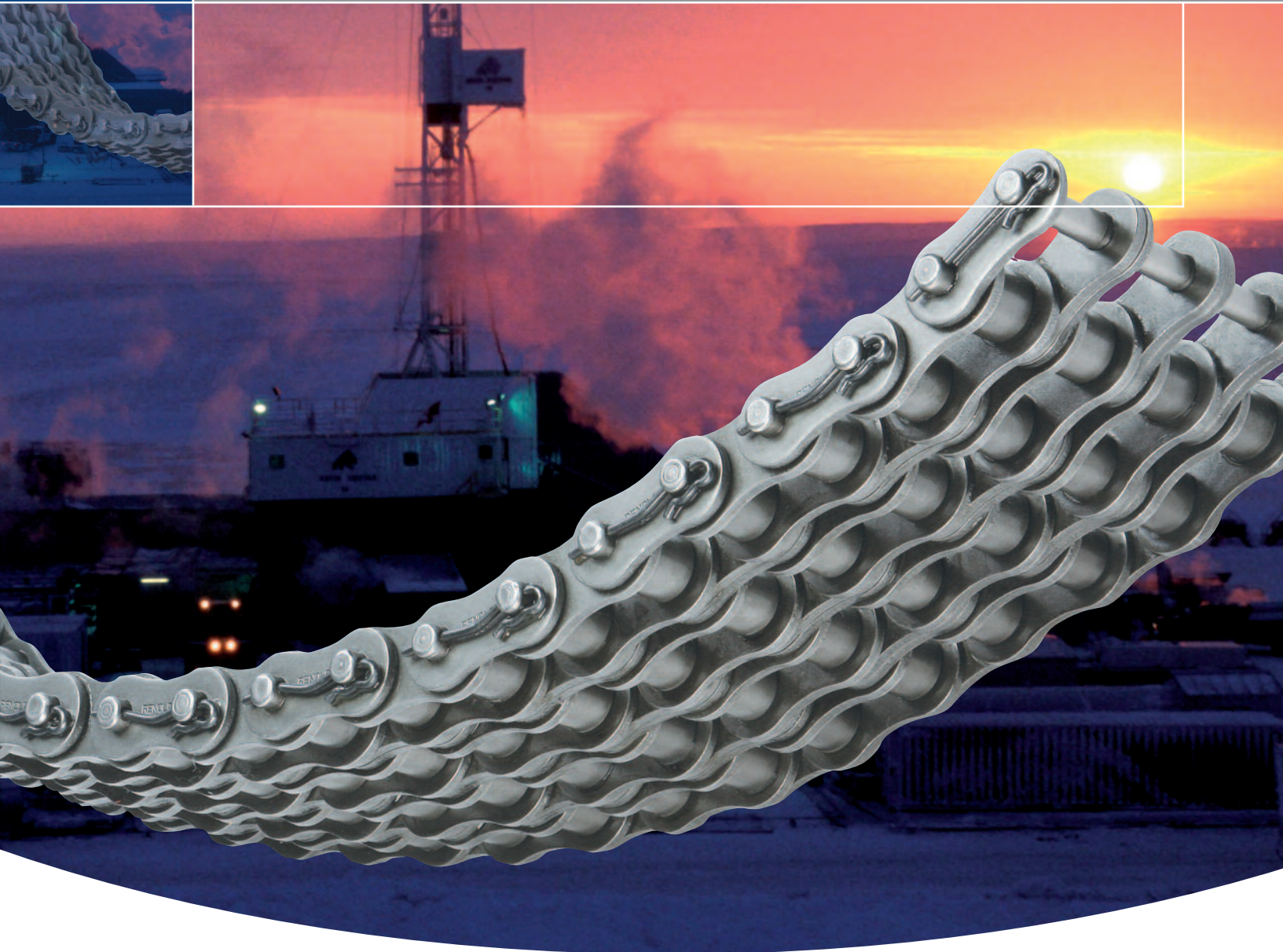


# Oilfield Chain



7F-0008

**RENOLD  
JEFFREY**  
Advancing Chain Technology

[www.renoldjeffrey.com](http://www.renoldjeffrey.com)

# Renold Oilfield Chain

## Unique quality and safety



### Consistent reliability

Renold's 100+ years of experience in the design and manufacture of power transmission products, to the highest specifications, underwrites the guaranteed quality and the assurance of reliability.

### Service excellence and care

Renold offers a unique level of service excellence and customer care. Our experienced applications engineers will select the optimum solution with the aid of the latest computer and design technology. Renold is the name for service, care and peace of mind.

### Local and international availability

The Renold organization stretches world-wide.

