

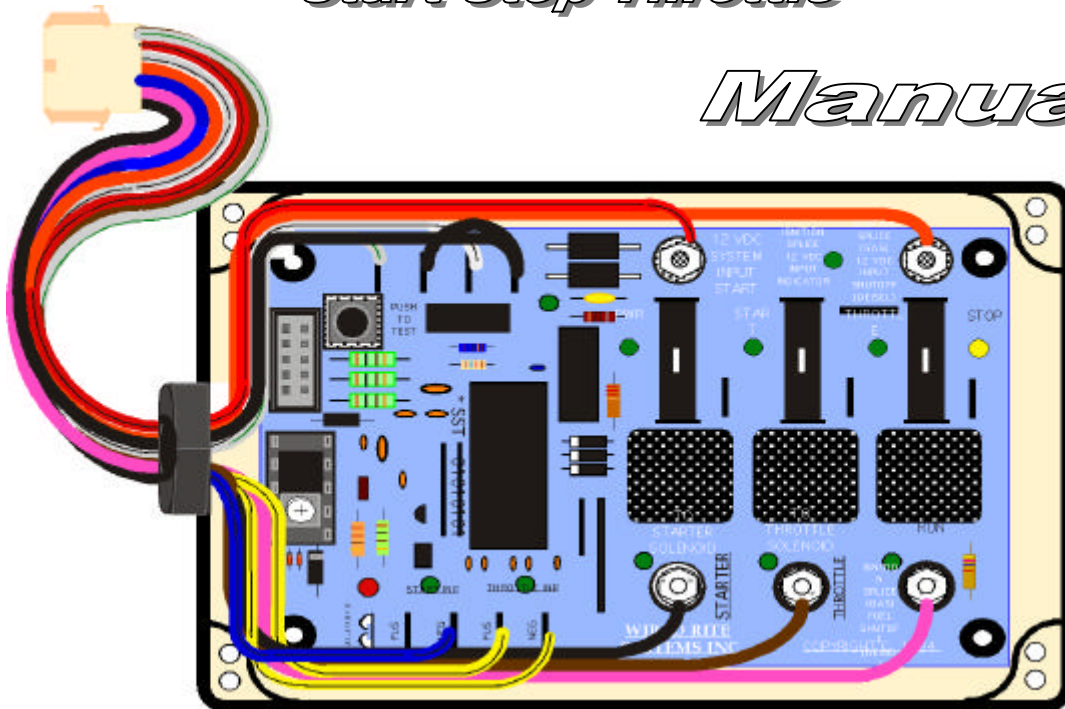


System 21

SST

Start Stop Throttle

Manual



DOC # DOCSST-D 08/16/99

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INSTALLATION OF WIRED RITE SYSTEMS SST DUAL PLUNGER ENGINE CONTROLLER WITH EMERGENCY POWER CONTROL

HARDWARE MOUNTING:

For maximum weatherproofing mount the SST enclosure with the wire harness pointing down.

CONNECTIONS:

When installing an SST in a WRS Integrated Power System, plug the 12 pin connector, which is at the end of the SST pigtail, into J4 of the Power Distribution Center.

Unless specified, the SST is wired as a "Negative trigger".

A Negative trigger is defined as, supplying the negative side of 12VDC (or ground) to energize a device and is configured as follows:

<u>From</u> SST Circuit Board Nomenclature	<u>Thru</u> J4 Pin #	<u>To</u> Vehicle	<u>Wire Color</u>	<u>Wire Label</u>	<u>AWG</u>
IGNITION SPLICE (GAS) 12 VDC INPUT (DIESEL)	1	"KEY" SIDE OF SPLICE	Orange	IGN	14
+12V	2	BATTERY (+)	Pink/Green	SST (+)	16
GND (NOTE: DO NOT USE CHASSIS GROUND)	3	BATTERY (-)	White	NEG	16
EXT. OUTPUTS, NO	4	AUX PUMP RELAY	Purple/Green	E.POWER	14
12 VDC SYSTEM INPUT START	5	"MASTER" ENABLE SWITCH	Red/White	MASTER	14
START/STOP INPUTS, NEG	6	BUCKET START SWITCH	White/Blue	START (-)	16
FAULT OUTPUT	7	DASH INDICATOR LIGHT	Gray/Purple	FAULT	16
THROTTLE INPUTS, NEG	8	BUCKET THROTTLE SWITCH	White/Yellow	THROTTLE (-)	16
NOT USED	9	NOT USED	NOT USED	NOT USED	16
STARTER	10	OUTPUT FROM KEY "START"	Orange/Black	STARTER	14
THROTTLE	11	THROTTLE SOLENOID	Orange/Brown	THROTTLE	16
IGNITION SPLICE (GAS) FUEL SHUTOFF (DIESEL)	12	"COIL" SIDE OF SPLICE	Orange/Red	FUEL SOL	14

