

# FORGED CHAIN

## Forged Chain for the toughest applications

4B drop forged chain is made of special heat treated alloy steel case hardened to Rockwell C57 with a ductile core hardness of Rockwell C40.

Heat treating is a complex process that is done to provide the optimum chain link with a more fracture resilient ductile core for shock resistance, and an extremely hard exterior surface for superior wear resistance.

4B drop forged chain is backed by an international network of companies with over 120 years of experience, and a global team of engineers that can provide you with practical solutions for all your material handling applications.



### Forged Chain

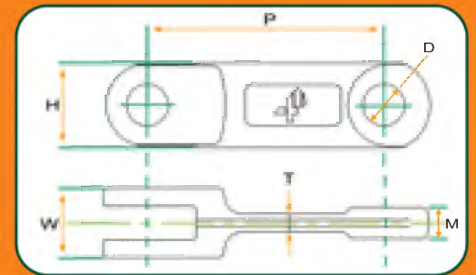


#### LINK SPECIFICATION

A - Alloy Steel - Case hardened, surface hardness RC 57min

#### PIN SPECIFICATION

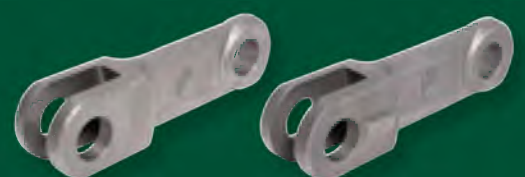
Alloy Steel - Case hardened, surface hardness RC 57min. effective case depth 0.6mm



| Chain Link                    | 4B102NA<br>Drop Forged Chain | 4B125NA<br>Drop Forged Chain | 4B142NA<br>Drop Forged Chain | 4B142HA<br>Drop Forged Chain | 4B150NA<br>Drop Forged Chain | 4B160NA<br>Drop Forged Chain | 4B200NA<br>Drop Forged Chain | 4B216NA<br>Drop Forged Chain | 4B250NA<br>Drop Forged Chain | 4B260NA<br>Drop Forged Chain |
|-------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|
| <b>Minimum Breaking Load</b>  | 150 kn<br>33,000 lb          | 175 kn<br>39,375 lb          | 300 kn<br>67,500 lb          | 450 kn<br>101,000 lb         | 300 kn<br>67,500 lb          | 350 kn<br>78,700 lb          | 500 kn<br>113,000 lb         | 600 kn<br>135,000 lb         | 700 kn<br>158,000 lb         | 700 kn<br>158,000 lb         |
| <b>Case (MIN) Hardness</b>    | Rockwell C57                 | Rockwell C57                 | Rockwell C57                 | Rockwell C57                 | Rockwell C57                 | Rockwell C57                 | Rockwell C57                 | Rockwell C57                 | Rockwell C57                 | Rockwell C57                 |
| <b>Case Depth</b>             | 0.5 mm                       | 0.6 mm                       | 0.7 mm                       | 0.7 mm                       | 0.7 mm                       | 0.8 mm                       | 1.0 mm                       | 1.0 mm                       | 1.0 mm                       | 1.0mm                        |
| <b>Core Hardness</b>          | Rockwell C40                 | Rockwell C40                 | Rockwell C40                 | Rockwell C40                 | Rockwell C40                 | Rockwell C40                 | Rockwell C40                 | Rockwell C40                 | Rockwell C40                 | Rockwell C40                 |
| <b>Weight (per link)</b>      | 0.38 kg                      | 0.7 kg                       | 1.08 kg                      | 1.76 kg                      | 1.2 kg                       | 1.3 kg                       | 2.85 kg                      | 3.66 kg                      | 4.26 kg                      | 5.38 kg                      |
| <b>Bolt 'N' Go Compatible</b> | Yes                          | Yes                          | Yes                          | Yes                          | Yes                          | Yes                          | Yes                          | No                           | No                           | No                           |
| <b>Dimensions</b>             |                              |                              |                              |                              |                              |                              |                              |                              |                              |                              |
| <b>P</b>                      | 102 mm                       | 125 mm                       | 142 mm                       | 142 mm                       | 150 mm                       | 160 mm                       | 200 mm                       | 216 mm                       | 250 mm                       | 260 mm                       |
| <b>H</b>                      | 36 mm                        | 35 mm                        | 50 mm                        | 50 mm                        | 49 mm                        | 44.5 mm                      | 58 mm                        | 75 mm                        | 75 mm                        | 75 mm                        |
| <b>W</b>                      | 28 mm                        | 36 mm                        | 42 mm                        | 62 mm                        | 36 mm                        | 42 mm                        | 68 mm                        | 60 mm                        | 70 mm                        | 71 mm                        |
| <b>M</b>                      | 12 mm                        | 15 mm                        | 18.7 mm                      | 28 mm                        | 15 mm                        | 19.5 mm                      | 30 mm                        | 26 mm                        | 32 mm                        | 31 mm                        |
| <b>T</b>                      | 7.62 mm                      | 10 mm                        | 11 mm                        | 16.5 mm                      | 13 mm                        | 13 mm                        | 18 mm                        | 19 mm                        | 18 mm                        | 22 mm                        |
| <b>D</b>                      | 14 mm                        | 16 mm                        | 25 mm                        | 25 mm                        | 25 mm                        | 20 mm                        | 30 mm                        | 35 mm                        | 32 mm                        | 32 mm                        |