- Almost 20 National Sales Companies
- Over 70 Overseas Distributors offering the comprehensive Renold range of power transmission products

## Chain for oil extraction

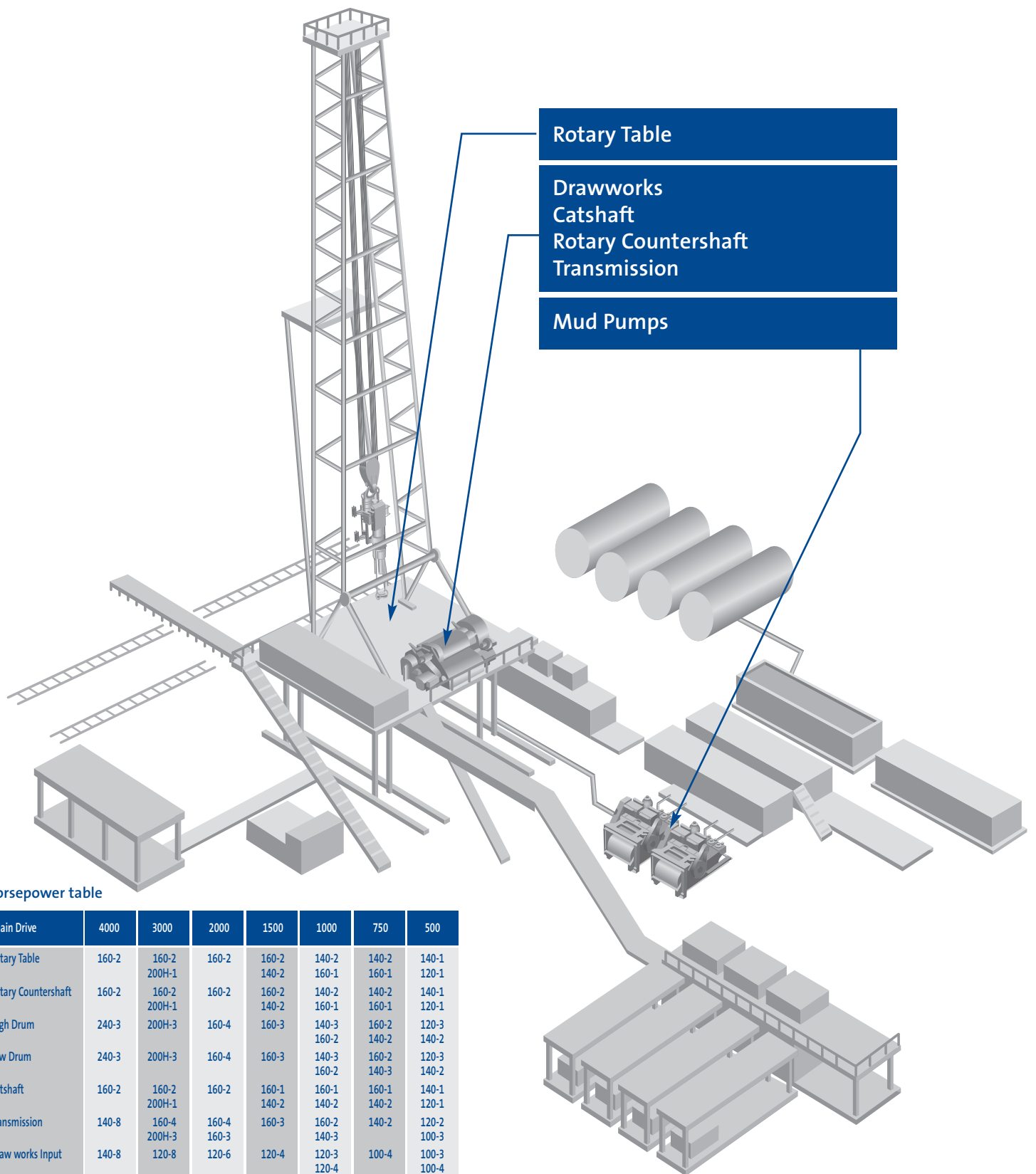
Renold can supply all your chain requirements for oil extraction. Chains for applications including mud pump drives, draw works, transmission

drives, catshafts, coil tubing injector heads and rotary countershafts and tables make up a comprehensive range of industry-proven, high specification products.



Photo Courtesy of Fluid Design Solutions Inc.

# Renold Oilfield Chain



Horsepower table

Chain Drive	4000	3000	2000	1500	1000	750	500
Rotary Table	160-2	160-2 200H-1	160-2	160-2 140-2	140-2 160-1	140-2 160-1	140-1 120-1
Rotary Countershaft	160-2	160-2 200H-1	160-2	160-2 140-2	140-2 160-1	140-2 160-1	140-1 120-1
High Drum	240-3	200H-3	160-4	160-3	140-3 160-2	160-2 140-2	120-3 140-2
Low Drum	240-3	200H-3	160-4	160-3	140-3 160-2	160-2 140-3	120-3 140-2
Catshaft	160-2	160-2 200H-1	160-2	160-1 140-2	160-1 140-2	160-1 140-2	140-1 120-1
Transmission	140-8	160-4 200H-3	160-4 160-3	160-3	160-2 140-3	140-2	120-2 100-3
Draw works Input	140-8	120-8	120-6	120-4	120-3 120-4	100-4	100-3 100-4
Compound	140-8	120-8	120-6	120-4	120-3 120-4	100-4	100-3
Mud Pump Drives	140-8	120-8	120-8 120-6	120-6 120-4	120-4 120-3	100-6 100-4	100-4 100-3

