Govt. of India
(Ministry of Railways)

HOUSE KEEPING OF COACHES AND COACHING DEPOT

(For official use only)
IRCAMTECH/M/C/House Keeping of Coaches-Sep-2010

Indian Railways
Centre for Advanced Maintenance Technology

Maharajpur, Gwalior – 474005 (INDIA)
Ph: 0751 -2470803 Fax: 0751 -2470841
Preface

The image of Indian Railways greatly depends on the perception of traveling public. The passengers remain at Railway stations for a time ranging from 5 minutes to few hours but they remain in a coach for a time ranging from one hour to forty eight hours or so. While many improvements have been done in upkeep of Railway Station premises, much is required to be done for ensuring upkeep of coaches. At present, every Railway is following their own system for house keeping of coaches and there are no standard practices.

Cleaning is no more brooms and mops. We should use walk behind/ride on sweepers, scrubber driers, vacuum cleaners, high pressure jet cleaners, spray extractors, multi-purpose trolleys car washing system and window cleaning equipment etc.

This handbook has been prepared to standardize methods of manual and mechanized cleaning of coaches. Details of tools and equipments available for the purpose have also been given. I am sure this handbook will provide necessary guidance to the field staff involved in maintenance of coaches to maintain high level of cleanliness and hygiene.

Date: 30.09.2010

(S.C. Singhal)
Executive Director
CAMTECH, Gwalior
**CORRECTION SLIPS**

The correction slips to be issued in future for this handbook will be numbered as follows:

CAM TECH/2010/M/House keeping/1.0/C.S. # XX dated ---
----------Where “XX” is the serial number of the concerned correction slip (starting from 01 onwards).

**CORRECTION SLIPS ISSUED**

<table>
<thead>
<tr>
<th>Sr. No. of Correction Slip</th>
<th>Date of issue</th>
<th>Page No. and Item no. modified</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
## CONTENTS

<table>
<thead>
<tr>
<th>Descriptions</th>
<th>Page No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Preface</td>
<td>i</td>
</tr>
<tr>
<td>Correction Slip</td>
<td>ii</td>
</tr>
<tr>
<td>Contents</td>
<td>iii</td>
</tr>
<tr>
<td><strong>1.0 Objective</strong></td>
<td>1</td>
</tr>
<tr>
<td><strong>2.0 Observations/Methodology</strong></td>
<td>1</td>
</tr>
<tr>
<td><strong>3.0 External Cleaning</strong></td>
<td>2</td>
</tr>
<tr>
<td>3.1 External cleaning by Automatic Coach washing Plant (ACWP).</td>
<td>2</td>
</tr>
<tr>
<td>3.2 External Cleaning / Washing Procedure, Other than ACWP</td>
<td>3</td>
</tr>
<tr>
<td>3.2.1 High pressure jet cleaning equipment (Static)</td>
<td>5</td>
</tr>
<tr>
<td>3.2.2 High pressure jet cleaning machine (Mobile)</td>
<td>6</td>
</tr>
<tr>
<td>3.2.3 External washing (Manual)</td>
<td>8</td>
</tr>
<tr>
<td>3.3 Cleaning of coaches with vinyl wrapping</td>
<td>9</td>
</tr>
<tr>
<td><strong>4.0 Internal cleaning</strong></td>
<td>10</td>
</tr>
<tr>
<td>4.1 Internal Cleaning of AC &amp; Non AC Reserved Coaches</td>
<td>10</td>
</tr>
<tr>
<td>4.2 Internal Cleaning of GS, Generator Car/SLR, Parcel/Luggage Van</td>
<td>13</td>
</tr>
<tr>
<td>4.3 Cleaning of Toilet</td>
<td>14</td>
</tr>
<tr>
<td>4.4 Door ways</td>
<td>15</td>
</tr>
<tr>
<td>4.5 Pantry cars</td>
<td>16</td>
</tr>
<tr>
<td>4.6 General</td>
<td>17</td>
</tr>
<tr>
<td><strong>5.0 Cleaning tools/equipments (Manual)</strong></td>
<td>18</td>
</tr>
</tbody>
</table>
6.0 Cleaning tools/equipments (Mechanized)  
6.1 High pressure water jet cleaner  
6.2 Floor scrubber  
6.3 Wet & dry vacuum cleaners  
6.4 Stain cleaner  
6.5 Spray extraction machine  
6.6 Steam cleaner  

7.0 Enroute or On Board House Keeping Services  
7.1 Clean Train Station (CTS)  
7.2 Enroute cleaning on Rajdhani and Shatabdi Trains  
7.3 On Board House Keeping Services (OBHS)  
7.3.1 Resource Specifications issued by Railway Board  
7.4 Test Checks of Coaching Depot Contracts  

8.0 Cleaning Materials  
8.1 Conventional cleaning materials  
8.2 Mechanized coach cleaning materials  

9.0 Depot Cleaning
HOUSE KEEPING OF COACHES

1.0 OBJECTIVE

Zonal Railways are having their own systems and practices of ‘Housekeeping of Coaches & Coaching depot’ and there are no standard practices of coach cleaning.

Indian Railways gets severe criticism from passengers due to poor cleanliness and hygiene in coaches, hence ‘Housekeeping of coaches’ has become very important issue.

Scientific and professional cleaning should be taken up by the railways right from the platforms to the coaches and revamping & maintaining internationals standards of cleaning.

Cleaning is no more brooms and mops. Nor is it just plain water and detergent. Cleaning has evolved around the world as a science. It is all about saving time, cost and getting the optimum standards of cleanliness to suit the requirements Railways.

This hand book is an attempt to explain existing practices of cleaning as well as improved methods of cleaning by using latest mechanized equipments to avoid/minimize the passenger’s complaint with regards to cleanliness and hygiene in the coaches.

2.0 OBSERVATIONS/METHODOLOGY

At present different cleaning processes and products are being used by different Railways with varying results. It depends largely on the initiative of Sr.DMEs / CDOs. For example some railways are using “Supermax” for external cleaning while others are not. One Railway has developed a windowsill cleaning arrangement using a fan motor. Another
Railway carries out buffing of washbasins using steel wool with excellent results while others don’t. Standardizing the system and practices would help the Railways maintain higher standards in maintaining cleanliness.

