



DESCRIPTION • INSTALLATION • MAINTENANCE INSTRUCTIONS

OIL FLOW INDICATOR

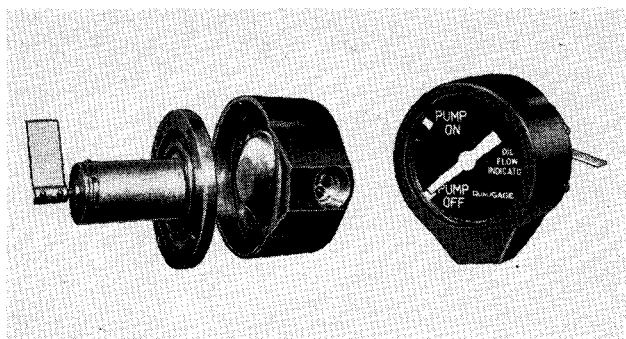


FIG. 1. Oil Flow Indicator.

THE OIL FLOW INDICATOR is a vane operated device for use with the 5 H.P. 600 gpm pumps, on forced oil cooled transformers. It is designed to indicate by dial and electrical alarm contacts the correct rate and direction of oil flow. The case is weatherproof, submersible and shock proof.

DESCRIPTION

This indicator, see Figure 1, consists of two parts, the case and the drive mechanism. The case or outer assembly contains the dial, indicating needle and alarm contacts. The dial has a black background with yellow markings. The needle, also painted yellow, is mounted on the forward end of the shaft, the other end of which carries the drive magnet.

The drive mechanism is sealed against oil leakage. It houses a mating drive magnet and shaft, a torsion spring, travel limit stops and a vane. In operation the vane is positioned in the oil stream. The torsion spring holds the vane against one stop in the "Pump Off" position for conditions of (1) pump off (2) reverse pump rotation (3) restricted oil flow, or (4) closed oil circuit. Correct pump rotation will produce sufficient oil velocity to lock the vane against the second stop for "Pump On" and unrestricted oil flow.

The normally closed contacts of the micro-switch are open for the "Pump On" position and close a

minimum of 40° from the "Pump Off" position. They are rated at 5 amperes, 125 V. A-C and 2.5 amperes 250 V. A-C non-inductive load or 6 watts lamp load 125 V. D-C. Alarm leads are brought out through the under side of the case by means of a triple seal connector, see Figure 2.

INSTALLATION AND MAINTENANCE

Installation is usually made at the factory. If the indicator is shipped separate, check the operation of the vane over its entire range to see that it operates freely and that the needle follows the movement of the vane. Coat the gasket on both sides and

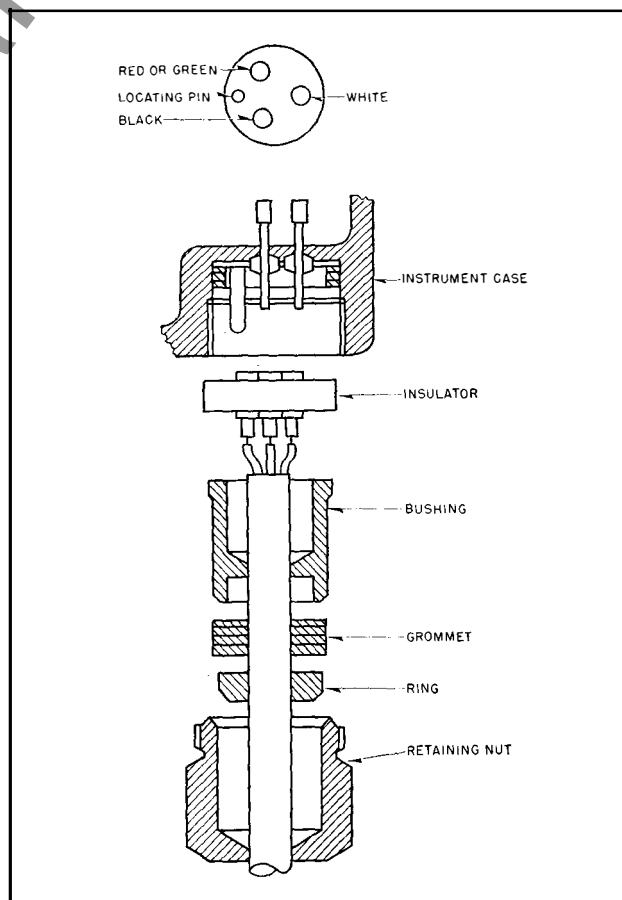


FIG. 2. Diagram of Triple Seal Connector.