# Renold Oilfield chain is best because...

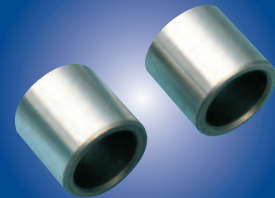
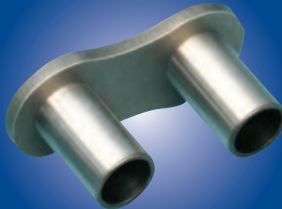


### Bearing Pins

Renold pins are case hardened and centerless ground producing perfectly cylindrical diameters with extremely high surface hardness, maximizing wear life.

### Bushing

The geometrically designed Renold bushing facilitates optimum fits in the plates, substantially improving resistance to fatigue.



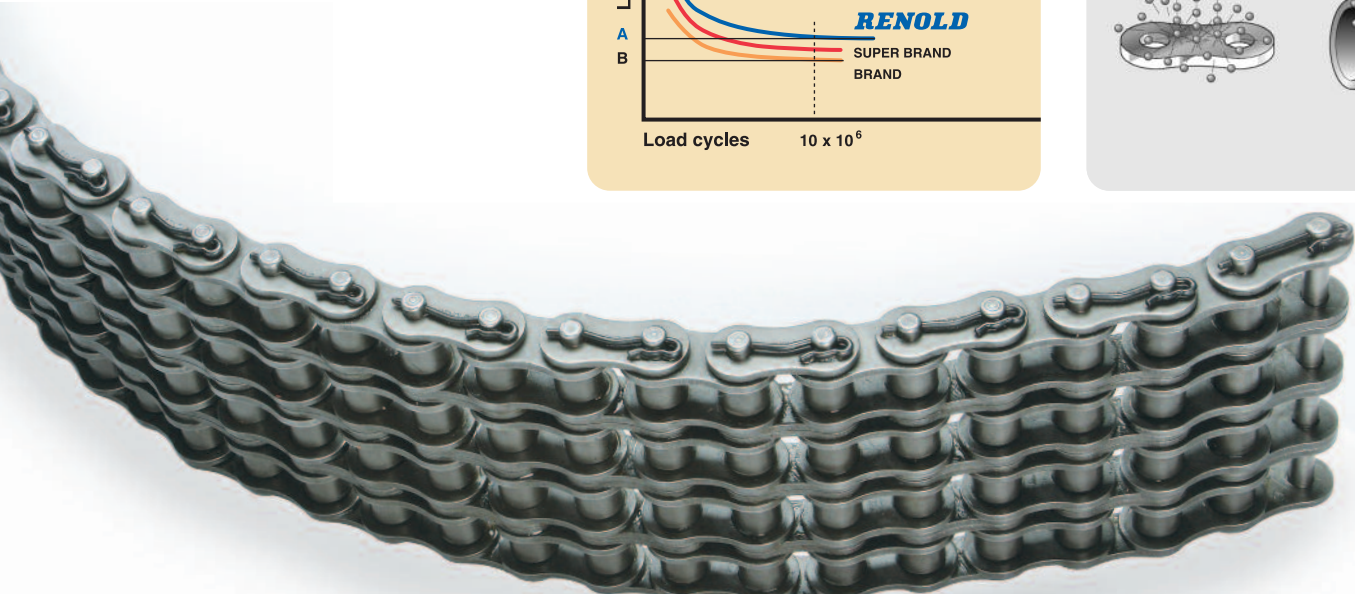
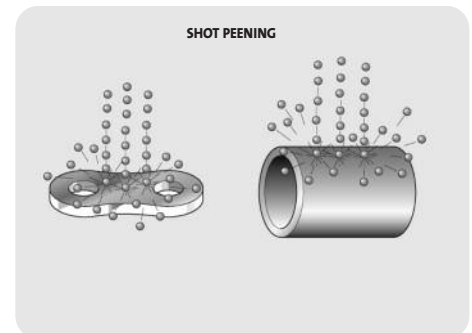
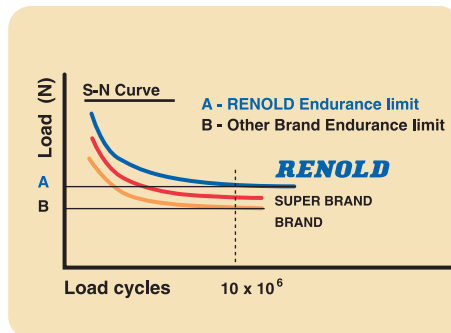
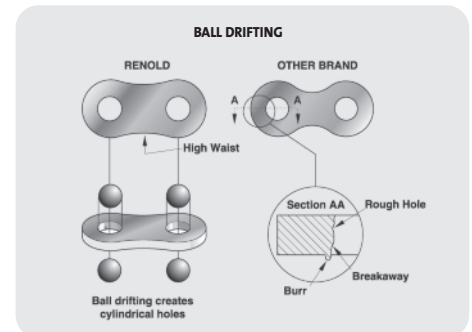
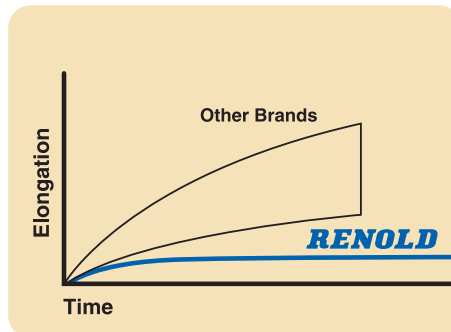
### Roller

