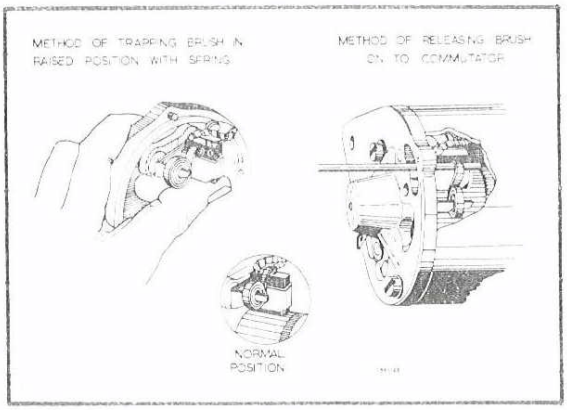


Illust.91 Generator Brush Gear

being turned by hand with the driving belt removed. If the commutator is very dirty or oily, moisten the cloth with tetrachloride. Check the brushes in their holders for freedom of movement after first raising the springs from the top of the brushes. Tight brushes may be eased by filing the sides lightly with a smooth file. These operations will entail removing the generator from the engine and unscrewing the through bolts (1 Illust.90) when the end plate complete with brushes and holders may be removed from the yoke.

Restore the brushes and springs to their original position using a screwdriver or similar tool before installing the through bolts.

THE STARTING MOTOR

If the starting motor lacks power or fails to crank the engine :

1. First check that the failure is not due to a discharged battery.

2. Examine the battery starter motor, etc. and key switch, ensuring that they are all in good condition and that all connections are tight and clean.

3. Examine the starter motor commutator and brush gear as described below :

COMMUTATOR AND BRUSH GEAR

To inspect the brush gear and commutator remove the metal band around the starter motor body. Check that the brushes move freely in their holders by holding back the brush springs and PULLING GENTLY on the flexible connectors. If a brush is inclined to stick, remove it from its holder and clean the sides with a cloth moistened with tetrachloride. Ensure that the brushes are replaced in their original positions in order to retain accurate "bedding". Brushes so badly worn that they will not bed correctly against the commutator must be replaced by your International dealer.

The commutator must be clean, free from oil or dirt and have a polished but not "glazed" appearance. If it is dirty remove the starter motor from the engine and clean the commutator in the same manner as described for the generator commutator.

THE GLOWPLUGS (Diesel)

The glowplugs are provided as an aid to starting. The element of the plug is electrically heated to a temperature of 1800°F to 2000°F. When fuel particles strike the heated element, they are vaporised and ignite.

The indicator (14 Illust.7) in the instrument panel performs two functions:

1. It glows at a similar brightness as the glowplugs, thus giving a visual indication that the circuit is operating and has reached the correct temperature.

2. It limits the current in the glowplug elements.

WARNING: Under no circumstances should the glowplug system be operated with either the indicator resistor or any of the glowplugs shorted out as this will OVERLOAD the remaining components.

TESTING A FAULTY GLOWPLUG CIRCUIT

The following simple test is intended to enable the operator to locate a faulty component in the glowplug circuit.

1. Using a screwdriver, bridge from the terminal of number 4 glowplug to

the cylinder head. If small sparks are observed, the indicator resistance is correct. If no sparks are observed, the indicator is faulty and should be replaced.

NOTE: Remove the paint at the points of contact of the screwdriver to ensure a satisfactory connection.

2. Now bridge between the cylinder head and the interconnector wire between No.3 and No.4 glowplugs. If no sparks are observed, No.4 glowplug is faulty and must be replaced.

3. Repeat this test on the remaining glowplug interconnection wires AND on the earth strap from the No.1 glowplug to the engine block.

WARNING: ON NO account should the indicator terminals be bridged to earth, test the terminal at No.4 glowplug.

If the above test does not reveal the faulty component, consult your International dealer.

REPLACING A GLOWPLUG

To remove the glowplug:

1. Remove the terminal nut (1 Illust.92) and lift off the top inter-connector wire (2 Illust.92).

2. Remove the insulator and bottom inter-connector wire.

3. Using a suitable box spanner, unscrew the glowplug from the cylinder head.

TO INSTALL A GLOWPLUG

1. Screw the glowplug into the cylinder head and tighten securely.

WARNING: DO NOT overtighten the glowplug.

