

Jaw Couplings

IN THIS SECTION:

- L Type
- LC Type
- Al Type - Aluminum
- SS Type - Stainless
- RRS and RRSC Types - Spacer
- C and H Type - Medium / Heavy Duty
- RRC Type - Spacer





BY TIMKEN

Warnings



WARNING

Failure to observe the following warnings could cause the power transmission product to break and parts to be thrown with sufficient force to cause serious injury or death.

Selection. Do not exceed catalog ratings. Refer to the Lovejoy catalog for proper selection, sizing, horsepower, torque range, and speed range of these products.

Installation. Proper maintenance, handling, and shop practices are critical. Follow all installation instructions included with the product and provided by your equipment manufacturer, and all applicable federal, state, and local regulations concerning the safe operation and maintenance of manufacturing equipment.

Operation. Avoid sudden shock loads during start up and operation.

Do not operate a coupling assembly with improper alignment or bolt torque or with damaged or worn elastomeric elements. Inspect the assembly for these conditions shortly after initial operation and periodically thereafter.

The coupling assembly should operate quietly and smoothly. If the coupling assembly vibrates or makes a beating sound, shut down the equipment immediately and recheck the alignment.

Disclaimer

This catalog is provided solely to give you analysis tools and data to assist you in your product selection. Product performance is affected by many factors beyond the control of Lovejoy. Therefore, you must validate the suitability and feasibility of all product selections for your applications.

Lovejoy does not manufacture or sell power transmission products for elevators, man lifts, or other devices that carry people. We make no representation or warranty concerning such uses and disclaim all liability for harm that might result from the use of our products in those applications.

Lovejoy products are sold subject to Lovejoy terms and conditions of sale (view at www.lovejoy-inc.com/resources), which include our limited warranty and remedy. Please consult with your Lovejoy engineer for more information and assistance.

Every reasonable effort has been made to ensure the accuracy of the information in this writing, but no liability is accepted for errors, omissions or for any other reason.

If you have any questions, contact the Lovejoy Engineering Department at 1-630-852-0500 or email appleng@lovejoy-inc.com.



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Overview

JW

Jaw Type Couplings

The Jaw Type couplings from Lovejoy are offered in the industry's largest variety of stock bore/keyway combinations. These couplings require no lubrication and provide highly reliable service for light, medium, and heavy duty electrical motor and internal combustion power transmission applications.

Features

- Fail-safe – will still perform if elastomer fails
- No metal to metal contact
- Resistant to oil, dirt, sand, moisture and grease
- More than 850,000 combinations of bore sizes
- Most types available from stock in 24 hours

Applications include power transmission to industrial equipment such as pumps, gear boxes, compressors, blowers, mixers, and conveyors. Lovejoy's Jaw Type couplings are available in 24 sizes from a minimum torque rating of 3.5 in-lbs to a maximum torque rating of 170,000 in-lbs and a bore range of .125 inches to 7 inches. Lovejoy's standard bore program covers AGMA, SAE, and DIN bore/keyway and spline bore combinations.

The Lovejoy Jaw Type coupling is available in a variety of metal hub and insert materials. Hubs are offered in sintered metal, aluminum, bronze, steel, stainless steel, and ductile iron.

L Type

- Coupling offers standard shaft-to-shaft connection for general industrial duty applications
- Standard L Type coupling hub materials are either sintered iron (L035-L190) or cast iron (L225-L276)

LC Type

- Uses the standard L Type hubs with a snap wrap and collar
- Suited for applications up to 3,600 RPM

AL Type

- Aluminum hubs offer light weight with low overhung load and low inertia
- Excellent resistance to atmospheric conditions, perfect for corrosive environment applications

SS Type

- The SS Type coupling provides maximum protection against harsh environmental conditions
- Sizes SS075-SS150 available from stock, other sizes available on request

RRS Type

- Center "drop out" section of this coupling provides proper shaft separation, while also allowing easy elastomer installation without disturbing the hubs or requiring the realignment of shafts
- Accommodates American and European industry standard pump/motor shaft separations
- The spacer is made of glass reinforced plastic, cast iron, or aluminum

SW Type

- Standard L Type coupling with a snap wrap elastomer with retaining ring
- Well suited for standard shaft to shaft connection in general industrial purpose applications under 1,750 RPM

C & H Types

- Couplings provide standard shaft-to-shaft connection for medium (C) and Heavy (H) duty range applications
- Standard C coupling hub is made of cast iron, while the H is constructed of ductile iron



L Type

LC Type



AL Type Jaw



SS Type



RRS Type



SW Type



C & H Types

Elastomers

Overview

Elastomers In Compression

Lovejoy offers four types of elastomer designs to allow for additional flexibility in addressing specific application requirements. One piece designs are used in the "L" and "AL" models (referred to as spiders) and multiple part "load cushions" are used in the "C" and "H" model couplings. The load cushions are in sets of 6 to 14 pieces depending on coupling size.

Solid Center Spider

- The solid center design is commonly used design when shafts of the driver and driven equipment can be kept separate by a standard gap

Open Center Spider

- The open center design allows for the shafts of the driver and driven to be positioned within a short distance
- Open center spiders offer shaft positioning flexibility but have a lower RPM capacity (1,750 RPM maximum for NBR, 3,600 maximum for Urethane/Hytrel®)

Cushions

- Used exclusively for the C and H Type couplings
- Load cushions are held in place radially by a steel collar which is attached to one of the hubs

Snap Wrap Flexible Spider

- Design allows for easy removal of the spider without moving the hubs
- Allows for close shaft separation all the way up to the hubs maximum bore
- Maximum RPM is 1,750 RPM with the retaining ring, but if used with the LC Type (with collar) a 3,600 RPM rating of the coupling applies
- Style is available in NBR and Urethane only, and in limited sizes

Note: ■ Complete technical data for the new Jaw In-Shear elastomer is contained in the next section of this catalog, labeled "JIS" on the page tabs.