Roller and bushing life are maximized by the use of precision components and the careful selection and control of the heat treatment process.

Closely controlled tolerances ensure smooth robust running even at high speeds.

### Renold ultimate performance

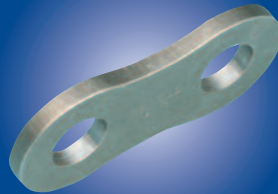
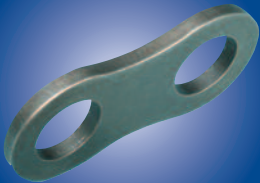
- The performance of our chain is ensured by a program of continuous testing and quality audits
- Breaking loads exceed the minimum international standards
- Our specially formulated lubricants reduce initial wear, give corrosion protection and ensure long storage life
- Renold chain is highly fatigue resistant. Fatigue life is enhanced by shot peening and other pre-stressing techniques



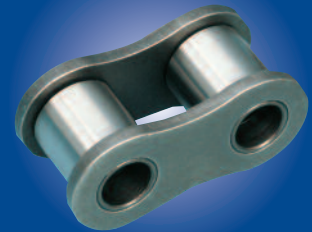
Shepherd's Crook cotter standard on sizes 80 through 180

**Inner Plate**

The high waisted plate shape, also pioneered by Renold, ensures optimum stress distribution.

**Outer Plate**

Renold pioneered ball drifting to create precisely controlled holes, which combined with other Renold process technology improves fatigue resistance and enhances wear performance



Fatigue life is substantially improved by optimizing interference fits and controlling plate hole quality.

**Renold Oilfield Chain**

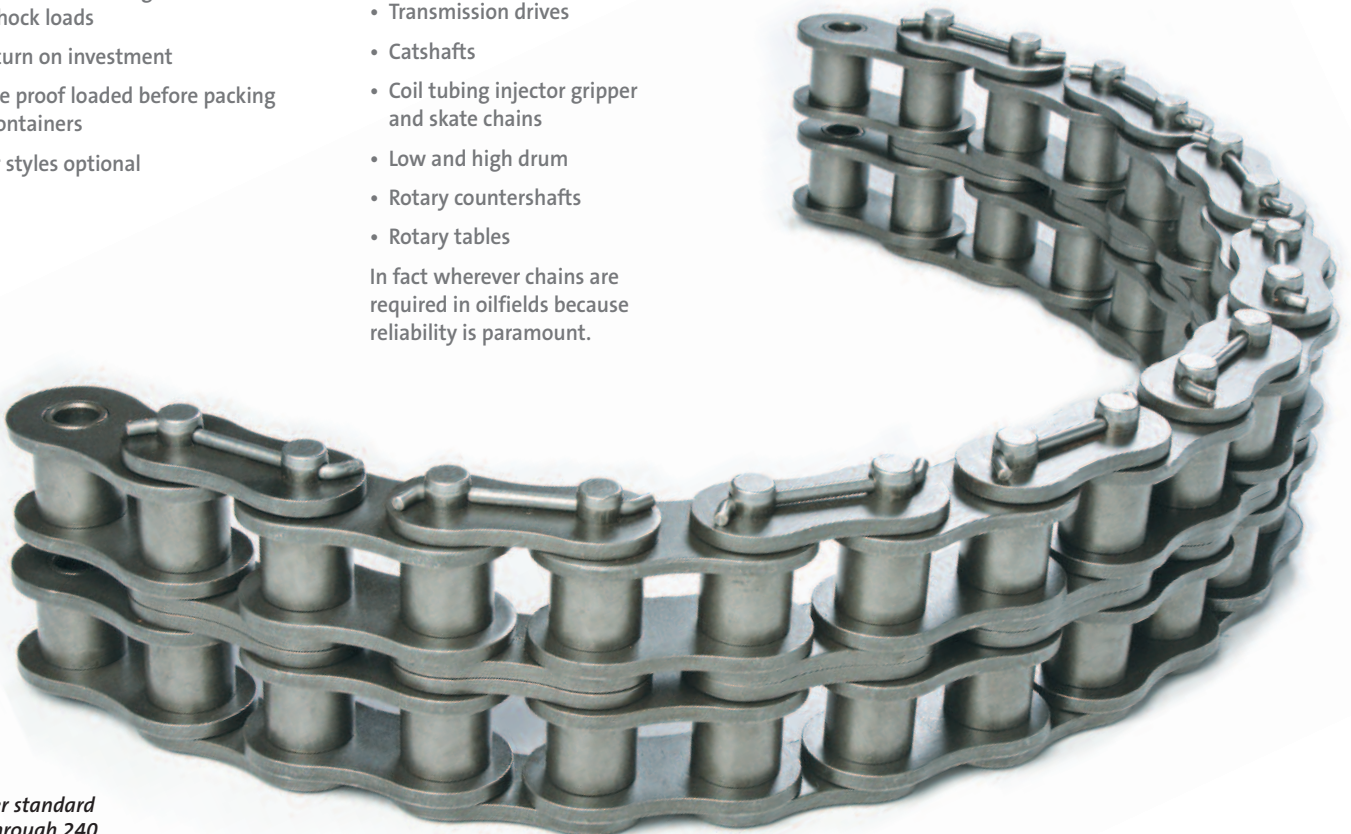
- Manufactured to API specification 7F-0008
- Proven longer life in offshore environments
- Supreme performance at high speed and shock loads
- Excellent return on investment
- All chains are proof loaded before packing in durable containers
- Other cotter styles optional

