) to **#46** and the lt blue (MAF->47) to **#47**.

VIP diagnostic connector

Two different wiring scenarios are listed below. Based on the part of country you live in as well as the engine and transmission you are using the correct VIP wiring bag has been supplied. Look at the bag number supplied in your kit and follow the paragraph below that pertains to that bag.

Always follow the printing on the wires themselves!!

Bag #31. V.I.P. SELF TEST 5.0 w/manual transmission or 5.8 w/standard emission: Mount both connectors inside the vehicle under the dash and run the wires to the Telorvek Panel. Using the red terminals connect the tan (VIP 1->46) to **#46**, tan (VIP 1->48 to **#48**, gray (VIP 1->97) to **#97**, lt green (VIP 1->44) to **#44**, lt blue (VIP 1->41) to **#41** and the white (VIP 2->45) to **#45**.

The remaining lt Green & red wires are for the dash mounted service engine soon (S.E.S) light. The light must be a two wire un-grounded light. Connect the lt green wire (44->SES LT) to **#44** on the Telorvek Panel and run it to a dash indicator light and connect it to one of the wires running from the light. The red wire (65->SES LT) connects to **#65** on the panel and run to the other wire running from the light. This light is not required as the yellow light on top of the Telorvek Panel has the same function.

Bag #31A. V.I.P. SELF TEST 5.0 w/automatic transmission or 5.8 w/California emission: Mount both connectors inside the vehicle under the dash and run the wires to the Telorvek Panel. Using the red terminals connect the tan (VIP 1->42) to **#42**, gray (VIP 1->97) to **#97**, pink (VIP 1->43) to **#43**, lt green (VIP 1->44) to **#44**, lt blue (VIP 1->41) to **#41** and the white (VIP 2->45) to **#45**.

The remaining lt Green & red wires are for the dash mounted service engine soon (S.E.S) light. The light must be a two wire un-grounded light. Connect the lt green wire (44->SES LT) to **#44** on the Telorvek Panel and run it to a dash indicator light and connect it to one of the wires running from the light. The red wire (65->SES LT) connects to **#65** on the panel and run to the other wire running from the light. This light is not required as the yellow light on top of the Telorvek Panel has the same function.

Transmission Wiring & Instructions

Automatic Electronic Transmission Wiring

Three different wiring scenarios are listed below. Based on the part of country you live in as well as the engine and transmission you are using the correct transmission wiring bag has been supplied. Look at the bag number supplied in your kit and follow the paragraph that pertains to that bag.

Always follow the printing on the wires themselves!!

Manual Transmissions

Wiring bags #32, #33 and #35 are not supplied with this type transmission. Wiring bag #34 vehicle speed sensor still must be installed to provide the engine computer with a speed signal input.

Bag #32. E4OD TRANSMISSION CONNECTIONS 5.0 engine or 95 5.8 engine w/California emission: The E4OD transmission is a electronically controlled four speed automatic transmission. Plug the connector into the transmission and run the wires to the Telorvek panel. Using the red terminals, connect the orange wire (TRANS 7->70) to **#70**, yellow (TRANS 4->73) to **#73**, brown (TRANS 5->71) to **#71**, gray (TRANS 8->98) to **#98**, orange (TRANS 3->74) to **#74**, pink (TRANS 2->72) to **#72** and the white (TRANS 11->75 to **#75** . Using blue terminals, connect the red (TRANS 1->67) and the red (TRANS 12->67) to **#67**.

The Purple wire (77->BRK SW) connects to **#77** and runs to the cold side of the brake light switch. This wire should only have 12 volts with the brake pedal depressed.

Bag #32A. E4OD TRANSMISSION CONNECTIONS 94-95 5.8 engine w/standard emission: The E4OD transmission is a electronically controlled four speed automatic transmission. Plug the connector into the transmission and run the wires to the Telorvek panel. Using the red terminals, connect the orange wire (TRANS 7->85) to **#85**, yellow (TRANS 4->73) to **#73**, brown (TRANS 5->71) to **#71**, gray (TRANS 8->98) to **#98**, orange (TRANS 3->72) to **#72**, pink (TRANS 2->43) to **#43** and the white (TRANS 11->75 to **#75** . Using blue terminals, connect the red (TRANS 1->67) and the red (TRANS 12->67) to **#67**.