Practices being followed by various coaching depots have been studied. Details of tools and equipments used both for mechanized and manual cleaning have also been collected. It is observed that cleaning as a process can scientifically be achieved only by using right chemicals, right equipment and most importantly, rightly trained manpower. Market survey has been carried out to find the best equipments available in the market for the purpose. Standard of external cleaning through use of Automatic Coach Wash Plant have also been observed. Based on the observations in the field, market survey, suggestions of people in the field, the procedures, practices tools and equipments along with their manufactures have been enumerated in the subsequent paras of this handbook.

3.0 EXTERNAL CLEANING

The external cleaning should preferably be done on Automatic Coach washing Plant (ACWP).

3.1 External cleaning by ACWP

Following are the advantages of external cleaning by ACWP.

a) Less manpower requirement for operation and maintenance.

b) Reduction in time. 95% exterior cleaning of entire rake of 24 coaches can be achieved within 30 minutes.
c) Reduction in water and soap solution consumption compared to the conventional manual coach cleaning.

d) Reduction in power consumption by using automation.

e) Cleaning and disinfection of underneath portion of toilet by high pressure jets.

f) Bogie side cleaning by high pressure jets.

g) Roof cleaning of Coach by horizontal nylon brush.

Successful working of Automatic washing plant has started giving glittering look to coaches of originating trains, thereby making the traveling commuters happy.

3.2 External Cleaning / Washing Procedure (Other than ACWP)

External cleaning/washing of coaches should be done in following manner;
i) Place the rake/coaches on the washing pit provided with equipments required for washing and cleaning. It should be ensured that the rake/coach is protected with proper board/signal for safety of the staff working on washing/cleaning job to prevent movement/disturbance in the activity. Scotch blocks with locking arrangement should protect lines and keys should be kept with Engineer (C&W) till the time rake is under maintenance. In electrified section, C&W supervisor shall in addition, obtain power block from OHE before commencing work.

ii) Remove old reservation charts/labels on the body panels. Splash water on old charts so that they are wet for easy separation. Care should be taken to avoid any damage to the paint.

iii) The cleaning solution should be spread/rubbed with nylon brush or sponge brushes and then rubbed thoroughly to clean the panels. Extra attention should be given to oily and badly stained surfaces.

iv) Destination boards may be removed and cleaned with brush/duster.

v) Clean the external surface by high pressure jet where facilities are available.

vi) All exterior panels including end panels should be hosed with water and brushed with diluted soft soap (detergent solution) the strength of the solution may be increased or decreased according to RDSO specification.


The above cleaning procedure should preferably be done through mechanized machines. The details of machines and equipments used are as under.
3.2.1 **High Pressure Jet Cleaning Equipment (Static)**

The system consists of a pressurized water pipeline throughout the length of the pit line.

**Salient Features:**

1. Reciprocating pumps of 90 LPM each.
2. Driven by 3 Motors of 7.5 HP connected to each pump.
3. Provision of Auto mode, to switch on the motors automatically proportionate to the load demand.
4. Trigger Gun with lance arrangement connected to main pipe line through flexible hose and quick release coupling.
5. Working pressure 40 kg/cm² (Adjustable 0 to 40 kg/cm²).

**Areas of application of cleaning:**

1. Toilets cleaning/removing hard stains in corners and commode chutes
2. Exterior coach cleaning
3.2.2 High Pressure Jet Cleaning Machine (Mobile)

Salient Features:

- Model: HD-650
- Power Supply: 1/230/50-/v/Hz
- Water flow rate: 180-550 l/h
- Pressure: 20-150/2-15 bar/MPa
- Max. Water feed temp.: 60 °C
- Connected load: 3.1 kW
- Operating weight: 26.5 Kgs
- High press. hose length: 10 m
- Dimensions (LXWXH): 400X340X900 mm.

Make: Karchar

Areas of application of cleaning:

1. Toilets cleaning/removing hard stains in corners and commode chutes
2. Exterior coach cleaning

Other equivalent models available:

a) Eureka Forbes Ltd. (411A)
b) **Roots multidean**  –
Water high pressure cleaner

c) **Johnson & Diversey**  –
Diver wash (O)

d) **Manmachine**

(Used for foam generating, jet cleaning as well as vacuum cleaning)

- Tank Capacity : 30 litres
- Solution tank capacity : 30 litres
- Max. pressure : 09 bar
- Power : 1.2 kw
- Compressor : 350 W
- Cable length : 10 m
- Detergent dosage : 500 g
- Weight : 62 kg
- Dimension : 380x800x1050 mm
- Voltage : 230 V, 50 Hz.
3.2.3 External Washing (Manual)

Although the external washing is preferred through mechanized means but in case it is to be done manually, following tools/brushes should be used.

Carriage Washing Brush

**Feature:** Made of wood & coconut fibre

**Use:** External cleaning

Spoke Brush (for inaccessible areas)

**Feature:** Made of wood & coconut fibre

**Use:** for external washing, windows, shutters, panel & rexine

Manual cleaning (End wall)  Manual cleaning of side wall and window

House Keeping of Coaches and Coaching Depot

CAMTECH/Gwalior
3.3 Cleaning of Coaches with Vinyl wrapping

All zonal railways are advised to issue instructions for careful washing of vinyl wrapped coaches. It should be borne in mind that even paint can peel off if high pressure water jet is directed against the coaches whereas vinyl being applied to the coaches is only polymer and will not sustain pressurized water jets and severe brushing. If water pressurized jet is used for cleaning, it should be done from adequate distance.

The chemicals used for cleaning should be as per RDSO spec. No. RDSO/2006/CG-13 Revision latest or specified from time to time. The concentration of chemicals used should not be higher than specified in above specification.
4.0 INTERNAL CLEANING

4.1 Internal Cleaning of AC & Non AC Reserved Coaches

i) Collect the newspaper from magazine bag and waste from dust bin. Sweep all the coaches with the help of suitable broom and garbage including plastic bottles shall be collected in a disposable bag and disposed off to nominated bin /place at depot yard. Clean the floor of AC coaches with vacuum cleaner.

ii) Remove dust from floor, berths/seat, magazine nylon wire mesh bag fitted on panels and fan guards with duster. Use of vacuum cleaner is excellent in such areas.

iii) Also remove dust/dirt from under the berths, window sill, sliding door, railing corner, all corners and crevices of coach interior with vacuum cleaner if provided, else with the duster.

