

BORGESON

Steering You Forward



99th
ANNIVERSARY
1914 - 2013

PARTS CATALOG & TECHNICAL GUIDE

INTRODUCTION

Founded in Torrington, CT, Borgeson Universal began manufacturing universal joints for lathes and milling machines in 1914. By the 1920's, Ford was using Borgeson universal joints for the steering on some of their prototypes. Borgeson Universal continued to develop and refine u-joints for industrial, aerospace and OEM vehicle applications. When purchased in 1982 by the current owners, two avid Street Rodders, Borgeson soon began developing applications for Street Rods. Borgeson has continually improved and developed the original needle bearing universal joints into the most reliable, smoothest operating, strongest u-joints you can buy.

Seeking to expand, Borgeson acquired Mullins Steering Gears in 2001 and in July 2012 Borgeson acquired all of the original equipment, tooling, drawings and the OE manufacturing rights for all Saginaw manual steering gear boxes from BSB Automotive Technologies in Canada. Borgeson has moved all of this manufacturing into our state of the art manufacturing facility in Torrington, Connecticut. This 50,000 square foot plant was designed and built for increased production efficiency and capacity so we can better serve our customers. We use the latest manufacturing and inventory control procedures to maintain stock, and take great pride in being able to ship most orders placed by 3:30 EST the same day. Today, Borgeson is the leading manufacturer and supplier of aftermarket steering components for the street rod, racing, specialty automotive, OEM and pickup truck markets.

We believe our growth is based on a policy of honesty and always listening to our customers, whether you are a corporation or working in your garage. We respond to your suggestions by developing needed innovations to help increase steering system safety and make building your vehicle more fun. Our dedication to safety has been recognized by the National Street Rod Association with safety product of the year awards in 1992 & 2001 as well as Street Rod Manufacturer Of The Year in 1999. Ultimately, your vehicle's safety depends on you. We strive to make Borgeson steering components as safe as possible. You can't buy a stronger, safer u-joint anywhere in the world! However, its effectiveness is only as good as the installation.

In this catalog, you will find many installation suggestions and guidelines that will help in the design of a safe, smooth operating steering system. Call if you have any questions. Our technical staff has over 95 years combined experience in the design and application of steering systems. Remember, auto manufacturers have thousands of engineers and millions of miles of road experience to rely on when designing a steering system. Without the benefit of those resources, the possibility of a malfunction is greater. So, overbuild your system and inspect it frequently. Safety should be your most important concern! We attend many shows during the year, so stop by our booth and say hello, we'll be happy to help!

***For sales and technical support, Call 860.482.8283
Fax 860.496.9320 or visit www.borgeson.com***



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TRUCK & SUV

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POWER STEERING UPGRADES

NEW FROM BORGESON !!!



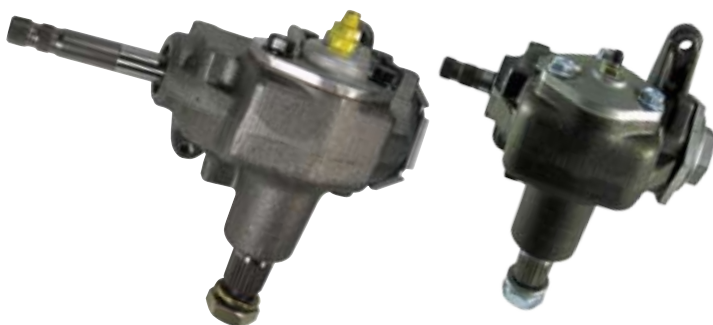
Borgeson is now the OE manufacturer and re-manufacturer of all GM Saginaw manual steering gears.

New OEM Saginaw 140 Vega Box

New OEM Saginaw 122 & 525 Box

New OEM Saginaw 63-82 Corvette

- American Made
- OEM Saginaw Castings & Forgings
- OEM Saginaw Tooling
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OFFICIAL STEERING
COMPONENTS OF THE
NATIONAL STREET
ROD ASSOCIATION

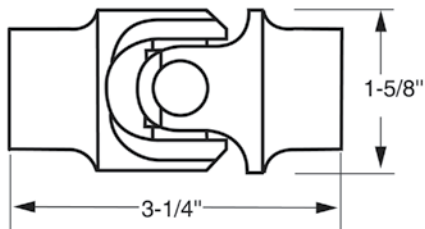
SINGLE NEEDLE BEARING UNIVERSAL JOINTS

Needle Bearing U-Joints

Needle bearing u-joints have the distinct advantage of lasting much longer than non-needle bearing u-joints. Borgeson recommends only needle bearing u-joints for use on street vehicles. Our u-joints are made of specially selected steel and aluminum for strength and longevity. The sealed precision needle bearings never need maintenance. Needle bearing u-joints outlast non-needle bearing joints by a factor of 10 to 1. Our needle bearing joints have zero backlash (radial play) for more precise steering and a better feel for the road. Although non-needle bearing joints are stronger than the same size needle bearing joint, this strength is offset by the maintenance required and the longevity factor. Non-needle bearing joints should be lubricated with each use and a rubber boot should be used to retain lubrication. Boots are not recommended for use with needle bearing joints.

Borgeson u-joints are machined in our factory on state of the art CNC equipment from solid billet steel, stainless steel or aluminum. Ongoing engineering and testing ensures our components meet or exceed current automotive production vehicle requirements. Any of our four Double D (a round shaft with two flats) sizes, 14 different spline size yokes, and the '94 and later Mustang V style can be combined to mate components from many different manufacturers. They operate at angles up to 35°. For example, with our components, you could easily connect a GM column to a new Mustang rack and pinion or a Ford column to a Saginaw box. Similar to OEM u-joints, the staked needle bearing caps prevent loosening and adjustment malfunction.

Steel



Aluminum



Polished Stainless Steel



Our aluminum joints are approved for use in the



SINGLE NEEDLE BEARING UNIVERSAL JOINTS

Steel	Stainless	Polished	Aluminum	Description
Smooth X Smooth Bore				
016464	116464	126464	216464	3/4 smooth x 3/4 smooth
Spline or DD X Smooth Bore				
010964	110964	120964	210964	9/16-26 x 3/4 smooth
011864	111864	121864	211864	5/8-36 x 3/4 smooth
013164	113164	123164	213164	3/4-30 x 3/4 smooth
013464	113464	123464	213464	3/4-36 x 3/4 smooth
014064	114064	124064	214064	13/16-36 x 3/4 smooth
012564	112564	122564	212564	11/16-36 x 3/4 smooth
014364	114364	124364	214364	1-48 x 3/4 smooth
014664	114664	124664	214664	17 mm DD x 3/4 smooth
014964	114964	124964	214964	3/4 DD x 3/4 smooth
015264	115264	125264	215264	1 DD x 3/4 smooth
015564	115564	125564	215564	3/4 V x 3/4 smooth
Spline or DD x Spline or DD				
014334	114334	124334	214334	1-48 x 3/4-36
014349	114349	124349	214349	1-48 x 3/4 DD
013409	113409	123409	213409	3/4-36 x 9/16-26
013418	113418	123418	213418	3/4-36 x 5/8-36
013431	113431	123431	213431	3/4-36 x 3/4-30
013434	113434	123434	213434	3/4-36 x 3/4-36
013440	113440	123440	213440	3/4-36 x 13/16-36
013449	113449	123449	213449	3/4-36 x 3/4 DD
013452	113452	123452	213452	3/4-36 x 1 DD
013737	113737	123737	213737	3/4-48 x 3/4-48
014921	114921	124921	214921	3/4 DD x 5/8-36 Chrysler
014925	114925	124925	214925	3/4 DD x 11/16-36
014928	114928	124928	214928	3/4 DD x 11/16-40
014930	114930	124930	214930	3/4 DD x 3/4-20
014937	114937	124937	214937	3/4 DD x 3/4-48
014946	114946	124946	214946	3/4 DD x 17mm DD
014955	114955	124955	214955	3/4 DD x 3/4 V
014909	114909	124909	214909	3/4 DD x 9/16-26
014918	114918	124918	214918	3/4 DD x 5/8-36
014931	114931	124931	214931	3/4 DD x 3/4-30
014940	114940	124940	214940	3/4 DD x 13/16-36
014949	114949	124949	214949	3/4 DD x 3/4 DD
014952	114952	124952	214952	3/4 DD x 1DD
015231	115231	125231	215231	1 DD x 3/4-30
015255	115255	125255	215255	1 DD x 3/4 V
015252	115252	125252	215252	1 DD x 1 DD
015225	115225	125225	215225	1DD x 11/16-36
015240	115240	125240	215240	1DD x 13/16-36
014912	114912	124912	214912	7DD x 9/16-36
014352	114352	124352	214352	1-48 x 1 DD
013446	113446	123446	213446	3/4-36 x 17mm DD

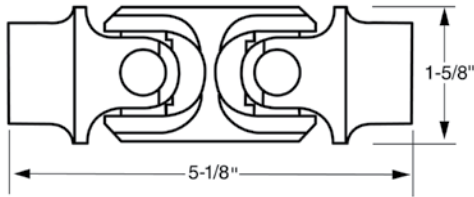
Many other sizes are available. Visit www.borgeson.com for a full product listing.

DOUBLE NEEDLE BEARING UNIVERSAL JOINTS

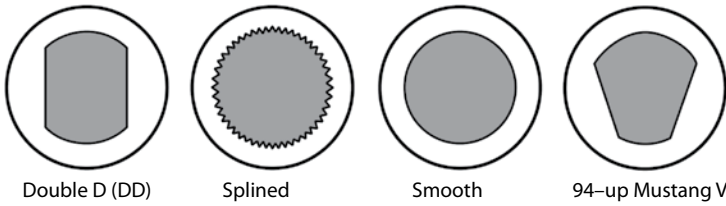
Angles over 35° can be negotiated by using a Borgeson double universal joint. Available in steel, stainless steel and aluminum, these doubles accommodate angles up to 70° and are available in all spline and DD configurations.

TECH TIP: Because a double joint used in combination with a single joint will function the same as a three joint system, a shaft support bearing is required to prevent the shaft from "looping" and binding.
See page 7 for supports

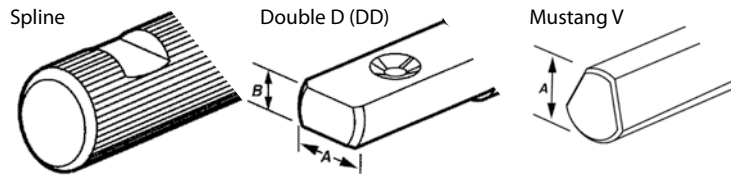
Polished Stainless Steel



Different U-Joint Shaft Applications



Double D (DD) Splined Smooth 94-up Mustang V



DOUBLE NEEDLE BEARING UNIVERSAL JOINTS

Steel	Stainless	Polished	Aluminum	Description
Smooth X Smooth Bore				
026464	136464	146464	226464	3/4 smooth x 3/4 smooth
Spline or DD X Smooth Bore				
020964	130964	140964	220964	9/16-26 x 3/4 smooth
021864	131864	141864	221864	5/8-36 x 3/4 smooth
023164	133164	143164	223164	3/4-30 x 3/4 smooth
023464	133464	143464	223464	3/4-36 x 3/4 smooth
024064	134064	144064	224064	13/16-36 x 3/4 smooth
024364	134364	144364	224364	1-48 x 3/4 smooth
024664	134664	144664	224664	17mm DD x 3/4 smooth
024964	134964	144964	224964	3/4 DD x 3/4 smooth
025264	135264	145264	225264	1 DD x 3/4 smooth
Spline or DD X Spline or DD				
024334	134334	144334	224334	1-48 x 3/4-36
024349	134349	144349	224349	1-48 x 3/4 DD
023409	133409	143409	223409	3/4-36 x 9/16-26
023418	133418	143418	223418	3/4-36 x 5/8-36
023431	133431	143431	223431	3/4-36 x 3/4-30
023434	133434	143434	223434	3/4-36 x 3/4-36
023449	133449	143449	223449	3/4-36 x 3/4 DD
024949	134949	144949	224949	3/4 DD x 3/4 DD
024946	134946	144946	224946	3/4 DD x 17mm DD
024918	134918	144918	224918	3/4 DD x 5/8-36
024952	134952	144952	224952	3/4 DD x 1 DD

Many other sizes are available. Visit www.borgeson.com for a full product listing.

POPULAR SPLINE SIZES

Nominal Spline Size	Approximate Diameter Over Splines	# of Splines in a Full Circle
9/16-17	.562	17
9/16-26	.562	26
9/16-36	.562	36
5/8-29	.625	29
5/8-36 GM*	.625	36
5/8-36 Chrysler*	.625	36
11/16-36	.687	36
11/16-40	.687	40
3/4-20	.745	20
3/4-30	.730	30
3/4-36	.735	36
3/4-48	.750	48
13/16-36	.812	36
1-48	.985	48

Actual size can measure .015" over or under the size listed. *5/8-36 GM and 5/8-36 Chrysler are not interchangeable.

DOUBLE D (DD) SIZES

Nominal Size	Approx. Dia. (A)	Approx. Size Across Flats (B)
17mm DD	.670	.570
18mm DD	.730	.610
3/4" DD	.750	.550
1" DD	.993	.790
3/4" Mustang V	.750	N/A

VIBRATION REDUCERS

Noise, vibration, and harshness are on top of the list of concerns for all automotive enthusiasts. With the more frequent use of rack and pinions and low profile tires, there are more road vibrations transmitted to the steering wheel than in the past. Using urethane to isolate all of the metal components, Borgeson has developed vibration reducers to diminish the annoying vibrations that are transmitted through the steering system and felt in the steering wheel. The use of the Borgeson vibration reducer results in an immediate improvement of the steering feel. As an added benefit, this reduction in vibration has been shown to increase the overall life of the steering components, including the steering column and box.

Vibration Reducer/U-Joint Combination

The vibration reducer/u-joint combination or VJ comes with a 9/16"-26, 5/8"-36, 3/4"-30, 3/4"-36, or 3/4"-DD coupler end and any spline or DD size on the u-joint end of the VJ. The VJ is also available in stainless steel with the same coupler options as steel and any spline or DD size on the u-joint end. Polished stainless is available as an option.

Polished Stainless Steel U-Joint/ Vibration Reducer Combination



Rubber Coupling/Rag Joints

On older factory applications, a flexible coupling was used to attach the column to the steering box when there was perfect alignment. If the original column or box is changed, the stock coupling may not work. If a conversion from a long input steering box to a short input with an aftermarket column is done, a flexible coupling needs to be added. Borgeson offers the largest variety of spline and double D sizes to fit most applications. Rag Joints are only available in steel.

RAG JOINTS	
Steel	Description
053134	3/4-30 x 3/4-36
053440	3/4-36 x 13/16-36
053143	3/4-30 x 1-48
053443	3/4-36 x 1-48
053149	3/4-30 x 3/4 DD
053449	3/4-36 x 3/4 DD
053152	3/4-30 x 1 DD
054043	13/16-36 x 1-48
053434	3/4-36 x 3/4-36
054940	3/4 DD x 13/16-36
054052	13/16-36 x 1 DD



Many other sizes are available. Visit www.borgeson.com for a full product listing.



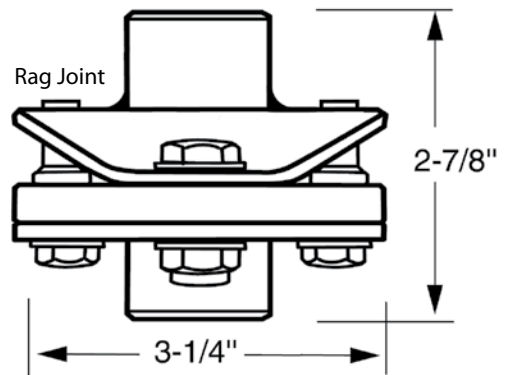
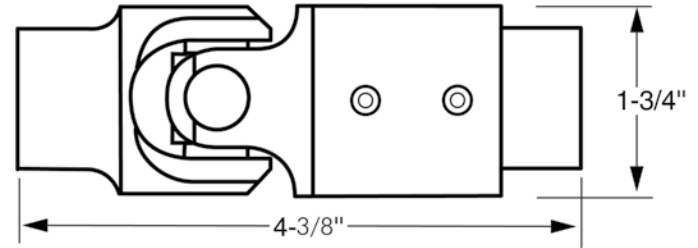
VIBRATION REDUCER / UNIVERSAL JOINT COMBINATION*

Steel	Stainless	Polished	Description
033434	153434	163434	3/4-36 x 3/4-36
033449	153449	163449	3/4-36 x 3/4 DD
033452	153452	163452	3/4-36 x 1 DD
034334	154334	164334	1-48 x 3/4-36
034349	154349	164349	1-48 x 3/4-DD
034909	154909	164909	3/4 DD x 9/16-26
034931	154931	164931	3/4 DD x 3/4-30
034934	154934	164934	3/4 DD x 3/4-36
034949	154949	164949	3/4 DD x 3/4 DD
034952	154952	164952	3/4 DD x 1 DD
034940	154940	164940	3/4 DD x 13/16-36

Many other sizes are available. Visit www.borgeson.com for a full product listing.