OIL FLOW INDICATOR

edges with red gasket cement (S#1150419, pint can or S#471880 quart can). Allow to dry for fifteen minutes. Apply a second coat of cement and when tacky put in place. Mount the drive mechanism and tighten the bolts. Put the case in place and tighten the mounting screws. Connect the alarm circuit according to Figure 3 and the wiring diagram for the particular job.

Important: When checking circuits through this instrument it is essential that the current ratings of the contacts are not exceeded. This usually means that a low voltage bell ringer cannot be used unless switched through a high impedance relay. An indicating light type device is generally recognized as best for checking circuits through instruments containing micro-switches of similar capacities.

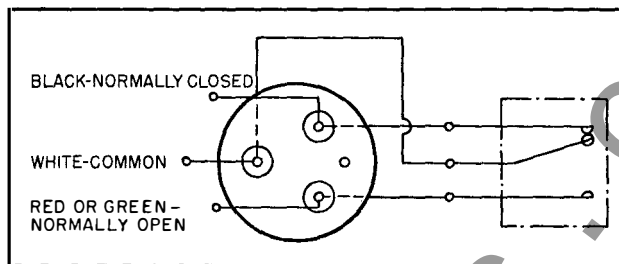


Fig. 3. Connection Diagram for Alarm Loads.

RENEWAL PARTS

If the case is damaged, it may be removed without loss of oil. The case is carried as a stock item and identified by S#1771880.

If repair of the instrument is necessary, contact the nearest Westinghouse Office.



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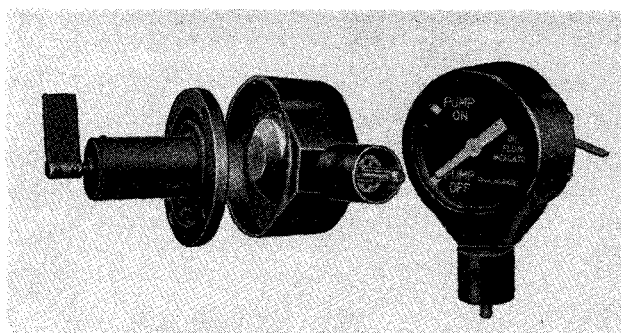


FIG. 1. Oil Flow Indicator.

THE OIL FLOW INDICATOR is a vane operated device for use with the 5 H.P. 600 gpm pumps, on forced oil cooled transformers. It is designed to indicate by dial and electrical alarm contacts the correct rate and direction of oil flow. The case is weatherproof, submersible and shock proof.

DESCRIPTION

This indicator, see Figure 1, consists of two parts, the case and the drive mechanism. The case or outer assembly contains the dial, indicating needle and alarm contacts. The dial has a black background with yellow markings. The needle, also painted yellow, is mounted on the forward end of the shaft, the other end of which carries the drive magnet.

The drive mechanism is sealed against oil leakage. It houses a mating drive magnet and shaft, a torsion spring, travel limit stops and a vane. In operation the vane is positioned in the oil stream. The torsion spring holds the vane against one stop in the "Pump Off" position for conditions of (1) pump off (2) reverse pump rotation (3) restricted oil flow, or (4) closed oil circuit. Correct pump rotation will produce sufficient oil velocity to lock the vane against the second stop for "Pump On" and unrestricted oil flow.

The normally closed contacts of the micro-switch are open for the "Pump On" position and close a

minimum of 40° from the "Pump Off" position. They are rated at 5 amperes, 125-250 V. A-C and 30 watts lamp load or 3 watts inductive 125 V. D-C. Alarm leads are brought out through the under side of the case by means of a triple seal connector, see Figure 2.

