

# HYTORC

The World's Most Trusted Industrial Bolting Systems



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## Offset Link Configuration Guide

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HYTORC®

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# ABOUT THIS DOCUMENT

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## ORIGINAL INSTRUCTIONS

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**This manual provides information for the HYTORC Offset Links as follows;**

**Models:** OFFSET LINKS OL, OFFSET LINK ZOL and OFFSET LINK ZOL-DS models for imperial and metric sizes.

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## TABLE OF CONTENTS

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1. Offset Link Description	1
2. Offset Link Types	3
3. Offset Link-Compatible Tools	7
4. Offset Link Dimensions	9
5. Offset Link Examples	11
Changelog	12

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1

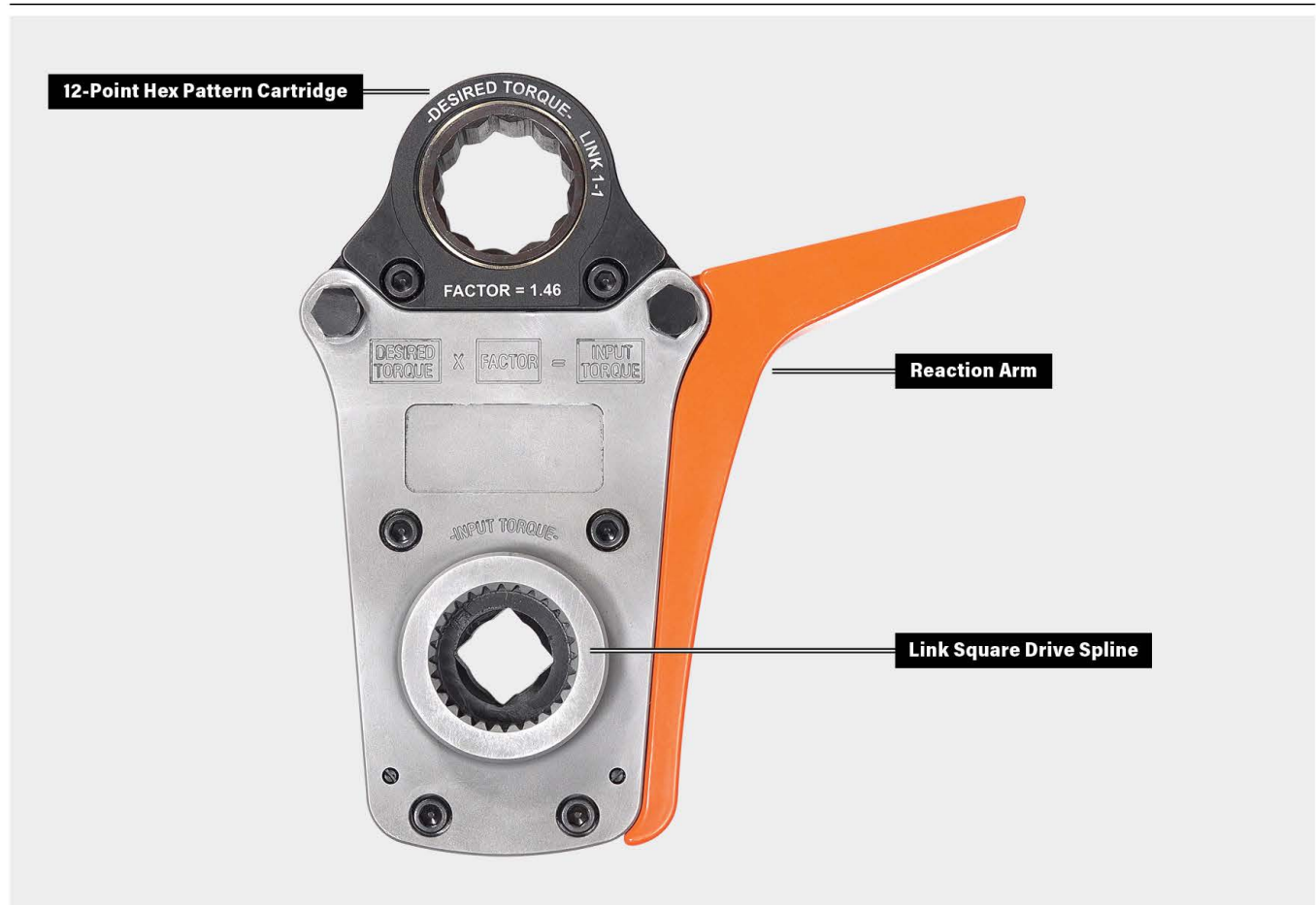


## 1. OFFSET LINK DESCRIPTION

The HYTORC Offset Link provides an extension for HYTORC square drive tools allowing operators to tighten bolts that are difficult or impossible to reach where there is limited overhead clearance or nearby obstructions. The Offset Links also work great where bolts protrude above the nut where standard sockets won't fit. The Offset Link provides interchangeable cartridges that allow the links to be quickly interchanged in the field to fit different size nuts. The HYTORC Offset Link delivers accurate torque from the square drive tool to the fastener to minimize operator error and improve safety.

- Offset links are available in three different model types:
  - OL – Standard Model with 12-point HEX pattern
  - ZOL – Washer Model with 12-point HEX pattern on one side and washer pattern on other
  - ZOL-DS – Double Washer Model with double washer pattern and internal 12-point HEX
- The Offset Link is designed to operate with modern HYTORC Hydraulic, Pneumatic and Electric Torque Tools with  $\frac{3}{4}$ " and 1" square drives
- The Offset Link housing is manufactured from lightweight aerospace aluminum alloy for high strength and increased corrosion resistance.