*Vibration reducers are not available with smooth bores. They should not be welded.

U-Joint/Vibration Reducer



DESIGN AND INSTALLATION TIP:

Don't install a vibration reducer in the center of a length of shaft. It can cause excess flexing and possible binding. If your system requires the use of a support bearing, the vibration reducer must be used between the support bearing and the column. The support bearing can pick up chassis vibration and will transfer it up the steering shaft to the wheel reducing the effects of the vibration reducer.

Splined and Double D Shafting

We recommend splined or double D shafting, as its a simple and safe method of attaching your steering components. If phasing needs to be slightly adjusted because of a "tight spot" in a u-joint, you can easily index or rotate a splined shaft in small increments. We offer 3/4" double D shafts in steel and stainless steel. Splined shafts are available in steel, stainless steel and aluminum. The u-joint is attached to the shaft using set screws and lock nuts.

The drawback to the double D shaft is that the phasing is not adjustable. However, using double D style is preferred over welding and/or pinning due to serious potential problems with those methods. Welding can overheat the u-joint bearings causing loss of lubrication. **If welding is the only option, it should be done by a certified welder.** Pinning requires holes to be drilled in shafting causing a weakening of the shaft. Vibration may cause a pin to back out or become loose in the hole so it is necessary to use a safety backup such as a hose clamp or safety wire in conjunction with a pin. **Never use a bolt to hold a smooth shaft to a smooth joint.**

Telescoping Shaft

Borgeson offers two telescoping shaft assemblies in 24" and 36" overall lengths. These shafts can be used in a variety of applications and make installation and removal of steering system components simple and easy. By pulling or pushing on the assembly, the overall length can be shortened or lengthened. This telescopic shaft also meets NHTSA guidelines for collapsibility in passenger cars and adds a measure of safety.

See our design section beginning on page 23 for information about measuring your system.

STEERING SHAFTING

Steel	Stainless	Polished	Aluminum	Description
Splined at Both Ends				
409202	N/A	N/A	N/A	3/4-36 x 2" Long
409204	419204	429204	439204	3/4-36 x 4" Long
409206	419206	429206	439206	3/4-36 x 6" Long
409208	419208	429208	439208	3/4-36 x 8" Long
409210	419210	429210	439210	3/4-36 x 10" Long
409212	419212	429212	439212	3/4-36 x 12" Long
409214	419214	429214	439214	3/4-36 x 14" Long
409216	419216	429216	439216	3/4-36 x 16" Long
409218	419218	429218	439218	3/4-36 x 18" Long
409220	419220	429220	439220	3/4-36 x 20" Long
Splined at One End				
409005	N/A	N/A	N/A	3/4-36 x 5" Long
409016	N/A	N/A	N/A	3/4-36 x 16" Long
409036	N/A	N/A	N/A	3/4-36 x 36" Long
Double D (DD)				
409418	N/A	N/A	N/A	3/4 DD x 18" Long
409436	419436	429436	N/A	3/4 DD x 36" Long
N/A	419422	429422	N/A	3/4 DD x 22" Long
Telescoping Shafting				
450024	N/A	N/A	N/A	24" Telescopes 21"-27"
450036	N/A	N/A	N/A	36" Telescopes 30"-39"

Many other sizes are available. Visit www.borgeson.com for a full product listing.

Steel 3/4" Splined Shafts are splined 2" on both ends. They are available in 2" increments from 2" to 36". Each end can be trimmed up to 1" for an exact fit. Steel 3/4" round shafts that are splined on one end are available in 5", 16", and 36" lengths.



Steel Double D Shafts are available in 18" and 36" lengths only. They are easy to trim to get an exact fit.



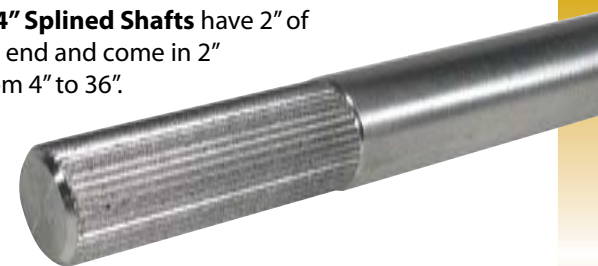
Stainless Steel 3/4" Splined Shafts are available in 1/4" increments from 3" to 24" lengths, with 7/8" of spline on each end. Custom length stainless shafting is also available with 7/8" spline on each end, polished or unpolished. (polished shown)



Stainless Steel Double D Shafts are available in 22" and 36" lengths. All stainless shafting is available polished or unpolished. (polished shown)



Aluminum 3/4" Splined Shafts have 2" of spline on each end and come in 2" increments from 4" to 36". Aluminum DD shafts are not available.



Telescoping Shafts

Borgeson offers two telescoping shaft assemblies in 24" and 36" overall lengths. These shafts can be used in a variety of applications and make installation and removal of steering system components simple and easy. Telescopic shafts can be easily trimmed to fit many applications.



SHAFT SUPPORTS & COUPLERS

Steering Supports

If more than two joints are used in a steering system, a support bearing must be used to prevent looping and binding. Use of a vibration reducer and two u-joints will also call for a support bearing to be used. The support must be mounted to the frame, not to a sheet metal section of the body; sheet metal will not withstand the stress. The shaft should fit easily through the support with no binding. A system with a double u-joint and a single u-joint has three flex points and will require a support bearing.

All support bearings work with round or DD shafting.

Rod end bearings with a 3/4" hole size are commonly used for supports. Rod end bearings are supplied with two jam nuts for mounting. They are available in steel, stainless steel and polished stainless steel. Our billet supports accommodate a 3/4" shaft. The billet supports are 2-1/2" long with two threaded holes in the end for mounting and are available in steel, aluminum, polished aluminum, stainless steel, and polished stainless steel. A 6" steel support is also available, which can be cut at any angle for a perfect fit. The 6" steel support has no mounting holes and must be welded in. Flange bearings are also available for supporting a shaft through the firewall.

Couplers and Adapters

A u-joint can sometimes be eliminated by using a 2" straight extension, called a coupler, to extend either the steering box, R&P shaft or the column shaft. The coupler can be welded and/or pinned to the un-splined end of a shaft. We offer shafts that are splined only on one end in 3 lengths: 5", 16" and 36". The 1"- 48 and 1" DD couplers have a 1-1/4" hole that will accept either an adapter to reduce inside diameter to 3/4" smooth or another splined or 3/4" DD coupler. The coupler assembly would have to be pinned and/or welded together. Welding the coupler is acceptable because there are no moving parts to damage, and the coupler's steel is less susceptible to heat damage from welding. Couplers are available in the same spline or double D sizes as our u-joints. Couplers and adapters are available in steel and stainless steel. *Aluminum couplers and adapters are not available.*

STEERING SUPPORTS

Plain Finish	Polished	Description
650000	660000	Billet Aluminum Support Bearing
670000	N/A	Billet Steel Support Bearing
670600	N/A	6" Billet Steel Support Bearing
680000	690000	Billet Stainless Steel Support Bearing
700000	N/A	Steel Rod End Bearing
710000	720000	Stainless Steel Rod End Bearing
700010	N/A	Firewall Flange Bearing

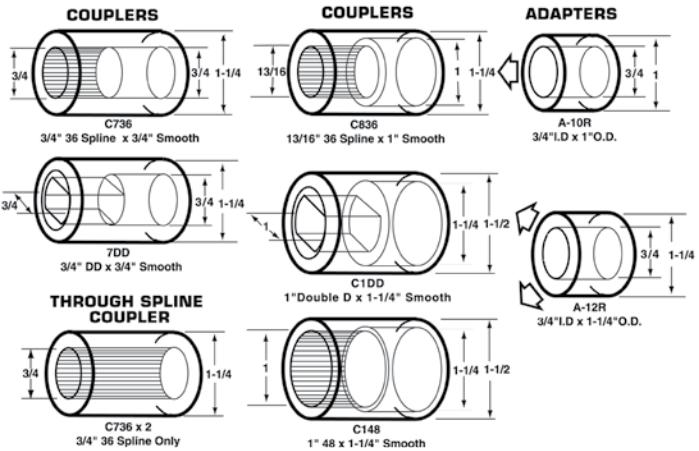
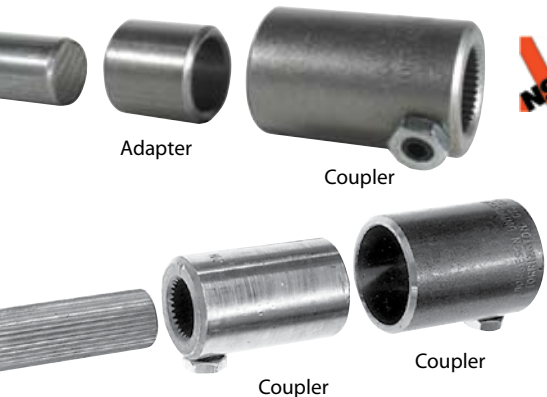


COUPLERS

Steel	Stainless	Polished	Description
310900	320900	330900	9/16-26 x 3/4 Smooth
311800	321800	331800	5/8-36 x 3/4 Smooth
312100	322100	332100	5/8-36 Chrysler x 3/4 Smooth
313400	323400	333400	3/4-36 x 3/4 Smooth
313434	323434	333434	3/4-36 Through Spline
315249	N/A	N/A	1 DD x 3/4 DD
314000	324000	334000	13/16-36 x 1 Smooth
314300	324300	334300	1-48 x 1-1/4 Smooth
314349	N/A	N/A	1-48 x 3/4 DD
314900	324900	334900	3/4 DD x 3/4 Smooth
313449	N/A	N/A	3/4-36 x 3/4 DD
315200	325200	335200	1 DD x 1-1/4 Smooth

ADAPTERS

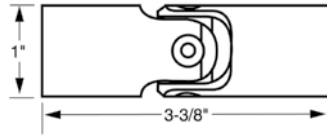
Steel	Stainless	Polished	Description
358000	368000	N/A	3/4 X 1 O.D. ADAPTER
358200	368200	N/A	3/4 X 1-1/4 O.D. ADAPTER



PIN & BLOCK RACING JOINTS

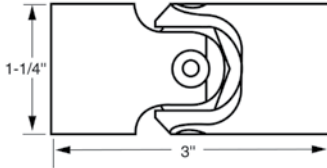
1"- Formula Car Shift Linkage, Drag Racing Steering

(not for circle track or road racing steering)
 •1/2", 5/8" or 3/4" smooth bore each end
 •smooth bore with either 9/16"-26 or 5/8"-36 spline combination



1-1/4"- Oval Track Steering

•5/8" or 3/4" smooth bore each end
 •Smooth bore and any spline and DD
 (except 9/16"-17, 9/16"-36, 1"-48, 1" DD)



1" FOR DRAG STEERING & SHIFT LINKAGE

Part Number Description

Smooth X Smooth

515964	1/2 Smooth x 3/4 Smooth
516262	5/8 Smooth x 5/8 Smooth
516264	5/8 Smooth x 3/4 Smooth
516464	3/4 Smooth x 3/4 Smooth

Spline X Smooth

510962	9/16-26 Spline x 5/8 Smooth
510964	9/16-26 x 3/4 Smooth

1-1/4" JOINTS

Part Number Description

Smooth X Smooth

526464	3/4 Smooth x 3/4 Smooth
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Spline X Smooth

520962	9/16-26 x 5/8 Smooth
520964	9/16-26 Spline x 3/4 Smooth
523164	3/4-30 Spline x 3/4 Smooth
523464	3/4-36 Spline x 3/4 Smooth
524064	13/16-36 x 3/4 Smooth

Many other sizes are available. Visit www.borgeson.com for a full product listing.

PIN & BLOCK RUBBER BOOT

Part Number Description

601000	For 1" Joint
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The advantage to the pin and block style of universal joint is a high strength to weight, size and cost ratio. These u-joints are manufactured from high strength billet alloy steel and then heat treated to obtain maximum strength. **Because the u-joints use pivot pins and blocks instead of sealed needle bearings, they must be checked and lubricated every time the vehicle is driven.** A rubber boot is also available to retain lubrication. The smaller sizes are ideal for fabricating shift linkage. Borgeson pin and block u-joints have a 30° maximum operating angle. **These u-joints are not for street use.**

INDUSTRIAL AND SPECIALTY VEHICLE APPLICATIONS

Borgeson manufactures custom universal joints, steering shaft assemblies and OEM Saginaw manual steering gears for industrial, government and OEM applications. Borgeson has the personnel and technology to work with your engineering staff to manufacture custom universal joints and intermediate shaft assemblies for your application. Contact our sales office with your project requirements for further information.

Custom manual gearbox for ground support equipment.



Original wooden model used to obtain patent in 1914.



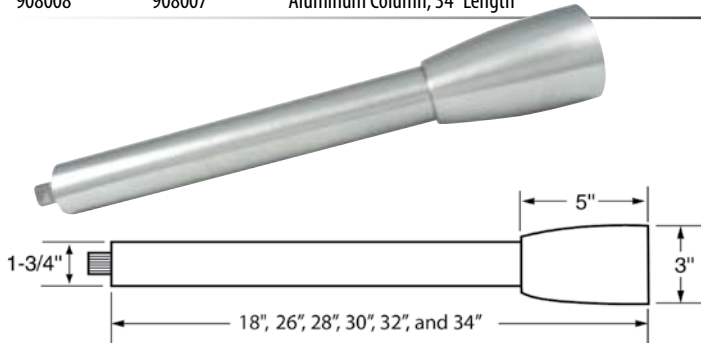
TRADITIONAL STYLE STEERING COLUMNS

Traditional Style Aluminum Steering Columns

Our billet aluminum column is available in either a polished or brushed finish. This column has a 1-3/4" tube with a 3" bell. Our column will accept all standard three bolt wheels. This column has no provision for wiring. Available in an 18" Shorty version as well as 26", 28", 30", 32" and 34" lengths. Our column has a 3/4-36 splined shaft.

TRADITIONAL STYLE ALUMINUM COLUMNS

Polished	Brushed	Description
908022	908021	Aluminum Column, 18" Length
908002	908001	Aluminum Column, 26" Length
908016	908015	Aluminum Column, 28" Length
908004	908003	Aluminum Column, 30" Length
908006	908005	Aluminum Column, 32" Length
908008	908007	Aluminum Column, 34" Length

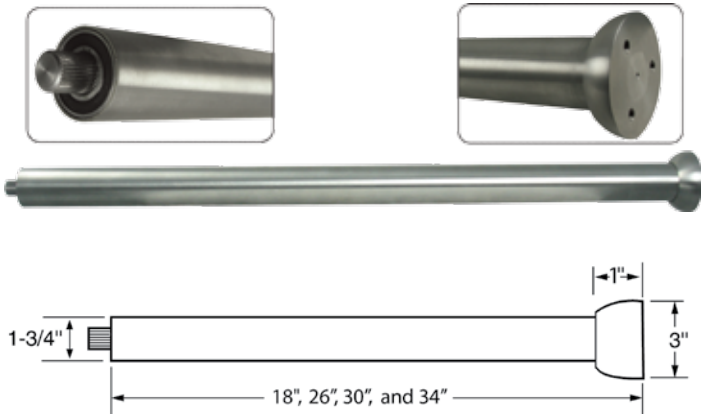


Economy Stainless Steel Steering Column

Our economy stainless steel steering column is available in a polished or brushed finish. This column has a 1-3/4" tube with a 3" bell and will fit all standard 3-Bolt steering wheels. It has no provision for wiring. This column is available in an 18" Shorty version in addition to; 26", 30", 34" lengths and has a 3/4"-36 spline shaft.