The Purple wire (77->BRK SW) connects to **#77** and runs to the cold side of the brake light switch. This wire should only have 12 volts with the brake pedal depressed.

Bag #32B. 4R70W TRANSMISSION CONNECTIONS 95 5.0 engine: The 4R70W transmission is a electronically controlled four speed automatic transmission. Plug the connector into the transmission and run the wires to the Telorvek panel. Using the red terminals, connect the orange wire (TRANS 5->92) to **#92**, yellow (TRANS 3->73) to **#73**, white (TRANS 10->75) to **#75**, gray (TRANS 9->98) to **#98**, orange (TRANS 1->74) to **#74** and the pink (TRANS 6->72) to **#72**. Using blue terminals, connect the red (TRANS 8->67), red (TRANS 7->67) to **#67** and the red (TRANS 2->68) to **#68**.

The Purple wire (77->BRK SW) connects to **#77** and runs to the cold side of the brake light switch. This wire should only have 12 volts with the brake pedal depressed.

The remaining two gang connector is for the output shaft speed sensor located in the tail shaft of the transmission. After plugging in the connector run the wires to the panel. Connect the gray wire (SHAFT SPD SEN->98) to **#98** and the dk green wire (SHAFT SPD SEN->84) to **#84**.

Bag #33. TRANSMISSION CONTROL SWITCH (TCS) & TRANSMISSION CONTROL INDICATOR LIGHT (TCIL): The ECM has the capability to lock-out fourth gear of the transmission with a push of a button. Pushing the momentary contact TCS button will light and blink the TCIL and lock-out fourth gear in the transmission for city driving. Pushing the button again will turn the TCIL off and release the lock-out allowing the transmission to shift into fourth gear for highway driving.

Mount a momentary contact switch in dash or near the shifter lever. Connect the red wire (66->TCS) to **#66** and the tan wire (79->TCS) to **#79** and run both wires to the TCS switch. You may connect the wires to either terminal on the switch.

The TCIL light must be a two wire un-grounded light. Mount the light in the dash where it is visible while driving. Connect the white wire (78->TCIL) to **#78** and the red wire (66->TCIL) to **#66** and run both wires to the TCIL light and make the connections.

Bag #34. VEHICLE SPEED SENSOR: On a stock vehicle application the rear anti-lock brake sensor sends a signal to the programmable speedometer/odometer module (PSOM). The module then converts this signal into a standard 8000 pulses per mile (8 pulses per revolution) signal all Ford ECM'S accept. In order for the transmission to function properly this signal must be provided to the ECM.

Speedometer cable driven eight pulse generators (PG-8) are available however will have to be adapted to your speedometer cable. This service can be preformed at your local speedometer shop.

If you discussed using a manual or non-electronic transmission at the time of order we have applied the typical Ford speed sensor connector to the proper wires. You can connect this to Ford Speed Sensor part number: E9TZ-9E731-A. This sensor can be adapted to most C4, C6, AOD and manual transmissions.

After mounting the generator connect the (VSS HIGH->80) to **#80** and run it to the signal output wire from the generator. Connect the (VSS LOW->28) wire to **#28** and run it to the VSS low output wire from the generator. Some aftermarket generators require an ignition feed to the unit. If so connect it can be connected to **#8** on the panel.

Electronic speedometers can be connected to terminal **#80** to pick up the VSS signal. This is a standard Ford 8000 pulse per mile signal.

