Installation procedure of air conditioner Window & Split
Quality Installation

STOPS

Majority of COMPLAINTS

⇒ Saves Time & Money

⇒ Technician Gains Image
Use Personal Protective Equipment (PPE) during installation

- Goggles
- Gloves
- Safety Belts
- Helmet
- Mask
Types of Installation

I. Window Mounting
   A. Wooden frames
   B. Section frames
      a) Iron section
      b) Aluminum section

II. Opening in Wall
    A. Light wall - 4" Thick
    B. Heavy wall - more than 9 " thick.

III. Special Installations
    A. Wooden Partition
    B. Glass Partition
Installation procedure steps

Step 1: Know the air-conditioner
Step 2: Determine Air Conditioner Location
Step 3: Preparation of Frame
Step 4: Transfer the Interior Opening to the Exterior & Cut Through the Outside of the House
Step 5: Install the Chassis
Step 6: Install the Air Conditioner
Step 7: Finish the Inside and Outside Wall
Step 8: Plug In the Unit and Test
Know the Air conditioner Window Type

1. Front Panel  
2. Supply Air Outlet  
3. Cabinet  
4. Control Panel  
5. Air Inlet  
6. Power Cord  
7. Air Pre Filter  
8. PLTC Air Filter  
9. Ionize  
10. Remote Handset
Determine the Location of the Air Conditioner

Min 4 ft. to 6 ft space after condenser
Preparation of the window
Installation procedure

Brace kit supplied with unit
Installation procedure

Bricks or other materials should not be used to support the unit.
Test Run Before Sliding the unit into Cabinet

1. Compressor functioning
2. Fan mounting
3. Motor
4. Blower
5. Alignment
6. Operation of control panel and remote control
7. Cooling
8. Check current
Determine Split Air Conditioner Location – Fan Coil Unit (FCU) air-flow

For HC charge air-conditioners, no spark points must be near to air-conditioner, no flare fitting inside but use lock rings or joint free copper pipe.
Install Mounting Plate & Drilling Hole

Fasten string at the central hole

70-100mm

Plumb

70-100mm
Chapter 9

Determine Split Air Conditioner Location – placing Electronic Gadgets

At a distance 1m or more away from TV and radio etc.

Possible Troubles:
Malfunction by noise and Harmon's generate due to the high voltage.
Determine Split Air Conditioner Location – Condensing Unit (CDU) air flow

Condenser location
Determine Split Air Conditioner Location – Condensing Unit (CDU) air flow
Determine Split Air Conditioner Location – Condensing Unit (CDU) air flow

Hot air must not be allowed to flow freely through the adjacent CDU to maintain good efficiency.
Determine Split Air Conditioner Location from wall

Do not install CDU too close to the wall. It will trip due to high head pressure, as heat dissipation can't happen.
Insulation

No pipes without insulation like this

Insulate both the pipes separately with proper size of insulation sleeve
Drainage
Indoor test for dipping of water
Airconditioning tubing v/s. plumbing tubing

Some Common Grades of Copper

K Thick-walled copper piping used for heavy duty applications
L Medium-walled copper piping is the most frequently used
M Thin-walled copper piping is rarely used in the HVAC industry

Use proper size tube for R410A refrigerant
### Copper tube data

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<th>Type</th>
<th>Wall Dia.</th>
<th>Diameter</th>
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<th>Cross Section</th>
<th>Weight</th>
<th>Working Pressure ASTM B88 To 250°F</th>
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Un-rolling tube rolls

Keep both ends close until actual brazing/connection takes place

Tubing should be unrolled carefully to avoid kinking the pipes
Tubes cutting, swaging and Flaring
Tubes bending

Manual bending of pipe

Bending by pipe bender
Tubes Brazing

- Copper tubing will fit into the swaged end of the other section
- The molten filler material flows in the gap between the two pipe sections
P-Trap, P - Trap and S – Trap & Invert Trap

P - Trap

Invert Trap

P and S Trap
Pressure test, Evacuation & Gas Charging

- **Pressure Test**
  - Nitrogen gas cylinder (in vertical standing position)

- **Evacuation**

- **Charging by Weight**

Outdoor unit

Manifold valve

Pressure gauge

Charge hose
Leak Test with electronic leak detector

Leak Test with Soap solution
Measure recommended Current of Original Equipment Manufacturer (OEM)
Customer Education

Save Energy & Keep AC Healthy
Customer Education
Customer Education
Dealing with complaints

- Customer may not be always right, but it is often worth letting him feel that way.
- Complaints are, within certain limits, a natural business phenomena. Therefore don’t feel guilty while communicating with customers.
- Complaints need not always be concerned with the quality of goods, but may be linked to their use and application.
- Don’t try to reason with any angry customer.
- Don’t create differences by giving loose words.
- Always let the customer feel that his complaints is being taken seriously. Keep him informed and avoid delays.