STAINLESS STEEL ROD STEERING COLUMNS

Polished	Brushed	Description
908054	908044	Stainless Steel Economy Column, 18" Length
908051	908041	Stainless Steel Economy Column, 26" Length
908052	908042	Stainless Steel Economy Column, 30" Length
908053	908043	Stainless Steel Economy Column, 34" Length



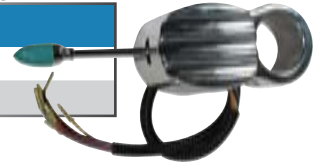
We also offer steering columns from



Traditional Style Turn Signal Switch

TURN SIGNAL SWITCH

Part Number	Description
803006	Turn Signal for 1 3/4" column



Traditional Style Steering Wheels

Our traditional 3 and 4 spoke wheels are 14" diameter. These wheels are available in a UV protected urethane or wrapped with rich black leather. Both wheels are built to fit our traditional style columns using a 3 bolt mounting pattern.



STEERING WHEELS & ADAPTERS

Part Number	Description
804001	Bell Style Wheel, Urethane Grip, 3-Spoke
804002	Bell Style Wheel, Leather Grip, 3-Spoke
804003	Bell Style Wheel, Urethane Grip, 4-Spoke
804004	Bell Style Wheel, Leather Grip, 4-Spoke
908102	3-Bolt Wheel to GM Column Adapter

Billet Tach Cup

Our billet tach cups are available in either a polished or machined finish with your choice of steering column or dash mount. Tach cups are available to fit 1-3/4", 2", 2-1/4" and 2-3/8" diameter columns. The Autometer tach cup part numbers listed are for the traditional series tachs. VDO tach cup will also fit SVO and Autometer 3-1/8" tachs. **Moon tachs are made by Autometer and Classic, please verify which brand you have.**



BILLET TACH CUPS

Classic	VDO 3-1/8"	Stewart Warner	Autometer	
901002	902002	903002	904002	Dash Mount Polished
901001	902001	903001	904001	Dash Mount Machined
901004	902004	903004	904004	1-3/4" Column Polished
901003	902003	903003	904003	1-3/4" Column Machined
901006	902006	903006	904006	2" Column Polished
901005	902005	903005	904005	2" Column Machined
901008	902008	903008	904008	2-1/4" Column Polished
901007	902007	903007	904007	2-1/4" Column Machined
901010	902010	903010	904010	2-3/8" Column Polished
901009	902009	903009	904009	2-3/8" Column Machined

COLUMN DROPS & FLOOR MOUNTS

Solid, Recessed and Open Styles

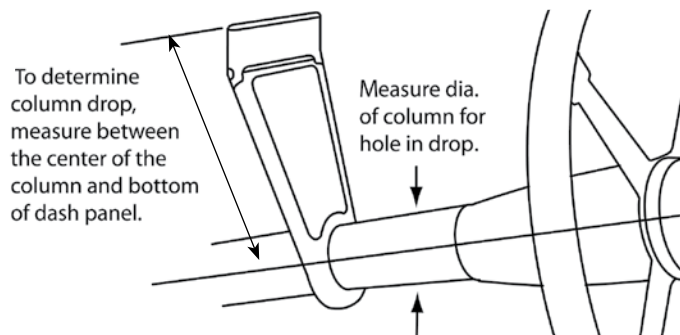
Drops are available in three styles and various hole diameters to fit most columns. We machine these from solid billet aluminum. The adjustable swivel easily accommodates different column and dash angles. Available in 1-3/4", 1-7/8", 2", 2-1/4" and 2-3/8" diameter holes and lengths of 2", 3", 4", 5", 6" and 7". The 2-3/8" drop has a notch to clear the wire harness cover on GM columns.



SOLID COLUMN DROPS			RECESSED COLUMN DROPS			OPEN COLUMN DROPS		
Matte	Polished	Description	Matte	Polished	Description	Matte	Polished	Description
910172	911172	1-3/4" Dia x 2"	914173	915173	1-3/4" Dia x 3"	912173	913173	1-3/4" Dia x 3"
910173	911173	1-3/4" Dia x 3"	914174	915174	1-3/4" Dia x 4"	912174	913174	1-3/4" Dia x 4"
910174	911174	1-3/4" Dia x 4"	914175	915175	1-3/4" Dia. x 5"	912175	913175	1-3/4" Dia. x 5"
910175	911175	1-3/4" Dia. x 5"	914176	915176	1-3/4" Dia x 6"	912176	913176	1-3/4" Dia x 6"
910176	911176	1-3/4" Dia x 6"	914177	915177	1-3/4" Dia x 7"	912177	913177	1-3/4" Dia x 7"
910177	911177	1-3/4" Dia x 7"	914183	915183	1-7/8" Dia X 3"	912183	913183	1-7/8" Dia X 3"
910182	911182	1-7/8" Dia X 2"	914184	915184	1-7/8" Dia X 4"	912184	913184	1-7/8" Dia X 4"
910183	911183	1-7/8" Dia X 3"	914185	915185	1-7/8" Dia X 5"	912185	913185	1-7/8" Dia X 5"
910184	911184	1-7/8" Dia X 4	914186	915186	1-7/8" Dia X 6"	912186	913186	1-7/8" Dia X 6"
910185	911185	1-7/8" Dia X 5"	914187	915187	1-7/8" Dia X 7"	912187	913187	1-7/8" Dia X 7"
910186	911186	1-7/8" Dia X 6"	914203	915203	2" Dia x 3"	912203	913203	2" Dia x 3"
910187	911187	1-7/8" Dia X 7"	914204	915204	2" Dia x 4"	912204	913204	2" Dia x 4"
910202	911202	2" Dia x 2"	914205	915205	2" Dia x 5"	912205	913205	2" Dia x 5"
910203	911203	2" Dia x 3"	914206	915206	2" Dia x 6"	912206	913206	2" Dia x 6"
910204	911204	2" Dia x 4"	914207	915207	2" Dia x 7"	912207	913207	2" Dia x 7"
910205	911205	2" Dia x 5"	914223	915223	2-1/4" Dia x 3"	912223	913223	2-1/4" Dia x 3"
910206	911206	2" Dia x 6"	914224	915224	2-1/4" Dia x 4"	912224	913224	2-1/4" Dia x 4"
910207	911207	2" Dia x 7"	914225	915225	2-1/4" Dia x 5"	912225	913225	2-1/4" Dia x 5"
910222	911222	2-1/4" Dia x 2"	914226	915226	2-1/4" Dia x 6"	912226	913226	2-1/4" Dia x 6"
910223	911223	2-1/4" Dia x 3"	914227	915227	2-1/4" Dia x 7"	912227	913227	2-1/4" Dia x 7"
910224	911224	2-1/4" Dia x 4"	914233	915233	2-3/8" Dia x 3"	912233	913233	2-3/8" Dia x 3"
910225	911225	2-1/4" Dia x 5"	914234	915234	2-3/8" Dia x 4"	912234	913234	2-3/8" Dia x 4"
910226	911226	2-1/4" Dia x 6"	914235	915235	2-3/8" Dia x 5"	912235	913235	2-3/8" Dia x 5"
910227	911227	2-1/4" Dia x 7"	914236	915236	2-3/8" Dia x 6"	912236	913236	2-3/8" Dia x 6"
910232	911232	2-3/8" Dia x 2"	914237	915237	2-3/8" Dia x 7"	912237	913237	2-3/8" Dia x 7"
910233	911233	2-3/8" Dia x 3						
910234	911234	2-3/8" Dia x 4"						
910235	911235	2-3/8" Dia x 5"						
910236	911236	2-3/8" Dia x 6"						
910237	911237	2-3/8" Dia x 7"						

Solid or Split Swivel Floor Mounts

Our easy to install, solid full circle design slides over the end of the steering column. This provides a secure way to mount the column to the floor. The inner collar pivots to accommodate any floor angle. Available for 1-1/2", 1-3/4", 2" and 2-1/4" columns. A split design that separates in half to clear the column shift lever is also available; the split design can be installed on a column already in the vehicle; available for 2" and 2-1/4" columns. We manufacture all floor mounts from solid billet aluminum.



FLOOR MOUNTS

Machined	Polished	Description
909013	909014	Solid Swivel 1-1/2" Column
909001	909002	Solid Swivel 1-3/4" Column
909003	909004	Solid Swivel 2" Column
909005	909006	Solid Swivel 2-1/4" Column
909007	909008	Split Swivel 2" Column
909009	909010	Split Swivel 2-1/4" Column



STREET ROD STEERING BOXES



**3 YEAR WARRANTY
ON STEERING BOXES**

OEM Saginaw Manual Boxes

Borgeson is now the OEM manufacturer and re-manufacturer of Saginaw manual steering gears. Borgeson Saginaw manual steering boxes are assembled to the same demanding standards as our precision u-joints. Each box is carefully assembled, adjusted and inspected to our factory specifications. Borgeson offers both standard crossover steering boxes or reversed boxes for side steer applications. These steering boxes are made in the USA and have a 3 year warranty.

OEM Saginaw 140 Box

This is a *real* Vega box, not a cheap copy. The 140 is recommended only for vehicles under 2400 lbs. Steering ratio is 22:1. Reversed boxes are also available.



OEM Saginaw 525 Box

Brand New OEM 525 boxes are available as well as remanufactured units with custom shortened 1" input shafts, quick 16:1 ratio or even reversed for side steer applications.



OEM Saginaw 530 Variable Ratio Box

The 530 variable ratio box has the same feel as the 525 in the center of the box's travel but the ratio slows as you turn further resulting in much easier parking with less effort required to turn. The 530 variable ratio box has a 3/4-30 spline input shaft and a 1-1/4" sector shaft that uses the 700 power steering gear pitman arms.

Power Boxes For Street Rod Applications

Borgeson offers two generations of GM integral power steering boxes. The Saginaw/Delphi 700 was used by GM from the mid 60's on and is available in four different ratios, 3 fixed and one variable. The variable ratio offers a quick final ratio with only 3 turns lock-to-lock but is not overly sensitive on center for stable highway driving.

The Delphi 600 represents the latest generation of integral power steering gearbox technology with true modern power steering feel and feedback. The 600 is available in two different ratios.



GM 600 Power Box



GM 700 Power Box

MANUAL BOXES FOR STREET ROD APPLICATIONS

Part #	Description
920006	140 Vega Steering Box, OEM Remanufactured, 22:1 Ratio 3/8-36 Spline
920007	Reversed Vega 140 Steering Box, OEM Remanufactured, 22:1 Ratio, 3/8-36 Spline
920010	New OEM 525 Steering Box, 24:1 Ratio 3/4-30 Spline
920034	530 Steering Box, OEM Remanufactured, Variable Ratio, 3/4-30 Spline
920009	Reversed 525 Box, OEM Remanufactured, 24:1 Ratio 3/4-30 Spline
920028	525 Steering Box, OEM Remanufactured, 16:1 Quick Ratio, 3/4-36 Spline
920030	525 Steering Box, Short Input, OEM Remanufactured, 16:1 Quick Ratio, 3/4-36 Spline
920011	525 Steering Box, Short Input, OEM Remanufactured 24:1 Ratio 3/4-36 Spline
920019	Mustang Box, Remanufactured, 16:1 Ratio, 1-1/8" Sector Dia. 3/4-36 Spline
920021	Mustang Box, Remanufactured, 20:1 Ratio, 1-1/8" Sector Dia. 3/4-36 Spline

Mustang Box for Street Rods

The Mustang box has always been a favorite for Street Rodders using traditional side steering. This remanufactured Mustang steering box is available with two steering ratios, 16:1 and 20:1. This box works well in early side steer applications.



PITMAN ARMS & STEERING BOX MOUNT

Part	Description
806001	122/525/605 Stainless (6-1/4" between centers)
806002	122/525/605 Stainless Polished (6-1/4" between center)
806003	122/525/605 Bendable Steel Flat (6" between centers)
806008	700/600/530 OEM Arm Cleaned, Inspected and Painted
806016	122/525/605 Steel, Flat, Bendable (7" between centers)
806018	700/600/530 Steel, Flat (7" between centers)
806010	Vega 140 Steel, Flat, Bendable (6" between centers)
806014	Mustang Box, Flat Steel, 1-1/8" Sector (4-3/8" between centers)
805004	Saginaw Box Mount Bracket, Weld-On, Model A, 32, 34 Ford*

Other arms are available, please call.



Weld-On Bracket*

*All Borgeson 700, 600, 530, 525 and Vega steering boxes have the same three bolt pattern and can use this bracket. Not all steering boxes share the same mount pattern.

POWER BOXES FOR STREET ROD APPLICATIONS

Part #	Description
800209	New Delphi 600 Gear Power Steering Box, 12.7:1 Ratio, 3/4-30 Spline
800208	New Delphi 600 Gear Power Steering Box, 14:1 Ratio, 3/4-30 Spline
800220	Remanufactured Delphi 700 Power Steering Box, 12.7:1 Ratio, 3/4-30 Spline
800221	Remanufactured Delphi 700 Power Steering Box, 14:1 Ratio, 3/4-30 Spline
800222	Remanufactured Delphi 700 Power Steering Box, 17.5:1 Ratio, 3/4-30 Spline
800205	Remanufactured Delphi 700 Power Steering Box, Variable Ratio, 3/4-30 Spline

GM MUSCLE CAR STEERING

Power Steering Boxes & Accessories

Borgeson offers two generations of GM integral power steering boxes. The Saginaw/Delphi 700 was used by GM from the mid 60's on and is available in four different ratios, 3 fixed and one variable. The variable ratio offers a quick final ratio with only 3 turns lock-to-lock but is not overly sensitive on center for stable highway driving. The #800205 Variable Ratio 700 gear is an excellent upgrade for 65 and up GM Muscle cars looking to update their steering.

The Delphi 600 represents the latest generation of integral power steering gearbox technology with true modern power steering feel and feedback. The 600 is available in two different ratios.



3 YEAR WARRANTY ON STEERING BOXES

POWER STEERING BOXES & ACCESSORIES

Part #	Description
800209	New Delphi 600 Gear Power Steering Box, 12.7:1 Ratio, 3/4-30 Spline
800208	New Delphi 600 Gear Power Steering Box, 14:1 Ratio, 3/4-30 Spline
800220	Remanufactured Delphi 700 Power Steering Box, 12.7:1 Ratio, 3/4-30 Spline
800221	Remanufactured Delphi 700 Power Steering Box, 14:1 Ratio, 3/4-30 Spline
800222	Remanufactured Delphi 700 Power Steering Box, 17.5:1 Ratio, 3/4-30 Spline
800205	Remanufactured Delphi 700 Power Steering Box, Variable Ratio, 3/4-30 Spline
925103	2 Piece P/S Hose Kit, Rubber, GM Pump to GM Box.
925203	2 Piece P/S Hose Kit, Braided Stainless, GM Pump to GM Box
800310	GM Power Steering Pump with Keyway, Black
800311	GM Power Steering Pump with Keyway, Chrome
802400	P/S Pump Bracket, Steel, SBC/SWP
802402	P/S Pump Bracket, Steel, SBC/LWP
802403	P/S Pump Bracket, Steel, BBC/SWP
802407	P/S Pump Bracket, Steel, BBC/LWP
801001	P/S Pump Pulley GM 2-Row Keyway Style
801101	5-3/4" P/S Pump Pulley, Billet Aluminum, 1-Row, Polished
801102	4-5/8" P/S Pump Pulley, Billet Aluminum, 1-Row, Polished
801201	5-3/4" P/S Pump Pulley, Billet Aluminum, 1-Row, Machined Finish
801202	4-5/8" P/S Pump Pulley, Billet Aluminum, 1-Row, Machined Finish

Muscle Car Intermediate Steering Shaft Kits

Let Borgeson help you replace your worn or rusted Muscle Car intermediate steering shaft. Give Borgeson a call and we will be glad to help you select the proper components.



OEM Saginaw Manual Steering Boxes

Borgeson is now the OEM manufacturer and re-manufacturer of Saginaw manual steering gears. Borgeson Saginaw manual steering boxes are assembled to the same demanding standards as our precision u-joints. Each box is carefully assembled, adjusted and inspected to our factory specifications.



