

Lay Out of Coaching Depot

Presented by-

Rajendra Kushwaha

Instructor/C&W

MSTC/GKP

CLASSIFICATION OF COACHING MAINTENANCE DEPOTS.

- According to number of based coaches (holding Capacity), depot is classified into three categories.

Sl.	No Depot	Number of based coaches
1.	Minor	50 to 100
2.	Medium	100 to 250
3.	<i>Major</i>	<i>Above 250</i>

Primary Depot

- Maintenance works attended by based depot is called primary depot Maintenance

Duties of Primary maintenance depot-

- Preparation of DRS card .
- To prepare history card of coach.
- To ensure proper supply of brake van equipment for all originating trains.
- Responsible for all types of schedules Maintenance of coaches.
- To send the coaches for POH or NPOH if due or required.

Secondary Depot

- Maintenance works attended by terminating depot other than based depot is called secondary depot Maintenance.
- Duties of secondary maintenance depot-
- Only cross checking of items as per DRS card or only shortage, missing should be provided by secondary depot.
- Intimation to primary depot is essential whenever any major repair/maintenance is attended.
- Secondary maintenance depot is responsible to ensure only if there is any shortfall.
- Secondary maintenance does not have responsibility other than trip schedule
- It is not duty of secondary depot but it assist in sending the coaches for POH or NPOH through primary depot.

Standard Facilities:-

- 1. Covered accommodation**
- 2. Flooring & pit for repair & examination**
- 3. Office & store facilities**
- 4. Sick line yard**
- 5. Machinery & plant**

Base coaches –

- It means coaches utilised in Primary maintained trains.
- However for designing coaching depot layout, effective base holding = sum of primary coaches + half of secondary coaches.

Number of trains for maintenance

- It includes primary based trains, secondary maintenance trains and trains returning from platform.

A. Number of lines-

- (a) In sick line – design should be based on 4% of the based coaches.
- Max. number of coaches to be placed per line should be limited to 4.
- Number of lines = (4% of base coaches)/4

B. Covered accomodation on sick line –

- It should be sufficient to hold 4% of the based coaches as per CAMTECH.

C. Bay width-

- Each bay should 15 meter wide and should cover two sick lines.
- The track centre should be 7.5 meter apart .

D. Examination pit-

- It should be provided on half of entire length of the each line.
- The depth should not be less than 930 mm from the rail top.

E.LIGHTING –

- The light should be sufficient to create the day like situation even in night.
- The overhead, side pit & trolley mounted lights should be provided.

F.Flooring-

- The entire covered area & parkway should be paved with minimum 150mm thick RCC of hardonite flooring.
- Nowadays vacuum dewatering floors are provided for heavy duty floors.

- For whiting jacks 1.25m wide & 300mm RCC slabs should be provided on either side of tracks.
- All heavy duty rooms should be provided 150mm thick RCC.
- All other floors 40 mm thick can be provided.

Communication facilities

All modern communication facilities i.e. railway phones, P&T phones, FAX, computers, internet, walkie-talkie, should be provided.

Material handling facilities

Trucks, listers, Fork lifters etc. should be provided.

For this road connectivity is must.

Wheel lathe

Under floor wheel lathe or ground wheel lathe has been provided.

Statutory requirements

- The various provisions of factory act, pollution control, quality control etc. should be kept in view.
- Provision of tiffin/canteen room, rest room, toilet etc.
- Fire fighting arrangement, effluent treatment, water recycling, energy conservation arrangements.
- First aid box should be provided at every location.