Spider Materials

SOX (NBR) Rubber

- The standard material that is highly flexible material that is oil resistant
- Resembles natural rubber in resilience and elasticity, and operates effectively in temperature ranges of -40° to 212° F (-40° to 100° C)

Urethane

- Has 1.5 times greater torque capacity than NBR
- Good resistance to oil and chemicals
- Material provides less dampening effect and operates at a temperature range of -30° to 160° F (-34° to 71° C)

Hytrel

- Flexible elastomer designed for high torque and high temperature operations
- Operates in temperatures of -60° to 250° F (-51° to 121° C)

Bronze

- Rigid, porous, oil-impregnated metal insert exclusively for low speed (max 250 RPM) applications requiring high torque capabilities
- Not affected by water, oil, dirt, or extreme temperatures – operates in temperatures of -40° to 450° F (-40° to 232° C)



WARNING

Failure to follow these cautions could create a risk of injury.

You must refer to page JW-2 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.

Selection Process

JW

Jaw Type Coupling Selection Process

The selection process for determining the proper jaw coupling size and elastomer requires using the charts shown on the following pages. There are three components to be selected, two hubs and one elastomer. When the shaft size of the driver and driven of the application are of the same diameter, the hubs selected will be the same. When shaft diameters differ, hubs selected will differ accordingly.

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
- Environmental conditions (i.e. extreme temperature, corrosive conditions, space limitations)

List of Charts provided for Selection:

- **Chart 1** – Application Service Factors (page JW-8)
- **Chart 2** – Spider Performance Data (page JW-10)
- **Chart 3** – Jaw Nominal Rated Torque (page JW-10)
- Jaw Type Performance Ratings (page JW-23)

Formulas:

$$\text{Nominal Torque} = \text{in-lb} = \frac{(\text{HP} \times 63025)}{\text{RPM}}$$

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

$$\text{Design Torque} = \text{Nominal Torque} \times \text{Application Service Factor}$$

Steps In Selecting A Jaw Coupling

Step 1: Determine the Nominal Torque of your application by using the following formula:

$$\text{Nominal Torque} = \text{in-lb} = \frac{(\text{HP} \times 63025)}{\text{RPM}}$$

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

Step 2: Using the Application Service Factors Chart 1 (page JW-8) select the service factor which best corresponds to your application.

Step 3: Calculate the Design Torque of your application by multiplying the Nominal Torque calculated in Step 1 by the Application Service Factor determined in Step 2.

$$\text{Design Torque} = \text{Nominal Torque} \times \text{Application Service Factor}$$

Step 4: Using the Spider Performance Data Chart 2 (page JW-10), select the elastomer material which best corresponds to your application.

Step 5: Using the Jaw Nominal Rated Torque Chart 3 (page JW-10), locate the appropriate elastomer material column for the elastomer selected in Step 4.

Scan down this column to the first entry where the Torque Value in the appropriate column is greater than or equal to the Design Torque calculated in Step 3.

Once this value is located, refer to the corresponding coupling size in the first column of the Jaw Nominal Rated Torque Chart 3 (page JW-10).

Refer to the maximum RPM value (page JW-23) for this elastomer torque capability to ensure that the application requirements are met. If the requirement is not satisfied at this point, another type of coupling may be required for the application. Please consult Lovejoy engineering for assistance.

Step 6: Compare the application driver/driven shaft sizes to the maximum bore size available on the coupling selected. If coupling bore size is not large enough for the shaft diameter, select the next largest coupling that will accommodate the driver/driven shaft diameters. Refer to Chart 3 (page JW-10).

Step 7: Using the UPC number selection table (pages JW-12 or JW-13), find the appropriate Bore and Keyway sizes required and locate the Lovejoy UPC number.

Selection Process

Selection Example

A coupling is needed to connect a 20 HP standard electric motor rated at 1,800 RPM to a rotary pump. The shaft size of the electric motor (driver) is 2.0 inches and the pump (driven) is 1.75 inches. There are no special environmental conditions and the general operating temperature is normal room temperature of 72° F. Less than 1° of misalignment is expected.

Step 1: Determine the Nominal Torque:

$$\begin{aligned} \text{Nominal Torque} &= \frac{(\text{HP} \times 63025)}{\text{RPM}} \\ &= \frac{(20 \times 63025)}{1800} \\ &= 700.28 \text{ in-lb} \end{aligned}$$

Step 2: Using the Application Service Factors Chart 1 (page JW-8), select the service factor which best corresponds to your application. The Application Service Factor for an electric motor with standard torque driving a rotary pump is 1.25. The value of 1.25 is found under the application category Pumps, Rotary, column: Electric Motor w/Standard Torque in Chart 1.

Step 3: Calculate the Design Torque of your application:

$$\begin{aligned} \text{Design Torque} &= \text{Nominal Torque} \times \text{Application Service Factor} \\ &= 700.28 \times 1.25 \\ &= 875.35 \text{ in-lb} \end{aligned}$$

Step 4: Using the Spider Performance Data Chart 2 (page JW-10), select the elastomer material which best corresponds to your application. Since there are no special environmental conditions, the operating temperature is 72° F and less than 1° of angular misalignment is required, the NBR elastomer material is selected.

