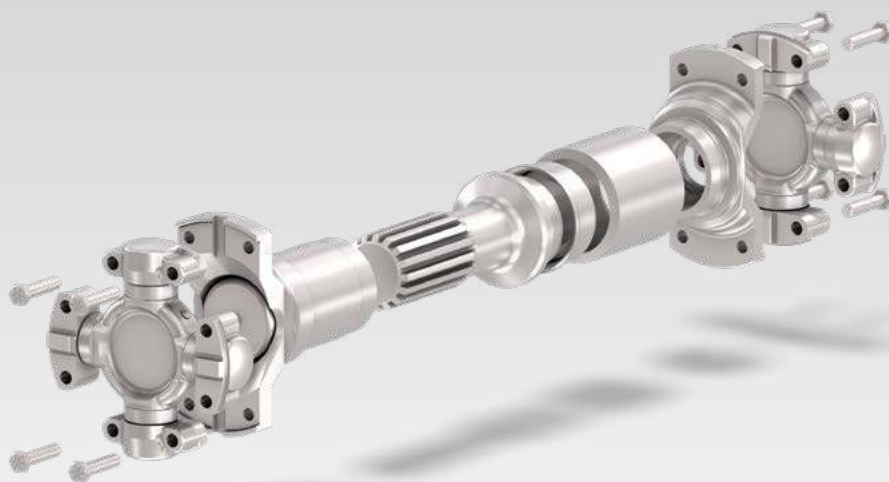




## SPARE PARTS CATALOGUE

# Mechanics® Cardan Components





# Content

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Our products and technology deliver the power to harvest crops, move earth, mine resources and handle material. Increasingly there is a need to focus on energy efficiency, increased productivity and safety as well as enabling operators to be continually connected and well informed to avoid downtime.



The Walterscheid Powertrain Group is committed to providing products and services that support these requirements, and to demonstrating our position in developing technologies and solutions for the challenges of tomorrow, supporting our customers in meeting the demands of a crowded planet.



The Walterscheid Powertrain Group is a truly global business with 10 manufacturing facilities and 22 service centres in 16 countries across five continents.



### This strong global presence positions us to:

- ▶ Be well placed to access fast-growing markets
- ▶ Build partnerships with market-leading customers
- ▶ Deliver product and service suited to the local markets
- ▶ Optimise our position in supply chains
- ▶ Develop technologies in partnership with global customers



### Key facts

**Number of employees:** 2,200  
**Locations:** 10 manufacturing plants and 22 service locations across 16 countries

**The Walterscheid Powertrain Group** – the global supplier of power management products, systems and service solutions for the world’s leading off-highway and industrial equipment manufacturers.



### Technology and services at the heart of our success

- ▶ We are continuously developing new technologies and customer solutions which deliver efficiency in the agricultural, construction, mining, utility vehicle and industrial markets
- ▶ We service all powertrain products and systems between power source and power applied

# DRIVESHAFTS PRODUCT RANGE

## CARDAN SHAFTS

Our application-matched cardan shafts are rugged assemblies that withstand the requirements of today's more powerful engines and transmissions. Precision balancing assures smooth, vibration-free operation.

Our wide range of cardan shafts are backed by years of proven performance in some of the most extreme applications. They have set the industry standard for quality for years, and are backed by the technology, systems and people to meet even the highest expectations.



## DOUBLE UNIVERSAL JOINT (DUJ) SHAFTS

The DUJ range for the off-highway sector include DUJ shafts for vehicles with driven steering axles, DUJ shafts for sterndrives for boats and Universal-joint shafts for special applications.

## CONSTANT VELOCITY (CV) SHAFTS

The CV-sideshafts with Constant Velocity ball joints are used in vehicles with independent suspension. These driveshafts represent an alternative to conventional sideshafts with centered double cardan joints. A wide range of different joint sizes are available.

## CENTRED DOUBLE CARDAN (CDC) SHAFTS

The sideshafts with centered double cardan joints are especially developed for extreme working conditions and allow high continuous angles at high speed. The joints are robustly designed, and also have a maximum deflection angle of 50°, thereby guaranteeing maneuverability of the vehicle. These shafts are predestined for the use in all-terrain vehicles.

## PTO SHAFTS

We also design and manufacture an extensive range of Power Take Off (PTO) shafts for the agricultural industry under the Walterscheid brand.







Cardan Shafts are available in a complete range of sizes for off-highway and industrial applications. We take pride in working closely with customers to understand the demands of the end product and develop shafts optimised to the true requirements.

Alongside a wide variety of industry standard sizes and connections, we also have the ability to deliver shafts with custom flange and stub end configurations, ensuring that all components in the power transmission system can be linked. The quality of our driveshafts and components, alongside understanding of customers applications, add real value and integrity to the product offering.

With a global manufacturing footprint, we can supply Cardan Shaft products worldwide. Aftermarket support is a key element to the service offering and full assemblies can be supplied for the complete product range. In addition, an extensive network of service facilities allows for the repair and remanufacture of all Cardan Shaft products.



**MECHANICS® / C-TYPE** Genuine Mechanics® Universal Joints have set the industry standard for over 40 years. Each is specially designed to facilitate field or shop servicing, making U-joint removal and replacement simpler, faster and cleaner.

Mechanics® C-Type U-Joints are available in wing-style, block-style and combination configurations, and can be either service free or re-lubeable. Many designs offer a patented “Interlock” feature, and precision, close tolerance dust shields keep out dirt, debris and contaminants, virtually eliminating the greatest cause of internal bearing wear. Our unique dual-profile seal retains lubrication, and assures a balanced purge and lube of all bearings during lubrication. Mechanics® Universal Joints offer value to the end user that becomes more apparent day after day over the products’ extended service life.



**SAE ROUND BEARING** We offer a complete line of conventional round bearing driveshafts and components available as maintenance free, permanently lubricated or fully re-lubeable configurations. These versatile, heavy-duty, off-highway u-joints and components are directly interchangeable with common industry sizes.



**DIN / XS / SAE FLANGED SHAFTS** We offer a variety of shafts over a wide range of torques that are configured for standard DIN and XS flanges. Shafts are available in either service free or re-lubeable configurations, and are directly interchangeable with industry standard products.

# MECHANICS® – SYNERGY SERIES

A key feature of the 3C-10C product range is the service free design which is achieved through optimisation of the spline geometry and spline grease for off-highway loads and temperatures and advanced slip seals.

Specialised design of the splined components has allowed for increased length compensation. It has also given improved balancing characteristics to allow for a smoother running shaft, thereby improving operator comfort. Finally, increases in torque capacity and service life result in longer operating time, shorter downtimes and ultimately, higher profit margins for the operator.



## PRODUCT PHILOSOPHY

The range has been developed by linking existing, proven off-highway technologies from our market-leading Mechanics® Series U-Joints range with inverted slip and shaft design expertise from engineers across the Walterscheid Powertrain group. The 3C-10C range is a natural evolution of existing product innovations with new features and benefits to offer significant advantages to customers in the off-highway market.

In the main these improvements will reduce weight, reduce the need for servicing and maintenance, and maximise uptime and productivity.

**Application-matched drivelines are rugged assemblies that withstand the demands of today's more powerful power train requirements.**

## MECHANICS SYNERGY

- ▶ service free design
- ▶ reduced weight
- ▶ improved sealing
- ▶ increased slip length
- ▶ retro fitting possible (fully interchangeable with existing Mechanics® shafts)
- ▶ spline grease is optimised for the off-highway environment
- ▶ unique design geometry extends and maximises bearing-load capabilities
- ▶ high degree of standardisation of components
- ▶ improved balancing characteristics

**Our Driveshaft products are available for supply across Europe, the Americas and Asia.**

# TYPICAL DRIVESHAFT CONFIGURATIONS

## DOUBLE JOINT WITH TUBE AND SLIP

Type FS – Synergy



Type 4 – C



Type 4 – EC



## DOUBLE JOINT CLOSE-COUPLED WITH SLIP

Type SCS – Synergy



Type SC – Synergy



Type 3 – C



Type 3 – EC

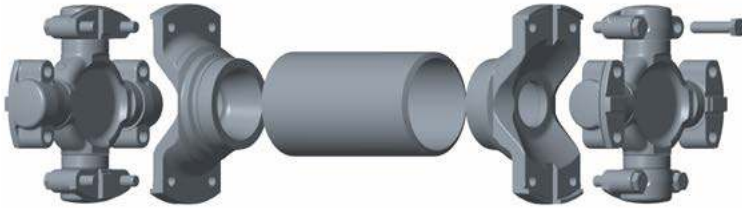




# TYPICAL DRIVESHAFT CONFIGURATIONS

## DOUBLE JOINT WITH TUBE, WITHOUT SLIP

### Type FF – Synergy / Type 2 – C



## DOUBLE JOINT CLOSE-COUPLED, WITHOUT SLIP

### Type DJ – Synergy / Type 1 – C

with Double-weld yoke

with coupling yoke



## SINGLE JOINT WITH TUBE AND BEARING STUB-END, WITHOUT SLIP

### Type MS Synergy / Type 5 – C / Midship shaft

Available with or without bearing, mid-ship yoke or brake yoke



# TYPICAL DRIVESHAFT CONFIGURATIONS

## ACCESSORIES AND SPECIAL PRODUCTS

Accessories and Special Products are available and can be manufactured according to specific customer requirements and applications. In addition to the standard range of shafts, Walterscheid Powertrain Group has the ability to manufacture a wide variety of shafts for many different custom applications. The engineers of Walterscheid Powertrain Group work closely with the customer to understand the needs of the application and to develop custom solutions that ensure the optimal performance of the final product.

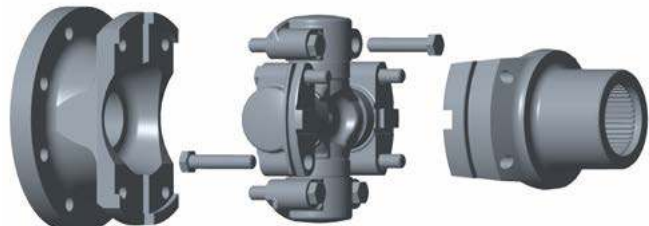
### Single joint shaft with length compensation, with flange or stub-end



### Fitting yoke and flange yoke

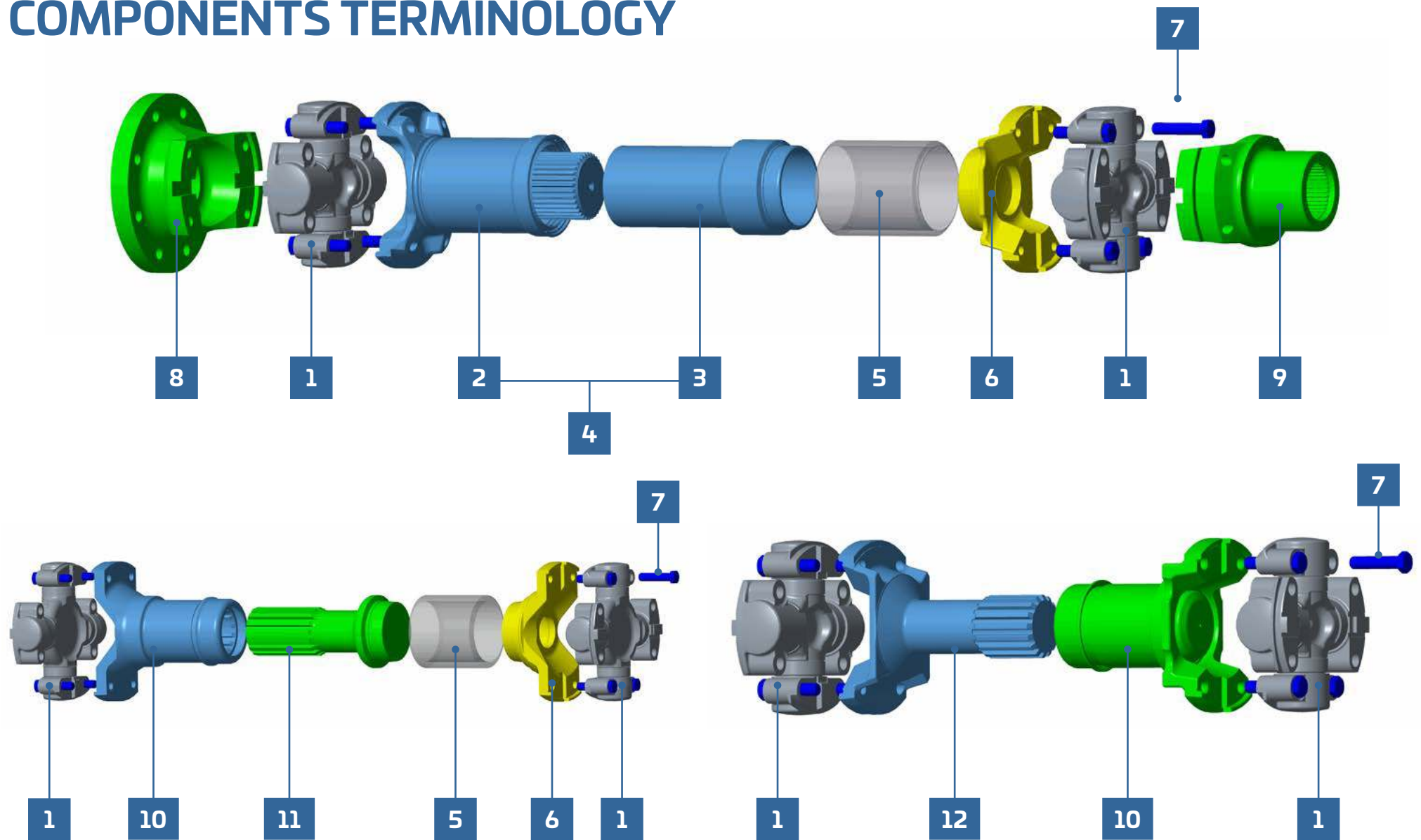


### Single joint with fitting or flange yokes



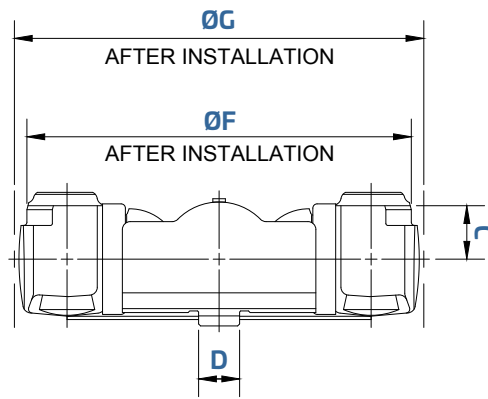
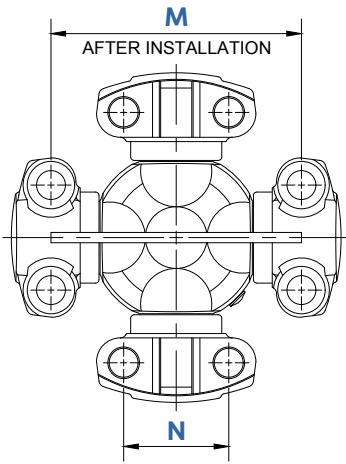


## COMPONENTS TERMINOLOGY



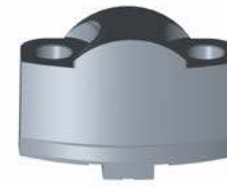
## COMPONENTS TERMINOLOGY

ID	English	Deutsch	Français	Italiano	Español
1	Universal Joint or Cross Kit	Zapfenkreuzgarnitur	Bloc rechange ou Croisillon	Crociera cardanica	Cruz de cardán
2	Stub Yoke or Yoke Shaft + Dust cover (with seal)	Wellenmitnehmer + Schutzhülse (inkl. Dichtung)	Mâchoire à embout + Manchon de protection des cannelures (avec joint)	Forcella con albero scanalato + tubo di protezione (con guarnizione)	Horquilla eje estriada + guardapolvos metálico junta corredera (con junta estanqueidad)
3	Sliding Muff or Sleeve	Nabenhülse	Coulisse	Manicotto	Horquilla corredera
4	Sliding Assembly	Verschiebung	Ensemble coulissant	Gruppo scorrevole	Cuerpo estriado
5	Tube	Rohr	Tube	Tubo	Tubo
6	Weld Yoke or Tube Yoke	Rohrmitnehmer	Mâchoire à bout mâle	Forcella tubo	Horquilla fija
7	Bolt kit (Capscrews)	Schraubensatz	Jeu de vis	Vite	Juego de tornillos
8	Connection Flange or Flange Yoke	Anschlussflansch	Mâchoire à bride de connexion	Flangia d'attacco	Plato de acoplamiento
9	Fitting Yoke or Hub Yoke	Anschlussmitnehmer	Mâchoire alésée d'accouplement	Forcella d'attacco	Horquilla de acoplamiento
10	Slip Yoke Assembly (with sealing)	Nabenmitnehmer (inkl. Dichtung)	Mâchoire à coulisse (avec étanchéité)	Forcella a mozzo (con guarnizione)	Horquilla corredera (con junta estanqueidad)
11	Necked Stub End or Stub Shaft	Wellenzapfen	Embout coulissant	Perno scorrevole	Barrón estriado
12	Necked Stub Yoke or Yoke Shaft	Wellenmitnehmer	Mâchoire à embout	Forcella scorrevole	Horquilla eje estriada

