

# RULAND

Carefully Made Products Since 1937



**JAWFLEX™ COUPLINGS**

# Introduction

Ruland Manufacturing Co., Inc. has been supplying carefully made products since 1937. We have manufactured everything from bicycle pumps to high pressure valves, including the valve that pressurized the spacesuit of the first American to walk in space. In recent years, all of our expertise has been devoted to making the best shaft collars and couplings available. Jawflex™ zero backlash jaw couplings are a new addition to our expanding line of motion control coupling products.

Jawflex™ zero backlash jaw couplings are three piece couplings comprised of two hubs and an elastic element. The spider, made of an advanced polyurethane material, provides dampening of impulse loads, minimizing shock to the motor and other sensitive equipment. Available in two durometers, these spiders allow the user to customize the jaw coupling's performance. Selecting a soft spider will give the Jawflex™ the greatest dampening characteristics, while a hard spider will provide the greatest torsional stiffness and strength. All spiders are press fit onto a curved jaw profile, assuring zero backlash operation. The curved jaw profile concentrates the forces to the center of the spider's limbs, improving the effectiveness of the elastomer material. Raised contact points on the spider limbs help maintain proper spacing between the two hubs, assuring electrical isolation and full angular misalignment capabilities. Jaw couplings are considered fail safe because, even if a spider fails, the jaws of the two hubs interlock allowing direct power transmission, allowing the application to be safely shut down for maintenance.



## WARRANTY / DISCLAIMER OF UNSTATED WARRANTIES / LIMITATION OF LIABILITY

**Warranty.** Ruland warrants that the products sold hereunder meet Ruland's size and materials specifications as set forth in this catalog. Products not meeting Ruland's size and material specifications will, at Ruland's option, be replaced or the purchase price refunded.

**Disclaimer of unstated warranties.** THE WARRANTY PRINTED ABOVE IS THE ONLY WARRANTY APPLICABLE TO THESE PRODUCTS. ALL OTHER WARRANTIES, EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE ARE DISCLAIMED. It is the responsibility of the user to determine the suitability of Ruland products for a specific application. No person, including employees of Ruland or agents in the company's channels of distribution is authorized to represent on Ruland's behalf, the suitability of Ruland products for a specific purpose.

**Limitation of Liability.** IT IS UNDERSTOOD AND AGREED THAT SELLER'S LIABILITY SHALL NOT EXCEED THE AMOUNT OF THE PURCHASE PRICE. SELLER SHALL NOT BE LIABLE FOR SPECIAL, INDIRECT OR CONSEQUENTIAL DAMAGES. THE PRICE STATED FOR THE PRODUCT IS A CONSIDERATION IN LIMITING RULAND'S LIABILITY.

## HUBS

PART NUMBER		BORE (in)	OD (in)	HUB LENGTH L <sub>H</sub> (in)	COUPLING LENGTH L (in)	SHAFT PENETRATION (in)	CLAMP SCREW	SET SCREW
CLAMP STYLE	SET SCREW							
JC10-2-A	JS10-2-A	.1250	0.590	0.300	0.900	0.300	#1-72	#4-40
JC10-3-A	JS10-3-A	.1875						
JC10-4-A	JS10-4-A	.2500						
JC12-3-A	JS12-3-A	.1875	0.750	0.385	1.100	0.385	#2-56	#6-32
JC12-4-A	JS12-4-A	.2500						
JC12-5-A	JS12-5-A	.3125						
JC16-4-A	JS16-4-A	.2500	1.000	0.467	1.250	0.467	#4-40	#8-32
JC16-5-A	JS16-5-A	.3125						
JC16-6-A	JS16-6-A	.3750						
JC16-8-A	JS16-8-A	.5000						
JC21-5-A	JS21-5-A	.3125	1.313	0.590	1.875	0.590	#6-32	#8-32
JC21-6-A	JS21-6-A	.3750						
JC21-8-A	JS21-8-A	.5000						
JC21-10-A	JS21-10-A	.6250						
JC26-6-A	JS26-6-A	.3750	1.625	0.710	2.000	0.710	#8-32	#10-32
JC26-8-A	JS26-8-A	.5000						
JC26-10-A	JS26-10-A	.6250						
JC26-12-A	JS26-12-A	.7500						
JC32-8-A	JS32-8-A	.5000	2.000	0.820	2.400	0.820	#10-32	1/4-20
JC32-10-A	JS32-10-A	.6250						
JC32-12-A	JS32-12-A	.7500						
JC32-14-A	JS32-14-A	.8750						
JC32-16-A	JS32-16-A	1.000						
JC36-8-A	JS36-8-A	.5000	2.250	1.130	3.150	1.130	1/4-28	5/16-18
JC36-10-A	JS36-10-A	.6250						
JC36-12-A	JS36-12-A	.7500						
JC36-14-A	JS36-14-A	.8750						
JC36-16-A	JS36-16-A	1.000						
JC36-18-A	JS36-18-A	1.125						