SAGINAW MANUAL STEERING BOXES

Part #	Description
920010	New OEM 525 Manual Steering Box, 24:1 Ratio 3/4"-30 Spline
920028	525 Manual Steering Box, OEM Remanufactured, 16:1 Ratio 3/4"-36 Spline
920027	122 Manual Steering Box, OEM Remanufactured, 24:1 Ratio 3/4"-36 Spline
920006	140 Manual Steering Box, OEM Remanufactured, 22:1 Ratio 5/8"-36 Spline
920034	530 Manual Steering Box, OEM Remanufactured, Variable Ratio 3/4"-30 Spline

Power to Manual Conversion Kits

Borgeson gives you a great way to shed up to 28 pounds and free up some extra horsepower with our complete power to manual conversion kits. Each direct fit conversion kit includes a new OEM Saginaw 525 box, pitman arm and half rag joint. Universal kit includes remanufactured Saginaw 530 variable ratio box, half rag joint and re-uses power pitman arm. Quick ratio steering boxes are also available.

POWER TO MANUAL CONVERSION KITS

Part #	Description
999001	1978-1988 Malibu and 1982-1992 Camaro
999002	1964-1967 Chevelle, 442, GTO
999003	1970-1981 Camaro and 1975-1979 Nova
999004	1968-1972 Chevelle, 442, GTO
999018	Universal Kit: 1/2 Rag Joint and Box, Uses 700 gear power pitman arm

Manual Conversion Kit



POWER STEERING PUMPS & ACCESSORIES

Self Contained Power Steering Pumps

These pumps are remanufactured to precise tolerances exceeding OEM specifications. Pumps are available with either a black powder coated or brilliant chrome reservoir. We also offer pumps preset to the lower operating pressure for Mustang rack and pinions, and pumps with two returns for Hydro-Boost brake applications.



Remote Reservoir Style Type II Pumps

Brand new aluminum power steering pump made by GM and finished by Borgeson. We offer remote style pumps either preset for Mustang R&P pressure or in standard GM pressure. Pumps are available in either a highly polished or a cast finish, with either slip-on or AN ends.



SELF CONTAINED POWER STEERING PUMPS

Black	Chrome	Description
800310	800311	P/S Pump with Keyway
800312	800313	P/S Pump with Keyway for Mustang Pressure
800329	N/A	P/S Pump Press-On style with Single Pulley
800323	N/A	P/S Pump Press-On style with two returns for Hydro-Boost

SELF CONTAINED PUMP BRACKETS

802400	Self Contained P/S Pump Bracket, SBC/SWP
802402	Self Contained P/S Pump Bracket, SBC/LWP
802403	Self Contained P/S Pump Bracket, BBC/SWP
802407	Self Contained P/S Pump Bracket, BBC/LWP
802409	Self Contained P/S Pump Bracket, SBF/289/302/351W
802410	Self Contained P/S Pump Bracket, Ford 200/250 I-6
802411	Self Contained P/S Pump Bracket, Ford 292/312 Y Block



#802400 SBC/SWP



#802402 SBC/LWP

Problem Solver !!!

Pressure Reducing Kit

This kit contains tools, parts and instructions for reducing the output pressure of GM pumps to properly operate Mustang rack and pinions.

Fits both Self-Contained and Remote Reservoir Type II pumps.

PRESSURE REDUCING KIT

899001	Pressure Reducing Kit for Self Contained and GM Type II Pumps
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Power Steering Hose Kits

We have rubber and stainless steel hoses for many popular applications. The braided stainless steel hose kits use a high pressure Teflon lined hose and will require final cutting and assembly.



POWER STEERING HOSE KITS

Rubber	Stainless	Description
925101	925201	Hose Kit, 2-Piece, GM Pump to '74-'78 Mustang Rack
925102	925202	Hose Kit, 2-Piece, GM Pump to '79-'97 Mustang Rack
925103	925203	Hose Kit, 2-Piece, GM Pump to GM Box

REMOTE RESERVOIR STYLE TYPE II PUMPS

Unpolished	Polished	Description
800301	800302	Remote P/S Pump / GM psi / Slip on end
800303	800304	Remote P/S Pump for Mustang psi / Slip on end
800305	800306	Remote P/S Pump / GM psi / AN end
800307	800308	Remote P/S Pump for Mustang psi / AN end

REMOTE PUMP MOUNT KITS (includes pulley)

800500	Remote P/S Pump Mount Kit, SBC, V-Belt, Polished
800501	Remote P/S Pump Mount Kit, SBC, Serpentine, Polished
800502	Remote P/S Pump Mount Kit, BBC, V-Belt, Polished



Remote Power Steering Reservoirs

Our billet aluminum power steering reservoir is available in either a polished or unpolished finish. The reservoir has an internal baffle plate and includes an O-Ring sealed cap and mounting bracket. It uses standard NPT fittings.



REMOTE POWER STEERING RESERVOIR

Part #	Description
800600	Remote reservoir with bracket, Polished
800601	Remote reservoir with bracket, Unpolished

Power Steering Pulleys

Borgeson manufactures power steering pulleys to fit either our keyway shaft self contained pumps or our press-on style remote Type II pumps.



POWER STEERING PULLEYS

Unpolished	Polished	Description
801001	N/A	Steel P/S Pulley, 2-Row with Keyway, Painted Black, 5-3/4"
801105	N/A	Steel P/S Pulley, 1-Row Press-On, Painted Black, 5-3/4"
801201	801101	Aluminum P/S Pulley, 1-Row with Keyway, 5-3/4"
801202	801102	Aluminum P/S Pulley, 1-Row with Keyway, 4-5/8"
801203	801103	Aluminum Type II P/S Pulley, 1-Row Press-on, 4-5/8"



Mopar Quick Ratio Modern Power Steering Conversion **NEW**

Borgeson has developed a modern quick ratio power steering box for the 62-79 Mopar cars. Borgeson has adapted a modern Delphi 600 series power steering box to bolt directly to the frame and fit to your stock steering linkage. The Borgeson quick ratio power steering box offers a 14:1 ratio with only 3.5 turns lock-to-lock and a tight modern feel to the steering. The Borgeson conversion box can be used in both factory manual and power steering applications.

Please call or visit our web site for current part numbers and application information.

1962-1979 MOPAR

Power Conversion Box & Components

800118	Power Steering Conversion Box 62-72 Mopar 1-1/8" Sector Shaft
800119	Power Steering Conversion Box, 65-79 Mopar 1-1/4" Sector Shaft
036425	Steering Column Adapter for Factory Columns
CALL	Fitting Adapter Set, Allows Use of OEM Power Steering Hoses

Mopar Manual Steering Box

Part # Description

920032	62-72 Manual, OEM Remanufactured, Original Aluminum Case, 3/4"-36 Spline
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Mopar Power Conversion Box

62-72 Mopar Manual Box



1962-1972 OEM Manual Steering Boxes **NEW**

Borgeson is now the OEM re-manufacturer of direct replacement Saginaw manual steering gears for your 1962-1972 Mopar. Borgeson Saginaw manual steering boxes are assembled to the same demanding standards as our precision u-joints. Each box is carefully assembled, adjusted and inspected to our factory specifications. These steering boxes are made in the USA and have a 3 year warranty.

1962-72 CHEVY II

1962-1966 Modern Power Steering Conversion (Floor Shift Only)

Borgeson offers a modern quick ratio power steering conversion box for your 1962-1966 Chevy II Nova. Borgeson has remanufactured this box to bolt directly to the factory mounting location and to fit the stock steering linkage without any interference or modification of the frame or shock tower. **The original factory column will need to be shortened for clearance of the power steering box.** Cars with factory power steering will require either a drag link adapter or a manual steering center link.

IMPORTANT INSTALLATION NOTES:

- Power conversion box is intended for use with stock steering columns only.
- **Floor Shift Only.** Any stock column can be modified to fit, however column shift is not possible with added length of steering box.
- Borgeson vibration reducing column shaft #990041 is recommended for installation.

1962-1966 CHEVY II POWER CONVERSION

Power Conversion Box & Components

Part#	Description
800117	Power Steering Conversion Box, 62-66 Chevy II Nova
990041	Steering Column Shaft for Power Conversion 62-66 Chevy II Nova
800310	P/S Pump with Keyway
802400	Self Contained P/S Pump Bracket, SBC/SWP
801001	Steel P/S Pulley, 2-Row with Keyway, Painted Black, 5-3/4"
925108	P/S Hose Kit, Rubber, Conversion box to Saginaw pump V-8
990005	62-66 Nova Manual Drag Link Adapter for cars with factory P/S

1962-1972 CHEVY II MANUAL BOXES

Manual Steering Boxes

Part # Description

920024	62-66 Chevy II, OEM Remanufactured Original, Long Input Shaft
920025	67 Chevy II, OEM Remanufactured Original
920026	68-72 Chevy II, OEM Remanufactured Original
920028	68-72 Chevy II, Quick Ratio 16:1, Direct Replacement

**3 YEAR WARRANTY
ON STEERING BOXES**



NEW

1962-1972 OEM Manual Steering Boxes

Borgeson is now the OEM re-manufacturer of Saginaw direct replacement manual steering gears for your 1962-1972 Chevy II. Borgeson Saginaw manual steering boxes are assembled to the same demanding standards as our precision u-joints. Each box is carefully assembled, adjusted and inspected to our factory specifications. These steering boxes are made in the USA and have a 3 year warranty.



1958-64 CHEVY CAR

Modern Power Steering Conversion

Borgeson now offers a modern integral power steering conversion for your 1958-1964 full size Chevy. The Borgeson conversion box is a remanufactured GM Delphi 600 integral power steering gearbox. The Delphi 600 represents the latest generation of integral power steering gearbox technology with true modern power steering feel, feedback and a quick 14:1 ratio.

Borgeson has remanufactured this box to bolt directly to the factory mounting location and to fit the stock pitman arm. This box has been positioned to clear the larger four core radiators. The idler arm will need to be rotated to match the new angle of the steering box. A new universal joint and steering shaft will be required for connection to the stock column. Cars with factory power steering will require a drag link adapter or a manual centerlink.

348/409 Applications will require use of a remote style power steering pump.



Power Conversion Box



'58-64 Power Steering Conversion Kit

1958-1964 CHEVY IMPALA, BEL AIR, BISCAYNE

Part #	Description
920029	58-64 Chevy, OEM Remanufactured Original, Manual steering box
Power Steering Conversion Box & Accessories	
800106	58-64 Chevy Remanufactured Delphi 600, Power Conversion Box
990007	58-64 Chevy Manual Drag Link Adapter for cars with factory power steering
013446	Universal Joint, 3/4"-36 X 17MM DD For connection to power box
409216	Steering Shaft, 3/4"-36 Spline connects 013446 Joint to stock column
925103	2 Piece Rubber P/S Hose Kit, GM Pump to GM Box
800310	GM Power Steering Pump with Keyway
801001	P/S Pump Pulley GM 2-Row Keyway Style
802400	P/S Pump Bracket, Steel, SBC/SWP
802402	P/S Pump Bracket, Steel, SBC/LWP
802403	P/S Pump Bracket, Steel, BBC/SWP
Complete Power Steering Conversion Kits	
999014	58-64 Power Conversion Kit. SBC/SWP, Stock Column
999015	58-64 Power Conversion Kit. Box, Joint and Shaft Only

ididit Direct Replacement Columns Available

**3 YEAR WARRANTY
ON STEERING BOXES**

NEW



OEM Remanufactured Steering Box

Borgeson is now the OEM re-manufacturer of direct replacement Saginaw manual steering gears for your 1958-1964 Chevy. Borgeson Saginaw manual steering boxes are assembled to the same demanding standards as our precision u-joints. Each box is carefully assembled, adjusted and inspected to our factory specifications. These steering boxes are made in the USA and have a 3 year warranty.



Modern Power Steering Conversion

Borgeson offers an integral power steering conversion for your 1955-1957 Chevy. The Borgeson conversion box is a remanufactured GM Delphi 600 integral power steering gearbox. The Delphi 600 represents the latest generation of integral power steering gearbox technology with true modern power steering feel, feedback and a sporty 12.7:1 ratio. Borgeson has remanufactured this box to bolt directly to the factory mounting location and to fit the stock pitman arm. Conversion requires shortening the stock steering column. (Details below)

Cars with factory power steering will require drag link adapter #990001 or manual steering linkage.

STEERING COLUMN MODIFICATIONS

Floor shift cars with stock column will need to trim the outer column tube back to the firewall. Replacement steering column shaft #990008 can then be used with rag joint #055034 to connect to the conversion box.

Column shift cars with stock column will require extensive modifications and sectioning. We have available pre shortened stock columns for the 55-56 and 57 cars. Shortened stock columns require rag joint #055049 to connect to the conversion box.

Aftermarket columns. The available direct replacement aftermarket columns are the proper length to use with our box and will connect with either rag joint #055034 or 055052 depending on the column shaft. **idit Direct Replacement Columns Available.**

1955-1957 CHEVY

Part #	Description
920012	55-57 Chevy, OEM Remanufactured Original, Manual steering box
920013	55-57 Chevy, Quick Ratio long input Manual steering box
920014	55-57 Chevy, Short Input Shaft Manual Steering Box, 24:1 Ratio 3/4-30 Spline
920015	55-57 Chevy, Short Input Quick Ratio Manual Steering Box, 16:1 Ratio 3/4-36 Spline
921006	55-57 Chevy Billet Top Cover

Column Floor Mounts & Column Shaft

909011	55-57 Chevy Deluxe Floor Mount for 2" Column
909012	55-57 Chevy Deluxe Floor Mount Polished for 2" Column
909017	55-57 Chevy Economy Floor Mount for 2" Column
990008	Replacement Column Shaft for 55-57 Chevy Fits stock wheel, 3/4"-36 Splined

Power Steering Conversion Box & Accessories

800105	55-57 Chevy Delphi 600 Gear Power Steering Conversion Box
990001	55-57 Chevy Manual Drag Link Adapter for cars with factory power steering
055034	Rag Joint, 18MM-DD X 3/4-36, Power Box to 3/4"-36 Spline column
055052	Rag Joint, 18MM-DD X 1"-DD, Power Box to 1"-DD column
925103	2 Piece Rubber P/S Hose Kit, GM Pump to GM Box
800310	GM Power Steering Pump with Keyway
801001	P/S Pump Pulley GM 2-Row Keyway Style
802404	P/S Pump Bracket for 55-57 Chevy with Front Motor Mounts
802400	P/S Pump Bracket, Steel, SBC/SWP
802402	P/S Pump Bracket, Steel, SBC/LWP

Complete Power Steering Conversion Kits*

999009	55-57 Power Conversion Kit. SBC, Front Motor Mounts, 3/4"-36 Column
999010	55-57 Power Conversion Kit. SBC, Front Motor Mounts, 1"-DD Column
999005	55-57 Power Conversion Kit. SBC/SWP, 3/4"-36 Column
999006	55-57 Power Conversion Kit. SBC/SWP, 1"-DD Column
999008	55-57 Power Conversion Kit. SBC/LWP, 1"-DD Column



'55-57 Complete Power Steering Conversion Kit
Includes all Components Shown

NEW

OEM Remanufactured Steering Boxes

Borgeson is now the OEM re-manufacturer of Saginaw manual steering gears for your 1955-1957 Chevy. Borgeson offers manual steering boxes for your Tri-5 in two different ratios both available in either original long input or short input style for use with aftermarket columns. Borgeson Saginaw manual steering boxes are assembled to the same demanding standards as our precision u-joints. Each box is carefully assembled, adjusted and inspected to our factory specifications. These steering boxes are made in the USA and have a 3 year warranty.



55-57 Manual Boxes

3 YEAR WARRANTY ON STEERING BOXES



'55-57 Drag Link Adapter



'55-57 Economy
Floor Mount



'55-57 Deluxe
Floor Mount

1963-82 CORVETTE

Corvette Modern Power Steering Conversion

Borgeson offers a modern integral power steering conversion for your 1963-1982 classic Corvette. The Borgeson conversion box is a remanufactured GM Delphi 600 integral power steering gearbox. The Delphi 600 represents the latest generation of integral power steering gearbox technology with true modern power steering feel, feedback and a sporty 12.7:1 ratio. Borgeson has remanufactured this box to bolt directly to the factory mounting location and to fit the stock pitman arm. The factory column will need to be collapsed or shortened approximately 2.5" for clearance of conversion box. (Details below)

Cars with factory power steering will require drag link adapter #990002 or manual steering linkage.

