EINLAND EMPIRE DRIVELINE®

OUR PRODUCTS

Your project is unique. While this booklet describes the types of products that we offer, there is simply no substitute for a one-on-one conversation about what you are building.

Please call us at **800.800.0109** to discuss your plans and ensure you receive exactly what your project requires.

COMPLETE DRIVESHAFTS		
STEEL	2	
1958 TO 1964 CHEVROLET SHAFT SETS	4	
ALUMINUM	6	
STOCK REPLACEMENT ALUMINUM	8	
CARBON FIBER	10	
CENTER SUPPORT BEARINGS	11	
TRANSMISSION YOKES 1		
PINION YOKES		
4 X 4 AND OFF ROAD	14	
HOW TO MEASURE FOR ONE PIECE DRIVE SHAFTS	16	
HOW TO MEASURE FOR TWO PIECE DRIVE SHAFTS	17	
HOW TO MEASURE FOR 4X4 DRIVE SHAFTS	18	
ABOUT THIS BOOKLET AND YOUR PROJECT	21	

COMPLETE STEEL DRIVESHAFTS FOR THE STREET



Until the late 1980s all OEM driveshafts were made using .065" wall, cold rolled, welded seam tubing. While this was adequate with the power available when new, it is completely obsolete with today's power and 30 to 50 years of accumulated rust.

At Inland Empire Drive Line Service, Inc. we have always used 1026 DOM tube because of its additional strength. For most cars and trucks that run on the street with street tires, we recommend 3[°] inch diameter, .083[°] wall 1026 DOM tube as the all around best material. For really short shafts such as Cobra and Bucket T shafts smaller diameter tube can be used. For shafts longer than about 52 inches larger diameter tube is required.

The bottom line is that you really should upgrade your drive shaft whenever you are working on a power upgrade, transmission swap or restoration. When a drive shaft breaks under load it will do substantial damage to parts under the car and may even come up through the floor and hurt you severely.

We make steel shafts in Spicer parts series 1310, 1330 and 1350 for cars and light trucks.

Each series has its power limitations.

PART NUMBERS	DESCRIPTION
SK-31-31-83	1310 3"X.083 Wall
SK-33-35-83	1310 3.5"X.083 Wall
SK-35-30-95	1350 3"X.095 Wall
SK-35-35-83	1350 3.5"X.083 Wall
SK-33-30-83	1330 3"X.083 Wall
SK-35-30-83	1350 3"X.083 Wall
SK-35-30-95C	1350 3"X.095 Chromoly

COMPLETE STEEL DRIVESHAFTS FOR THE STREET/STRIP

We use Spicer series 1310 parts for up to 500 HP with street tires on the street.

For more than 500 HP we go to Spicer 1350. The difference between the two can be seen in the photo below. The 1350 joints have both a larger span across the joint and much larger diameter bearing trunions. The 1330 joints have the longer span but not the bigger trunions.

For big block power from 500 HP to about 1800 HP we recommend the Spicer 1350 parts and at least $3\frac{1}{2}$ inch diameter tube. As the length increases 4" inch tube is a good idea. Each project is different and we encourage you to call us for our suggestions.

Once we have all settled on the sensible shaft for your project we will give you a firm price. Your shaft will be assembled, straightened,



welded, straightened again and balanced by a single craftsman having years of experience. It will then be shipped, usually within 48 hours, directly to you for installation.

There are some sample steel shaft prices in our *"How To Measure for Drive Shafts"* flier. These are average prices to give you an idea of costs. We want to quote yours individually.

1958 TO 1964 CHEVROLET STANDARD DUTY SHAFT SET

The 1958 through 1964 Chevrolets have a two piece shaft set that has been notoriously troublesome. This design was the result of difficulties encountered when the stance was lowered from what it had been in 1957. You can be certain that if a one piece shaft would have worked Chevrolet would not have gone to the expense of the two piece. Those who have attempted a single piece shaft have suffered from vibrations, doors that won't open and cracked windshield glass as a result.

We have brought the original design up to date using different materials.

We have redesigned the stamped metal support to be a cast 7075-T6 unit with a polyurethane cushion replacing the old floppy rubber one. We also make a 4130, 11/4" inch bearing stub since the original forging is long out of production. In addition we have introduced a "telescoping" slip into the rear section to allow for suspension travel. In the OEM design this axial motion was absorbed at the transmission by means of the floppy rubber cushion used at the bearing.