## SPIDERS

PART NUMBER	OD		DUROMETER	TORSIONAL STIFFNESS		NOMINAL TORQUE	NOMINAL TORQUE	PEAK TORQUE	PEAK TORQUE	MISALIGNMENT			AXIAL MOTION	
	(in)	(mm)		(deg/lb-in)	(deg/Nm)	(lb-in)	(Nm)	(lb-in)	(Nm)	ANGULAR (deg)	PARALLEL (in)	(mm)	(in)	(mm)
JD10/15-98R	0.590	15.0	98 Shore A	.121	1.068	8	0.9	16	1.8	0.8	0.002	0.05	0.020	0.51
JD12/19-98R	0.750	19.1	98 Shore A	.114	1.007	15	1.7	30	3.4	0.8	0.003	0.08	0.020	0.51
JD16/25-98R	1.000	25.4	98 Shore A	.024	0.212	75	8.5	150	17.0	0.8	0.003	0.08	0.030	0.76
JD21/33-98R	1.313	33.3	98 Shore A	.012	0.106	87	9.9	174	19.7	0.8	0.003	0.08	0.030	0.76
JD26/41-98R	1.625	41.3	98 Shore A	.006	0.053	165	18.7	330	37.4	0.8	0.004	0.10	0.050	1.27
JD32/51-98R	2.000	50.8	98 Shore A	.004	0.035	275	31.2	550	62.3	0.8	0.005	0.13	0.050	1.27
JD36/57-98R	2.250	57.2	98 Shore A	.003	0.026	410	46.5	820	92.9	0.8	0.004	0.10	0.050	1.27
JD10/15-92Y	0.590	15.0	92 Shore A	.270	2.384	5	0.6	10	1.1	0.9	0.004	0.10	0.020	0.51
JD12/19-92Y	0.750	19.1	92 Shore A	.257	2.269	9	1.0	18	2.0	0.9	0.004	0.10	0.020	0.51
JD16/25-92Y	1.000	25.4	92 Shore A	.067	0.592	29	3.3	58	6.6	0.9	0.005	0.13	0.030	0.76
JD21/33-92Y	1.313	33.3	92 Shore A	.045	0.397	35	4.0	70	7.9	0.9	0.005	0.13	0.030	0.76
JD26/41-92Y	1.625	41.3	92 Shore A	.012	0.106	97	11.0	194	22.0	0.9	0.006	0.15	0.050	1.27
JD32/51-92Y	2.000	50.8	92 Shore A	.005	0.044	220	24.9	440	49.8	0.9	0.006	0.15	0.050	1.27
JD36/57-92Y	2.250	57.2	92 Shore A	.004	0.035	285	32.3	570	64.6	0.9	0.005	0.13	0.050	1.27

**Note 1** Hardware is alloy steel with black oxide finish. Parts JS10, JS12, MJS15 and MJS19 have one set screw on each end. JS16, JS21, JS26, MJS25, MJS33 and MJS41 have two set screws 90° apart.