STEERING COLUMN MODIFICATIONS

1963-1966 Cars will need to trim approximately 2.5" off the splined steering column shaft for installation. Conversion box will then connect to the stock column with rag joint #055034 (Must leave 3/4" of spline to properly engage the rag joint)

1967-1982 Cars have a factory collapsible steering column. Gently tap on the spline column shaft with a rubber mallet to collapse the shaft in on itself for the needed 2.5" of clearance. Conversion box will then connect to column with rag joint #055043.



Complete Conversion Kit

1963-1982 CORVETTE POWER CONVERSION

Part #	Description
Power Steering Conversion Box & Accessories	
800108	63-82 Corvette Delphi 600 Gear Power Steering Conversion Box
990002	63-82 Corvette Manual Drag Link Adapter for cars with factory power steering
055034	Rag Joint 18MM-DD X 3/4-36 for connection of Box to 3/4"-36 Spline column
055043	Rag Joint 18MM-DD X 1"-48 for connection of Box to 1"-48 Spline column
925103	2 Piece Rubber P/S Hose Kit, GM Pump to GM Box
925203	2 Piece Stainless P/S Hose Kit, GM Pump to GM Box
800310	GM Power Steering Pump with Keyway, Painted Black
800311	GM Power Steering Pump with Keyway, Chrome
Call	Corvette P/S Pump Pulley, 2-Row Keyway Style
802400	P/S Pump Bracket, Steel, SBC/SWP
Call	Corvette P/S Pump Bracket, Steel, BBC/SWP
Complete Power Steering Conversion Kits	
999016	63-66 Power Conversion Kit SBC/SWP, Manual Steering, Stock Column
999017	67-82 Power Conversion Kit SBC/SWP, Manual Steering, Stock Column
999031	63-66 Power Conversion Kit for cars with factory P/S
999032	67-82 Power Conversion Kit for cars with factory P/S

Ident Direct Replacement Columns Available

**3 YEAR WARRANTY
ON STEERING BOXES**

NEW

OEM Corvette Manual Steering Boxes

Borgeson is now the OEM manufacturer and re-manufacturer of Saginaw manual steering gears for the 1963-1982 Corvettes. Borgeson has both OEM remanufactured and soon available new OEM boxes. Borgeson steering boxes are assembled to the same demanding standards as our precision u-joints. Each box is carefully assembled, adjusted and inspected to our factory specifications. These steering boxes are made in the USA and have a 3 year warranty. Replacement rag joint couplers available.



1963-1922 CORVETTE MANUAL BOXES	
Part #	Description
920035	63-67 Corvette, OEM Remanufactured Original, 3/4-36 Spline
920022	68-82 Corvette, OEM Remanufactured Original, 3/4-30 Spline



Modern Power Steering Conversion

Borgeson offers an integral power steering conversion for your 1965-1970 classic Mustang. The Borgeson conversion box is a remanufactured modern integral power steering gearbox. The Borgeson integral power steering gearbox provides true modern power steering feel, feedback and a sporty 16:1 ratio. This conversion box bolts directly to the factory mounting location and fits the stock pitman arm. The column will need to be collapsed or shortened 1-2" for clearance of conversion box. (Details below) Factory power steering cars will require either manual drag link #990050 or drag link adapter #990003

NOTE: 1967 Mustang owners will need to measure the sector shaft to see if it is 1" or 1-1/8" prior to purchase.

NOTE: Power conversion box will not fit with factory Z-bar clutch linkage.

STEERING COLUMN MODIFICATIONS

1965-1967 Cars will need to trim the outer column tube for clearance of the rag joint and use replacement inner column shaft #990040. Conversion box will then connect to the stock column with rag joint #052534

1968-1970 Cars have a factory collapsible steering column. Gently tap on the rag joint flange with a rubber mallet to collapse the shaft in on itself for the needed clearance. Conversion box will then connect to column with half rag joint #990016.

1965-1970 COMPLETE POWER CONVERSION KITS

999020	1965-66 Mustang with Manual Steering and 289/302/351 W
999021	1968-70 Mustang with Manual Steering and 289/302/351 W
999023	1965-66 Mustang with Power Steering and V-8
999024	1968-70 Mustang with Power Steering V-8
999025	1968-70 Mustang with Power Steering I-6
999026	1965-66 Mustang with Manual Steering and 200/250 I-6
999027	1968-70 Mustang with Manual Steering and 22/250 I-6

1965-1970 POWER CONVERSION BOX & ACCESSORIES

Part#	Description
800110	Power Steering Conversion Box with 1" Sector Shaft
800111	Power Steering Conversion Box with 1-1/8" Sector Shaft
990040	65-67 Replacement Column Shaft with Floor mount
052534	Complete Rag Joint for 65-67 Mustang with Conversion Box
990016	1/2 Rag Joint for 68-70 Mustang with Conversion Box
925107	P/S Hose Kit, Rubber, Ford Conversion Box to Ford Pump V-8
925108	P/S Hose Kit, Rubber, Ford Conversion box to Saginaw pump upgrade V-8
925109	P/S Hose Kit, Rubber, Ford Conversion Box to Ford Pump I-6
925110	P/S Hose Kit, Rubber, Ford Conversion Box to Saginaw Pump I-6
990051	65-66 Clutch Z-Bar to clear power conversion box
800330	SBF Saginaw P/S Pump upgrade includes: pump, bracket and pulley.
800334	200/250 I-6 Saginaw P/S Pump, Bracket and Pulley
990003	67-70 Mustang Drag Link Adapter, Replaces Control Valve

ididit Direct Replacement Columns Available

Mustang Manual Steering Boxes

Borgeson quality remanufactured Mustang steering boxes are available in six different configurations. Borgeson is sure to have the direct replacement manual box for your classic Mustang.



1965-1970 MANUAL MUSTANG BOXES

Part #	Description
920016	65-66 Mustang, 16:1 Ratio, 1" Diameter Sector, Long Input Shaft
920017	65-66 Mustang, 20:1 Ratio, 1" Diameter Sector, Long Input Shaft
920018	67-70 Mustang, 16:1 Ratio, 1" Diameter Sector
920019	67-70 Mustang, 16:1 Ratio, 1-1/8" Diameter Sector
920020	67-70 Mustang, 20:1 Ratio, 1" Diameter Sector
920021	67-70 Mustang, 20:1 Ratio, 1-1/8" Diameter Sector



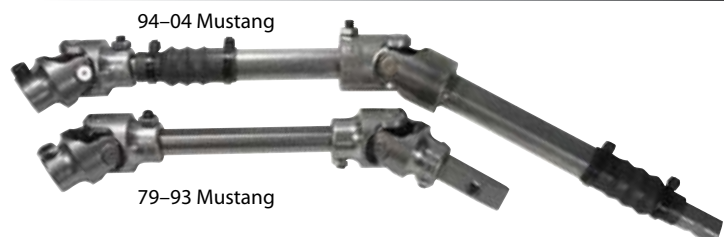
3 YEAR WARRANTY ON STEERING BOXES

1979-2004 Mustang Steering Shafts

Borgeson makes direct replacement steering assemblies for 79-04 Mustangs. The factory rag joint is eliminated in all assemblies giving additional header clearance. Available with or without vibration reducers. Our precision needle bearing u-joints give a great positive feel to the steering.

1979-2004 MUSTANG STEERING SHAFTS

Manual	Power	Description
000655	000656	79-93 Steel without Vibration Reducer
000657	000658	79-93 Steel, with Vibration Reducer
000662	000663	79-93 Aluminum, without Vibration Reducer
N/A	000650	94-04 Rack to OEM Column without Vibration Reducer
N/A	000651	94-04 Rack to OEM Column with Vibration Reducer



1952-64 FORD FULL SIZE CAR

Modern Power Steering Conversion

Borgeson has developed an integral power steering conversion box for the 1952-1964 Ford full size cars. This box bolts directly to the factory mounting location and connects to the stock manual steering linkage with the included pitman arm. The steering column will need to be shortened for installation of this conversion box. (Details below)

Cars with factory Bendix style power steering will require either manual steering linkage or a drag link adapter.

STEERING COLUMN MODIFICATIONS

1952-1957 & All Column Shift cars a steel coupler #312500 must be welded to a cut off inner column shaft. The outer column tube will be able to fit over the coupler leaving enough column tube to mount the shift linkage.

1958-1964 Floor shift applications we recommend the use of a rag joint #052549. The cut off column shaft will need to be ground into a DD profile to connect to the rag joint.

This conversion box fits the following Ford full size models:

- 1952-1956 Crestline, Customline, Mainline
- 1957-1960 Custom
- 1957-1962 Fairlane
- 1958-1964 Galaxie

Box will also fit Mercury vehicles sharing the same platform.



Full Line of P/S Components Available for Conversion

**3 YEAR WARRANTY
ON STEERING BOXES**

#800335
Y-Block Pump Kit



#801150
Y-Block Crank Pulley



#800330
289/302/351W Pump Kit



1952-64 FORD FULL SIZE

Part#	Description
800115	Ford Full Sized Power Conversion Box with Pitman Arm
800335	P/S Pump Upgrade, 292/312 Y-Block, Includes Pump Bracket and Pulley
800330	P/S Pump Upgrade, 289/302/351W, Includes Pump Bracket and Pulley
925108	Power Steering Hose Kit, 2-Pc Rubber, GM Pump to Conversion Box V-8 Only
925121	Steering Box Hose Adapter Set-6AN (Required for custom hose applications)
801150	2-Row Add-On Crank Pulley, Adds 2nd Row for P/S on 292/312 Y-Block
990004	Manual Drag Link Adapter for 1961-1964 Full Sized Ford Only
802409	Power Steering Pump Bracket, Steel, Ford 289/302/351W, Saginaw Style Pump
802411	Power Steering Pump Bracket, Steel, Ford 292/312 Y-Block, Saginaw Style Pump
052549	Rag Joint Coupler 1 1/8"-36 x 3/4"-DD
312500	Steel Coupler 1 1/8"-36 x 3/4" Smooth



Modern Power Steering Conversion

Borgeson has developed an integral power steering conversion box for the 1964-1977 Ford mid size cars. This box bolts directly to the factory mounting location and connects to the stock manual steering linkage. The steering column will need to be shortened for installation of this conversion box. (Details below)

Cars with factory Bendix style power steering will require either manual steering linkage or a drag link adapter.

STEERING COLUMN MODIFICATIONS

Stock column shift columns will require extensive modifications to use with our conversion box. We do not recommend our conversion box for column shift applications.

1964-1967 floor shift applications, you will need to trim away the outer column tube and cut off the inner steering column shaft. The column shaft will need to be ground into a DD profile to connect to rag joint #052549.

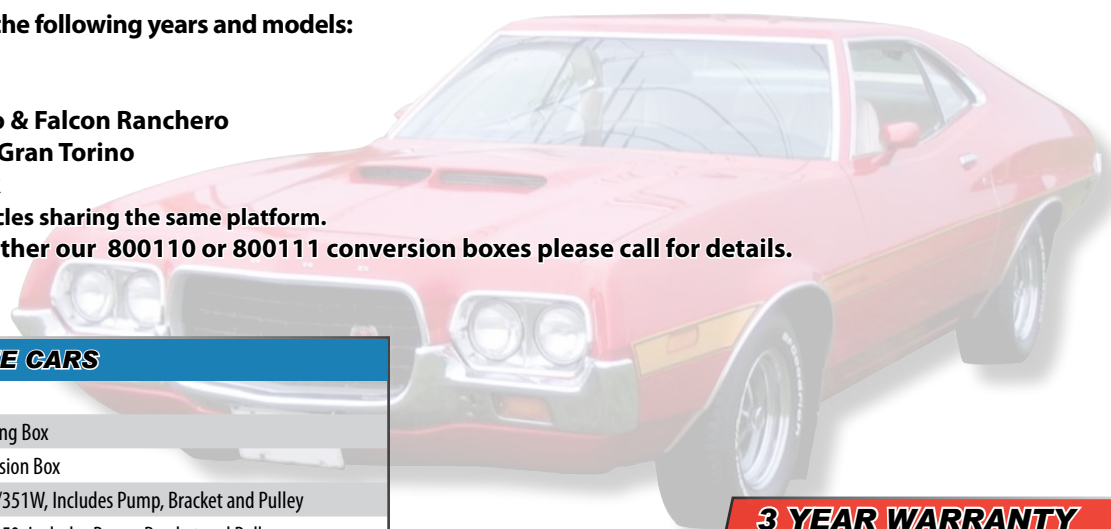
1968-1977 floor shift applications, you will need to trim away the outer column tube. The inner steering column shaft with rag joint flange will then collapse in on itself for clearance. Attach the shortened column to the box with half rag joint part #990016.

This conversion box will fit the following years and models:

- 1964-1970 Ford Fairlane
- 1966-1970 Ford Falcon**
- 1966-1970 Ford Ranchero & Falcon Ranchero
- 1968-1971 Ford Torino & Gran Torino
- 1970-1977 Ford Maverick

Box will also fit Mercury vehicles sharing the same platform.

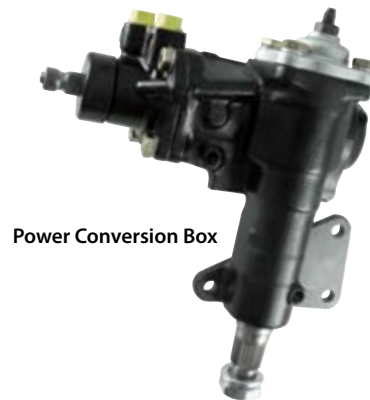
**1960-1965 Falcons use either our 800110 or 800111 conversion boxes please call for details.



1964-77 FORD MID SIZE CARS

Part #	Description
920036	Ford Mid Sized Manual Steering Box
800114	Ford Mid-Sized Power Conversion Box
800330	P/S Pump Upgrade, 289/302/351W, Includes Pump, Bracket and Pulley
800334	P/S Pump Upgrade, I-6 200/250, Includes Pump, Bracket and Pulley
802409	Power Steering Pump Bracket, Steel, Ford 289/302/351W, Saginaw Style Pump.
802410	Power Steering Pump Bracket, Steel, Ford 200/250, Saginaw Style Pump.
925107	Power Steering Hose Kit, 2 Pc Rubber, Ford Pump to Conversion Box, V-8 Only
925108	Power Steering Hose Kit, 2 Pc Rubber, GM Pump to Conversion Box, V-8 Only
925109	Power Steering Hose Kit, 2 Pc Rubber, Ford Pump to Conversion Box, I-6 Only
925110	Power Steering Hose Kit, 2 Pc Rubber, GM Pump to Conversion Box, I-6 Only
925121	Steering Box Hose Adapter Set-6AN (Required for custom hose applications)
990003	Manual Drag Link Adapter, Mid-Sized Ford
990016	Steering Coupler, 1/2 Rag Joint, Steering Box Side, 11/16-36 Spline, With Disc
052549	Rag Joint Coupler 1 1/8"-36 x 3/4"-DD

**3 YEAR WARRANTY
ON STEERING BOXES**



Power Conversion Box



Manual Drag Link Adapter

*Complete kits are available call for details.



Complete Conversion Kit



Manual Box



1970-04 FORD TRUCK

If you have tried replacing the worn-out steering on your Ford, you've probably found that many OEM replacement steering assemblies are no longer available. Borgeson manufactures heavy duty bolt-in replacement assemblies for many model years of Ford pickups and Broncos. Borgeson incorporates a telescoping shaft that adds a measure of safety to the steering system. Ford has had many length variations over the years and sometimes within model years. Borgeson has accommodated this by making an assembly which can be trimmed down to get the exact fit for your application. This added length will also accommodate aftermarket body lifts. Borgeson also offers an upgrade to our standard assembly that incorporates a vibration reducer that greatly reduces the road shock felt through the steering wheel.

FORD TRUCK STEERING ASSEMBLIES

Part #	Description
000970	70-79 Full Size Pickup
000975	70-79 Full Size Pickup with Vibration Reducer Upgrade
000977	78-79 F150, F250, Bronco with Rag Joint Flange
000941	Replacement Rubber Rag Joint and Hardware
000980	80-91 Full Size
000985	80-91 Full Size with Vibration Reducer Upgrade
000981	92-96 F150, F250, F350
000982	97-04 F150, '97-'99 F250

1966-1977 Bronco Bronco Manual Steering Box

Borgeson remanufactured manual steering boxes are assembled to the same demanding standards as our precision u-joints, far surpassing the OEM standards.

