

INSTALLATION, SERVICE AND TROUBLESHOOTING GUIDE

E.M. Systems - Series 905

On behalf of the entire Medallion Instrumentation Systems organization, we wish to thank you for purchasing a Medallion Engine Monitoring System. All Medallion products are designed and manufactured to the highest quality standards for YOU, our customer.

This Installation and Service Guide contains the information that you will need to properly install and maintain your system for maximum life and dependable service. We urge you to thoroughly familiarize yourself with the contents of this guide and preserve it for future reference.

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Periodic Functional Check

This should be done at installation and once per year thereafter.

- 1) Turn Keyswitch ON and observe the warning light(s). **9054** (3 or 4 lights) should come on briefly, then only the oil light should remain on. If the option light is used and the optional condition monitored is unsafe, then the option light should also remain on. (Such as air pressure.) **9050** and **9051** (1 light); the light should come on and stay on. On **9050**, **9051** and **9054**, the buzzer should sound briefly.
- 2) Start engine. The buzzer should come on as soon as the starter switch is released. It should remain on until the engine oil pressure rises to the warning setting and then turn off.
- 3) Allow the engine to run at least 30 seconds. Disconnect the wire from the "H" (or Alarm) terminal of the PRESSURESTAT. The oil light (**9054**) or system warning light (**9050/9051**) and the buzzer should come on.
- 4) **9051/9054** Only: disconnect the wire from the "L" (shutdown terminal) of the PRESSURESTAT and the engine should shutdown. Crank the engine. It should start, run about 30 seconds, and quit. The buzzer and oil/system light should be on during this time.
- 5) Reconnect both PRESSURESTAT wires.
- 6) Disconnect all wires from the ALARMSTAT and start the engine. The overheat light (**9054**) or the system light should be on (**9050/9051**) and the buzzer should be on. The engine should run about 30 seconds and quit, (**9051/9054** only). (**9054** only) if the system incorporates a transmission ALARMSTAT, the transmission overheat light should be on during this step.
- 7) Reconnect the ALARMSTAT wires.

Periodic Functional Check, Cont.

- 8) Disconnect the wire from the coolant level probe and start the engine, OR begin draining the cooling system and start the engine. If wire is disconnected, low coolant/system light and buzzer should be on, engine should quit after about 30 seconds, (9051/9054 only). If coolant is drained, light/buzzer should come on about 5 seconds after probe is uncovered and the engine should quit about 25 seconds after that, (9051/9054 only).
- 9) Reconnect probe wire and/or fill cooling system.
- 10) (9054 ONLY) Disconnect option wire from option sensor and start the engine. Option light and buzzer should be on.
- 11) Reconnect option wire.
- 12) If system is okay, then STOP.

Description/Installation

Refer to the Wiring diagram while reading the following system Description and Installation.

Series 905 is a group of three Engine Monitoring Systems. The systems all use one basic control module design. The three systems are as follows:

9050: Alarm only with buzzer and one indicator light for low coolant, high coolant temperature, and low oil pressure.

9051: Alarm and engine shutdown with automatic override, buzzer and one indicator light for low coolant, high coolant temperature, and low oil pressure.

9054: Alarm and engine shutdown with automatic override, buzzer and SEPARATE indicator lights for low coolant, high coolant temperature and low oil pressure. In addition, an alarm only option feature is provided which also has its own indicator light. If desired, an automatic transmission oil temperature alarm and shutdown ALARMSTAT may be used in addition to the engine coolant temperature sensor. When that is the case, the option warning light feature is used to operate the transmission overheat light.

A. MODULE:

The 9050, 9051, & 9054 systems use an electronic module in a plastic housing which should be mounted in the vehicle cab out of sunlight. The module has a 15 pin male connector built into the top side of the case which mates with a corresponding on-piece 15 pin female connector that is part of the vehicle wiring. The module is grounded through PIN N on the connector. It is EXTREMELY important that the ground be solid. If it is not, the module will be ruined.

B. TEMPERATURE SENSORS:

1. Engine Coolant: This is a dual switch, normally closed ALARMSTAT (9051/9054). The two switches (Warning and Shutdown) are set approximately 5 degrees F apart. When the engine temperature is normal, they are closed and ground their respective circuits. On 9050, the ALARMSTAT has a single switch for warning only. The ALARMSTAT is installed into the engine cooling system on the engine side of the thermostat. Care must be taken not to mount it too close to the exhaust system components.
2. (9054 Only) Automatic Transmission Oil: This sensor is identical to the engine coolant ALARMSTAT in all respects but one: the switches for alarm and shutdown are set at much higher temperatures. For example, the 1002-07325-52 will alarm (switch NC1) at 294 degrees F. and shutdown (switch NC2) at 300 degrees F. When the transmission ALARMSTAT is used, it is connected in series with the engine ALARMSTAT. Also, the transmission ALARMSTAT triggers the optional warning light as an indication that transmission over heating is taking place.

The transmission ALARMSTAT is installed into the transmission cooler "hot" pipe - that part of the circuit where the oil flow is FROM the transmission TO the cooler. It must be installed so that the sensing pill is fully submerged in the flow of fluid. If an adapter bushing is required, it must be the BorgWarner type that will not affect the depth. DO NOT MOUNT THE ALARMSTAT IN THE TRANSMISSION CASE OR OIL PAN.

C. OIL PRESSURE SENSORS:

The 9051 and 9054 systems use a BorgWarner PRESSURESTAT, with two switches and both are normally open. One is for oil pressure warning and one for oil pressure shutdown. When the Engine oil pressure is normal they are

Description/Installation, Cont.

forced to close and ground their respective circuits. The 9050 system uses a similar PRESSURESTAT but it has only one switch. The PRESSURESTATS must never be mounted directly on the engine. They should be remote mounted on the firewall or in the cab, and their mounting point MUST be grounded.

D. COOLANT LEVEL SENSOR:

There is one, called a coolant level probe. When engine coolant level is normal, the probe is submerged and finds ground in the coolant. The probe is mounted in a radiator tank in a location where it will always be submerged when coolant level is normal and uncovered if the level drops a dangerous level. If the probe becomes uncovered for any reason when coolant level is normal, then the location is not correct. For the probe to work properly, the body of the probe just be grounded by the tank in which it is installed. Otherwise a probe with a ground wire must be used.

E. FUEL SOLENOID:

Fuel solenoids drawing 2 amps or less at 12 volts may be directly wired to the 9054 system module. Solenoids with higher current requirements MUST be operated through a relay, or a no start/false shutdown problem will result. (Rule of thumb: Medallion actuators and Cummins fuel solenoids can be directly wired. Everything else needs a relay).

