

UUPP-1 INSTALATION INSTRUCTIONS

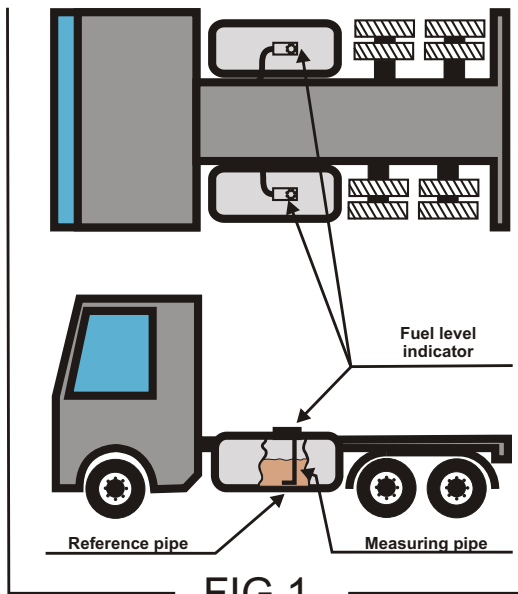


FIG.1

The figure fig.1 shows an example of mounting an indicator/indicators on the vehicle's tank. The number of the mounted indicators depends on the number of tanks, in which the vehicle or the machine is equipped, and on which the indicators would be installed. While choosing the place of assembly the following criteria should be taken into account:

- the indicator should be located in the central place of the tank, the surface should be relatively smooth and flat,
- the location of mechanical obstructions inside the tank should be checked - bulkheads, float components, fuel pipes-alternatively the place of indicator's installation should be revised,
- the measuring pipe should be installed at maximum perpendicular to the fuel mirror,
- the indicator's converter should not be located near the fuel return pipe - in order to maintain this principle the reference pipe should be directed in the opposite side of the return pipe. The fig.2 illustrates the above situation.
- the mounted indicator and the connection cord should not hinder the tank's operation and running
- refuelling, servicing, cleaning, etc .

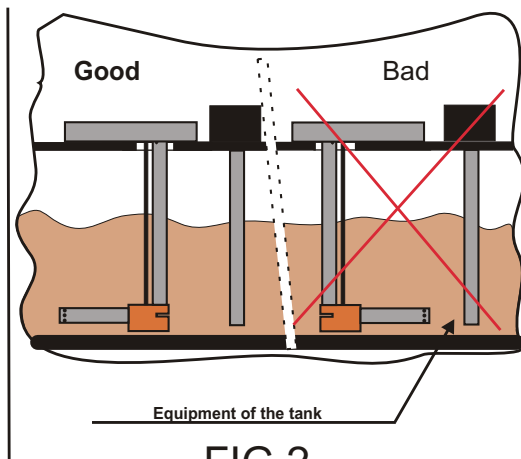


FIG.2

After choosing the place of assembly it should be prepared for sticking on the drilling pattern. For this purpose the dirt must be removed from the tank and the place of sticking must be degreased using a solvent - NITRO, ACETONE. The pattern should be stocked on directing its location using a line determining the tank's longitudinal axis. The placed line of the axis is to facilitate even and aesthetic location of the indicator. Due to even division of the mounting holes the full rotation of the indicator every 45° is possible. The pattern is presented on fig.3. The holes should be drilled in the marked places using a drill of a given diameter. During drilling the cuttings must be often removed. In order to facilitate this activity the places of drilling and the drill may be covered by a thin layer of grease or in the case of steel tanks, a strong magnet should be placed near the holes. The main hole should be made using a core drill. The drill's diameters are specified on fig. 4 After making the holes the sticker must be removed, it is convenient to use a solvent.