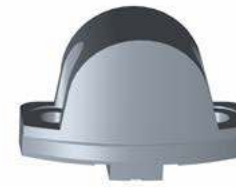


Series	Swing ØG		Pilot ØF		N		M		C		D	
	(in)	(mm)	(in)	(mm)	(in)	(mm)	(in)	(mm)	(in)	(mm)	(in)	(mm)
2C	3.34	84,8	3.12	79,2	1.31	33,3	2.34	59,4	0.52	13,2	0.38	9,7
3C	3.81	96,8	3.56	90,4	1.44	36,6	2.75	69,9	0.61	15,5	0.38	9,7
4C	4.50	114,3	4.25	108,0	1.44	36,6	3.44	87,4	0.61	15,5	0.38	9,7
5C	4.78	121,4	4.53	115,1	1.69	42,9	3.50	88,9	0.69	17,5	0.56	14,2
6C	5.84	148,3	5.53	140,5	1.69	42,9	4.50	114,3	0.69	17,5	0.56	14,2
7C	6.22	158,0	5.84	148,3	1.94	49,3	4.62	117,3	0.81	20,6	0.62	15,7
8C	8.50	215,9	8.12	206,2	1.94	49,3	6.88	174,8	0.81	20,6	0.62	15,7
8.5C	6.88	174,8	6.50	165,1	2.81	71,4	4.88	124,0	1.00	25,4	0.62	15,7
9C	8.62	218,9	8.25	209,6	2.81	71,4	6.62	168,1	1.00	25,4	0.62	15,7
9.5C	8.62	218,9	8.25	209,6	2.81	71,4	6.62	168,1	1.12	28,4	0.62	15,7
10C	8.88	225,6	8.38	212,9	3.62	91,9	6.50	165,1	1.28	32,5	1.00	25,4
10.5C	9.12	231,6	8.75	222,3	3.50	88,9	6.80	172,7	1.34	34,0	1.00	25,4
11C	9.25	235,0	8.75	222,3	3.50	88,9	6.80	172,7	1.58	40,1	1.00	25,4
12C	11.88	301,8	11.38	289,1	3.62	91,9	9.50	241,3	1.28	32,5	1.00	25,4
15C/15.5C	10.75	273,1	10.23	259,8	3.94	100,1	7.87	199,9	1.50	38,1	1.25	31,8
20C	14.50	368,3	13.50	342,9	4.63	117,6	10.91	277,1	1.91	48,5	1.90	48,3

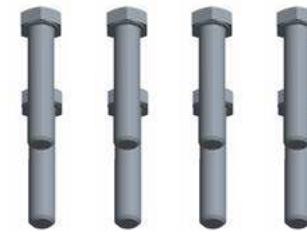
### Bearing Style



**BBD - Block Bearing Drilled**

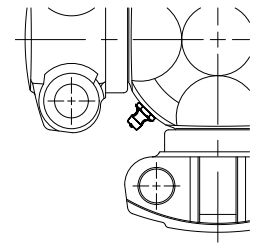


**LWT - Low Wing Threaded**

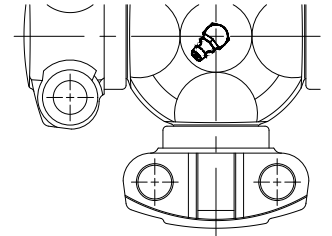


**Bolt Kit**

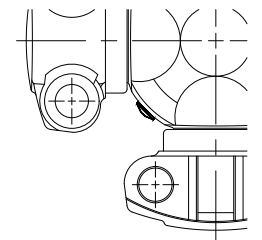
### Lubricator Types



**Side**



**Center**



**Perm-Lubed**

### A-side

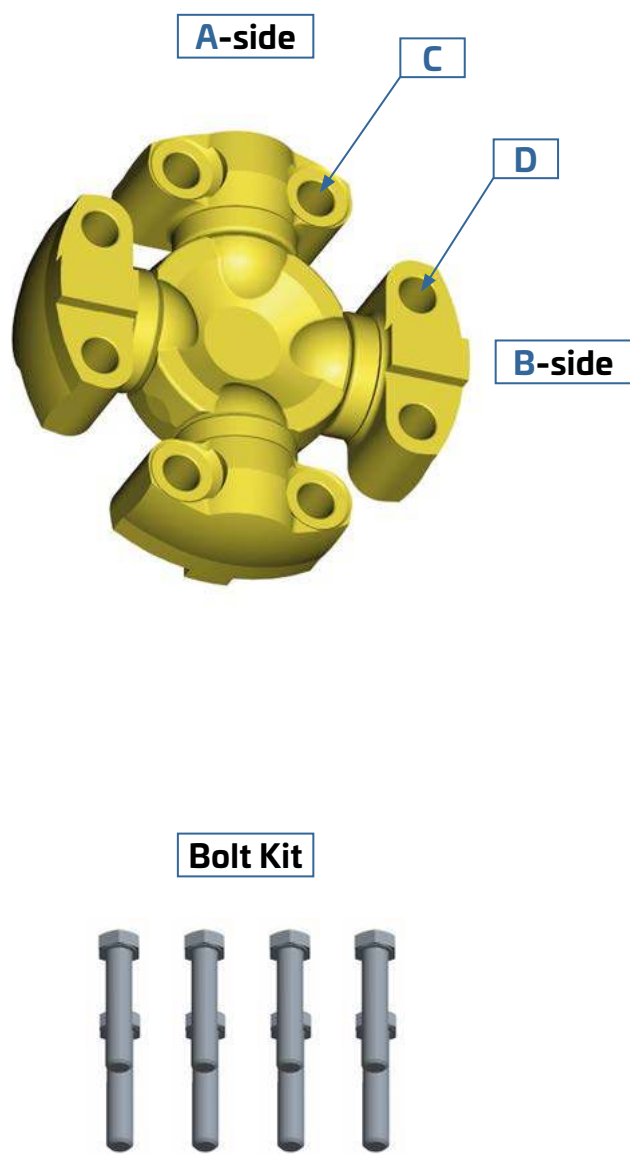


### B-side

Series	A x B Side			Re-lubed			Perm-lubed	
	Bearing Style	Std. Bolt Size <sup>1</sup>		Part no. w/ bolt kit	Part no. w/o bolt kit	⚙️	Part no. w/ bolt kit	Part no. w/o bolt kit
		(in)	(mm)					
2C	LWT	5/16" - 24						03087876
3C	BBD	5/16" - 24			03065798	S	03083423	03075694
4C	BBD	5/16" - 24		03065863	03065845	S	03076051	03070110
5C	BBD	3/8" - 24		03065903	03065904	S	03074476	03065964
5C	BBD		M10 x 1.50				03076792	03076791
6C	BBD	3/8" - 24		03065979	03065980	S	03075937	03071301
6C	BBD		M10 x 1.50	03079005	03078984	S	03080121	03079223
7C	BBD	1/2" - 20		03066075	03066076	S	03075956	03066149
7C	BBD		M12 x 1.75	03079382	03066076	S	03080807	03066149
8C	BBD	1/2" - 20		03066161	03066162	S	03075957	03066187
8.5C	BBD	1/2" - 20		03075958	03075821	C	03076258	03075885
9C	BBD	1/2" - 20		03075999	03075319	S	03076871	03075061
9.5C	BBD	1/2" - 20 FH					03075407	03080341
10C	BBD	5/8" - 18		03078705	03078325	S	03078776	03076390
10.5C	BBD	5/8" - 18 FH		03078975	03078974	S		
11C	BBD	3/4" - 16 FH		03078490	03076835	S	03078491	03076971
12C	BBD		M14 x 1.50		03076946	S		
15C	BBD	3/4" - 16 FH		03073380	03073381	S	03076938	03076102
15.5C	BBD	3/4" - 16 FH					03089401	03088203
20C	BBD		M24 x 3.00				03089074	03089065

<sup>1</sup>FH = Ferry head bolts (All others are hex head bolts)  
See [Mounting Capscrews](#) section for dimensional, Torque setting and additional information





## Bearing Style

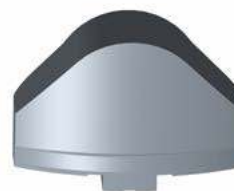


**BBD - Block Bearing Drilled**



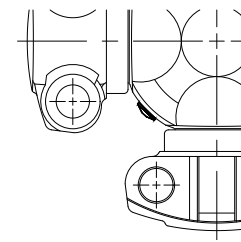
**LWT - Low Wing Threaded**

**LWD - Low Wing Drilled**

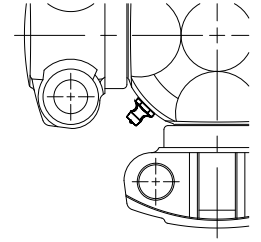


**DWT - Delta Wing Threaded**

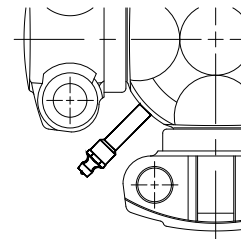
## Lubricator Types



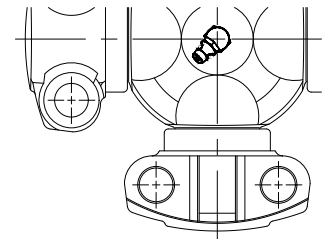
**Perm-Lubed**



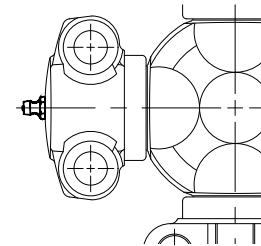
**Side**



**Side Long**

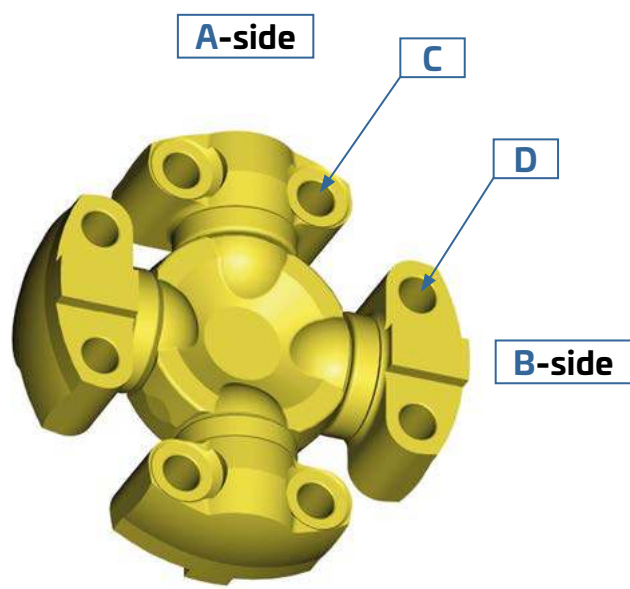


**Center**

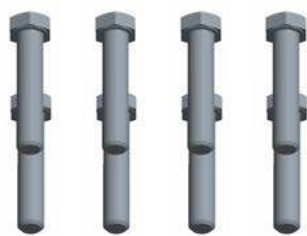


**1 x Bearing**

Series	A-Side			B-Side			Lubricator Type	Bolt Kit included	Part No.
	Bearing Style	Mounting Holes C		Bearing Style	Mounting holes D				
		(in)	(mm)		(in)	(mm)			
2C	DWT	5/16" - 24 UNF	-	DWT	5/16" - 24 UNF	-	1B	X	03065724
2C	DWT	5/16" - 24 UNF	-	DWT	5/16" - 24 UNF	-	1B		03065703
2C	LWD	11/32" (0,344)	8,7	DWT	5/16" - 24 UNF	-	1B		03075606
2C	LWD	11/32" (0,344)	8,7	LWD	11/32" (0,344)	8,7	P	X	03065746
2C	LWD	11/32" (0,344)	8,7	LWD	11/32" (0,344)	8,7	P		03065738
2C	LWD	11/32" (0,344)	8,7	LWT	5/16" - 24 UNF	-	1B	X	03065726
2C	LWD	11/32" (0,344)	8,7	LWT	5/16" - 24 UNF	-	P		03085313
3C	BBD	11/32" (0,344)	8,7	DWT	5/16" - 24 UNF	-	1B		03065777
3C	DWT	5/16" - 24 UNF	-	DWT	5/16" - 24 UNF	-	S	X	03086698
3C	DWT	5/16" - 24 UNF	-	DWT	5/16" - 24 UNF	-	S		03065795
3C	LWD	11/32" (0,344)	8,7	BBD	11/32" (0,344)	8,7	P	X	03071421
3C	LWD	11/32" (0,344)	8,7	BBD	11/32" (0,344)	8,7	P		03071420
3C	LWD	11/32" (0,344)	8,7	DWT	5/16" - 24 UNF	-	P		03065814
3C	LWD	11/32" (0,344)	8,7	DWT	5/16" - 24 UNF	-	S	X	03065821
3C	LWD	11/32" (0,344)	8,7	DWT	5/16" - 24 UNF	-	S		03065782
4C	DWT	5/16" - 24 UNF	-	BBD	11/32" (0,344)	8,7	S		03065871
4C	DWT	5/16" - 24 UNF	-	DWT	5/16" - 24 UNF	-	P		03065844
4C	DWT	5/16" - 24 UNF	-	DWT	5/16" - 24 UNF	-	S	X	03065831
4C	DWT	5/16" - 24 UNF	-	DWT	5/16" - 24 UNF	-	S		03065832
4C	LWD	11/32" (0,344)	8,7	BBD	11/32" (0,344)	8,7	S		03065852
4C	LWD	11/32" (0,344)	8,7	DWT	5/16" - 24 UNF	-	S		03065833
5C	DWT	3/8" - 24 UNF	-	BBD	13/32" (0,406)	10,3	S	X	03089854
5C	DWT	3/8" - 24 UNF	-	BBD	13/32" (0,406)	10,3	S		03065914
5C	DWT	3/8" - 24 UNF	-	DWT	3/8" - 24 UNF	-	S	X	03065893
5C	DWT	3/8" - 24 UNF	-	DWT	3/8" - 24 UNF	-	S		03065894
6C	BBD	13/32" (0,406)	10,3	BBD 2xKey	13/32" (0,406)	10,3	P		03076580
6C	DWT	3/8" - 24 UNF	-	BBD	13/32" (0,406)	10,3	P		03086509