As with all Spicer 1310 series parts we recommend this set for up to 500 HP with street tires used on the street.

1958 TO 1964 SUPER DUTY SHAFT SET

For cars having more than 500 HP, are tubbed or are equipped with a big block we make what we call our "502 Kit."



To deal with the increased power we use our 7075-T6 aluminum housing but with a larger inside diameter bearing. Through this bearing goes a $1\frac{1}{2}$ " inch diameter forged spline replacing the $1\frac{1}{4}$ " OEM stub. The tube is now 3" inch instead of the OEM 2" inch tube and the U-joints are Spicer 1350 series. This set can be used with the OEM rear end by way of a combo joint. The rear end will be the weak spot and really needs upgrading to handle all the power that will come its way.

We have been building both the standard service and the "502 kit" for many years.

So far we have heard of no failures even at the drag strip. Most owners are thrilled to be rid of the necessity of very frequent center support replacement and constant vibrations. Our products make these very desirable cars fun again and capable of cross country trips.

COMPLETE ALUMINUM SHAFT FOR THE STREET

Inland Empire Drive Line Service pioneered the acceptance of aluminum drive shafts for NHRA competition. Over the years our shafts have built an unbeatable record of successful launches and smooth runs.



With the arrival of automatic overdrive transmissions aluminum became the material of choice for the OEM. This has been the case because these transmissions are quite sensitive to any frequencies fed into them from the drive shaft. Such frequencies come from universal joint angles and from centrifugal force created by a spinning mass. The lower mass of the aluminum shaft reduces the force generated. If your plans include an automatic overdrive transmission our aluminum shaft should be your choice as well.



Our 1310 series, 3 inch diameter aluminum shaft works well with up to 500 HP with street tires used on the street. These drive shafts are made using .125 wall tubing that is much stronger than the OEM versions. They can be made up to about 52 inches long and can be ordered polished.

COMPLETE ALUMINUM DRIVESHAFTS FOR STREET/STRIP



Our 3½" inch diameter, 1350 series shaft was the first aluminum drive shaft accepted for competition by NHRA. Since then hundreds of racers have run these shafts successfully for many years. This should be your choice for cars having big block engines and any car having 500 HP or more and sticky tires.

When Pro Stock cars began to run over 200 MPH in the ¼ mile we moved them into 4" inch diameter shafts. The greater diameter provides smoother running at these very high speeds. NHRA now requires SFI Foundation certification for drive shafts in Comp Eliminator and Pro Stock cars and Inland Empire Drive Line supplies them.

We suggest using the 1350 shaft if you are building a car near the borderline of 500 HP. Engine power always seems to grow over time and it is better to go oversize now than to have to go back and do another shaft later. These 1350 shafts have been run successfully through 1,800 HP so you can bolt on a lot of additional power.

COMPLETE ALUMINUM SHAFT FOR STOCK REPLACEMENT

If your car is an absolutely stock original, unaltered car, we offer off the shelf aluminum replacement shafts.



Shafts like this are stocked for the GEN 1 and GEN 3 & 4 Camaro/Firebird, all of the classic Mustangs, 2004 and later GTO and the S-10 extended cab pickup trucks. Most of these use 3" Inch diameter tube and arrive complete, balanced and ready to install.

For the 1994 to 1996 Impala/Caprice we use the same design in $3\frac{1}{2}$ inch tube. In this case we offer both the stock length and stock plus $\frac{1}{2}$ inch for use with aftermarket trailing arms. We also use $3\frac{1}{2}$ inch tube for the Grand National Buick and GTO shafts.

For the S-10 Extra Cab 4" inch diameter tube is used. The Gen 5 Camaro is best with carbon fiber shafts.

As with all OEM universal joint shafts the stock replacements are recommended for up to 500 HP.

COMPLETE ALUMINUM SHAFT FOR STOCK REPLACEMENT



The shaft shown above will fit the 2004 and later Mustang GT and GT 500. Our first customer tested this design on the drag strip for a year before we offered it for street use. It will eliminate the fragile CV joint and remove about 25 pounds of rotating mass from your car.



This eliminates the adapter plate commonly used and provides much smoother running.

CARBON FIBER DRIVESHAFTS

This truly space age material can be nearly magical in its performance. As can be seen in the photo below, our carbon fiber tube is filament wound. What this means is the tube can be tuned through the angle the fibers make with each other. Thus the tube can be made to wind up like steel or like aluminum or any other deflection desired. This cannot be done with mat type carbon fiber.



