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DIRECTORATE GENERAL BORDER ROADS

# GENERAL MAINTENANCE INSTRUCTIONS

## No.15

MAINTENANCE AND OPERATION OF KJELL BERG DIESEL  
WELDING SETS AGGREGATES TYPE ARCOBIL

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**Maintenance and Operation of Kjell berg Diesel Welding Sets  
Aggregates Type Arcobil**

**GENERAL**

1. This instruction lays down the operation and maintenance of KJELLBERG Diesel Welding Set Aggregates Type ARCOBIL-I
2. Generally, the operators are in the habit of adjusting welding current by reducing the speed of the engine and do not use the current regulator for regulation of welding current. This practice of regulating welding current by reducing and varying the speed of the engine is extremely harmful to the sets. The engine obviously is not operating at the most optimum efficiency at lower speed and the cooling fan cannot give the best service in such situation. The engine is likely to get overloaded with the result that the engine would become extremely hot. This further result in worsening of quality of welding current. It is also found that the engine is not started in the prescribed way. In order, therefore, to obtain better service and higher efficiency from KJELLBERG Sets the following procedure should be followed.:-

**OPERATION**

3. To start an engine it is necessary:-
  - (a) To keep the speed regulator of the engine at the full speed *i.e.* to the extreme left. (b) To push the button in the injection pump.
  - (c) To keep the starting switch on No. 1 (glow) position for minimum one minute and then shift the starting switch to No. 2 position.
  - (d) The engine should be given idle running at medium speed for warming before the starting of welding operation.
  - (e) Welding operating should invariably be effected in all cases at the maximum speed of the engine.

**MAINTENANCE**

4. The following points should be observed for the correct maintenance of these sets:-
  - (a) The sets should always be maintained in the way prescribed in the Operating Instruction booklet.
  - (b) The following, however, should be given special attention:-
    - (i) At the time of changing lubrication oil, the oil filter sieve in the oil pump should be cleaned, the filter in the oil filter case should also be cleaned and the filter case filled with new oil.

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(ii) The clearance of valves should periodically be checked and adjusted to 0.3 mm. for the cold engine.

(iii) Timing chain-tension should be checked and adjusted to 3-4 mm. clearance to the tension wheel balancer.

(iv) Injection nozzles should be periodically checked and kept adjusted to 100 atmospheric pressure.

(v) The carbon brushes on the generator side should be maintained ensuring easy movement in the brush holder.

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