2. Install the lower inter-connector wire, insulator, upper inter-connector wire and terminal nut. Tighten the terminal nut securely using the screwdriver slot provided.

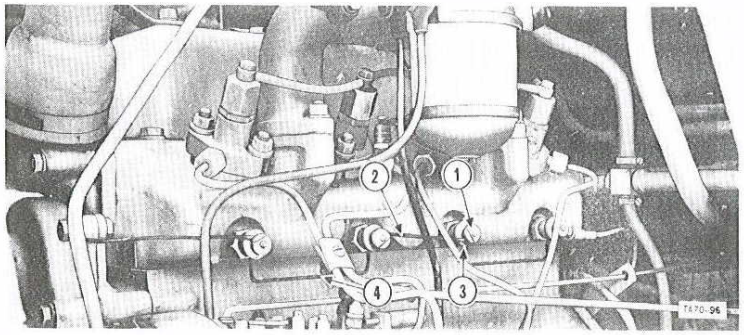
GLOWPLUG INTER-CONNECTOR WIRES

If it is necessary to replace the glowplug inter-connector wires, be sure to use the correct parts. ON NO account should copper conductors be used as these wires form the ballast resistance in the two-stage glowplug system.

REPLACING THE GLOWPLUG INDICATOR ELEMENT

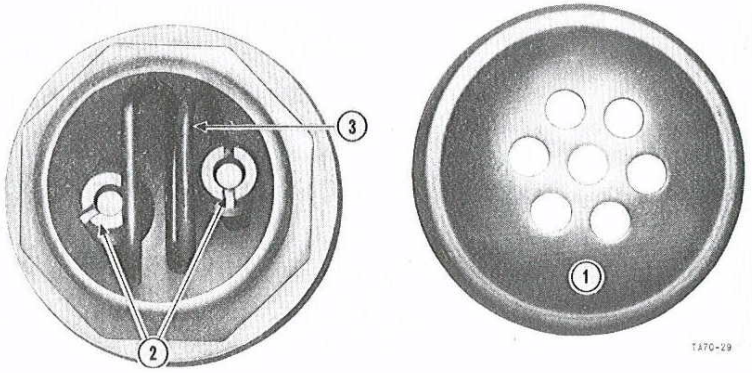
The indicator element is accessible when the shield (1 Illust.93) is removed, it is not necessary to remove the unit from the instrument panel.

To remove the element, screw off the two nuts (2 Illust.93) then slide the element (3 Illust.93) from the posts.



1. Terminal nut
2. Top interconnector
3. Insulator
4. Bottom inter-connector

Illust.92 The Glowplugs



1. Shield
2. Retaining nuts
3. Element

Illust. 93 The Glowplug Indicator

When installing a new element, ensure that the element is centrally positioned in the indicator window. It is important that the element be clear of all metal parts and that the coils are not touching each other. Tighten the retaining nuts securely then replace the shield.

THE FUSE

There is only one fuse in the electrical system and this protects the lighting circuit.

A blown fuse will be indicated by a failure of the lighting circuit and can be confirmed by an examination of the fuse itself.

Before replacing a blown fuse examine the lighting circuit for evidence of a short circuit. If no fault can be detected and the replaced fuse again blows have the equipment examined by your International Harvester dealer.

THE INSTRUMENT PANEL

To remove the instrument panel:

1. Remove the scuttle panel by taking out the four attaching screws.

2. Remove the tractormeter by taking out the four self tapping screws.

3. Remove the four panel screws and lift the instrument panel from the scuttle.

4. Disconnect the wires from the various components.

WARNING: Remove the battery earth strap before working on the electrical system.

STORING THE TRACTOR

When the tractor is not to be used for a period of time; it should be stored in a dry and protected place. To leave the tractor outdoors exposed to the elements will result in materially shortening its life.

The following procedure must be followed when the tractor is to be placed in storage for 30 days or more.

We also recommend that caution be taken when starting an engine that has been in storage.

1. Wash down and thoroughly clean the tractor.

2. Run the engine long enough to warm the oil in the crankcase, drain the crankcase.

3. Change the lubricating oil filter element and refill the crankcase with "SHELL ENSIS" SAE-20 engine oil.

NOTE: Ops. 4 and 5 refer to Diesel Engine only.