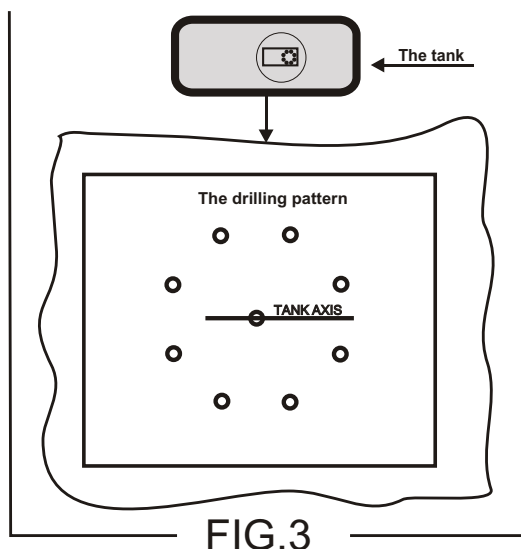


FIG.3

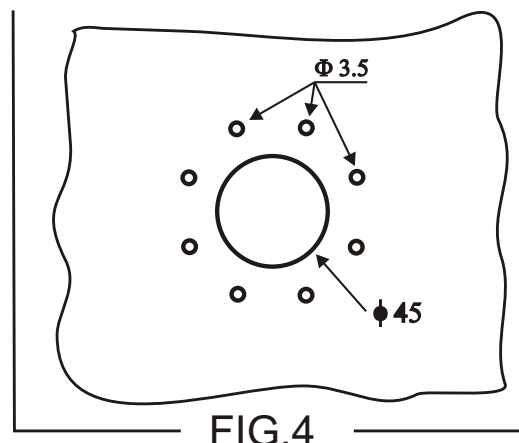
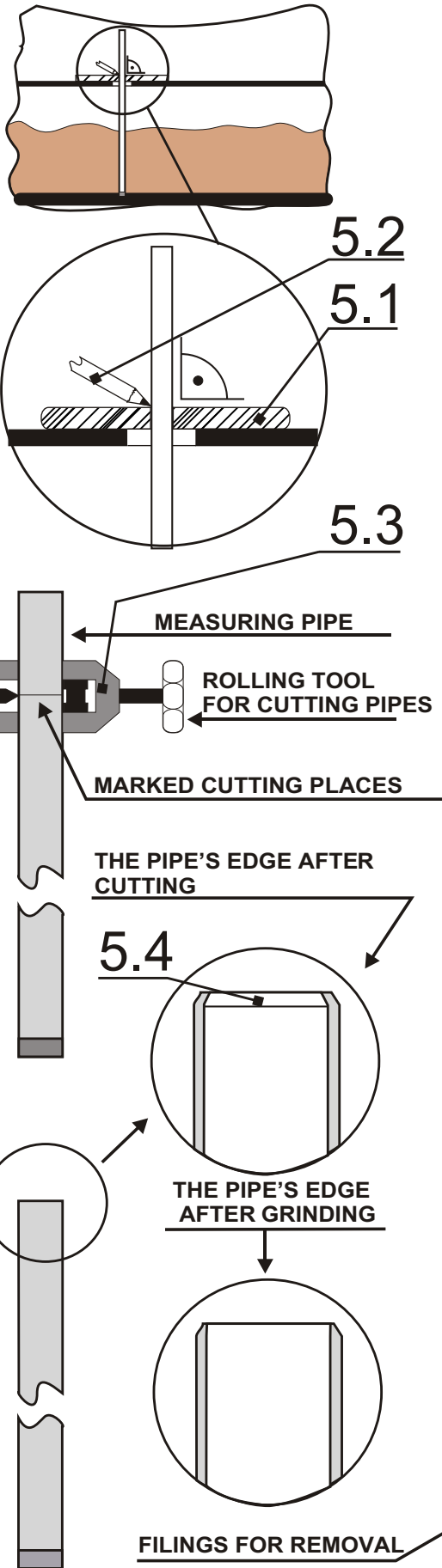


FIG.4



Adjusting the measuring pipe's length to the tank's height is a subsequent activity related to indicator's assembly. Scribing and trimming of the pipe is represented on fig. 5. The figure shows the sequence of activities related to conducting this operation.

The sequence of operation:

- the measuring pipe should be unscrew from the converter,
- the pipe's length should be determined - the pattern should be placed on the cut tank's hole 5.1 and the measuring pipe should be entered into its hole, - the vertical position of the pipe should be established,
- using a scriber or indelible pen 5.2 a scratch must be made on the pipe. The pipe should be taken out from the pattern,
- and cut in accordance with the marked length. The cut is most conveniently made by means of a rolling tool for cutting pipes 5.3. Due to the fact that the pipe is made of duralumin the cutting activity is easy to perform,
- the internal scratch should be removed 5.4. The activity should be made using a sharp knife - using a file is not recommended due to a large amount of tiny filings. The removal of the scratch will enable unproblematic inserting of the sleeve in the next stage of assembly,
- the filings should be removed from the inside of the pipe 5.5.

Remarks in relation to pipe's cutting

In the case when the instalator does not have the device for determining the pipe's length, its lengths may be determined in the following way:

- enter the pipe into the hole in the tank, put the pipe near the hole's edge,
- set the pipe vertically and make a scratch on the pipe's contact with the hole's edge,
- add 4 mm to the obtained dimension, and then make a scratch that will be the place of cutting according to the proper dimension.

