1.4 CREEP

Creep in rail is defined as the longitudinal movement of the rails in the track in the direction of motion of locomotives. Creep is common to all railways and its value varies from almost nothing to about 6 inches or 16cm.

Causes of Creep

1. Creep may be developed due to forces that come into operation when the train is starting or stopping by application of brakes. Increase of starting the wheels pushes the rail backward and hence the direction of creep is in backward direction.

When brakes are applied then the wheels of the vehicles push the rails in forward direction and hence the creep is in forward direction.

2. Creep is also developed due to wave motions. When the wheels of the vehicles strikes the crests, creep is developed.

3. Another reason creep develops because of unequal expansion and contraction owing to change in temperature.

Some of the minor causes of creep in rail are below:

1. Rails not properly fixed to sleepers
2. Bad drainage of ballast
3. Bad quality of sleepers used
4. Improper consolidation of formation bed
5. Gauge fixed too tight or too slack
6. Rails fixed too tight to carry the traffic
7. Incorrect adjustment of super elevation on outer rails at curves
8. Incorrect allowance for rails expansion
9. Rail joints maintained in bad condition

Magnitude and Direction of Creep

Creep is not constant over a given period, it is not continue in one direction or at uniform rate. Both the rails of the track may creep in same direction, perhaps both the

rails reverse the direction of creep or one rail creep in opposite direction to that of other.