**Bolt Kit**



## Bearing Style

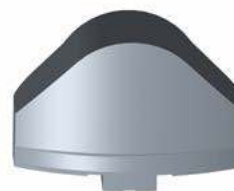


**BBD - Block Bearing Drilled**



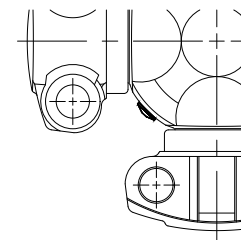
**LWT - Low Wing Threaded**

**LWD - Low Wing Drilled**

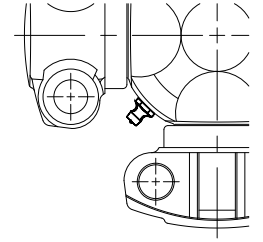


**DWT - Delta Wing Threaded**

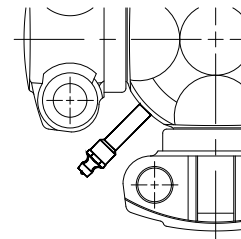
## Lubricator Types



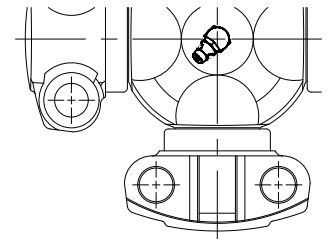
**Perm-Lubed**



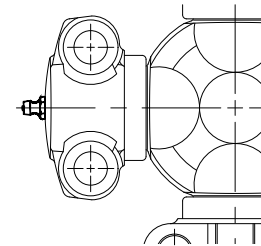
**Side**



**Side Long**



**Center**

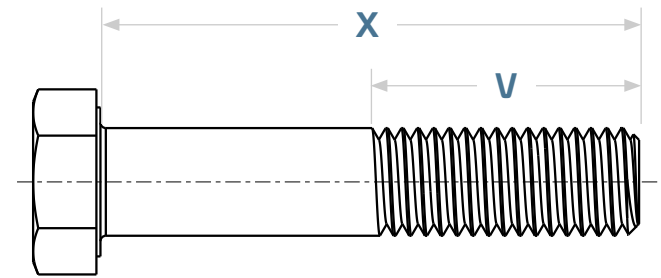


**1 x Bearing**

Series	A-Side			B-Side			Lubricator Type	Bolt Kit included	Part No.
	Bearing Style	Mounting Holes C		Bearing Style	Mounting holes D				
		(in)	(mm)		(in)	(mm)			
6C	DWT	3/8" - 24 UNF	-	BBD	13/32" (0,406)	10,3	S		03065971
6C	DWT	3/8" - 24 UNF	-	DWT	3/8" - 24 UNF	-	S	X	03065983
6C	DWT	3/8" - 24 UNF	-	DWT	3/8" - 24 UNF	-	S		03065984
7C	DWT	7/16" - 20 UNF	-	BBD	17/32" (0,531)	13,5	P		03085429
7C	DWT	7/16" - 20 UNF	-	BBD	17/32" (0,531)	13,5	S	X	03066087
7C	DWT	7/16" - 20 UNF	-	BBD	17/32" (0,531)	13,5	S		03066088
7C	DWT	7/16" - 20 UNF	-	DWT	7/16" - 20 UNF	-	S	X	03066083
7C	DWT	7/16" - 20 UNF	-	DWT	7/16" - 20 UNF	-	S		03066084
8.5C	LWD	17/32" (0,531)	13,5	LWD	17/32" (0,531)	13,5	P		03078177
8.5C	LWT	1/2" - 20 UNF	-	BBD	17/32" (0,531)	13,5	C	X	03077182
8.5C	LWT	1/2" - 20 UNF	-	BBD	17/32" (0,531)	13,5	C		03075981
8.5C	LWT	1/2" - 20 UNF	-	BBD	17/32" (0,531)	13,5	P		03075995
8.5C	LWT	1/2" - 20 UNF	-	LWT	1/2" - 20 UNF	-	C		03075980
9C	LWD	17/32" (0,531)	13,5	LWD	17/32" (0,531)	13,5	P		03078531
9C	LWD	17/32" (0,531)	13,5	LWD	17/32" (0,531)	13,5	S	X	03076003
9C	LWD	17/32" (0,531)	13,5	LWD	17/32" (0,531)	13,5	S		03075986
9C	LWT	1/2" - 20 UNF	-	BBD	17/32" (0,531)	13,5	S	X	03076001
9C	LWT	1/2" - 20 UNF	-	BBD	17/32" (0,531)	13,5	S		03075988
9C	LWT	1/2" - 20 UNF	-	LWT	1/2" - 20 UNF	-	P		03086999
9C	LWT	1/2" - 20 UNF	-	LWT	1/2" - 20 UNF	-	S	X	03076004
9C	LWT	1/2" - 20 UNF	-	LWT	1/2" - 20 UNF	-	S		03075985
10C	BBD	0,591	15	BBD	0,591	15	P		03078972
10C	BBD	0,591	15	BBD	0,591	15	S		03078965
10C	BBD	0,661	16,8	BBD	0,591	15	S		03078970
10C	BBD	0,661	16,8	BBD	0,591	15	SL		03078971
10C	BBD	0,661	16,8	BBD	0,661	16,8	S		03078976
10C	LWD	0,661	16,8	BBD	0,661	16,8	P		03089933
10C	LWD	0,661	16,8	LWD	0,661	16,8	S	X	03078966
10C	LWD	0,661	16,8	LWD	0,661	16,8	S		03078968

# Mechanics® Mounting Capscrews

To help insure universal joint retention, it is imperative that the correct capscrew be used and properly torqued.  
All Inch types must be Grade 8, Metric types Class 10.9 or equivalent quality.  
Capscrews must be clean, dry and without addition of any lubricant, non-coated and free from corrosion prior to assembly.

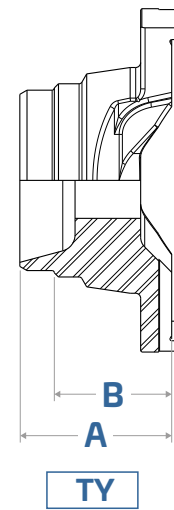
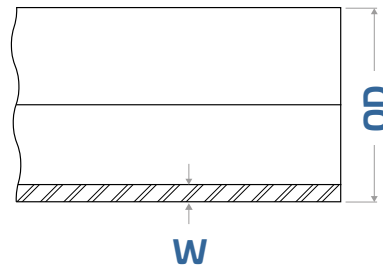


Series	Thread Size <sup>(1)</sup>		For Use With Threaded Yoke Block Bearings Drilled – BBD				For Use With Drilled Yoke Low/Delta Wing Threaded Bearings – LWT/DWT				Torque setting			
			Part No.	Length under head X		Thread length V		Part No.	Length under head X				Thread length V	
	(in)	(mm)		(in)	(mm)	(in)	(mm)		(in)	(mm)	(in)	(mm)	(lb. ft)	(N.m)
2C	5/16" - 24							02060987	0.75	19,1	0.62	15,7	22-27	30-37
3C	5/16" - 24		02061010	1.50	38,1	0.88	22,4	02060987	0.75	19,1	0.62	15,7	22-27	30-37
3C		M8 x 1.25	02075692	1.57	40,0	0.87	22,0						22-27	30-37
4C	5/16" - 24		02061010	1.50	38,1	0.88	22,4	02060984	0.88	22,4	0.75	19,1	22-27	30-37
4C		M8 x 1.25	02075692	1.57	40,0	0.87	22,0						22-27	30-37
5C	3/8" - 24		02061025	1.75	44,5	1.00	25,4	02060980	1.00	25,4	0.88	22,4	37-49	50-66
5C		M10 x 1.50	02076692	1.77	45,0	1.02	26,0						37-49	50-66
6C	3/8" - 24		02061025	1.75	44,5	1.00	25,4	02060980	1.00	25,4	0.88	22,4	37-49	50-66
6C		M10 x 1.50	02076692	1.77	45,0	1.02	26,0						37-49	50-66
7C	7/16" - 20							02060981	1.06	26,9	0.94	23,9	65-75	88-102
7C	1/2" - 20		02061026	2.00	50,8	1.25	31,8						70-80	95-108
7C		M12 x 1.75	02079381	2.17	55,0	1.18	30,0						70-80	95-108

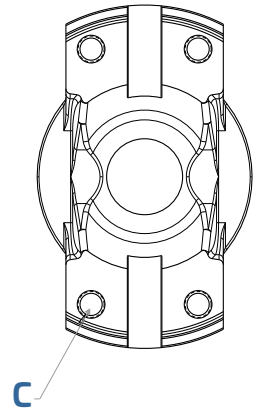
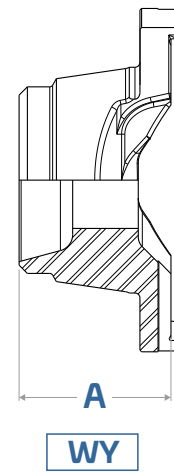
Series	Thread Size <sup>(1)</sup>		For Use With Threaded Yoke Block Bearings Drilled – BBD				For Use With Drilled Yoke Low/Delta Wing Threaded Bearings – LWT/DWT				Torque setting			
			Part No.	Length under head X		Thread length V		Part No.	Length under head X				Thread length V	
	(in)	(mm)		(in)	(mm)	(in)	(mm)		(in)	(mm)	(in)	(mm)	(lb. ft)	(N.m)
8C	7/16" - 20							02060996	1.25	31,8	1.12	28,4	65-75	88-102
8C	1/2" - 20		02061026	2.00	50,8	1.25	31,8						70-80	95-108
8C		M12 x 1.75	02079381	2.17	55,0	1.18	30,0						70-80	95-108
8.5C	1/2" - 20		02061023	2.25	57,2	1.25	31,8	02061020	1.38	35,1	1.12	28,4	110-120	149-163
8.5C		M12 x 1.75	02082461	2.36	60,0	1.18	30,0						95-105	129-142
9C	1/2" - 20		02061023	2.25	57,2	1.25	31,8	02061020	1.38	35,1	1.12	28,4	110-120	149-163
9C		M12 x 1.75	02082461	2.36	60,0	1.18	30,0						95-105	129-142
9.5C	1/2" - 20 FH		02074569	2.50	63,5	0.81	20,6						90-110	122-149
10C	5/8" - 18		02061075	3.25	82,6	1.50	38,1						230-240	312-325
10C		M16 x 2.00	02074613	3.15	80,0	1.50	38,0						230-240	312-325
10.5C	5/8" - 18 FH		02072424	3.25	82,6	1.38	35,1						230-240	312-325
11C	3/4" - 16 FH		02077219	3.50	88,9	1.25	31,8						315-345	427-468
11C		M20 x 2.50	02076818	3.54	90,0	2.05	52,0						390-420	529-569
12C		M14 x 1.50	02080344	3.15	80,0	1.34	34,0						140-160	190-217
15C/15.5C	3/4" - 16 FH		02077219	3.50	88,9	1.25	31,8						315-345	427-468
15C/15.5C		M20 x 2.50	02076818	3.54	90,0	2.05	52,0						390-420	529-569
20C		M24 x 3.00	02086158	5.51	140,0	2.36	60,0						700-775	949-1051

<sup>1</sup> FH = Ferry head bolts (All others are hex head bolts)

## Tube Yoke (TY)



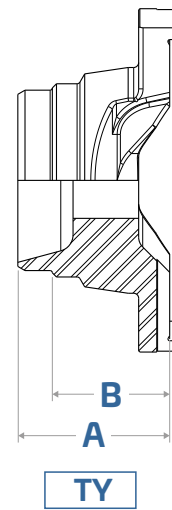
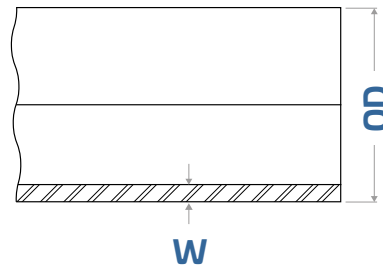
## Weld Yoke (WY)



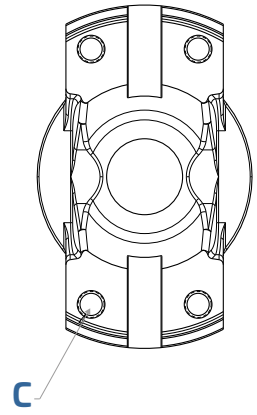
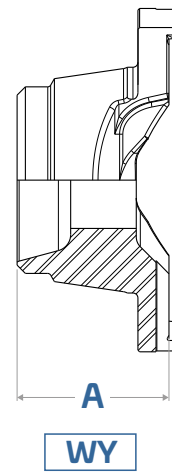
Series	Type	Tube Size OD x Wall		Overall Length A		Weld Length B		Mounting Holes C		Part No.
		(in)	(mm)	(in)	(mm)	(in)	(mm)	(in)	(mm)	
2C	TY	2.000 x 0.065	50,8 x 1,7	1.380	35,1	1.000	25,4	11/32" (0,344)	8,7	02065133
3C	TY	2.500 x 0.083	63,5 x 2,1	1.880	47,8	1.250	31,8	5/16" - 24 UNF	-	02065418
4C	TY	2.500 x 0.083	63,5 x 2,1	1.880	47,8	1.250	31,8	5/16" - 24 UNF	-	02065197
4C	TY	2.500 x 0.095	63,5 x 2,4	1.880	47,8	1.250	31,8	11/32" (0,344)	8,7	02065125
4C	WY			1.160	29,5			5/16" - 24 UNF	-	02065321
4C	WY			1.734	44,0			5/16" - 24 UNF	-	02065270
4C	WY			1.500	38,1			5/16" - 24 UNF	-	02065372
5C	TY	2.360 x 0.200	59,9 x 5,1	1.880	47,8	1.125	28,6	-	M10 x 1.50	02088526
5C	TY	2.500 x 0.095	63,5 x 2,4	1.880	47,8	1.125	28,6	13/32" (0,406)	10,3	02065119
5C	TY	2.500 x 0.109	63,5 x 2,8	1.880	47,8	1.125	28,6	13/32" (0,406)	10,3	02065138
5C	TY	2.500 x 0.109	63,5 x 2,8	1.880	47,8	1.125	28,6	3/8" - 24 UNF	-	02065188
5C	TY	2.500 x 0.109	63,5 x 2,8	1.880	47,8	1.125	28,6	-	M10 x 1.50	02079566
5C	TY	2.500 x 0.109	63,5 x 2,8	3.030	77,0	2.250	57,2	3/8" - 24 UNF	-	02065360
5C	TY	2.500 x 0.109	63,5 x 2,8	3.030	77,0	2.250	57,2	-	M10 x 1.50	02078991
5C	TY	2.500 x 0.188	63,5 x 4,8	1.880	47,8	1.125	28,6	-	M10 x 1.50	02087579
6C	TY	2.360 x 0.200	59,9 x 5,1	2.680	68,1	1.875	47,6	-	M10 x 1.50	02088048
6C	TY	2.500 x 0.109	63,5 x 2,8	2.500	63,5	1.875	47,6	-	M10 x 1.50	02088102
6C	TY	3.000 x 0.095	76,2 x 2,4	2.380	60,5	1.875	47,6	-	M10 x 1.50	02078992
6C	TY	3.000 x 0.095	76,2 x 2,4	2.500	63,5	1.875	47,6	13/32" (0,406)	10,3	02065122
6C	TY	3.000 x 0.095	76,2 x 2,4	2.500	63,5	1.875	47,6	3/8" - 24 UNF	-	02065182
6C	TY	3.000 x 0.120	76,2 x 3,0	2.440	62,0	1.875	47,6	3/8" - 24 UNF	-	02065240
6C	TY	3.000 x 0.188	76,2 x 4,8	2.470	62,7	1.875	47,6	3/8" - 24 UNF	-	02065250
6C	TY	3.000 x 0.188	76,2 x 4,8	2.470	62,7	1.875	47,6	-	M10 x 1.50	02086641
6C	TY	3.150 x 0.138	80,0 x 3,5	2.325	59,1	1.774	45,1	3/8" - 24 UNF	-	02090236
6C	TY	3.500 x 0.095	88,9 x 2,4	2.500	63,5	1.875	47,6	13/32" (0,406)	10,3	02065180
6C	TY	3.500 x 0.095	88,9 x 2,4	2.500	63,5	1.875	47,6	3/8" - 24 UNF	-	02065292
6C	TY	3.500 x 0.095	88,9 x 2,4	2.500	63,5	1.875	47,6	-	M10 x 1.50	02083553
6C	WY			2.250	57,2			3/8" - 24 UNF	-	02065252
6C	WY			2.344	59,5			13/32" (0,406)	10,3	02065295



## Tube Yoke (TY)



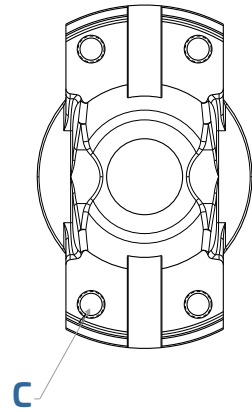
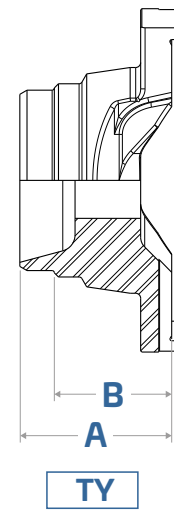
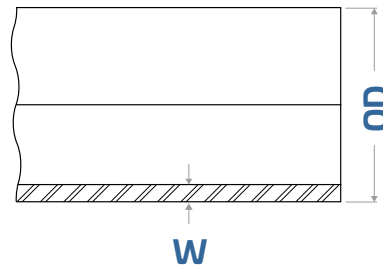
## Weld Yoke (WY)