INSTALLATION AND MAINTENANCE

Installation is usually made at the factory. If the indicator is shipped separate, check the operation of the vane over its entire range to see that it operates freely and that the needle follows the movement of the vane. Coat the gasket on both sides and

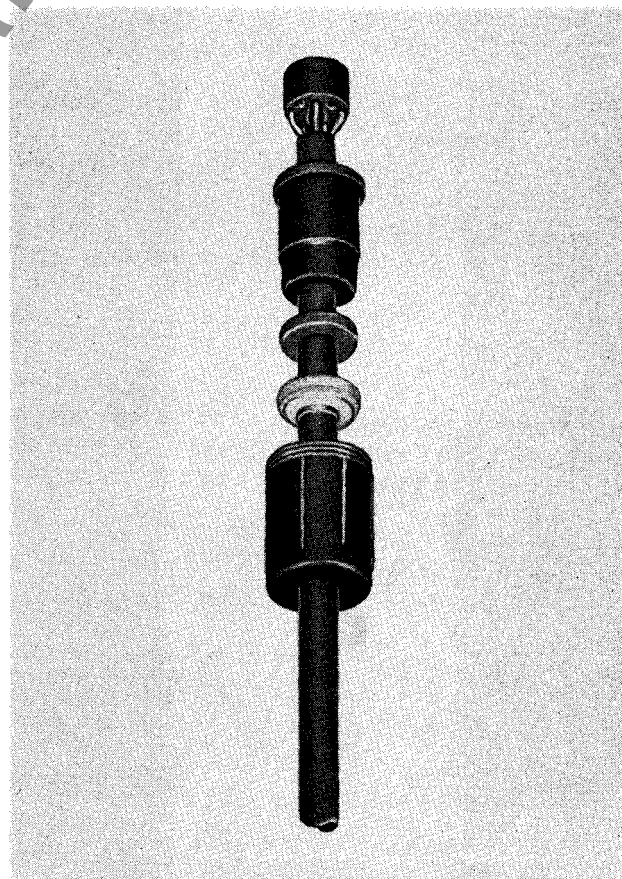


FIG. 2. Exploded View of Connector.

OIL FLOW INDICATOR

edges with red gasket cement (S#1150419, pint can or S#471880 quart can). Allow to dry for fifteen minutes. Apply a second coat of cement and when tacky put in place. Mount the drive mechanism and tighten the bolts. Put the case in place and tighten the mounting screws. Connect the alarm circuit according to Figure 3 and the wiring diagram for the particular job.

Important: When checking circuits through this instrument it is essential that the current ratings of the contacts are not exceeded. This usually means that a low voltage bell ringer cannot be used unless switched through a high impedance relay. An indicating light type device is generally recognized as best for checking circuits through instruments containing micro-switches of similar capacities.

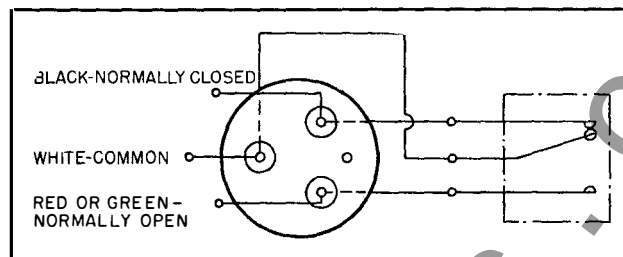


FIG. 3. Connection Diagram for Alarm Loads.

RENEWAL PARTS

If the case is damaged, it may be removed without loss of oil. The case is carried as a stock item and identified by S#53B2566H10.

If repair of the instrument is necessary, contact the nearest Westinghouse Office.