Step 5: Using the Jaw Nominal Rated Torque Chart 3 (page JW-10), the NBR elastomer column is used to determine the proper coupling size. Scanning down the NBR column, the first entry to accommodate the Design Torque value of 875.35 in-lb is the size L150 with a nominal torque rating of 1,240 in-lb. Referring to page JW-21, the maximum RPM of 1,800 on the electric motor of the application does not exceed the 5,000 RPM maximum allowed for the L150 size coupling with an NBR elastomer.

Step 6: Compare the application driver/driven shaft size to the maximum bore available in the coupling selected (page JW-10). The electric motor (driver) of this application has a shaft size of 2.0 inches and the pump (driven) has a shaft size of 1.75 inches. The L150 coupling has a maximum bore less than the driver shaft size. Continuing down the Maximum Bore column, in Chart 3 (page JW-10), the L190 size is found to have a maximum bore size of 2.125 and is able to accommodate the driver/driven shaft sizes. Therefore, the proper coupling size for this application is a Lovejoy L190 with an NBR elastomer.

Step 7: Using the UPC number Selection table, locate the appropriate Lovejoy UPC numbers. The L Type Spider Table (page JW-11), and the L Type hub table (page JW-12), provides easy reference to the Lovejoy UPC numbers.

Locate the L Type Spider Table (page JW-11).

The spider is selected by scanning down the type column and locating the NBR (Solid) entry. Read across to the L190 column and locate the Lovejoy UPC number of 12274. This number should be prefixed with the Lovejoy UPC number of 685144.

Locate the L Type Hub Table (page JW-12).

The first bore size to be located is for the 2 inch shaft on the electric motor. Scan down the Bore/Keyway column to the 2 inch bore entry. Read across to the L190 column to locate the Lovejoy UPC number of 12303. This number should be prefixed with the Lovejoy UPC number of 685144.

The second bore size to be located is for the 1.75 inch shaft on the pump. Scan down the Bore/Keyway column to the 1-3/4 inch bore entry. Read across to the L190 column to locate the Lovejoy UPC number of 12299. This number should be prefixed with the Lovejoy UPC number of 685144.

