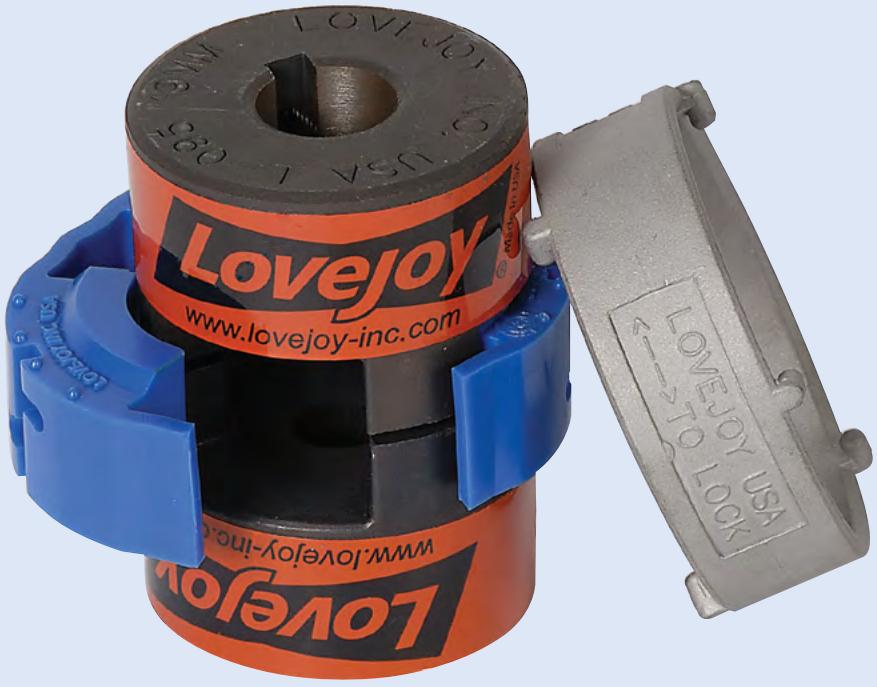
Jaw In-Shear

In This Section:

- Jaw In-Shear 6 Pin
- Jaw In-Shear 6 Pin Spacer

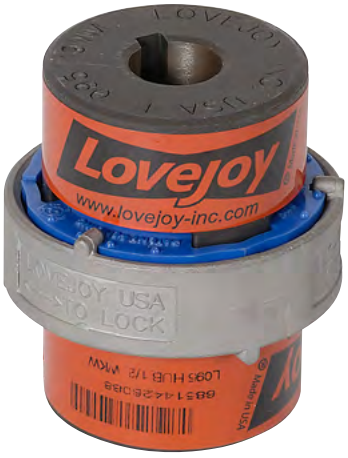


Jaw In-Shear (JIS) 6 Pin Saves Time, Maintenance, and Inventory Costs

- Created through Lovejoy's commitment to continual product improvement
- Unique 6 pin locking system
- Utilizes the standard Lovejoy L and C Type hub design
- The spider is radially removable, so neither hub needs to be removed from their shaft and no tools are needed

Choose from 16 Jaw In-Shear 6 Pin Sizes and New Spacer design

- Available in bore sizes up to 9 inches
- Spacer version designed as a non-lubricates drop-in replacement for a grid spacer coupling
- The JIS 6 Pin spacer coupling is available in sizes LS090-CS350
- Spacer sizes cover BSE (between shaft end measurement) of 3.5, 5, 7, and 9 inches, depending on coupling size



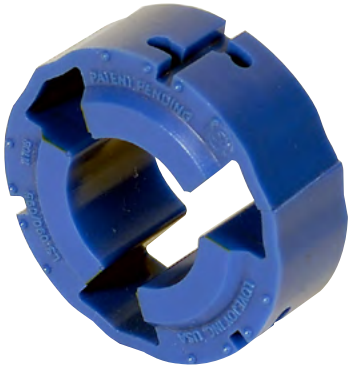
Jaw In-Shear 6 Pin Assembled

Jaw In-Shear 6 Pin Stainless Steel Option

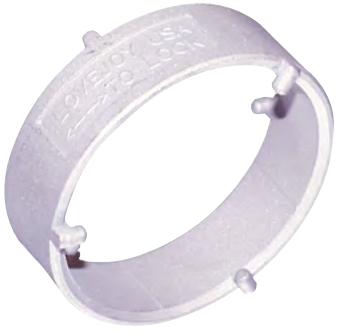
For highly corrosive, heavy washdown environments, the JIS 6 Pin design combined with Lovejoy's stainless steel jaw hubs creates a totally stainless steel coupling.

