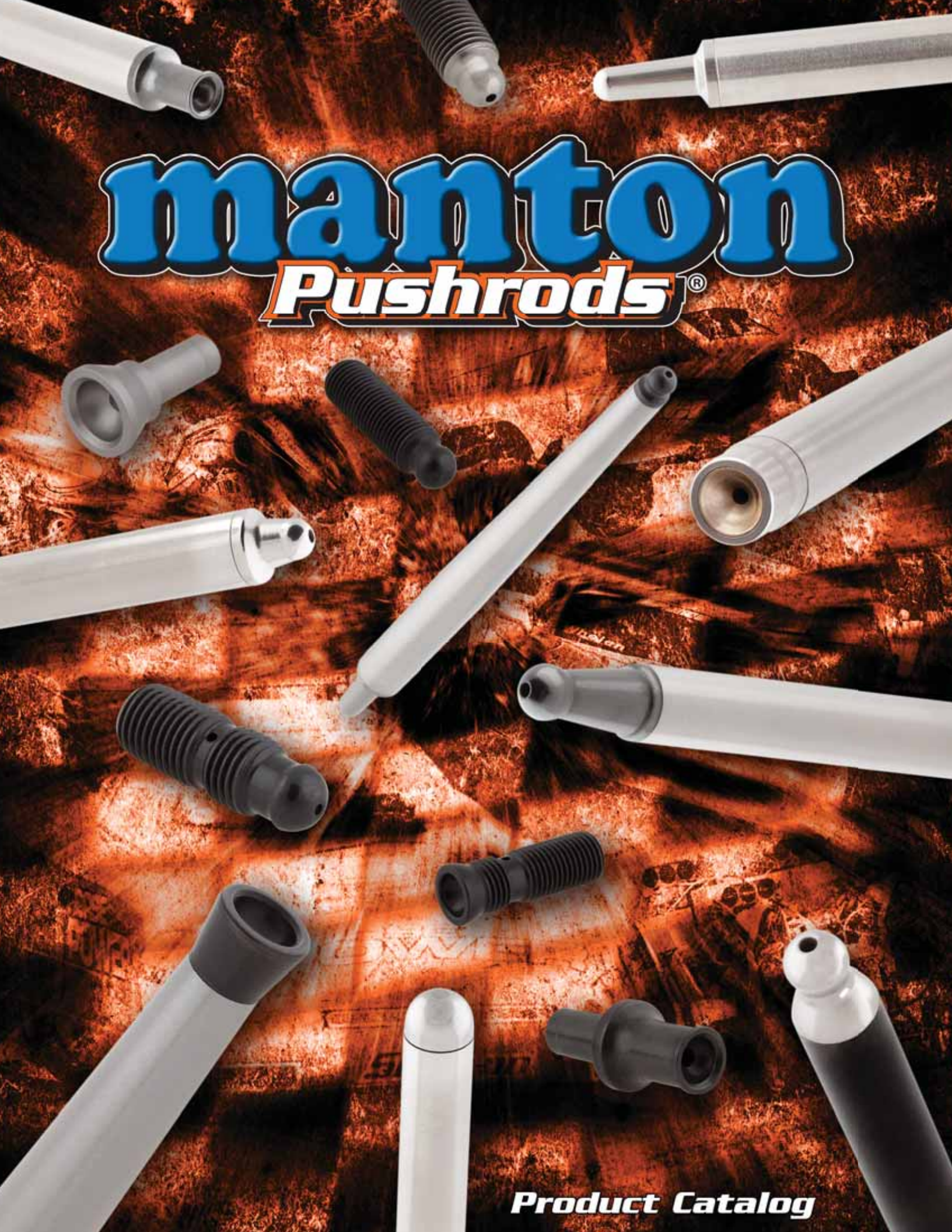

manton
Pushrods®
Product Catalog

Past, Present & the Future

The Manton Family has been involved with the motorsports industry since the late 1960's. The Manton name is most commonly associated with hardcore valvetrain hardware, quality parts and exceptional service.

In 1978, at age eleven Terry Manton made his first pushrods while working for Sig Erson. By 1983 Terry was making pushrods under the Manton name. His families involvement in motorsports gave him the drive necessary to learn about quality machining, superior metals and applied metallurgy.

Today Manton Pushrods is the leader in pushrod technology and sets the bar for outstanding customer service. Manton has continued to grow it's customer base and product line even through the tough economic times that the world has experienced. On March 1st, 2010 Manton Pushrods moved into it's new facility. This new facility is four times larger than the previous location, allowing for more machinery and additional sales staff and machinists to better serve the customer.

Some of Manton's future plans include additional laboratory equipment and more CNC lathes and mills. There will also be an increased emphasis on research and development of new products and refining ways to improve existing products.