F. OPTION WARNING CIRCUIT: (9054 ONLY)

The option warning sensor must be chosen so that it grounds its circuit when conditions are normal.

Operation

(Note: On a normal engine, all module input pins are grounded)

A. FUEL SOLENOID:

Ignition switch +12 volts goes into the module on pin R. When all conditions are normal and the engine is running, that same voltage comes out of the module on pin P and goes to the fuel solenoid or the fuel solenoid relay.

B. WARNING LIGHTS:

9054: All the warning lights (coolant level, Coolant Temperature, Oil Pressure and Option) have ignition switch +12 volts. The module turns them on by grounding them through pins G (coolant level), F (Oil Pressure), E (Coolant Temperature) and D (Option). The module grounds pins G, F, E or D by connecting them to pin N, which is the module ground connection. The module has a self check feature which will briefly activate all 4 warning lights whenever the keyswitch is turned on.

9050/9051: There is one warning light for Coolant Level, Coolant Temperature and Oil Pressure. It has ignition switch +12 volts, and the module turns it on by grounding it through pin E. It does this by connecting pin E to pin N, the module ground connection. The module self check feature briefly activates the warning light whenever the keyswitch is turned on.

C. WARNING BUZZER:

The warning buzzer is inside the module. Unlike previous engine monitoring system, this warning buzzer does not activate when the key is turned on. The buzzer will only become active after the engine is cranked with the starter. (Note: The buzzer will self test briefly when the key is turned on.) (9054 Only) Module part number 1072-07277-04 does not have an internal buzzer. Rather, it uses an external buzzer that is wired like the lights are. The buzzer has constant voltage from an ignition circuit, and is grounded by module Pin H whenever an alarm is necessary.

D. TEMPERATURE FUNCTIONS:

Normal Conditions: Pin B (Coolant temperature warning) (9050, 9051, 9054) and Pin K (Coolant temperature shutdown), (9051/9054 only) are grounded by the ALARMSTAT. Engine Overheat Warning: The ALARMSTAT causes NC1 to open when temperature reaches the warning setpoint. (Usually 215 degrees F, but will vary by engine type.) When NC1 opens, the ground on Pin B is lost. The module activates the warning buzzer and also grounds Pin E, which will turn on the coolant temperature warning light (9054) or the system warning light (9050/9051). Engine Overheat Shutdown: (9051/9054 only) The ALARMSTAT causes NC2 to open when temperature reaches the shutdown setpoint. (Usually 220 degrees F, but this also varies by engine type.) When NC2 opens, the ground on Pin K is lost. This signals the module to shut the engine down by disconnecting Pin P (fuel) from Pin R (ignition).

Operation, Cont.

(9054 only) Transmission Overheat Warning and Shutdown: Refer to the diagram on page 8. Overheat Warning: Transmission overheat warning takes place when the ground on module Pin C is lost and the module grounds Pin D to turn on the transmission light and Pin H to turn on the buzzer. This will happen at 294 degrees F. Under normal conditions, ground on Pin C is maintained via the PINK wire to transmission ALARMSTAT "NC1", through it to transmission ALARMSTAT "C", and out the YELLOW/RED and YELLOW/WHITE wires to the engine ALARMSTAT "NC2" terminal. Engine ALARMSTAT "NC2" grounds through the case of the sensor, into the engine block.

Overheat Shutdown: Transmission overheat shutdown takes place when the ground on module Pin K is lost, the same as for engine coolant overheat shutdown. This may occur at either 275 or 300 degrees F, depending on ALARMSTAT type. It is accomplished by wiring the transmission and engine ALARMSTATS in series to ground, so that either one can break the circuit. The path is as follows: from module Pin K through the YELLOW/WHITE and YELLOW/BLACK wires to transmission ALARMSTAT "NC2"; through the transmission ALARMSTAT TO "C"; through the YELLOW/RED and YELLOW/WHITE wires to engine ALARMSTAT "NC2"; through the engine ALARMSTAT to ground in the engine block.

E. OIL PRESSURE FUNCTION:

Normal Conditions: Pin A (Oil pressure warning) (all systems) and Pin L (Oil pressure shutdown) (9051/9054 only) are grounded by PRESSURESTATS H and L terminals respectively. Engine Low Oil Pressure Warning: The warning switch (H) will open when oil pressure drops to the warning setpoint. (Varies by engine type) When it opens, the ground on Pin A is lost. The module activates the warning buzzer and also grounds Pin F (oil light on, 9054) or Pin E (System light on, 9050/9051). Engine Low Oil Pressure Shutdown: (9051/9054 only) The shutdown switch (L) will open when oil pressure drops to the shutdown setpoint. (Varies by engine type) When it opens, the ground on Pin L is lost. This signals the module to shut the engine down by disconnecting Pin P (fuel) from Pin R (ignition).

F. COOLANT LEVEL FUNCTION:

Normal Conditions: When coolant level is normal, Pin J is grounded through the coolant level probe into the vehicle coolant. Engine Low Coolant Alarm and Shutdown: When coolant level drops beneath the coolant level probe, the ground at Pin J is lost. When this happens, the module will wait 5 seconds before taking action. (Slosh Delay) If there is still no ground on Pin J after 5 seconds, the module will turn on the warning buzzer and will ground Pin G (coolant level light on, 9054) or Pin E (System light on, 9050/9051). If, after another 25 seconds (total of 30 seconds) there is still no ground on Pin J, the module will shut the engine down by disconnecting Pin P (fuel from Pin R (ignition), (9051/9054).