Bronco Power Steering Box & Components

Borgeson offers an integral power steering conversion for your 1966-1977 Bronco. The Borgeson conversion box is a remanufactured modern power steering gearbox. Borgeson has remanufactured this box to bolt directly to the factory mounting location and to fit the stock pitman arm. A new universal joint will be required for connection to the stock column and a new hose kit for connection to the pump of your choice. Complete kits are available for the most popular applications.

1966-1977 BRONCO STEERING

Part #	Description
Manual Steering Box	
920033	66-77 Bronco, Remanufactured Original
Replacement Steering Shafts	
000973	66-75 Bronco, Manual Steering (Column must be modified)
000976	73-75 Bronco, Power Steering (Rag Joint Column)
Power Steering Conversion Box & Accessories	
800109	66-77 Bronco Modern Power Steering Conversion Box
999050	66-77 Bronco Power Conversion Kit SBF 289/302/351W
999051	66-77 Bronco Power Conversion Kit 170/200 In-Line 6 Cylinder
014925	Universal Joint 3/4"-DD to 11/16"-36 Conversion Box Only
000820	76-77 Bronco Steering Shaft with Borgeson Conversion Box
000821	66-75 Bronco Steering Shaft M/S with Borgeson Conversion Box
000822	73-75 Bronco Steering Shaft P/S with Borgeson Conversion Box
925111	2 Piece Rubber P/S Hose Kit, Ford Pump to Conversion Box
925112	2 Piece Rubber P/S Hose Kit, Saginaw Pump to Conversion Box
800330	SBF Saginaw P/S Pump upgrade. Includes: pump, bracket and pulley
800334	Ford I-6 Saginaw P/S Pump upgrade. Includes: pump, bracket and pulley



Rubber Rag Joint and Hardware.

**5 YEAR WARRANTY
ON TRUCK SHAFTS**



Bronco Power Conversion Kit

**3 YEAR WARRANTY
ON TRUCK BOXES**



Bronco Manual Box

1973-1994 Chevy & GMC Full Size Trucks and SUVs

Factory steering shafts for many GM models are no longer available from GM, but your worn out steering shafts can now be replaced. The Borgeson direct replacement assemblies consist of a telescoping shaft, a needle bearing u-joint and a rag joint. A Borgeson heavy-duty truck assembly will fix that loose, wandering steering for good.

EXTREME-DUTY

TWO-JOINT STEERING ASSEMBLY 1973-1994

A two-joint system that eliminates the factory rag joint is also available. You should use the two-joint system if you use your truck for extra heavy-duty off-roading or have a body lift installed.

1999-2008 Chevy & GMC Full Size Trucks and SUVs

You may already have experienced a "clunking or ratcheting" feel in the steering of your 1999-2008 Chevy truck. Borgeson's direct replacement assembly is a permanent solution to the problem.

CHEVY & GMC FULL SIZE STEERING ASSEMBLIES

Part #	Description
000930	73-78 Full Size with Rag Joint Flange
000932	73-76 Extreme-Duty with 2 Universal Joints
000933	77-78 Extreme-Duty with 2 Universal Joints
000934	79-91 Full Size with Rag Joint Flange
000935	79-94 Extreme-Duty with 2 Universal Joints
000936	92-94 with Universal Joint and Complete Rag Joint
000937	99-08 Full Size Truck & SUV Upper Shaft
000941	Replacement Rubber Rag Joint with Hardware

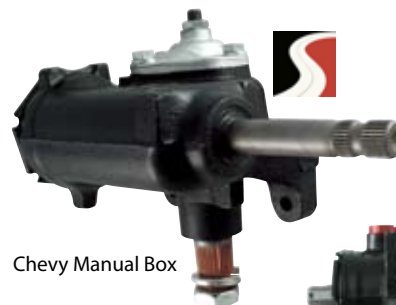


1968-86 CHEVY TRUCK BOXES

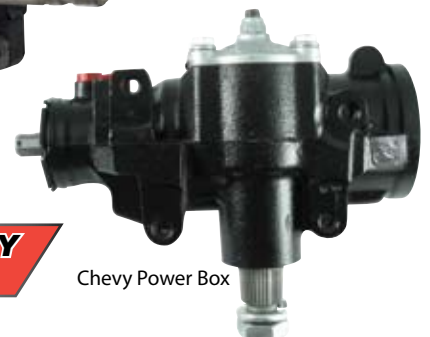
Borgeson remanufactured steering boxes are assembled to the same demanding standards as our precision u-joints, far surpassing the OEM standards. Each box is chemically cleaned and refinished. All components are thoroughly inspected and replaced or re-machined as needed. Each is then carefully assembled and adjusted to our factory specifications.

CHEVY TRUCK STEERING BOXES

Part #	Description
920023	1968-78 2WD OEM Remanufactured Manual Steering Box
920037	1968-78 4WD OEM Remanufactured Manual Steering Box
800203	1977-86 2WD Power Steering Box ¾ -30 Spline, Flare or O-Ring
800210	1977-86 4WD Power Steering Box ¾ -30 Spline, Flare or O-Ring
800211	1968-76 2WD Power Steering Box 1 1/16 -36, Flare Only



Chevy Manual Box



Chevy Power Box

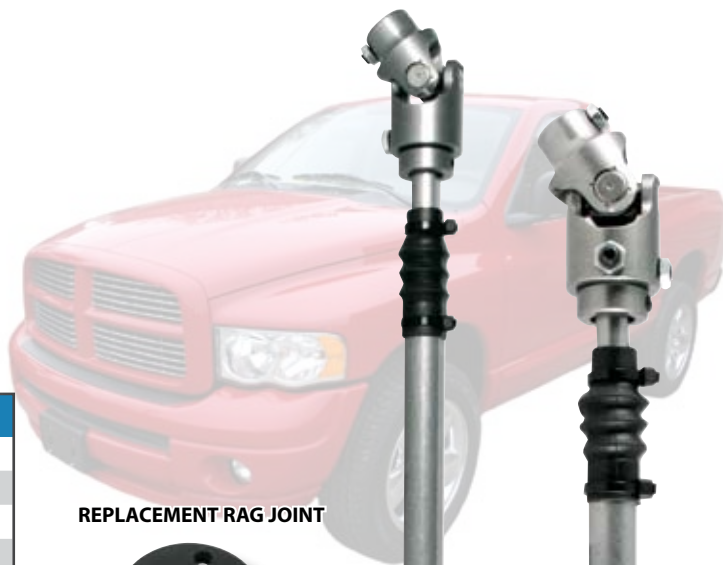
3 YEAR WARRANTY ON TRUCK BOXES

Please call for additional steering boxes available.

1979-08 DODGE TRUCK

Dodge Full Size Truck Shafts

Full size Dodge Pickups and Ramchargers have a type of steering coupler that has shown signs of wear in as little as 4000 miles, depending on how the truck is used. This wear causes play in the truck's steering. It's even more noticeable if your truck is used for plowing, towing or if oversized tires have been installed. Replacing the worn steering shaft with another OEM shaft only gives you a temporary fix. The Borgeson steering shaft assembly replaces the loose OEM parts with precision needle bearing u-joints and a telescopic shaft.



REPLACEMENT RAG JOINT



**5 YEAR WARRANTY
ON TRUCK SHAFTS**

DODGE PICK-UP & RAMCHARGER STEERING ASSEMBLIES

Part #	Description
000940	79-93 Full Size with Rag Joint Flange
000941	Replacement Rubber Rag Joint with Hardware
000943	79-93 Extreme-Duty 2-Joint System (verify Column*)
000945	94 Full Size
000950	95-02 Full Size
000951	03-08 2500 & 3500 4WD Models
000952	03-08 1500, 2500 & 3500 2WD (Except 1500 4X4 Mega Cab)
000951	06-08 1500 4WD Mega Cab

*Column must have Removable Rag Joint

DODGE TRUCK POWER STEERING UPGRADES

Borgeson Dodge Box 1994-08

Borgeson has adapted a modern remanufactured Delphi 680 series integral power steering gearbox to replace the early 60's Saginaw technology used in your 1994-2008 Dodge pick-up. The Borgeson "Dodge Box" offers a large piston diameter for more available power assist; quicker ratio for easier parking and less turns lock to lock and a modern variable valve that allows for stable highway driving and effortless parking and maneuvering. The 2003-2008 Dodge Box includes a replacement pitman arm and is not compatible with lifted vehicles requiring an aftermarket pitman arm.

Borgeson Dodge Ram Steering Upgrade Kits **NEW**

Borgeson now offers complete power steering upgrade kits for the 1994-2002 Dodge 2500/3500 Cummins Turbo Diesel trucks. These kits include the Borgeson Dodge Box power steering box, Borgeson Hi-Flow power steering pump and new OEM style power steering hoses with new Hydro-Boost brake hoses if applicable. Kits are available with or without the Borgeson Heavy Duty Steering Shaft.

03-08 Dodge Box



**3 YEAR WARRANTY
ON TRUCK BOXES**

94-02 Complete Dodge Upgrade Kit



DODGE POWER STEERING BOXES & KITS

Part #	Description
800112	94-02 Dodge Box Power Steering Box
800116	03-08 Dodge Box Power Steering Box with Pitman Arm
800204	80-93 Remanufactured Original Power Steering Box
800328	P/S Pump Upgrade for 94-02 Dodge Trucks with Cummins Diesel
925116	P/S Hose kit for 94-96 Dodge Diesel Trucks with Vacuum Brakes
925117	P/S Hose Kit for 97-02 Dodge Diesel Trucks with Hydro-Boost Brakes
999045	Upgrade kit 94-96 Dodge 2500/3500 Cummins Diesel without Shaft
999046	Upgrade kit 97-02 Dodge 2500/3500 Cummins Diesel without Shaft
999047	Upgrade kit 94 Dodge 2500/3500 Cummins Diesel with Shaft
999048	Upgrade kit 95-96 Dodge 2500/3500 Cummins Diesel with Shaft
999049	Upgrade kit 97-02 Dodge 2500/3500 Cummins Diesel with Shaft

1972-1986 Jeep CJ 1987-2006 Wrangler and 1974-2000 Jeep Trucks

Jeep's original steering shaft assemblies were not designed for the added stress of body lifts and oversized tires. Borgeson's replacement assemblies offer a heavy duty telescoping shaft with either two precision needle bearing u-joints or a vibration reducer and a u-joint. The steering assembly is easy to install with common hand tools. Once installed, you will experience much tighter and more responsive steering. Steering shafts have a 5 year warranty.

JEEP STEERING SHAFTS

Part #	Description
000903	72-75 CJ, Manual
000904	72-75 CJ, Power
000905	76-86 CJ, Manual
000910	76-86 CJ, Power
000915	76-86 CJ, Manual with Vibration Reducer Upgrade
000920	76-86 CJ, Power with Vibration Reducer Upgrade
000925	87-95 Wrangler, Power & Manual
000926	87-95 Wrangler, Power & Manual W/O Vibration Reducer
000890	74-83 Cherokee (SJ) Power with Rag Joint Flange
000890	74-91 Wagoneer (SJ) Power with Rag Joint Flange
000941	Rubber Rag Joint and Hardware
000893	84-00 Cherokee/Wagoneer (XJ)
000896	92-95 Grand Cherokee (ZJ)
000872	97-00 TJ Upper Shaft
000873	01-06 TJ Upper Shaft
000874	97-02 TJ Manual Lower Shaft
000875	97-02 TJ Power Lower Shaft
000876	03-06 TJ Power & Manual Lower Shaft



97-02 TJ Lower Shaft

97-06 TJ Upper Shaft

74-83 Cherokee SJ

76-86 CJ Manual

1972-02 JEEP STEERING BOXES & PUMPS

Borgeson remanufactured steering boxes & pumps are assembled to the same demanding standards as our precision u-joints, far surpassing the OEM standards. Each box is chemically cleaned, inspected and refinished. All components are thoroughly inspected and replaced or re-machined as needed. Each is then carefully assembled, adjusted and inspected to our factory specifications.

JEEP STEERING BOXES & PUMPS

Part #	Description
Jeep Steering Boxes	
800213	1972-86 Jeep CJ, Remanufactured Power Steering Box
800214	1987-02 Jeep Wrangler, Remanufactured Power Steering Box
920027	1972-86 Jeep CJ, OEM Remanufactured Manual Steering Box
920010	1987-02 Jeep Wrangler, New OEM Manual Steering Box
Jeep Power Steering Pumps	
800324	1972-1974 Jeep CJ5, CJ6, Wagoneer Power Steering Pump
800325	1975-1983 Jeep CJ5, CJ7 Power Steering Pump
800326	1983-1990 Jeep Cherokee & Wagoneer Power Steering Pump
800323	P/S Pump Press-On style with two returns for Hydro-Boost



Jeep Manual Box

Jeep Power Box

Jeep P/S Pump

**3 YEAR WARRANTY
ON TRUCK BOXES**

STEERING SYSTEM DESIGN

Steering System Design

Often the steering system is designed late in the building process. We recommend that the steering be mocked up at the time the engine and exhaust components are installed. Positioning of the column, shafts, and u-joints with respect to the engine, exhaust and steering box early on can help in selecting the correct parts. With our wide selection of u-joints, shafts, and vibration reducers, any system can be designed or modified to result in a car that is not only safe, but a pleasure to drive. Keeping a system simple is the best course, but even a system with up to 10 u-joints can be designed as long as the proper phasing and supports are used. **Remember to use a support bearing if more than two joints are used.**

Shaft Support Placement

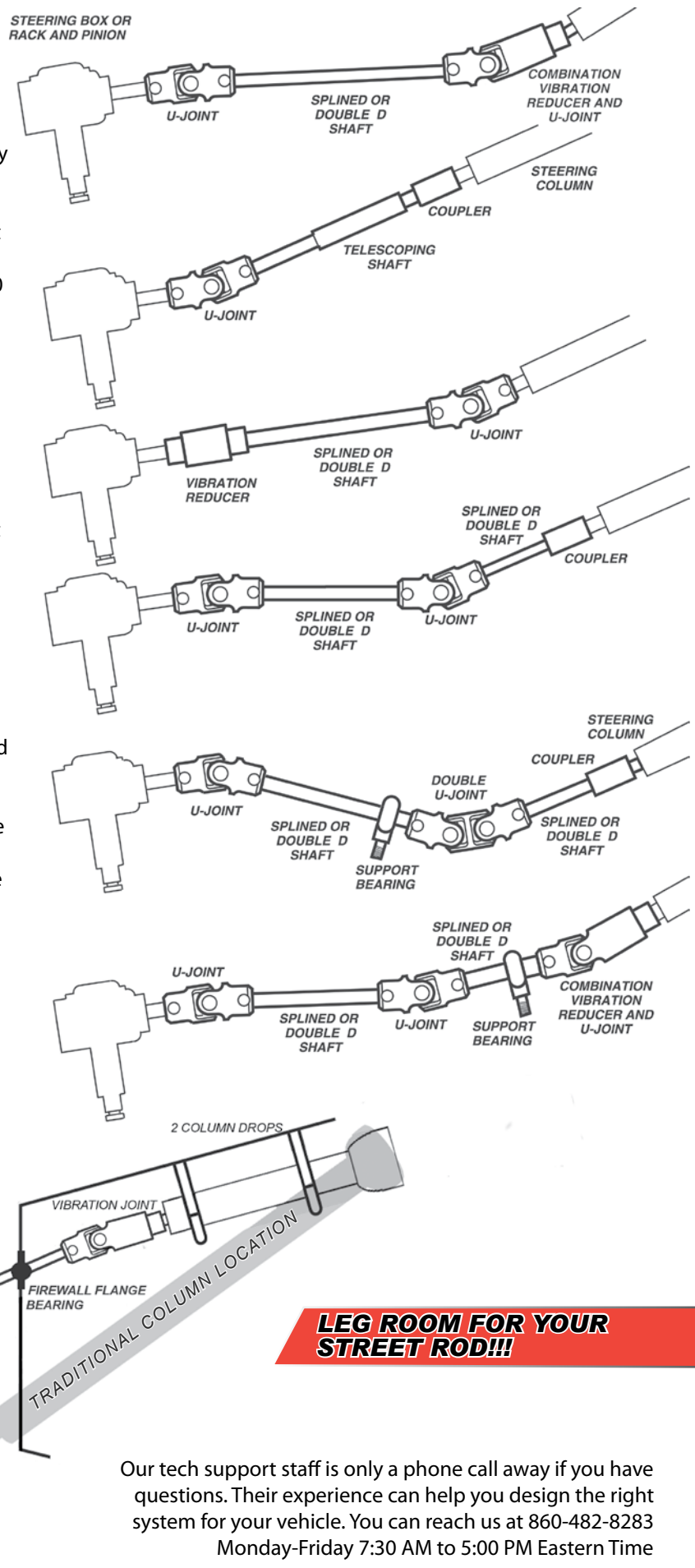
Any time more than two universal joints are used in a system, a shaft support is required to prevent the shafts from looping. In a system with 3 u-joints, one support is required. For each additional u-joint, an additional support will be needed. In a 3 joint system it is best to locate the shaft support as close to the center u-joint as possible. If one of the shafts is significantly longer than the other, it is best to locate the support on the longer shaft.