**Function**

Renold oilfield chains are used on:

- Mud pump drives
- Engine compounds
- Tubular and casing draw works input
- Transmission drives
- Catshafts
- Coil tubing injector gripper and skate chains
- Low and high drum
- Rotary countershafts
- Rotary tables

In fact wherever chains are required in oilfields because reliability is paramount.



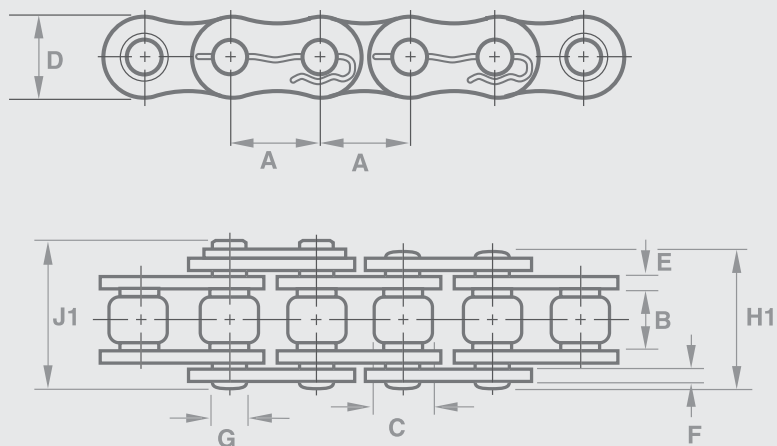
*Renold S-Cotter standard  
on sizes 200 through 240*