Bag #35. MANUAL LEVER POSITION SWITCH (MLPS) : The manual lever position switch is located on the left hand side of the transmission. The MLPS controls neutral safety, back-up and lever position functions. We have included wires in the MLPS connector to allow you to get full use out of the switch. Connect the circuits in the switch as follows:

The heavier gauge Lt Blue (IGNITION SW->) and the Purple (START SOL->) wires are for the neutral safety circuit. Locate the wire that runs from the ignition switch to the starter solenoid. Cut the wire and connect the Lt Blue wire (IGNITION SW->) to the wire running from the ignition switch and the Purple wire (START SOL->) to the wire running from the starter solenoid. **NOTE:** If you are wiring this circuit to one of our Component Panel wiring kits, these wires will be a color for color match.

BACK UP LIGHTS: Connect the dk Green wire (BACK UP LT FEED) to a 12 volt ignition source. This wire should have 12 volts only with the key in the run position. Run the other dk Green wire (TO BACK UP LTS) to the rear of the vehicle and connect it to both back-up lights. The lights must be grounded.

MLPS POSITION CIRCUIT : Run the yellow and gray wires to the Telorvek panel. Using the red terminals, connect the yellow wire (MLPS->76) to **#76** and the gray wire (MLPS->97) to **#97**.

Bag #36. FUEL PUMP, INERTIA SWITCH & FUEL PUMP RELAY: We have included the wiring necessary for the Ford inertia switch. The inertia switch cuts off the electric fuel pump in the advent of an accident. Mount the inertia switch in the rear of the vehicle in a dry area. Plug the connector into the inertia switch. Using the blue terminals connect the tan wire (INERTIA SW->81) to **#81** on the Telorvek panel. Run the other tan wire (INERTIA SW->PUMP) to the electric fuel pump. Hook the wire to the positive terminal on the pump. From the negative terminal on the pump connect a wire and run it to a good ground.

NOTE : The inertia switch has a red button on top of it that must be set (pushed down) in order for the fuel pump to operate. If the pump fails to operate check the inertia switch making sure the red button is in the down position.

FUEL PUMP RELAY: The fuel pump relay is located in the cover of the TELORVEK panel and is pre-wired. A relay must be installed in the connector Airtex part #1R1061, Standard Motor Products part #RY116 or GM part #14100455 or the pump WILL NOT operate.

Emission Control Wiring

Two different wiring scenarios are listed below. Based on the part of country you live in as well as the engine and transmission you are using the correct emission control wiring bag has been supplied. Look at the bag number supplied in your kit and follow the paragraph below that pertains to that bag.

Always follow the printing on the wires themselves!!

Bag #37. EGR SOLENOID (EGR), AIR DIVERT & AIR BYPASS SOLENOIDS, CANISTER PURGE SOLENOID 5.0 engine w/automatic transmission or 5.8 engine w/California emission:

EGR: Plug the connector into the EGR solenoid. Using the red terminals run the red wire (EGR SOL->6) to **#6** and the brown wire (EGR SOL->49) to **#49**.

AIR DIVERT & AIR BYPASS SOLENOIDS: Controlled by the ECM, these solenoids control the fresh air flow into the exhaust reducing the hydrocarbon and carbon monoxide content of the exhaust.

BYPASS SOLENOID: Plug the connector into the bypass solenoid and run the wires to the panel. Using the red terminals connect the red wire (BYPASS SOL->5) to **#5** and the white wire (BYPASS SOL->51) to **#51**.

AIR DIVERT SOLENOID: Plug the connector into the air divert solenoid and run the wires to the panel. Using the red terminals, connect the red wire (DIVERT SOL->6) to **#6** and the brown wire (DIVERT SOL->50) to **#50**.

CANISTER PURGE SOLENOID: Plug the connector into the Canister Purge Solenoid. Using red terminals connect the red wire (CP SOL->5) to **#5** and the gray wire (CP SOL->52) to **#52** using a red terminals.

Bag #37A. EGR SOLENOID (EGR), AIR DIVERT & AIR BYPASS SOLENOIDS, CANISTER PURGE SOLENOID 5.0 engine w/manual transmission or 5.8 engine w/standard emission:

EGR: Plug the connector into the EGR solenoid. Using the red terminals run the red wire (EGR SOL->6) to **#6** and the brown wire (EGR SOL->49) to **#49**.