iv) Door and side walls above window level should be thoroughly cleaned with cloth dipped in detergent solution taking care that no water goes into the window glasses of AC coaches. The
sidewalls below window level and the banjo shutters should be thoroughly cleaned with soft soap / cleaning solution and cleaned with water by hand or portable sprayer. All dirty spots should be removed with the use of detergent. The ceiling and sidewalls should thereafter be wiped dry. There should be minimum usage of water.

v) Aluminum chequered plate in doorway; corridors between lavatories and vestibule area should be cleaned with scrubbing machine with suitable detergent should be disinfected and dried.

vi) All windows, windowsills, shutters, etc, should be cleaned with wet duster. Muck and dirt, which gets collected in the corners should also be scrapped and cleaned. The window glasses should be cleaned with detergent solution and wiped dry with a Squeegee in such a manner that the glass should be clear and transparent after cleaning.

vii) Ceiling panels, wall panels, cushion berths, fittings, table top, etc. should be cleaned with duster and stain marks on these should be removed by use of recommended mild detergent.

viii) The compartment carpet should be cleaned with vacuum cleaner. Every month, the carpet should be cleaned thoroughly by taking it out from compartment
and if necessary they should be dry cleaned in every three to four months. Before re-laying the carpet, the compartment floor should be thoroughly cleaned. The sliding and other doors should be wiped dry, the dust from the corners, ends and sliding door runway cleaned and removed and oil/head stains, if any, cleaned with a duster dipped in soap solution and wiped dry.

ix) The mirrors in the compartments should be cleaned with a duster and stains if any, should be removed with detergent solution

x) Aluminum frames, strips, and other metal fittings, etc. should be cleaned with recommended cleaning agent.

xi) FRP window frames, louvers, etc. should be cleaned with recommended solution and rubbed out by nylon brush or sponge /duster to remove stain marks.

xii) Alarm chain handle and its holding bracket should be washed and cleaned.

xiii) The coach flooring should be rubbed with hard coir brush and PVC flooring should be rubbed with nylon bristles/sponge brush and cleaned with recommended cleaning agent.

xiv) The amenity fittings and toilet fittings such as coat hanger, stools, arm rest, foot rest, towel hanger, etc. should be cleaned with duster. Stains on these items
should be removed with recommended detergent solution.

xv) Automatic odour control systems to be provided in the bays of IR BG AC coaches else spray recommended air freshener in the coach. No employee should be allowed to enter the coach for any purpose/work after complete cleaning.

xvi) Curtains in the AC Coaches and Tourist Cars should be removed for periodical washing and cleaning. Faded and damaged curtains should be replaced on condition basis.

xvii) No repair works should generally be left to be carried out after washing and cleaning of the coach.

xviii) Pest and rodent control should be done as per extant instructions issued by the Railway Board from time to time.

4.2 Internal Cleaning of GS, Generator Car/SLR, Parcel/Luggage van

(i) Cleaning of GS, guard and passenger compartments of SLR should be done as mentioned under para above wherever applicable.

(ii) If necessary clean the wooden seat and their frames with recommended detergent solution and water.

(iii) Interior surfaces of parcel and luggage vans should be cleaned with recommended detergent and water.

(iv) Dog boxes should be thoroughly washed and cleaned with disinfectant daily. Sliding door runway should be cleaned for easy closing of door without any obstruction. Foul smell from luggage van portion of SLR/VP should be removed with application of disinfectant.
4.3 Cleaning of Toilet

i) Before starting cleaning of toilets ensure that all repairs in the toilets have been carried out and after cleaning no employee should enter in the toilet.

ii) Doors and walls should be cleaned with water sprayed by high pressure jet up to waist level. Apply specified solution and rub thoroughly with sponge brush/duster/nylon bristle brush.

iii) Indian style lavatory pans have to be cleaned by thorough rubbing with concentrated solution of recommended cleaning agent along with sides of footrest of the squatting pan.

iv) Western style commode shall be cleaned as (iii) however due care should be taken that recommended solution should not fall on commode lid which may damage/spoil it. The plastic commode lid & seat and covers should be washed with detergent & hand brush and wiped dry.

v) Clean washbasin inside the toilet, muck accumulated on the space below the washbasin, mirror stand, soap tray and plumbing’s.
vi) The flooring should be rubbed with nylon bristles/sponge brush and cleaned with recommended cleaning agent. The drain holes should be cleaned thoroughly for easy discharge of water.

vii) The mirrors in toilet should be cleaned with light wet cloth. Recommended solution should be used for cleaning the dirty portion of glasses.

viii) After all the washing and cleaning in the toilets mentioned above, the toilets should be thoroughly cleaned with water jets and water should be flushed out. All fittings and floor should be wiped dry with a cloth.

ix) After cleaning, spray deodorant in the toilet to remove the bad odour.

x) Soap dispenser, automatic hygiene and odour control systems should be provided in the toilets of IR BG coaches.

4.4 Doorways

Cleaning of dirt and muck from the following locations:

a. Dirt on ceiling above main door, backside and front side of the main door should be wiped dry with a cloth.

b. Dirt on inspection cover should be wiped dry with a cloth.
c. Dirt formed on the main door glass shutters and windowsills.
d. Dirt and muck formed near the wash basin panel, below the Wash Basin and muck formed on the floor around the basin outlet pipe.
e. Dirt formed on the mirror frame.
f. Muck formed on the catering box.
g. Muck formed on the floor near the main door.
h. Dirt formed inside the water container and basin.
i. Garbage collection & cleaning of Waste Bin.

After proper cleaning, these areas should be wiped dry and disinfected.

4.5 Pantry cars

Cleaning of dirt and muck from the following locations, disinfection and drying

i. The interior metal portions such as store room racks, staff room walls, kitchen room, partition mesh, grills, gas room etc should be scrapped and cleaned thoroughly with appropriate cleaning solution to remove soot, stains due to grease, oil fumes etc. The floor shall be scrubbed with cleaning solvent in mechanized manner daily.

ii. The windowsills, louver shutters, glass shutters should be scrapped and cleaned to remove all muck and stains. The glass should be clear and transparent after cleaning.

iii. The Aluminum chequered plates on the floor should be
attended for removal of muck, stickiness and oil accumulation etc. The other flooring areas should also be cleaned.

iv. The hot cases, stoves, washbasins, Rexene surfaces should be thoroughly cleaned.

v. The roof ventilator should be dusted and cleaned.

vi. The drain holes on the floor should be cleaned thoroughly for easy discharge of water.

vii. Proper disinfection, rodent and pest control treatment should be done.