The carbon fibers have incredibly high tensile strength and are very light. One result of this strength is that a carbon shaft will return to its original position when twisted to u-joint failure. A metal shaft can be over torqued and its yokes will remain out of square.

Carbon shafts do not transmit frequencies. This can be a major advantage in some applications. For example, the Gen 4 Camaro has a resonance issue that is very annoying to their owners. While the noise may be moved to around 120 MPH using aluminum shafts only carbon fiber shafts will quiet the cars at higher speeds.

Another excellent place to take advantage of the carbon shaft's abilities is in Late Model stock cars. Here the engine will actually pick up 200 RPM because the rear end gear ratio will not communicate with the firing impulses in the crankshaft. In addition these rear end gears last much longer because their teeth are not being beaten up.

Because it is light and very stiff, carbon enables us to span long distances without center support bearings. In the mid 1990s we tested a 138 inch shaft in a Mack MR refuse truck.

A description of that experience is available in: SAE Paper 962209: "Composite Driveshafts: Technology and Experience"

INLAND EMPIRE DRIVELINE SERVICE - 800.800.0109

OUR PRODUCTS - P.11

CENTER SUPPORT BEARINGS

We sell OEM style, rubber cushioned center supports for all domestic cars and trucks through Class 9 and for many imports as well.

We also produce polyurethane cushioned center supports for domestic pickup trucks including the Chevrolet HD pickups. These upgraded supports eliminate the start up shudder and torque induced vibrations when pulling heavy loads.

For the 1958 through 1964 Chevrolet cars we make our 7075-T6, cast housing, polyurethane cushioned support. This design completely eliminates all of the problems that have made the OEM stamped version so notorious.



While we will sell this by itself we strongly recommend that you buy it as part of our rear shaft kit. As you can see above, we have added a slip between the bearing and the pinion to allow for rear suspension motion. This axial travel was absorbed at the transmission end in the OEM design by allowing the whole shaft set to float in the floppy rubber support.

www.iedls.com





TRANSMISSION YOKES



All of our driveshafts arrive with the correct transmission yoke for your car or truck. We use OEM quality yokes from OEM suppliers and we do sell them individually. There are a substantial number of OEM and aftermarket transmissions and space is limited here. Please call and tell us what you need and we'll explain what is available.

We also offer our own transmission yokes for Spicer 1310, 1330 and 1350 u-joints. Ours yokes are made of forged, 4130 steel to be stronger than the OEM cast versions and aftermarket billet versions. They are machined to aerospace tolerances for smooth high RPM operation. All feature the quick release steel cap construction shown below.

Once again there are a myriad of transmissions. Some of the units covered include the GM, Ford and Chrysler domestic transmissions, the Tremec and T-10 families, Lenco, Jerico and a host of others.

Sample prices are shown in our *"How to Measure for Driveshafts"* flier. If you don't see what you need please call us and we'll explain what is available.

PINION YOKES



Shown above is our forged, 4130 steel, 1350 pinion yoke. These yokes are available for both 1350 and 1310 u-joints. They are machined to aerospace tolerances for smooth high RPM running. They feature u-bolt design throughout.

PART NUMBERS	SPLINE	U-JOINT	MODEL
2604-10	10	7260	CHRYSLER 8.75
2904-10	10	7290	CHRYSLER 8.75
2-4-6131-1X	23	1310	DANA 28
2-4-8091-X	26	1310	DANA 30, 44 & 50
2-4-6111X	26	1330	DANA 35
3R04-01	27	3R	GM 7.5
PY-9-1310	28	1310	FORD 9"
3304-06	28	1330	FORD 9"
2-4-3741-1	28	1310	AMC 20
2604-29	29	7260	CHRYSLER 9.25"
2904-29	29	7290	CHRYSLER 9.25"
2-4-3801X	29	1310	DANA 60 & 70
2-4-8051-1X	29	1330	DANA 60 & 70
PY-60	29	1350	DANA 60 & 70
PY-12-1310	30	1310	GM 12 BOLT
PY-12-1350	30	1350	GM 12 BOLT
PY-10-3R	30	3R	GM 8.5" 10 BOLT
PY-10-1350	30	1350	GM 8.5" 10 BOLT & GM 9.5" 14 BOLT
PY-8.8-1310	30	1310	FORD 8.8"
PY-8.8-1350	30	1350	FORD 8.8"
3504-05	30	1350	GM 10.5" 14 BOLT
3304-07	31	1330	FORD 10.25"
3504-03	31	1350	FORD 10.25"
PY-QC-1350	10	1350	QUICK CHANGE
PY-9P	35	1350	FORD 9" PRO GEAR

We are making 7075-T6 aluminum pinion yokes as listed below. They have been tested on the drag strip for several years and polish well.