G. AUTOMATIC OVERRIDE:

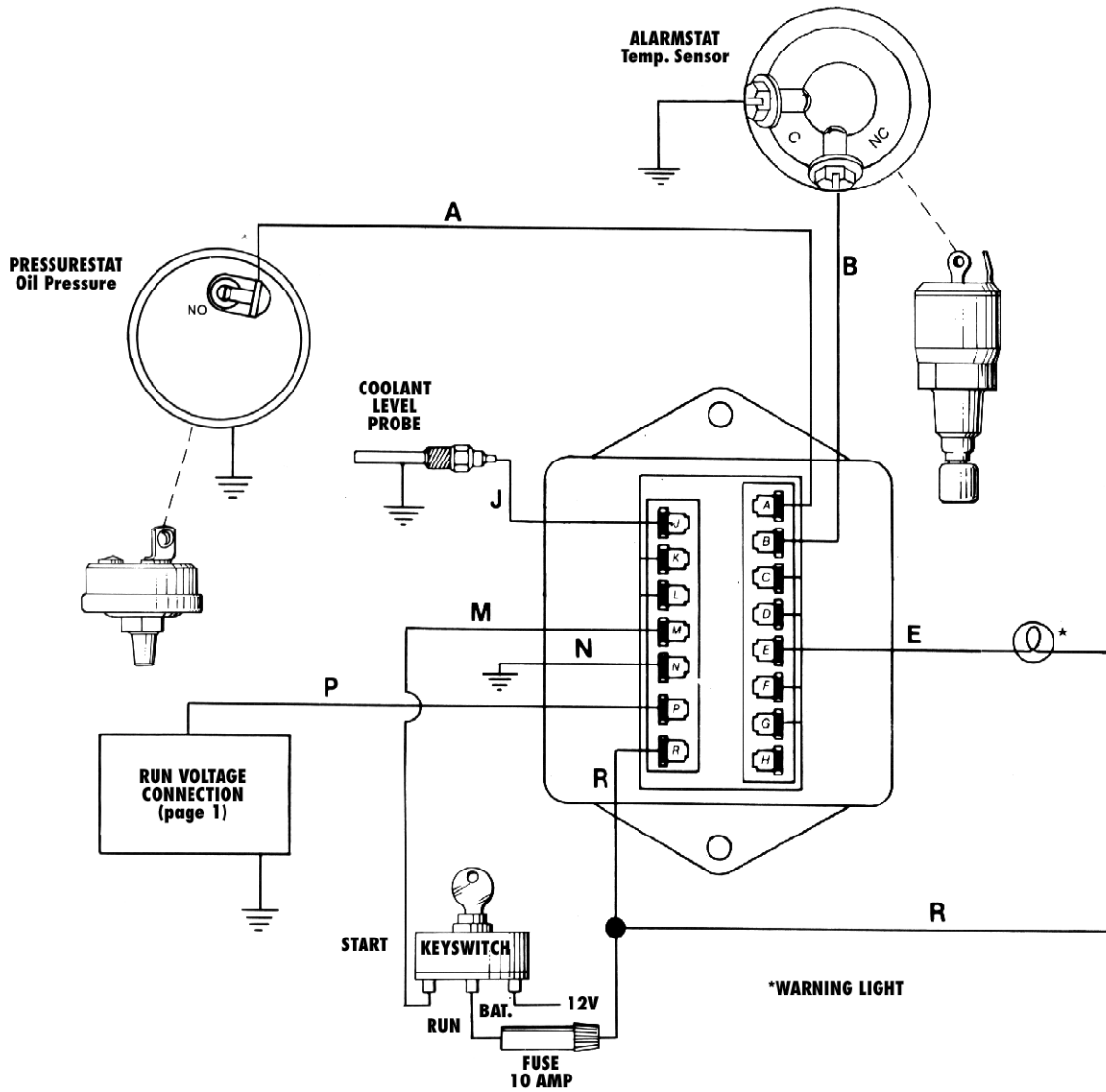
This operates on all shutdown features of 9051 and 9054. After a shutdown, it may be necessary to restart the engine and remove the vehicle from the road. If so, the operator need only crank the engine. Since Pin M is connected to the keyswitch "S" terminal, the module sees the cranking voltage. This causes it to reconnect Pin P (fuel) and Pin R (ignition). The engine starts. When the operator releases the starter, voltage on Pin M drops to zero. This causes a 30 second timer to start running. The engine will run for 30 seconds, and will then be shut down again. This feature may be used as necessary to get the vehicle off the road.

H. OPTION WARNING (9054 ONLY):

When the monitored condition becomes critical, the option sensor will open and remove the ground from Pin C. This will cause the module to turn on the warning buzzer and to ground Pin D (Option light on). When an option warning sensor (such as air pressure) is used, there is no shutdown with this feature. However, if a transmission ALARMSTAT is used as shown on page 8 and described in paragraph D, then both alarms and shutdown may take place.