- The Offset Link cartridges are manufactured from tempered chrome-moly steel for unmatched toughness, wear resistance and increase fatigue strength.

### OFFSET LINK DIAGRAM



SEC.  
2





MODEL TYPES

OL TYPE - STANDARD MODEL



- Compatible with HYTORC Torque Tools with 3/4" or 1" square drives
- Cartridge with 12-Point hex pattern
- Includes reaction arm.

ZOL TYPE - WASHER MODEL



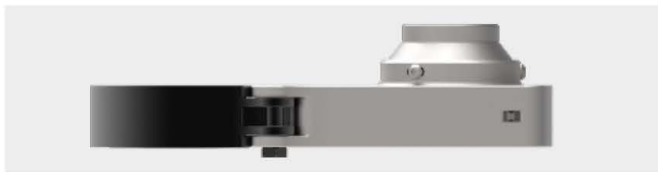
- Compatible with HYTORC Torque Tools with 3/4" or 1" square drives
- Cartridge with 12-Point hex and Washer pattern
- Does not require use of a reaction arm.

ZOL-DS TYPE - DOUBLE WASHER MODEL



- Compatible with HYTORC Torque Tools with 3/4" or 1" square drives
- Cartridge pattern with double washer pattern and internal 12-point hex
- Does not require use of a reaction arm.

LOL.25 TYPE - SPECIAL LION GUN MODEL



- Special Offset Link for HYTORC LION GUN .25 with 1/2" square drive
- Cartridge with 12-point hex pattern
- Includes reaction arm.

MODEL PART NUMBER

To fully identify the desired product, the model designation and appropriate options are specified in the part number according to the following scheme.

OFFSET LINK HOUSING



PART NUMBER	DESCRIPTION
LOL.25-A0100	LIONGUN-.25 Offset Link Housing
OL1-A0100	3/4" Drive Offset Link Housing (Not Compatible with AVANTI-.7)
OL3-A0100	1" Drive Offset Link Housing

## OFFSET LINK CARTRIDGE

MODEL DESIGNATION		DRIVE TYPE	BOLT CODE	HEX CODE	ASSEMBLY CODE	SIDE CODE
MODEL TYPE		DRIVE SIZE	OPTIONAL BOLT DIAMETER	FOR HEX SIZE AF	ASSEMBLY CODE	OPTIONAL DS
OL	Standard Hex Offset Link Cartridge	1 for 3/4" Drive and LIONGUN-.25	Nominal Bolt Diameter only used with ZOL models - Table 2.	Table 1	X = Assembled	DS - Double-sided only available with ZOL models
ZOL	HYTORC Washer Offset Link Cartridge	3 for 1" Drive				



To properly specify the offset link, the required HEX Code is necessary to complete the part designation code. The HEX code is available for both 3/4" and 1" Square drives, metric and imperial nuts. The HEX Code is the code that HYTORC uses to specify the width across flats (AF) of a nut that is the distance measured, perpendicular to the axis of the nut, overall, between two opposite sides of the nut.

