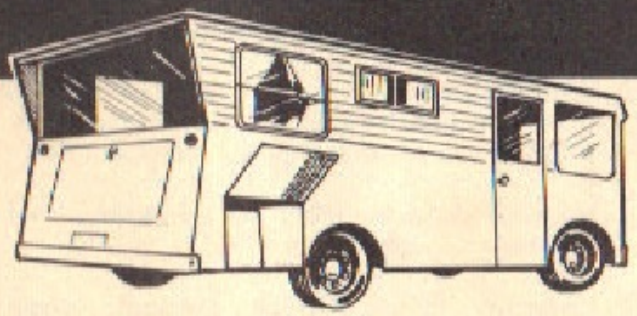
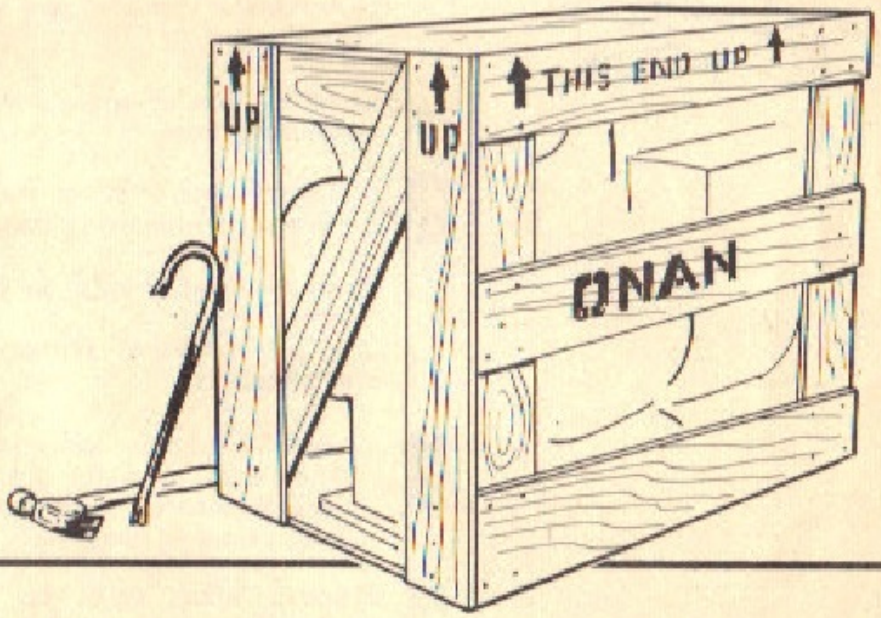
Onan®

MOBILE ELECTRIC PLANT
GENERAL INSTALLATION GUIDE





ONAN 1400 73RD AVENUE N.E. MINNEAPOLIS, MINN. 55432

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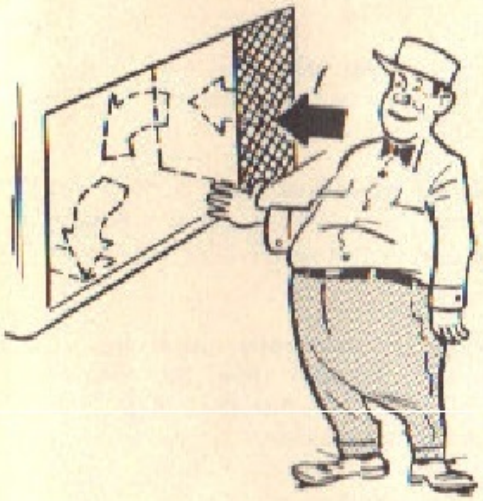
FUEL

- ○ Use separate fuel line for electric plant from vehicle fuel tank. Sharing a fuel line can result with erratic plant operation.
- ■ DON'T use vehicle gasoline tank supply for Onan gasoline units if vehicle uses premium or highly leaded gasoline (see T-012 technical bulletin).
- ○ Use annealed copper or seamless steel tubing and flared connections for fuel line, but install an approved, flexible and non-metallic fuel line between engine and solid fuel line.

WIRING

- ○ Use multistrand wire which meets all applicable codes as feeder conductors for mobile and recreational vehicle applications from plant to compartment junction box.
- ■ DON'T use solid metal conductors in compartment. They can develop metal fatigue and break.
- ○ The approved junction box with feeder conductors from electric plant must have blank cover and be inside compartment (not on plant).
- ○ Install a double-pole, double-throw switch feeder conductors between plant and vehicle distribution panel. This assures outside power service can't be connected simultaneously with electric plant.
- ○ Install an accessible means of overcurrent protection for plant feeder conductors between electric plant and vehicle distribution panel. It should be as close as practical to the plant, but not on plant.
- ○ Ground electric plant to vehicle chassis (common ground).
- ○ Use special precautions for reconnectible electric plants. See operator's manual for connections and load balancing.
- ○ Onan electric plant starting systems are negative ground only.
- ■ DON'T share vehicle battery without consulting Onan factory. Problems could arise from different battery charging outputs.