Application Service Factors
Selection Data

JW

Application Service Factors

Chart 1

	Service Factors				Service Factors				Service Factors		
	Electric Motor w/ Standard Torque	Electric Motor w/ High Torque	Turbines, Air & Hydraulic Motors		Electric Motor w/ Standard Torque	Electric Motor w/ High Torque	Turbines, Air & Hydraulic Motors		Electric Motor w/ Standard Torque	Electric Motor w/ High Torque	Turbines, Air & Hydraulic Motors
Agitators	1.25	1.50	1.00	Disc Feeder	1.25	1.50	1.00	Pressers			
Band Resaw (lumber).....	1.50	2.00	1.25	Dough Mixer	1.50	2.00	1.25	Brick, Briquette Machine.....	2.00	2.50	1.50
Barge Haul Puller	2.00	2.50	1.50	Draw Bench Conveyor & Main Drive	2.00	2.50	1.50	Notching, Paper, Punch Printing.....	1.50	2.00	1.25
Barking (lumber).....	2.00	2.50	1.50	Dredges				Pug Mill	1.50	2.00	1.25
Bar Screen (sewage).....	2.00	2.50	1.50	Cable reef, Pumps.....	1.50	2.00	1.25	Pulp Grinder (paper).....	2.00	2.50	1.50
Batches (textile).....	1.25	1.50	1.00	Cutter head, Jig, & Screen Drives.....	2.00	2.50	1.50	Pulverizers			
Beater and Pulper (paper).....	1.50	2.00	1.25	Maneuvering & Utility Winch, Stack.....	1.50	2.00	1.25	Hammermill—Light Duty, Roller.....	1.50	2.50	1.25
Bending Roll (metal).....	1.50	2.00	1.25	Dynamometer	1.25	1.50	1.00	Hammermill—Heavy Duty Hog.....	2.00	2.50	1.50
Bleacher (paper).....	1.25	1.50	1.00	Dryers (rotary).....	1.50	2.00	1.25	Pumps			
Blowers				Edger (lumber).....	2.00	2.50	1.50	Centrifugal, Axial.....	1.25	1.50	1.00
Centrifugal, Vane.....	1.25	1.50	1.00	Escalators ¹	1.25	1.50	1.00	Gear, Lobe, Vane.....	1.50	2.00	1.25
Lobe.....	1.50	2.00	1.25	Extruders (metal).....	2.00	2.50	1.50	Reciprocating—Sgl. or Dbl. Acting Cylinder.....	2.00	2.50	2.00
Bottling Machinery	1.25	1.50	1.00	Fans				Reel, Rewinder (paper)			
Brew Kettles (distilling).....	1.25	1.50	1.00	Centrifugal.....	1.25	1.50	1.00	Cable.....	1.50	2.00	1.25
Bucket Elevator or Conveyor	1.50	2.00	1.25	Cooling Towers.....	2.00	2.50	1.50	Rod Mill	2.00	2.50	1.50
Calenders				Forced Draft, Large Industrial.....	1.50	2.00	1.25	Saw Dust Conveyor	1.25	1.50	1.00
Calender (paper).....	1.50	2.00	1.25	Feeders				Screens			
Calender (rubber), Calender-super (paper).....	2.00	2.50	1.50	Apron, Belt, Disc.....	1.25	1.50	1.00	Air Washing, Water.....	1.25	1.50	1.00
Cane Knives (sugar).....	1.50	2.00	1.25	Reciprocating.....	2.00	2.50	1.50	Rotary—Coal or Sand.....	1.50	2.00	1.25
Card Machine (textile).....	2.00	2.50	1.50	Screw.....	1.50	2.00	1.25	Vibrating.....	2.00	2.50	2.00
Car Dumpers	2.00	2.50	1.50	Filter, Press-Oil	1.50	2.00	1.25	Screw Conveyor	1.25	1.50	1.00
Car Pullers	1.50	2.00	1.25	Generators				Slab Conveyor (lumber).....	1.50	2.00	1.25
Cement Kiln	2.00	2.50	1.50	Uniform Load.....	1.25	1.50	1.00	Slitters (metal).....	1.50	2.00	1.25
Centrifugal, Blower, Fans, Compressors, or Pumps	1.25	1.50	1.00	Varying Load, Hoist.....	1.50	2.00	1.25	Soapers (textile).....	1.25	1.50	1.00
Chemical Feeders (sewage).....	1.25	1.50	1.00	Welders.....	2.00	2.50	1.50	Sorting Table (lumber).....	1.50	2.00	1.25
Chiller (oil).....	1.50	2.00	1.25	Grit Collector (sewage).....	1.25	1.50	1.00	Spinner (textile).....	1.50	2.00	1.25
Chipper (paper).....	2.00	2.50	1.50	Grizzly	2.00	2.50	1.50	Stoker	1.25	1.50	1.00
Circular Resaw (lumber).....	1.50	2.00	1.25	Hammermills				Suction Roll (paper).....	1.50	2.00	1.25
Clarifier or Classifier	1.25	1.50	1.00	Light Duty, Intermittent.....	1.50	2.00	1.25	Tenter Frames (textile).....	1.50	2.00	1.25
Clay Working Machinery	1.50	2.00	1.25	Heavy Duty, Continuous.....	2.00	2.50	1.50	Tire Building Machines	2.00	2.50	1.50
Collectors (sewage).....	1.25	1.50	1.00	Hoists				Tire & Tube Press Opener	1.25	1.50	1.00
Compressors				Heavy Duty.....	2.00	2.50	1.50	Tumbling Barrels	2.00	2.50	1.50
Centrifugal, Screw, Lobe.....	1.25	1.50	1.00	Medium Duty.....	1.50	2.00	1.25	Washer & Thickener (paper).....	1.50	2.00	1.25
Reciprocating.....	See Note			Jordan (paper).....	2.00	2.50	1.50	Winches	1.50	2.00	1.25
Concrete Mixers	1.50	2.00	1.25	Kiln, Rotary	2.00	2.50	1.50	Winders—Paper, Textile, Wire	1.50	2.00	1.25
Converting Machine (paper).....	1.50	2.00	1.25	Laundry Washer or Tumbler	2.00	2.50	1.50	Wire.....	1.50	2.00	1.25
Conveyors				Line Shafts	1.25	1.50	1.00	Drawing.....	2.00	2.50	1.50
Apron, Assembly, Belt, Flight, Oven, Screw.....	1.25	1.50	1.00	Log Hall (lumber).....	2.00	2.50	1.50	Winding.....	1.50	2.00	1.25
Bucket.....	1.50	2.00	1.25	Loom (textile).....	1.50	2.00	1.25	Woodworking Machinery	1.25	1.50	1.00
Cookers—Brewing, Distilling, Food	1.25	1.50	1.00	Machine Tools, Main Drives	1.50	2.00	1.25				
Cooling Tower Fans	2.00	2.50	1.50	Mangle (textile).....	1.25	1.50	1.00				
Couch (paper).....	1.50	2.00	1.25	Mash Tubs (distilling).....	1.25	1.50	1.00				
Cranes & Hoists ¹				Meat Grinder	1.50	2.00	1.25				
Heavy duty mine.....	2.00	2.50	1.50	Metal Forming							
Crushers—Cane (sugar), Stone, Ore.....	2.00	2.50	1.50	Machines.....	1.50	2.00	1.25				
Cutter-Paper	2.00	2.50	1.50	Mills							
Cylinder (paper).....	2.00	2.50	1.50	Ball, Pebble, Rod, Tube, Rubber, Tumbling.....	2.00	2.50	1.50				
Dewatering Screen (sewage).....	1.50	2.00	1.25	Dryers, Coolers.....	1.50	2.00	1.25				
				Mixers							
				Concrete, Muller.....	1.50	2.00	1.25				
				Banbury.....	2.00	2.50	1.50				
				Ore Crusher	2.00	2.50	1.50				
				Oven Conveyor	1.25	1.50	1.00				
				Planer (metal or wood).....	1.50	2.00	1.25				

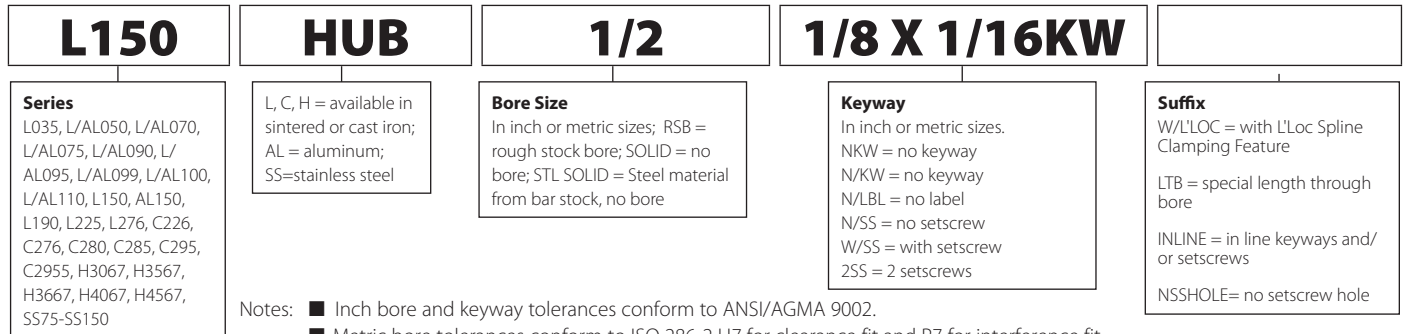
Note: ■ 1 indicates: If people are transported, Lovejoy does not recommend and will not warranty the use of the coupling.