# Oilfield industry - ANSI standard chain

## ISO 606 / ANSI B29.1M / API spec 7f



7F-0008



Connecting links Simple through to Multiplex



No 4



No 11/58

### ANSI standard - simplex and multiplex

Chain Ref.		Technical Details (inches)											
Renold No.	ANSI No.	Pitch (inch)	Inside Width Min	Roller Diam Max	Plate Height Max	Inner Plate Thickness Max	Outer Plate Thickness Max	Pin Diam Max	Pin Length Max	Conn Link Extension Max	Transverse Pitch Nom	Average Tensile Strength†	Mass lb/ft
		A	B	C	D	E	F	G	H1	J	K	lb	
80C	80-1	1.00	0.62	0.63	0.95	0.13	0.13	0.31	1.29	0.12	-	18100	1.88
80-2C	80-2	1.00	0.62	0.63	0.95	0.13	0.13	0.31	2.44	0.12	1.15	35700	3.70
80-3C	80-3	1.00	0.62	0.63	0.95	0.13	0.13	0.31	3.59	0.12	1.15	53300	5.58
80-4C	80-4	1.00	0.62	0.63	0.95	0.13	0.13	0.31	4.75	0.12	1.15	70500	7.53
80-5C	80-5	1.00	0.62	0.63	0.95	0.13	0.13	0.31	5.90	0.12	1.15	88500	9.41
80-6C	80-6	1.00	0.62	0.63	0.95	0.13	0.13	0.31	7.06	0.12	1.15	106100	11.29
80-8C	80-8	1.00	0.62	0.63	0.95	0.13	0.13	0.31	9.36	0.12	1.15	141300	15.05
100C	100-1	1.25	0.74	0.75	1.19	0.16	0.16	0.38	1.56	0.17	-	27800	2.82
100-2C	100-2	1.25	0.74	0.75	1.19	0.16	0.16	0.38	2.97	0.17	1.41	55100	5.64
100-3C	100-3	1.25	0.74	0.75	1.19	0.16	0.16	0.38	4.38	0.17	1.41	82400	8.47
100-4C	100-4	1.25	0.74	0.75	1.19	0.16	0.16	0.38	5.79	0.17	1.41	109700	11.29
100-5C	100-5	1.25	0.74	0.75	1.19	0.16	0.16	0.38	7.20	0.17	1.41	137000	14.11
100-6C	100-6	1.25	0.74	0.75	1.19	0.16	0.16	0.38	8.61	0.17	1.41	164300	16.93
100-8C	100-8	1.25	0.74	0.75	1.19	0.16	0.16	0.38	11.48	0.17	1.41	218900	19.83
120C	120-1	1.50	0.99	0.88	1.43	0.19	0.19	0.44	1.94	0.21	-	40200	3.83
120-2C	120-2	1.50	0.99	0.88	1.43	0.19	0.19	0.44	3.73	0.21	1.79	72400	7.39
120-3C	120-3	1.50	0.99	0.88	1.43	0.19	0.19	0.44	5.52	0.21	1.79	108300	11.22
120-4C	120-4	1.50	0.99	0.88	1.43	0.19	0.19	0.44	7.31	0.21	1.79	144200	15.32
120-5C	120-5	1.50	0.99	0.88	1.43	0.19	0.19	0.44	9.10	0.21	1.79	180200	18.41
120-6C	120-6	1.50	0.99	0.88	1.43	0.19	0.19	0.44	10.89	0.21	1.79	216100	22.51
120-8C	120-8	1.50	0.99	0.88	1.43	0.19	0.19	0.44	14.47	0.21	1.79	288000	30.00
140C	140-1	1.75	0.99	1.00	1.66	0.22	0.22	0.50	2.08	0.20	-	53400	5.24
140-2C	140-2	1.75	0.99	1.00	1.66	0.22	0.22	0.50	4.01	0.20	1.92	94900	10.41
140-3C	140-3	1.75	0.99	1.00	1.66	0.22	0.22	0.50	5.93	0.20	1.92	142000	15.52
140-4C	140-4	1.75	0.99	1.00	1.66	0.22	0.22	0.50	7.86	0.20	1.92	189200	20.69
140-6C	140-6	1.75	0.99	1.00	1.66	0.22	0.22	0.50	11.71	0.20	1.92	283600	30.40
160C	160-1	2.00	1.24	1.13	1.90	0.25	0.25	0.56	2.48	0.26	-	68800	6.99
160-2C	160-2	2.00	1.24	1.13	1.90	0.25	0.25	0.56	4.79	0.26	2.31	137100	13.84
160-3C	160-3	2.00	1.24	1.13	1.90	0.25	0.25	0.56	7.09	0.26	2.31	205400	20.83
160-4C	160-4	2.00	1.24	1.13	1.90	0.25	0.25	0.56	9.40	0.26	2.31	273700	27.68
180C	180-1	2.25	1.40	1.41	2.14	0.28	0.28	0.69	2.78	0.31	-	81000	9.37
180-2C	180-2	2.25	1.40	1.41	2.14	0.28	0.28	0.69	5.37	0.31	2.59	161500	18.63
180-3C	180-3	2.25	1.40	1.41	2.14	0.28	0.28	0.69	7.96	0.31	2.59	242000	27.88
200C	200-1	2.50	1.49	1.56	2.38	0.32	0.32	0.78	3.03	0.35	-	106300	11.62
200-2C	200-2	2.50	1.49	1.56	2.38	0.32	0.32	0.78	5.85	0.35	2.82	212100	23.11
200-3C	200-3	2.50	1.49	1.56	2.38	0.32	0.32	0.78	9.02	0.35	2.82	317900	34.40
200-4C	200-4	2.50	1.49	1.56	2.38	0.32	0.32	0.78	11.48	0.35	2.82	423700	45.85
240C	240-1	3.00	1.86	1.87	2.85	0.39	0.39	0.94	3.72	0.41	-	154800	16.80
240-2C	240-2	3.00	1.86	1.87	2.85	0.39	0.39	0.94	7.17	0.41	3.46	309100	33.60
240-3C	240-3	3.00	1.86	1.87	2.85	0.39	0.39	0.94	10.63	0.41	3.46	463400	50.39

NB: Both Split and roll pin options are available on all sizes, although we would recommend roll pin on quadruplex and above. Before specifying / using offset links or other connecting links please consult Renold.  
 † Renold chain far exceeds the ISO 606 tensile strength requirement, but Renold do not consider that this figure provides a useful indicator to the key chain performance areas of wear and fatigue.