\* See page 5-6 for Bolt 'N' Go chain on flight system.

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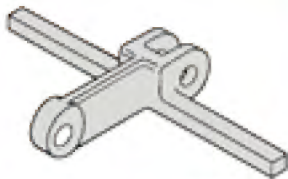


# FORGED CHAIN

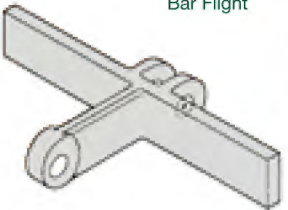
- **Ultimate Tensile Strengths:** Range from 150 kN to 700 kN
- **Availability:** Chain without flights – from stock. Chain with flights – quick delivery
- **Chain Links and Pins:** Case hardened special alloy steel to Rockwell "C" 57-62 with core typically RC-40
- **Stainless Steel Options**
- **'NEW' BOLT 'N' GO** – Bolt on Flight System, see pages 5-6
- Pins and accessories available in hardened stainless steel.
- Flights are manufactured and attached according to customer's specification.
- Other Link & Pin designs available to order.



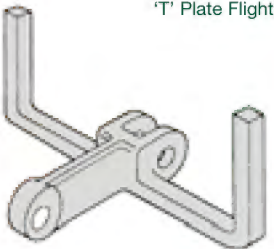
## Forged Chain - Pin Style



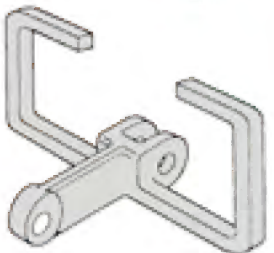
Bar Flight



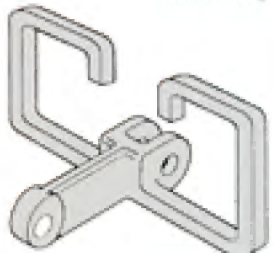
'T' Plate Flight



U-Flight

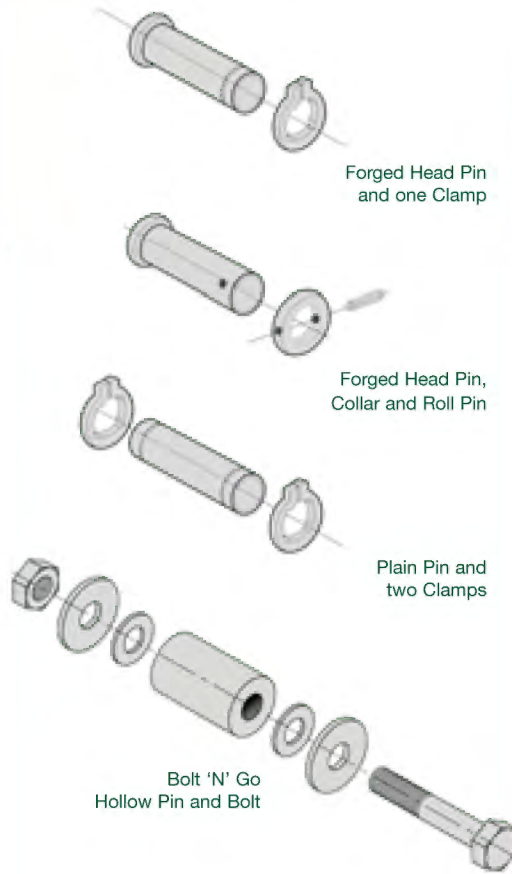


Closed U-Flight



00 Flight

**Note:** Custom flights are available.



Forged Head Pin and one Clamp

Forged Head Pin, Collar and Roll Pin

Plain Pin and two Clamps

Bolt 'N' Go Hollow Pin and Bolt

**Note:** Lock nuts, clamps or roll pins must not be reused, install one time and discard after use.



### Pins:

Case Hardened to RC57min/64 x 0.6mm (0.02")

### Clamps:

Rockwell B63 (**Do Not Re-Use**)

### Sprockets & Trailers:

Through Hardened Type: Rockwell C45  
Case Hardened Type: RC60min x 1.5mm (0.06")

### Flight Material Specifications:

Low Carbon Steel