Caution: Applications involving reciprocating engines and reciprocating driven devices are subject to critical rotational speeds which may damage the coupling and/or connected equipment. Contact Lovejoy Engineering with specific requirements.

Nomenclature

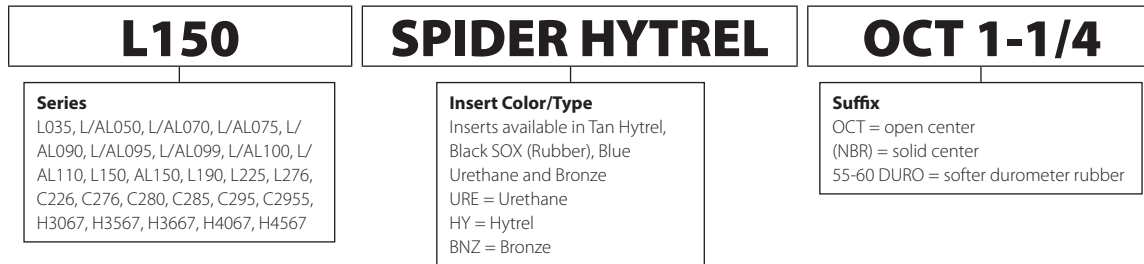
A complete standard coupling unit consists of two hubs and one insert.

Hubs

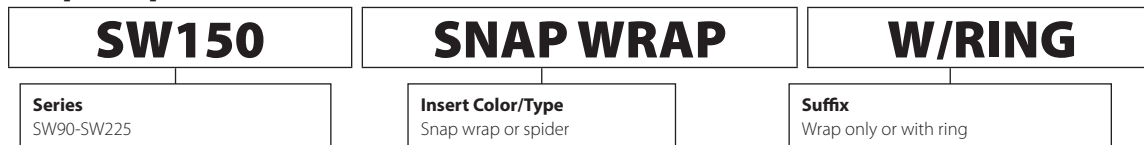


Notes: ■ Inch bore and keyway tolerances conform to ANSI/AGMA 9002.
 ■ Metric bore tolerances conform to ISO 286-2 H7 for clearance fit and P7 for interference fit.
 ■ Metric keyway tolerances conform to ANSI/AGMA 9112 Normal keyway width tolerance.

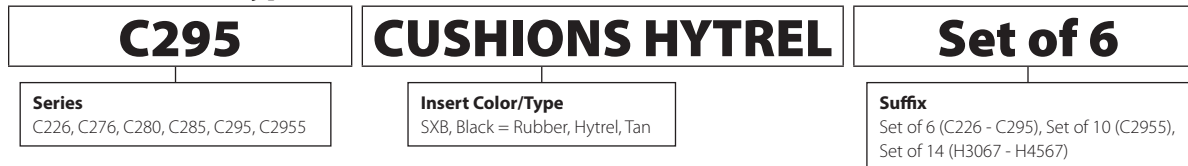
Inserts



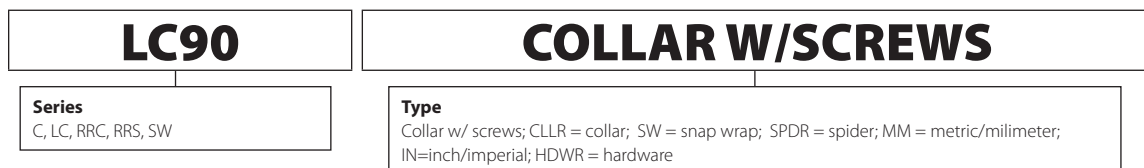
Snap Wraps



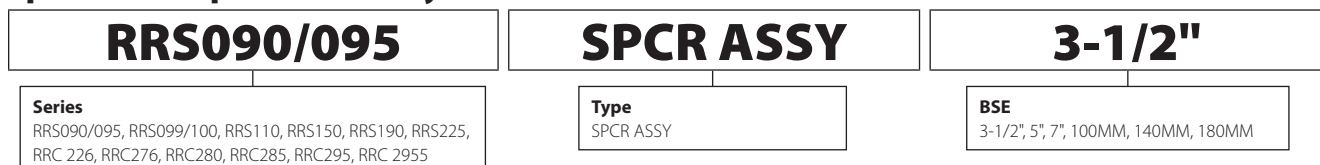
Cushions (C&H Type)