PART NUMBERS	DESCRIPTION
PY-9-1310-A	28 Spline Ford 9"
PY-9-1350-A	28 Spline Ford 9"
PY-9P-1350-A	35 Spline Ford 9"
PY-12-1350A	30 Spline 12 Bolt
PY-QC-1350A	10 Spline Quick Change



OEM quality pinion yokes are also available for many third members.

Space is limited here so please call and we will explain what is available.

4x4 OFF-ROAD

Inland Empire Driveline Service has been building shafts for Baja 1000 contenders, rock crawlers, sand draggers and Jeepers for many years.

At Inland Empire Drive Line we manufacture high quality CV style drive shafts. We build them with the finest and strongest components to be found. They are available with bigger diameter and longer splines for greater suspension travel. Heavier wall tube is also available. All of our 4x4 shafts come with Spicer u-joints.



JEEP SHAFTS

We make Jeep drive shafts in both Spicer 1310 and 1350 series for your unlimited, TJ, YJ and JK. Here are the part numbers for Spicer 1310 series fitting the JK.



PART NUMBERS	DESCRIPTION
JKF31A	Front Shaft Automatic
JKF31M	Front Shaft Manual
JK431A	4 Door Automatic
JK431M	4 Door Manual
JK231A	2 Door Automatic
JK231M	4 Door Manual

GM FRONT SHAFTS

Lifted 1998 to 2004 Chevrolet trucks, Tahoe, Yukon, Suburban and Hummer H2 can encounter vibrations caused by

U-joint angles. Order shaft 98+CV+FS to correct this problem.

PART NUMBERS DESCRIPTION

98+CV-FS GM Trucks, Tahoe, Yukon, Suburban, Hummer H2



4x4 OFF-ROAD CONTINUED

COMPONENTS

We offer the do-it-yourself off roader all the parts needed to repair a CV style shaft. Space is limited and there are lots of slips, stubs, tube sizes and lengths. Here are the numbers to order for complete CV heads.

PART NUMBERS	DESCRIPTION	
231-CV	1310 Head for 2"	120" V
335-CVF	1350 Head for 3"	083"
0000.00	OD Hand fam Off	1001111

3R90-20	3R Head for 2"120" Wall lubing
TY-1H	3.575" Rec. Bolt Circle331" Hole Diameter
TY-2H	3.665" Rec. Bolt Circle388" Hole Diameter
TY-3H	3.340" Sq. Bolt Circle404" Hole Diameter

TY-4H 3.670" Sq. Bolt Circle - .445" Hole Diameter



TRANSFER CASE YOKES

We carry a large inventory of transfer case yokes in 1310, 1330 and 1350 series cv and non-cv for most transfer cases. If you need to replace or upgrade please give us a call.



Nall Tubing Wall Tubing

1330	1350	APPLICATION
2-4-5521-1	3-4-6211-1	NP 203,205,208,241
2-4-5441		NP 203, 205, 208, 241 CV Joint-Seal Must Be Replaced
	3-4-2111-1	Dana 20
		Dana 20 CV Joint
2-4-6111X	3-4-5761X	Dana 300
		Dana 300 CV Joint
	2-4-5521-1 2-4-5441 	2-4-5521-1 3-4-6211-1 2-4-5441 3-4-2111-1

CUSTOM MADE 4X4 SHAFTS

Ordering custom 4x4 and off road shafts is easy. Please refer to page 18 in this booklet for more information on measuring your drive shaft.



ONE PIECE DRIVESHAFT MEASUREMENTS

MEASURE FOR U-JOINT AT THIRD MEMBER YOKE



WHEN YOU INSTALL U-BOLTS DO NOT OVER TIGHTEN THEM. "D" DIMENSION 1-1/16" AND 1-1/8" : 14-17 FT. LB.; 1-3/16" : 20-24 FT. LB.; 1-3/8" : 32-37 FT. LB.