Custom Made Performance

Manton Pushrods versatility in engineering, design and manufacturing, results in the best engineered solutions possible. We can design and manufacture a pushrod or rockerarm adjusting screw stronger, more durable and suitable for your engine needs. All products are made from the best materials available. Tubes are made of 4130/4135 seamless chromoly or cold working tool steel and are available in a variety of heat treated conditions. This allows us to manufacture a pushrod to enhance your specific application. Because every engine is different, we do not mass produce. All pushrods are custom made in house per order, with an average turnaround of 2-48 hours. We take pride in knowing that we produce the highest quality parts available anywhere in the world. No shortcuts are ever taken and no expense is spared in manufacturing our products. If you have a need for a product that we do not normally produce, please call us and we will be happy to discuss making it for you. Manton feels that the center section of the pushrod needs to be made out of a different material than the tips and heat treated differently. This gives the pushrod all the proper characteristics needed in each area of the part. For that reason all pushrods are modular in design.

Material Compatibility of Pushrod Tips and Adjusting Screws

To help prevent improper wear of the pushrod tip and adjusting screw we offer pushrod tips in three different materials. The most common pushrod tip material used by Manton is 8620. This material when heat treated correctly has excellent wear properties and is very impact resistant. This 8620 material is used in most pushrod tip applications and has a surface hardness of approximately 62 rockwell "C". It can be used in conjunction with almost all rockerarm screws on the market today with similar hardness.

When using rockerarm screws made of stronger, harder and better materials such as H-13 tool steel or other grades of tool steel it is very common for the surface hardness to be in excess of 70+ rockwell "C" after heat treating. In these applications we usually recommend using our H-13 tool steel pushrod tips. We are very particular about the heat treat characteristics of our tool steel pushrod tips and adjusting screws. Different material core values will produce slight hardness changes to the surface. The rule of thumb is that you always want the ball surface to be harder than the cup surface.

In some applications the use of a proprietary hybrid copper insert into an H-13 tool steel bodied tip is utilized. This copper material is used in conjuction with a .281 ball style adjusting screw. The reason for the use of this copper is because of its improved self lubrication features. In the last few years the chemical makeup of engine oils has changed and increased the problem of friction between metals.

Pushrod Tips

CNC machined in house to insure quality control and versatility. Made from high impact, wear resistant 8620 barstock, case hardened, cryogenically treated and tempered.

In addition we also offer a pushrod tip made of H-13 tool steel. This material is heat treated, triple tempered and salt bath nitrided. New hot working tool steels are now being explored. (Tool steel pushrod tips are almost always used in conjuction with tool steel rockerarm adjusting screws).

We also have two designs of our proprietary copper inserted tip available for our .281 ball adjusting screw. One design is a v cup and the other is a radius cup.

To view a complete list of pushrod ends visit our website.

Rockerarm Adjusting Screws

Our rockerarm screws are made of H-13 tool steel that is heat treated triple tempered and nitrided for wear resistance. This combination of materials and heat treat procedures makes the best screws available anywhere. All screws are manufactured with rolled threads and broached to accept an allen wrench. The screws are available with or without oil holes for pre-lube and oil grooves for pressure feed oiling. Manton makes custom screws on request, minimum quantities may apply.

Stocked Sizes:

5/16 Ball - 3/8 x 24 Thread	**3/8 Ball - 3/8 x 24 Thread**	**13/32 Ball - 7/16 x 20 Thread**
5/16 Ball - 7/16 x 20 Thread	**3/8 Ball - 7/16 x 24 Thread**	**5/16 Cup - 3/8 x 24 Thread**
.281 Ball - 3/8 x 24 Thread	**13/32 Ball - 12 mm x 1.0 Thread**	**5/16 Cup - 7/16 x 20 Thread**

To view a complete list of rockerarm adjusting screws visit our website.

Important Special Instructions & Suggestions

1. It is very important to determine proper pushrod length. Improper pushrod length can cause a number of problems including excessive valve guide wear, lessened valve lift, valve stem side thrust, coil bind, improper valve to piston clearance and also rockerarm to retainer interference (in some cases lash caps can be used to help correct rockerarm to retainer clearance problems).

2. Check the radius of the lifter receiver cup and rockerarm cup/ball before ordering to help prevent mistakes. Improper ordering may result in parts failure. Watch for variations from stock radius in aftermarket lifters.

3. Make sure significant oil volume reaches the rockerarm end of the pushrod. This will help prevent galling due to excessive heat generation and lack of lubrication. To prevent interrupted oil flow to the pushrod, it is very common and sometimes necessary to modify the lifter body so oil flows through it no matter where it's positioned in the lifter bore (call for details). Oil restriction in the engine block is not normally recommended.

4. When possible, try to use larger diameter pushrods to spread out the load and lower the stress on the tube. This will help lessen pushrod deflection. Heavy wall tubing can minimize compression of the column. Many problems occur when a pushrod is inadequate for the application.