Collars and Kits



Spacers and Spacer Assembly



Performance Data

JW

Spider Performance Data

Chart 2

Characteristics	Temperature Range	Misalignment		Shore Hardness ¹	Dampening Capacity	Chemical Resistance ²	Color
		Angular Degree	Parallel Inch				
SOX (NBR) Rubber – Nitrile Butadiene (Buna N) Rubber is a flexible elastomer material that is oil resistant, resembles natural rubber in resilience and elasticity and operates effectively in temperature range of -40° to 212° F (-40° to 100° C). Good resistance to oil. Standard elastomer. (Also applies to SXB Cushions.)	-40° to 212° F -40° to 100° C	1°	.015	80A	HIGH	GOOD	BLACK
URETHANE – Urethane has greater torque capability than NBR (1.5 times), provides less dampening effect, and operates at a temperature range of -30° to 160° F (-34° to 71° C). Good resistance to oil and chemicals. Not recommended for cyclic or start/stop applications.	-30° to 160° F -34° to 71° C	1°	.015	55D L050-L110 90-95A L150-L225	LOW	VERY GOOD	BLUE
HYTREL® – Hytrel is a flexible elastomer designed for high torque and high temperature operations. Hytrel can operate in temperatures of -60° to 250° F (-51° to 121° C) and has an excellent resistance to oil and chemicals. Not recommended for cyclic or start/stop applications.	-60° to 250° F -51° to 121° C	1/2°	.015	55D	LOW	EXCELLENT	TAN
BRONZE – Bronze is a rigid, porous oil-impregnated metal insert exclusively for slow speed (maximum 250 RPM) applications requiring high torque capabilities. Bronze operations are not affected by extreme temperatures, water, oil, or dirt.	-40° to 450° F -40° to 232° C	1/2°	.010	—	NONE	EXCELLENT	BRONZE

Notes: ■ 1 indicates: NBR standard shore hardness is 80A ±5A – Except L035=60A. Other softer or harder designs are available in NBR material; consult Lovejoy.
 ■ 2 indicates: Chemical Resistance chart shown in Engineering Data Section (page ED-9).

Jaw Nominal Rated Torque Data

Chart 3

Size	Max Bore		Spider Material							
			SOX (NBR) Torque		Urethane Torque		Hytrel Torque		Bronze Torque	
	in	mm	in-lbs	Nm	in-lbs	Nm	in-lbs	Nm	in-lbs	Nm
L035	0.375	9	3.5	0.4	—	—	—	—	—	—
L/AL050	0.625	16	26.3	3.0	39	4.5	50	5.60	50	5.60
L/AL070	0.750	19	43.2	4.9	65	7.3	114	12.90	114	12.90
L/AL075	0.875	22	90.0	10.2	135	15.3	227	25.60	227	25.60
L/AL090	1.000	25	144.0	16.3	216	24.4	401	45.30	401	45.30
L/AL095	1.125	28	194.0	21.9	291	32.9	561	63.40	561	63.40
L/AL099	1.188	30	318.0	35.9	477	53.9	792	89.50	792	89.50
L/AL100	1.375	35	417.0	47.1	626	70.7	1,134	128.00	1,134	128.00
L/AL110	1.625	42	792.0	89.5	1,188	134.0	2,268	256.00	2,268	256.00
L150	1.875	48	1,240.0	140.0	1,860	210.0	3,708	419.00	3,706	419.00
AL150	1.875	48	1,450.0	163.8	—	—	—	—	—	—
L190	2.125	55	1,728.0	195.0	2,592	293.0	4,680	529.00	4,680	529.00
L225	2.625	65	2,340.0	264.0	3,510	397.0	6,228	704.00	6,228	704.00
L276	2.875	73	4,716.0	533.0	—	—	—	—	12,500	1 412.00
C226	2.500	64	2,988.0	338.0	—	—	5,940	671.00	5,940	671.00
C276	2.875	73	4,716.0	533.0	—	—	9,432	1 066.00	—	—
C280	3.000	76	7,560.0	854.0	—	—	13,866	1 567.00	—	—
C285	4.000	102	9,182.0	1 038.0	—	—	16,680	1 882.00	—	—
C295	3.500	89	11,340.0	1 281.0	—	—	22,680	2 563.00	22,680	2 563.00
C2955	4.000	102	18,900.0	2 136.0	—	—	37,800	4 271.00	37,800	4 271.00
H3067	4.500	114	33,395.0	3 774.0	—	—	47,196	5 333.00	47,196	5 333.00
H3567	5.000	127	46,632.0	5 269.0	—	—	63,000	7 119.00	63,000	7 119.00
H3667	5.629	143	64,812.0	7 323.0	—	—	88,200	9 966.00	88,200	9 966.00
H4067	6.250	159	88,224.0	9 969.0	—	—	126,000	14 237.00	126,000	14 237.00
H4567	7.000	178	119,700.0	13 525.0	—	—	170,000	19 209.00	170,000	19 209.00

Note: ■ Bronze has a maximum RPM capability of 250 RPM.

L Type Spiders / Hub Spline Bores Item Selection

JW

L Type Coupling

- Sizes range from L035 to L276
- Ordering requires selecting UPC numbers for two standard L hubs and one standard open or solid center elastomer (spider)

SW Type Coupling

- Sizes range from L090 to L190
- Ordering requires selecting UPC numbers for two standard L hubs and one snap wrap spider with snap ring
- Both L and SW Type couplings, select hubs from the standard bore and keyway chart (pages JW-11 and JW-12) maximum RPM for SW + Ring is 1,750 RPM
- LC coupling uses a snap wrap spider with a collar instead of a retaining ring



Jaw In-Shear Coupling

- Ordering requires selecting item numbers for two standard hubs, one In-Shear elastomer and one In-Shear ring. See pages JIS-1 through JIS-4