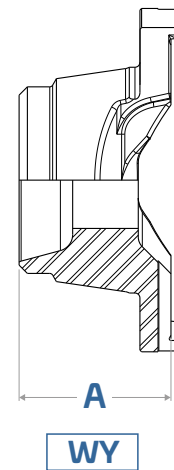
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		(in)	(mm)	(in)	(mm)	(in)	(mm)	(in)	(mm)	
6C	WY			2.405	61,1			-	M10 x 1.50	02088463
6C	WY			2.477	62,9			3/8" - 24 UNF	-	02065331
7C	TY	3.000 x 0.120	76,2 x 3,0	3.030	77,0	2.125	54,0	15/32" (0,469)	11,9	02065124
7C	TY	3.000 x 0.188	76,2 x 4,8	2.750	69,9	2.125	54,0	-	M12 x 1.75	02087366
7C	TY	3.500 x 0.095	88,9 x 2,4	2.750	69,9	2.125	54,0	15/32" (0,469)	11,9	02065172
7C	TY	3.500 x 0.120	88,9 x 3,0	2.750	69,9	2.125	54,0	15/32" (0,469)	11,9	02065186
7C	TY	3.500 x 0.120	88,9 x 3,0	2.750	69,9	2.125	54,0	1/2" - 20 UNF	-	02065230
7C	TY	3.500 x 0.120	88,9 x 3,0	2.750	69,9	2.125	54,0	-	M12 x 1.75	02079241
7C	TY	3.500 x 0.188	88,9 x 4,8	2.720	69,1	2.125	54,0	1/2" - 20 UNF	-	02065290
7C	TY	3.500 x 0.188	88,9 x 4,8	2.720	69,1	2.125	54,0	-	M12 x 1.75	02086362
7C	TY	3.543 x 0.157	90,0 x 4,0	2.549	64,7	1.959	49,8	1/2" - 20 UNF	-	02089050
7C	TY	3.543 x 0.157	90,0 x 4,0	2.549	64,7	1.959	49,8	-	M12 x 1.75	02089030
7C	WY			2.750	69,9			-	M12 x 1.75	02090595
8C	TY	3.000 x 0.188	76,2 x 4,8	3.880	98,6	3.125	79,4	1/2" - 20 UNF	-	02078068
8C	TY	3.500 x 0.188	88,9 x 4,8	3.440	87,4	2.688	68,3	1/2" - 20 UNF	-	02078792
8C	TY	4.000 x 0.188	101,6 x 4,8	3.440	87,4	2.688	68,3	1/2" - 20 UNF	-	02065365
8C	TY	4.000 x 0.188	101,6 x 4,8	3.610	91,7	2.688	68,3	1/2" - 20 UNF	-	02065262
8C	TY	4.000 x 0.188	101,6 x 4,8	3.610	91,7	2.688	68,3	-	M12 x 1.75	02084643
8C	WY			2.455	62,4			1/2" - 20 UNF	-	02088937
8C	WY			3.250	82,6			1/2" - 20 UNF	-	02078703
8.5C	TY	2.578 x 0.254	65,5 x 6,5	2.880	73,2	2.375	60,3	1/2" - 20 UNF	-	02089300
8.5C	TY	3.000 x 0.254	76,2 x 6,5	3.875	98,4	2.500	63,5	1/2" - 20 UNF	-	02087959
8.5C	TY	3.000 x 0.254	76,2 x 6,5	4.790	121,7	3.415	86,7	1/2" - 20 UNF	-	02086797
8.5C	TY	3.500 x 0.188	88,9 x 4,8	3.120	79,2	2.250	57,2	17/32" (0,531)	13,5	02085606
8.5C	TY	3.715 x 0.188	94,4 x 4,8	2.880	73,2	2.125	54,0	1/2" - 20 UNF	-	02074020
8.5C	TY	3.937 x 0.236	100,0 x 6,0	2.760	70,1	2.125	54,0	1/2" - 20 UNF	-	02090051
8.5C	TY	3.937 x 0.236	100,0 x 6,0	2.760	70,1	2.125	54,0	-	M12 x 1.75	02089464
8.5C	TY	4.000 x 0.188	101,6 x 4,8	2.880	73,2	2.125	54,0	-	M12 x 1.75	02080400
8.5C	TY	4.000 x 0.188	101,6 x 4,8	2.880	73,2	2.845	72,3	-	M12 x 1.75	02087830



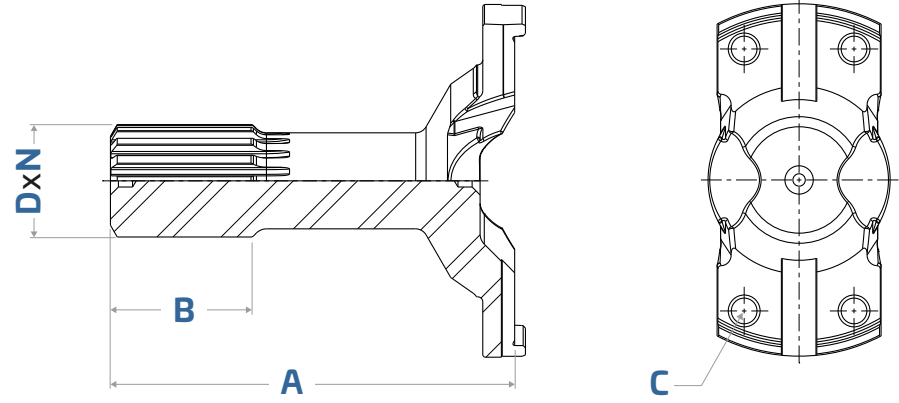
## Tube Yoke (TY)



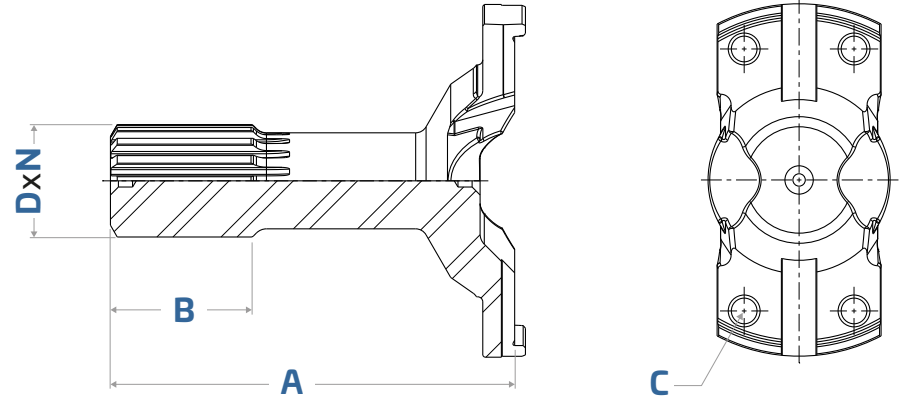
## Weld Yoke (WY)



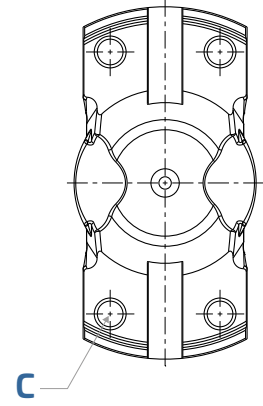
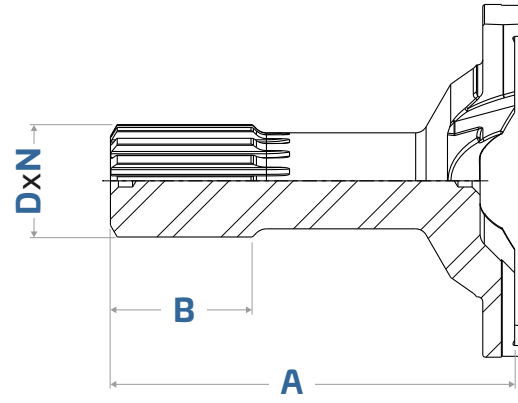
Series	Type	Tube Size OD x Wall		Overall Length A		Weld Length B		Mounting Holes C		Part No.
		(in)	(mm)	(in)	(mm)	(in)	(mm)	(in)	(mm)	
8.5C	WY			2.750	69,9			1/2" - 20 UNF	-	02090322
9C	TY	4.000 x 0.188	101,6 x 4,8	3.250	82,6	2.500	63,5	17/32" (0,531)	13,5	02086921
9C	TY	4.500 x 0.250	114,3 x 6,4	3.250	82,6	2.500	63,5	1/2" - 20 UNF	-	02065288
9C	TY	4.500 x 0.250	114,3 x 6,4	3.270	83,1	2.500	63,5	17/32" (0,531)	13,5	02065269
9C	TY	4.500 x 0.375	114,3 x 9,5	3.270	83,1	2.500	63,5	1/2" - 20 UNF	-	02077578
9C	TY	4.500 x 0.375	114,3 x 9,5	3.270	83,1	2.500	63,5	1/2" - 20 UNF	-	02077768
9C	TY	4.500 x 0.375	114,3 x 9,5	3.270	83,1	2.500	63,5	-	M12 x 1.75	02079447
9C	TY	4.528 x 0.236	115,0 x 6,0	3.190	81,0	2.488	63,2	1/2" - 20 UNF	-	02090282
9C	TY	4.528 x 0.236	115,0 x 6,0	3.190	81,0	2.488	63,2	-	M12 x 1.75	02089927
9C	WY			2.515	63,9			-	M12 x 1.75	02090320
9C	WY			2.555	64,9			-	M12 x 1.75	02088677
9C	WY			2.595	65,9			1/2" - 20 UNF	-	02076821
9C	WY			2.845	72,3			-	M12 x 1.75	02087829
9C	WY			2.845	72,3			-	M12 x 1.75	02087607
10C	TY	5.000 x 0.375	127,0 x 9,5	4.410	112,0	3.875	98,4	5/8" - 18 UNF	-	02076126
10C	TY	5.000 x 0.375	127,0 x 9,5	4.410	112,0	3.875	98,4	-	M16 x 2.00	02079982
10C	TY	5.118 x 0.276	130,0 x 7,0	4.250	108,0	3.465	88,0	5/8" - 18 UNF	-	02090182
10C	TY	5.118 x 0.276	130,0 x 7,0	4.250	108,0	3.465	88,0	-	M16 x 2.00	02090183
10C	WY			2.487	63,2			5/8" - 18 UNF	-	02080910
10C	WY			3.898	99,0			-	M16 x 2.00	02090368
11C	TY	6.500 x 0.375	165,1 x 9,5	4.500	114,3	3.500	88,9	3/4" - 16 UNF	-	02076181
11C	TY	6.500 x 0.375	165,1 x 9,5	4.500	114,3	3.500	88,9	-	M20 x 2.50	02080277
12C	TY	6.500 x 0.375	165,1 x 9,5	5.000	127,0	4.000	101,6	-	M14 x 1.50	02080348
15C	TY	6.500 x 0.375	165,1 x 9,5	5.000	127,0	4.000	101,6	3/4" - 16 UNF	-	02076185
15C	TY	6.500 x 0.375	165,1 x 9,5	5.000	127,0	4.000	101,6	-	M20 x 2.50	02078686
15C	TY	6.500 x 0.500	165,1 x 12,7	5.000	127,0	4.000	101,6	3/4" - 16 UNF	-	02077796
15C	TY	7.250 x 0.375	184,2 x 9,5	5.250	133,4	3.500	88,9	3/4" - 16 UNF	-	02088915
20C	TY	8.000 x 0.500	203,2 x 12,7	6.500	165,1	5.500	139,7	-	M24 x 3.00	02087120



Series	Spline Size (D X No. of Teeth)		Overall Length A		Spline Length B		Mounting Holes C		Notes	Part No.
	(in)	(mm)	(in)	(mm)	(in)	(mm)	(in)	(mm)		
2C	1.190 x 16	30,2 x 16	5.000	127,0	1.844	46,8	11/32" (0,344)	8,7	C - Str. Side	02065001
4C	1.380 x 16	35,1 x 16	4.812	122,2	2.038	51,8	11/32" (0,344)	8,7	C - Str. Side	02065000
5C	1.570 x 16	39,6 x 16	7.437	188,9	3.000	76,2	13/32" (0,406)	10,3	C - Str. Side	02089780
5C	1.570 x 16	39,6 x 16	7.625	193,7	3.000	76,2	3/8" - 24 UNF	-	C - Str. Side	02070085
5C	1.750 x 16	44,5 x 16	4.625	117,5	2.125	54,0	3/8" - 24 UNF	-	C - Str. Side	02076736
5C	1.750 x 20	44,5 x 20	4.625	117,5	2.120	53,8	3/8" - 24 UNF	-	EC - Involute	02084771
5C	1.750 x 20	44,5 x 20	9.125	231,8	6.000	152,4	3/8" - 24 UNF	-	EC - Involute	02084958
6C	1.750 x 16	44,5 x 16	4.875	123,8	1.750	44,5	3/8" - 24 UNF	-	C - Str. Side Nylon-coated	02089473
6C	1.750 x 16	44,5 x 16	5.125	130,2	1.750	44,5	3/8" - 24 UNF	-	C - Str. Side	02078450
6C	1.750 x 16	44,5 x 16	5.250	133,4	2.125	54,0	3/8" - 24 UNF	-	C - Str. Side	02065017
6C	1.750 x 16	44,5 x 16	5.625	142,9	2.750	69,9	3/8" - 24 UNF	-	C - Str. Side Nylon-coated	02078826
6C	1.750 x 16	44,5 x 16	8.000	203,2	2.250	57,2	3/8" - 24 UNF	-	C - Str. Side	02078772
6C	1.750 x 16	44,5 x 16	8.125	206,4	2.250	57,2	3/8" - 24 UNF	-	C - Str. Side	02078444
6C	1.750 x 16	44,5 x 16	8.375	212,7	3.000	76,2	3/8" - 24 UNF	-	C - Str. Side	02078442
6C	1.750 x 16	44,5 x 16	9.125	231,8	3.000	76,2	3/8" - 24 UNF	-	C - Str. Side Nylon-coated	02085624
6C	1.750 x 16	44,5 x 16	9.250	235,0	2.250	57,2	3/8" - 24 UNF	-	C - Str. Side Nylon-coated	02080468
6C	1.750 x 16	44,5 x 16	9.750	247,7	3.000	76,2	3/8" - 24 UNF	-	C - Str. Side Nylon-coated	02085358
6C	1.750 x 16	44,5 x 16	9.875	250,8	3.000	76,2	3/8" - 24 UNF	-	C - Str. Side Nylon-coated	02073365
6C	1.750 x 16	44,5 x 16	10.750	273,1	2.250	57,2	3/8" - 24 UNF	-	C - Str. Side	02078518
6C	1.750 x 16	44,5 x 16	10.880	276,4	3.000	76,2	3/8" - 24 UNF	-	C - Str. Side	02078441
6C	1.750 x 16	44,5 x 16	13.120	333,2	2.250	57,2	3/8" - 24 UNF	-	C - Str. Side	02077024
7C	2.000 x 16	50,8 x 16	6.380	162,1	3.000	76,2	1/2" - 20 UNF	-	C - Str. Side	02080264
7C	2.000 x 16	50,8 x 16	6.625	168,3	2.500	63,5	1/2" - 20 UNF	-	C - Str. Side	02065078
7C	2.000 x 16	50,8 x 16	6.880	174,8	2.750	69,9	-	M12 x 1.75	C - Str. Side	02086211
7C	2.000 x 16	50,8 x 16	7.125	181,0	2.750	69,9	1/2" - 20 UNF	-	C - Str. Side Nylon-coated	02084617
7C	2.000 x 16	50,8 x 16	7.625	193,7	2.750	69,9	1/2" - 20 UNF	-	C - Str. Side Nylon-coated	02075686
7C	2.000 x 16	50,8 x 16	7.880	200,2	3.250	82,6	1/2" - 20 UNF	-	C - Str. Side	02077163
7C	2.000 x 16	50,8 x 16	8.375	212,7	4.000	101,6	1/2" - 20 UNF	-	C - Str. Side	02071026