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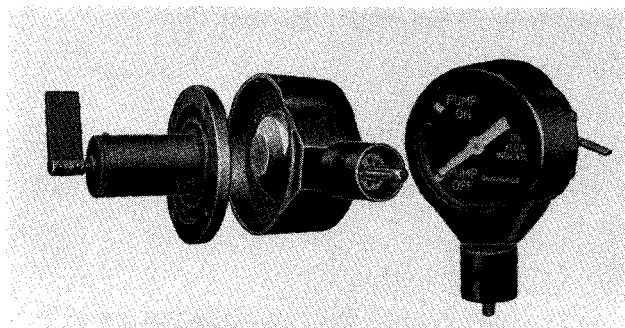


FIG. 1. Oil Flow Indicator.

THE OIL FLOW INDICATOR is a vane operated device for use on the suction or discharge pipes of transformer oil pumps with a minimum linear velocity of 0.6 cfm. The flow indicator is designed to indicate by dial and electrical alarm contacts the correct rate and direction of oil flow. The case is weatherproof, submersible and shock-proof.

DESCRIPTION

This indicator, see Figure 1, consists of two parts, the case and the drive mechanism. The case or outer assembly contains the dial, indicating needle and alarm contacts. The dial has a black background with yellow markings. The needle, also painted yellow, is mounted on the forward end of the shaft, the other end of which carries the drive magnet.

The drive mechanism is sealed against oil leakage. It houses a mating drive magnet and shaft, a torsion spring, travel limit stops and a vane. In operation the vane is positioned in the oil stream. The torsion spring holds the vane against one stop in the "Pump Off" position for conditions of (1) pump off (2) reverse pump rotation (3) restricted oil flow, or (4) closed oil circuit. Correct pump rotation will produce sufficient oil velocity to lock the vane against the second stop for "Pump On" and unrestricted oil flow.

The normally closed contacts of the microswitch are open for the "Pump On" position and close a minimum of 40° from the "Pump Off" position. The microswitch contacts are suitable for 600 volt-amperes at 125, 250 or 460 volts A-C, or 60 watts at 125 or 250 volts D-C lamp load or 6 watts at 125 or 250 volts D-C relay load.

INSTALLATION AND MAINTENANCE

Installation is usually made at the factory. If the indicator is shipped separate, check the operation of the vane over its entire range to see that it operates freely and that the needle follows the movement

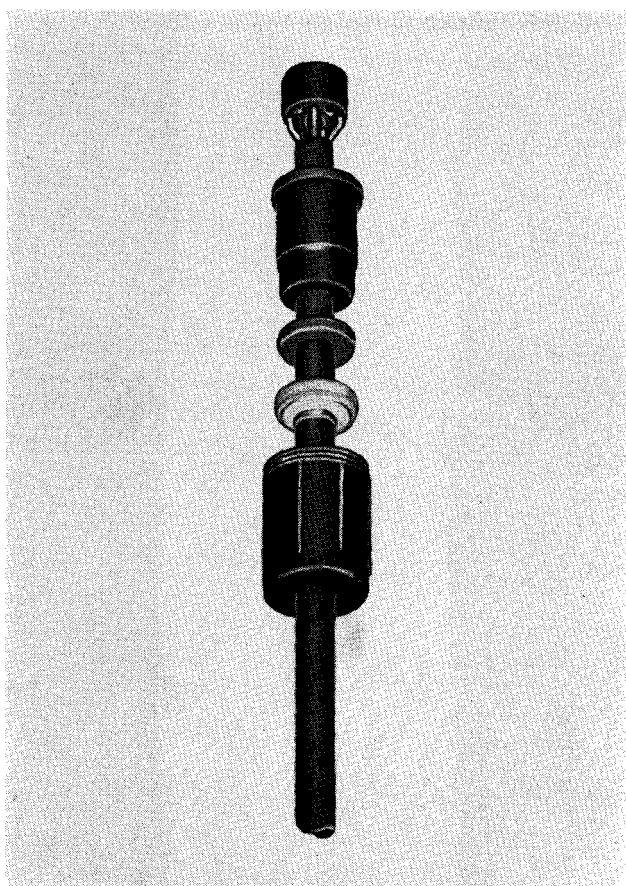


FIG. 2. Exploded View of Connector

OIL FLOW INDICATOR

of the vane. Coat the gasket on both sides and edges with gasket cement supplied with the transformer. Mount the drive mechanism and tighten the bolts. Put the case in place and tighten the mounting screws. Connect the alarm circuit according to Figure 3 and the wiring diagram for the particular job.