5. In high load applications large diameter heavy wall tubes are a must. These applications include the use of a blower, turbo charger, nitrous oxide, nitro methane, high spring pressures, and engine speeds over 7,000 rpm.

6. Do not allow over clearancing for the pushrod. This may cause the pushrod to move around or deflect more than needed. Clearance of .010 at the closest point of contact is sufficient. The surface of the cylinder head or engine block can often be utilized like a large guide plate and dampening device which stabilizes the pushrod. Make sure there are no pushrod binding or interference problems when turning the engine over during assembly.

7. Tapered pushrods should not be used in guide plate applications. Improper clearance and interference problems are sure to occur. Use only straight tube pushrods, specifically surface hardened for guide plate use in this application. Note: See series #2 and #4 for guide plate applications.

8. If you are using a tool steel rockerarm adjusting screw, it is almost always suggested that a tool steel pushrod tip be used at the rockerarm end. This will ensure proper compatibility.

9. In race applications and engines with flat tappet camshafts, it is imperative to use engine oil containing sufficient friction modifiers. The most commonly known friction modifiers are zinc, phosphorus, sulfur and soluble molydisulfied. Read the bottle or contact your oil supplier.

10. When installing new pushrods in an engine or after replacing pushrod tips in repaired pushrods, it is a good idea to carefully check the rockerarm screws to make sure the contact surface of the screw has not been damaged. A damaged screw surface will damage the new pushrod tip.

11. When using Manton pushrods, adjustments to valve/cam timing, valve to piston clearance and fuel curve may be required. This is due to increased rigidity in the pushrod column, making valve action more accurate and efficient.

Column Strength

A pushrod is an eccentrically loaded column due to angularity load and arc motion throughout pushrod travel. Pushrods want to deflect most toward the bottom of the column near the lifter side of the pushrod. This is because of the angularity load. In most cases it is best to use the largest diameter pushrod that will fit in the engine. The increased diameter will lessen deflection and allow better valve train control.

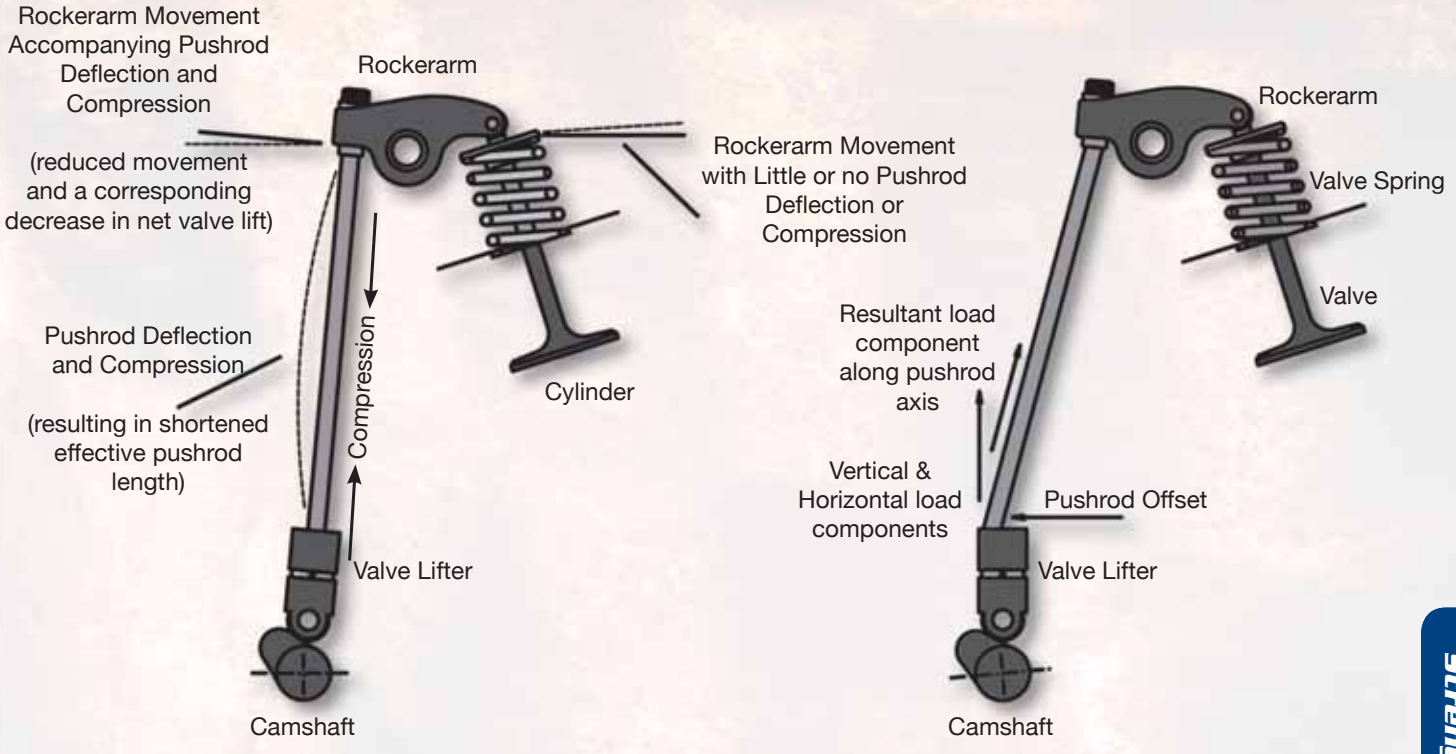
When checking and fitting for pushrod diameter it may be necessary to use a single taper or dual offset taper design, with the large end being toward the bottom. This places the larger diameter and increased mass properly to stiffen the pushrod where it wants to flex the most. The added clearance that the tapered design gives through the head and near the rockerarm can really be helpful. The taper on the tube can also help dampen harmonics in the valvetrain.