### Flight Attachment Procedure:

Remove case, bevel flight and weld as specified below.

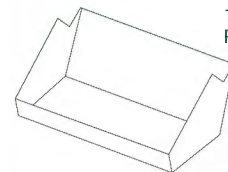
### Rod Specification:

Phillips 35S or #7018S

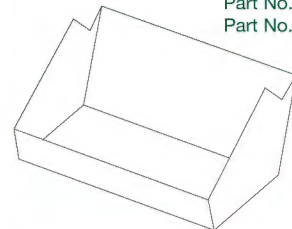
### Mig Weld Specification:

Wire: Linde #86 x .045"  
Gas: CO2: 25% Argon: 75%  
Voltage: 34-36  
Speed: 45-48 on 1-100

### Return Buckets



102mm  
Part No. 4BB4 = 4"



142mm  
Part No. 4BB5 = 5"  
Part No. 4BB8 = 8"

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# BOLT 'N' GO

## Flight Installation and Chain Assembly Made Easy!

The Bolt 'N' Go flight system is a revolutionary assembly method for drop forged and round link conveyor chain.

### Features

- Easy and simple assembly on site or in the shop
- Precise calculated flight bending forces
- No welding required
- Guaranteed and reliable pin attachment
- Condensed storage and shipping costs
- Forged chain and round link chain compatible
- Plastic flight option (high density polyethylene or nylon)
- Steel flight option (drop forged chain only)

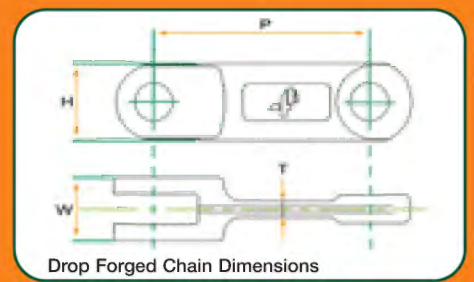
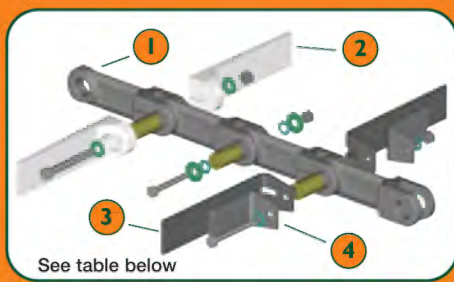
### Drop Forged Chain

Link and flight assembly are made easy by using a standard bolt and nut with a high strength hollow pin. There are no circlips to become loose and there is no intricate assembly. There is no welding required on the flights, no need to remove chain form the conveyor for installation, and no issues with strength. Just bolt the links and the flights together. It's easy, simple and reliable!