4.6 General

Cleaning of dirt and muck from the following locations:-

i. Sole bar at the entrance of the doorway should be cleaned with HP jet and brushed to make them clean and tidy. Handrails, window bars and steps should then be washed and wiped clean free from dust and dirt. Care should be taken to wash body panels under the handrails. Turn Under on the External Wall Panel shall be cleaned thoroughly. End Panels on the Coach Coupling side at both the ends shall be cleaned with HP Jet machines.

ii. Too much use of soap and water in washing and cleaning operation is bad as soap reacts with paint and water causes corrosion. Therefore minimum quantity of water and soap should be used for interior cleaning of coaches. Hosing of water for interior cleaning is totally prohibited in any coach.
5.0 CLEANING TOOLS/EQUIPMENTS (MANUAL)

CARRIAGE WASHING BRUSH

**Feature:** Made of wood & coconut fibre  
**Use:** External cleaning

COMMODE CHUTE (CHIMNEY) BRUSH

**Feature:** Made of wood & coconut fibre also available in plastic  
**Use:** Inside cleaning & commode chute

DUSTER

**Feature:** Khadi cloth  
**Use:** Dusting work, panel, and window glass etc cleaning work.

HAND SWEEPING BRUSH (BRUSH BANISTER)

**Feature:** Made of wood & coconut fiber  
**Use:** Lavatory washing & floor dusting
HARPIC BRUSH

**Feature:** Made of plastic & nylon fibre

**Use:** cleaning of critical area, glass shutter, chequered plates

MOPPONG BRUSH WITH HANDLE

**Feature:** Made of plastic & rubber pad or mopping cloth

**Use:** mopping of floor, side wall etc.

MOPPING CLOTH

**Feature:** Made of thick cotton fibre

**Use:** Mopping of floor

MULTIPURPOSE BRUSH BIG

**Feature:** Made of plastic & nylon fibre (with soap solution storing facility)

**Use:** To clean curved profile section
MULTIPURPOSE BRUSH SMALL (WITH SOAP SOLUTION STORING FACILITY)

**Feature:** Made of plastic & nylon fibre
**Use:** Wash basin, drain hole & curved profile

SCOTCH BRITE

**Feature:** Abrasive cleaning pad
**Use:** for abrasive cleaning purposes

SCRUBBING BRUSH

**Feature:** Made of wood & coconut fibre
**Use:** for scrubbing work as per requirement

TOOTH BRUSH

**Feature:** Made of plastic & nylon fibre
**Use:** cleaning of ridge area, moulding corners, sides
WINDOW SQUEEGEE

Feature: Made of plastic & rubber pad
Use: Mopping of Window glass area

DOUBLE COMPARTMENT BUCKET WITH MOP(2060A/1059/6300)

PLASTIC FLOOR SQUEEGEE
6.0 CLEANING TOOLS/ EQUIPMENTS (MECHANISED)

6.1 High Pressure Water Jet Cleaner
Details are given in Para 3.2.2

6.2 Floor Scrubber ("Roots Multiclean Ltd Make")

**Salient Features:**

- **Brand:** WIZZARD
- **Model:** W34T
- **Cleaning width:** 31.5 cm.
- **Brush Speed:** 650 RPM
- **Fresh Water Capacity:** 4+1.7 litre.
- **Motor Rating:** 750 W.
- **Power Supply:** 230 V AC
- **Noise Level:** 69 db.

**Areas of application of cleaning:**

1. Cleaning of aluminum chequered plates on door ways.
2. Cleaning of PVC floor especially in chair car.
Other equivalent models available:

a) Eureka Forbes Ltd – CA 340

b) Johnson & Diversey
   SINGLE DISC SCRUBBER
   (DIVERSCRUB 42)
6.3 Wet & Dry Vacuum Cleaners (Karchar Make)

Salient Features

- Air flow rate: 57 l/s
- Model: NT361
- Vacuum: 235 mbar
- Container capacity: 35 Litre
- Max. power rating: 1380 W
- Standard inside dia.: 35 mm
- Power cable: 7.5 m
- Operating noise: 63 Db/A
- Weight: 10.5 Kg
- Dimensions L/W/H: 505X370X540 mm

Areas of application of cleaning:

1. Cleaning and sweeping of PVC Floor.
2. Dry Cleaning of carpets in AC Coaches
3. Extraction of post cleaning sediments

Other equivalent models available:

a) Eureka Forbes Ltd – GS 83
b) **Johnson & Diversey**

   Vacumat 12/22

---

c) **Roots multidean**

   Pony 300
6.4 Stain Cleaner

**Salient Features - (Karcher Make)**

- **Model** - BD 17/5C
- **Working width** - 170-200 mm.
- **Working height** - 330 mm.
- **Motor rating, max** - 120 W
- **Brush speed** - 0-470 rpm.
- **Power supply** - 230/50 V/Hz.
- **Weight** - 5 kg.
- **Dimension (LxWxH)** - 360x160-200x330 mm.

**Areas Of Application of cleaning:**

1. Cleaning of Berth Rexene
2. Cleaning of Decolom Panels/LP sheets.
3. Cleaning of PVC Floor, stair
6.5 Spray Extraction Machine  
(Karchar Make- Puzzi-100)

Salient Feature

- **Performance** - 10-15 m²/h
- **Airflow** - 54 l/
- **Vacuum** - 220 mbar
- **Spray rate** - 1.0 L/min
- **Spraying press.** - 1 bar
- **Fresh / dirty water tank** - 9/10 L
- **Fan** - 1250 W
- **Pump** - 40 W
- **Weight** - 10.3 kg
- **Dimensions (hxwxl)** - 665X320X435 mm

Areas of Application of Cleaning:

1. Spraying of the soap liquid & cleaning of Rexene, upholstery
2. Cleaning of PVC Floor, carpet
6.6 **Steam Cleaner** (Karcher *Make*)

**SALIENT FEATURES**

- **Model** - DE 4002
- **Power supply** - 230 V
- **Heater** - 2250 W
- **Tank capacity** - 2.4 +2.2 L
- **Steam press.** - 3.2 bar
- **Weight without Accessories** - 7.5 kg
- **Dimensions L/W/H** - 480X305X265mm

**Areas of Application of Cleaning**

1. Cleaning of Toilet Pans, Stainless Steel Walls.
2. Cleaning of Head Stains & Oily Stains on Rexene
Source of supply:-

1. Eureka Forbes  
   Bhupesh Gupta Bhavan  
   1st Floor, 85, Sayani Road  
   Prabhadevi, Mumbai-40025  
   [www.eurekafors.com](http://www.eurekafors.com)

