Module 1 – Basic facts about Chain

Conveyor / Engineered Chain

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Conveyor Chain

- Used for conveying product between locations.
- Transmission roller chain tends to be sized by pitch (see Roller chain module 1) conveyor chain tends to be initially sized by it's breaking load
- There are numerous different pitch sizes per breaking load (i.e. 2 inch , 3 inch ,6 inch etc , etc)
- Hollow and solid pin designs are available on chains up to 45,000 lbs breaking load. However, over 45,000 lbs only solid pin is available.

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Standards

There are no major global standards for conveyor chain as there are with the BS and ANSI on Transmission chains

The Main European Standards are :

ISO - European standard (M and MC) used little worldwide but increasingly in Europe

BS - UK (Mk 1 Renold) standard

DIN - German standard (FV Series)

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Components

As with transmission chain, the conveyor chain is made up of 5 basic components:

Bearing Pins

- Hollow pins curled or turned
- Solid pins turned or headed
- Deep Case-hardened
- Parallel, Shouldered or flatted ends

Bushes

- Curled or turned
- Deep Case hardened

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Components

Rollers

- Sintered or turned
- Case-hardened or through-hardened
- Special materials and heat treatment options.

Plates

- Pressed
- Heat treatment options

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Most conveyor chains have attachments either integral to the plate (normally the outer plate) or welded onto the plate.

Common attachments are:

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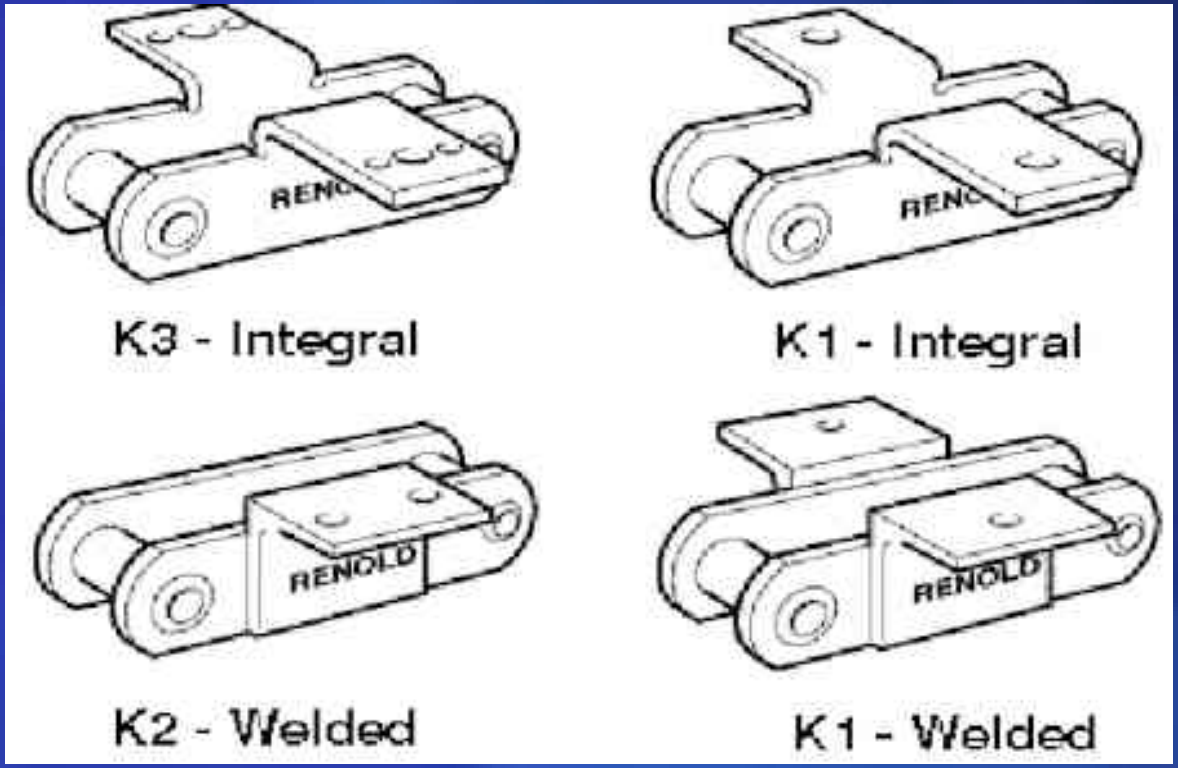
K type Attachments

- Supplied integral or welded
- Number following the letter = number of fixing holes