L Type Spider UPC Number Selection Table

Spider Type	Coupling Size										
	L035	L050	L070	L075	L090/095	L099/100	L110	L150	L190	L225	L276
SOX (NBR) (Solid)	10118	10194	10406	10621	11070	11494	11724	12001	12274	12409	—
SOX (NBR) (open center)	—	—	10393	10620	10968	11492	11711	37880	37881	12406	12612
Urethane (Solid)	—	37786	10395	—	—	—	—	—	—	12417	—
Urethane (open center)	—	—	10411	10626	11075	11499	11729	12006	12280	—	—
Hytrel® (Solid)	—	25307	—	—	—	—	11717	11993	12265	12401	—
Hytrel® (open center)	—	—	25308	25309	25310	11486	38097	38098	38099	12400	—
Bronze (open center)	—	10198	10409	10624	11073	11497	11727	12004	12277	34517	25767
Snap Wrap (NBR) w/ring	—	—	—	—	24669	24670	24671	24672	24673	—	—
Snap Wrap (NBR) w/o ring	—	—	—	—	11071	11495	11725	12002	12275	—	—
SOX (NBR) Bulk - pk 25	50115	50116	50117	50118	50119	—	—	—	—	—	—
SOX (NBR) Bulk - pk 10	—	—	—	—	—	50120	50121	50122	—	—	—
Snap Wrap Urethane - solid ring	—	—	—	—	—	41170	41171	—	28284	26093	—
In-Shear Elastomer	—	—	—	—	71706	71707	71708	71709	71710	71711	71712
In-Shear Ring	—	—	—	—	71679	71680	71681	71682	71683	71684	71685

Note: ■ When referencing the Lovejoy UPC number in this table, include 685144 as a prefix to the number shown.

L Type Hub - Spline Bore UPC Number Selection Table

Teeth	Pitch	SAE	Spline Bore Diameters		Major Dia	Coupling Size								
			Major	Minor		L090	L095	L099	L100	L110	L150	L190	L225	L276
9	16/32	A	0.651	0.509	0.625	38568	37900	38571	37904	—	—	—	—	—
11	16/32		0.776	0.631	0.750	38569	37901	38572	37905	37909	37917	37925	—	—
13	16/32	B	0.901	0.754	0.875	38570	37902	38573	37906	37910	37918	37926	37935	—
13	8/16	D, E	1.798	1.506	1.750	—	—	—	—	37915	37923	37931	37940	38576
14	12/24	C	1.289	1.087	1.250	—	—	—	—	37912	37920	37928	37937	38577
15	16/32	BB	1.026	0.877	1.000	—	—	38574	37907	37911	37919	37927	37936	38578
21	16/32		1.401	1.250	1.375	—	—	—	—	37913	37921	37929	37938	—
23	16/32		1.526	1.375	1.500	—	—	—	—	37914	37922	37930	37939	—
27	16/32		1.776	1.625	1.750	—	—	—	—	37916	37924	37932	37941	38579
15	8/16	F	2.048	1.753	2.000	—	—	—	—	—	—	37933	37942	—

- Notes: ■ All pressure angles on above splines = 30°. Class 5 fit is standard, unless otherwise specified.
 ■ All stock spline bore hubs are supplied standard with Lovejoy's exclusive L-LOC Clamping Feature. See page T-7 for description.
 ■ When referencing the Lovejoy UPC number in this table, include 685144 as a prefix to the number shown.

RRS and RRSC Type / Inch Bore / Keyway Item Selection

JW

RRS Type couplings range from sizes RRS090 to RRS225. The RRS Type coupling consists of:

RRS090 – RRS110:

- 2 Standard RRS Hubs
- 1 Spacer Assembly consisting of:
 - 2 snap wrap spiders w/o ring
 - 2 collars with screws
 - 1 spacer

RRS150 – RRS225:

- 1 Standard RRS Hub
- 1 Standard RRSC Hub – Drilled for collar
- 1 Spacer Assembly consisting of:
 - 2 snap wrap spiders w/o ring
 - 2 collars with screws
 - 1 spacer



RRS Type Hub - Inch Bore and Keyway UPC Number Selection Table

Bore	Keyway	RRS090	RRS095	RRS099	RRS100	RRS110	RRS150	RRS190	RRS225
7/16	No Keyway	—	41229	52184	41231	—	—	—	—
1/2	No Keyway	41227	50357	41230	52199	—	—	—	—
1/2	1/8 x 1/16	56512	38145	—	38151	—	—	—	—
9/16	3/16 x 3/32	—	44474	—	—	—	—	—	—
5/8	No Keyway	—	—	—	—	38159	45265	—	—
5/8	3/16 x 3/32	38143	38146	38168	38152	—	50163	—	—
3/4	No Keyway	—	—	—	—	—	—	45273	45290
3/4	3/16 x 3/32	38144	38147	38169	38153	38160	45266	—	45292
7/8	1/4 x 1/8	—	—	—	52966	—	—	—	—
7/8	3/16 x 3/32	41228	38148	38170	38154	38161	45267	45274	45291
1	1/4 x 1/8	51672	38149	38171	38155	38162	45268	45275	45294
1-1/8	1/4 x 1/8	—	38150	38172	38156	38163	45153	45276	45295
1-1/8	5/16 x 5/32	—	—	—	—	—	48104	—	—
1-1/4	1/4 x 1/8	—	—	—	38157	38164	45392	48503	50743
1-3/8	5/16 x 5/32	—	—	—	38158	38165	44002	44725	45296
1-7/16	3/8 x 3/16	—	—	—	—	51579	49659	48933	49658
1-1/2	3/8 x 3/16	—	—	—	—	40816	49638	46628	45297
1-5/8	3/8 x 3/16	—	—	—	—	38166	41880	45277	45298
1-3/4	3/8 x 3/16	—	—	—	—	—	45162	45278	45299
1-7/8	1/2 x 1/4	—	—	—	—	—	44214	45279	41953
2	1/2 x 1/4	—	—	—	—	—	—	45280	45300
2-1/8	1/2 x 1/4	—	—	—	—	—	—	—	44724
2-3/8	5/8 x 5/16	—	—	—	—	—	—	—	45106

- Notes: ■ RRS inch hubs are standard with two set screws, including those with no keyway.
 ■ When referencing the Lovejoy UPC number in this table, include 685144 as a prefix to the number shown.