2. Johnson Diversey India Pvt.Ltd  
   A-8,Laxmi Towers, Bandra Kurla Complex  
   Mumbai – 400051  
   [www.johnsondiversey.com](http://www.johnsondiversey.com)

3. Roots Multiclean Ltd.  
   RKG Industrial Estate,  
   Ganapathy, Coimbatore-641006  
   [www.rmclindia.com](http://www.rmclindia.com)

4. Manmachine  
   E-98, Sector-6  
   Noida-201301  
   [www.manmachiner.in](http://www.manmachiner.in)
7.0 ENROUTE OR ON BOARD HOUSE KEEPING SERVICES

7.1 Clean Train Station (CTS)

In December 2002, Railway Board launched CTS scheme as a major initiative for improving cleanliness of coaches on important trains at enroute stations.

Guidelines for identifications of CTSs

Trains need to be cleaned periodically after a time gap of 6-12 hours depending upon area of operation, nature of passenger patronage, type of service and train timings.

Normally CTS should coincide with watering station.

Cleaning period to be restricted to 6.00 hrs. to 22.00 hrs during which passenger are generally awake.

Scope of work:
Collection of garbage, sweeping of gallery, cleaning and sweeping dry of floors, toilets and wiping windows, wash basins etc.

Adequate staff and time should be provided to clean the compartment and the bathrooms/ lavatories as prescribed at nominated cleaning stations of the railway. Portable pressure jet cleaning equipment should be used for efficient cleaning of toilets.

7.2 Enroute cleaning on Rajdhani and Shatabdi Trains

Deployment of C&W staff on Rajdhani/Shatabdi Express/Rajdhani type nominated trains/Other super fast and Mail/Express trains should be as per Railway Board's letter no. 99/TG.V//12/2 dated 13.9.99. The `Safaiwalas' should wear identification arm bands while on duty. A suitable cleaning kit consisting of requisite cleaning agents, brushes, mops, etc. should be standardized by the Railway and provided to them.
Safaiwalas are to be provided round trip along with prescribed material. These Safaiwalas will be responsible for cleaning the coach including lavatory during the course of journey and attending all passenger call regarding cleaning work during the journey. The details of the activities are as under.

Railways should start passenger education campaign to make them aware of the need for cooperation from them and make posters to educate them.
<table>
<thead>
<tr>
<th>Sr. No.</th>
<th>NAME OF ACTIVITY</th>
<th>DETAIL OF ACTIVITY</th>
<th>FREQUENCY</th>
</tr>
</thead>
</table>
| 1.a.    | Activity before Departure at platform in both directions | a. Provision of odonil sticks in each toilet.  
  b. Provision of toilet rolls in each toilet.  
  c. Filing of liquid soap in each toilet.  
  d. Provision of deodorant i.e. Maruti jelly in each toilet floor.  
  e. Spraying of room freshener in all coach compartments.  
  f. To attend any passenger call. | 30-45 minutes before departure of train. |
| 2.      | Toilet cleaning | a. Inside wall area of the toilet.  
  b. Floor area cleaning & wiping dry.  
  c. Commode chute, Pans/Pots cleaning with chemical viz. Harpic, Retoil, Domex etc.  
  d. Hand wash basin, mirror, shelf etc. window glass using vim for WHB collin for mirror/glass.  
  e. Provision of liquid soap in each toilet.  
  f. Provision of toilet paper roll in each coach. | a. After every one hours without chemical and every 2 hrs. with toilet cleaner for Shatabdi.  
  b. After every 3 hrs. with toilet cleaner for Rajdhani.  
  c. Toilet of FAC of Rajdhani & Ex-class of Shatabdi to be clean after every 1 hr. & ½ hr. respectively with toilet cleaner.  
  d. Liquid soap & toilet paper availability to be |
<table>
<thead>
<tr>
<th></th>
<th></th>
<th>g. Provision of Odonil sticks in each toilet.</th>
<th>ensured. Each time toilet should be cleaned.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>e. As per any call.</td>
<td></td>
</tr>
<tr>
<td>3.</td>
<td>Inside cleaning</td>
<td>a. Floor sweeping</td>
<td>a. For Rajdhani twice during one side journey and as per requirement.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>b. Floor mopping</td>
<td>b. As per requirement for Shatabdi trains.</td>
</tr>
<tr>
<td>4.</td>
<td>Deodorant</td>
<td>Deodorant to be provided on Lav floor as mentioned.</td>
<td>After every 2 hrs. in STB train &amp; 3 hours in the Rajdhani. For FAC of Raj. &amp; Ex-class of STB every 1 hrs.</td>
</tr>
<tr>
<td>5.</td>
<td>Room freshener</td>
<td>To be sprayed in each coach before departure of train in both directions &amp; enroute incase automatic dispenser is not available.</td>
<td>After every 6 hrs. for Rajdhani. For STB after 2 hrs.</td>
</tr>
<tr>
<td>6.</td>
<td>Filling water in the tanks of all the coaches</td>
<td>All the water tank should be completely filled with water enroute.</td>
<td>Wherever asked by the Escorting C&amp;W supervisor.</td>
</tr>
<tr>
<td>7.</td>
<td>Spraying of flit</td>
<td>Whenever mosquitoes/flies are noticed.</td>
<td>As and when required.</td>
</tr>
</tbody>
</table>
The essential material of the “cleaning kit” and consumable required for one cleaner of escorting gang:

A. Cleaning kit for Enroute cleaning:

A special type of cleaning kit for carrying out the cleaning equipment & consumables items will be arrange by the contractor. The design of the cleaning kit would approved by the concerned CDO. The following items would be available in a kit –

i. Banister brush 1
ii. Mopper small size 1
iii. Mopper big size 1
iv. Brush for cleaning of wash basin 1
v. Spray gun for spraying the Maruti jelly on floor 1
vi. Finit pump 1
vii. Small plastic bucket for collecting waste/water 1
### B. Consumable required per round trip:

<table>
<thead>
<tr>
<th>No.</th>
<th>Item</th>
<th>Quantity/Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>i.</td>
<td>Liquid soap</td>
<td>2 ltrs. for Shatabdi trains diluted mixture in ratio of 1:40</td>
</tr>
<tr>
<td>ii.</td>
<td>Toilet paper rolls</td>
<td>As per requirement</td>
</tr>
<tr>
<td>iii.</td>
<td>Room freshener</td>
<td>1 for Shatabdi</td>
</tr>
<tr>
<td>iv.</td>
<td>Sponge cloth</td>
<td>2 for Rajdhani</td>
</tr>
<tr>
<td>v.</td>
<td>White duster for toiklet cleaning</td>
<td>2 nos. for Shatabdi</td>
</tr>
<tr>
<td></td>
<td>Coloured duster for inside cleaning</td>
<td></td>
</tr>
<tr>
<td>vi.</td>
<td>Maruti jelly</td>
<td>4 nos. for Rajdhani</td>
</tr>
<tr>
<td>vii.</td>
<td>Vim powder for cleaning</td>
<td>2 nos. for Shatabdi</td>
</tr>
<tr>
<td>viii.</td>
<td>Odonil stick</td>
<td>4 nos. for Rajdhani</td>
</tr>
<tr>
<td>ix.</td>
<td>Toilet cleaning compound</td>
<td>2 ltrs. for Shatabdi trains diluted mixture in ratio of 1:40</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>x.</td>
<td>Window glass cleaner (collin)</td>
<td>2 ltrs. for Shatabdi trains diluted mixture in ratio of 1:40</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>xi.</td>
<td>Flit</td>
<td>½ ltr. for Shatabdi</td>
</tr>
<tr>
<td></td>
<td></td>
<td>½ ltr. for Rajdhani</td>
</tr>
</tbody>
</table>
7.3 **On Board House Keeping Services (OBHS):**

On Board cleaning of trains should be done as per extant instructions of Railway Board for ‘On Board House Keeping Services’ (OBHS) issued vide letter no.2006/M(C)/165/9 dt. 01.10.07 and 19.07.10.

Board have decided that comprehensive mechanized cleaning contracts for coaching rakes & depot premises at the primary coaching depot should include the service module for “**On Board cleaning and hygiene attention**” in Mail/Express trains of that depot. For depots where the mechanized cleaning contracts are already in place, alternative arrangements as feasible under prevailing local conditions may be adopted for the ‘**On Board**’ attention. Ultimately, these two modules need to be integrated into a single contract.

Following guidelines may be adopted for Tenders for On Board Housekeeping Services (OBHS) to be floated under two Packet System of tendering. The contract for OBHS must be floated for a minimum period of 3 years unless it specifically needs to be of a shorter duration in order to dovetail it with the contract for mechanized cleaning of rakes/depot premises.

(i) The total onward/return journey of the Mail/Express train identified under the scheme must not be less than 16 hours (including a mandatory day time journey from 0500 hrs to 0900 hrs.)

(ii) Only reserved class coaches with vestibules shall be covered under the scheme.

(iii) Arrangements for on Board cleaning must be made by the primary maintenance depot for the round trip of identified train rakes.
(iv) Notwithstanding (i) above, all Rajdhani and Shatabdi trains must be included for On Board House Keeping Services in light of their premier status.

(v) While on Board cleaning attention should be provided wherever desired/demanded for by the passengers, the toilets, doorways, gangways and vestibules must necessarily be cleaned frequently from 0500 hrs. to 0900 hrs. and from 1600 hrs to 2000 hrs., wherever applicable. The passenger compartments and the aisle must also be cleaned and mopped 2 times in a day at suitable intervals. In case any deviations are needed due to local conditions the same may be permitted with the personal approval of CME.

(vi) CDO concerned will issue a certificate to identified personnel authorizing them to travel on primary Trains of his coaching depot for providing On Board Housekeeping Services. No reserved accommodation will however be provided to these personnel.

(vii) It has further been decided that OBHS shall be mandated in all the Duronto Express trains as in the case of Rajdhani/Shatabdi trains.

(viii) Compliance of Board’s guidelines for test check protocol for OBHS and other coach cleaning contracts issued vide letter no. 95/M(C)141/1 Vol. II dt.21.05.2010 must be ensured.
7.3.1 Resource Specifications issued by Railway Board

(A) Manpower (Janitors):
‘OBHS’ scheme requires sufficient no. of skilled janitors who are exposed to housekeeping industry. Combination of three coaches will form a work station and each work station or a part thereof shall be manned by one skilled janitor who should be in the age group of 18-35 years.

(B) Manpower (Executive Housekeeper):
One Executive Housekeeper in the age group of 25-45 years shall also escort the train during its round trip. The EHK must be a graduate preferably having experience in the housekeeping industry.

(C) Equipment & Tools:
(i) High Pressure Nozzle with Lance & Gun: For jet washing of toilet commodes, wall protectors and other fittings, a specially designed HP hose pipe of approx. 3 meters having a lance and trigger type gun with nozzle for delivering high pressure of about 10 bar for effective impingement of water shall be used.

(ii) Quick Coupling arrangement for Toilet Tap: The water required for cleaning shall be sourced from Toilet Tap with the help of especially designed Quick Coupling arrangement. The coupling shall be so designed that it can take care of all designs of tap provided in Indian Railways Coaches. It shall be leak proof, light weight and shall not take more than 15 seconds to fix.

(iii) Super absorbent floor Mopper: For coach floor cleaning of passenger compartments and aisle area, a Mopper with 100 to 150 cms long aluminum handle and a cloth based swivel head mop system for quick maneuvering
shall be used @ 1 per work station. It shall also have flexibility and maneuverability to reach under the births and corners.

(iv) **Squeegee Brush:** For toilet floor scrubbing and drying, as squeeze having approx. 140 to 150cms long aluminum and stiff polypropylene bristles for and form rubber blade for two in one scrubbing and drying action, shall be used @ 1 per work station and the rubber blade shall be replaced once in 15 days.

(v) **Bottle with spray gun for storing and dispensing cleaning chemicals:** A good quality plastic bottle of at least 500 ml capacity having lockable spray gun shall be provided @ 1 per work station and its spray gun shall be replaced as and when required.

(vi) **Toilet Commode Brush:** For cleaning of toilet commode, pan and chute area, a suitable commode brush with polypropylene bristles shall be provided @ 1 per work station and shall be replaced as and when the bristles are worn out preferably once in 15 days.

(vii) **Carpet Brush:** For cleaning of carpet in 1st AC coaches, especially designed polypropylene bristled brush shall be provided @ 1 per train and shall be replaced as and when the bristles are worn out.