# Oilfield industry - ANSI Xtra chain

## RENOLD ANSI XTRA...

**Xtra shock resistant pins**

**Xtra round components with solid roller/bushing**

**Xtra finish shot peening ball drifting**

**Xtra security interference fits**

**Xtra thick plates resists heavy loads**

Shock resistant

Fatigue resistant

High loads

## ...THE HEAVY DUTY CHAIN

### Product description

RENOLD ANSI XTRA chain incorporates the usual Renold performance enhancing features including solid bushings, ball drifted plate holes, shot peening and optimum interference fits. The extra features incorporated into this range of chain is classified by:

- Thicker side plates denoted by 'H'. These plates are approximately 20% thicker than standard ANSI chain
- Through hardened pins, denoted by 'V' (used commonly in our Coil Tubing Injector chain replacement kits)

### Product summary

**H Range** - Identical to standard ANSI chain with the exception of the overall width. Thicker plates give this chain excellent resistance to heavy loads and help absorb shock. Duplex and triplex chain must have sprockets with an increased transverse pitch of the teeth.

**V Range** - Identical dimensions to standard ANSI chain but with a higher breaking load and excellent resistance to shock loads.

**HV Range** - A combination of the 'H' and 'V' chain, giving excellent resistance to both heavy and shock loads.

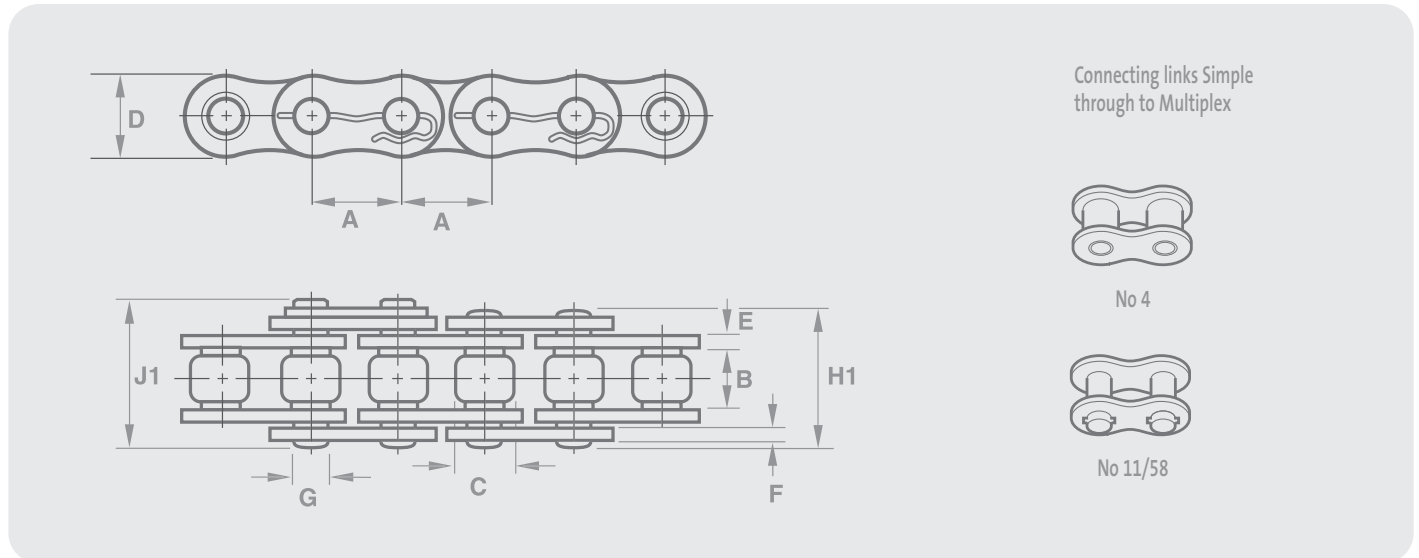
A further enhancement to the chain life can be achieved by hardening the sprocket teeth of the drive. 'H' and 'HV' chains are designed for improved fatigue life, therefore offset and slip fit joints which have a lower fatigue resistance are not recommended.

Shown below is an easy to use features guide to help in selecting chain to suit its application.

Chain Type	Strength	Wear	Heavy Loads	Shock Loads	High Speeds
Standard ANSI XTRA H Range XTRA V Range XTRA HV Range	Good Good Excellent Excellent	Excellent Excellent Good Good	Good Excellent Good Excellent	Good Good Excellent Excellent	Excellent Not Suitable Good Not Suitable