With a stiffer pushrod column, increased valvelift should be able to be measured statically in applications using a lot of spring pressure. The higher the engine speed the greater the increase will be at running speed. Keep in mind that by increasing wall thickness to a pushrod column does add strength, the percentage of increase is very small. The large gain in column strength comes from increasing the pushrod diameter.

Do not be overly concerned about pushrod weight. The pushrod is on the slow moving side of the valve train. The additional weight of a heavy wall pushrod usually provides a much needed increase in valve train stability.

Pushrod Deflection and Compression Diagrams

Schematic Illustration of compound Load Angles on Typical Pushrod



Note: In this simplified illustration, you can see that pushrod deflection and compression can cause reduced net valve lift, the result of a foreshortened pushrod. Valve timing (duration and timing) can also be affected by inadequate pushrod stiffness.

Note: Adding to the complexity of pushrod loading are compound angles resulting from offset pushrod cups (in lifters) and angularity relationships among the pushrod, valve lifter and rockerarm. Oblique angles contribute to side-loading and complex load patterns placed on the pushrod. Although some degree of pushrod "shock absorbing" is virtually unavoidable, minimizing such deflection and compression is critical for maintaining proper valve timing.

Rockerarm Geometry and Proper Pushrod Length

Many variables directly affect determining proper pushrod length. Pushrod length is affected by all of the varialbles listed below.

- Block deck height
- Head deck height
- Cam base circle diameter
- Head stud boss height / rockerarm stand mounting pad
- Rockerarm design
- Lifter receiver cup height
- Valve stem height

Remember that every engine is different because the combination of these variables change from one engine to another. Take the time necessary to determine proper pushrod length with each engine you build. Do not assume that your pushrod length is the same as your friends engine. We have given some guidelines in this section to help you deterine proper pushrod length for both roller rockerarms and shoe rockerarms. Each type of rockerarm style has different instructions.

With shaft mounted rockerarms, raising or lowering the stands to change the rockerarm shaft height is usually necessary to obtain proper rockerarm geometry. With stud mounted rockerarms, changing the pushrod length achieves the same effect.

1. Obtain an adjustable checking pushrod (available from Manton).
2. Light duty checking springs must be used in place of valve springs to allow you to rotate the valve train and check for proper contact pattern on the valve stem.
3. You will need an accurate measuring device to measure your adjustable pushrod once you have locked your adjustable pushrod at the correct length.
4. Ball/Ball designs are to be ordered by overall length measurement. (The standard flat diameter on the ends of the pushrods is .100)
5. Ball/Cup designs are most properly ordered by the effective length. This length is measured from the bottom of the cup radius to the tip of the ball. Overall length can also be given but tell us how deep the cup depth is. Make sure when ordering ball/cup pushrods that you specify effective or overall length.

Proper Pushrod Length With a Shoe Rockerarm

See “Diagram A” for Shoe Rockerarm

When using your adjustable pushrod checking tool and checking springs you want the contact spot to start on the intake side of the valve tip with the lifter on the base of the camshaft (position #1). At approximately 1/3 lift the contact spot should be in the center of the valve tip (position #2). At full lift the contact spot should be the same distance past the center of the valve tip toward the exhaust side as it was when the lifter was on the base of the camshaft (position #3). Fully closed is back to position #1.

Diagram A
1 Base Circle
2. 1/3 Lift
3. Full Lift

Proper Pushrod Length With Roller Rockerarms

See “Diagram B” for Roller Rockerarm

As in diagram A you should use a checking spring during this procedure. This allows you to rotate the valve train without damaging the checking pushrod and eliminates the unwanted deflection that would occur from spring pressure.