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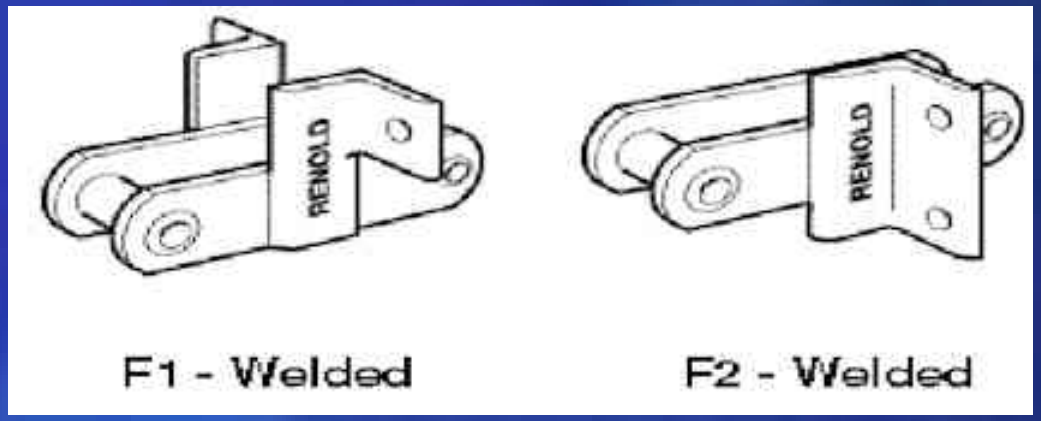
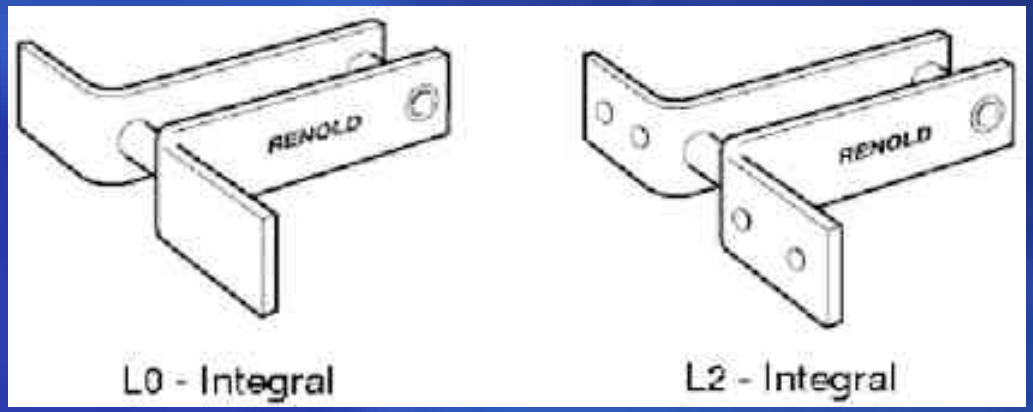
Attachments

- F Attachments



- L Attachments



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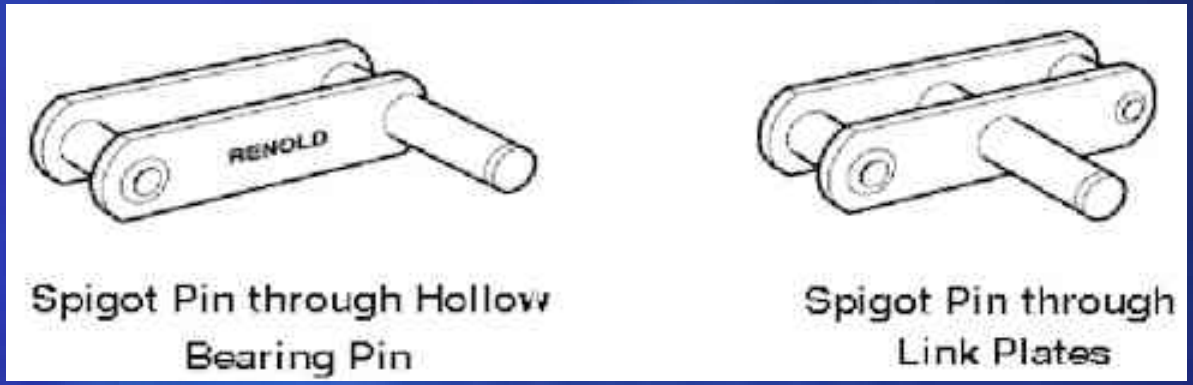
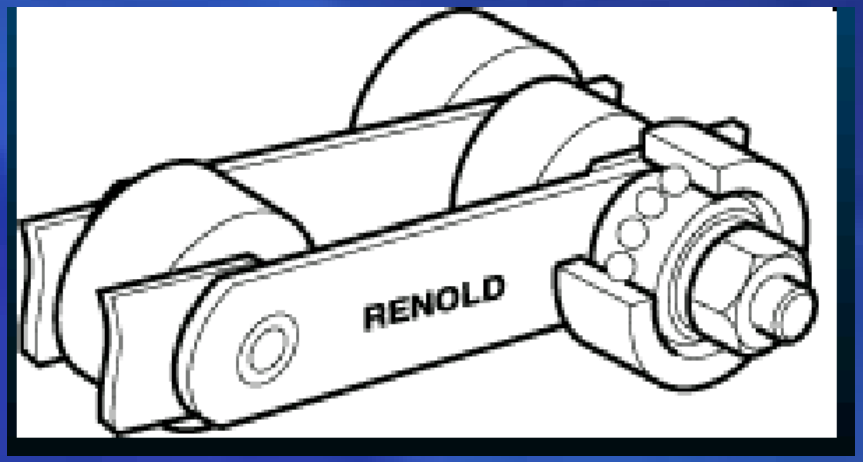
Attachments

