



Model 1476

SAFETY CONTROLS

Features

- PROTECT ENGINES, COMPRESSORS, TURBINES, PUMPS AND OTHER EQUIPMENT FROM UNDESIRABLE CONDITIONS.
- PROVIDE FAIL-SAFE, RELIABLE, OPERATION WITHOUT DANGER OF MALFUNCTION FROM POWER-FAILURE.
- COMPLETELY SUITABLE FOR USE IN HAZARDOUS LOCATIONS.
- FLEXIBLE IN APPLICATION TO SIMPLE OR COMPLEX SYSTEMS.

HOW TO ORDER

When ordering, please specify the following:

Type of unit: 1476B-A1/2

Tripping Pressure (between 5 psi to 30 psi falling pressure).

Available with Viton Seals (instead of Buna N).

Note: The complete Model No. will be assigned by the factory. For example the Model No. for a 1476A1/2 with Pneumatic Reset is: 1476B0111A0.

AMOT 1476 series Safety Controls are used primarily for equipment shutdown in emergencies, or for initiating control sequences. When they are applied in combination with many AMOT sensing valves and accessories, they provide positive and reliable protection against low or high pressure, temperature, excessive vibration, high or low speed, and other undesirable conditions. For quick, visual pin-pointing of trouble, Model 2400 Mechanical Indicating relays are used with the 1476 controls.

The 1476 series is also widely adaptable to automatically sequenced or remotely operated control systems. The 1476 consists of a valve or lever which is controlled by a tripping mechanism which responds to loss of pressure. When the sensed pressure drops below the set point, the mechanism trips and snaps the valve closed.



A system may use lubricating oil, air or gas pressure as the control medium, although air or gas is necessary where Model 2400 Relays are used, and will provide quicker response. Recommended operating pressure is 50 psi, although 25 to 80 psi may be used. On air systems, a separate low oil pressure sensing valve must be used where this function is a requirement.

Model 1476 systems are fail safe! Loss of control pressure through leaks or broken tubing will act to trip the safety control without the use of external power sources.

HOW THE CONTROL WORKS

Description refers to Type 1476B-A1/2 shown on the next page, which is typical of all the 1476 Series Safety Controls.

The key to the operation of the control unit is an over-center linkage which trips when control pressure falls below the set point. Tripping pressure is set at the factory, however the operator can adjust it from 5 to 30 psi by turning pressure control nut "N". To start an engine, raise Reset Latch at side of the housing, then raise Reset Lever to "Start" position and let it return to "Run" position. After the engine has started, and control air or oil pressure has built up to 5 psi above the tripping pressure, the Reset Latch will drop out and the control is prepared to trip. When the engine is operating normally, all sensing valves in the system are closed (not sensing pressure). The valve held down by over-center Linkage "L" allows the engine to run. Pressure in Diaphragm Chamber "H" holds piston "P" against its limit of travel to the left. When control pressure in Bonnet Chamber "H" falls below the set pressure, spring "S" moves piston "P" to the limit of its travel to the right. The lip on Housing "V" moves the upper end of Linkage "L" to the right, and over the center, thus tripping the mechanism. The valve which was held down by Linkage "L" moves upward to shut down the engine.

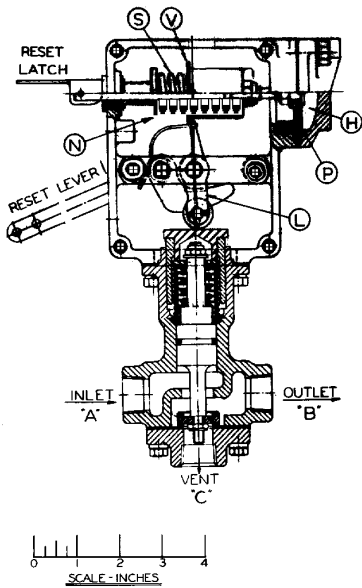


Figure 1

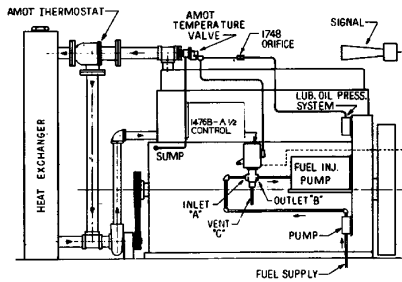


Figure 2

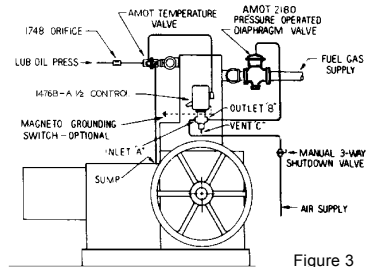


Figure 3

HOW TO INSTALL

Any number of accessory valves may be added to a single 1476 Safety Control. The AMOT 2185 Safety Control must be the last item in the line. The tripping pressure can be adjusted by removing the cover and turning the adjusting nut. When installing AMOT Components, the following rules should be observed:

Do not permit pipe sealant, dirt, scale or other foreign matter to enter tubing or fittings. A high-quality filter and moisture trap is necessary on air or gas systems. Always bring control pressure through the 1748 Orifice. Then the pressure is piped through each valve successively and finally dead ends at the 1476 Safety Control Bonnet. Operation of the system is based on a transmitted of the pressure existing at the valve which opens. Therefore, to assure proper functioning, the recommended method of connecting components must be followed.

Tripping of the unit for causes other than low lube oil pressure (when lube oil is used as the control pressure medium) is accomplished by means of sensing valves in the control system which reduce the pressure in Bonnet Chamber "H" to zero when they operate. For example, in Fig. 4 below in the event of high water temperature, the Temperature Valve will vent pressure into the drain line. Because of the small orifice in the 2185 unit, which restricts flow of the control medium, the pressure in the tee at the top of the Temperature Valve will be reduced to zero. This zero pressure condition will be transmitted through the tee at the 1672 Pressure Valve, and then over to the Diaphragm of the Safety Control, causing it to trip.

- CONNECTIONS** 1/2 NPT; Diaphragm 1/4 NPT.
- VALVE PRESSURE, MAX** 250 psi at A&B Ports; 50 psi at C Port.
- DIAPHRAGM PRESSURE, MAX** 100 psi
- TRIPPING PRESSURE (Adjustable)** 5 psi Min. to 30 psi max.;
- NET WEIGHT** 1476B-A1/2. 9 lb.
- SHIPPING WEIGHT** 11 lb.

MATERIALS

1476 Control Box: Aluminum housing - no brass used.
Types 1476B-A1/2: Aluminum housing - no brass used.

PIPING Diagrams - Tubing recommendations: (a) for general use 5/16" O.D. minimum (b) With long lines or cold conditions use larger tubing

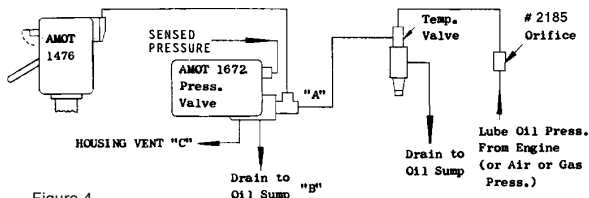


Figure 4 CONTROL CIRCUIT USING AMOT PRESSURE AND TEMPERATURE VALVES.

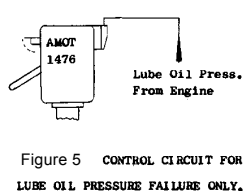


Figure 5 CONTROL CIRCUIT FOR LUBE OIL PRESSURE FAILURE ONLY.

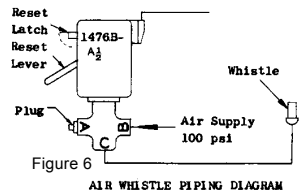


Figure 6 AIR WHISTLE PIPING DIAGRAM

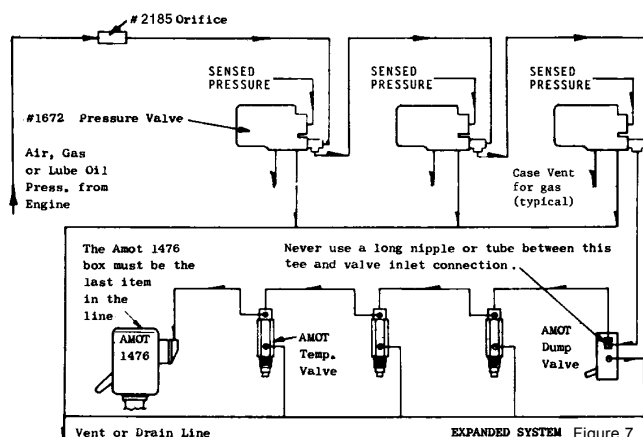


Figure 7 EXPANDED SYSTEM

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