For an application using a "Positive trigger" for both the "throttle and start", the connections are as follows:

* The asterisk to the left indicates a change from factory default is necessary.

These changes are all internal changes to SST.

Be sure to disconnect the positive battery terminal, or unplug J4 before making any changes.

A Positive trigger is defined as: supplying +12VDC to energize a device.

<u>From</u> <u>SST Circuit Board Nomenclature</u>	<u>Thru</u> <u>J4 Pin #</u>	<u>To</u> <u>Vehicle</u>	<u>Wire Color</u>	<u>Wire Label</u>	<u>AWG</u>
IGNITION SPLICE (GAS) 12 VDC INPUT (DIESEL)	1	"KEY" SIDE OF SPLICE	Orange	IGN	14
+12V	2	BATTERY (+)	Pink/Green	SST (+)	16
GND (NOTE: DO NOT USE CHASSIS GROUND)	3	BATTERY (-)	White	NEG	16
EXT. OUTPUTS, NO	4	AUX PUMP RELAY	Purple/Green	E.POWER	14
12 VDC SYSTEM INPUT START	5	"MASTER" ENABLE SWITCH	Red/White	MASTER	14
* START/STOP INPUTS, POS	6	BUCKET START SWITCH	White/Blue	START (-)	16
FAULT OUTPUT	7	DASH INDICATOR LIGHT	Gray/Purple	FAULT	16
* THROTTLE INPUTS, POS	8	BUCKET THROTTLE SWITCH	White/Yellow	THROTTLE (-)	16
NOT USED	9	NOT USED	NOT USED	NOT USED	16
STARTER	10	OUTPUT FROM KEY "START"	Orange/Black	STARTER	14
THROTTLE	11	THROTTLE SOLENOID	Orange/Brown	THROTTLE	16
IGNITION SPLICE (GAS) FUEL SHUTOFF (DIESEL)	12	"COIL" SIDE OF SPLICE	Orange/Red	FUEL SOL	14

Inside the SST box there are 2 wires which need to be changed:

Below is the factory default:

<u>From</u> <u>SST Circuit Board Nomenclature</u>	<u>To</u> <u>SST Circuit Board Nomenclature</u>	<u>Wire Color</u>	<u>Wire Label</u>	<u>AWG</u>
12 VDC SYSTEM INPUT START	START INP, POS	Orange/Blue	START (+)	16
12 VDC SYSTEM INPUT START	THROTTLE INP, POS	Orange/Yellow	THROTTLE	16

Below are the respective changes you need to make:

* GND (NOTE: DO NOT USE CHASSIS GROUND)	START INP, NEG	Orange/Blue	START (+)	16
* GND (NOTE: DO NOT USE CHASSIS GROUND)	THROTTLE INP, NEG	Orange/Yellow	THROTTLE	16

Please Refer to figure 3-1 for typical electrical connections.