Vibration Reducer Placement

Vibration reducers can substantially reduce, and even eliminate annoying road vibration from being transmitted to the steering wheel. Location of the reducer in a system is very important in order to take full advantage of its effects. In a two joint system, the vibration reducer can be installed at either end without any loss of effectiveness. In a system with one or more shaft supports however, the vibration reducer should be located on the column side of the supports. A shaft support located on the steering column side of a vibration reducer can pick up vibration, bypass the reducer, and transmit the vibration to the steering wheel.

Shorty Columns

A great way to free up some much needed leg room in your street rod is by using a shorty column. This moves the steering column up under the dash and gives you much more leg/pedal space resulting in a much more comfortable ride.



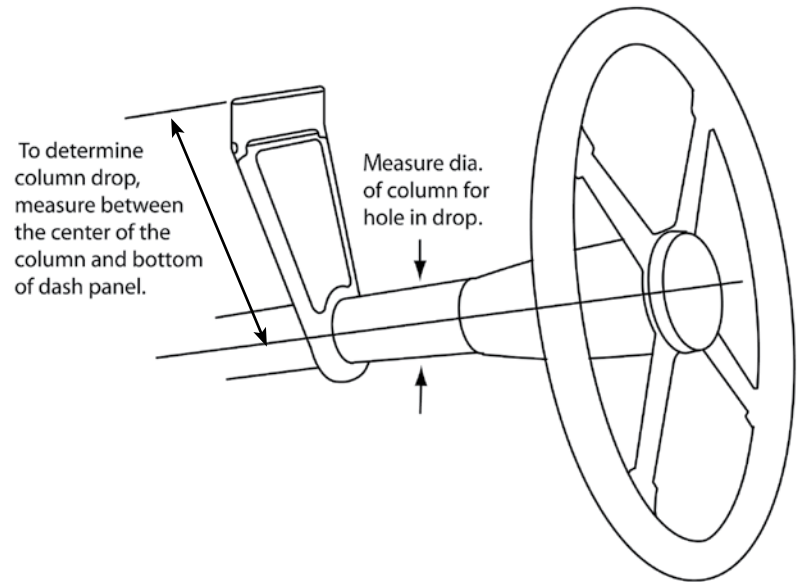
LEG ROOM FOR YOUR STREET ROD!!!

Our tech support staff is only a phone call away if you have questions. Their experience can help you design the right system for your vehicle. You can reach us at 860-482-8283 Monday-Friday 7:30 AM to 5:00 PM Eastern Time



Steering Column Length and Column Drop Size

Before determining the column length, it is important to have your seat and pedals in the final locations. Using a pie tin tacked to a wooden dowel is an excellent way to decide on steering column position and length. With one person sitting in the car and holding the "steering wheel" in position, another person can take measurements of column length and position. Keep in mind, our traditional style steering wheels are flat, while other aftermarket wheels are dished. This is also the perfect time to determine how much drop you'll need to put the column in a comfortable driving position. Measure from the mounting surface on the dash to the center of the steering column. This is the length of the drop you will need.



Steering Box Installation Angle

One thing frequently overlooked when building or modifying a car is the position of the steering box. Steering boxes are often positioned with the input shaft level creating a much more complex steering linkage. A great way to simplify your steering linkage is to position the steering box with the input shaft angled up toward the steering column. This method has been used by the OEM's for years to simplify the connection to the steering column.



Steering Ratio

Steering box ratio. This is the relationship between input motion and output motion on the steering box. The ratio is expressed as 24:1, 22:1, 16:1, etc. For example, in a 24:1 ratio box, the pitman shaft rotates one degree for every 24 degrees of input shaft rotation. The higher the first number, the more input shaft rotation is required to get the same amount of output shaft rotation. Dividing the first number in the ratio by four, gives the number of turns lock to lock.

Steering ratio and effort. A quicker ratio steering box will have fewer turns of the steering wheel lock-to-lock but this does have an effect on drive ability. In manual steering applications a quick ratio box, while enhancing the way the car feels at speed, will greatly increase steering effort during low speed and parking. In power steering applications it is quite common for quicker ratios to be used as the power assist overcomes the added steering effort. Selecting too quick of a ratio without properly building the suspension can result in a diving feel during 5-10 MPH turns.

Variable Ratio Steering. True variable ratio steering is accomplished with the gear cut of the sector shaft and rack block inside the steering gear. The center tooth of a variable ratio power steering gear box is cut at a slower ratio, this makes the on center feel and reaction of a variable ratio box more stable at highway speeds. The pitch of the sector shaft gear then changes to a quicker ratio off center. This gives quicker response when more turning is required like parking, yet minimizes the overall turns lock-to-lock.

Pitman Arm Length

Steering speed can be adjusted by box ratio or pitman arm length. The longer the pitman arm, the quicker the steering will be. That is, a longer pitman arm means less steering wheel movement is required to produce the same amount of front wheel movement. So if you are looking to speed up or slow down the steering, changing the pitman arm is an easy way to do it.



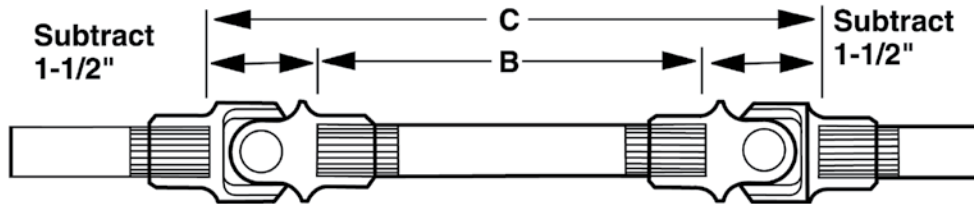
STEERING SYSTEM DESIGN HOW TO...

Determine splined shaft length with two u-joints:

1. Measure the distance from the end of the column to the box/rack (Dimension C).
2. Subtract 3" from this measurement.
3. Order the next even size shaft (Dimension B).

Note: We stock stainless and polished stainless shafting in 1/4" increments up to 24"

EXAMPLE If "C" is 18" —subtract 3" (1-1/2" for each joint). "B" is 15". Order a 16" shaft and trim a total of 1" from the shaft, either from one or both ends.



Determine splined shaft length with one u-joint and u-joint/vibration reducer combination.

1. Measure the distance from the end of the column to the box/rack (Dimension C).
2. Subtract 4" from this measurement.
3. Order the next even size shaft (Dimension B).

Note: We stock stainless and polished stainless shafting in 1/4" increments up to 24"

EXAMPLE If "C" is 19" —subtract 4" (1-1/2" for a joint and 2-1/2" for the vibration reducer). "B" is 15". Order a 16" shaft and trim 1" from the shaft, either from one or both ends.

Determine splined shaft length with three or more u-joints.

1. Buy the u-joints first.
2. Install a joint on the column and one on the box/rack.
3. Use dowels or PVC pipe and mock up the system around obstacles.
4. Order the correct shaft lengths based on dowel/PVC lengths.

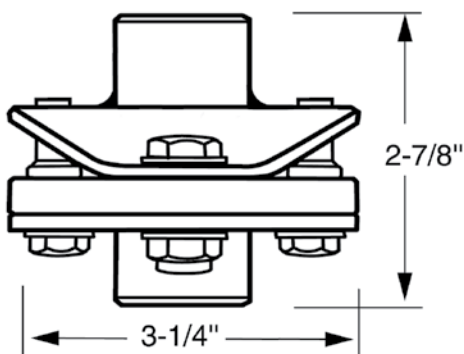
Add a vibration reducer to an existing steering system.

There are various ways of adding a vibration reducer to a system. Because of the difference in shafts, u-joints, racks, boxes, and columns, we recommend you call our technical support staff. We can suggest options that will result in the best steering system for you.



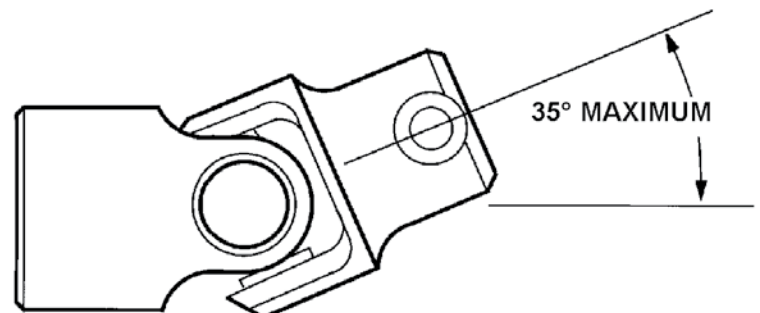
Rag Joint Angles of Operation

Rag joints are designed to dampen vibrations, they are not designed to accommodate an angle. **If you do not have a straight connection a rag joint should NOT be used.**



U-joint Angles of Operation

The Borgeson needle bearing u-joints will operate smoothly up to 35°. The double needle bearing u-joints will operate smoothly up to 70°. The u-joints must not be altered in any way. Pin and block style u-joints will operate at 30° smoothly.



Splines and Irregular Shapes: the STRONGEST Method.

Detroit uses irregularly shaped shafts such as splined or a Double D configuration and inserts them into a similarly shaped hole with practically no play and then secures them by staking or clamping. Since steering failures are practically unheard of in modern production cars, one should strongly consider this method as having significant merit.

Borgeson offers splined shafts and joints which give the option of easy disassembly when repairs on the vehicle become necessary. Another advantage is the ability to rotate the shaft in relation to the u-joint in small increments. This makes it easier to position the u-joints in the correct relationship to each other.

A flat should be filed on the splined shaft where the set screw will clamp (figure A). This will prevent damage to the spline and allow for easier disassembly. Always lock the set screw with a lock nut, Loc-Tite or similar product. The shaft must be flush with the inside of the yoke (figure B), not so short that it sacrifices strength or so long that it interferes with the center workings of the joint.

To determine the spline size of a component, measure the outside diameter and count the number of splines. If there is a flat spot on the shaft and some of the splines are missing, (figure C) count halfway around where there are splines and double that number. We need to know how many teeth are in a theoretical full circle. If you have something unusual or you're unsure about measuring the spline, make an impression of it in clay and send it to us.

A Double D (figure D) shaft has two flats on the shaft that correspond to two flats in the female end of the u-joint. The disadvantage of this style is the lack of adjustability because the shaft can only be rotated 180°. The Double D shaft should have a dimple machined on the shaft for the set screw to clamp to (figure D).

Pinning

Common practice is to use two 3/16" diameter roll pins in each yoke at right angles to each other and approximately 3/8" apart. (figure E) An even stronger connection can be made by using hardened shear pins. Pinning can be used when the shaft can be removed from the vehicle and supported properly when inserting the pins. Driving pins in while the assembly is in the car could cause damage. The major drawback to pinning is that a 3/4" diameter shaft is weakened by 30%, smaller shafts are weakened to an even greater extent.

If you are considering using bolts instead of roll pins, don't. **NEVER USE BOLTS!** Always use roll pins. Roll pins are driven in and fit very tightly in the drilled hole. Bolts often fit loosely inside the drilled hole and repeated back and forth movement, even though very slight, can cause the bolt to work harden and fail.

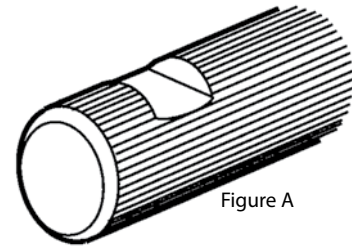


Figure A

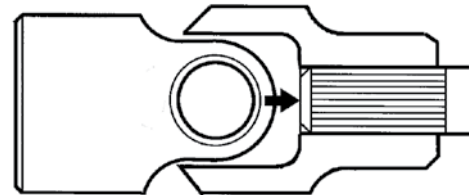


Figure B

Count the number of splines of half of the circumference and double that number for total

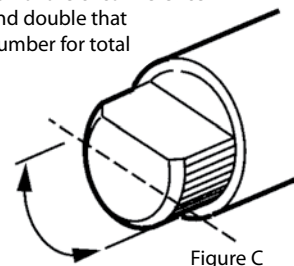


Figure C

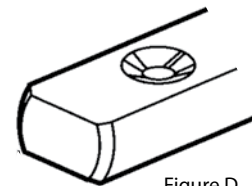


Figure D

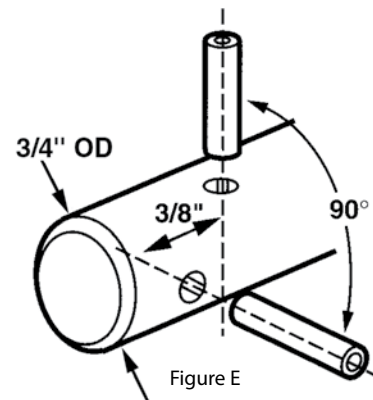


Figure E

CAUTION: It is unsafe to pin joints to tubing!

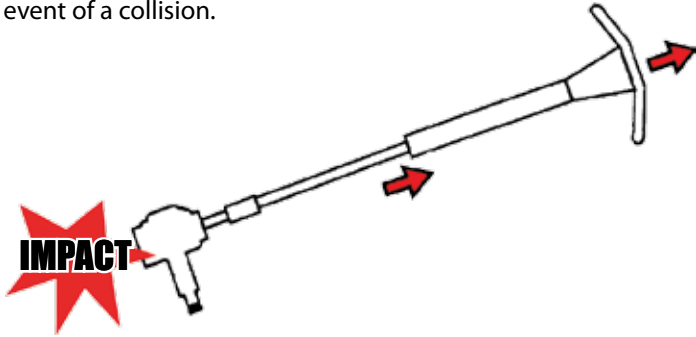
STEERING SYSTEM DESIGN

CAUTION: Collapsibility

Every steering system should include some means of directing energy away from the driver in the event of a collision. One method of reducing the chance of this happening is to intentionally design angles into the steering system so that the force of a collision deflects the column away from the driver. A second method is to use the Borgeson telescopic intermediate shaft.

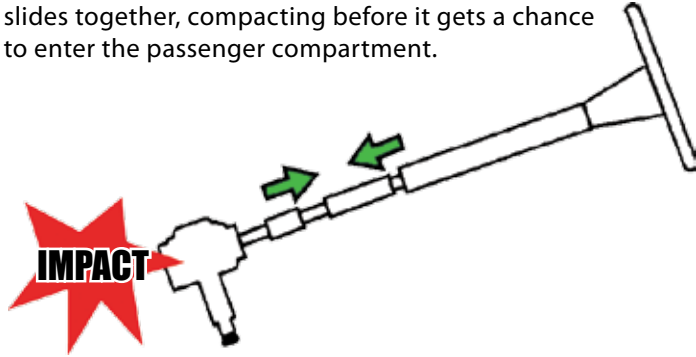
Problem:

Here is a straight column *WITHOUT* a collapsible intermediate shaft. Without a collapsible shaft, the column may be forced into the passenger compartment in the event of a collision.