**U.S. Patent #7,080,728**  
**Other Patents Pending**



## Forged Chain with Bolt 'n' Go Flights



### Bolt 'n' Go System is available on 3 Drop Forged Chain sizes

| No. | Description                                     | 102NA Link                                    | 142NA Link                                    | 142HA Link                                    |
|-----|---|---|---|---|
| 1   | Drop Forged Chain Link                          | 4B102BNA                                      | 4B142BNA                                      | 4B142BHA                                      |
| 2   | Attachable Plastic Flight<br>(Max.Width 600mm)  | 4B102BFP (HDP)<br>4B102BFN (Nylon)<br>(400mm) | 4B142BFP (HDP)<br>4B142BFN (Nylon)            | 4B142BFP (HDP)<br>4B142BFN (Nylon)            |
| 3   | Attachable Steel Flight<br>(Max.Width 600mm)    | 4B102BF<br>(400mm)                            | 4B142BF<br>(600mm)                            | 4B142BF<br>(600mm)                            |
| 4   | Reinforcement Plate<br>(For Flights Over 400mm) | Not Required                                  | 4B142BBF                                      | 4B142BBF                                      |
| 5   | Bolt 'n' Go Assembly Kits<br>(Pins included)    | 4B102NPAC - No Flights<br>4B102NPAF - Flights | 4B142NPAC - No Flights<br>4B142NPAF - Flights | 4B142HPAC - No Flights<br>4B142HPAF - Flights |



### Bolt 'n' Go - Drop Forged Chain Link

| Link            | P                 | H                | A                | T                  | Weight              | Min. Breaking Load    | Case Hardness      | Case Depth        | Core Hardness   |
|-----------------|-------------------|------------------|------------------|--------------------|---------------------|-----------------------|--------------------|-------------------|-----------------|
| <b>4B102BNA</b> | 102 mm<br>4.02 in | 36 mm<br>1.42 in | 28 mm<br>1.10 in | 7.62 mm<br>0.30 in | 0.38 Kg<br>0.80 Lbs | 150 Kn<br>33,000 Lbs  | Rockwell<br>C57/64 | 0.5 mm<br>0.02 in | Rockwell<br>C40 |
| <b>4B142BNA</b> | 142 mm<br>5.59 in | 50 mm<br>1.97 in | 42 mm<br>1.65 in | 11 mm<br>0.43 in   | 1.08 Kg<br>2.38 Lbs | 300 Kn<br>67,500 Lbs  | Rockwell<br>C57/64 | 0.7 mm<br>0.03 in | Rockwell<br>C40 |
| <b>4B142BHA</b> | 142 mm<br>5.59 in | 50 mm<br>1.97 in | 62 mm<br>2.44 in | 16.5 mm<br>0.65 in | 1.76 Kg<br>3.88 Lbs | 450 Kn<br>101,000 Lbs | Rockwell<br>C57/64 | 0.7 mm<br>0.03 in | Rockwell<br>C40 |

# BOLT 'N' GO

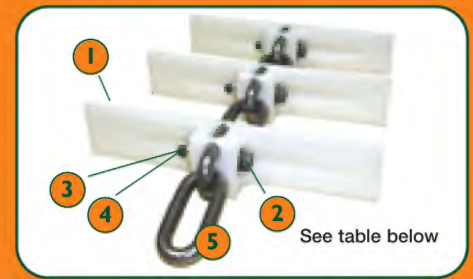
## Round Link Chain

Easy flight assembly by using a standard bolt and nut, connecting the flights directly to the link. The chain can be supplied in a coil together with the bolt on flights already assembled.



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## Round Link Chain with Bolt 'n' Go Flights