Wiring Diagram

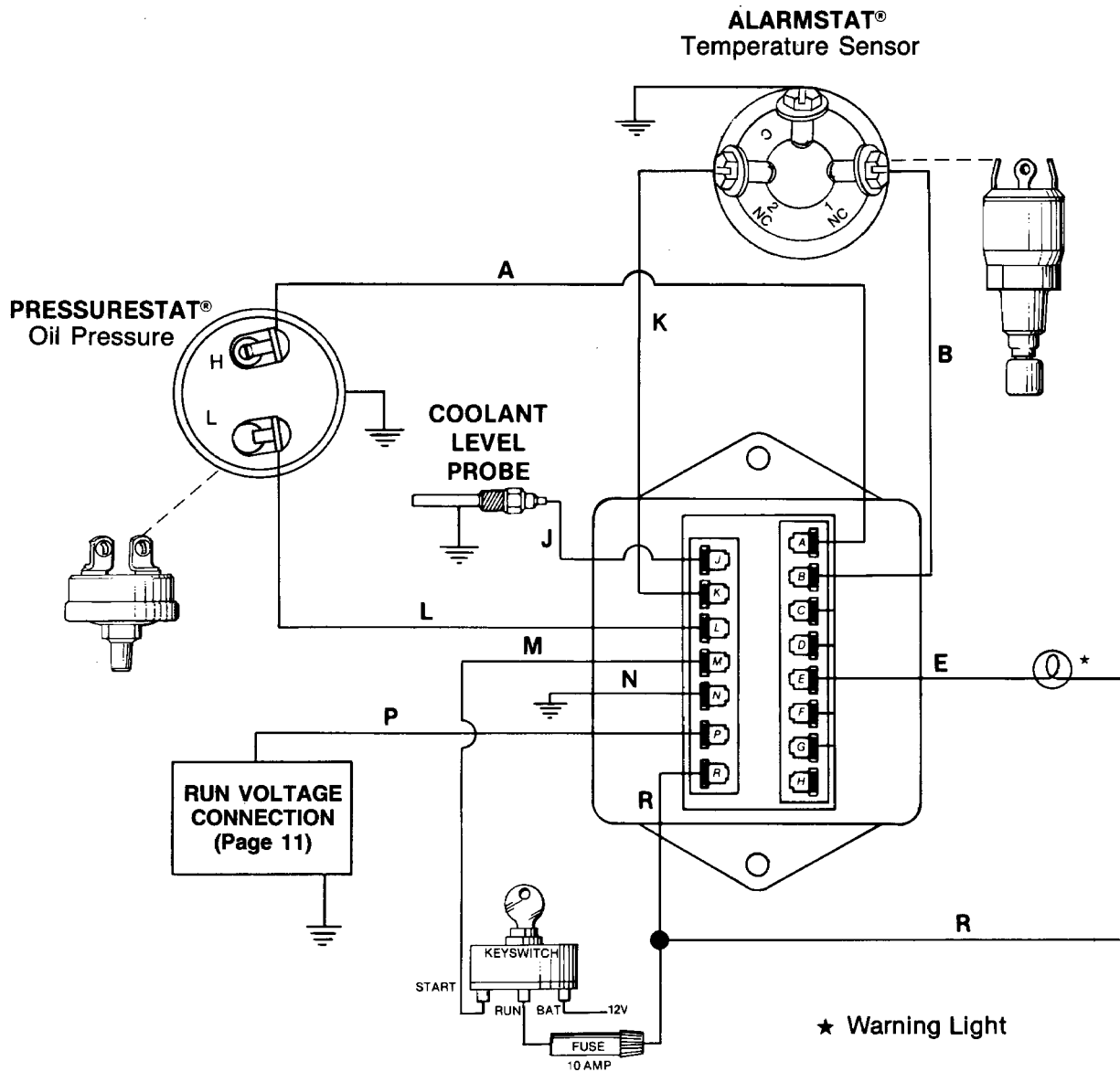
9050 SERIES SYSTEM WIRING DIAGRAM ALARM ONLY - ONE SYSTEM LIGHT



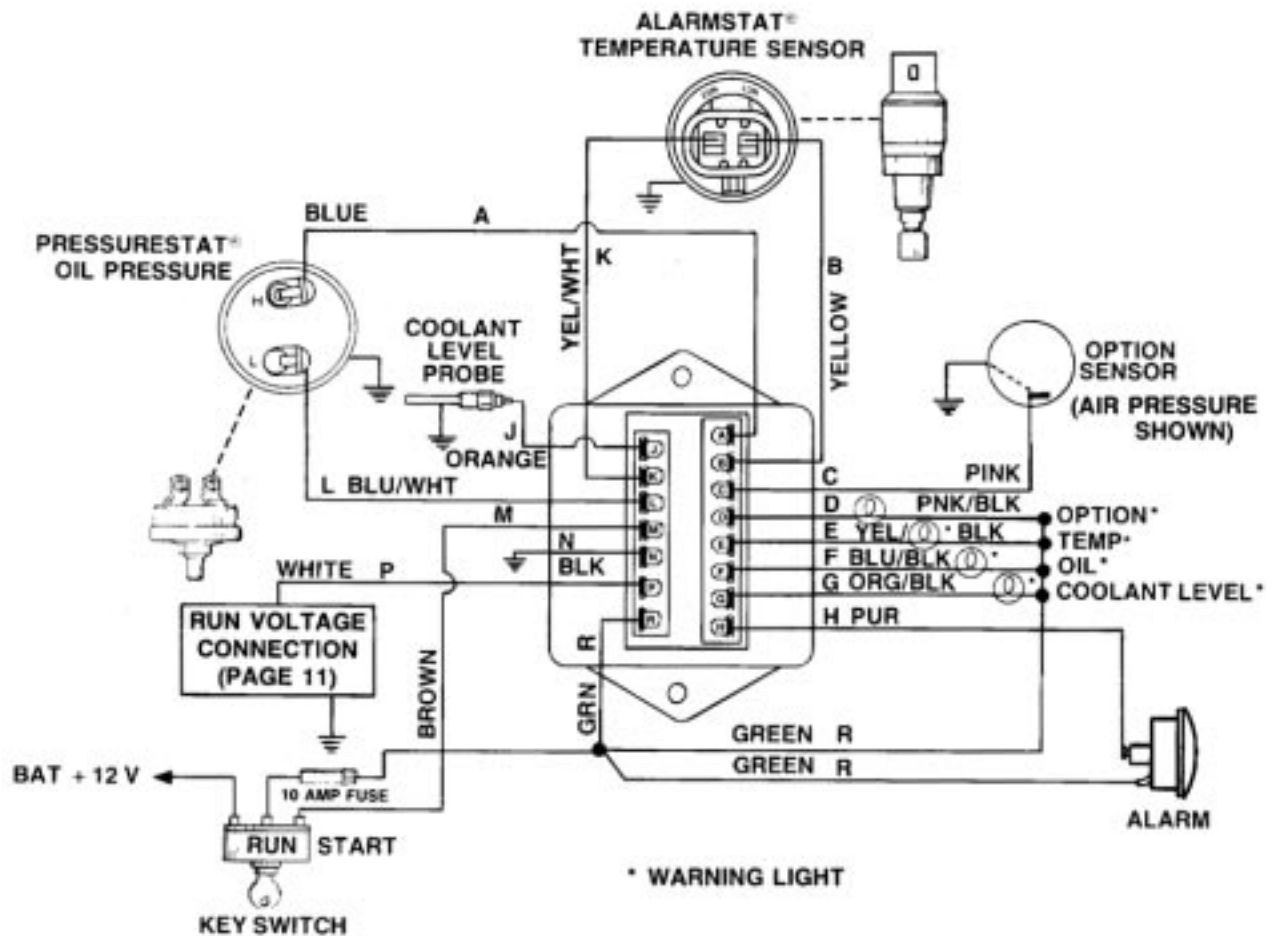
NOTE: Pins P & R are connected inside the module with a jumper.