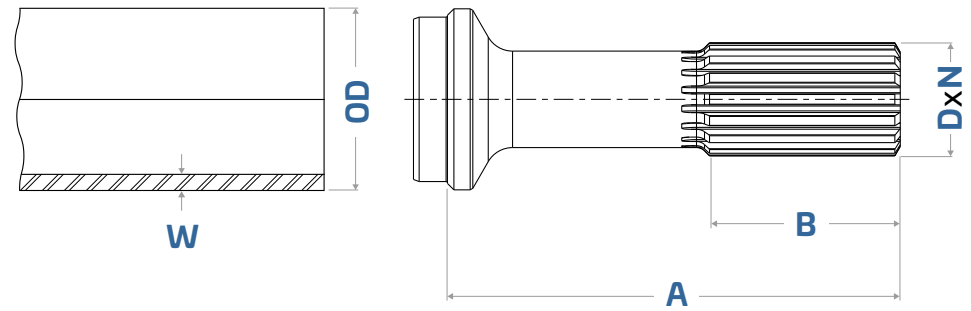
Series	Splines Size (D X No. of Teeth)		Overall Length A		Splines Length B		Mounting Holes C		Notes	Part No.
	(in)	(mm)	(in)	(mm)	(in)	(mm)	(in)	(mm)		
7C	2.000 x 16	50,8 x 16	8.625	219,1	4.000	101,6	-	M12 x 1.75	C - Str. Side	02079380
7C	2.000 x 16	50,8 x 16	9.380	238,3	4.000	101,6	1/2" - 20 UNF	-	C - Str. Side	02065045
7C	2.000 x 16	50,8 x 16	9.880	251,0	4.000	101,6	1/2" - 20 UNF	-	C - Str. Side	02078849
7C	2.000 x 16	50,8 x 16	10.125	257,2	4.000	101,6	1/2" - 20 UNF	-	C - Str. Side	02072173
7C	2.000 x 16	50,8 x 16	10.625	269,9	4.000	101,6	1/2" - 20 UNF	-	C - Str. Side Nylon-coated	02065053
7C	2.000 x 16	50,8 x 16	11.375	288,9	4.000	101,6	1/2" - 20 UNF	-	C - Str. Side Nylon-coated	02065065
7C	2.000 x 16	50,8 x 16	11.875	301,6	4.000	101,6	1/2" - 20 UNF	-	C - Str. Side	02079866
7C	2.000 x 16	50,8 x 16	16.625	422,3	4.000	101,6	1/2" - 20 UNF	-	C - Str. Side Nylon-coated	02078631
7C	2.000 x 16	50,8 x 16	17.880	454,2	4.000	101,6	1/2" - 20 UNF	-	C - Str. Side Nylon-coated	02088104
7C	2.000 x 16	50,8 x 16	18.620	472,9	4.000	101,6	1/2" - 20 UNF	-	C - Str. Side Nylon-coated	02070494
7C	2.000 x 16	50,8 x 16	19.120	485,6	4.000	101,6	1/2" - 20 UNF	-	C - Str. Side Nylon-coated	02084467
7C	2.000 x 16	50,8 x 16	22.880	581,2	4.000	101,6	1/2" - 20 UNF	-	C - Str. Side	02078848
7C	2.000 x 16	50,8 x 16	23.440	595,4	4.000	101,6	1/2" - 20 UNF	-	C - Str. Side	02078850
7C	2.250 x 26	57,2 x 26	6.375	161,9	3.250	82,6	1/2" - 20 UNF	-	EC - Involute	02084709
7C	2.250 x 26	57,2 x 26	10.875	276,2	6.000	152,4	1/2" - 20 UNF	-	EC - Involute	02083785
7C	2.500 x 16	63,5 x 16	4.688	119,1	1.800	45,7	-	M12 x 1.75	C - Str. Side Nylon-coated	02087593
8C	2.500 x 16	63,5 x 16	8.000	203,2	3.000	76,2	1/2" - 20 UNF	-	C - Str. Side	02075156
8C	2.500 x 16	63,5 x 16	9.125	231,8	4.000	101,6	1/2" - 20 UNF	-	C - Str. Side	02072326
8C	2.500 x 16	63,5 x 16	9.375	238,1	4.000	101,6	1/2" - 20 UNF	-	C - Str. Side	02065050
8C	2.500 x 16	63,5 x 16	11.625	295,3	4.500	114,3	1/2" - 20 UNF	-	C - Str. Side	02070652
8C	2.500 x 16	63,5 x 16	11.625	295,3	3.000	76,2	1/2" - 20 UNF	-	C - Str. Side	02079868
8C	2.500 x 16	63,5 x 16	14.375	365,1	4.500	114,3	1/2" - 20 UNF	-	C - Str. Side Nylon-coated	02071696
8C	2.500 x 16	63,5 x 16	15.375	390,5	4.500	114,3	1/2" - 20 UNF	-	C - Str. Side Nylon-coated	02078144
8C	3.020 x 35	76,2 x 35	12.500	317,5	6.500	165,1	1/2" - 20 UNF	-	EC - Involute Nylon-coated	02087314
8C	3.020 x 35	76,2 x 35	12.500	317,5	6.500	165,1	-	M12 x 1.75	EC - Involute Nylon-coated	02087347
8C	3.020 x 35	76,2 x 35	14.000	355,6	6.500	165,1	1/2" - 20 UNF	-	EC - Involute Nylon-coated	02087350
8.5C	2.250 x 26	57,2 x 26	6.905	175,4	3.650	92,7	-	M12 x 1.75	EC - Involute	02089845
8.5C	2.500 x 16	63,5 x 16	5.375	136,5	2.375	60,3	1/2" - 20 UNF	-	C - Str. Side Nylon-coated	02089259
8.5C	2.500 x 16	63,5 x 16	7.625	193,7	2.750	69,9	1/2" - 20 UNF	-	C - Str. Side	02065054



Series	Spline Size (D X No. of Teeth)		Overall Length A		Spline Length B		Mounting Holes C		Notes	Part No.
	(in)	(mm)	(in)	(mm)	(in)	(mm)	(in)	(mm)		
8.5C	2.500 x 16	63,5 x 16	8.125	206,4	2.750	69,9	1/2" - 20 UNF	-	C - Str. Side Nylon-coated	02089694
8.5C	2.500 x 16	63,5 x 16	9.125	231,8	4.000	101,6	1/2" - 20 UNF	-	C - Str. Side	02085904
8.5C	2.500 x 16	63,5 x 16	10.375	263,5	4.000	101,6	1/2" - 20 UNF	-	C - Str. Side	02076294
8.5C	2.500 x 16	63,5 x 16	11.375	288,9	4.500	114,3	1/2" - 20 UNF	-	C - Str. Side Nylon-coated	02087057
8.5C	2.500 x 16	63,5 x 16	12.375	314,3	4.500	114,3	1/2" - 20 UNF	-	C - Str. Side	02070695
8.5C	3.020 x 35	76,2 x 35	7.000	177,8	3.370	85,6	1/2" - 20 UNF	-	EC - Involute Nylon-coated	02087059
8.5C	3.020 x 35	76,2 x 35	7.000	177,8	3.370	85,6	-	M12 x 1.75	EC - Involute Nylon-coated	02089844
8.5C	3.020 x 35	76,2 x 35	9.250	235,0	5.000	127,0	1/2" - 20 UNF	-	EC - Involute Nylon-coated	02083603
8.5C	3.020 x 35	76,2 x 35	12.750	323,9	6.500	165,1	1/2" - 20 UNF	-	EC - Involute Nylon-coated	02087328
9C	2.500 x 16	63,5 x 16	11.750	298,5	5.380	136,7	1/2" - 20 UNF	-	C - Str. Side	02086189
9C	2.500 x 16	63,5 x 16	12.250	311,2	4.250	108,0	-	M12 x 1.75	C - Str. Side Nylon-coated	02087137
9C	2.500 x 16	63,5 x 16	14.250	362,0	5.375	136,5	1/2" - 20 UNF	-	C - Str. Side	02073109
9C	3.440 x 32*	86,4 x 32*	6.875	174,6	2.810	71,4	-	M12 x 1.75	C - Involute Nylon-coated	02087136
9C	3.440 x 32*	86,4 x 32*	13.630	346,2	5.620	142,7	-	M12 x 1.75	C - Involute Nylon-coated	02088004
9C	3.440 x 32*	86,4 x 32*	13.630	346,2	5.620	142,7	-	M12 x 1.75	C - Involute Nylon-coated	02089400
10C	3.440 x 32*	86,4 x 32*	8.175	207,6	4.250	108,0	-	M16 x 2.00	EC - Involute Nylon-coated	02089666
10C	3.440 x 32*	86,4 x 32*	10.880	276,4	6.380	162,1	5/8" - 18 UNF	-	EC - Involute Nylon-coated	02088936
10C	3.440 x 32*	86,4 x 32*	11.380	289,1	5.750	146,1	-	M16 x 2.00	C - Involute	02084982
10C	3.440 x 32*	86,4 x 32*	16.750	425,5	6.000	152,4	-	M16 x 2.00	C - Involute Nylon-coated	02090131
10C	3.440 x 32*	86,4 x 32*	18.120	460,2	6.000	152,4	5/8" - 18 UNF	-	C - Involute Nylon-coated	02086682
10C	3.440 x 32*	86,4 x 32*	18.120	460,2	6.000	152,4	-	M16 x 2.00	C - Involute Nylon-coated	02089575
10C	3.440 x 32*	86,4 x 32*	18.620	472,9	6.000	152,4	5/8" - 18 UNF	-	C - Involute Nylon-coated	02083450
10C	3.900 x 37*	99,1 x 37*	16.470	418,3	10.120	257,0	-	M16 x 2.00	EC - Involute Nylon-coated	02083472
10C	3.900 x 37*	99,1 x 37*	16.470	418,3	10.300	261,6	-	M16 x 2.00	EC - Involute Nylon-coated	02087636
11C	3.900 x 37*	99,1 x 37*	13.920	353,6	6.750	171,5	-	M20 x 2.50	C - Involute Nylon-coated	02087024
15C	3.900 x 37*	99,1 x 37*	12.250	311,2	4.500	114,3	-	M20 x 2.50	C - Involute Nylon-coated	02087022
15C	3.900 x 37*	99,1 x 37*	13.380	339,9	4.000	101,6	-	M20 x 2.50	C - Involute Nylon-coated	02087019
20C	5.667 x 32*	143,9 x 32*	15.250	387,4	8.625	219,1	-	M24 x 3.00	EC - Involute Nylon-coated	02086160

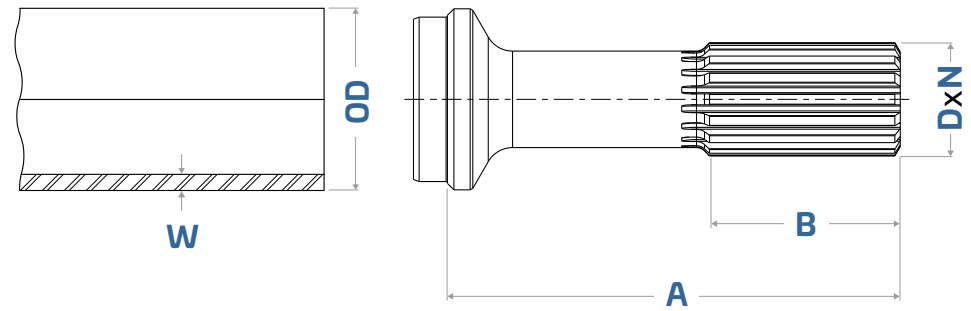
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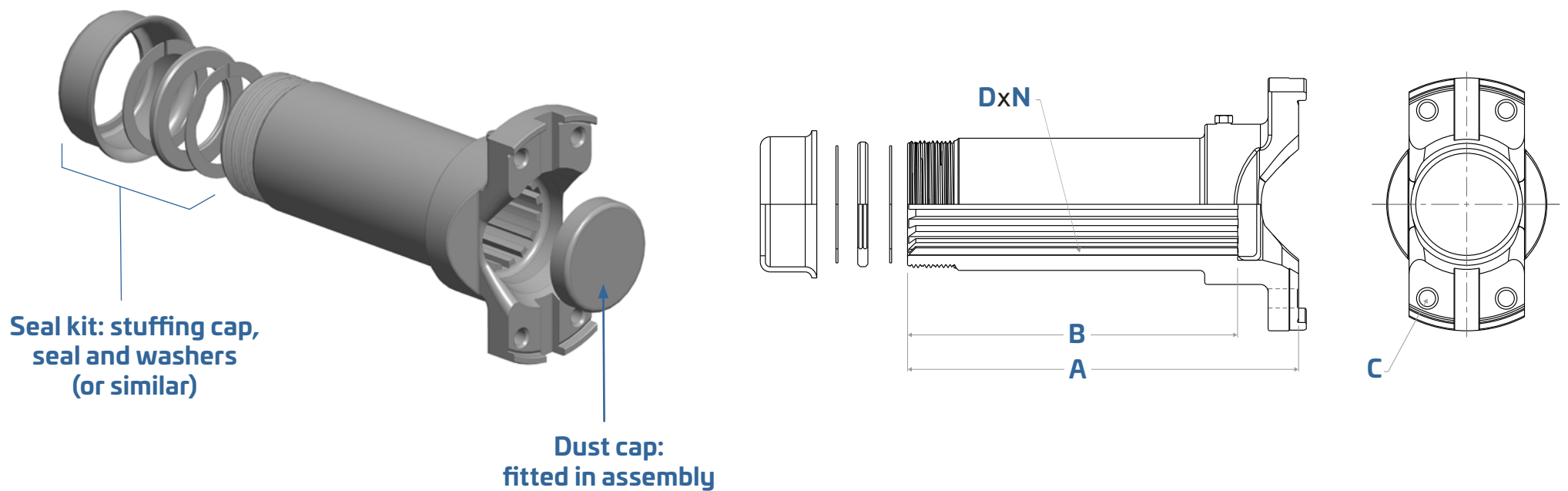
Tube Size OD x Wall Thick.		Splined Size (D x No. of Teeth)		Weld Length A		Splined Length B		Notes	Part No.
(in)	(mm)	(in)	(mm)	(in)	(mm)	(in)	(mm)		
2.000 x 0.095	50,8 x 2,4	1.190 x 16	30,2 x 16	5.280	134,1	2.120	53,8	C - Str. Side	02061614
2.500 x 0.095	63,5 x 2,4	1.380 x 16	35,1 x 16	6.120	155,4	2.250	57,2	C - Str. Side	02061710
2.500 x 0.109	63,5 x 2,8	1.570 x 16	39,6 x 16	6.380	162,1	3.000	76,2	C - Str. Side	02061729
2.500 x 0.109	63,5 x 2,8	1.570 x 16	39,6 x 16	7.380	187,5	3.000	76,2	C - Str. Side	02077104
2.500 x 0.109	63,5 x 2,8	1.750 x 20	44,5 x 20	7.000	177,8	4.620	117,3	EC - Involute	02084783
2.500 x 0.188	63,5 x 4,8	1.570 x 16	39,6 x 16	6.380	162,1	3.000	76,2	C - Str. Side Nylon-coated	02061744
3.000 x 0.095	76,2 x 2,4	1.750 x 16	44,5 x 16	7.000	177,8	3.000	76,2	C - Str. Side Nylon-coated	02061746
3.000 x 0.095	76,2 x 2,4	1.750 x 16	44,5 x 16	9.750	247,7	3.000	76,2	C - Str. Side Nylon-coated	02061745
3.000 x 0.188	76,2 x 4,8	1.750 x 16	44,5 x 16	7.000	177,8	3.000	76,2	C - Str. Side Nylon-coated	02080256
3.000 x 0.188	76,2 x 4,8	1.750 x 16	44,5 x 16	7.000	177,8	3.000	76,2	C - Str. Side Nylon-coated	02081165
3.500 x 0.095	88,9 x 2,4	1.750 x 16	44,5 x 16	7.000	177,8	2.380	60,5	C - Str. Side Nylon-coated	02085364
3.500 x 0.095	88,9 x 2,4	2.250 x 26	57,2 x 26	8.500	215,9	6.000	152,4	EC - Involute	02087395
3.500 x 0.095	88,9 x 2,4	2.250 x 26	57,2 x 26	9.560	242,8	7.060	179,3	EC - Involute	02083740
3.500 x 0.120	88,9 x 3,0	2.000 x 16	50,8 x 16	8.500	215,9	4.000	101,6	C - Str. Side Nylon-coated	02061723
3.500 x 0.120	88,9 x 3,0	2.000 x 16	50,8 x 16	9.500	241,3	4.000	101,6	C - Str. Side Nylon-coated	02075216
3.500 x 0.120	88,9 x 3,0	2.000 x 16	50,8 x 16	11.000	279,4	4.000	101,6	C - Str. Side Nylon-coated	02072560
3.500 x 0.120	88,9 x 3,0	2.250 x 26	57,2 x 26	8.620	218,9	6.000	152,4	EC - Involute	02083812
3.500 x 0.188	88,9 x 4,8	1.750 x 16	44,5 x 16	7.000	177,8	2.380	60,5	C - Str. Side Nylon-coated	02090511
3.500 x 0.188	88,9 x 4,8	2.500 x 16	63,5 x 16	10.000	254,0	4.500	114,3	C - Str. Side Nylon-coated	02086594
4.000 x 0.120	101,6 x 3,0	3.020 x 35	76,7 x 35	9.620	244,3	6.500	165,1	EC - Involute Nylon-coated	02088098
4.000 x 0.188	101,6 x 4,8	2.500 x 16	63,5 x 16	10.000	254,0	4.500	114,3	C - Str. Side Nylon-coated	02061752
4.000 x 0.188	101,6 x 4,8	3.020 x 35	76,7 x 35	9.500	241,3	4.750	120,7	EC - Involute Nylon-coated	02086213
4.000 x 0.188	101,6 x 4,8	3.020 x 35	76,7 x 35	9.620	244,3	6.500	165,1	EC - Involute Nylon-coated	02083839
4.000 x 0.188	101,6 x 4,8	3.020 x 35	76,7 x 35	9.620	244,3	6.500	165,1	EC - Involute Nylon-coated	02087345
4.500 x 0.188	114,3 x 4,8	2.500 x 16	63,5 x 16	12.000	304,8	4.500	114,3	C - Str. Side Nylon-coated	02071669
4.500 x 0.250	114,3 x 6,4	3.000 x 16	76,2 x 16	11.188	284,2	5.430	137,9	C - Str. Side Nylon-coated	02077637