TABLE 1 - HEX CODE

3/4" SQUARE DRIVE			
IMPERIAL		METRIC	
HEX SIZE ACROSS FLATS (AF) (IN.)	HEX CODE	HEX SIZE ACROSS FLATS (AF) (mm)	HEX CODE
9/16	009	17	17MM
5/8	010	24	24MM
11/16	011	27	27MM
3/4	012	30	30MM
13/16	013	32	32MM
7/8	014	34	34MM
15/16	015	36	36MM
1	100	41	41MM
1-1/8	102	46	46MM
1-1/4	104	50	50MM
1-5/16	105	55	55MM
1-3/8	106	60	60MM
1-7/16	107	65	65MM
1-1/2	108		
1-5/8	110		
1-11/16	111		
1-3/4	112		
1-13/16	113		
1-7/8	114		
2	200		
2-1/16	201		
2-3/16	203		
2-1/4	204		
2-3/8	206		
2-7/16	207		
2-1/4	208		
2-9/16	209		

1" SQUARE DRIVE			
IMPERIAL		METRIC	
HEX SIZE ACROSS FLATS (AF) (IN.)	HEX CODE	HEX SIZE ACROSS FLATS (AF) (mm)	HEX CODE
1-1/4	104	46	46MM
1-5/16	106	50	50MM
1-7/16	107	55	55MM
1-1/2	108	60	60MM
1-5/8	110	65	65MM
1-11/16	111	70	70MM
1-3/4	112	75	75MM
1-13/16	113	80	80MM
1-7/8	114	85	85MM
2	200		
2-1/16	201		
2-3/16	203		
2-1/4	204		
2-3/8	206		
2-7/16	207		
2-9/16	209		
2-5/8	210		
2-3/4	212		
2-13/16	213		
2-15/16	215		
3	300		
3-1/8	302		
3-1/4	304		
3-1/2	308		

The HYTORC Offset Links Z-DS model types require the identification of the BOLT CODE. HYTORC defines the BOLT CODE to indicate the nominal bolt size that is compatible with HYTORC Reaction washers. In some situation the same code is applied to both metric and imperial washers.

**TABLE 2 - BOLT CODE**

BOLT CODE - SPECIFIED FOR ZOL MODELS			
NOMINAL BOLT DIAMETER		BOLT CODE	REFERENCE REACTION WASHER COMPATIBILITY
IMPERIAL (in.)	METRIC (mm)		
1/2	-	008	ZRW-008 & ZRW-M14
-	M14		
9/16	-	009	ZRW-009 & ZRW-M16
-	M16		
5/8	-	010	ZRW-010 & ZRW-M18
-	M18		
-	M20	M20	ZRW-M20
3/4	-	012	ZRW012 & ZRW-M22
-	M22		
7/8	-	014	ZRW014 & ZRW-M24
-	M24		
1	-	100	ZRW100 & ZRW-M27
-	M27		
1-1/8	M30	102	ZRW102-M30
1-1/4	M33	104	ZRW104-M33
1-3/8	M36	106	ZRW106-M36
1-1/2	M39	108	ZRW108-M39
1-5/8	M42	110	ZRW110-M42
1-3/4	M45	112	ZRW112-M45
1-7/8	M48	114	ZRW114-M48
2	M52	200	ZRW200-M52
2-1/4	M56	204	ZRW204-M56
2-1/2	M64	208	ZRW208-M64
2-3/4	M72	212	ZRW212-M72
3	-	300	ZRW-300 & ZRW-M80
-	M80		