Sick line accommodation

A. GF accommodation –

1.M&P repair cell

2.Tool room

3.Machine shop

4.Carpenter room

5.Trimming section

6.Painting section

7.Welding transformer room

8.Generator/compressor room

9.S/L – sub store

B. FF accommodation

1.CDO office

2.SSE/General office

3.Computers cells

4.SSE/SL office

5.Technical cell

6.Establishment cell

7.Modern room

8.Conference cum demo room

SICK LINE OFFICES & TRAINING ROOMS

SICK LINE TEST BENCHES & REPAIR CELLS

S/L No.1

PIT

COVERED SHED

S/L No.2

PIT

S/L No.3

PIT

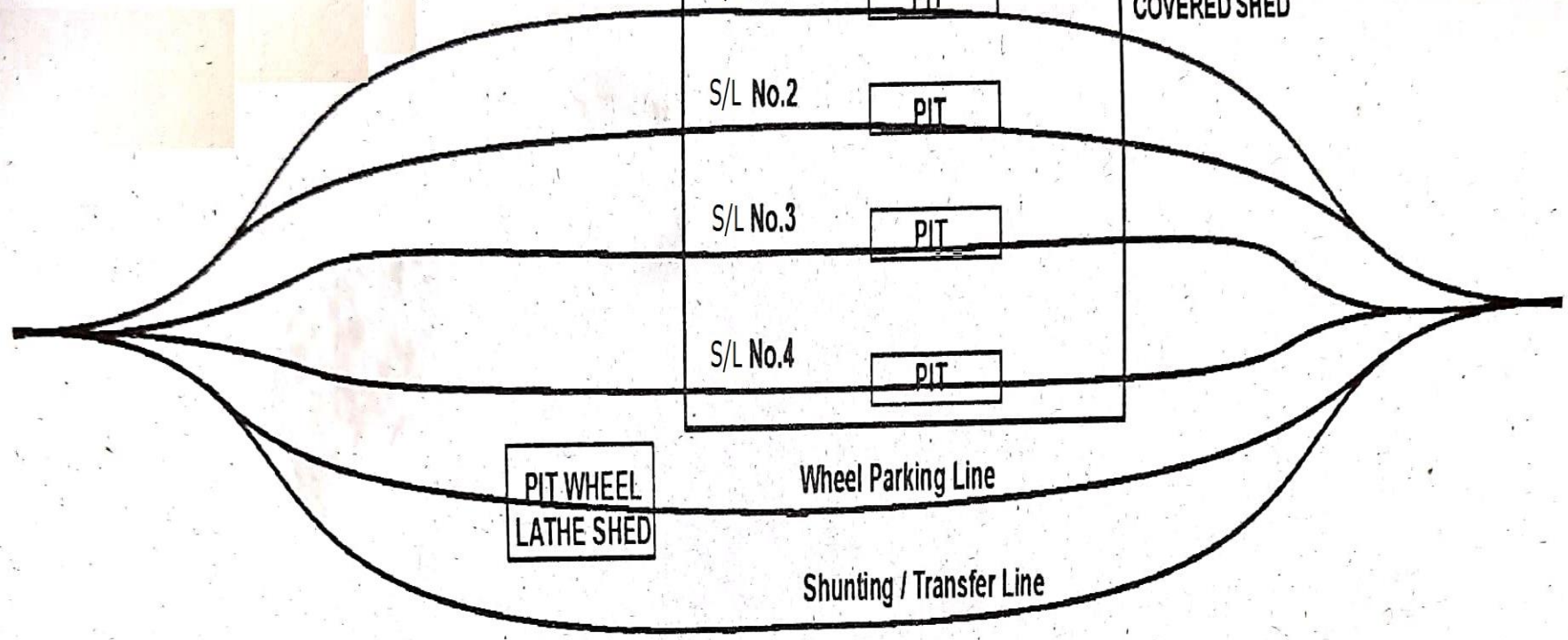
S/L No.4

PIT

PIT WHEEL
LATHE SHED

Wheel Parking Line

Shunting / Transfer Line



WASHING LINE COMPLEX:-

- Normally two primary based trains and one secondary train can be planned for maintenance on washing line in 24 hrs.
- No. Of washing line = $\text{No. of trains} / 3$
- (a) WASHING LINE- Track centre should be 6922 mm
- (b) EXAMINATION PIT-
- It should be provided on entire length of washing line.
- Depth-960 mm & wide 1223 mm.
- Both side should be cat walk.
- Width of middle cat walk-3272 mm.
- Width of side cat walk-1786 mm.
- Thickness of RCC cat walk-120 mm.
- Gap between catwalk & coach body-200 mm.
- Height of catwalk from GF-1880 mm.
- Thickness of washing line Floor (RCC) -40 mm.