To obtain the roller positions listed below you will be re-locating the rocker arm pivot point (rocker shaft). By moving the shaft up or down the roller contact position on the valve will change.

Diagram B
1. Valve is closed and the lifter is on base circle of camshaft
2. Half lift on opening side of the cam lobe
3. Full Lift
4. Half lift on closing side of cam lobe
5. Valve closed

With the valve completely closed and the lifter on the base circle of the camshaft, the roller should contact the valve at position #1 as shown in the diagram. As the valve train is rotated to 1/2 lift the roller will have traveled as far as it can and will stop at position #2. Continue to rotate the engine and at full lift the roller contact will be at its starting point. We will call this position #3. If the roller is not in exactly the same position at full lift as it was when the valve was completely closed, the rocker shaft must be moved. If the roller stops early the shaft must be shimmed up. If the roller stops late the shaft must be moved down. As you continue to rotate the valve train the roller will move back to position #4 when the valve is at half lift on the closing side and will finish at position #5 when the valve is completely closed.

Series Definitions

SERIES 1

Mild performance: **Non-guide plate use.** 4130/4135 chromoly tubing is much stronger than a stock pushrod. Provides 140,000 psi tensile strength. Not recommended for use with hardened guide plates or roller camshafts. **Sizes: 3/16" • 1/4" • 5/16" • 3/8" diameters. Straight tube, any length.**

SERIES 2

Mild performance: **Guide plate use.** 4130/4135 chromoly tubing is much stronger than a stock pushrod. Melonite™ processed for excellent wear resistance/durability. Provides approximately 150,000 psi tensile strength. **Sizes: 5/16" • 3/8" diameters. Straight tube, any length.**

SERIES 3

Semi to high performance: **Non-guide plate use.** Hard drawn 4130/4135 seamless chromoly tubing, the highest quality available from mills. Originally formulated for aerospace/aircraft use. A higher quality pushrod which provides approximately 170,000 psi tensile strength. **Sizes: 5/16" • 11/32" • 3/8" • 7/16" • 1/2" • 9/16" diameters. Straight tube or tapered, any length or variation of taper.**

SERIES 4

Semi to high performance: **Guide plate use.** Hard-drawn 4130/4135 seamless chromoly tubing, the highest quality available from mills. Originally formulated for aerospace/aircraft use. Melonite™ processed for durability and excellent wear resistance. A higher quality pushrod which provides approximately 180,000 psi tensile strength. **Sizes: 5/16" • 11/32" • 3/8" • 7/16" diameters. Straight tube any length.**

SERIES 5

Cupcar, Top Fuel, Pro Stock, Pro Modified, Blown Alcohol, Pulling Tractor and Offshore Marine. **Non-guide plate use.** The strongest most durable chromoly pushrod ever produced anywhere in the world. This series of pushrods manufactured for the most extreme applications possible. Utilizing 4130/4135 chromoly tubing and proprietary heat treating techniques we are able to achieve a 275,000 p.s.i. tensile strength from the tubing without causing it to become brittle. *(Note - Shaft rockerarms should be used in conjunction with this series of pushrod because we do not case harden the tube for guide plate use.)* **Sizes: 5/16" • 11/32" • 3/8" • 7/16" • 1/2" • 9/16" • 5/8" diameters. Straight tube or tapered, any length or variation of taper.**

Note: Other diameters available upon request.

TOOL STEEL *(Top Fuel, A Fuel, Blown Alcohol, Pro Modified, Nostalgia)*

Our high speed tool steel pushrods are the strongest pushrod ever produced. Currently being made for top fuel and blown alcohol applications. This solid bar body pushrod is superior to all other pushrods available today. Forensic non destructive tests prove a more than 15% increase in column strength over all our competitors strongest pushrods for the same application. We are still striving for more improvement and to produce tool steel pushrods for all other applications. **Sizes: 7/16" • 1/2" diameters. Straight tube or tapered, any length or variation of taper.** *Note: Other diameters available upon request.*

Series 1 *Mild Performance - 4130/4135 Normalized*

PART #	Straight Pushrods				Non-Guide Plate Use
103	3/16	x	.035	Wall	
104	1/4	x	.049	Wall	
101	5/16	x	.065	Wall	
102-035	3/8	x	.035	Wall	
102	3/8	x	.058	Wall	

Series 2 *Mild to Medium Performance - 4130/4135 Normalized Melonite™ Processed*

PART #	Straight Pushrods				Guide Plate Use
201	5/16	x	.065	Wall	
202	3/8	x	.058	Wall	

Order form available on website.