AIR DIVERT & AIR BYPASS SOLENOIDS: Controlled by the ECM, these solenoids control the fresh air flow into the exhaust reducing the hydrocarbon and carbon monoxide content of the exhaust.

BYPASS SOLENOID: Plug the connector into the bypass solenoid and run the wires to the panel. Using the red terminals connect the red wire (BYPASS SOL->5) to **#5** and the orange wire (BYPASS SOL->74) to **#74**.

AIR DIVERT SOLENOID: Plug the connector into the air divert solenoid and run the wires to the panel. Using the red terminals, connect the red wire (DIVERT SOL->6) to **#6** and the brown wire (DIVERT SOL->52) to **#52**.

CANISTER PURGE SOLENOID: Plug the connector into the Canister Purge Solenoid. Using red terminals, connect the red wire (CP SOL->5) to **#5** and the white wire (CP SOL->51) to **#51.**

☞ NOTE ☜

The remaining wiring bag (#38) is used on 5.0 engines only. If you are installing this kit on a 5.8 engine, this bag will not be supplied.

Bag #38 KNOCK SENSOR (5.0 ENGINES ONLY): The knock sensor signals the ECM to retard timing if engine knocks during operation. Plug the connector into the sensor and run the wires back to the panel. Connect the yellow wire (KNOCK->23) to **#23** and the gray wire (KNOCK->93) to **#93**.

FINISHING UP

Connect the large pre-wired **orange** wire to the ignition circuit of your ignition switch. This is an ignition feed that is controlled by the ignition switch. This is not an accessory feed and must remain hot even when the engine is cranking.

Connect the large pre-wired **red** battery feed wire to a battery feed. This is a battery feed that must remain hot even with the key off. Make sure this is a good connection. If you have a Master Disconnect switch, install this wire on the battery side of the switch so it will remain hot with the Disconnect off.

The **black** ground wire from the TELORVEK Panel runs direct to the battery. Run the battery ground directly to the engine not the frame first.This includes rear mounted batteries.

STARTING THE ENGINE

You have now made all of the connections necessary to TRY to start your car. If you try now, you will be disappointed since you did not hook up the battery. You can do so now.

Priming the Fuel System

The fuel system can be primed by grounding the fuel pump lead in the V.I.P Self Test Connector. This lead is a lt blue wire (VIP 1->41) located in the large V.I.P Test connector on the short end of the connector. With the key off, run a jumper wire from the connector to ground. Turn the key on and carefully bleed off any air pressure at the schrader valve until fuel runs out. CARE SHOULD BE TAKEN TO AVOID ANY SPILLAGE WHILE FOLLOWING THIS PROCEDURE. After making sure all the air is out of the lines, turn the key off and remove the jumper wire.

We're trying...

Ron Francis Wiring has made every effort to assure a quality product and can assure you that this system works well in your application. Most of the 'problem' calls we have had to date are basic trouble shooting questions which have nothing to do with the TELORVEK system we sold you.

We are committed to offering the most user friendly wiring systems available and support this with many years experience in the wiring and fuel injection fields. Please be certain that all connections are correct and tests run before calling. Your unit can be tested at any Ford Motor Company Dealership with no difficulty.

USING THE CHECK ENGINE LIGHT

The check engine light performs just the same as it would in any newer car, when the key is turned on (engine not running) the light will stay on until the engine starts. When the check engine light comes on during engine operation, it is an indication of a fault in the system. It will be necessary to have the computer scanned by your local Ford dealership or repair facility. Due to changes in engine computer programming by Ford, this system can not be diagnosed properly WITHOUT a scan tool.

Breakout Box Circuit Diagnosis

The Telorvek panel can be used as a BREAKOUT BOX for testing circuits running to and from the EEC Processor. Listed below is the Ford circuit number, circuit description, E.E.C processor pin number, Telorvek panel number the circuit runs to, Ford wire color and the color of wire we used. Following the diagnostic procedures that can be found in the ENGINE / EMISSIONS DIAGNOSIS SHOP MANUAL that can be purchased at your local Ford dealer all trouble codes can be diagnosed.