(viii) **Upholstery cleaning brush:** The carpet brush should not be allowed to be used for seat/berth upholstery cleaning, for which a separate polypropylene bristled brush shall be used.

(ix) **Bucket:** A smart looking, easy to carry, low height, approx. 6 gallons capacity bucket made of heavy duty polypropylene for washing of mops etc. shall be used. It shall preferably have castor wheels for ergonomic handling. This shall be provided @ 1 per work station.
(x) **Window Glass Squeegee:** Stainless Steel handle of preferably 10 inches length with durable rubber blade of size 45cms having a locking arrangement for faster and effective cleaning of window glasses shall be provided @ at least 1 per 3 AC coaches and rubber blades shall be replaced once in 15 days.

(xi) **Micro Fiber cloth for mirror cleaning**

(xii) **Sponge Duster for wash basin cleaning**

(xiii) **Disposable bags for garbage collection:** Green coloured Disposable bags shall be required for collection of waste & litter from all coaches & also from dustbins of AC coaches.

(xiv) **Tool Kit:** A light weight tool kit made of FRP containing all types of tools for minor plumbing / carpentry related repairs shall be available with Executive Housekeeper.

(xv) **Foot mats:** At every toilet entrance, a foot mat made of rubber having bristles to soak water shall be provided and shall be replaced as & when required to be.
D Consumables / Cleaning agents

<table>
<thead>
<tr>
<th>S. No.</th>
<th>Item Description</th>
<th>Brand/ Make</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Cleaning compound for PVC floor, Rexine and wall panels.</td>
<td>Mokleen / RIO 38</td>
</tr>
<tr>
<td>2.</td>
<td>Cleaning agent for commode pan &amp; wall protector.</td>
<td>Harpic/ Retoil / Domex</td>
</tr>
<tr>
<td>3.</td>
<td>Disinfectant fluid</td>
<td>Lizol</td>
</tr>
<tr>
<td>4.</td>
<td>Mirror/ window glass cleaner</td>
<td>Colin / Mokleen</td>
</tr>
<tr>
<td>5.</td>
<td>Deodorant stick in lavatories</td>
<td>Odonil</td>
</tr>
<tr>
<td>6.</td>
<td>Liquid soap for hand wash</td>
<td>Dettol/ Lifebuoy / Palmolive/ Fem for IAC coaches</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Aqua gold/ Henko- for other AC coaches</td>
</tr>
<tr>
<td>7.</td>
<td>Room freshener (for coaches where automatic odour control</td>
<td>Premium / Hazel / Obious</td>
</tr>
<tr>
<td></td>
<td>system have not been installed)</td>
<td></td>
</tr>
<tr>
<td>8.</td>
<td>Mosquito repellent</td>
<td>Hit/ Baygon</td>
</tr>
<tr>
<td>9.</td>
<td>Toilet paper Roll in Western style toilets.</td>
<td>Standard brand</td>
</tr>
</tbody>
</table>

E Uniform for Janitors:

Overall:
A full body dark blue apron with distinguishing logo shall be worn by the janitors On Board the trains. The Cloth used shall be made of S.Kumar’s or of equivalent reputed quality. Each janitor shall be provided 4 pairs / annum. The uniform worn by the janitors on board the trains must be neat and clean.
Cap:
A bright Yellow Coloured Cap shall be supplied @ 3 nos. per Janitor /EHK per annum. The flap of the cap should have the text inscribed on it as under.
“On Board Housekeeping Services
……………………………………..(Name of primary depot)
……………………………………..(Name of the Railway)”

Hand Gloves:
Janitor shall wear good durable quality orange coloured rubber gloves all the time while working in the Coaches. This should be supplied @ 1 pair per month.

Gumboot:
Good quality durable gumboots upto knee height shall be provided to all janitors @ 3 pairs per janitor per annum.

Face Mask:
Each janitor shall be given a green Coloured surgical type mask for avoiding any direct infection from the toilets. This should be supplied @ 1 no. per month.

Name Badge
Each janitor shall wear a badge on the left hand side on the coverall. The name badge should be made of white Colored ebonite plate of size 6-1/2” X 1” with the name of the janitor inscribed on in Block letters in black.

F Uniform and other accessories for Executive Housekeeper:

<table>
<thead>
<tr>
<th>S. o.</th>
<th>Items</th>
<th>Type &amp; Colour</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Trouser</td>
<td>Navy Blue Carpenter baggy type.</td>
</tr>
<tr>
<td>2.</td>
<td>T-Shirt</td>
<td>Steel grey Colour with distinguishing logo and Name badge.</td>
</tr>
<tr>
<td>3.</td>
<td>Cap</td>
<td>Yellow colored same as for janitors.</td>
</tr>
<tr>
<td>4.</td>
<td>Shoes</td>
<td>Black Leather shoe of any reputed make.</td>
</tr>
<tr>
<td>5.</td>
<td>Torch</td>
<td>Handy Torch of any reputed make.</td>
</tr>
<tr>
<td>6.</td>
<td>Whistle</td>
<td>Metallic type for raising safely alarm.</td>
</tr>
</tbody>
</table>
7.4 Test Checks of Coaching Depot Contracts

Ref.: Rly.Bd.L.No.95/M(C)141/1 Vol. II dt.21.05.2010

<table>
<thead>
<tr>
<th>S.No</th>
<th>Nature of contract</th>
<th>Shift in charge</th>
<th>Section in charge</th>
<th>Depot in charge</th>
<th>AME/Chg./Depot officer</th>
<th>Sr. DME</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Cleaning of platform turn round rakes</td>
<td>100%</td>
<td>One rake/week</td>
<td>Any one rake of 1,2 &amp; 3 /week</td>
<td>Any one rake of 1,2 &amp; 3 /once in 15 days</td>
<td>Any one rake of 1,2 &amp; 3 in a quarter</td>
</tr>
<tr>
<td>2</td>
<td>Mechanized cleaning of coaches</td>
<td>100%</td>
<td>One rake/week</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>Clean train stations</td>
<td>100%</td>
<td>One rake/week</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>OBHS</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>Pit and yard cleaning</td>
<td>100%</td>
<td>Once a week</td>
<td>Once in 15 days</td>
<td>Once a month</td>
<td>Once a Quarter</td>
</tr>
</tbody>
</table>