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# 3



### 3. OFFSET LINK-COMPATIBLE TOOLS

#### HYDRAULIC TORQUE WRENCHES



ICE® Hydraulic Torque Wrench



AVANTI® Hydraulic Torque Wrench



MXT+™ Hydraulic Torque Wrench

#### PNEUMATIC TORQUE TOOLS



jGun® DIGITAL Single Speed Pneumatic Torque Tool



jGun® DUAL SPEED Pneumatic Torque Tool

#### ELECTRIC TORQUE TOOLS



LITHIUM SERIES® II Electric Torque Tool

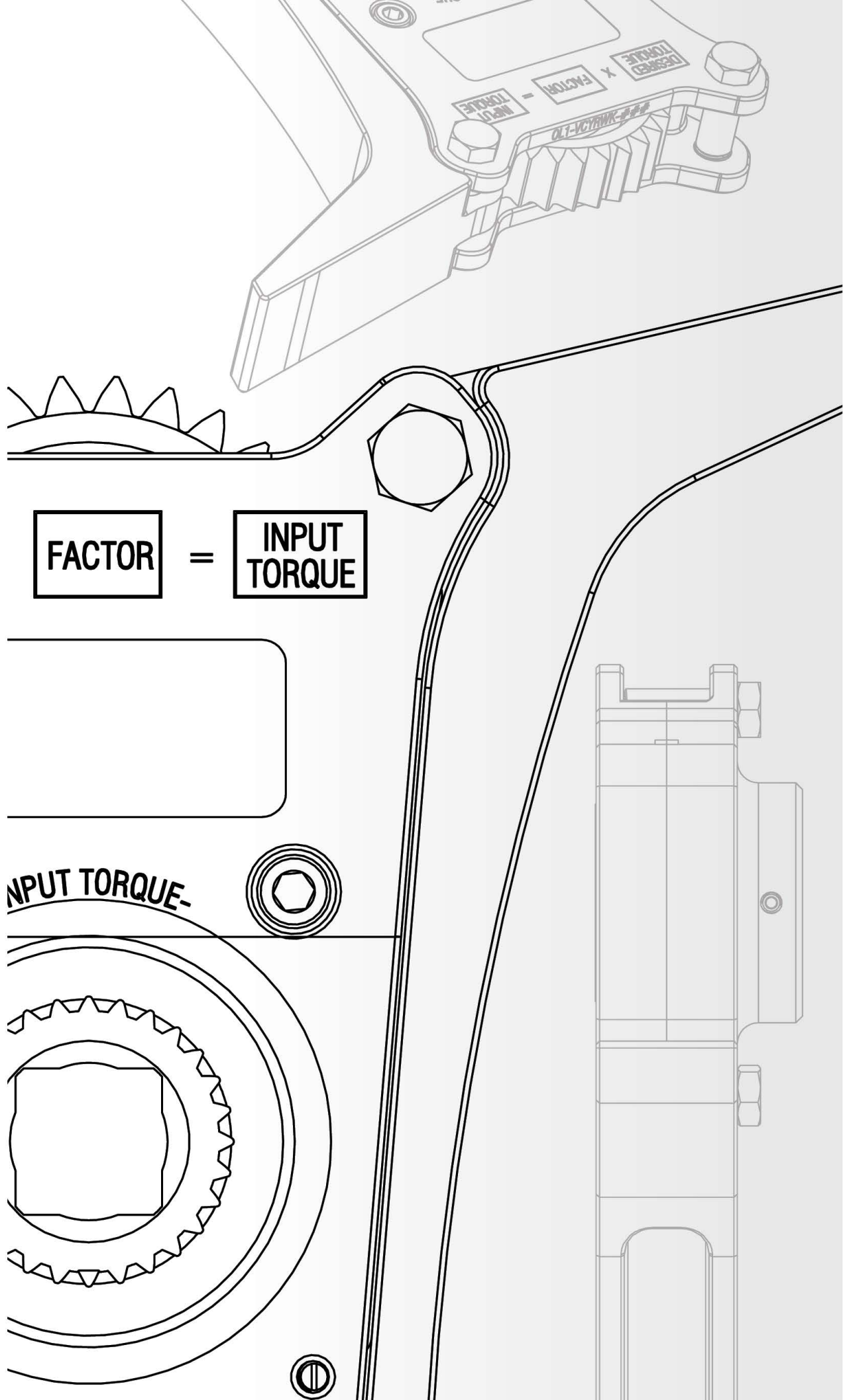


LITHIUM SERIES® Electric Torque Tool



LION GUN® Electric Torque Tool

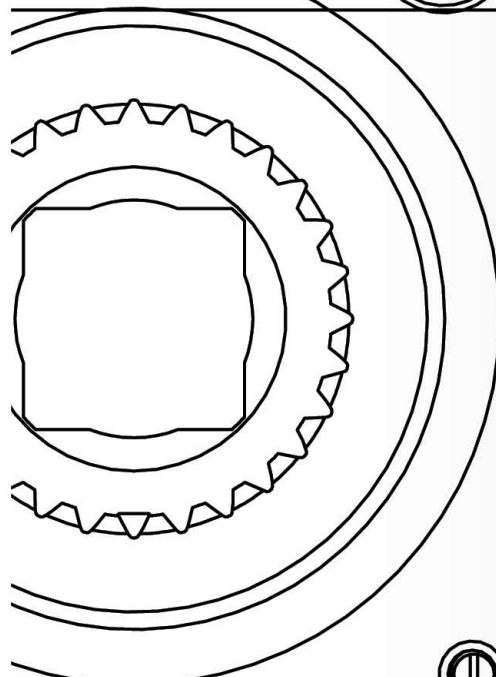
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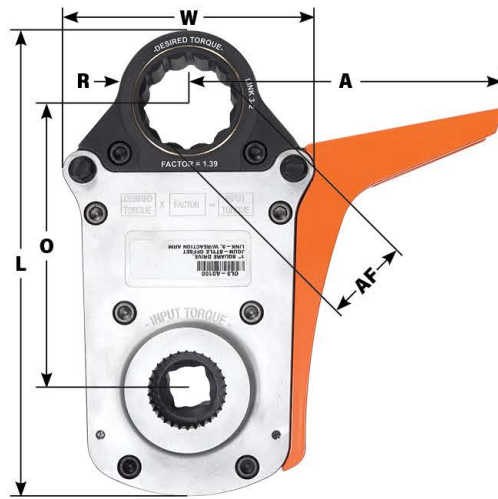
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INPUT TORQUE-