Wiring Diagram

9050 SERIES SYSTEM WIRING DIAGRAM
ALARM ONLY - ONE SYSTEM LIGHT



9054 SERIES SYSTEM WIRING DIAGRAM
 ALARM & SHUTDOWN - INDIVIDUAL WARNING LIGHTS
 OPTIONAL WARNING LIGHT

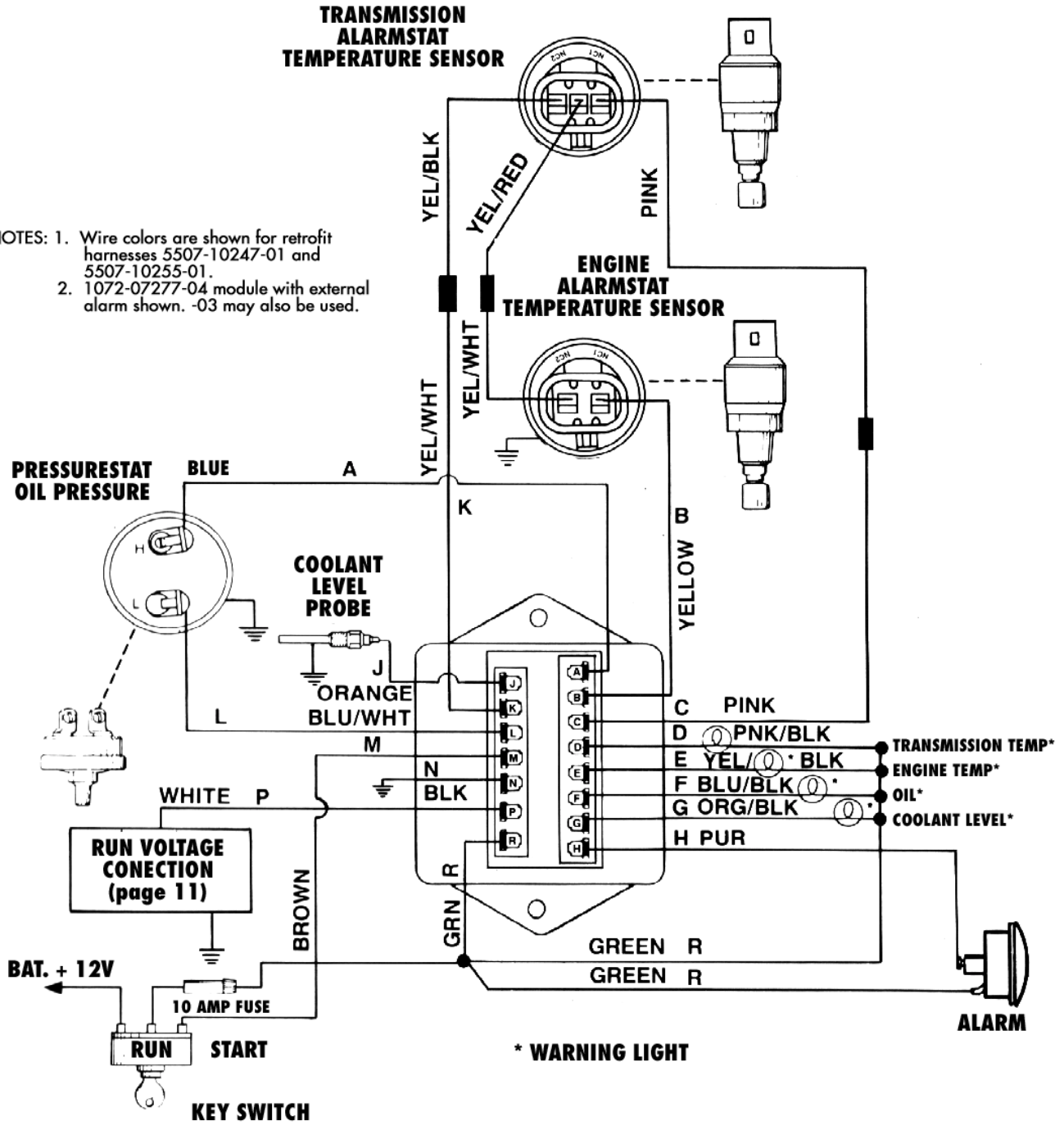


NOTES:

1. Wire colors are those used in retrofit harness 5507-10247-01
2. 1072-07277-04 module shown with external alarm. -03 with internal buzzer may also be used.
3. Wire C (pink) **must** be grounded if option feature is not used.

9054 SERIES SYSTEM WIRING DIAGRAM
ALARM & SHUTDOWN WITH TRANSMISSION
ALARMSTAT AND 4 WARNING LIGHTS

- NOTES: 1. Wire colors are shown for retrofit harnesses 5507-10247-01 and 5507-10255-01.
2. 1072-07277-04 module with external alarm shown. -03 may also be used.



Troubleshooting with the Breakout Box (Medallion PN 1588-10031-01)

The Breakout Box may be ordered directly from Medallion by calling 800-828-8127.

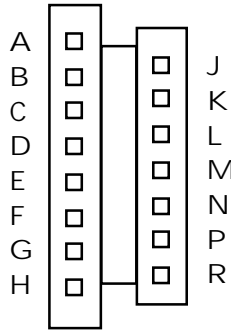
PROCEDURE

1. Disconnect the shutdown system harness connector from the control module. Plug the breakout box connector into the control module. Plug the shutdown system harness connector into the black connectors on the breakout box harness. Plug your digital voltmeter into the front of the breakout box. (A digital voltmeter is required for use with the breakout box.)
2. All of the series 905 shutdown system input and output circuits are monitored by the breakout box:
 - A. Lights: Whenever the shutdown system module turns on one of the warning lights in the system, the corresponding blue light on the face of the breakout box will light up. Whenever the module turns on the external buzzer (-04 module only) the breakout box red light will light up. If the lights on the breakout box work, but the system lights on the truck panel don't, then there is either a wiring problem or burned out bulbs.
 - B. Rotary Switch: This allows you to select which circuit that your voltmeter is looking at. The different voltages should be as follows:
 - R-Ignition: should be 0 with key off; 12-13 with key on; 8-10 while cranking the engine on the starter; and 13.5-15 with the engine running and the charging system warmed up. Anything else seen indicates a wiring problem in circuit R.
 - P-Run connect: should be 0 with key off; when key is turned on, should go to 11-12 for 30 seconds, then back to zero. When starter is bumped, should to 11-12 for another 30 seconds. When engine is running, should be about one volt less then R voltage, above. Zero volts all the time indicates either an overload on P, or a bad module.
 - M-Cranking: Should be 0 with key off, 0 with key on, should be 8-10 volts only when engine is being cranked over.
 - L,K,J,A,B & C These are all sensor input voltages. When the voltages are low, it means the engine and the circuit are OK. The normal low voltage is given next to each switch position on the box. When the voltages to high, it means either the engine has a problem or the circuit has a problem. The expected high voltages are given by each switch position. For example, a bad ground on the ALARMSTAT would give voltages above 0 on both K-Temp Run, and B-Temp Warn. A bad run switch in the ALARMSTAT would give voltages above 0 only on K-Temp Run.
3. Intermittent problems may be troubleshot by plugging in the breakout box and having someone take you for a ride in the truck. The voltage levels on L,K,J,A,B & C will increase when bumps are hit if there is a loose connection or bad sensor. Voltage jumping around on R when bumps are hit indicates a poor ignition circuit to the system.
4. It is important to read the section on how 905 works before trying to troubleshoot like this. Call Medallion Technical Service if you need assistance 800-828-8127.