Note: The schedule of checks should be so done that all the running contracts are covered uniformly, in the above quantum of periodical checks prescribed so that no contract measurement escape the test checks continuously. This requires continuous monitoring of the functioning of test checks, contract wise, for making suitable adjustment where required.
8.0 CLEANING MATERIALS

8.1 Conventional Cleaning Materials

Following Cleaning Materials are generally used for Cleaning of Coaches and Coaching depot:

1) Super max
2) Soap liquid detergent
3) Soap liquid hamam
4) Moya oil
5) Teepol
6) Citropin (Solvex)
7) Soda ash
8) Vim powder
9) Deodorant crystal/Odonil
10) Tri sodium phosphate
11) Oxylic acid
12) Hydro chloric acid
13) Phosphoric acid
14) Phenyle
15) Pinoline
16) Finit
17) Manmohini
18) Caustic Soda
19) Naphthalene balls

8.2 Mechanized coach cleaning materials

<table>
<thead>
<tr>
<th>Sr No.</th>
<th>Locations</th>
<th>Name of chemicals used</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>PVC Floor Cleaning</td>
<td>Spiral (Johnson Diversey) or Sigla Neutral of Eco Lab.</td>
</tr>
<tr>
<td>2.</td>
<td>Ceramic Toilet fittings Cleaning</td>
<td>Taski R3 (Johnson Diversey) or OC Glass cleaner of Eco Lab or Collin.</td>
</tr>
<tr>
<td>3.</td>
<td>Glass Cleaning</td>
<td>Taski R3 (Johnson Diversey) or OC Glass cleaner of Eco Lab or Collin.</td>
</tr>
<tr>
<td>4.</td>
<td>Laminated Plastic Sheet &amp; Berth Rexene/FRP/Honey Comb</td>
<td>Taski R7 (Johnson Diversey) or OC Neutral cleaner of Eco Lab or Collin.</td>
</tr>
<tr>
<td>5.</td>
<td>Painted Surface</td>
<td>Spiral (Johnson Diversey) or Absorbit of Eco Lab or Collin.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>---</td>
<td>---</td>
<td>---</td>
</tr>
<tr>
<td>6.</td>
<td>Stainless Steel Polisher</td>
<td>Suma Inox (Johnson Diversey) or Chromol of Eco Lab or Collin.</td>
</tr>
<tr>
<td>7.</td>
<td>Disinfectant</td>
<td>Stride (Johnson Diversey) or Antibac of Eco Lab or Collin.</td>
</tr>
<tr>
<td>8.</td>
<td>External cleaning</td>
<td>Supermax, E-Clean, Teepol B-300</td>
</tr>
<tr>
<td>9.</td>
<td>Upholstery and carpet</td>
<td>RM 767 of Karcher or similar</td>
</tr>
<tr>
<td>10.</td>
<td>Stain Remover</td>
<td>Wonder wash, Xylene</td>
</tr>
<tr>
<td>11.</td>
<td>Air freshener (for coaches where automatic odour control system have not been installed)</td>
<td>Premium/ Hazel/ Obious</td>
</tr>
</tbody>
</table>

**Essential ecological requirements for all the cleaning agents:**

- Shall have excellent biodegradability.
- Should be Phosphate free.
- Should not be a combustible liquid according to the regulations governing combustible liquids.
- The cleaning agents should preferably have near neutral PH value in used dilution.
- Should have soothing fragrance and smell.

**NOTE:** The list is recommendatory. Any addition / deletion can be done by the CME of the Zonal Railway.
9.0 DEPOT CLEANING

To ensure that the upkeep of coaches is done properly at coaching depot, it is of utmost importance that the depot premises are kept cleaned and hygienic all the time. Daily collection and disposal of garbage, scrap, dead animals/vegetation and other unwanted/rejected materials left in the work place to nominated locations.

Coaching Depot can also be cleaned by high pressure Jet machines.

Mechanized sweeping of the area should be done as per the table below:-

<table>
<thead>
<tr>
<th>S. No.</th>
<th>Type of floor/ area</th>
<th>Machines to be used</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Cemented / Concrete/ Ironite or other prepared area without grease or muck.</td>
<td>Hand held/ Ride or Sweeper with dry vacuum cleaner for garbage collection.</td>
</tr>
</tbody>
</table>

Sick line cleaning
2. Cemented / Concrete/ Ironite or other prepared area with grease or muck (e.g.: Sick Line).

   Hand held / Ride on dry/ wet scrubber drier vacuum cleaning and wet scrubbing facility.

3. Garbage collection in Coaching complex (i.e. grassy or unprepared area).

   Dry vacuum cleaner.

To ensure this cleaning of various areas should be attended as per frequency given below:

**Frequency of Mechanize cleaning of all washing lines, stabling lines & sick lines :-**

<table>
<thead>
<tr>
<th>a. Mechanize cleaning of washing line</th>
<th>Deep pit • Cat walk either side • Path ways either side • Drains</th>
<th>Daily</th>
</tr>
</thead>
<tbody>
<tr>
<td>b. Mechanize cleaning of stabling lines</td>
<td>Track • Path ways both side of track</td>
<td>Daily Daily</td>
</tr>
<tr>
<td>c. Removal of garbage from washing lines, maintenance &amp; sick lines – <strong>Daily</strong></td>
<td>The garbage so generated out of course of cleaning of above location to be collected in proper Gunny/disposable bags and to be dumped in main garbage bin as notified.</td>
<td></td>
</tr>
</tbody>
</table>
d. Desilting in washing lines & sick lines & its removal –

**Fortnightly**

- All deep pits
- All drains parallel to washing lines either side.
- Removal of silt to main garbage bin notified for each individual complex.
- All main holes, sewer lines parallel/ across to washing lines up to the main sewer lines.

******************
To develop safe, modern and cost effective Railway Technology complying with Statutory and Regulatory requirements, through excellence in Research, Design and Standards and Continual improvements in Quality Management System to cater to growing demand of passenger and freight traffic on the railways.
OUR OBJECTIVE

To upgrade maintenance technologies and methodologies and achieve improvement in productivity and performance of all Railway assets and manpower which inter-alia would cover reliability, availability, utilization and efficiency.

If you have any suggestions and any specific comments, please write to us.

Contact person: Director (Mech.)

Postal address: Indian Railways,
Centre for Advanced Maintenance Technology,
Maharajpur, Gwalior.
Pin code - 474 005

Phone: 0751-2470890, 0751-2470803
Fax: 0751-2470841