Double Storey W/Line Offices, Testrooms,
Sub-Store & Working Station Complex

Efficient Treatment
Plant cum Water
Recycling Plant

BC	VTP	AC
----	-----	----

W/L No.1

W/L No.2

W/L No.3

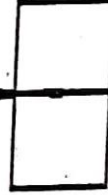
W/L No.4

W/L No.5

W/L No.6

Automatic Train
Wash System

Automatic Train
Wash System



AC	VTP	BC
----	-----	----

Incinator	Bottle Crushing Plant
-----------	-----------------------------

FIRE FIGHTING
ARRANGEMENT

Washing line accommodation

A. GF accommodation –

1.Main Store

2.Tool room

3. Staff Change room.

4.Carpentry Section.

5.Trimming section

6.Painting section

7.Millwright Section

8.Staff Tiffin room.

9.W/L – sub store

10. Linen Store.

B. FF accommodation

1. SSE/WL office
2. Computers cells
3. Shift Sup. Room.
4. Technical cell.

ACCESS THROUGH ROAD AND RAIL –

- An essential features of any deport is good access both road and rail.

CLEANING AND STABLING –

- Suitable facilities must be provided in stabling areas where trains are stored.
- Water, power and toilets cleaning systems need to be provided in such areas.
- Automatic washing plans should be essential in major depots.

TOILET DISCHARGE FACILITIES –

- A toilet discharge facilities is required in any depot where trains have toilets.
- The discharge has to be done away from the main buildings.

Machinery and Plants

- The following list gives the minimum requirement of M&P for the 3 Classes of depots.
- Additional machinery may be provided considering the special requirement of a depot.

Description	Minor Depot	Medium Depot	Major Depot
Machinery & Plant			
U/floor wheel Lathe	-	-	1
Whiting Jacks (5 Nos)		1 Set	1 Set
EOT Crane 20t	-	-	1
Coach Shunter	-	1	2
Welding Plant	1	2	4

Description	Minor Depot	Medium Depot	Major Depot
Gas cutting equipment	1	2	2
Air Compressor 30 cfm	1	2	2
Portable Air Compressor	-	-	1
2t Tram beam hoist	1	1	2
Sewing machine	-	1	1
Truck 10t	-	-	1
Light Coml. Vehicle	1	1	1
Fork lift truck	-	-	1
Lister truck	1	1	2
Car Washer	-	1	1
Portable Trolley Light	2	4	6
Wood cutting saw machine	-	1	1
Hand shearing m/c	-	1	1
Portable furnace	1	1	2

Description	Minor Depot	Medium Depot	Major Depot
Centre lathe	-	-	1
Bogie manipulator	-	-	1
Ultrasonic testing apparatus	1	1	1
Tool post grinder	-	1	1
Vacuum Cleaner	1	2	3
Pressure jet cleaner	1	2	4
Tools			
PNEUMATIC HANDTOOLS			
a) Grinder	1	1	2
b) Drill	1	1	2
c) Chipper/buster	-	1	2
d) Riveter	-	-1	

Description	Minor Depot	Medium Depot	Major Depot
ELECTRIC POWER TOOLS			
a) Pop riveting gun	-	1	1
b) Drill	-	1	1
c) Bolt tightener	-	-	1
Hand tools Hand tools As required	Hand tools As required		
Test Benches			
Water Tank Test Rig	-	1	1
DV Test Bench	-	1	1
Air brake single coach test rig	-	1	1
Office Equipment			
Computer system	1	1	1
Plain Paper Copier	1	1	2

THANK YOU