DUAL PLUNGER SST WITH EMERGENCY POWER CONTROL

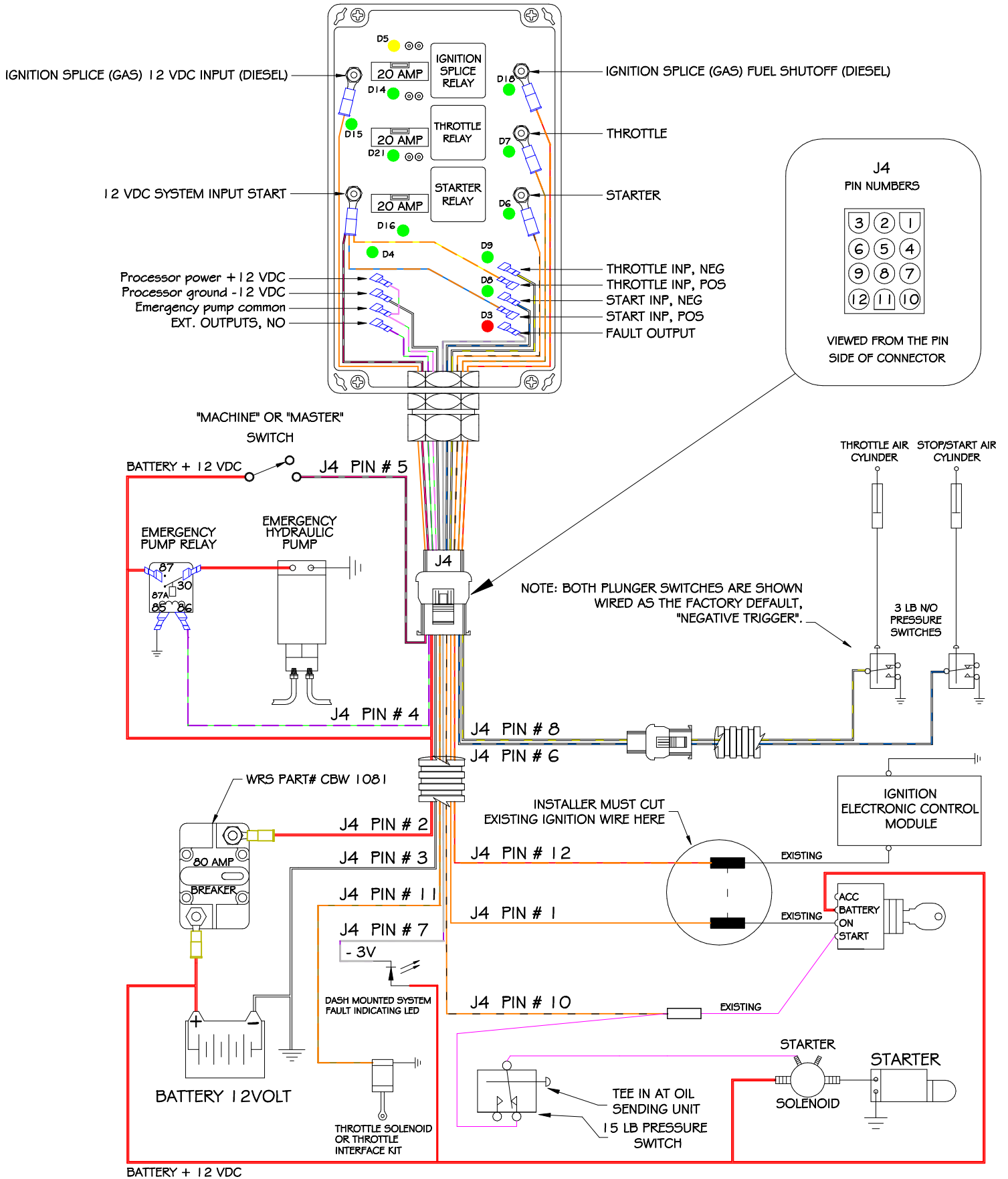


Figure 3-1

OPERATION:

After mounting, and connecting the System 21 SST to your vehicle, you should now power up the system.

When the Master Switch has been activated, the SST board will automatically perform a diagnostic check to determine that all features are operating properly. The diagnostic check routine is completed every 250 milliseconds as long as the processor power is on.

The System 21 SST board indicates a fault, using three methods:

- 1) Every SST comes equipped with a fault indicator LED installed on the circuit board.
- 2) With the optional panel mounted display & remote test switch.
- 3) With the optional dash warning light.