Features

- 2° angular misalignment capability
- .030 -.094 of an inch parallel misalignment capability
- Torsional wind-up of 5° at full load
- 50D shore Urethane material – maximum temperature of 200° F (93° C)
- The retaining ring is made from #347 cast stainless steel
- Stainless steel hubs are available for sizes SS075-SS150 from stock. All other stainless steel hub sizes are available as made to order
- Can be used with AL Type aluminum jaw coupling hubs for AL090/095, AL099, 100 and AL110
- The Original JIS locking ring is interchangeable with the new JIS 6 Pin elastomer



Jaw In-Shear 6 Pin Element
50D Shore Urethane Material



Jaw In-Shear 6 Pin Ring
Stainless Steel

WARNING

You must refer to page JIS-2 (Page 42) for Important Safety Instructions and Precautions for the selection and use of these products. Failure to follow the instructions and precautions can result in severe injury or death.

Jaw In-Shear Coupling Selection Process

The selection process for determining the proper Jaw In-Shear coupling size requires using the charts shown in this section. There are four components to be selected, two hubs, one elastomer spider, and one ring.

Information necessary before a coupling can be selected:

- HP (or KW) and RPM or Torque of Driver
- Shaft sizes of Driver and Driven equipment and
- Corresponding keyways
- Application description, including operation details
- Environmental conditions (temperature, space limitations, or corrosive/chemicals)

List of Charts provided for Selection:

- Chart 1 – Application Service Factor K1 (page JIS-5)
- Chart 2 – Service Factor for Operational Period K2 (page JIS-5)
- Chart 3 – Service Factor for Starts per Hour K3 (page JIS-5)
- Jaw In-Shear Torque Rating Data (page JIS-6)

Steps In Selecting A Jaw In-Shear Coupling

Step 1: Determine the Nominal/Torque (Tkn) of your application:

$$\text{in-lbs} = \text{Tkn} = \frac{\text{HP} \times 63025}{\text{RPM}}$$

$$\text{Nm} = \text{Tkn} = \frac{\text{KW} \times 9550}{\text{RPM}}$$

Step 2: Calculate your Application Service Factor using charts on this page. The total Service Factor (K) will be:

$$K = K1 \times K2 \times K3$$

Step 3: Calculate the Design Torque (Tkmax) of your application. Design Torque = Nominal Torque x Service Factor:

$$Tkmax = Tkn \times K$$

Step 4: Use the Jaw In-Shear Torque Rating table on page JIS-6. Scan down this chart to the first entry where both the Tkn and Tkmax torque values for the coupling size are greater than your application. Once this coupling size is determined, ensure that your application does not exceed the maximum RPM or maximum Bore Size for that hub.

Step 5: Once the coupling size, maximum RPM and maximum Bore has been verified, refer to pages JIS-7 and JIS-8 for dimensional data.