NOTE: Not all of the terminals on this panel will be used in your application. Your kit was supplied with the correct wiring based on the engine year and size. The following chart will list the same items/sensors but on different panel terminals. This is due to three different engine sizes are connected to this panel. Follow the installation instructions and the printing on the wires carefully when connecting wires to this panel.

Circuit	Description	EEC pin#	Panel #	Ford Color	RFW Color
361	Ign, Air By-Pass/Canister Purge Sol		5	Red	Red
361	Ign, EGR Sol/Air Divert Sol		6	Red	Red
361	Ign, Injectors		7	Red	Red
361	Ign, ISC, MAF **(*)** 37,57		8	Red	Red
16	Ign, Distributor		9	Red	Red
361	Ign, Positive Coil,ICM		10	Red	Red
298	Ign, O2 Sensor, (2 Wires CA Emissions)		11	Pink/Orange	Orange
11	ICM, NEG Coil		12	Tan/Yellow	Purple
11	Tach		13	Tan/Yellow	Purple
			14		
354	ECT	7	15	Lt Green/Red	Lt Green
743	IAT	25	16	Gray	Yellow
264	ISC	21	17	White/Lt Blue	White
382	ICM	4	18	Yellow/Black	Purple
929	ICM	36	19	Pink/Lt Blue	Pink
395	ICM, Distributor	56	20	Gray/Orange	Gray
259	Distributor	16	21	Orange/Red	Orange
74	O2 Sensor	44	22	Gray/Lt Blue	Lt Blue
310	Knock Sensor (5.0 ONLY)	23	23	Yellow/Red	Yellow
			24		
570	GRND, Dist, ICM		25	Black/White	Black
48	GRND, ICM,Dist Shield	20,40	26	Black/White, Black	Solid & Black
969	GRND, MAF, O2 Sensor	6,60	27	Black	Black
57	GRND, VSS, O2 Sensor		28	Black	Black
			29->35 not used		
351	EGRVP, TPS	26	36	Brown/White	Brown
351	MAP Sensor		37	Brown/White	Brown
355	TPS	47	38	Gray/White	White
352	EGRVP	27	39	Brown/Lt Green	Lt Green
358	MAP **(*)**	45	40	Lt Green/Black	Black
926	VIP 1, FP Relay	22	41	Lt Blue/Orange	Lt Blue
914	VIP 1 **(*)**	18	42	Tan/Orange	Tan
915	VIP 1	19	43	Pink/Lt Blue	Pink
658	VIP 1, SES LT	17	44	Pink/Lt Green	Lt Green
209	VIP 2	48	45	White/Pink	White
968	MAF or VIP	9	46	Tan/Lt Blue	Tan
967	MAF	50	47	Lt Blue/Red	Lt Blue
914	VIP (man trans)	28	48	Tan/Orange	Tan
360	EGR Solenoid	33	49	Brown/Pink	Brown
200	Air Divert Solenoid	34	50	Brown	Brown
190	Air Bypass or Can Purge	31	51	White/Orange	White
101	Air Bypass or Can Purge	11	52	Gray/Yellow	Gray
			53->63 not used		

