

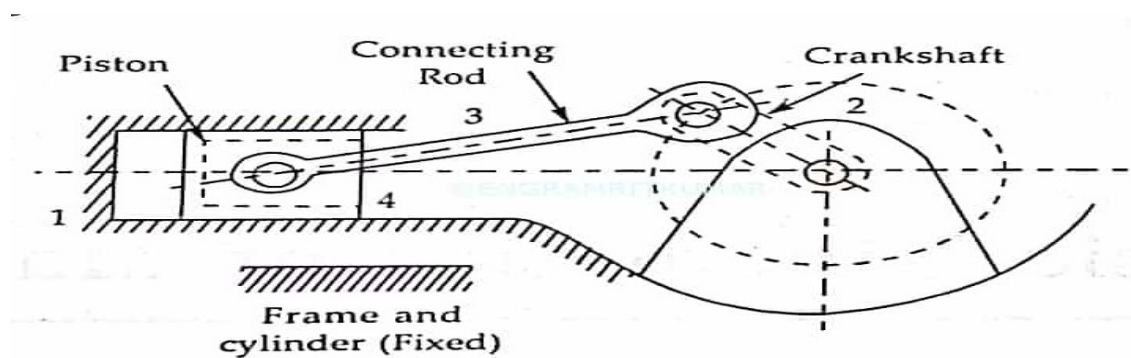
Kinematic Link: Definition, Types, Example

A kinematic link or element or link is a resistant body that constitutes part of the machine, connecting other parts which have motion relative to it.

Example Kinematic Link:

Piston, piston rod and crosshead of a steam **engine** constitutes one unit and hence called one link shown in the below figure.

In this figure, the various link is designated as 1,2,3,4, etc.



Link 1 is a fixed link that includes frame and all other stationery parts like cylinder, crankshaft bearing, camshaft bearing, etc.

Link 2 is the crankshaft, flywheel, etc all having rotation motion with respect to a fixed axis.

Link 3 is the connecting rod and

Link 4 is the piston which is having reciprocating motion. hence this is called a **4 bar mechanism**.

Link need not be a rigid body but must be a resistant body. Hence link must have the following two characteristics:

1. It must be a resistant body.
2. It must have relative motion.

Types of Kinematics Link:

There are basically 4 types of the link which are:

- *Rigid Link*
- *Flexible Link*
- *Fluid Link*
- *Floating Link*

1. Rigid link:

A rigid link is one that does not undergo any deformation while transmitting motion. Links, in general, are elastic in nature. They are considered rigid if they do not undergo appreciable deformation while transmitting motion.

For Example, crank and connecting rod.

2. Flexible link:

A flexible link is one which while transmitting motion is partly deformed in a manner not to affect the transmission of motion.

For Example, [Spring](#), [Chain](#), Rope, [Belt](#), etc.

3. Fluid link:

A fluid link is one that is deformed by having fluid in a closed vessel and the motion is transmitted through the fluid by pressure.

For Example, [hydraulic press](#) and hydraulic jack.

4. Floating link:

A floating link is one that is not connected with the frame.

A link can also be classified based upon its number and end vertices:

1. *Binary Link*
2. *Ternary Link*
3. *Quaternary Link.*

Binary link:

It having two vertices.

Ternary link:

This is having three [vertices](#).

Quaternary link:

This having four vertices.

So this all about Kinematic Links I hope you I am able to clear all your doubts, however, feel free to comment down below

your thoughts regarding this article, I will happy to assist you further on.