All faults are recorded in volatile memory and can be recalled at any time by depressing the test button. As you hold the test button the LED next to the faulted circuit will flash. To reset the fault memory you must remove the processor power for at least 1 second.

If there are no faults in the circuits that receive power when the ignition switch is turned "ON", the following LED's on the circuit board will be illuminated:

<u>LED #</u>	<u>SST Circuit Board Nomenclature</u>
D14	THROTTLE
D15	IGNITION SPLICE OR 12 VDC INPUT INDICATOR
D16	PWR
D18	RUN (NC)
D21	START

Please refer to figure 5-1 (page 5) for the location of the LED's on the circuit board.

EMERGENCY POWER:

To activate the emergency pump relay, wire [J4 PIN # 4] the following conditions must be met:

- 1) The SST must be in "STOP" mode.
- 2) From the bucket...depress the Throttle Plunger and hold for four seconds.

Emergency Power will be activated as long as the button is held down.

DIAGNOSTICS:

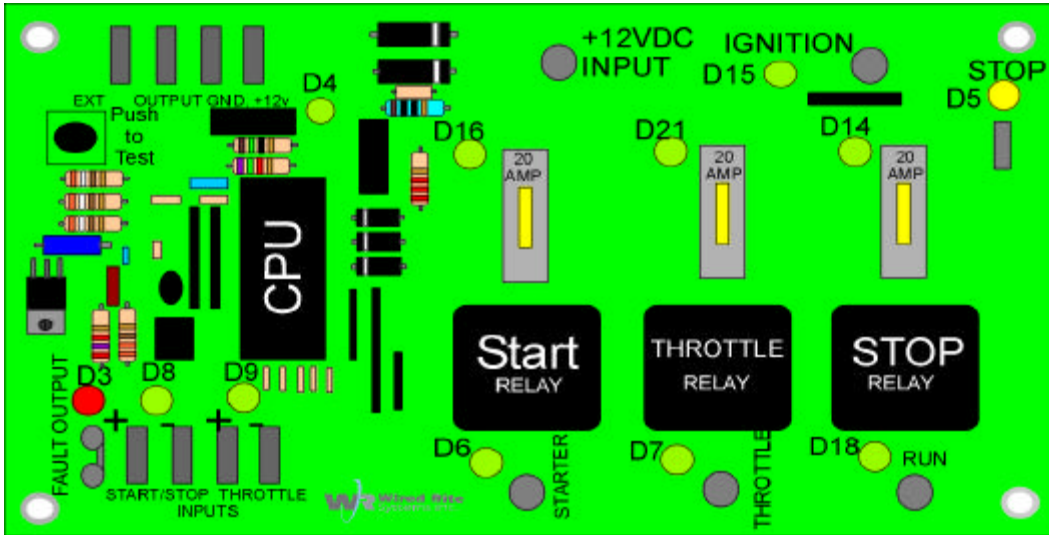


Figure 5-1

Below is a list of the LED's and the operational / fault condition they indicate:

<u>LED #</u>	<u>SST Circuit Board Nomenclature</u>	<u>On Indicates:</u>
D3	FAULT OUTPUT	A fault condition exists.
D4	TEST	Comes on when you depress the board mounted push to test button.
D5	STOP	The stop relay is energized, flashes if a fault is detected in the run circuit.
D6	TO STARTER SOLENOID	The start relay is energized, flashes if a fault is detected in the start circuit.
D7	TO THROTTLE SOLENOID	The throttle relay is energized, when the engine is in run mode.
D8	START INP	A start/stop trigger signal has been applied.
D9	THROTTLE INP	A throttle trigger signal has been applied.
D14	THROTTLE	Power is being applied to the 12 VDC SYSTEM INPUT START stud, and the start relay not is energized.
D15	IGNITION SPLICE OR 12 VDC INPUT INDICATOR	Power is being applied to the IGNITION SPLICE OR 12 VDC INPUT (DIESEL) stud.
D16	PWR	Processor power is present at the SST.
D18	RUN (NC)	The ignition switch is on, and the stop relay is not energized.
D21	START	The Master switch is on.

TROUBLE SHOOTING:

