

INSTALLATION AND SERVICE GUIDE



E.M. Systems-Series 9030, 9034 & 9035

On behalf of the entire KYSOR organization, we wish to thank you for purchasing a KYSOR Engine Monitoring System. We sincerely believe this product to be the highest quality, most dependable Monitoring System on the market and we are confident that it will provide you with the high performance and reliable service that you desire.

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 reserve it for future reference.

Installation Instructions

WARNING: Due care and caution must be exercised when ordering and installing a KYSOR Engine Monitoring System. Failure to follow these instructions may result in product or vehicle damage and possible serious personal injury.

1. ALARMSTAT®

Install the ALARMSTAT® in a 3/8" pipe thread hole in the hottest spot in the water manifold system. NOTE: THE ALARMSTAT® MUST BE INSTALLED BETWEEN THE THERMOSTAT AND CYLINDER HEAD. BE SURE THAT THE PORT SELECTED IS DEEP ENOUGH. IF IN DOUBT CALL KYSOR TECHNICAL SERVICE.

2. PRESSURESTAT®

Install the PRESSURESTAT® in the oil pressure gauge line, preferably in the cab for protection against vibration and corrosion to the terminals. **DO NOT MOUNT THE PRESSURESTAT® ON THE ENGINE.**

3. MODULE (9030 Series Only)

Install the Control Module in a cool, easily accessible location behind the instrument panel. **DO NOT MOUNT MODULE IN THE ENGINE COMPARTMENT.**

4. WARNING BELL & LIGHT

Install the bell in a convenient location in the cab and the light in the instrument panel. Attach the "Warning Plate" to the instrument panel.

5. COOLANT LEVEL PROBE (9030 Series Only)

- A) Determine a satisfactory location in the top radiator tank, above internal baffling and as near to the radiator center as possible. The Probe must be located at the correct depth to measure low coolant (usually 1" to 1-1/2" below the cold fill level).
- B) For sheet metal tanks, install the Probe Adaptor in a 1" drilled hole and insert the Probe in the adaptor.
- C) For cast tanks, install the Probe directly in a 1/4" pipe thread hole.
- D) Attach the "Caution" label to the radiator top, near the cap.

6. WIRING INSTRUCTIONS

- A) Disconnect the batteries to prevent shorting.
- B) Wire the components by following the wiring diagram, for your Series system, on page 2.
- C) Use color coded #16 gauge 105°C wire.
- D) Place all wiring in loom for protection. Use grommets at firewalls and use wire ties to secure harness.

System Check (All Systems)

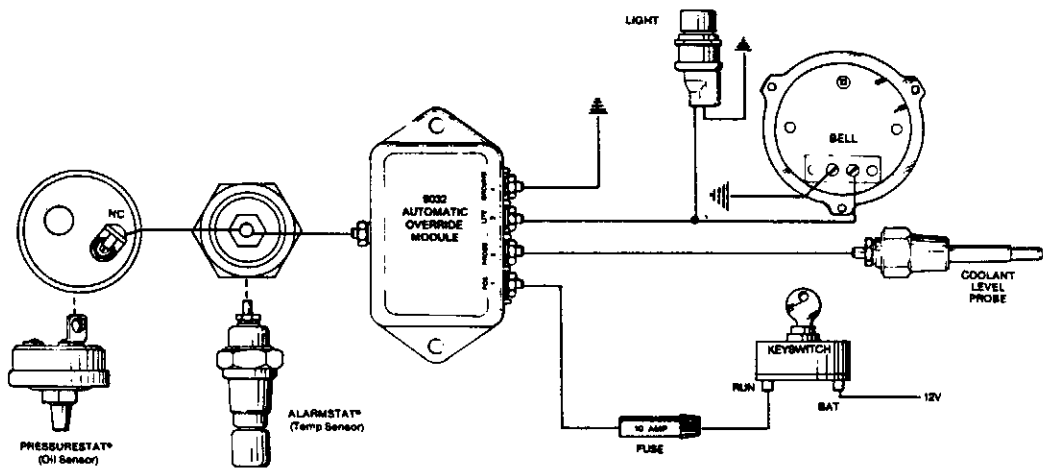
ALARMSTAT® & PRESSURESTAT® CIRCUIT

- 1) With the key switch turned to the "ON" position and the engine off, the alarms should go on. If the alarms do not go on there is usually a broken wire or loose connection in the warning circuit. Make sure that the system is wired according to the wiring diagram on page 2.
- 2) Start Engine: The alarm should stop as oil pressure reaches normal. Jumper the ALARM-STAT® to ground while the engine remains running (for the 9035 series; jumper the ALARM-STAT® terminals together). The alarm should again go on. Remove the jumper wire. Your ALARMSTAT®/PRESSURESTAT® Circuit is functioning properly.

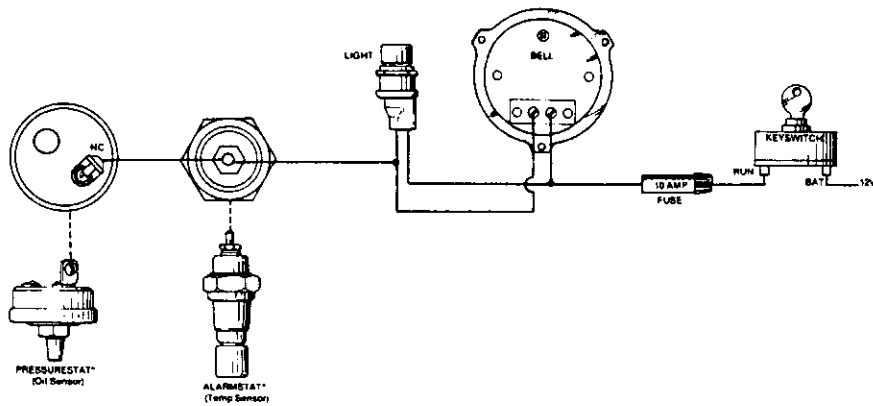
COOLANT LEVEL PROBE (9030 Series Only)

- 1) Radiator water level must be normal before proceeding.
- 2) Remove wire from #2 terminal on the module or from the Probe. The light and bell should come on. Alternate check is to drain the radiator. When coolant level falls below the Probe the light and bell should come on.
- 3) Reconnect the wire removed in step 2. Your Probe Circuit is functioning properly.

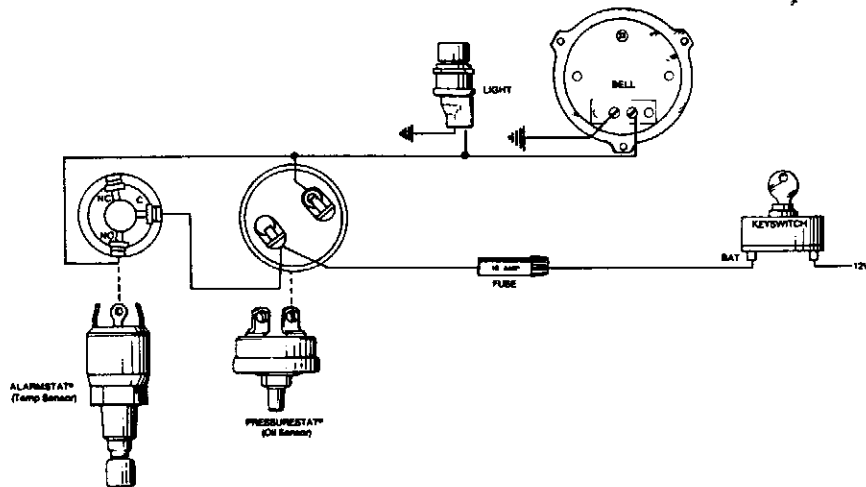
9030 SERIES - ALARM ONLY
LOW OIL PRESSURE, HIGH COOLANT TEMPERATURE, LOW COOLANT LEVEL



9034 SERIES - ALARM ONLY - ONE WIRE CASE GROUNDED SYSTEM
LOW OIL PRESSURE, HIGH COOLANT TEMPERATURE



9035 SERIES - ALARM ONLY - TWO WIRE SYSTEM
LOW OIL PRESSURE, HIGH COOLANT TEMPERATURE



Service Parts

ALARMSTATS®				
ENGINE	TEMPERATURE SETTING°F	KYSOR PART NUMBER		
	Alarm	9030 ⁽¹⁾ SERIES	9034 ⁽¹⁾ SERIES	9035 SERIES
NAV 6.9 L, 9.0 L, NAV All Gas; MACK All (U.S. Engines) Prior to 1988; MERCEDES 352 & 352-A; VOLVO F6, F7 and N10	210	1002-05811-34	1002-05811-34	1002-04880-34
FORD 6.6L, 7.8L; DDC 53, 71 and 92 Series; GM 6.2L, 8.2L	215	1002-05811-35	1002-05811-35	1002-04880-35
CAT 3116, 3176, 3306, 3406, 3408, CAT 3304B, 3306B, 3406B, CAT 3208TA, 3208NA; CUMMINS B(5.9L), C(8.3L) Series, CUMMINS L10, N14 Prior to 1991; GMC 6.5L; NAV DT 360, NAV DT-466	220	1002-05811-36	1002-05811-36	1002-04880-36
CUMMINS B(5.9L) & C(8.3L) Series, L10, N14 1991 and after; FORD 1060, 1460; MACK E6 & E7; NAV 7.3L	225	1002-05811-37	1002-05811-37	1002-04880-37
NOTE: (1) The series 1002-05511-XX ALARMSTAT® can also be used (these two ALARMSTATS® differ only in mounting thread size; the series 05811 having a 3/8-18NPTF and the series 05511, a 1/2-14NPTF). Use the same suffix number as the series 05811 in the chart above. (2) If ALARMSTATS® require a bushing for proper installation; use KYSOR Part Number 3022-01372-01 (1/2 NPT to 3/8 NPT) 3022-01372-02 (3/4 NPT to 3/8 NPT). DO NOT USE STANDARD PIPE BUSHINGS. (3) Any vehicle rated at 8,500 lbs. GVW or above is considered heavy duty.				
PRESSURESTATS®				
ENGINE	PRESSURE SETTING-PSI	KYSOR PART NUMBER		
	ALARM	9030 SERIES	9034 SERIES	9035 SERIES
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	1042-08240-03	1042-08240-03	1042-08230-03
CAT 3116, 3176, 3304B, 3306B; CUMMINS B(5.9L) & C(8.3L) Series, CUMMINS L10, N14; FORD 6.6L, 7.8L, 1060, 1460; NAV DT-466, 6.9L & 9.0L	5	1042-08240-05	1042-08240-05	1042-08230-05
CAT 3306, 3406 & 3408; MACK All (U.S. Engines) prior to 1988; NAV All Gas	6	1042-08240-06	1042-08240-06	1042-08230-06
CAT 3208TA, 3406B; GM 6.2L, 8.2L; MACK E6, E7, Feb 1992 and later	10	1042-08240-10	1042-08240-10	1042-08230-10
CAT 3208 NA	15	1042-08240-15	1042-08240-15	1042-08230-15

NOTE: For remote mounting of PRESSURESTATS®, specify Adaptor - PN 3022-01295-01.

SEE PAGE 4 FOR GASOLINE ENGINES

Service Parts, Cont.

MISCELLANEOUS COMPONENTS			
DESCRIPTION	9030 SERIES	9034 SERIES	9035 SERIES
Control Module	5009-34000-02		
Warning Bell	1003-33040-01	1003-33040-01	1003-33040-01
Warning Light	1035-33930-12	1035-33930-12	1035-33930-12
	Mounting Thread	Single Terminal	Two Terminal
Coolant Level Probe	1/4-18NPTF	5022-33670-03*	5022-01185-01
* Comes in 9031 Kit only	3/8-18NPTF	5022-33990-01	5022-01187-01
NOTE: The engine temperature and pressure settings published herein, individual and/or contained in kit part numbers, are suggestions only, based upon current application information available at this time. As variances in applications of these engines is possible, we recommend that all settings listed be verified directly with the engine manufacturer regarding your specific installation. Because of this, Kysor shall not be held liable under any circumstances for any incidental or consequential damages arising from the use of this information.			

Medium/Light Duty Gasoline Engines

To determine temperature and pressure settings for gasoline engines, Kysor recommends contacting the engine manufacturers regarding your specific installation.

If this information is not available, the following procedure may be helpful in allowing you to determine your own settings, provided the engine being tested is operating within normal temperature and pressure ranges.

TEMPERATURE SETTINGS

Install an accurate digital temperature gauge into the cooling system near the thermostat on the engine side. Operate the vehicle with maximum load, minimum ambient temperature of 80 degrees Fahrenheit, until the engine has reached maximum operating temperatures. If the vehicle is equipped with air conditioning, it should be turned on high throughout the test. Note the highest operating temperature and select an Alarmstat® with an alarm temperature 10 degrees higher.

PRESSURE SETTINGS

Install an accurate mechanical oil pressure gauge into the engine main oil gallery. Test the vehicle using the same conditions outlined under Temperature Settings. Note the lowest hot idle oil pressure, in gear if using an automatic transmission, and select a Pressurestat® with an alarm pressure 5 psi lower. On some industrial/off highway applications where the engine is never allowed to idle except for start up, base your pressure setting on normal operating RPM.



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