Troubleshooting

Series 905 EPS Circuit Checks

Disconnect Connector at Module



Do All Checks at Connector

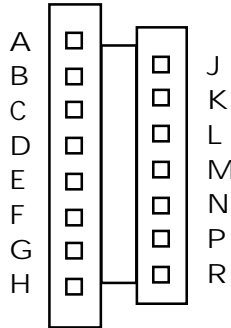
NOTE: Medallion offers a system tester which is capable of performing all of the following checks in approximately 10 minutes. For more information contact Medallion.

CIRCUIT TO TEST PRELIMINARY STEPS	STEPS	RESULTS DESIRED	POSSIBLE PROBLEMS IF RESULT IS WRONG
Wire R-Keyswitch Wire N-Ground Connect voltmeter between pins R & N	Key OFF	0 volts	Wire R connected to hot source instead of keyswitch
	Key ON	12-13 volts	Low batteries, blown fuse, poor connections in R or N
	Key ON, crank engine 10 sec.	9 volts minimum	Low batteries, poor connections in R or N.
Wire P-Fuel Solenoid	Crank engine	Should not start	Wire P connected to a hot source.
	Jumper P to R Crank engine	Engine should run	Wire P broken. If fuse blown, wire P shorted or fuel solenoid shorted.
Wire M-Start Connector voltmeter between Pins M & N	Key OFF	0 volts	Wire M connected to a hot source instead of cranking circuit.
	Key ON	0 volts	Same as above.
	Key ON, crank engine 10 sec.	9 volts minimum	Low batteries, poor connections, wire M broken
	Jumper P to R, start engine	0 volts at M with engine running	Electronic engine control system incorrectly wired. Contact BorgWarner or vehicle manufacturer.
Wire A-Oil Pressure warning Connect ohmmeter between pins A & N. Jumper R to P.	Engine OFF	Infinite resistance	Wire A grounded, oil warning switch defective.
	Start engine. Let oil pressure build.	Meter goes to 0 ohms as oil pressure rises.	Wire A broken, oil warning switch defective
	Stop engine, turn key back on and watch meter as oil pressure drops.	Meter goes to infinite as oil pressure reaches setting of warning switch.	Wrong switch or wire A and wire L mixed up.
*Wire L-Oil Pressure Shutdown Connect ohmmeter between pins L & N. Jumper R to P.	Engine Off	Infinite resistance	Wire L grounded, oil shutdown switch defective.
	Start engine. Let oil pressure build.	Meter goes to 0 ohms as oil pressure rises.	Wire L broken, oil shutdown switch defective.
	Stop engine, turn key back on and watch meter as oil pressure drops.	Meter goes to Infinite as oil pressure reaches setting of shutdown switch	Wrong switch or wire L and wire A mixed up.

* These steps do not apply to 9050 (alarm only).

Series 905 EPS Circuit Checks

Disconnect Connector at Module



Do All Checks at Connector

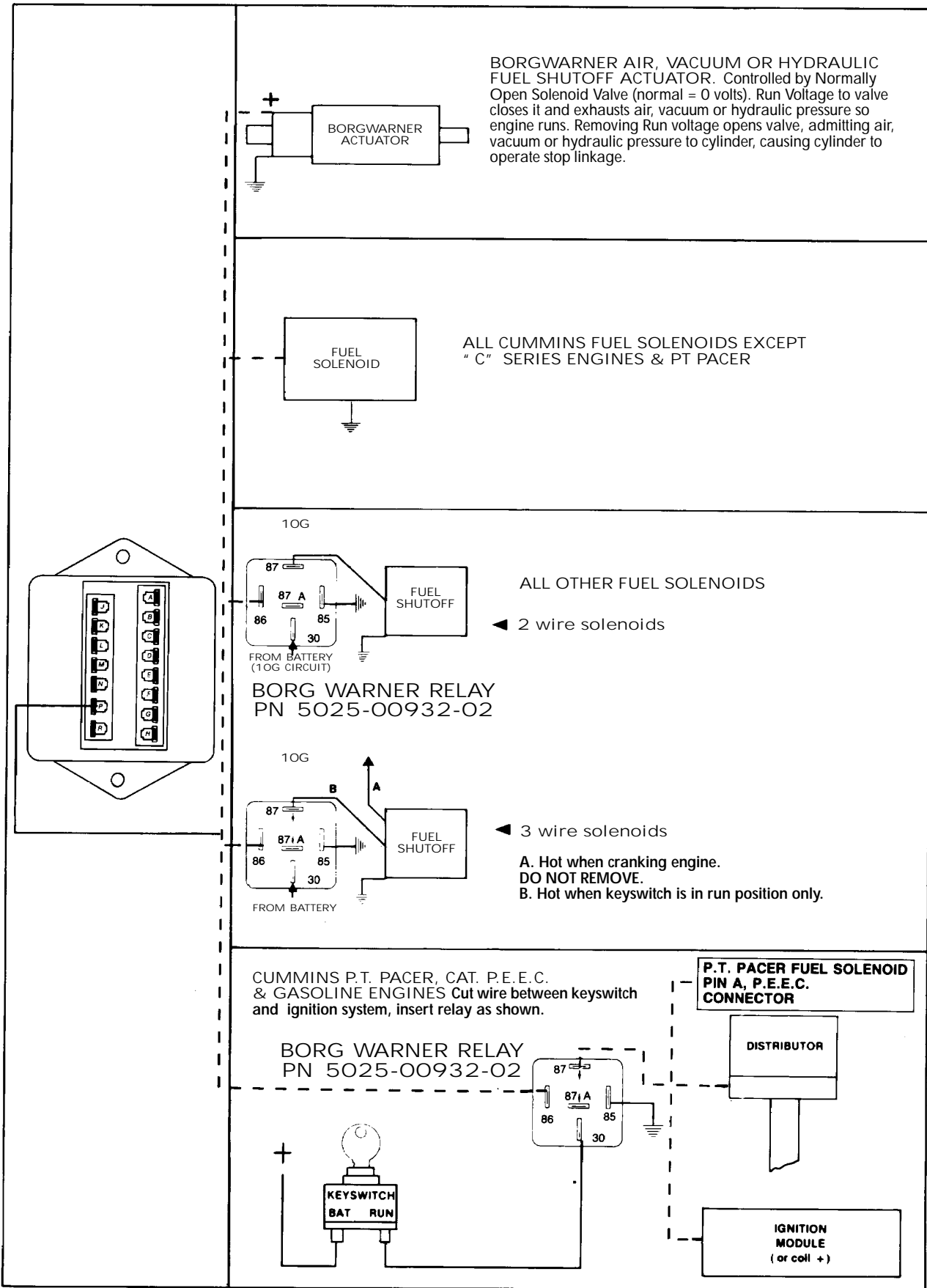
NOTE: Medallion offers a system tester which is capable of performing all of the following checks in approximately 10 minutes. For more information contact Medallion.