During pipe's cutting with a blade or grinder a large amount of tiny filings arise, whose removal requires more attention. The filings may be most conveniently removed by flushing the pipe with oil or a solvent.

FIG.5

Filter gauze

The aim of using a sleeve from a filter gauze is to protect the ultrasonic converter against the impurities. The source of impurities might be:

- dirty oil,
- tank's walls corrosion,
- condensing water,
- environment of a large dustiness
(farming,building machines,).

The large surface of the gauze guarantees long and correct work of the indicator even in very polluted tanks.

Assembling of the filter gauze

Placing on a side the figures show the stages of assembling the filter sleeve on the fuel indicator's converter.

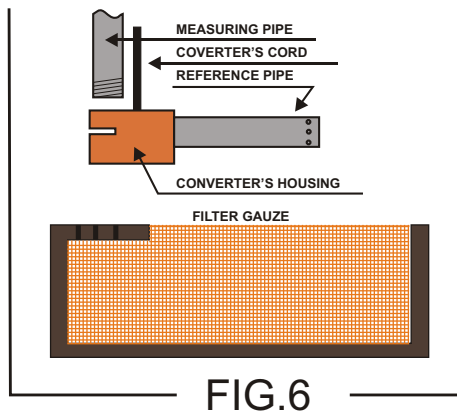


Fig. 6

illustrates the elements needed for the ssembly:

- measuring pipe trimmed earlier,
- ultrasonic converter's module with a model pipe,
- sleeve from a filter gauze.

The sequence of putting a filter sleeve:

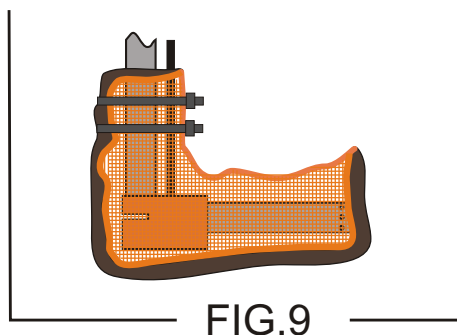
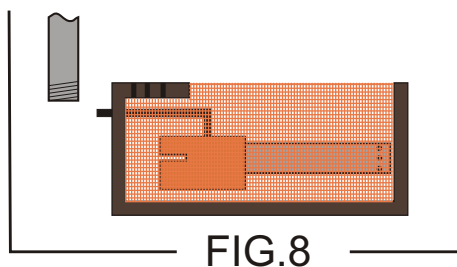
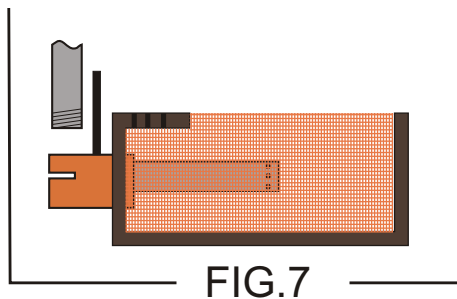
Fig. 7, Fig. 8

- enter the converter's module into the inside of the sleeve,
- bend the connection cord,
- insert the module to the end of the sleeve,
- bend the sleeve's cuff, so that the hole in which the measuring pipe should be screwed is uncovered,
- screw the measuring pipe - tightening firmly -

!Tight manually without using the tools !

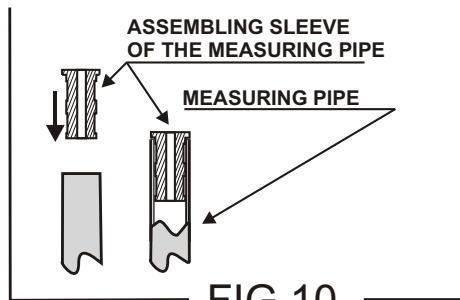
Fig. 9

- tight the sleeve around the measuring pipe and the cord
- put into the sleeve's cuff band clips,
- firmly tighten the cable clamps.



Remarks in a relation to the gauze assembly

The sleeve must not be put from the gauze on the converter with the screwed measuring pipe - there is a risk of cutting the gauze with the lower edges of the converter during the bending of the gauze and deteriorating of the filtering properties as a result. Before inserting the indicator into the tank the sleeve's gauze should be tightened around the measuring pipe and the brass of the converter. Performing this activity will reduce the risk of damaging the gauze during inserting the indicator into the tank. While placing the indicator in the tank special attention should be paid in order not to damage the gauze with the hole's edges.