Important: When checking circuits through this instrument it is essential that the current ratings of the contacts are not exceeded. An indicating light type device is generally recognized as best for checking circuits through instruments containing microswitches of similar capacities.

RENEWAL PARTS

If the case is damaged, it may be removed without loss of oil. The case is carried as a stock item and identified by 446C858H01.

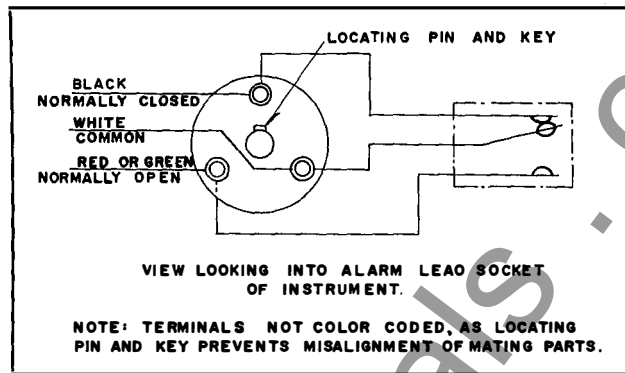


FIG. 3. Connection Diagram for Alarm Loads

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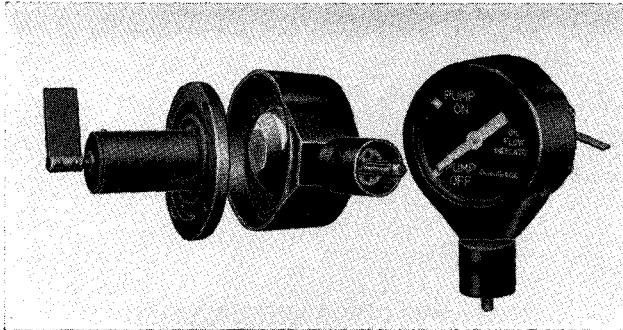


FIG. 1. Oil Flow Indicator.

THE OIL FLOW INDICATOR is a vane operated device for use on the suction or discharge pipes of transformer oil pumps with a minimum linear velocity of 4.5 ft./sec. The flow indicator is designed to indicate by dial and electrical alarm contacts that either sufficient oil is flowing or is not flowing. The case is weatherproof, submersible and shockproof.

DESCRIPTION

This indicator, see Figure 1, consists of two parts, the case and the drive mechanism. The case or outer assembly contains the dial, indicating needle and alarm contacts. The dial has a black background with yellow markings. The needle, also painted yellow, is mounted on the forward end of the shaft, the other end of which carries the drive magnet.

The drive mechanism is sealed against oil leakage. It houses a mating drive magnet and shaft, a torsion spring, travel limit stops and a vane. In operation the vane is positioned in the oil stream. The torsion spring holds the vane against one stop in the "Pump Off" position for conditions of (1) pump off (2) reverse pump rotation (3) restricted oil flow, or (4) closed oil circuit. Correct pump rotation will produce sufficient oil velocity to lock the vane against the second stop for "Pump On" and unrestricted oil flow.

The normally closed contacts of the microswitch are open for the "Pump On" position and close a minimum of 40° from the "Pump Off" position. The microswitch contacts are suitable for 600 volt-amperes at 125, 250 or 460 volts A-C, or 60 watts at 125 or 250 volts D-C lamp load or 6 watts at 125 or 250 volts D-C relay load.