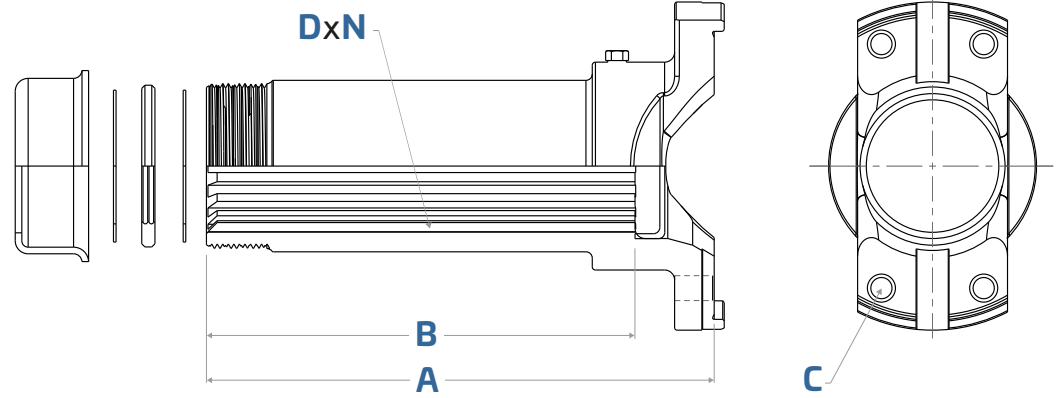
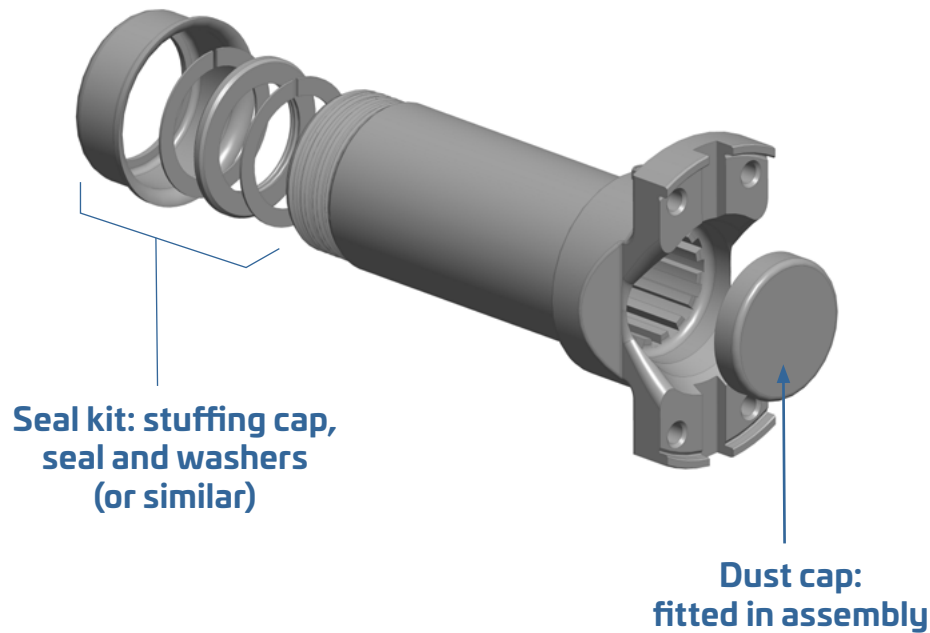
Tube Size OD x Wall Thick.		Spline Size (D x No. of Teeth)		Weld Length A		Spline Length B		Notes	Part No.
(in)	(mm)	(in)	(mm)	(in)	(mm)	(in)	(mm)		
4.500 x 0.250	114,3 x 6,4	3.440 x 32*	86,4 x 32*	12.250	311,2	9.250	235,0	EC - Involute Nylon-coated	02087324
4.500 x 0.375	114,3 x 9,5	3.000 x 15*	76,2 x 15*	11.188	284,2	5.430	137,9	C - Str. Side	02077576
4.500 x 0.375	114,3 x 9,5	3.000 x 16	76,2 x 16	12.690	322,3	6.430	163,3	C - Str. Side Nylon-coated	02084858
5.000 x 0.375	127,0 x 9,5	3.440 x 32*	86,4 x 32*	12.250	311,2	9.250	235,0	EC - Involute Nylon-coated	02087325
5.000 x 0.375	127,0 x 9,5	3.440 x 32*	86,4 x 32*	12.620	320,5	6.000	152,4	C - Involute Nylon-coated	02087937
6.500 x 0.375	165,1 x 9,5	3.900 x 37*	99,1 x 37*	14.380	365,3	7.500	190,5	C - Involute Nylon-coated	02079467
6.500 x 0.375	165,1 x 9,5	3.900 x 37*	99,1 x 37*	14.380	365,3	7.500	190,5	C - Involute Nylon-coated	02086409
6.500 x 0.375	165,1 x 9,5	3.900 x 37*	99,1 x 37*	14.380	365,3	6.500	165,1	C - Involute Nylon-coated	02087014
6.500 x 0.500	165,1 x 12,7	3.900 x 37*	99,1 x 37*	14.380	365,3	6.500	165,1	C - Involute Nylon-coated	02077795
6.500 x 0.500	165,1 x 12,7	3.900 x 37*	99,1 x 37*	14.380	365,3	6.500	165,1	C - Involute Nylon-coated	02087016
8.000 x 0.500	203,2 x 12,7	5.667 x 32*	144,0 x 32*	15.000	381,0	10.310	261,9	EC - Involute Nylon-coated	02087118

\* = +1 tooth spacing



Series	Spline Size (D x No. of Teeth)		Type	Mounting Holes C		Overall Length A		Spline Length B		Seal Kit included	Part No.
	(in)	(mm)		(in)	(mm)	(in)	(mm)	(in)	(mm)		
2C	1.190 x 16	30,2 x 16	Involute	11/32" (0,344)	8,7	4.438	112,7	4.050	102,9	X	03067687
4C	1.380 x 16	35,1 x 16	Str. Side	5/16" - 24 UNF	-	5.560	141,2	4.720	119,9	X	03069874
5C	1.570 x 16	39,9 x 16	Str. Side	13/32" (0,406)	10,3	5.620	142,7	4.500	114,3		03067995
5C	1.570 x 16	39,9 x 16	Str. Side	3/8" - 24 UNF	-	5.620	142,7	4.500	114,3	X	03067747
5C	1.570 x 16	39,9 x 16	Str. Side	-	M10 x 1.50	5.620	142,7	4.500	114,3		03087977
5C	1.750 x 16	44,5 x 16	Str. Side	3/8" - 24 UNF	-	3.750	95,3	2.310	58,7	X	03070353
5C	1.750 x 16	44,5 x 16	Str. Side	3/8" - 24 UNF	-	3.750	95,3	2.310	58,7		03070352
5C	1.750 x 16	44,5 x 16	Str. Side	3/8" - 24 UNF	-	6.250	158,8	4.750	120,7		03067990
6C	1.750 x 16	44,5 x 16	Str. Side	3/8" - 24 UNF	-	3.380	85,9	2.640	67,1		03089475
6C	1.750 x 16	44,5 x 16	Str. Side	3/8" - 24 UNF	-	3.620	91,9	2.245	57,0	X	03067779
6C	1.750 x 16	44,5 x 16	Str. Side	3/8" - 24 UNF	-	6.120	155,4	4.750	120,7		03068028
6C	1.750 x 16	44,5 x 16	Str. Side	3/8" - 24 UNF	-	8.880	225,6	7.500	190,5	X	03067781
7C	2.000 x 16	50,8 x 16	Str. Side	1/2" - 20 UNF	-	6.380	162,1	5.130	130,3		03088144
7C	2.000 x 16	50,8 x 16	Str. Side	1/2" - 20 UNF	-	7.120	180,8	5.880	149,4	X	03067820
7C	2.000 x 16	50,8 x 16	Str. Side	1/2" - 20 UNF	-	7.120	180,8	5.880	149,4		03073805
7C	2.000 x 16	50,8 x 16	Str. Side	1/2" - 20 UNF	-	7.120	180,8	5.880	149,4		03075535 (1)
7C	2.000 x 16	50,8 x 16	Str. Side	1/2" - 20 UNF	-	8.120	206,2	6.880	174,8		03089168
7C	2.000 x 16	50,8 x 16	Str. Side	1/2" - 20 UNF	-	9.620	244,3	8.370	212,6		03088111
7C	2.000 x 16	50,8 x 16	Str. Side	-	M12 x 1.75	7.120	180,8	5.880	149,4		03087847
7C	2.000 x 16	50,8 x 16	Str. Side	-	M12 x 1.75	9.620	244,3	8.370	212,6		03090129
7C	2.500 x 16	63,5 x 16	Str. Side	-	M12 x 1.75	9.620	244,3	8.120	206,2		03088897
8C	2.500 x 16	63,5 x 16	Str. Side	1/2" - 20 UNF	-	5.880	149,4	4.068	103,3		03087425
8C	2.500 x 16	63,5 x 16	Str. Side	1/2" - 20 UNF	-	6.620	168,1	4.808	122,1		03088734
8C	2.500 x 16	63,5 x 16	Str. Side	1/2" - 20 UNF	-	8.620	218,9	6.810	173,0	X	03067836
8C	2.500 x 16	63,5 x 16	Str. Side	1/2" - 20 UNF	-	8.620	218,9	6.810	173,0		03087705
8C	2.500 x 16	63,5 x 16	Str. Side	1/2" - 20 UNF	-	10.620	269,7	8.910	226,3	X	03078503

\* = +1 tooth spacing  
<sup>1</sup> with Relief fitting

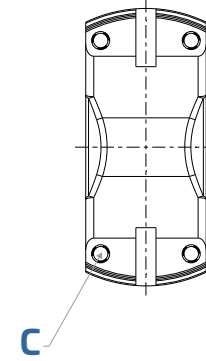
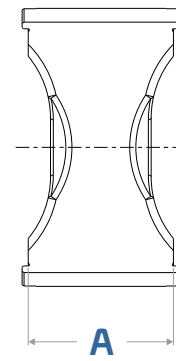


Series	Spline Size (D x No. of Teeth)		Type	Mounting Holes C		Overall Length A		Spline Length B		Seal Kit included	Part No.
	(in)	(mm)		(in)	(mm)	(in)	(mm)	(in)	(mm)		
8.5C	2.500 x 16	63,5 x 16	Str. Side	1/2" - 20 UNF	-	3.650	92,7	2.463	62,6		03089257
8.5C	2.500 x 16	63,5 x 16	Str. Side	1/2" - 20 UNF	-	6.380	162,1	4.570	116,1		03089735
8.5C	2.500 x 16	63,5 x 16	Str. Side	1/2" - 20 UNF	-	7.370	187,2	5.570	141,5		03088859
8.5C	2.500 x 16	63,5 x 16	Str. Side	1/2" - 20 UNF	-	8.620	218,9	6.810	173,0	X	03067843
8.5C	2.500 x 16	63,5 x 16	Str. Side	1/2" - 20 UNF	-	8.620	218,9	6.810	173,0		03088289
8.5C	2.500 x 16	63,5 x 16	Str. Side	1/2" - 20 UNF	-	10.620	269,7	8.810	223,8		03088190
8.5C	2.500 x 16	63,5 x 16	Str. Side	-	M12 x 1.75	8.620	218,9	6.810	173,0		03087848
9C	3.000 x 16	76,2 x 16	Str. Side	1/2" - 20 UNF	-	9.620	244,3	7.310	185,7	X	03067847
9C	3.000 x 16	76,2 x 16	Str. Side	1/2" - 20 UNF	-	11.620	295,1	9.310	236,5	X	03089672
9C	3.000 x 16	76,2 x 16	Str. Side	1/2" - 20 UNF	-	11.620	295,1	9.310	236,5		03087986
9C	3.000 x 16	76,2 x 16	Str. Side	-	M12 x 1.75	10.500	266,7	8.190	208,0		03088528
9C	3.000 x 16	76,2 x 16	Str. Side	-	M12 x 1.75	11.620	295,1	9.310	236,5		03087426
10C	3.440 x 32*	87,4 x 32*	Involute	5/8" - 18 UNF	-	12.000	304,8	10.250	260,4	X	03080258
10C	3.440 x 32*	87,4 x 32*	Involute	5/8" - 18 UNF	-	12.000	304,8	10.250	260,4		03087424 (1)
10C	3.440 x 32*	87,4 x 32*	Involute	5/8" - 18 UNF	-	12.000	304,8	10.250	260,4		03087781
10C	3.440 x 32*	87,4 x 32*	Involute	-	M16 x 2.00	9.750	247,7	8.000	203,2		03088421
10C	3.440 x 32*	87,4 x 32*	Involute	-	M16 x 2.00	12.000	304,8	10.250	260,4	X	03080259
10C	3.440 x 32*	87,4 x 32*	Involute	-	M16 x 2.00	12.000	304,8	10.250	260,4		03088486
11C	3.900 x 37*	99,1 x 37*	Involute	3/4" - 16 UNF	-	13.250	336,6	10.750	273,1	X	03089602
11C	3.900 x 37*	99,1 x 37*	Involute	-	M20 x 2.50	11.500	292,1	9.000	228,6		03087646
15C	3.900 x 37*	99,1 x 37*	Involute	3/4" - 16 UNF	-	13.750	349,3	10.750	273,1	X	03089752
15C	3.900 x 37*	99,1 x 37*	Involute	3/4" - 16 UNF	-	13.750	349,3	10.750	273,1		03087647
15C	3.900 x 37*	99,1 x 37*	Involute	-	M20 x 2.50	9.750	247,7	6.750	171,5	X	03089755
15C	3.900 x 37*	99,1 x 37*	Involute	-	M20 x 2.50	9.750	247,7	6.750	171,5		03087645
15C	3.900 x 37*	99,1 x 37*	Involute	-	M20 x 2.50	10.250	260,4	7.250	184,2		03087644
15C	3.900 x 37*	99,1 x 37*	Involute	-	M20 x 2.50	13.750	349,3	10.750	273,1	X	03089756
15C	3.900 x 37*	99,1 x 37*	Involute	-	M20 x 2.50	13.750	349,3	10.750	273,1		03087643

