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FARM TRACTOR





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Tractor is a self-propelled power unit having wheels or tracks for operating agricultural implements and machines including trailers.

Tractor engine is used as a prime mover for active tools and stationary farm machinery through power take-off shaft (PTO) or belt pulley.



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CLASSIFICATION OF TRACTORS

Tractors can be classified into three classes on the basis of structural-design:

Wheel tractor: Tractors, having three of four pneumatic wheels are called *wheel tractors*. *Four-wheel tractors* are most popular everywhere.

Crawler tractor: This is also called *track type tractor* or *chain type tractor*. In such tractors, there is endless chain or track in place of pneumatic wheels.



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Walking tractor (Power tiller): Power tiller is a walking type tractor. This tractor is usually fitted with two wheels only. The direction of travel and its controls for field operation is performed by the operator, walking behind the tractor.



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On the basis of purpose, wheeled tractor is classified into three groups:

General purpose tractor :

It is used for major farm operations; such as ploughing, harrowing, sowing, harvesting and transporting work. Such tractors have (i) low ground clearance (ii) increased engine power (iii) good adhesion and (iv) wide tyres.



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Row crop tractor:

It is used for crop cultivation. Such tractor is provided with replaceable driving wheels of different tread widths. It has high ground clearance to save damage of crops. Wide wheel track can be adjusted to suit inter row distance.



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Special purpose tractor:

It is used for definite jobs like cotton fields, marshy land, hillsides, garden etc. Special designs are there for special purpose tractor.



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TRACTOR COMPONENTS

A tractor is made of following main components:

- (1) I. C. engine,
- (2) Clutch
- (3) Transmission gears
- (4) Differential unit
- (5) Final drive
- (6) Rear wheels
- (7) Front wheels
- (8) Steering mechanism
- (9) Hydraulic control and hitch system
- (10) Brakes
- (11) Power take-off unit
- (12) Tractor pulley
- (13) Control panel.