### Bolt 'N' Go - Round Link Chain Size 13 x 65mm

#### ABSORBED POWER (KW)

|              |     | Conveyor Length - Meters |     |     |      |      |      |      |      |      |      |      |
|--------------|-----|--------------------------|-----|-----|------|------|------|------|------|------|------|------|
|              |     | 15                       | 20  | 25  | 30   | 35   | 40   | 45   | 50   | 60   | 70   | 80   |
| Capacity t/h | 50  | 1.7                      | 2.2 | 2.8 | 3.4  | 3.9  | 4.5  | 5.0  | 5.6  | 6.7  | 7.9  | 9.0  |
|              | 75  | 2.2                      | 2.9 | 3.7 | 4.4  | 5.1  | 5.8  | 6.6  | 7.3  | 8.8  | 10.2 | 11.7 |
|              | 100 | 3.1                      | 4.1 | 5.1 | 6.1  | 7.2  | 8.2  | 9.2  | 10.2 | 12.3 | 14.3 | 16.4 |
|              | 150 | 4.4                      | 5.9 | 7.4 | 8.9  | 10.4 | 11.8 | 13.3 | 14.8 | 17.8 | 20.7 | 23.7 |
|              | 200 | 5.8                      | 7.8 | 9.7 | 11.7 | 13.6 | 15.6 | 17.5 | 19.5 | 23.4 | 27.3 | 31.2 |

#### CHAIN PULL (kN)

|              |     | Conveyor Length - Meters |     |      |      |      |      |      |      |      |      |      |
|--------------|-----|--------------------------|-----|------|------|------|------|------|------|------|------|------|
|              |     | 15                       | 20  | 25   | 30   | 35   | 40   | 45   | 50   | 60   | 70   | 80   |
| Capacity t/h | 50  | 2.8                      | 3.7 | 4.7  | 5.6  | 6.5  | 7.5  | 8.4  | 9.3  | 11.2 | 13.1 | 15.0 |
|              | 75  | 3.7                      | 4.9 | 6.1  | 7.3  | 8.5  | 9.7  | 11.0 | 12.2 | 14.6 | 17.1 | 19.5 |
|              | 100 | 4.4                      | 5.8 | 7.3  | 8.8  | 10.2 | 11.7 | 13.2 | 14.6 | 17.5 | 20.5 | 23.4 |
|              | 150 | 5.9                      | 7.9 | 9.9  | 11.8 | 13.8 | 15.8 | 17.8 | 19.7 | 23.7 | 27.6 | 31.6 |
|              | 200 | 7.3                      | 9.7 | 12.2 | 14.6 | 17.1 | 19.5 | 21.9 | 24.4 | 29.2 | 34.1 | 39.0 |

#### MINIMUM CHAIN UTS (kN) - 5.1 SAFETY FACTOR

|              |     | Conveyor Length - Meters |      |      |      |      |      |      |      |      |      |    |
|--------------|-----|--------------------------|------|------|------|------|------|------|------|------|------|----|
|              |     | 15                       | 20   | 25   | 30   | 35   | 40   | 45   | 50   | 60   | 70   | 80 |
| Capacity t/h | 50  | 14.0                     | 18.7 | 23.4 | 28.0 | 32.7 | 37.4 | 42.1 | 46.7 | 56.1 | 65.4 | -  |
|              | 75  | 18.3                     | 24.4 | 30.4 | 36.5 | 42.6 | 48.7 | 54.8 | 60.9 | 73.1 | -    | -  |
|              | 100 | 21.9                     | 29.2 | 36.5 | 43.9 | 51.2 | 58.5 | 65.8 | 73.1 | -    | -    | -  |
|              | 150 | 28.3                     | 37.8 | 47.2 | 56.6 | 66.1 | -    | -    | -    | -    | -    | -  |
|              | 200 | 33.7                     | 44.9 | 56.2 | 67.4 | -    | -    | -    | -    | -    | -    | -  |
|              | 250 | 39.4                     | 52.5 | 65.6 | -    | -    | -    | -    | -    | -    | -    | -  |
|              | 300 | 45.0                     | 60.0 | -    | -    | -    | -    | -    | -    | -    | -    | -  |

| # | Description               | Part Number    |
|---|---------------------------|----------------|
| 1 | Attachable Plastic Flight | 4B1365BPF      |
| 2 | M10 x 45 Bolt             | 4B142BM1045HEX |
| 3 | Washer (Not Shown)        | 4B142BM10W     |
| 4 | Nylock Nut                | 4B142BM1045NYL |
| 5 | Round Link Chain          | 4B1365BRL      |
| 6 | Link Connector            | 4B1365BC       |

Link Material: Case Hardened Steel  
Flight Material: High Density Polyethylene  
Bolt Material: Carbon Steel



Bolt 'N' Go System Round Link Chain Application on a Conveyor