Series 3 *Medium to High Performance - 4130/4135 Hard Drawn*

PART #	Straight Pushrods				Non-Guide Plate Use
301	5/16	x	.083	Wall	
301-095	5/16	x	.095	Wall	
301-118	5/16	x	.118	Wall	
302	11/32	x	.120	Wall	
303	3/8	x	.065	Wall	
304	3/8	x	.095	Wall	
304-120	3/8	x	.120	Wall	
304-145	3/8	x	.145	Wall	
305	7/16	x	.120	Wall	
305-168	7/16	x	.168	Wall	
306	1/2	x	.120	Wall	
306-156	1/2	x	.156	Wall	
306-188	1/2	x	.188	Wall	
307	9/16	x	.120	Wall	
307-156	9/16	x	.156	Wall	
307-188	9/16	x	.188	Wall	

PART #	Tapered Pushrods			Non-Guide Plate Use	
310	11/32	to	5/16	.120 Wall	Single Taper
311	11/32	to	5/16	.120 Wall	Dual Taper
312	3/8	to	5/16	.095 Wall	Single Taper
312-120	3/8	to	5/16	.120 Wall	Single Taper
312-145	3/8	to	5/16	.145 Wall	Single Taper
313	3/8	to	5/16	.095 Wall	Dual Taper
313-120	3/8	to	5/16	.120 Wall	Dual Taper
313-145	3/8	to	5/16	.145 Wall	Dual Taper
314	3/8	to	11/32	.095 Wall	Single Taper
314-120	3/8	to	11/32	.120 Wall	Single Taper
314-145	3/8	to	11/32	.145 Wall	Single Taper
315	3/8	to	11/32	.095 Wall	Dual Taper
315-120	3/8	to	11/32	.120 Wall	Dual Taper
315-145	3/8	to	11/32	.145 Wall	Dual Taper
316	7/16	to	3/8	.120 Wall	Single Taper
316-168	7/16	to	3/8	.168 Wall	Single Taper
317	7/16	to	3/8	.120 Wall	Dual Taper
317-168	7/16	to	3/8	.168 Wall	Dual Taper
318	1/2	to	7/16	.120 Wall	Single Taper
318-156	1/2	to	7/16	.156 Wall	Single Taper
318-188	1/2	to	7/16	.188 Wall	Single Taper
319	1/2	to	7/16	.120 Wall	Dual Taper
319-156	1/2	to	7/16	.156 Wall	Dual Taper
319-188	1/2	to	7/16	.188 Wall	Dual Taper
320	9/16	to	1/2	.120 Wall	Single Taper
320-156	9/16	to	1/2	.156 Wall	Single Taper
320-188	9/16	to	1/2	.188 Wall	Single Taper
321	9/16	to	1/2	.120 Wall	Dual Taper
321-156	9/16	to	1/2	.156 Wall	Dual Taper
321-188	9/16	to	1/2	.188 Wall	Dual Taper

Series 4 *Medium to High Performance - 4130/4135 Melonite™ Processed*

PART #	Straight Pushrods				Guide Plate Use
401	5/16	x	.083	Wall	
401-118	5/16	x	.118	Wall	
402	11/32	x	.120	Wall	

Order form available on website.

Series 4 cont. *Medium to High Performance - 4130/4135 Melonite™ Processed*

PART #	Straight Pushrods				Guide Plate Use
403	3/8	x	.065	Wall	
404	3/8	x	.095	Wall	
404-120	3/8	x	.120	Wall	
405	7/16	x	.120	Wall	

Series 5 *Maximum Performance - 4130/4135 Salt Heat Treated to 275,000 p.s.i. Tensil*

PART #	Straight Pushrods				Non-Guide Plate Use
501	5/16	x	.083	Wall	
501-095	5/16	x	.095	Wall	
501-118	5/16	x	.118	Wall	
502	11/32	x	.120	Wall	
503	3/8	x	.095	Wall	
503-120	3/8	x	.120	Wall	
503-145	3/8	x	.145	Wall	
504	7/16	x	.120	Wall	
504-168	7/16	x	.168	Wall	
505	1/2	x	.120	Wall	
505-156	1/2	x	.156	Wall	
505-188	1/2	x	.188	Wall	
507	9/16	x	.120	Wall	
507-156	9/16	x	.156	Wall	
507-188	9/16	x	.188	Wall	
508	5/8	x	.120	Wall	
508-156	5/8	x	.156	Wall	
508-188	5/8	x	.188	Wall	