- Spigot Pins and Extended Bearing Pins



- Outboard Rollers



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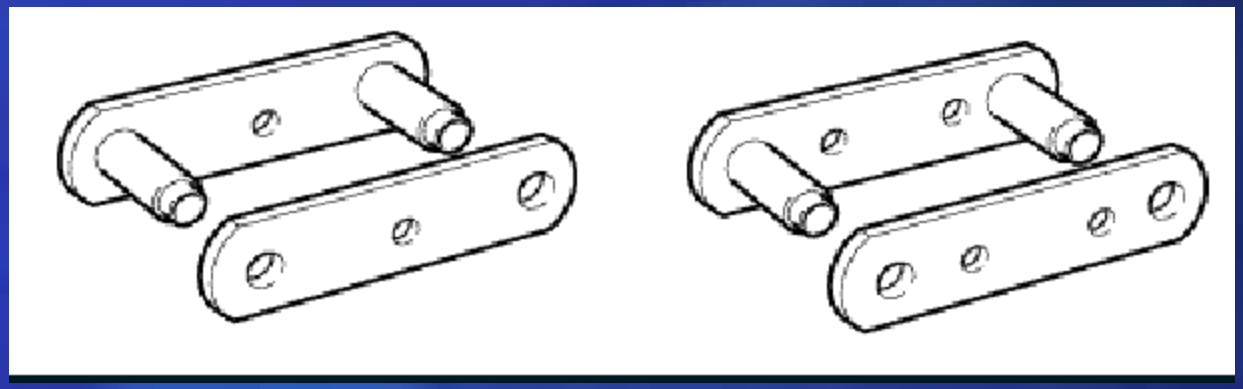
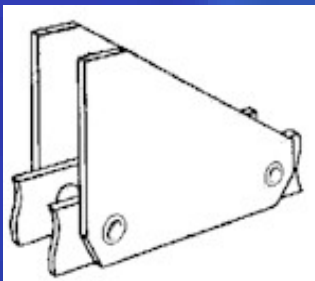
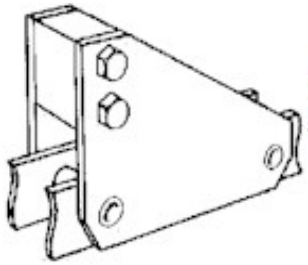
Special Attachments

- Holed Plates

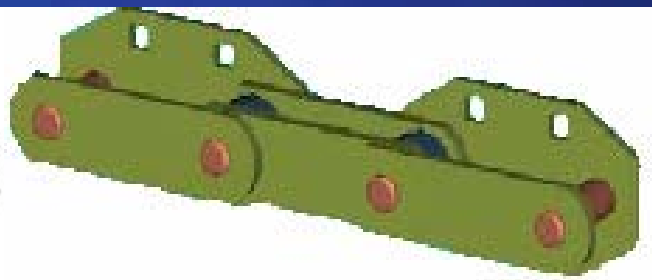


- Pusher Attachments





- G Attachments



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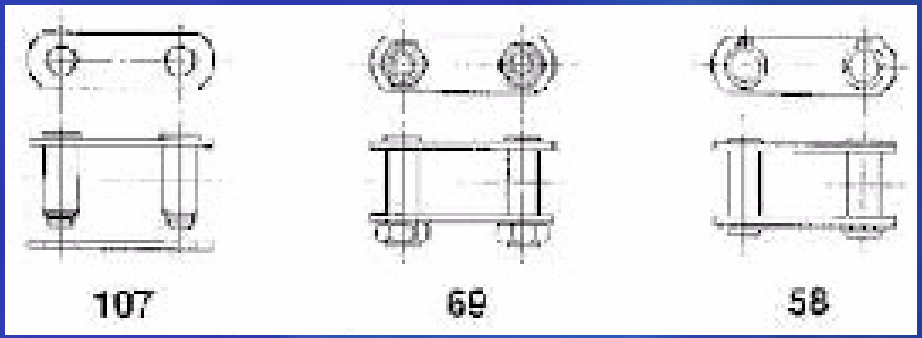
Connecting Links