INSTALLATION AND MAINTENANCE

Installation is usually made at the factory. If the indicator is shipped separate, check the operation of the vane over its entire range to see that it operates freely and that the needle follows the movement

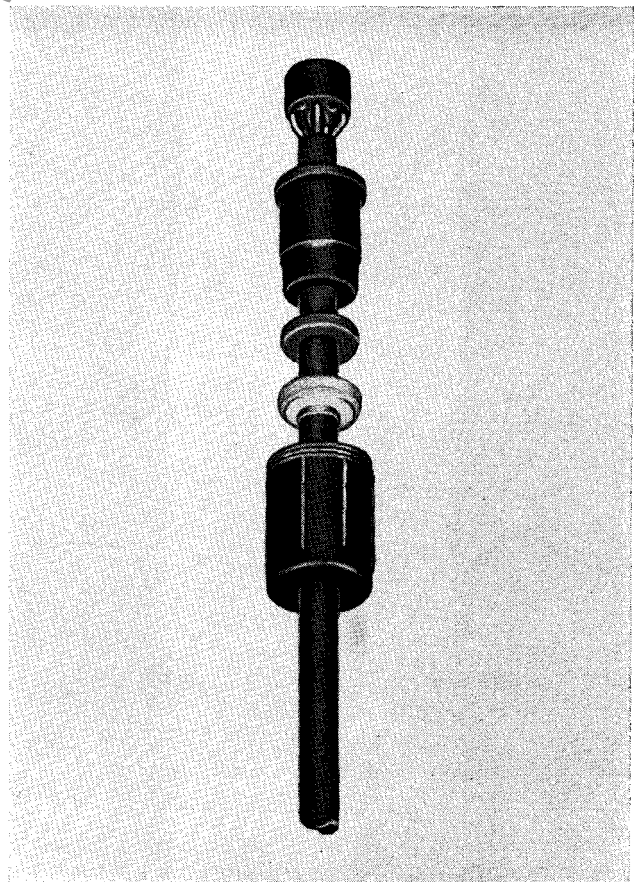


FIG. 2. Exploded View of Connector

OIL FLOW INDICATOR

of the vane. Coat the gasket on both sides and edges with gasket cement supplied with the transformer. Mount the drive mechanism and tighten the bolts. Put the case in place and tighten the mounting screws. Connect the alarm circuit according to Figure 3 and the wiring diagram for the particular job.

Important: When checking circuits through this instrument it is essential that the current ratings of the contacts are not exceeded. An indicating light type device is generally recognized as best for checking circuits through instruments containing microswitches of similar capacities.

RENEWAL PARTS

If the case is damaged, it may be removed without loss of oil. The case is carried as a stock item and identified by 446C858H01.

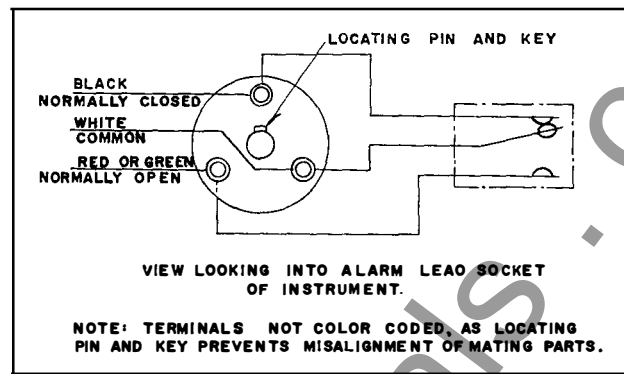


FIG. 3. Connection Diagram for Alarm Loads

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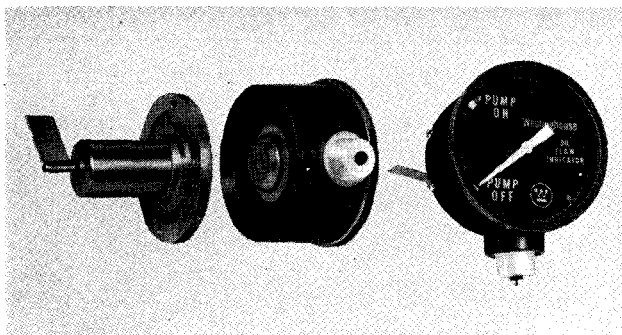


FIG. 1. Oil Flow Indicator.