## 4. OFFSET LINK DIMENSIONS



Model body and cartridges reference dimensions are arranged by HEX code sizes for both the Offset Link 1 for 3/4" Square drive and Offset Link 3 for 1" Square Drives.

**LEGEND:** A = ARM (ST MODEL ONLY) AF = HEX SIZE ACROSS FLATS H = HEIGHT O = OFFSET (CENTER TO CENTER) R = RADIUS W = WIDTH

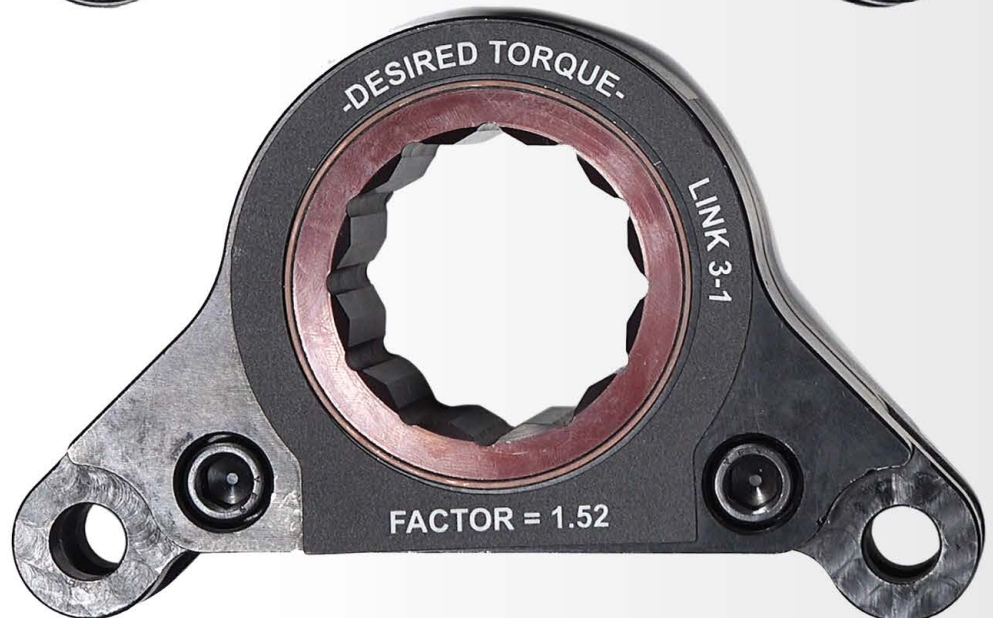
### OFFSET LINK 1 - 3/4" SQUARE DRIVE

OFFSET LINK 1 CARTRIDGE ASSEMBLY					OUTLINE DIMENSIONS													
SQUARE DRIVE	HEX SIZE CODE				FACTOR	OFFSET	RADIUS		LENGTH		WIDTH		HEIGHT					
	IMPERIAL		METRIC				in.	mm	in.	mm	in.	mm	OL		ZOL		ZOL-DS	
	FROM	TO	FROM	TO									in.	mm	in.	mm	in.	mm
1	009	104	17MM	32MM	1.46	4.86	1.17	30	8.07	205	4.22	107	1.25	32	1.43	36	-	-
2	105	107	32MM	36MM	1.30	4.99	1.27	32	8.30	211	4.22	107	1.25	32	1.43	36	-	-
3	108	110	-	41MM	1.20	5.07	1.36	35	8.47	215	4.22	107	1.25	32	1.43	36	-	-
4	111	113	-	46MM	1.12	5.16	1.47	37	8.67	220	4.22	107	1.25	32	1.45	37	-	-
5	114	200	-	50MM	1.05	5.28	1.60	41	8.92	227	4.22	107	1.25	32	1.45	37	-	-
6	201	203	-	55MM	0.99	5.45	1.76	45	9.25	235	4.22	107	1.25	32	1.45	37	-	-
8	204	206	-	60MM	0.90	5.57	1.87	48	9.48	241	4.22	107	1.25	32	1.45	37	-	-
9	207	209	-	65MM	0.86	5.67	1.96	50	9.67	246	4.22	107	1.25	32	1.52	39	-	-