RRS / RRSC Type Hub - Metric Bore and Keyway UPC Number Selection Table

Bore	Keyway	RRSC150	RRSC190	RRSC225
32	No Keyway	55675	55679	55683
38	10 x 3.3	55676	55680	—
40	12 x 3.3	55677	55681	—
42	12 x 3.3	55678	55682	—

- Notes: ■ RRS inch hubs are standard with two set screws and are drilled to accept retaining collar. Collars are supplied with spacers.
 ■ When referencing the Lovejoy UPC number in this table, include 685144 as a prefix to the number shown.

RRS / RRSC Type Hub - Inch Bore and Keyway UPC Number Selection Table

Bore	Keyway	RRSC150	RRSC190	RRSC225
5/8	No Keyway	45269	—	—
3/4	No Keyway	—	45281	45301
3/4	3/16 x 3/32	45312	—	45303
7/8	3/16 x 3/32	45270	45282	45293
1	1/4 x 1/8	45271	45283	45305
1-1/8	1/4 x 1/8	44779	45284	45105
1-3/8	5/16 x 5/32	44006	45285	45306
1-1/2	3/8 x 3/16	46939	—	45307
1-5/8	3/8 x 3/16	14881	45286	45308
1-3/4	3/8 x 3/16	—	45287	45309
1-7/8	1/2 x 1/4	45272	45288	41954
2	1/2 x 1/4	—	45289	45310
2-1/8	1/2 x 1/4	—	—	45311

- Notes: ■ RRS inch hubs are standard with two set screws and are drilled to accept retaining collar. Collars are supplied with spacers.
 ■ When referencing the Lovejoy UPC number in this table, include 685144 as a prefix to the number shown.

RRS Type Spacer / Metric Bore / Keyway Item Selection

RRS Type Radially Removable Spacer Couplings

RRS Type couplings range from sizes RRS090 to RRS225.
The RRS Type coupling consists of:

RRS090 – RRS110:

- 2 Standard RRS Hubs
- 1 Spacer Assembly consisting of:
 - 2 snap wrap spiders w/o ring
 - 2 collars with screws
 - 1 spacer

RRS150 – RRS225:

- 1 Standard RRS Hub
- 1 Standard RRSC Hub – Drilled for collar
- 1 Spacer Assembly consisting of:
 - 2 snap wrap spiders w/o ring
 - 2 collars with screws
 - 1 spacer



JW

Note: ■ RRS Type Inch Hubs provided standard with two set screws at 90°.

Features

- Standard API based spacers available
- Radially removable inserts
- Standard Lovejoy hub design with additional set screw at 90°

RRS Type Spacer UPC Number Selection Table

Description		RRS090	RRS095	RRS099	RRS100	RRS110	RRS150	RRS190	RRS225
3-1/2 in	Spacer Assembly	12620	12620	12630	12630	12644	12660	12676	12685
5 in	Spacer Assembly	26119	26119	26123	26123	26128	26770	27046	27041
7 in	Spacer Assembly	26120	26120	26124	26124	26129	27044	27043	27039
100mm	Spacer Assembly	55563	55563	55567	55567	55570	61056	61057	61058
140mm	Spacer Assembly	55281	55281	55569	55569	55571	55572	55573	55574
180mm	Spacer Assembly	61055	61055	55575	55575	55576	55577	55578	55579

Notes: ■ Spacer length denotes separation between shaft ends. Assembly includes spacer, two snap wrap spiders w/o ring, and two collars with screws. See page JW-11 for ordering information on spiders.
■ When referencing the Lovejoy UPC number in this table, include 685144 as a prefix to the number shown.

RRS Type Hub - Metric Bore and Keyway UPC Number Selection Table

Bore	Keyway	RRS090	RRS095	RRS099	RRS100	RRS110	RRS150	RRS190	RRS225
12	No Keyway	48276	—	—	—	—	—	—	—
14	No Keyway	41461	41465	—	—	—	—	—	—
14	5 x 2.3	51231	41466	60094	45101	—	—	—	—
15	No Keyway	—	46561	52697	41469	—	—	—	—
15	5 x 2.3	52096	45778	46972	47123	—	—	—	—
16	5 x 2.3	49198	41325	52098	55534	52092	52471	—	—
19	No Keyway	10777	—	—	—	41471	—	—	—
19	6 x 2.8	41462	41326	44157	41329	49700	48821	46717	—
20	6 x 2.8	41925	41467	47122	52093	41804	—	61497	—
23	8 x 3.3	50135	—	—	—	—	—	—	—
24	8 x 3.3	41463	41327	41990	41330	48301	48182	59109	—
25	8 x 3.3	41464	41468	45055	41470	41906	46751	52153	—
28	8 x 3.3	—	41328	50103	41331	41333	45679	52976	—
30	8 x 3.3	—	—	47132	48317	45681	41738	44471	48982
32	No Keyway	—	—	—	—	—	41472	41473	48319
32	10 x 3.3	—	—	—	41332	41334	41873	45562	41849
35	10 x 3.3	—	—	—	49925	45682	46562	58035	52197
38	10 x 3.3	—	—	—	—	41335	41337	41474	49664
40	12 x 3.3	—	—	—	—	45683	48318	48320	49605
42	12 x 3.3	—	—	—	—	41336	41338	41475	47492

Note: ■ When referencing the Lovejoy UPC number in this table, include 685144 as a prefix to the number shown.