CIRCUIT TO TEST PRELIMINARY STEPS	STEPS	RESULTS DESIRED	POSSIBLE PROBLEMS IF RESULT IS WRONG
Wire B-Temperature warning Connect Ohmmeter between pins B & N	Disconnect wire B from ALARMSTAT NC1 terminal.	0 ohms or close to it.	Wire B broken. ALARMSTAT defective
		Infinite resistance	Wire B grounded, or wires B and K mixed up.
*Wire K - Shutdown Temperature Connect Ohmmeter between pins K & N	Disconnect wire K from ALARMSTAT NC2 terminal.	0 ohms or close to it.	Wire K broken, or either ALARMSTAT defective.
		Infinite resistance	Wire K grounded, or wires K and B mixed up.
Wire J - coolant level sensing Connector Ohmmeter between Pins J & N	Set meter to 300 kilohm scale	50-200 kilohms (reading may change up or down during the test)	If reading is 0, wire J is grounded. If reading is infinite, wire J is broken. If reading is between 200K and infinite, radiator is low.
Wire E - Master or Temperature warning light	Jump wire pin E to pin N and turn Key ON.	System warning light or Temperature warning light should come on.	Wire E broken, bulb bad, or bad wire R connection to warning light
*Wire D - Option warning light	Jump wire pin D to pin N and turn key ON.	Option warning light should come on.	Wire D broken, bulb bad, or bad wire R connection to option warning light.
**Wire F - Oil pressure warning light	Jump wire pin F to pin N and turn key ON.	Oil pressure warning light should come on.	Wire F broken, bulb bad, or bad wire R connection to oil pressure warning light.
**Wire G - Coolant level warning light	Jump wire pin G to pin N and turn key ON.	Coolant level warning light should come on.	Wire G broken, bulb bad, or bad wire R connection to coolant level warning light.
**Wire C - Option	Insure option sensor is in "safe" condition. (Such as air pressure up.)	0 ohms or close to it.	Wire C broken, option sensor defective.
Connect Ohmmeter between pin C and pin N	Place option sensor in an unsafe condition (Such as air pressure down.)	Infinite resistance	Wire C grounded, option sensor defective.

* These steps do not apply to 9050 (alarm only)

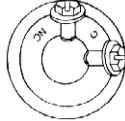
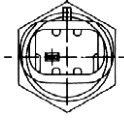
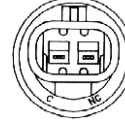
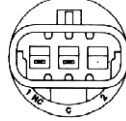
** These steps apply to 9054 only

Run Voltage Connections

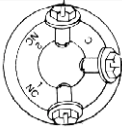

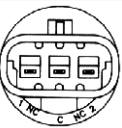


Service Parts

ALARMSTATS

ALARM ONLY (9050 SYSTEMS)			 2 Ring Terminals (One must be grounded, and one is connected to wire B)	 Metri Pack Sealed Connector (2 pin connector housing, but only one pin is used, connects to wire B)	 Metri Pack Sealed connector (2 pin connector housing, 2 pins are used. One must be grounded, and one is connected to wire B)	 Metri Pack Sealed Connector (3 pin connector housing, but only 2 pins are used. One must be grounded, and one is connected to wire B)
ENGINE	TEMPERATURE SETTING F	PIPE SIZE				
NAV (All Gas), 6.9L, 9L; MACK All (U.S.) Engines (Prior to 1988); MERCEDES 352 & 352A; VOLVO F6, F7 & N10	210	3/8"NPT	1002-05825-34	1002-07338-34	NONE	NONE
		1/2"NPT	1002-07393-34	1002-07474-34	1002-07625-34	1002-07479-34
FORD 6.6L, 7.8L; DDC 53, 71 and 92 Series; GMC 6.2L, 8.2L	215	3/8"NPT	1002-05825-35	1002-07338-35	NONE	NONE
		1/2"NPT	1002-07393-35	1002-07474-35	1002-07474-35	1002-07479-35
CAT 3116, 3176, 3306, 3406, 3408, 3304B, 3306B, CAT 3208TA, 3208NA; CUMMINS B & C Series, L10, N14 (Prior to 1991); GMC 6.5L; NAV DT 360, NAV DT-466; and any other diesel engine not listed	220	3/8"NPT	1002-05825-36	1002-07338-36	NONE	NONE
		1/2"NPT	1002-07393-36	1002-07474-36	1002-07625-36	1002-07479-37
CUMMINS B & C Series, L10 & N14 (1991 & After); FORD 1060, 1460; MACK E6 (Feb1992 & After), E7; NAV 7.3L	225	3/8"NPT	1002-05825-37	1002-07338-37	NONE	NONE
		1/2"NPT	1002-07393-37	1002-07474-37	1002-07625-37	1002-07479-37
<p>NOTE: 1. These ALARMSTATS can be identified by the cap and the temperature stamped on the brass hex. 2. If ALARMSTATS require a bushing for proper installation; use Medallion Part Number 3022-01372-01 (1/2NPT to 3/8NPT) 3022-01372-02 (3/4NPT to 3/8NPT). DO NOT USE STANDARD PIPE BUSHINGS.</p>						
<p>NOTE: The engine temperature and pressure settings published herein, individual and/or contained inkit part numbers, are suggestions only, based upon current application available at this time. As variances in application of these engines is possible, we recommended that all settings listed be verified directly with the engine manufacturer regarding your specific installation. Because of this, Medallion shall not be held liable under any circumstances for any incidental or consequential damages arising from the use of this information.</p>						

Service Parts, Cont.