TWO PIECE DRIVESHAFT MEASUREMENTS

MEASURE FOR U-JOINT AT THIRD MEMBER YOKE



HANDY TIPS! THE VEHICLE MUST BE MEASURED AS IT IS TO OPERATE. JACKING UP THE VEHICLE WILL CHANGE YOUR DIMENSIONS.
IF YOUR VEHICLE HAS A BOLT-ON TRANSMISSION YOKE, MEASURE BETWEEN U-JOINT CENTERLINES
IF THERE IS A FLANGE MOUNT ON EITHER OR BOTH ENDS, MEASURE TO ITS FACE.
WHEN YOU INSTALL U-BOLTS DO NOT OVER TIGHTEN THEM. "D" DIMENSION 1-1/16" AND 1-1/8" : 14-17 FT. LB.; 1-3/16" : 20-24 FT. LB.; 1-3/8" : 32-37 FT. LB.

4x4 OFF ROAD DRIVESHAFT MEASUREMENTS

PICK THE SHAFT THAT FITS YOUR NEEDS







TYPE A: STANDARD SLIP - 2 JOINT

TYPE B: REVERSE SLIP - 2 JOINT

TYPE C: C-CV/DOUBLE CARDAN

DETERMINE END ATTACHMENTS REQUIRED

REVERSE SLIP





Measure attaching Yoke or U-Joint. Note difference between Spicer® or Saginaw and Detroit Yokes. Dimensions D, E and A Match D, E and A on U-Joints shown below.

END YOKE



SAGINAW / DETROIT

FLANGE



Measure Pilot Diameter "A" (Male/Female?) Bolt Circle "B", Bolt Circle "C" and "D".



U-JOINTS

Spicer® Yokes and U-Joints dimension "E" euqls distance between centering lugs or length of U-Joint. Saginaw/Detroit Yokes and U-Joint dimension "A' equals inside span of Yoke or distance between Snap Rings outside edge.



4x4 OFF ROAD DRIVESHAFT MEASUREMENTS DETERMINE PROPER WORKING LENGTH

Select a drawing from 1 through 5 below that best represents your parts and measure the distances "X" and "Y" shown between the arrows while the vehicle is fully resting on its suspension, NOT on a "Chassis Hoist" or "On a Jack."





THE VEHICLE MUST BE MEASURED AS IT IS TO OPERATE. JACKING UP THE VEHICLE WILL CHANGE YOUR DIMENSIONS.
IF YOUR VEHICLE HAS A BOLT-ON TRANSMISSION YOKE, MEASURE BETWEEN U-JOINT CENTERLINES
IF THERE IS A FLANGE MOUNT ON EITHER OR BOTH ENDS, MEASURE TO ITS FACE.
WHEN YOU INSTALL U-BOLTS DO NOT OVER TIGHTEN THEM. "D" DIMENSION 1-1/16" AND 1-1/8" : 14-17 FT. LB.; 1-3/16" : 20-24 FT. LB.; 1-3/8" : 32-37 FT. LB.

NOTES

ABOUT THIS BOOKLET AND YOUR PROJECT

Please remember that this booklet is intended to describe what our products are. It is certainly not a complete catalog because of the enormous variety of parts and applications possible. There is simply no substitute for a one on one conversation regarding your project.

We believe that each project is unique. We also believe that you deserve our full attention and best recommendation based on our 30 years of service. In fact, when you call us you will likely talk with someone who has been with us for 28 of those 30 years.

I invite you to call and share your needs with us. We will ask a lot of questions, make our recommendation and give you a firm price quote. If you decide to proceed your order will be assembled, welded and balanced by a single craftsman having years of experience with us. Your finished drive shaft will be shipped, usually within 48 hours.

Give us a call; I think you will be glad you did,

Greg

INLAND EMPIRE DRIVELINE

"FOR DRIVESHAFTS THAT MAKE A DIFFERENCE"

FAST - EASY - CORRECT - RELIABLE

- ★ 30 YEARS EXPERIENCE
- ★ 3 MEASUREMENTS NEEDED
- ★ 1 PHONE CALL
- ★ SHIPPED IN 48 HOURS
- ★ GUARANTEED TO FIT
- ★ AFFORDABLE PRICING
- ★ MADE IN THE USA

800.800.0109

e.mail - tech@iedls.com on the web - www.iedls.com