**Note 2** Performance ratings are for guidance only. The user must determine suitability for a particular application.

## HUBS

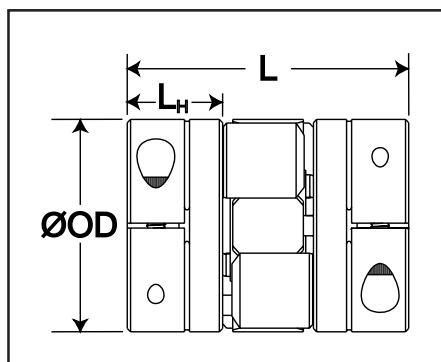
PART NUMBER			OD (mm)	HUB LENGTH $L_H$ (mm)	COUPLING LENGTH L (mm)	SHAFT PENETRATION (mm)	CLAMP SCREW	SET SCREW
CLAMP STYLE	SET SCREW	BORE (mm)						
MJC15-3-A	MJS15-3-A	3	15.0	7.6	22.9	7.6	M2	M3
MJC15-4-A	MJS15-4-A	4						
MJC15-5-A	MJS15-5-A	5						
MJC15-6-A	MJS15-6-A	6						
MJC19-4-A	MJS19-4-A	4	19.1	9.8	27.9	9.8	M2.5	M3
MJC19-5-A	MJS19-5-A	5						
MJC19-6-A	MJS19-6-A	6						
MJC19-8-A	MJS19-8-A	8						
MJC25-6-A	MJS25-6-A	6	25.4	11.9	31.8	11.9	M3	M4
MJC25-8-A	MJS25-8-A	8						
MJC25-10-A	MJS25-10-A	10						
MJC25-12-A	MJS25-12-A	12						
MJC33-8-A	MJS33-8-A	8	33.3	15.0	47.6	15.0	M3	M4
MJC33-10-A	MJS33-10-A	10						
MJC33-12-A	MJS33-12-A	12						
MJC33-14-A	MJS33-14-A	14						
MJC33-15-A	MJS33-15-A	15						
MJC33-16-A	MJS33-16-A	16						
MJC41-10-A	MJS41-10-A	10	41.3	18.0	50.8	18.0	M4	M5
MJC41-12-A	MJS41-12-A	12						
MJC41-14-A	MJS41-14-A	14						
MJC41-15-A	MJS41-15-A	15						
MJC41-16-A	MJS41-16-A	16						
MJC41-20-A	MJS41-20-A	20						
MJC51-12-A	MJS51-12-A	12	50.8	20.8	61.0	20.8	M5	M6
MJC51-14-A	MJS51-14-A	14						
MJC51-15-A	MJS51-15-A	15						
MJC51-16-A	MJS51-16-A	16						
MJC51-20-A	MJS51-20-A	20						
MJC51-25-A	MJS51-25-A	25						
MJC57-14-A	MJS57-14-A	14	57.2	28.7	80.0	28.7	M6	M8
MJC57-15-A	MJS57-15-A	15						
MJC57-16-A	MJS57-16-A	16						
MJC57-20-A	MJS57-20-A	20						
MJC57-25-A	MJS57-25-A	25						
MJC57-30-A	MJS57-30-A	30						



### ORDERING INFORMATION

**For a complete coupling, order two hubs and one spider.**

For example: order JC16-4-A, JC16-6-A, and JD16/25-98R to form a complete coupling with a 1" OD, .250" and .375" bores and a 98 Shore A durometer spider.



**For engineering information, see page 5.**  
**For warranty information, see page 2.**

### **RULAND Manufacturing Co., Inc.**

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# Technical Information

## Materials

Spiders: Polyurethane  
Hubs: 2024 T351 or 7075 T651 Extruded and Drawn Aluminum Bar

## Surface Finish

Hubs: Bright Finish

## Hardware

Socket Head Cap Screws: Alloy steel, heat treated. Meet or exceed ASA specification B18.3. Metric hardware meets or exceeds ASA specifications B18.3.1M and ASTM A574M property class 12.9

Forged Socket Set Screws: Alloy steel, heat treated, cup point. Meet or exceed ASA specification B18.3