PART #	Tapered Pushrods			Non-Guide Plate Use	
510	11/32	to	5/16	.120 Wall	Single Taper
511	11/32	to	5/16	.120 Wall	Dual Taper
512	3/8	to	5/16	.095 Wall	Single Taper
512-120	3/8	to	5/16	.120 Wall	Single Taper
512-145	3/8	to	5/16	.145 Wall	Single Taper
513	3/8	to	5/16	.095 Wall	Dual Taper
513-120	3/8	to	5/16	.120 Wall	Dual Taper
513-145	3/8	to	5/16	.145 Wall	Dual Taper
514	3/8	to	11/32	.095 Wall	Single Taper
514-120	3/8	to	11/32	.120 Wall	Single Taper
514-145	3/8	to	11/32	.145 Wall	Single Taper
515	3/8	to	11/32	.095 Wall	Dual Taper
515-120	3/8	to	11/32	.120 Wall	Dual Taper
515-145	3/8	to	11/32	.145 Wall	Dual Taper
516	7/16	to	3/8	.120 Wall	Single Taper
516-168	7/16	to	3/8	.168 Wall	Single Taper
517	7/16	to	3/8	.120 Wall	Dual Taper
517-168	7/16	to	3/8	.168 Wall	Dual Taper
518	1/2	to	7/16	.120 Wall	Single Taper
518-156	1/2	to	7/16	.156 Wall	Single Taper
518-188	1/2	to	7/16	.188 Wall	Single Taper
519	1/2	to	7/16	.120 Wall	Dual Taper
519-156	1/2	to	7/16	.156 Wall	Dual Taper
519-188	1/2	to	7/16	.188 Wall	Dual Taper
520	9/16	to	1/2	.120 Wall	Single Taper
520-156	9/16	to	1/2	.156 Wall	Single Taper
520-188	9/16	to	1/2	.188 Wall	Single Taper

Order form available on website.

Series 5 cont. *Maximum Performance - 4130/4135 Salt Heat Treated to 275,000 p.s.i. Tensil*

PART #	Tapered Pushrods			Non-Guide Plate Use	
521	9/16	to	1/2	.120 Wall	Dual Taper
521-156	9/16	to	1/2	.156 Wall	Dual Taper
521-188	9/16	to	1/2	.188 Wall	Dual Taper
522-156	5/8	to	9/16	.156 Wall	Single Taper
522-188	5/8	to	9/16	.188 Wall	Single Taper
523-156	5/8	to	9/16	.156 Wall	Dual Taper
523-188	5/8	to	9/16	.188 Wall	Dual Taper

Tool Steel Solid Bar Pushrods *Top Fuel, A Fuel, Blown Alcohol, Pro Modified, Nostalgia*

PART #	Straight Pushrods	Non-Guide Plate Use
904-B	7/16	Straight
905-B	1/2	Straight
PART #	**Tapered Pushrods**	**Non-Guide Plate Use**
916-B	7/16 x 3/8	Single Taper
917-B	7/16 x 3/8	Dual Taper
918-B	1/2 x 7/16	Single Taper
919-B	1/2 x 7/16	Dual Taper

Adjustable Checking Tools

PART #	Description
660 - *E, M, K, O*	3/8 Adjustable Tool 6.000 to 7.000
670 - *E, M, K, O*	3/8 Adjustable Tool 7.000 to 8.000
680 - *E, M, K, O*	3/8 Adjustable Tool 8.000 to 9.000
690 - *E, M, K, O*	3/8 Adjustable Tool 9.000 to 10.000
610 - *E, M, K, O*	3/8 Adjustable Tool 10.000 to 11.000
611 - *E, M, K, O*	3/8 Adjustable Tool 11.000 to 12.000
612 - *E, M, K, O*	3/8 Adjustable Tool 12.000 to 13.000
613 - *E, M, K, O*	3/8 Adjustable Tool 13.000 to 14.000
629	3/8 Adjustable Tool Kit 6.000 to 14.000 (Includes 8 tubes, 8 - 5/16 balls, 2 - 5/16 cups, 2 - 3/8 cups, 2 v cups, 2 springs)
630	Chrysler 3/8 Adjustable Tool Kit 10.000 to 14.000 (Includes 4 tubes, 2 - 5/16 cups, 2 - 3/8 cups, 2 springs)
631	Pair of Checking Springs
632 *E*	5/16 Ball Checking Tool Tip
633 *M*	5/16 Cup Checking Tool Tip
634 *K*	3/8 Cup Checking Tool Tip
635 *O*	V Cup Checking Tool Tip
620	7/16 Sleeve for 3/8 Checking Tool
621	1/2 Sleeve for 3/8 Checking Tool
622	9/16 Sleeve for 3/8 Checking Tool
623	5/8 Sleeve for 3/8 Checking Tool
624	4 Piece Sleeve Kit for 3/8 Checking Tool

Tips styles are indicated by the following letters:

E = 5/16 Ball **M** = 5/16 Cup **K** = 3/8 Cup **O** = V Cup

624 - 4 Piece Sleeve Kit

629 - Adjustable Tool Kit

Order form available on website.