ALARMSTATS						
ALARM & SHUTDOWN (9051 & 9054 SYSTEMS)						
ENGINE	TEMPERATURE SETTING F		PIPE SIZE	3 Ring Terminals (C must be grounded: NC1 connects to wire B; NC2 connects to wire K)	Metri Pack Sealed Connector. (2 pin housing: NC1 connects to wire B; NC2 to wire B; NC2 to wire K; case grounded)	Metri Pack Sealed Connector (3 pinhousing: C must be grounded; NC1 to wire B; NC2 to wire K)
	Alarm	Shutdown				
NAV (All Gas), 6.9L, 9L; MACK All (U.S.) Engines (Prior to 1988); MERCEDES 352 & 352A; VOLVO F6, F7 & N10	204	210	3/8" NPT	1002-05339-34	1002-07339-34	NONE
			1/2" NPT	1002-07348-34	1002-07384-34	1002-07325-34
FORD 6.6L, 7.8L; DDC 53, 71 and 92 Series; GMC 6.2L, 8.2L	209	215	3/8" NPT	1002-05339-35	1002-07339-35	NONE
			1/2" NPT	1002-07348-35	1002-07384-35	1002-07325-35
CAT 3116, 3176, 3306, 3406, 3408, 3304B, 3306B; CAT 3208TA, 3208NA; CUMMINS B & C Series, L10, N14 (Prior to 1991); GMC 6.5L; NAV DT 360, NAV DT -466; and any other diesel engine not listed	214	220	3/8" NPT	1002-05339-36	1002-07339-36	NONE
			1/2" NPT	1002-07348-36	1002-07384-36	1002-07325-36
CUMMINS B & C Series, L10 & N14 (1991 & After); FORD 1060, 1460; MACK E6 (Feb 1992 & After), E7; NAV 7.3L	219	225	3/8" NPT	1002-05339-37	1002-07339-37	NONE
			1/2" NPT	1002-07348-37	1002-07384-37	1002-07325-37
Automatic Transmissions	294	300	1/2" NPT	NONE	NONE	1002-07325-52

NOTE: 1. These ALARMSTATS can be identified by the cap and the temperature stamped on the brass hex.
 2. If ALARMSTATS require a bushing for proper installation; use Medallion Part Number 3022-01372-01 (1/2 NPT to 3/8 NPT) 3022-01372-02 (3/4 NPT to 3/8NPT). DO NOT USE STANDARD PIPE BUSHINGS.

NOTE: The engine temperature and pressure settings published herein, individual and/or contained in kit part numbers, are suggestions only, based upon current application available at this time. As variances in application of these engines is possible, we recommended that all settings listed be verified directly with the engine manufacturer regarding your specific installation. Because of this, Medallion shall not be held liable under any circumstances for any incidental or consequential damages arising from the use of this information.

Service Parts, Cont.

ALARM ONLY (9050 SYSTEMS)			
ENGINE	PRESSURE SETTING F	MEDALLION PART NUMBER	
DDC 53, 71 and 92 Series; GMC 6.5L; MACK E7 (Prior to Feb. 1992); MERCEDES 352 & 352-A; NAV DT 360, NAV 7.3L; VOLVO F6, F7 & N10	3	1042-08320-03	
CAT 3116, 3176, 3306, 3406, 3408, 3304B, 3306B, CUMMINS B & C Series, L10, N14; FORD 6.6L, 7.8L, 1060, 1460; MACK All (U.S.) Engines (Prior to 1988); NAV All Gas, NAV DT-466, 6.9L, 9L	6	1042-08320-06	
CAT 3208TA, 3406B; GMC 6.2L, 8.2L; MACK E6 & E7 (Feb. 1992 & After)	10	1042-08320-10	
CAT 3208NA	15	1042-08320-15	
MISCELLANEOUS COMPONENTS			
DESCRIPTION	MEDALLION PART NUMBER		
Control Module	1072-07277-02		
Warning Light Assembly	1035-33930-12		
Coolant Level Probe	Mounting Thread	Single Terminal	Two Terminal
	1/4-18NPTF	5022-33670-03	5022-01185-01
	3/8-18NPTF	5022-33990-01	5022-01187-01

Service Parts, Continued

ALARM & SHUTDOWN (9051 AND 9054 SYSTEMS)

PRESSURESTAT

For remote mounting of PRESSURESTAT, specify Adapter - PN 3022-01295-01.
2 Ring Terminals (H must be connected to wire A and L must be connected to wire L)

ENGINE	TEMPERATURE SETTING F		MEDALLION PART NUMBER
	Alarm	Shutdown	
DDC 53, 71 and 92 Series; GMC 605L; MACK E7 (Prior to Feb. 1992); MERCEDES 352 & 352-A; NAV DT 360, 7.3L; VOLVO F6, F7 & N10	6	3	1042-08190-03
CAT 3116, 3176, 3304B, 3406B, 3408; CUMMINS B & C Series, L10, N14; FORD 6.6L, 7.8L, 1060, 1460; NAV DT-466, 6.9L & 9L	9	5	1042-08190-05
CAT 3306, 3406, 3408; MACK All (U.S.) Engines (Prior to 1988); NAV All Gas	11	6	1042-08190-06
CAT 3208TA, 3406B; GMC 6.2L, 8.2L; MACK E6 & E7 Feb. 1992 & After	15	10	1042-08190-10
CAT 3208NA	20	15	1042-08190-15
MISCELLANEOUS COMPONENTS			
DESCRIPTION	9054 Series	9051 Series	
Alarm & Shutdown Module (Internal Buzzer)	1072-07277-03	1072-07277-01	
Alarm & Shutdown Module (External Alarm)	1072-07277-04	NONE	
Warning Light Assemblies	NONE	1035-33930-12	
Oil Pressure	1035-33930-02	NONE	
Coolant Temperature	1035-33930-06	NONE	
Transmission Oil Temperature	1035-33930-01	NONE	
Coolant Level	1035-33930-05	NONE	
Warning Bell Assembly (-04 Module only)	1003-33040-01	NONE	
Module Wiring Harness	5507-10247-01	NONE	
METRI PACK Engine Alarmstat Pigtail	5507-10240-02	NONE	
METRI PACK Transmission Alarmstat Pigtail	5507-10255-01	NONE	
METRI PACK Coolant Probe Pigtail	5507-10240-01	NONE	
Engine Shutoff Relay	5025-00932-02	5025-00932-02	
Relay Socket with Pigtail	5507-10272-01	5507-10272-01	
Coolant Level Probes (Stud & Nut)	Mounting Thread	Single Terminal	Two Terminal
	1/4-18NPTF	5022-33670-03	5022-01185-01
	3/8-18NPTF	5022-33990-01	5022-01187-01
(METRI PACK Connector)	1/4-18NPTF	NONE	5022-02200-01
	3/8-19NPTF	NONE	5022-02200-03