- Standard Types
- Attachments may be on fixed or loose plate

107- Riveting Link

69- Link with nuts

58- Link with circlip

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Applications

Industries include:

- Agriculture
- Bakeries
- Cement
- Motor Vehicles
- Water Treatment
- Chemicals
- Food
- Swarf handling
- Refuse
- Paper
- Packaging
- Escalators

- Wooden slat

- Apron slat

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Applications

- Plate scraper has deep scraper plates attached to chain

- Twin strand

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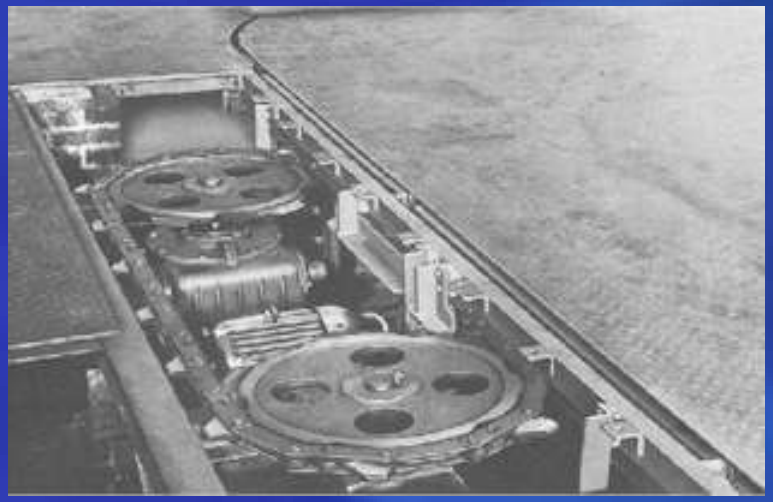
Applications

- Carousel Conveyor



- Often driven by caterpillar chain drive

- Pusher Conveyor

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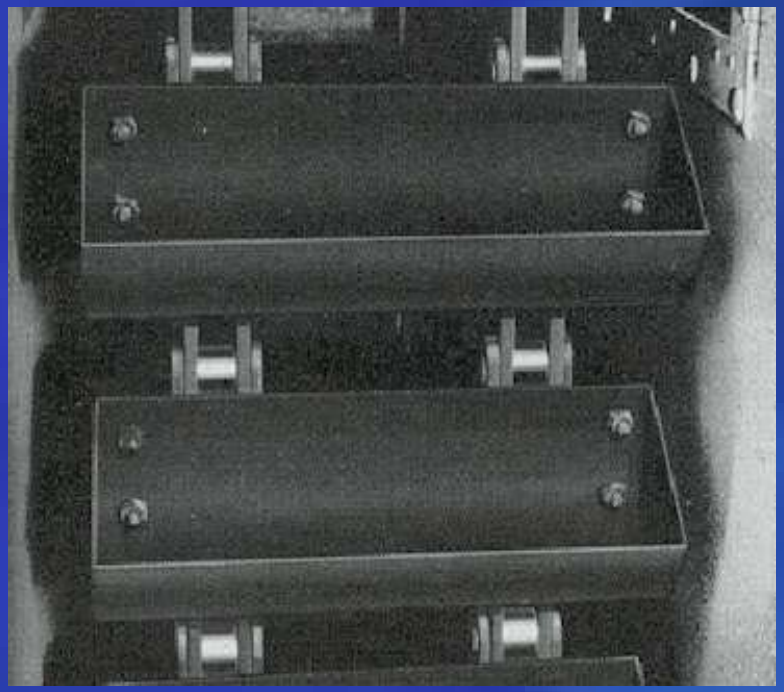
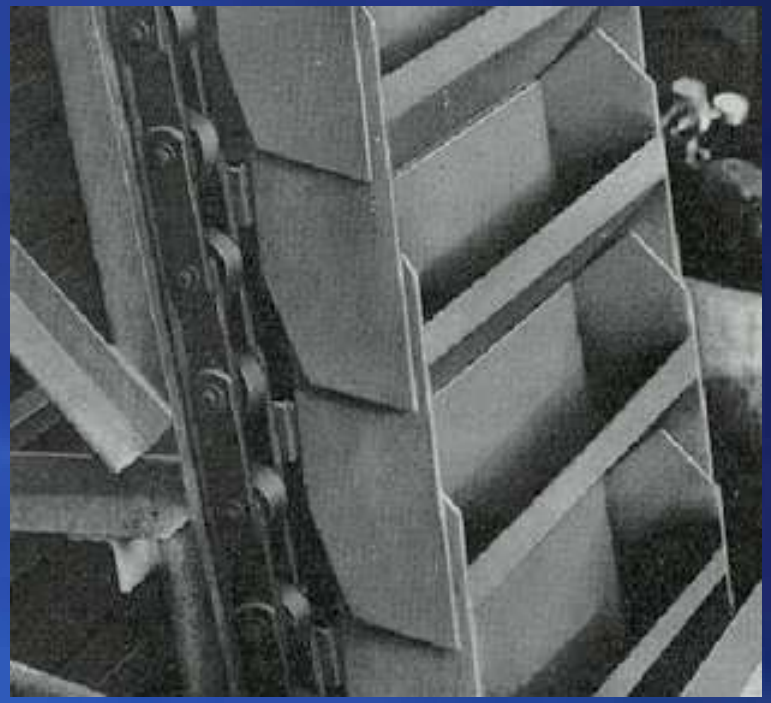
Applications