# Oilfield industry - ANSI Xtra chain

## Simplex & multiplex



### ANSI XTRA - simplex and multiplex

Chain Ref.		Technical Details (mm)											
Renold No. Min	ANSI No. Max	Pitch (inch) Max	Inside Width Max	Roller Diam Max	Plate Height Max	Inner Plate Thickness Max	Outer Plate Thickness Max	Pin Diam Nom	Pin Length Strength†	Conn Link Extension	Transverse Pitch	Average Tensile	Mass lb/ft
		A	B	C	D	E	F	G	H1	J	K	lb	
80HR	80H-1	1.00	0.62	0.63	0.95	0.16	0.16	0.31	1.46	0.21	-	21400	2.22
80H-2R	80H-2	1.00	0.62	0.63	0.95	0.16	0.16	0.31	2.70	0.21	1.28	42300	4.43
80H-3R	80H-3	1.00	0.62	0.63	0.95	0.16	0.16	0.31	3.99	0.21	1.28	63200	6.65
100HR	100H-1	1.25	0.74	0.75	1.18	0.19	0.19	0.38	1.74	0.24	-	32500	3.23
100H-2R	100H-2	1.25	0.74	0.75	1.18	0.19	0.19	0.38	3.28	0.24	1.54	64500	6.92
100H-3R	100H-3	1.25	0.74	0.75	1.18	0.19	0.19	0.38	4.81	0.24	1.54	96500	10.41
120HR	120H-1	1.50	0.99	0.88	1.41	0.22	0.22	0.44	2.07	0.26	-	43500	4.23
120H-2R	120H-2	1.50	0.99	0.88	1.41	0.22	0.22	0.44	4.13	0.26	1.92	72400	8.47
120H-3R	120H-3	1.50	0.99	0.88	1.41	0.22	0.22	0.44	6.22	0.26	1.92	109000	12.63
140HR	140H-1	1.75	0.99	1.00	1.65	0.25	0.25	0.50	2.28	0.29	-	56700	5.78
140H-2R	140H-2	1.75	0.99	1.00	1.65	0.25	0.25	0.50	4.21	0.29	2.06	94900	11.22
140H-3R	140H-3	1.75	0.99	1.00	1.65	0.25	0.25	0.50	6.31	0.29	2.06	143000	16.86
160HR	160H-1	2.00	1.24	1.13	1.88	0.28	0.28	0.56	2.70	0.31	-	72200	7.53
160H-2R	160H-2	2.00	1.24	1.13	1.88	0.28	0.28	0.56	5.13	0.31	2.44	143900	15.79
160H-3R	160H-3	2.00	1.24	1.13	1.88	0.25	0.25	0.56	7.20	0.31	2.44	215600	23.65
180HR	180H-1	2.25	1.40	1.41	2.11	0.32	0.32	0.69	2.91	0.36	-	82000	10.21
180H-2R	180H-2	2.25	1.40	1.41	2.11	0.32	0.32	0.69	5.54	0.36	2.59	161500	20.43
180H-3R	180H-3	2.25	1.40	1.41	2.11	0.32	0.32	0.69	8.11	0.36	2.59	243000	30.64
200HR	200H-1	2.50	1.49	1.56	2.34	0.38	0.38	0.78	3.40	0.40	-	126200	13.10
200H-2R	200H-2	2.50	1.49	1.56	2.34	0.38	0.38	0.78	6.48	0.40	3.08	207800	26.20
200H-3R	200H-3	2.50	1.49	1.56	2.34	0.38	0.38	0.78	9.57	0.40	3.08	320000	38.77
240HR	240H-1	3.00	1.86	1.88	2.81	0.52	0.52	0.94	4.21	0.41	-	198900	20.49

NB: Both Split and roll pin options are available on all sizes, although we would recommend roll pin on quadruplex and above. Before specifying / using offset links or other connecting links please consult Renold.  
 † Renold chain far exceeds the ISO 606 tensile strength requirement, but Renold do not consider that this figure provides a useful indicator to the key chain performance areas of wear and fatigue.



## Coiled Tubing Injector Chains

*Renold pre-packaged coiled tubing injector chain kits – Reduce costs, eliminate waste, save time.*

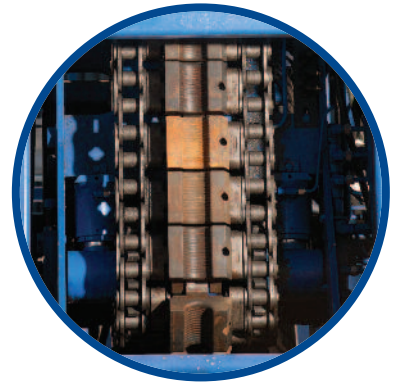
- *Designed for the forces and stresses of coil tubing injectors, reducing the risks of damage to CT string*
- *All chain components ready for use*
- *Through-hardened pins for longer working life*
- *Shepherd's Crook or split cotters available*
- *Solid bushings minimize bedding-in time for maximum wear life*
- *GP wide waist plate for superior strength and longer life*



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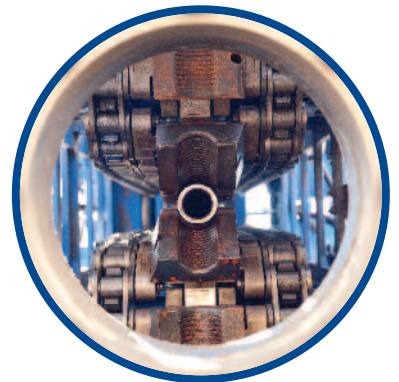
*Split leg cotter option available*



*Renold coiled tubing injector chain kits commonly used for retrofits and new drives*



*Count on Renold injector chain for uptime and reliable performance in the field.*



*View from the drill hole illustrates the importance of premium chain for premium performance*

**RENOLD  
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Advancing Chain Technology

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