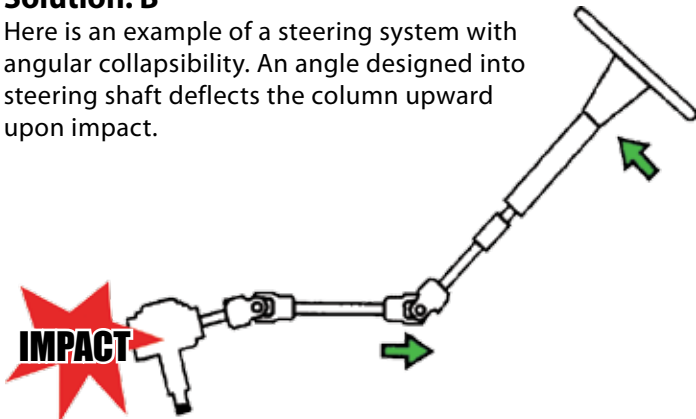
Solution: A

With a telescopic intermediate shaft the column slides together, compacting before it gets a chance to enter the passenger compartment.



Solution: B

Here is an example of a steering system with angular collapsibility. An angle designed into steering shaft deflects the column upward upon impact.



CAUTION: Shaft Size

BORGESON DOES NOT RECOMMEND USING LESS THAN 3/4" DIAMETER SHAFTS

All Borgeson spline and DD shafts are 3/4" diameter. We will not sell a shaft with a smaller diameter due to safety considerations. A 5/8" shaft is 42% weaker than a 3/4" shaft and can be twisted with a 14" steering wheel.

Borgeson does not recommend using tubing for a steering connection. It is unsafe to pin and there are too many wall thicknesses and alloys available to insure proper strength.

U-Joint Orientation

When two joints are used on a shaft, the forks of the yokes closest to each other should be in line, or "in phase." Premature wear or binding can result if the u-joints are not phased properly. Sometimes if the u-joints are at a severe angle, even if they are phased correctly, a hard spot in the steering may occur for no apparent reason. If this happens, index the u-joints two or three splines in one direction. The hard spot should disappear or be minimized.

CORRECT PHASING



INCORRECT PHASING



CAUTION: Do Not Use Flex Cable

Another less common (and definitely not recommended) method of getting from the column to the rack or box is to use flex cabling from a Pinto (this cable is no longer available from Ford). Ford only used these for a couple of years before switching to joints and shafts, which should tell you something. When a heavier engine is put into a larger heavier car, a flex cable is not reliable.



CAUTION: Welding

Welding joints is a common practice in racing, however, it is not a method we at Borgeson would recommend. Hairline cracks, which may be all but invisible to the unaided eye, could cause a weld to fail under severe stress. It may also be illegal in some states to weld steering system components on a car used on the street. Improper grounding can cause damage which will result in the failure of the steering. Overheating, which can occur at relatively low temperatures, can distort the yoke and melt the grease out of the needle bearings or damage the seals. This can prevent the joint from operating freely and it may fail. Cooling a weld too quickly can cause cracks, leading to sudden failure. Also, welding is a permanent connection that makes disassembly almost impossible should it become necessary.

Caution: Welding on steering components is illegal in some states. Check first.

CAUTION: Keying and Set Screws

Using a key, as is done in many industrial applications, can transmit power effectively from the shaft to the joint. A key, however, is not suitable to take sudden shock (such as from a pothole or accident) which can distort or shear the key or shaft keyway. This may cause play to develop in the system or, even worse, failure. It should be noted that in industrial applications, keys are designed to shear, preventing damage to expensive components. In automotive applications a sheared key will cause extensive damage by causing a loss of control of the vehicle. **Set screws should never be used to secure smooth bore joints.** They should only be used as a method to prevent a splined or Double D shaft from disengaging from the joint. An indentation or flat should be made for the set screw on splined or DD shafts.

CAUTION: Bolts for Connection

NEVER USE BOLTS! Always use roll pins. Roll pins are driven in and fit very tightly in the drilled hole. Bolts often fit loosely inside the drilled hole and repeated back and forth movement, even though very slight, can cause the bolt to work harden and fail.

CAUTION: Corvair Steering Boxes

Corvairs were rear-engined cars; this means there was very little weight on the front tires. The steering box used in these cars was a very light duty box. **It is not recommended for use in a street rod with the engine in the front. Steering gear failure could cause a severe accident.**

CAUTION: Vega Steering Boxes

We recommend a maximum weight limit of 2400 lbs. for a vehicle using a Saginaw 140 (Vega) steering Box. We recommend the 525 Saginaw box for vehicles exceeding 2400 lbs.

Diagnosing Power Steering Problems

When trying to determine what is causing a problem in your power steering, keep this in mind: If the problem occurs only in one direction, the problem is probably in the box or rack. If the problem is in both directions, it is most likely the pump, dirty fluid or hoses. Be sure there are no kinks or obstructions in your power steering hoses and that they are the right inside diameter for the application.

Dirty Steering System

Before changing any single component of the steering system, inspect the cleanliness of your system. Dirty or black fluid can quickly ruin new steering components. If changing the box or rack, rub your finger on the inside of the reservoir. If it isn't clean, you must flush the pump and hoses with clean fluid before installing new components.

Bleeding Power Steering

All power steering systems are designed to be self-bleeding, but sometimes they need a little help. After installing new components, fill the reservoir and let it sit for a few minutes. Raise the front end of the vehicle and turn the wheels back and forth slowly with the engine off to allow the steering box to draw fluid. Keep the reservoir full. When the fluid level stops dropping, start the vehicle and continue turning the wheels. When the fluid level remains constant the system is fully bled. Put cardboard under the front tires while testing your steering system. The cardboard will slide on the floor and prevent wearing flat spots on the tires from excessive turning of the wheels while not moving.

Steering Box Adjustment

All Borgeson steering boxes are set at the factory to the proper specifications. Any adjustments of the box beyond that will void the warranty and cause premature wear on the steering box. Please do not try to adjust your steering box. Please contact us if you feel your steering box needs adjustment.

Power Steering Pressure

GM power steering pumps will produce up to 1,500 PSI. We recommend 1,200 PSI for steering box applications and 800–900 PSI for Mustang rack & pinions. If a pump is generating too much pressure for the rack or box you are using, the steering will be over assisted resulting in twitchy steering at speed. This can be corrected by adjusting the pumps internal pressure valve. To properly adjust this pressure order part #899001-Pressure Reducing Kit.



STEERING TROUBLESHOOTING

Many factors influence power steering troubleshooting. Here is a list of common steering and driving complaints their causes and some suggestions to fix it.

Road Wander:

Vehicle wanders left/right without any definite input from the steering wheel requiring constant small correction to drive straight.

- Low or unequal tire pressure.
- Steering linkage from column to box or rack loose or worn
- Front-end alignment out of specification. (Inadequate positive Caster)
- Steering box or rack worn or out of adjustment
- Steering tie rod ends worn or loose

No Recovery or Return to Center:

Vehicle fails to return to center after a turn or requires steering input to return to center.

- Binding of steering linkage or components
- Front-end alignment out of specification. (Inadequate positive Caster)
- Steering box or rack improperly adjusted.

Over-steering / Darting:

Vehicle over steers and is overly sensitive to all steering wheel input requiring constant correction.

- Excessive P/S pump pressure / mismatched components.
- Steering linkage from column to box or rack loose or worn
- Steering box or rack worn or out of adjustment

Lost motion at steering wheel:

Excessive free play felt in the steering wheel before the wheels actually begin to turn.

- Steering linkage from column to box or rack loose or worn
- Steering box or rack worn or out of adjustment
- Steering tie rod ends worn or loose
- Steering gear loose on frame

High Steering Effort in both directions:

An abnormal amount of force is required to turn the wheels in both directions.

- Low tire pressure
- Low P/S fluid level
- Insufficient P/S pump pressure and flow
- Excessive P/S fluid temperature
- Binding of steering linkage or components

Intermittent / Loss of power steering:

After servicing the P/S system you experience either a loss of power steering or intermittent assist.

- Low P/S fluid level
- P/S Belt broken or slipping
- Air trapped in the P/S system
- Dirt or contaminants trapped in the P/S pump bypass valve



BORGESON
Steering You Forward

STEERING BOX AND SPLINE IDENTIFICATION GUIDE

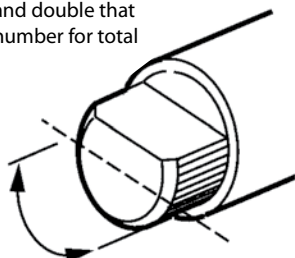


Popular Splines And Double D Applications

All Measurements can be +/- .015". Precision measuring equipment should be used.

Column Application	Description	Size	Diameter	Splines	Double D Flats
GM Column	Small Spline	3/4"-36	.735	36	
	Large Spline	1"-48	.985	48	
	Small Double D	3/4" DD	.750		.550
	Large Double D	1" DD	.993		.790
Ford Column	Small Spline	3/4"-36	.735	36	
	Small Double D	3/4" DD	.750		.550
	Large Double D	1" DD	.993		.790
Other Manufacturers	International	1"-48	.985	48	
	Ididit-aluminum	1"-48	.985	48	
	Ididit-steel	1" DD	.993		.790
	Flaming River	1" DD (standard)	.993		.790
	Borgeson	3/4"-36	.735	36	
Boxes & Racks Application	Description	Size	Diameter	Splines	Double D Flats
Chrysler Box or Rack	Chrysler	9/16"-17	.562	17	
	Chrysler	9/16"-26	.562	26	
	Chrysler	9/16"-36	.562	36	
	Chrysler	5/8"-36 C*	.625	36	
	Chrysler	11/16"-36	.687	36	
	Chrysler	3/4"-36	.735	36	
	Chrysler	13/16"-36	.812	36	
	Chrysler Omni	9/16"-26	.562	26	
GM Manual Box	Corvair	5/8"-36	.625	36	
	Vega (model 140)	5/8"-36	.625	36	
	Corvette ('63-67)	3/4"-36	.728	36	
	Corvette ('68-83)	3/4"-30	.735	30	
	('58-64)	3/4"-36	.735	36	
	Model 122 ('65-85)	3/4"-30 or 3/4"-36	.730	30 or 36	
	Model 525 ('86 & later)	3/4"-30	.728	30	
GM Power Box	Model 605 ('78-84)	3/4"-30	.728	30	
	Model 700 ('77 & earlier)	13/16"-36	.812	36	
	Model 700 ('78 & later)	3/4"-30	.728	30	
GM Rack	'79 & later	5/8"-36	.625	36	
	Some Models	3/4"-30	.728	30	
	Corvette ('84 & later)	17mm DD	.670		.570
	Fiero	17mm DD	.670		.570
Ford Box	Manual & Power	3/4"-36	.735	36	
Ford Rack	Mustang & Pinto Manual	9/16"-26	.562	26	
	Mustang & Pinto Power	3/4"-36	.735	36	
	94-Later Mustang	3/4"-V	.740		
Other Manufacturers	Borgeson 55-57 Chevy Conversion	18mm DD	.708		.635
	Borgeson 58-64 Chevy Conversion	17mm DD	.670		.570
	Borgeson Chevy II Nova Conversion	11/16"-36	.687	36	
	Borgeson Corvette Conversion Box	18mm DD	.708		.635
	Borgeson Ford Conversion Boxes	11/16"-36	.687	36	
	Heidt's Super Ride Rack	9/16"-26	.562	26	
	Woodward Rack	3/4"-20	.735	20	
	Nissan	11/16"-36	.687	36	
	Jaguar & MGB	3/4"-48	.750	48	
	Unisteer Manual Rack	9/16"-26	.562	26	
	Volkswagen Rabbit Rack	11/16"-40	.687	40	
	VW Rabbit Rack Diesel	3/4"-36	.735	36	

For Splined Shafts with a Flat
Count the number of splines of
half of the circumference
and double that
number for total



*The 5/8"-36 Chrysler is not interchangeable with 5/8"-36.

SHOP TOUR

Wide Angle View



CNC Production



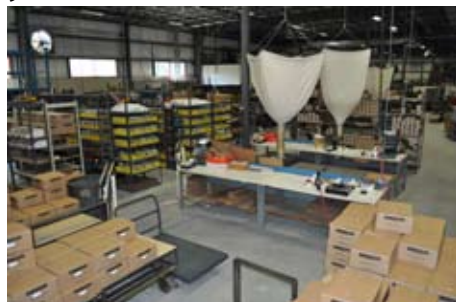
Saginaw Manual Steering Gear Production



Power Steering Assembly & Testing



Packaging, Shipping & Inventory



GENERAL INFORMATION

Shipping Information

It is our policy to charge only the actual shipping charges. We ship via UPS or Fed Ex with either Ground, 3 Day, 2nd Day or Next Day Air. On small shipments to the west coast, we recommend 3 Day because it cuts about 3 days in transit and is not much more expensive than the regular ground service.

Warranty

Borgeson will not be liable for personal or property damage caused by the use or misuse of any product that we manufacture or sell. We have no control over installation and/or use of our products. We will repair or replace, at our option, any product found to be defective in either material or workmanship subject to our inspection. Normal wear is excluded from this warranty. Any product that has been abused, altered, or incorrectly installed is not covered. Our sole remedy shall be repair or replacement, no monetary refund will be granted. Any parts used in competition are excluded from this warranty.

Return Policy

It is our policy to accept any inventory product purchased directly from us and currently offered for sale for exchange or, at our option, a refund. All items are subject to a 10% restocking fee. Products must be in resalable condition with no paint or alterations. If rework is necessary, the cost of the rework will be deducted from the credit allowed. If a product was purchased from a Borgeson dealer, the return must be handled through that dealer. Before any item can be returned to us, a Return Authorization Number must be obtained from us. COLLECT CALLS OR C.O.D. SHIPMENTS ARE NOT ACCEPTED. The Return Authorization Number must be clearly marked on the outside of the box and paperwork with replacement instructions must be included.

Claims For Damage In Shipping

Claims for damaged or lost merchandise are to be made to the freight carrier. If you receive a damaged package or a package that looks like it has been tampered with, make a written note on this to the freight carrier when you sign for the package. A verbal note to the driver is not sufficient. Carefully open and be sure to save the damaged container as visible proof. This is the first thing they will ask to see. Notify the local office of the freight carrier as soon as possible (within 48 hours).

Maintenance & Inspection

The steering system must be in perfect operating condition at all times. It should be checked on a regular basis. Components should move freely with no play. If play develops, replace worn parts as necessary. Check all set screws, clamp screws and pins for tightness. Welds are especially difficult to inspect by eye, but look for any visible cracks.



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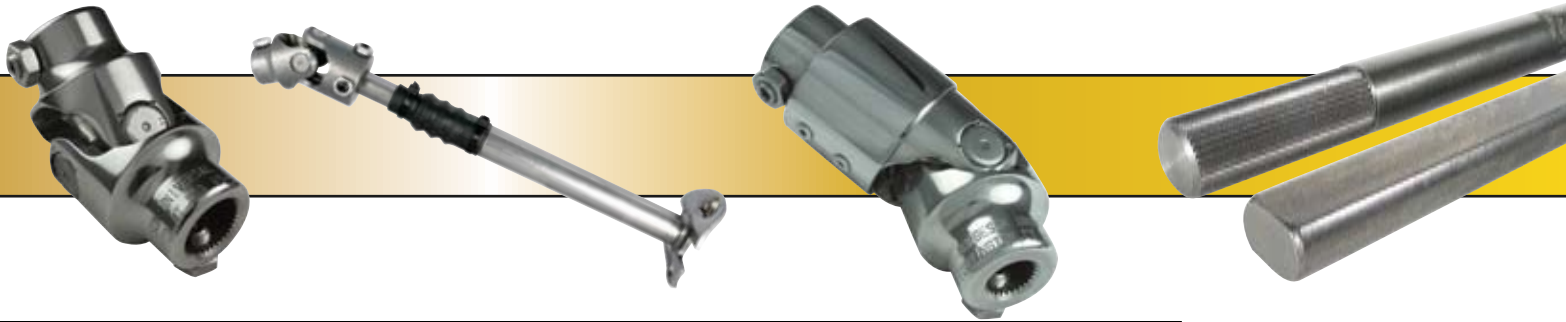
Visit us online: www.borgeson.com • For technical information and to order, call: 860.482.8283 • FAX 860.496.9320
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STEERING BOXES, POWER CONVERSION KITS & ACCESSORIES



NEW OEM SAGINAW STEERING BY BORGESON



Through a recent acquisition Borgeson Universal Company is now the OEM manufacturer of Saginaw Manual Steering Gears. Borgeson has purchased all of the original tooling, equipment, drawings and OEM manufacturing rights for the entire Saginaw manual steering gear line.

SAGINAW STEERING WITH BORGESON PRECISION



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