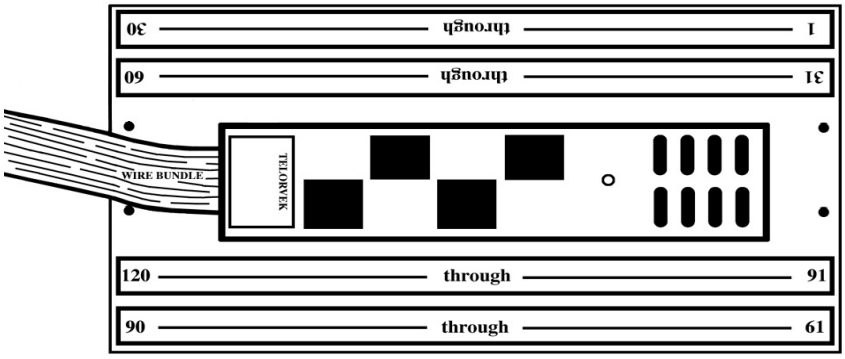
(*) Does not apply to all applications

Circuit	Description	EEC pin#	Panel #	Ford Color	RFW Color
361	FP Relay IGN		64	Red	Red
361	IGN, S.E.S LT		65	Red/Yellow	Red
361	IGN, TCIL, TCS		66	Red	Red
361	IGN, Trans		67	White/Red	Red
361	IGN, Trans		68	Red	Red
37	Battery	1	69	Yellow	Yellow
923	Trans	49	70	Orange/Black	Orange
924	Trans	55	71	Brown/Orange	Brown
315	Trans	52	72	Pink/Orange	Pink
480	Trans	53	73	Pink/Yellow	Yellow
237	Trans, Air Bypass (*)	51	74	Orange/Yellow	Orange
925	Trans	38	75	White/Yellow	White
199	MLPS	30	76	Lt Blue/Yellow	Yellow
511	Brake Input	2	77	Lt Green	Purple
911	TCIL	32	78	White/Lt Green	White
224	TCS	41	79	Tan/White	Tan
679	VSS	3	80	Gray/Black	Gray
238	FP Relay, Inertia SW	8	81	Dk Green/Yellow	Tan
198	AC Pressure SW	10	82	Dk Green/Orange	--
348	O2 Sensor **(*)**	43	83	Pink	--
970	Output Shaft VSS	5	84	Dk Green/White	Dk Green
784	Trans Fluid Temp,4 X 4 Ind	42	85	Lt Blue/Black	Orange
			86->91 not used		
923	O2 Sensor	49	92	Orange/Black	Orange
359	Knock Sensor		93	Gray/Red	Gray
359	IAT, ECT	46	94	Gray/Red	Gray
359	O2, MAP Sensor		95	Gray/Red	Gray
359	TPS, EGRVP		96	Gray/Red	Gray
359	VIP 1, MLP		97	Gray/Red	Gray
359	Trans 8		98	Gray/Red	Gray
766	O2 Sensor**(*)**	29	99	Black/Lt Green	Lt Blue
555	Injector	58	100	Tan	Tan
556	Injector	59	101	White	White
557	Injector	39	102	Brown/Yellow	Brown
558	Injector	35	103	Brown/Lt Blue	Lt Blue
559	Injector	15	104	Tan/Black	Black
560	Injector	12	105	Lt Green/Orange	Lt Green
561	Injector	13	106	Tan/Red	Purple
562	Injector	14	107	Lt Blue	Dk Blue
			109->120 not used		

Numbered terminal block cover strip reference.

The drawing below is for your reference on the correct positioning of the Telorvek fuel injection panel terminal block cover strips.

When connecting wires to the panel be sure the numbered terminals match the drawing below.



Fuse Designation & Size

The harness has a total of eight fuses. Shown below is a diagram of what each fuse protects. The illustration is the front view of the Telorvek panel.

Fuse Block #1

Fuse Designation	Fuse Size Block #1
IGNITION Air Bypass, Canister Purge Solenoids	10 AMP
IGNITION EGR, Air Diverter Solenoids	10 AMP
IGNITION Injectors	15 AMP
IGNITION ISC, MAF, Distributor, Coil, ICM, ECM	20 AMP

Fuse Block #2

Fuse Designation	Fuse Size Block #2
IGNITION Oxygen Sensor	10 AMP
IGNITION Fuel Pump Relay (IGN), [illegible]	20 AMP
IGNITION Transmission	10 AMP
BATTERY Fuel Pump Relay, ECM	20 AMP

Copyright Infringement

Ron Francis Wiring has taken the extra effort to produce a quality, easy to understand instructions. We will aggressively prosecute any other harness supplier who attempts to copy this material!!