### OFFSET LINK 3 - 1" SQUARE DRIVE

OFFSET LINK 1 CARTRIDGE ASSEMBLY					OUTLINE DIMENSIONS													
SQUARE DRIVE	HEX SIZE CODE				FACTOR	OFFSET	RADIUS		LENGTH		WIDTH		HEIGHT					
	IMPERIAL		METRIC				in.	mm	in.	mm	in.	mm	OL		ZOL		ZOL-DS	
	FROM	TO	FROM	TO									in.	mm	in.	mm	in.	mm
LRI.56	-	112	-	-	1.62	7.23	1.65	42	11.63	295	6.50	165	1.67	42	-	-	-	-
1	104	200	32MM	50MM	1.52	7.37	1.77	45	11.89	302	6.50	165	1.67	42	1.87	47	2.04	52
2	201	203	-	55MM	1.39	7.42	1.84	47	12.01	305	6.50	165	1.67	42	1.87	47	2.04	52
3	204	206	-	60MM	1.33	7.48	1.90	48	12.13	308	6.50	165	1.67	42	1.87	47	2.07	53
4	207	209	-	65MM	1.22	7.67	2.09	53	12.51	318	6.50	165	1.67	42	1.94	49	2.21	56
5	210	212	-	70MM	1.15	7.73	2.20	56	12.68	322	6.50	165	1.67	42	1.94	49	2.21	56
6	213	215	-	75MM	1.10	7.86	2.27	58	12.88	327	6.50	165	1.67	42	1.95	50	2.23	57
7	300	302	-	80MM	1.06	7.92	2.33	59	13.00	330	6.50	165	1.67	42	1.95	50	2.23	57
9	-	304	-	85MM	0.97	8.17	2.58	66	13.50	343	6.50	165	1.67	42	2.21	56	-	-
10	-	308	-	-	0.93	8.36	2.88	73	13.99	355	6.82	173	1.67	42	2.21	56	-	-




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5





## 5. OFFSET LINK EXAMPLES

HYTORC Offset Links can be configured with different cartridges and reaction arm to fit or bolting applications. Following the part designation and tables provided, correct configuration of the HYTORC Offset Link is necessary when ordering the product with our Customer Services.

EXAMPLE	DESCRIPTION	DESCRIPTION
<b>OL1 - 012X</b>	Model OL (Standard Hex Offset Link), Drive Code 1 (3/4" Drive), (Omit Bolt Code), Hex Code 012 (3/4" AF), Assembly Code X (Assembled)	
<b>OL3 - 46MMX</b>	Model OL (Standard Hex Offset Link), Drive Code 3 (1" Drive), (Omit Bolt Code), Hex Code 46MM (45 mm AF), Assembly Code X (Assembled)	
<b>ZOL1 - 012 - 104X</b>	Model ZOL (HYTORC Washer Offset Link), Drive Code 1 (3/4" Drive), Bolt Code 012 (3/4" Bolt Diameter), HEX Code 104 ( 1-1/4" AF HEX), Assembly Code X (Assembled)	
<b>ZOL3 - 114 - 75MMX- DS</b>	Model ZOL, (HYTORC Washer Offset Link), Drive Code 3 (1" Drive), Bolt Code 114 (1-7/8"/M48 Bolt Diameter), Hex Code 75MM (75 MM AF) , Assembly Code X (Assembled), Side Code DS (Double Sided)	
<b>LOL.25-A0100</b>	Special Code for LIONGUN-.25	

**May, 2021** - First edition.

**September, 2021** - Offset Link Housing and cartridge Information added to pages 3-4, chart on page 10 updated, photos updated, and pages rearranged.

**December, 2021** - Offset Link Model Type name updated from "SZ Type" to "LOL.25 Type".



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