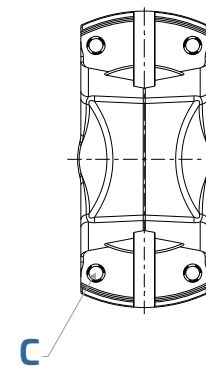
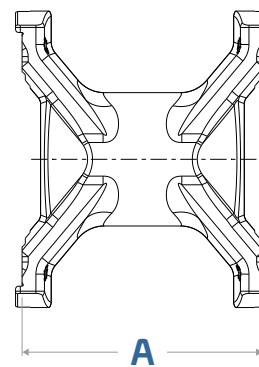
\* = +1 tooth spacing  
<sup>1</sup> with Relief fitting



**Solid Coupling Yoke (SCY)**



**Necked-down Coupling Yoke (NCY)**

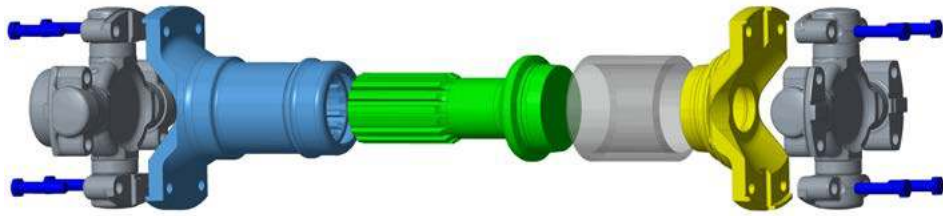


Series	Overall Length A		Mounting Holes C		Part No.
	(in)	(mm)	(in)	(mm)	
2C	0.810	20,6	11/32" (0,344)	8,7	02063776
2C	7.389	187,7	11/32" (0,344)	8,7	02089481
3C	0.938	23,8	11/32" (0,344)	8,7	02063708
3C	0.940	23,9	11/32" (0,344)	8,7	02072993
4C	0.940	23,9	11/32" (0,344)	8,7	02063709
5C	1.380	35,1	3/8" - 24 UNF	-	02071335
5C	1.875	47,6	3/8" - 24 UNF	-	02063731
5C	2.185	55,5	-	M10 x 1.50	02085254
5C	2.410	61,2	-	M10 x 1.50	02084856
5C	2.800	71,1	-	M10 x 1.50	02076317
5C	3.188	81,0	3/8" - 24 UNF	-	02085432
5C	3.380	85,9	-	M10 x 1.50	02084850
5C	4.437	112,7	-	M10 x 1.50	02084846
5C	5.459	138,7	-	M10 x 1.50	02084852
5C	7.720	196,1	-	M10 x 1.50	02084555
5C	8.000	203,2	-	M10 x 1.50	02082942
5C	8.410	213,6	-	M10 x 1.50	02084549
5C	8.690	220,7	-	M10 x 1.50	02082944
6C	1.000	25,4	3/8" - 24 UNF	-	02070550
6C	1.380	35,1	3/8" - 24 UNF	-	02063720
6C	2.250	57,2	3/8" - 24 UNF	-	02063743
6C	4.000	101,6	3/8" - 24 UNF	-	02084845
6C	4.810	122,2	-	M10 x 1.50	02090092
7C	1.750	44,5	1/2" - 20 UNF	-	02063721

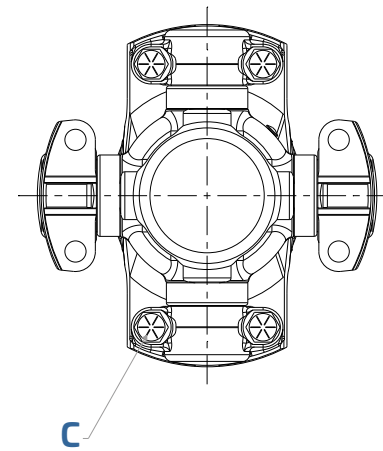
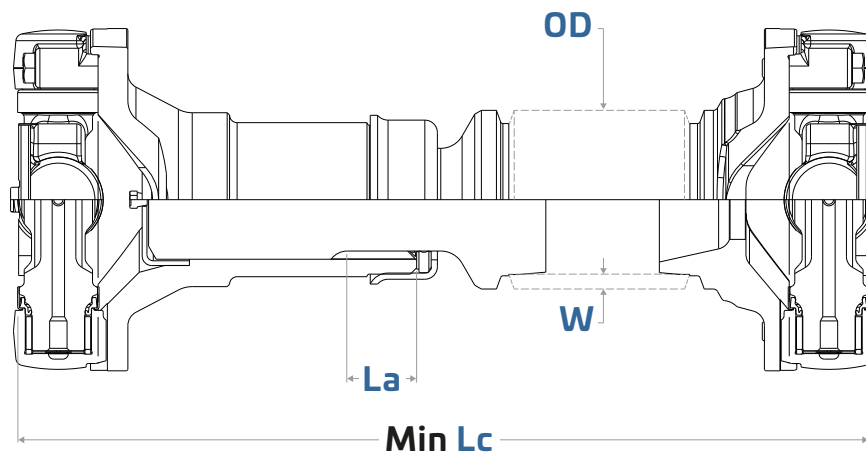
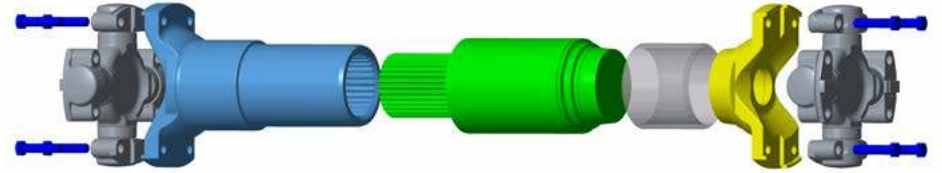
Series	Overall Length A		Mounting Holes C		Part No.
	(in)	(mm)	(in)	(mm)	
7C	3.562	90,5	1/2" - 20 UNF	-	02083547
7C	4.620	117,3	-	M12 x 1.50 (Non std)	02076256
7C	4.910	124,7	1/2" - 20 UNF	-	02070592
8C	2.560	65,0	1/2" - 20 UNF	-	02063723
8.5C	2.000	50,8	1/2" - 20 UNF	-	02063742
8.5C	2.986	75,8	1/2" - 20 UNF	-	02063777
9C	2.000	50,8	1/2" - 20 UNF	-	02063762
9C	3.000	76,2	-	M12 x 1.75	02077097
9C	4.055	103,0	-	M12 x 1.75	02085786
9C	4.500	114,3	1/2" - 20 UNF	-	02078250
9C	4.675	118,7	1/2" - 20 UNF	-	02084562
9C	5.690	144,5	1/2" - 20 UNF	-	02078246
9C	6.250	158,8	1/2" - 20 UNF	-	02079860
9C	6.620	168,1	1/2" - 20 UNF	-	02084844
9C	7.000	177,8	1/2" - 20 UNF	-	02070451
9C	7.000	177,8	-	M12 x 1.75	02090132
9C	8.000	203,2	1/2" - 20 UNF	-	02078243
10C	2.990	75,9	5/8" - 18 UNF	-	02077486
10C	4.800	121,9	5/8" - 18 UNF	-	02083355
10C	4.875	123,8	-	M16 x 2.00	02076540
11C	7.460	189,5	-	M20 x 2.50	02078274
15C	3.690	93,7	3/4" - 16 UNF	-	02075477



## Conventional (C Type)



## EC Type

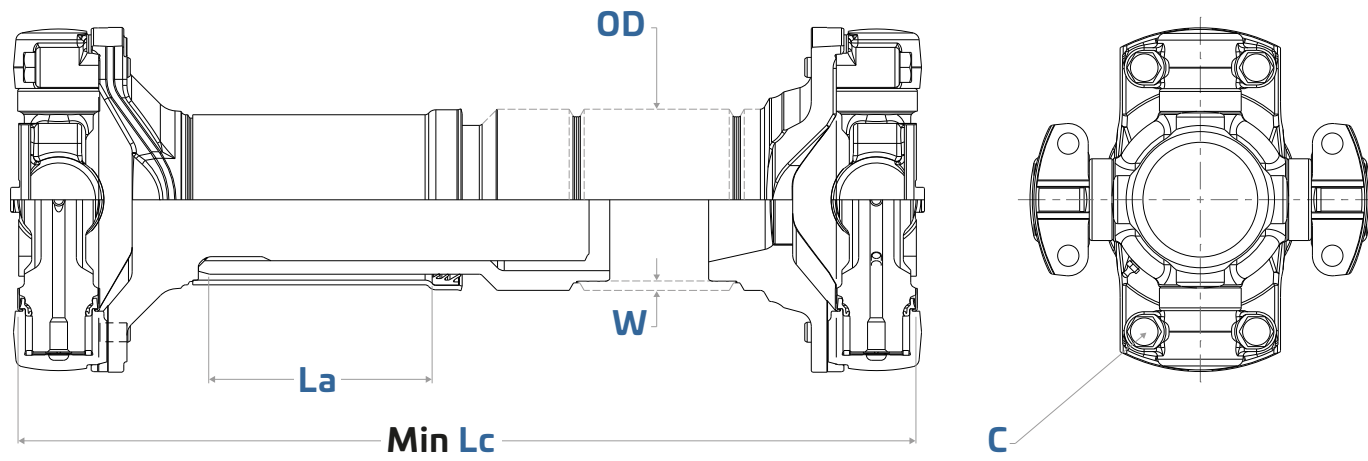
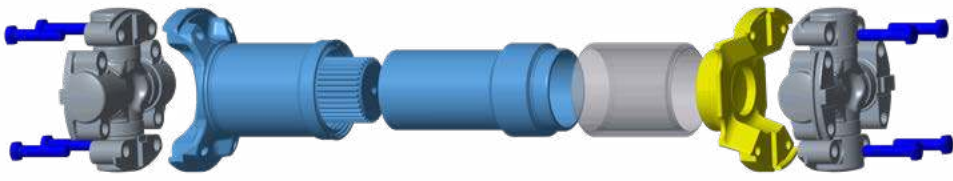


Series	Type	Tube Size OD x Wall Thick.		Mounting Holes <sup>1</sup> C		Slip La		Min Assy Length Lc		Spline Size (D x No. of Teeth)		Kit No. Re-Lub UJ	Kit No. Perm-Lub UJ	Kit No. w/o UJ
		(in)	(mm)	(in)	(mm)	(in)	(mm)	(in)	(mm)	(in)	(mm)			
5C	C	2.500 x 0.109	63,5 x 2,8	3/8" - 24 UNF	-	2.000	50,8	13.00	330,2	1.560 x 16	39,6 x 16	03085208		03085235
5C	EC	2.500 x 0.109	63,5 x 2,8	3/8" - 24 UNF	-	2.000	50,8	15.00	381,0	1.750 x 20	44,5 x 20	03085231		03085246
6C	C	3.000 x 0.095	76,2 x 2,4	3/8" - 24 UNF	-	2.250	57,2	15.00	381,0	1.750 x 16	44,5 x 16	03085209		03085237
6C	EC	3.500 x 0.095	88,9 x 2,4	3/8" - 24 UNF	-	2.500	63,5	16.00	406,4	2.250 x 26	57,2 x 26	03085232		
7C	C	3.500 x 0.120	88,9 x 3,0	3/8" - 24 UNF	-	2.250	57,2	16.50	419,1	2.000 x 16	50,8 x 16	03085210		
7C	C	3.500 x 0.120	88,9 x 3,0	1/2" - 20 UNF	-	2.500	63,5	16.50	419,1	2.000 x 16	50,8 x 16			03085238
7C	EC	3.500 x 0.120	88,9 x 3,0	1/2" - 20 UNF	-	5.000	127,0	17.00	431,8	2.250 x 26	57,2 x 26	03085233		
8C	C	4.000 x 0.188	101,6 x 4,8	1/2" - 20 UNF	-	3.000	76,2	19.00	482,6	2.500 x 16	63,5 x 16	03085211		03085240
8C	EC	4.000 x 0.188	101,6 x 4,8	1/2" - 20 UNF	-	3.000	76,2	19.00	482,6	3.000 x 35	76,2 x 35		03086411	
8.5C	C	4.000 x 0.188	101,6 x 4,8	1/2" - 20 UNF	-	3.000	76,2	21.00	533,4	2.500 x 16	63,5 x 16	03079909		03085239
8.5C	EC	4.000 x 0.188	101,6 x 4,8	1/2" - 20 UNF	-	5.000	127,0	19.25	489,0	3.000 x 35	76,2 x 35	03085234		
9C	C	4.500 x 0.375	114,3 x 9,5	1/2" - 20 UNF	-	4.000	101,6	22.50	571,5	3.000 x 16	76,2 x 16	03079910		03085241
10C	C	5.000 x 0.375	127,0 x 9,5	1/2" - 20 UNF	-	4.250	108,0	26.00	660,4	3.400 x 32*	86,4 x 32*	03079911		03085242
11C	C	6.500 x 0.375	165,1 x 9,5	5/8" - 18 UNF	-	4.000	101,6	28.25	717,6	3.900 x 37*	99,1 x 37*	03089440		
11C	C	6.500 x 0.375	165,1 x 9,5	3/4" - 16 UNF	-	5.000	127,0	28.00	711,2	3.900 x 37*	99,1 x 37*	03089552		03089551
12C	C	6.500 x 0.375	165,1 x 9,5	3/4" - 16 UNF	-	4.250	108,0	29.00	736,6	3.900 x 37*	99,1 x 37*	03086946		
15C	C	6.500 x 0.375	165,1 x 9,5	-	M14 x 1.50	5.000	127,0	29.00	736,6	3.900 x 37*	99,1 x 37*	03079913	03089545	03089544
15C	C	6.500 x 0.375	165,1 x 9,5	3/4" - 16 UNF	-	4.000	101,6	29.00	736,6	3.900 x 37*	99,1 x 37*	03088355	03089542	
15C	C	6.500 x 0.375	165,1 x 9,5	-	M20 x 2.50	5.000	127,0	29.00	736,6	3.900 x 37*	99,1 x 37*			03085924
15C	C	6.500 x 0.500	165,1 x 12,7	-	M20 x 2.50	5.000	127,0	29.00	736,6	3.900 x 37*	99,1 x 37*	03085631	03085630	03085632
15.5C	C	6.500 x 0.500	165,1 x 12,7	3/4" - 16 UNF	-	5.000	127,0	29.00	736,6	3.900 x 37*	99,1 x 37*		03089072	
20C	C	8.000 x 0.500	203,2 x 12,7	3/4" - 16 UNF	-	5.310	134,9	33.00	838,2	5.660 x 32*	143,8 x 32*		03089067	

\* = +1 tooth spacing



## Synergy FS Kit



Series	Mounting Holes C		Tube Size OD x Wall Thick.		Min Assy Length Lc		Slip La		Kit No. Re-Lub UJ	Kit No. Perm-Lub UJ	Kit No. w/o UJ
	(in)	(mm)	(in)	(mm)	(in)	(mm)	(in)	(mm)			
5C	-	M10 x 1.50	2.756 x 0.138	70,0 x 3,5	12.520	318,0	3.150	80,0		03090679	
6C	-	M10 x 1.50	3.150 x 0.138	80,0 x 3,5	14.606	371,0	4.724	120,0	03090680		
7C	1/2" - 20 UNF	-	3.543 x 0.157	90,0 x 4,0	15.748	400,0	5.118	130,0	03090006		03090007
7C	-	M12 x 1.75	3.543 x 0.157	90,0 x 4,0	15.748	400,0	5.118	130,0	03090681		
8C	-	M12 x 1.75	3.937 x 0.177	100,0 x 4,5	17.520	445,0	5.118	130,0	03090682		
8.5C	-	M12 x 1.75	3.937 x 0.236	100,0 x 6,0	18.307	465,0	5.118	130,0	03090342		
9C	-	M12 x 1.75	4.528 x 0.236	115,0 x 6,0	20.118	511,0	5.906	150,0	03090683		
10C	-	M16 x 2.00	5.118 x 0.276	130,0 x 7,0	23.976	609,0	5.906	150,0	03090483		

# MECHANICS GENERAL ENGINEERING DATA

## Driveshaft Torque Capacity Guide

Series	Tcs – Peak Torque <sup>1</sup>		Td – Continuous Operation <sup>2</sup>	
	(lb.ft)	(Nm)	(lb.ft)	(Nm)
<b>2C</b>	1 100	1 490	125	150
<b>3C</b>	1 750	2 400	250	340
<b>4C</b>	2 300	3 100	300	430
<b>5C</b>	4 200	5 700	550	760
<b>6C</b>	5 150	7 000	650	885
<b>7C</b>	7 750	10 500	1 050	1 425
<b>8C</b>	11 300	15 300	1 550	2 120
<b>8.5C</b>	14 750	20 000	1 800	2 440
<b>9C</b>	19 900	27 000	2 450	3 290
<b>9.5C</b> <sup>3</sup>	19 900	27 000	3 250	4 375
<b>10C</b>	28 750	39 000	3 800	5 130
<b>10.5C</b> <sup>4</sup>	28 750	39 000	3 800	5 130
<b>11C</b>	31 000	42 000	5 200	7 050
<b>15C</b>	51 650	70 000	7 950	10 800
<b>15.5C</b>	66 400	90 000	9 350	12 700
<b>20C</b>	118 000	160 000	16 000	21 700

<sup>1</sup> Tcs = Functional limit torque – Static Peak Torque capacity. The Universal Joint will have no yielding or plastic deformation up to this torque limit. Consult our Engineering department for specific driveshaft configuration functional limit torque, as it is dependent on the mating components.