Labor

PART #	Description
701	Shorten Pushrod
702	Replace Pushrod End
703	Straighten Pushrod
704	Shorten, Straighten & Replace One End

Pushrod Tips

PART #	Description
706	Pushrod Tip 8620 Steel
709	Pushrod Tip H-13 Tool Steel
710	Pushrod Tip Upgrade to H-13 Tool Steel
711	.281 V Copper Cup Upgrade
712	.281 Radius Copper Cup Upgrade
713	.281 V Copper Cup
714	.281 Radius Copper Cup

Rockerarm Adjusting Screws

PART #	Description	
819	.281 Ball 3/8 x 24 Thread H-13 Tool Steel	
820	.281 Ball 3/8 x 24 Thread with Oil Hole H-13 Tool Steel	
821	3/8 Ball 7/16 x 20 Thread H-13 Tool Steel	
822	3/8 Ball 7/16 x 20 Thread with Oil Hole H-13 Tool Steel	
823-01	5/16 Ball 3/8 x 24 Thread H- 13 Tool Steel	Length 1.250
823-02	5/16 Ball 3/8 x 24 Thread H- 13 Tool Steel	Length 1.350
823-03	5/16 Ball 3/8 x 24 Thread H- 13 Tool Steel	Length 1.450
824-01	5/16 Ball 3/8 x 24 Thread with Oil Hole H-13 Tool Steel	Length 1.250
824-02	5/16 Ball 3/8 x 24 Thread with Oil Hole H-13 Tool Steel	Length 1.350
824-03	5/16 Ball 3/8 x 24 Thread with Oil Hole H-13 Tool Steel	Length 1.450
825	5/16 Ball 7/16 x 20 Thread with Pressure Feed Side Hole H-13 Tool Steel	
826	3/8 Ball 7/16 x 20 Thread with Pressure Feed Side Hole H-13 Tool Steel	
827	5/16 Ball 7/16 x 20 Thread with Oil Hole H-13 Tool Steel	
828	3/8 Ball 3/8 x 24 Thread with Oil Hole H-13 Tool Steel	
829	13/32 Ball 12mm x 1.0 Thread H-13 Tool Steel	
830	13/32 Ball 7/16 x 20 Thread with Pressure Feed Side Hole H-13 Tool Steel	
832	13/32 Ball 7/16 x 20 Thread with Oil Hole H-13 Tool Steel	
833	5/16 Cup 3/8 x 24 Thread with Oil Hole H-13 Tool Steel	
834	5/16 Cup 3/8 x 24 Thread with Pressure Feed Side Hole H-13 Tool Steel	
835	5/16 Cup 7/16 x 20 Thread with Oil Hole H-13 Tool Steel	
836	5/16 Cup 7/16 x 20 Thread with Pressure Feed Side Hole H-13 Tool Steel	
850	7/16 x 20 x .700 O.D. 12 Point Jam Nut	
850g	7/16 x 20 x .620 O.D. 12 Point Jam Nut	
851	3/8 x 24 x .700 O.D. 12 Point Jam Nut	

Assembly Lubricant

PART #	Description
710101	.5 oz. Ultra Gel Moly Lube - Syringe Sampler
710102	3 oz. Ultra Gel Moly Lube - Grease Gun Cartridge
710103	3 oz. Ultra Gel Moly Lube - Jar
710104	8 oz. Ultra Gel Moly Lube - Jar

Order form available on website.

Shipping

Orders will be shipped UPS ground unless another shipping method is requested. Remember we are located in California so if you are located far from us you may want to request faster service. It may take a week for packages to reach the east coast. The carrier has full responsibility for all merchandise once the package leaves our facility. All damage or shortage claims must be reported to the carrier immediately.

Returns

No returns will be accepted without prior authorization. Any merchandise returned due to manufacturing defects or shipping errors will be corrected at no charge. Custom pushrods can rarely be returned but will be handled on an individual basis.

Warranty

Manton Pushrods will repair or replace at our discretion any item manufactured by our company that is found to be defective in material design and/or workmanship. The invoice must accompany the merchandise to verify the purchase. We reserve the right to inspect any merchandise returned for misuse, abuse, modification or defective installation. All merchandise distributed by Manton Pushrods is guaranteed in accordance with the manufacturers own terms of warranty.

Ordering

When ordering pushrods there are many factors in determining the correct pushrod for your application. Many questions will be asked of you during the ordering process. The correct answers to these questions are the responsibility of the customer. We will do our best in suggesting the proper pushrod for your application, but the final decision is the responsibility of the customer. Manton Pushrods will not be held responsible if the pushrods do not fit properly when you receive them unless it is due to a manufacturing error on our part.

Terms

All orders are C.O.D., cashiers check or credit card unless prior arrangements have been made. We accept Mastercard and Visa only. If you are an open account customer and you exceed 30 days to pay an open invoice you may be put on C.O.D. without notice. If you are a customer approved for business or personal checks and your check bounces, you will be responsible for all check charges incurred by us and you may also be put on certified check or credit card.

manton Pushrods®

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