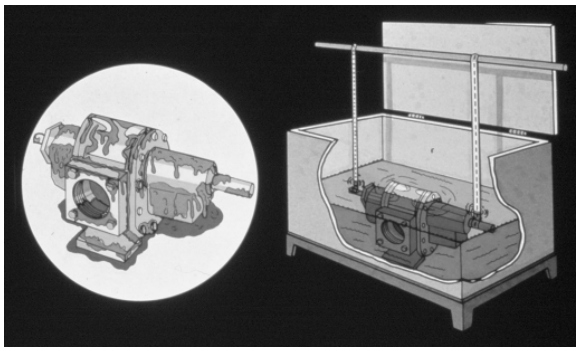
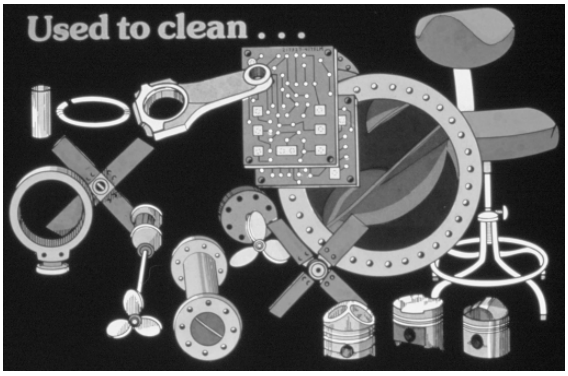
Chapter 10

Degreasing





Types of Degreasing Equipment

- Cold cleaners
- Open top vapor cleaners
- In-line cleaners

Degreasing Solvents

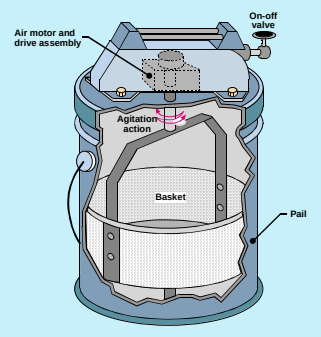
- Mineral spirits
- Stoddard solvents
- Alcohols
- Halogenated solvents

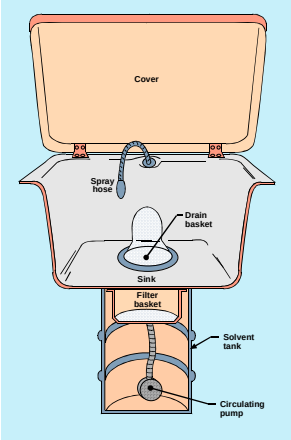
Halogenated Solvents

- Methylene chloride
- Perchloroethylene
- Trichloroethylene
- Hydrochlorofluorocarbons

Cold Cleaners

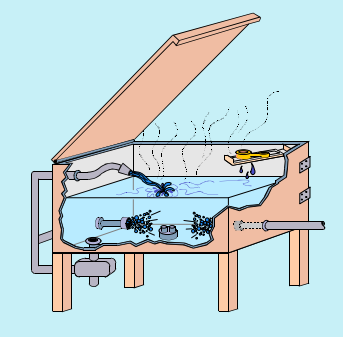
Carburetor Cleaner





Spray Sink

Dip Tank Cold Cleaner

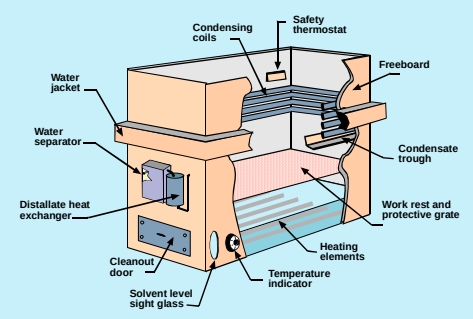


Potential Sources of Emissions

- Waste solvent disposal
- Solvent carryout
- Bath evaporation

Open Top Vapor Cleaners

Open Top Vapor Cleaner

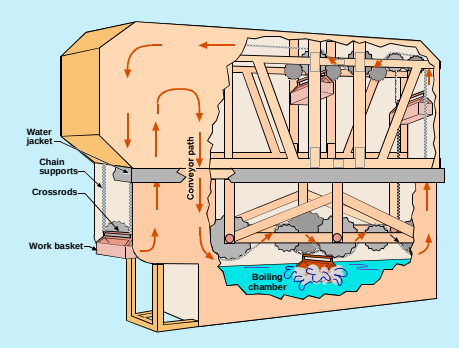


Potential Sources of Emissions

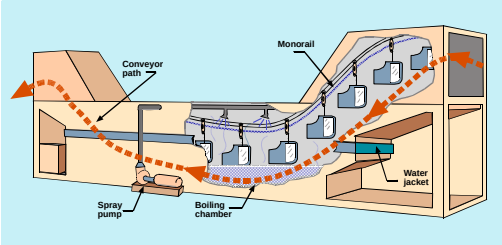
- Waste solvent disposal
- Solvent carryout
- Bath evaporation

In-Line Cleaners

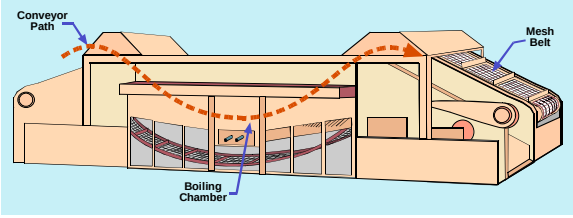
Cross-Rod Cleaner



Monorail Cleaner



Mesh Belt Cleaner



Emission Control Techniques
(Cold Cleaners and Open Top Vapor Cleaners)

- Water cover (cold cleaner only)
- Manual or powered cover
- Refrigerated primary condenser
- Refrigerated freeboard device
- Increased freeboard ratio
- Reduced room draft
- Enclosed designs
- Mechanically assisted parts handling
- Carbon adsorption
- Operation and maintenance

Operation and Maintenance

- Spray within vapor zone.
- Start condenser coolant flow before starting sump heater
- Operate sump cooler during downtime
- Drain parts before removing
- Repair leaks and equipment promptly
- Perform solvent transfer in a closed system
- Utilize control safety switches

Emission Control Techniques
(In-Line Cleaners)

- Minimized entrance and exit openings
- Refrigerated freeboard device
- Drying tunnels
- Rotating baskets
- Carbon adsorbers
- Hot vapor recycle or superheated vapor
- Operation and maintenance

Emission Regulation

Process Inspection

- Review records maintained by source
- Check equipment operation
- Observe operating procedures
- Observe work area
- Check for liquid leaks
- Review waste solvent disposal procedures

Review Records Maintained by Source

- Design information
- Operational information
- Maintenance information

Review Records Maintained by Source

- Design information
  - Degreaser dimensions
  - Solvent type
  - Cover design
  - Type of drainage facility
  - Types of safety switches
  - Hoist or conveyor speed
  - Ventilation rate
  - Add-on control equipment

Review Records Maintained by Source

- Operational information
  - Solvent use
  - Operating frequency
  - Quantity and types of parts cleaned
  - Use of covers

Review Records Maintained by Source

- Design information
- Operational information
- Maintenance information

Check Equipment Operation

- Required equipment
- Condition and integrity of equipment
- Solvent temperature
- Coolant temperature and flow rate
- Hoist or conveyor speed
- Ventilation rates

Observe Operating Procedures

Observe Work Area

Check for Liquid Leaks

Review Waste Solvent Disposal Procedures