THE OIL FLOW INDICATOR is a vane operated device for use on the suction or discharge pipes of transformer oil pumps with a minimum linear velocity of 4.5 ft./sec. The flow indicator is designed to indicate by dial and electrical alarm contacts that either sufficient oil is flowing or is not flowing. The case is weatherproof, submersible and shockproof.

DESCRIPTION

This indicator, see Figure 1, consists of two parts, the case and the drive mechanism. The case or outer assembly contains the dial, indicating needle and alarm contacts. The dial has a black background with yellow markings. The needle, also painted yellow, is mounted on the forward end of the shaft, the other end of which carries the drive magnet.

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The normally closed contacts of the microswitch are open for the "Pump On" position and close a minimum of 40° from the "Pump Off" position. The microswitch contacts are suitable for 600 volt-amperes at 125, 250 or 460 volts A-C, or 60 watts at 125 or 250 volts D-C lamp load or 6 watts at 125 or 250 volts D-C relay load.

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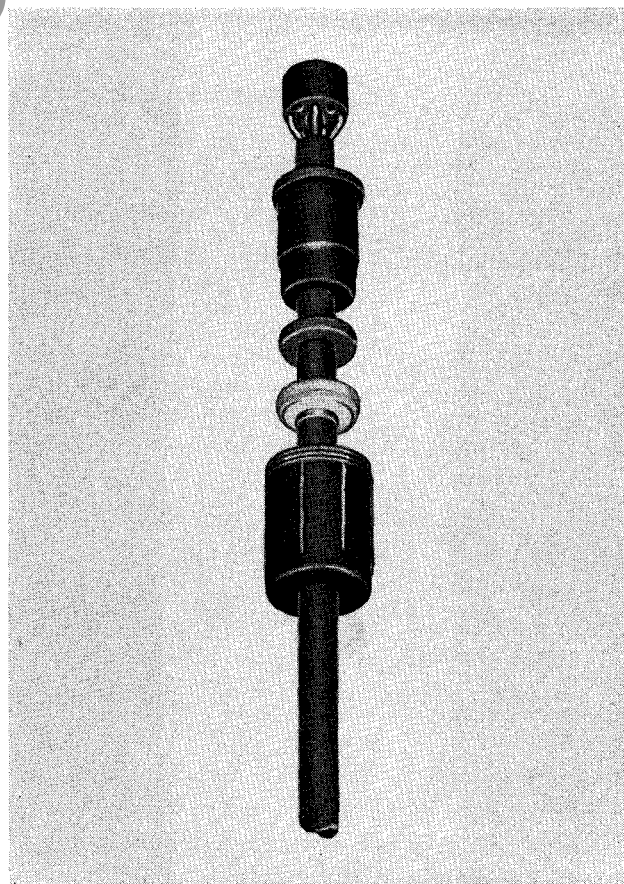


FIG. 2. Exploded View of Connector

OIL FLOW INDICATOR

of the vane. Coat the gasket on both sides and edges with gasket cement supplied with the transformer. Mount the drive mechanism and tighten the bolts. Put the case in place and tighten the mounting screws. Connect the alarm circuit according to Figure 3 and the wiring diagram for the particular job.

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RENEWAL PARTS

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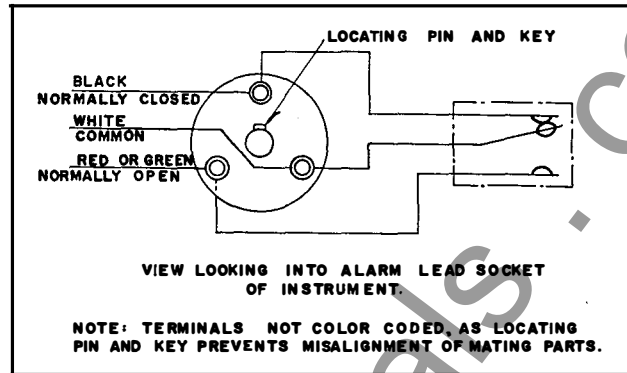


FIG. 3. Connection Diagram for Alarm Loads

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