## Temperature Range

-10° F to 180° F

## Maximum Speed

8,000 rpm

## Hardware Torque Charts

### TORQUE RATINGS—CLAMP SCREW

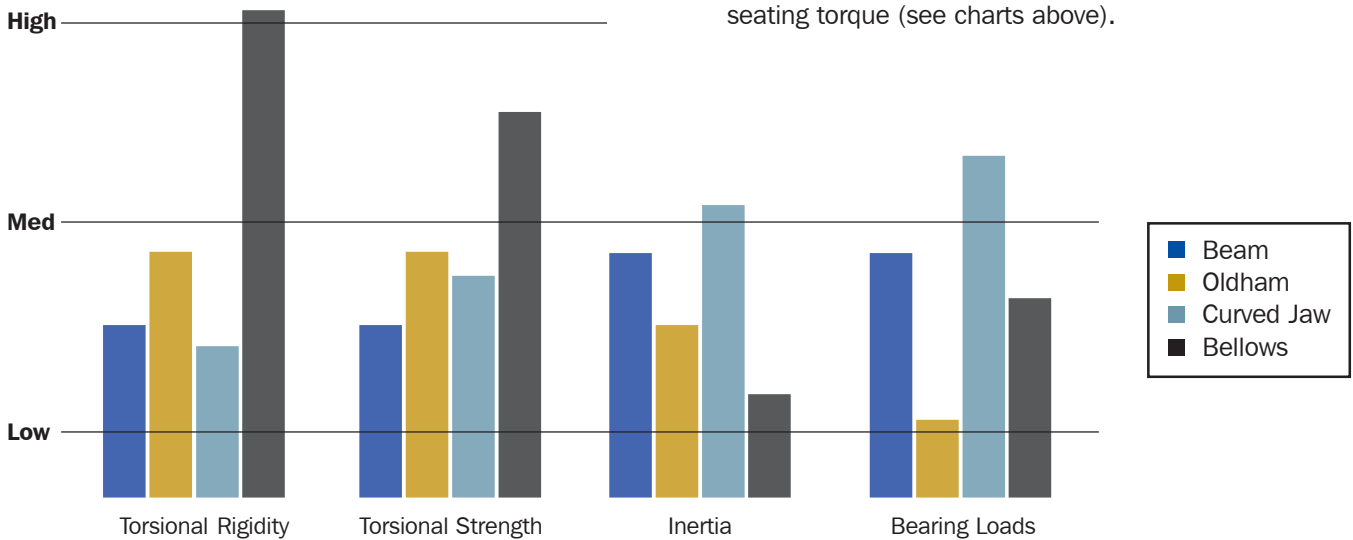
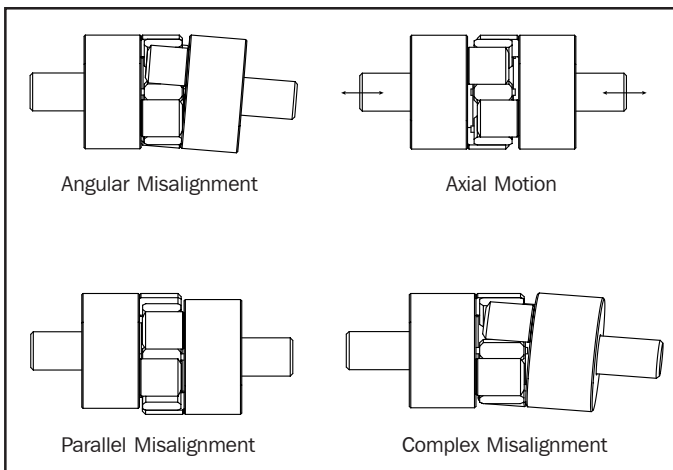
INCH Clamp Screw	Seating Torque (lb-in)		METRIC Clamp Screw	Seating Torque (Nm)	
	ALLOY	STAINLESS STEEL		ALLOY	STAINLESS STEEL
#1-72	4.3	2.3	M2	0.60	0.36
#2-56	6	3.8	M2.5	1.21	0.73
#4-40	15	8	M3	2.10	1.10
#6-32	28	15	M4	4.60	2.50
#8-32	49	28	M5	9.50	5.40
#10-32	76	45	M6	16.00	9.60
1/4-28	170	110			

### TORQUE RATINGS—SET SCREW

INCH Set Screw	Seating Torque (lb-in)		METRIC Set Screw	Seating Torque (Nm)	
	ALLOY	STAINLESS STEEL		ALLOY	STAINLESS STEEL
#4-40	5	3	M3	0.92	0.73
#6-32	10	6	M4	2.20	1.76
#8-32	15	12	M5	4.00	3.20
#10-32	25	18	M6	7.20	5.76
1/4-20	87	70	M8	17.00	13.60

## Installation Instructions

1. Assure that the misalignment between shafts is within the coupling's ratings.
2. Slide a hub onto each shaft to be joined with the drive tenons facing each other.
3. Fully tighten the screw(s) on the first hub to the recommended seating torque (see charts above).
4. Insert a spider into the jaws of one hub until the raised points contact the base of the hub.
5. Insert the jaws of the second hub into the spider openings until the raised points contact the base of the second hub. Some force will be required to insert the second hub. This is normal.
6. Assure that a gap is maintained between the two hubs so there is no metal to metal contact. Fully tighten the screw(s) on the second hub to the recommended seating torque (see charts above).





# Available from **RULAND**

We are committed to have the largest variety of sizes and styles in the industry. In addition to the items listed below, we can manufacture an extensive variety of special designs. Please contact us with your custom needs.

## OLDHAM COUPLINGS

Paradrive™  
oldham  
coupling.  
Clamp and  
set screw  
styles.



## BELLOWS COUPLINGS

Belflex™  
bellows  
coupling.  
Clamp and  
set screw  
styles.



## BEAM COUPLINGS

Flexbeam™  
flexible  
coupling.  
Clamp and  
set screw  
styles.



## JAW COUPLINGS

Jawflex™  
jaw coupling.  
Clamp and  
set screw  
styles.



## CLAMPING DEVICES

Hublok™  
clamping  
device.  
Single and  
dual taper  
styles.



## SHAFT COLLARS

Nomar®  
shaft collar.  
One- and  
two-piece  
styles.



## DISC COUPLINGS

Discflex™  
disc coupling.  
Clamp and  
set screw  
styles.



## RIGID COUPLINGS

Nomar®  
rigid  
coupling.  
One- and  
two-piece  
styles.



Est. 1937

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