

CONSTRUCTION EQUIPMENT

Types of earth moving equipment

Classified into following types

- Production equipment
- Equipment used for digging and moving
- Service equipment
- Dozers and motor girders

Tractors

Tractors are machine which change the engine energy into tractive energy
These are primarily used for pull or push the loads

They are also used for different purposes by mounting many types of accessories

Types of tractor

Crawler type or track type
Rubber tired or wheel type

The tractor is multi purpose machine

Light models are used for agricultural or short haulage works
Heavy models are employed in earth moving works, cranes, shovels or special rigs

Wheeled types or employed in light but speedy jobs

Main constituents of tractor are engine ,clutch ,transmissons system,ground drive and controls

Factors should be considered while selecting a tractor dozer

Size of the dozer for given job the type expected from the track to dozer

The type and condition of haul road
distance to be move

Bulldozers

Dozers are machine designed primarily for cutting and pushing the material over short distance

They consist with a front mounted blade controlled by hydraulic cylinder to vary the depth of cut and rate of leveling depending on the material and application

a dozer is frame mounted unit with a blade, curved in its section, extending in front of the tractor

Bulldozer is most versatile and most important equipment on construction project

Basically its pushing unit but its widely used as multipurpose equipment and can perform large number of operations with minor changes

Scrapers

Scrapers are the devices to scrap the ground and load it simultaneously, transport it for the required distance and dump it and then spread it for the required area

The scrapers are designed to dig,load,haul,dump and spread

The scrapers are of three types

- towed type
- conventional type
- self loading or elevating scrapers

Towed type

The towed type scrapers are provided with either cable or hydraulic control
It can be operated in extremely adverse condition

Conventional scrapers

These are generally manufactured from 10 to 25 cubic metres

Self loading scrapers

These are twin engine scrapers

It can work completely independently of all other plants

It has the following parts

Bowl

Cutting edge

Apron

Tail gate or ejector

Following are three major operations of scrapers

Loading or digging

Transporting

Unloading

Source : <http://www.nprcet.org/e%20content/Misc/e-Learning/CIVIL/VI%20SEMESTER/10111CE601%20-%20CONSTRUCTION%20TECHNIQUES%20EQUIPMENTS%20AND%20PRACTICE.pdf>