Assembling sleeve of the measuring pipe

The use of the assembling sleeve is to ensure the appropriate endurance of the measuring pipe's mounting in the indicator's body.

The sleeve's and the measuring pipe's assembly in the indicator's body

Fig. 10

- the sleeve should be inserted into the inside of the measuring pipe,
- both elements should be placed in the indicator's body seating,

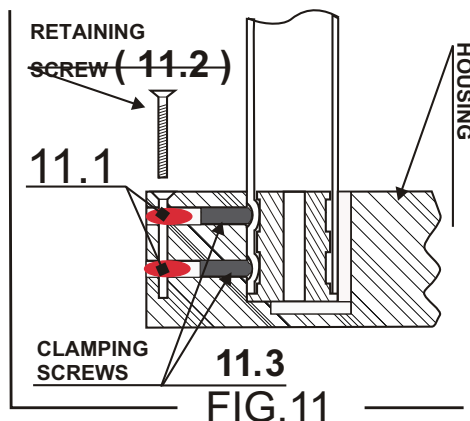


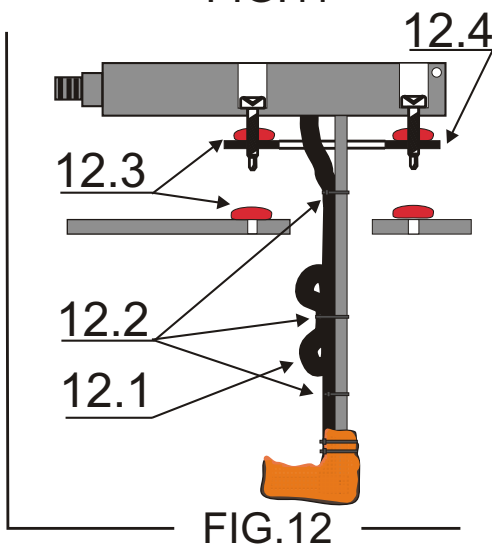
Fig. 11

- the indicator should be placed on the flat surface by the converter positioned upward - such a position will facilitate performing of the subsequent activities,
- unscrew the retaining screw 11.2,
- establishing the position of the converter in a relation to the indicator's body
- the converter's position should comply with previously discussed principles of the reference pipe's position,
- tighten the clamping screws very firmly 11.3 - the tightening of the screws should result in deforming the measuring pipe,
- screw the retaining screw 11.2,

The assembly of the indicator on the tank

Fig. 12

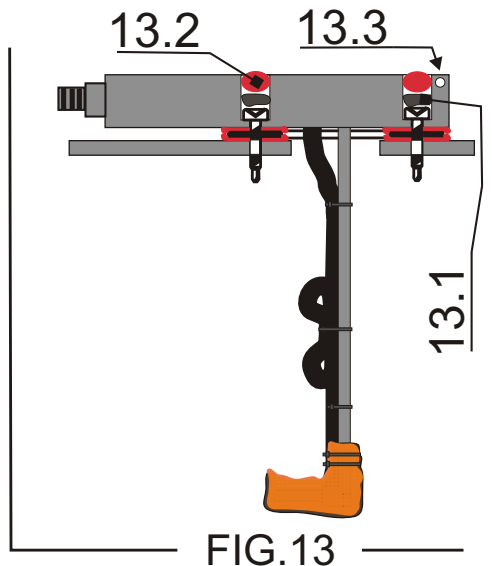
- put the converter's cord along the measuring pipe, the excess of the cord should be wrapped in a loop 12.1,
- the converter's cord 12.2 should be mounted in several places with the cable clips and the clip's excess should be cut,



- the silicone leak stopper should be spread 12.3 on the tank's surface, the silicone should be spread on the assembling holes' outline,
- the gasket should be "caught" 12.4 on the four screws,
- the silicone leak stopper should be spread 12.3 on the gasket from the indicator's body side,

Fig. 13

- the measuring part of the indicator should be inserted into the inside of the tank,
- the clamping screws should be screwed
- the screws should be tightened making the silicone flowing out excess,
- a small amount of the paper should be placed in the clamping screws' hole 13.1,
- the hole above the screw should be tightly closed using silicone 13.2,
- the screws' holes clamping the measuring pipe should be sealed with silicone 11.1,
- the indicator's body should be cleaned from the silicone excess,
- the seal should be inter left by the hole 13.3.



The electrical connections are to be performed.

Remarks in a relation to the indicator's assembly.

Only silicone for motor appliances can be used for sealing.

A small amount of the paper above the screw clamping the indicator's body facilitates the subsequent disassembly.