- Size of inlet and outlet openings must meet specified requirements for particular unit.

- NEVER use hot discharged air for heating since it could contain poisonous gases.

- Allow for restrictions of airflow due to elbows in a duct, etc.

- For models with cooling inlets on end of alternator (square type), make sure adequate clearance (1-1/2 inches) is left for entrance of cooling air.

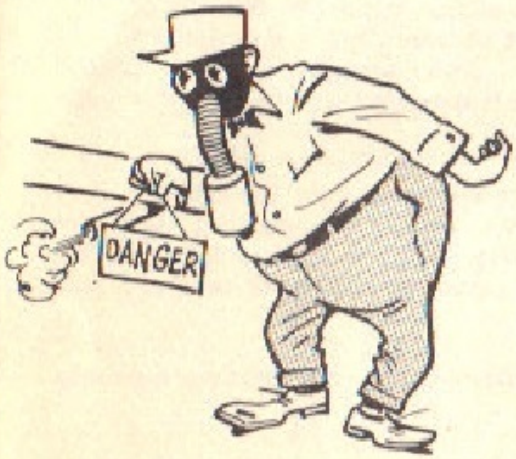
SOUND INSULATION

- Choose insulation material which is flexible, durable, fire preventive, and has a high resistance to deterioration from oil vapors, etc.

- Insulation must not affect or extend into clearance minimum around the generating plant.

- Use a good quality, long lasting adhesive (if used) to bond insulation to compartment walls and ceiling.

- DON'T use insulation on the bottom of compartment unless it is fire retardant and non-absorbent to combustible materials. Oil and/or gasoline present a potential fire hazard.



EXHAUST

- Exhaust system must terminate aft of electric plant compartment and extend to perimeter of vehicle.

- Exhaust pipe must terminate a minimum of 3 feet from vehicle gasoline filler spout (more if required by local codes).

- DON'T terminate exhaust under vehicle. Exhaust gases are deadly.

- Where pipe passes through floor, leave adequate clearance as protection against pipe damage (from vibration) and fire. If floor is flammable, use an insulating thimble (asbestos-backed collar).

- Use automotive type tail pipe hangers to hang exhaust system from vehicle undercarriage.

- Exhaust back pressure at rated load must not exceed an 18-inch water column measured at unit's exhaust manifold (unless approved by Onan).

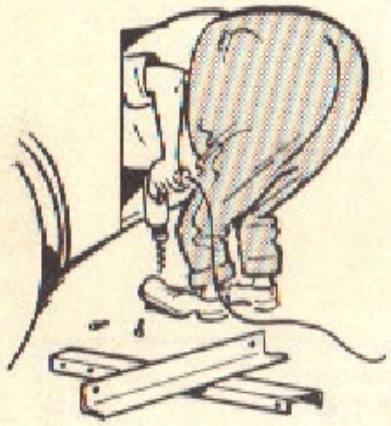
- DON'T connect plant exhaust to vehicle exhaust system.

Each Onan mobile electric plant must be installed properly if it is to operate reliably, quietly and safely. The following points are only a few which must be studied and applied. Order of presentation isn't necessarily the order appropriate for your application.

Beside requirements such as those of the National Electric Code, Standards for Recreational Vehicles, National Fire Protection Association, follow all applicable state and local codes for mobile or recreational vehicles. Also see Onan technical bulletin "Installation of Electric Power Plants for Recreational Vehicles" (T-012) and the appropriate operator's manual.

COMPARTMENT LOCATION

- ○ Choose area with best, possible mounting support. Will require additional reinforcement to keep vibration to a minimum (see "MOUNTING").
- ○ Installation area must be separated from living quarters by vapor-tight walls.
- ○ Location must provide adequate compartment opening for service. Plant's service items should be toward compartment opening.
- ○ Service opening should be large enough to permit plant removal with minimum effort.
- ○ Clearance between compartment walls or ceiling and plant should usually be 1-1/2 inches minimum (allow for fire-retardant insulation material).



MOUNTING

- ○ Electric plant and batteries should be mounted to withstand vibration and shock, for over-the-road conditions.
- ○ Channel, box or angle iron can be used for the supporting frame.
- ■ DON'T use a sheet metal base or thin plate without a supporting frame.
- ○ Base material should be oil and fuel resistant.
- ○ Use the vibration isolators provided with the electric plant.
- ■ DON'T tighten vibration isolators too tight (not applicable for 2.5AJ and 2.5LK), leave approximately 1/16-inch clearance between top snubbing washers.
- ○ Electric plant must be grounded to vehicle chassis frame (see "WIRING").

VENTILATION

- ○ Compartment door should be designed to allow cooling air to enter rear area of electric plant. Compartment bottom may be left open if another air inlet isn't possible (see T-012 technical bulletin).