<sup>2</sup> Td = Continuous operation torque - Dynamic torque capacity. These ratings will provide approximately 3,000 hours operation at a speed of 2,000 RPM and 3° angle. They presume uniform power transmission and proper maintenance, in a controlled environment.

<sup>3</sup> This size available either as a universal joint only or in combination with 9C driveshaft components.

<sup>4</sup> This size available either as a universal joint only or in combination with 10C driveshaft components.

# OPERATING SPEED

A number of factors influence the maximum RPM at which a driveshaft can be operated. The major criteria are as follows:

1. Overall length
2. Tube diameter
3. Universal joint angle
4. Mating component rigidity

The following Tables I, II, and III collectively define guidelines for the first three criteria.

**Table I** illustrates the maximum RPM normally allowed on the various universal joint sizes. The values are subject to the angle and speed limitations as defined in Tables II and Table III.

**Table II** defines the maximum allowable universal joint angle when operated at the specific RPM. These values are based upon an angular acceleration of approximately 1,000 Rad/Sec.<sup>2</sup> This has been found to be acceptable in most applications. The table assumes a two joint system with operating u-joint angles of Driver and Driven shafts within 1° of each other.

**Table I**

UNIVERSAL JOINT SIZE	MAXIMUM RPM
2C	6,000
3C	6,000
4C	5,000
5C	5,000
6C	5,000
7C	4,500
8C	4,500
8.5C	4,500
9C	4,500
9.5C	4,500
10C	3,000
10.5C	3,000
11C	2,500
12C	2,500
15C	2,500
15.5C	please contact our engineering department
20C	

**Table II**

RPM	ANGLE
2,000	8.50
2,500	7.00
3,000	5.75
3,500	5.00
4,000	4.25
4,500	3.75
5,000	3.25

Note that, for a given torque, the calculated universal joint life decreases as the universal joint angle increases.

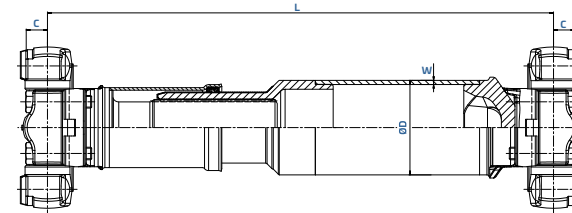
# OPERATING SPEED (CONTINUED)

**Table III** indicates the maximum limit of a shaft length to accommodate a safe operating RPM: all operating conditions for a given shaft size must be below the corresponding curve. Be sure to consider any over-speed conditions in your application.

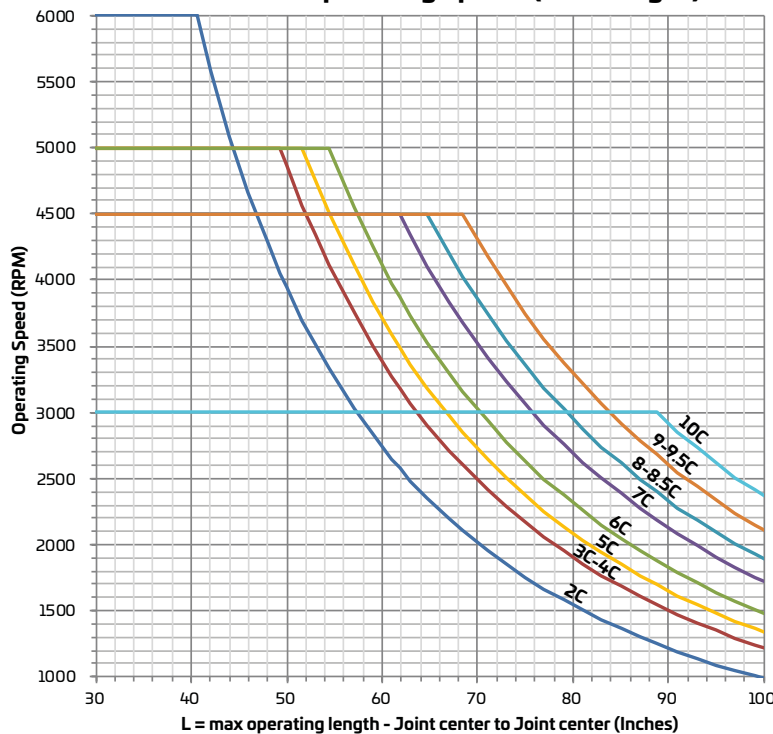
If you require longer shafts than allowed on the graphic, larger diameter tubing or a subdivided driveline must be considered. Larger diameter tubing is available on certain universal joint sizes to raise the operating RPM.

See **Tables I** and **II** for limiting factors on operating speeds. This graphic applies to machines where the driveshafts are installed with rigid bearing supports located close to the connection flanges.

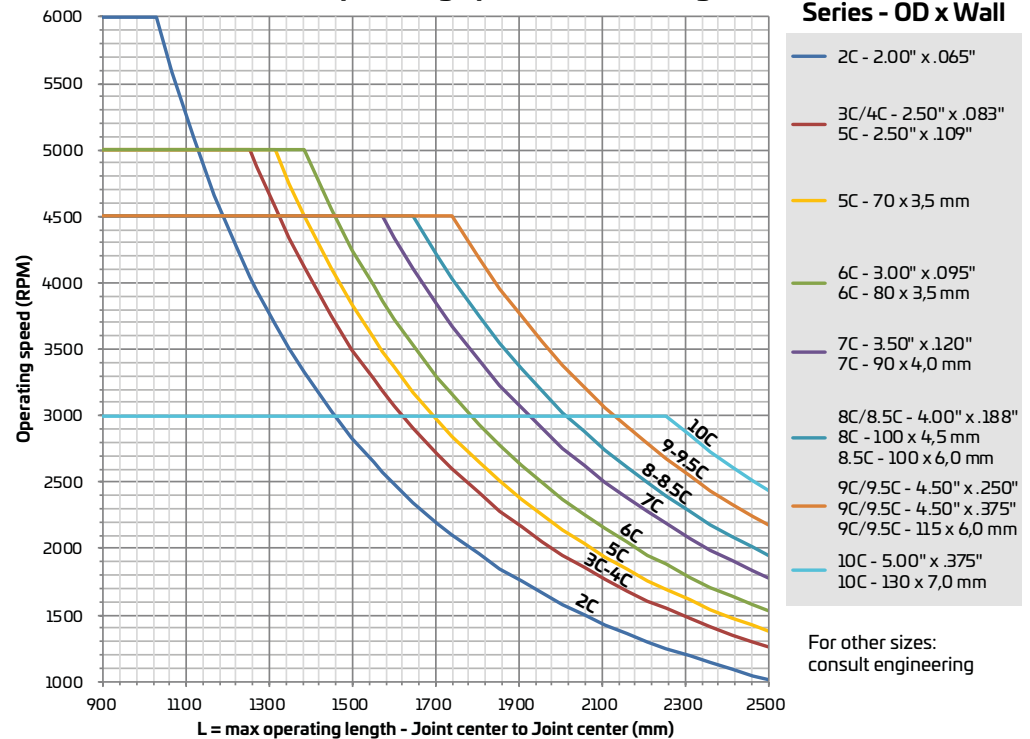
For applications with different supports (e.g. elastic bearings), and in general for shafts longer than 80"/2m or running higher than 3.000 RPM please consult our engineering department.



**Table III**  
Maximum safe operating speed (inch length)



**Table III**  
Maximum safe operating speed (metric length)







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# UNIVERSAL JOINT INSTALLATION AND LUBRICATION

## Universal Joint Installation

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Ease of installation and service is one of the primary features of Mechanics® Universal Joints.

To assemble a joint to a yoke, insert the key and pilot of one bearing into the keyway and pilot of the yoke (Fig. 1). Next, insert the key and pilot of the opposite bearing into the yoke. Since this is a precision product, the fit is intended to be tight and some compression of the seals and/or thrust washers may be required to seat the second bearing. This can be done with a 'C' clamp, a tap with a soft hammer (Fig. 2), or with hand pressure. DO NOT use the bolts to seat the bearings!

Once the bearings are properly seated, insert the bolts and uniformly torque them to the proper level as shown in the **Mounting Capscrews** section. Use SAE Grade 8/Class 10.9 or equivalent, non-coated bolts that are clean and dry.

Yoke faces, bearing mounting faces, circular pilots and keyways must be free of foreign material, burrs and nicks which will prevent the assembly from becoming properly seated.

## Lubrication

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Grease Specifications:

<b>Universal joints</b>	Relube: Lithium base grease without Molybdenum Disulfide Additive Permanently-lubed: No relubrication required
<b>Driveshaft Slip Spline</b>	Long-life Lithium base grease <i>with a Molybdenum Disulfide Additive</i>

Lubrication must be maintained in universal joints and slip assemblies for satisfactory operation. Since the driveshaft is subject to many types of environments, it is important to maintain a lubrication interval which is appropriate to the type of environment and vehicle use. A 250 hour interval, or longer, may be satisfactory for most off-highway conditions.

However, severe conditions may warrant more frequent lubrication.

Factory lubrication of relubricable slip assemblies provides an initial coat over both male and female parts. Additional lubrication may be added through the fitting on the slip yoke. With the driveshaft in the fully compressed position, grease should be added until excess appears at the vent hole of the dust cup or at the spline seal (Fig. 3).

If the driveshaft can not be fully compressed, care must be taken not to overfill the spline cavity or the driveshaft will not compress when required. A universal joint is considered adequately lubricated only when all four bearings are purged of air and old grease. Mechanics® patented seals allow all four bearings to bleed at the same pressure (Fig. 4) to insure proper lubrication.



**Fig. 1** Insertion of key and pilot of bearing into yoke



**Fig. 2** Opposite bearing installed



**Fig. 3** Grease appears from vent hole



**Fig. 4** Seals allow grease to bleed so lubricant can flow through all trunnions

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# DRIVESHAFTS STORAGE RECOMMENDATIONS

## STORAGE

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All driveshafts should be stocked in horizontal position in clean and weather protected areas. The storage room should be dry, clean and well ventilated. Prolonged storage outside of a suggested temperature range from +5°C to +30°C is not recommended. Avoid rapid fluctuation of temperatures during the day to prevent risk of condensation.

Storage places or containers should be protected from direct sunlight. Impact of ozone can be particularly harmful to plastic and rubber components. Therefore storeroom layout should prevent storage close to electrical appliances which produce ozone (e.g. welding machines, DC electric motors, spark inducing machines...).

Store the products in suitable boxes or containers to avoid moisture and condensation. Contact with oil, grease and /or water (directly or through the ambient air) should be prevented. Shafts should never be stored directly on the floor or set onto wet and/or dirty surface.

The articles should be packed in a relaxed state, overcrowding of containers and stacking should be avoided. Shafts must rest on an appropriate base (wood, cardboard etc.) to prevent bending stress on the shaft assemblies, over bending of the joints, pinching or deformation of guards, seals and boots. Use appropriate frames or racks to ensure this. If the driveshafts are to be stored for a long period (6 months or more), the connecting interfaces (flanges, stems) and other non-protected surfaces should be treated with an anti-corrosion agent. Additional wrapping in rust protection paper can improve the protection level.

Lubricants should be stored in sealed containers, closed cartridges or tubes, as supplied. To check the condition of stocked grease, if applicable, look out for non-homogenous consistency, distinct discoloration and excessive bleed of base oil from the compound.

## OBSERVE WHEN REMOVING PARTS FROM STOCK

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Always visually check shafts and components removed from stock for damage and material condition before any assembly or supply.

Pay special attention to components from polymeric materials (e.g. CV boots, O-rings, lip seals, center support bearing etc...) which can change properties during storage, and can eventually be damaged, due to ageing and degradation processes. Polymeric parts should be inspected for loss of elasticity and embrittlement, cracking or deformation.

Cardan type shafts and Universal joints being pulled from storage after more than 6 months time must be re-lubricated prior to being placed into operation. Please observe the proper installation instructions. CV type shafts with ball joints assembled with boots are maintenance free and do not require greasing.

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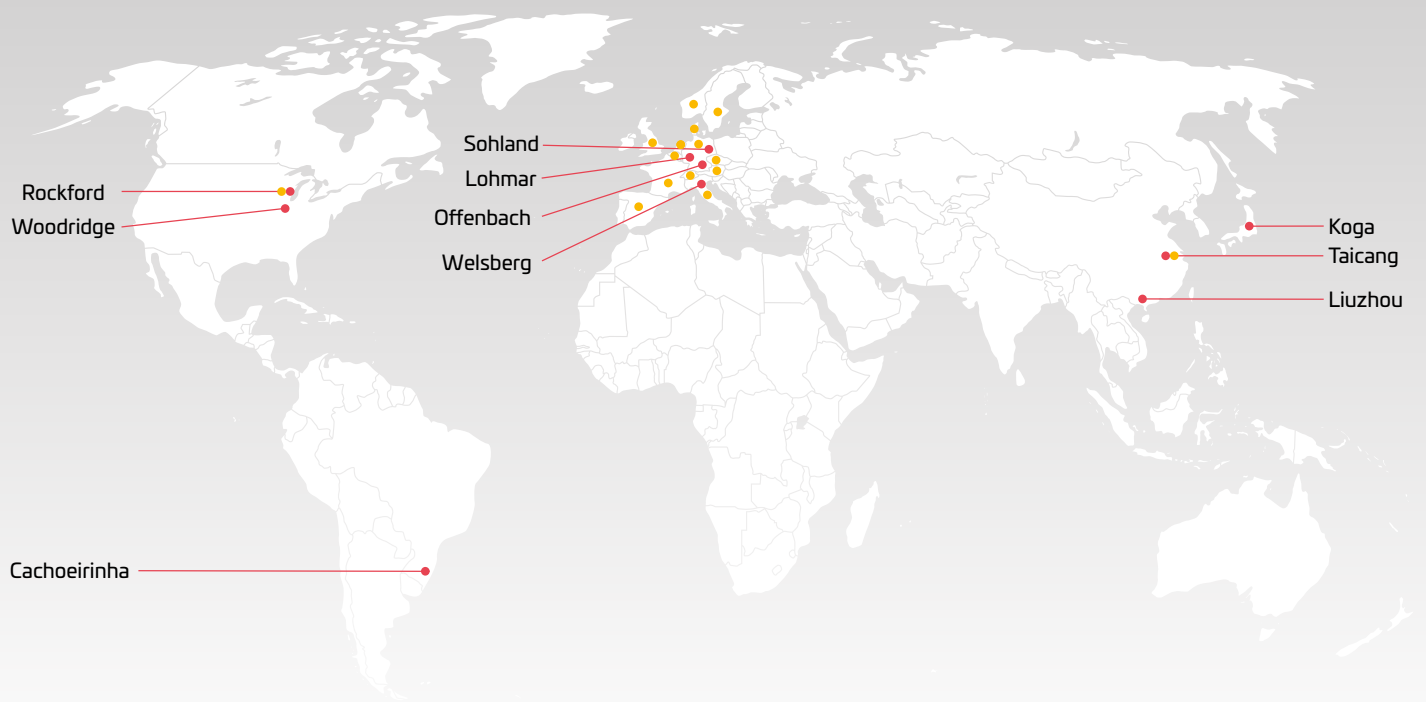
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## Walterscheid Powertrain Group - Global Footprint



Worldwide locations of our ● 10 Manufacturing Plants and ● 22 Service Centres