Application Service Factor (K1) — *Chart 1*

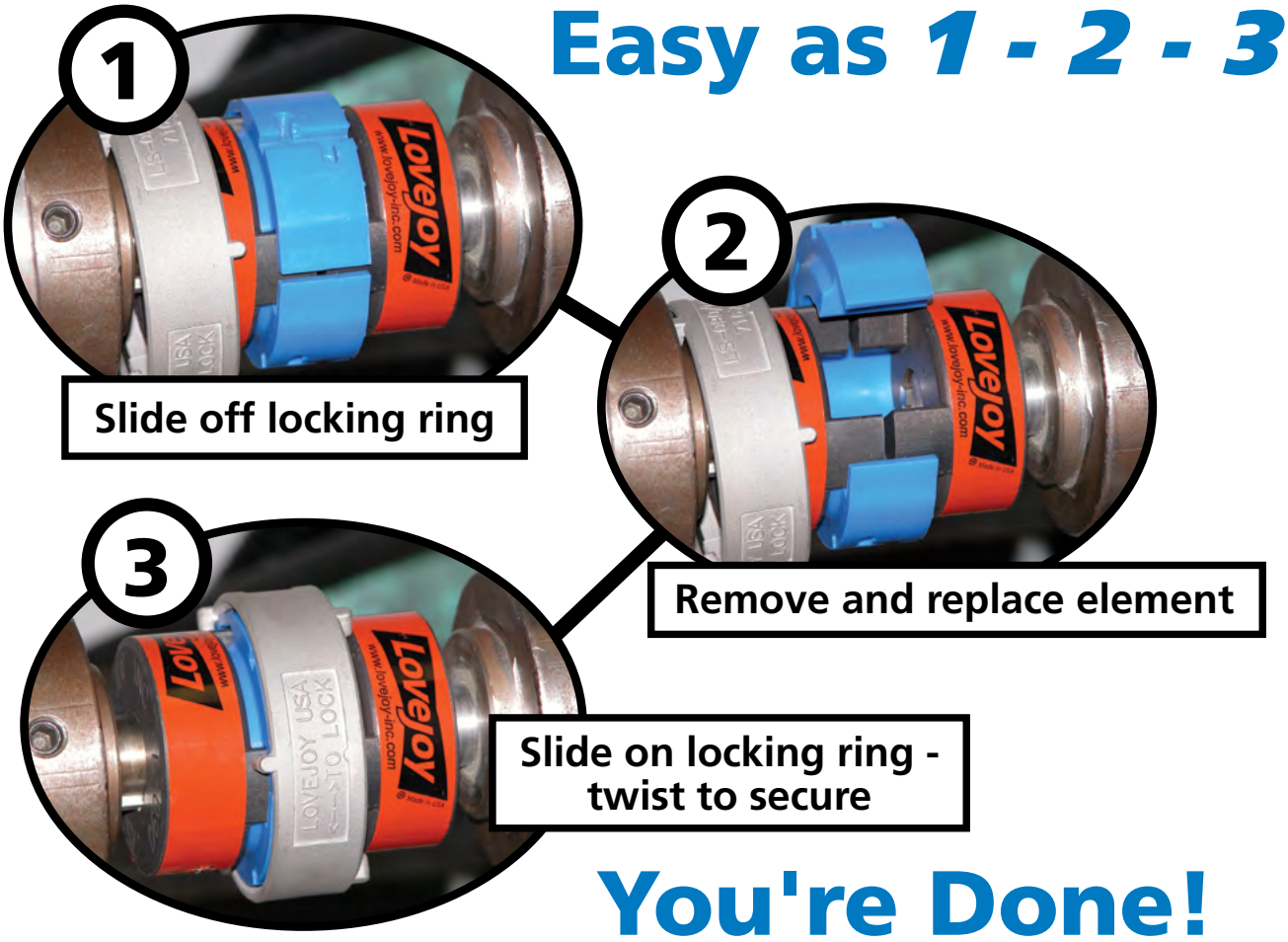
Driven Machine Examples	Prime Mover Electric Motor	
	Standard Torque	High Torque
(a) Uniform operation, with small masses to be accelerated. Hydraulic and centrifugal pumps, light generators, blowers, fans, ventilators, belt/screw conveyors	1.0	1.4
(b) Uniform operation, with medium masses to be accelerated. Sheet metal bending machines, wood working machines, mills, textile machines, mixers	1.4	1.8
(c) Medium masses to be accelerated & irregular operation. Rotating ovens, printing presses, generators, shredders, winders, spinning machines, pumps for viscous fluids	1.7	2.0
(d) Medium masses to be accelerated, irregular operation & shocks. Concrete mixers, drop hammers, cable cars, paper mills, compression pumps, propeller pumps, rope winders, centrifuges	2.0	2.2
(e) Large masses to be accelerated, irregular operation & heavy shocks. Excavators, hammer mills, piston pumps, presses, rotary boring machines, shears, forge presses, stamping presses	2.2	2.4
(f) Very large masses to be accelerated, irregular operation & heavy shocks. Piston type compressors and pumps without speed variations, heavy roll sets, welding machines, brick presses, stone crushers	2.3	2.8

Service Factor for Operation Period (K2) — *Chart 2*

Uninterrupted Time of Operation	Factor
Up to 8 hours per day	1.00
More than 8 hours, up to 16 hours/day	1.10
More than 16, up to 24 hours/day	1.15

Service Factor for Starts per Hour (K3) — *Chart 3*

	Operation, Per Table K1:	
	a-c	d-f
Up to 10 starts/stops per hour	1.0	1.0
More than 10, up to 40 per hour	1.4	1.5
More than 40, up to 125 per hour	1.8	2.0
More than 125, up to 250 per hour	2.2	2.5



Jaw In-Shear Torque Rating Data

Size	Max Bore		Nominal Torque		Max Torque		Weight	Max Speed
	in	mm	in-lbs	Nm	in-lbs	Nm	lbs	RPM
LS090	1.000	25	335	38	670	76	1.50	9,200
LS095	1.125	28	335	38	670	76	1.50	9,200
LS099	1.188	30	560	63	1,110	125	2.60	7,700
LS100	1.375	35	560	63	1,110	125	2.90	7,700
LS110	1.625	42	1,090	123	2,180	246	5.90	5,900
LS150	1.875	48	1,810	205	3,620	409	8.60	5,200
LS190	2.125	55	2,920	330	5,830	659	14.60	4,300
LS225	2.625	65	4,200	475	8,400	949	17.00	3,900
LS276	2.875	73	7,460	843	14,920	1 686	37.70	3,100
CS280	3.000	76	13,300	1 503	26,600	3 006	53.50	2,600
CS285	4.000	102	18,760	2 120	37,500	4 237	80.60	2,300
CS300	4.875	109	33,000	3 728	66,000	7 457	106.80	2,300
CS310	5.625	143	50,000	5 649	100,000	11 298	139.30	2,100
CS350	6.375	162	83,333	9 415	166,666	18 831	228.20	1,900
CS400	7.375	187	126.667	14 311	256,334	28 623	345.10	1,800
CS500	9.000	229	183,333	20 714	366,666	41 428	589.60	1,500