Bucket Elevator
dynamic discharge



Bucket Elevator
continuous bucket



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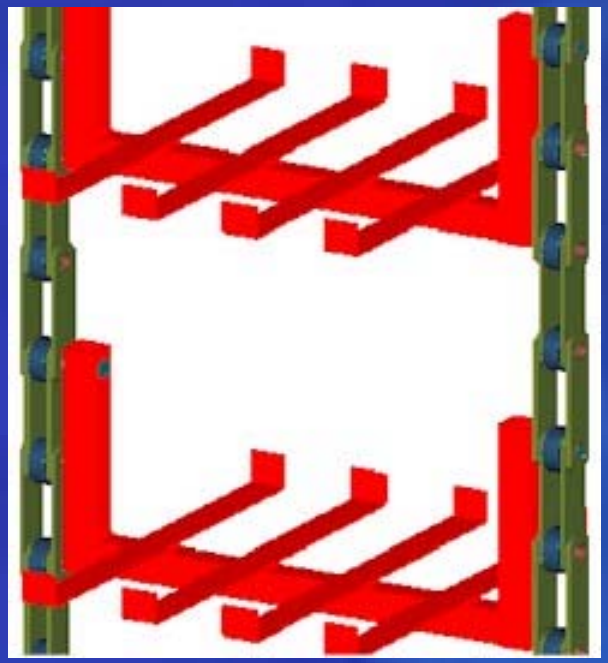
Applications

Elevator – swing tray type



Special Purpose – caterpillar track

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Chain Numbering BS / MARK 1

For example product number: 145160/16

- 1 = Chain
- 45 = Chain type, e.g. Hollow pin, solid pin, deep plate, stainless steel, grease-gun lubrication etc.
- 16 = Chain pitch – divide two-digit value by 4 to find the pitch in inches (differs for metric pitches).
- 0 = Breaking load, e.g. 0= 6/7,500 lbf, or 1= 12/15,000 lbf
- 16 = Roller design, e.g. Small plain, large flanged, roller material, e.g. Sintered, case-hardened, special, etc.

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Renold Chain Numbering ISO

- For example product number: B60165/160

- B = ‘ISO chain’.
- 60 = Chain type, e.g. Hollow pin, Solid pin, material/plate style, e.g. Normal/deep link =7
- 16) = Series indicator, e.g.16 = M160 = 160kn breaking load
- 5 = Roller design, e.g. Projecting – high duty.
- /160 = pitch in mm

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Ordering Conveyor Chain

When ordering conveyor chain you need to specify:

- Breaking load
- Pitch
- Material type (e.g mild steel, stainless steel)
- Coating (e.g zinc plated , Hydro-Service , etc)
- Roller diameter and type (plain , flanged)
- Hollow pin or solid pin
- Attachment type required (K1 , F1 ,etc)
- Attachment spacing (one side or both)

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Agricultural Chain

- Chain range specifically for use on agricultural equipment- harvesters etc
- Normally standard ISO numbers starting with letter "S" e.g. S42
- Some other standards e.g. CA550 / CA557 becoming more common
- Range of attachments available

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Summary – Renold offers

- Detailed Technical support
- Innovation
- Value for money
- LEAVE IT TO RENOLD!

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Conveyor / Engineered Chain

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