



# Instructions For Shaft-Mount Rocker Arm Kit for Ford FE V8 Engines

Part Number 34790-1

**For more information, see [www.cranecams.com](http://www.cranecams.com)**

**Applications:** Ford FE series V8 cylinder heads (352/360/390/406/410/428/427 Low Riser only) and many aftermarket replacement heads such as the Edelbrock® Performer RPM® FE.

Crane Cams Shaft Mounted Rocker Arm Set (Part No. 34790-1) has been designed as a high performance replacement for the standard equipment rocker arm system. High strength steel stands with end support of the rocker shaft provide improved stability for the outboard rockers. The hard-anodized rocker bodies (that do not require a bronze bushing) provide a low moment of inertia that reduces rocker arm inertia and improves throttle response. Studs have been used instead of bolts for mounting the stands. This will minimize the chance of damaging critical mounting threads in aluminum cylinder heads. These Crane Cams rocker arms can be used with either hydraulic or

mechanical lash adjustment cam/lifter combinations. Mechanical type pushrods (with a cup to mate with the ball type lash adjuster in the rocker arm) must be used. Suggested part #s are Crane Cams Part No. 34645-16 (9.234" OAL) for flat tappet use and Part No. 34641-16 (9.125" OAL) for use with roller cams. Custom lengths are available from Crane Cams (386-258-6174) for applications needing other lengths.

**Note:** Before assembly, check the parts list that follows to make certain your new Crane Cams FE Shaft Mounted rocker arm set contains all the necessary parts for installation. Check parts as shown in Illustration #1. If something is missing, please call Crane Cams customer service (386-258-6174)

## FE Ford Shaft Mount Rocker Parts List

| Item No. | Part Number | Description                                   | Quantity |
|----------|-------------|---|----------|
| 1        | 7857B       | FE Ford Rocker Stand, Inner                   | 4        |
| 2        | 7858B       | FE Ford Rocker Stand, Outer                   | 4        |
| 3        | 34750BEG    | FE Ford Left Intake/Exhaust Rocker, Aluminum  | 8        |
| 4        | 34750BIG    | FE Ford Right Intake/Exhaust Rocker, Aluminum | 8        |
| 5        | 34619B      | Rocker Arm Shaft                              | 2        |
| 6        | 99780ASF    | Rocker Arm Adjusting Screw                    | 16       |
| 7        | 99785JN     | Adjusting Screw Jam Nut                       | 16       |
| 8        | 7865B       | Jam Nut Washer .583x.378x.032                 | 16       |
| 9        | 7869B       | 3.500x3/8 Undercut Stud                       | 2        |
| 10       | 7868B       | 3.500x3/8 Stud                                | 6        |
| 11       | 7867B       | 3.750x3/8 Undercut stud                       | 2        |
| 12       | 7866B       | 3/8x24 Flanged Hex nut                        | 8        |
| 13       | 11600WS     | 3/8 Hardened Washer                           | 8        |
| 14       | 34790WS     | .030 Thrust Washer                            | 16       |
| 15       | 64790WS     | .015 Thrust Washer                            | 48       |
| 16       | 34790SPA    | FE Ford Shaft Spacer 1.130" length            | 2        |
| 17       | 34790SPB    | FE Ford Shaft Spacer 1.475" length            | 2        |
| 18       | 34790SPC    | FE Ford Shaft Spacer 1.095" length            | 2        |

**CRANE CAMS, INC. 530 Fentress Blvd., Daytona Beach, FL 32114**

**[www.cranecams.com](http://www.cranecams.com) Tech Line: (386) 258-6174 Fax: (386) 258-6167**

Prior to assembly, lay out all of the kit parts on a clean surface. Consider the position of all of the components as shown in Illustration #1.

Note: The .015" and .030" thick thrust washers (items # 14 and 15) can be mixed as necessary to assure proper alignment of the nose wheel of the rocker arm with the valve tip.

Start assembly from one end of the head working to the other end. Each rocker arm should be coated inside with engine assembly lube (do not use moly lube) before installing on the shaft (see Illustration #2). The outer two rocker arms (on each end of the shaft) are installed with the "wide flange" side facing the end of the rocker arm shaft (see Illustration #3). A .015" thrust washer (item 15) should be installed on each side of the rocker arm (see illustration

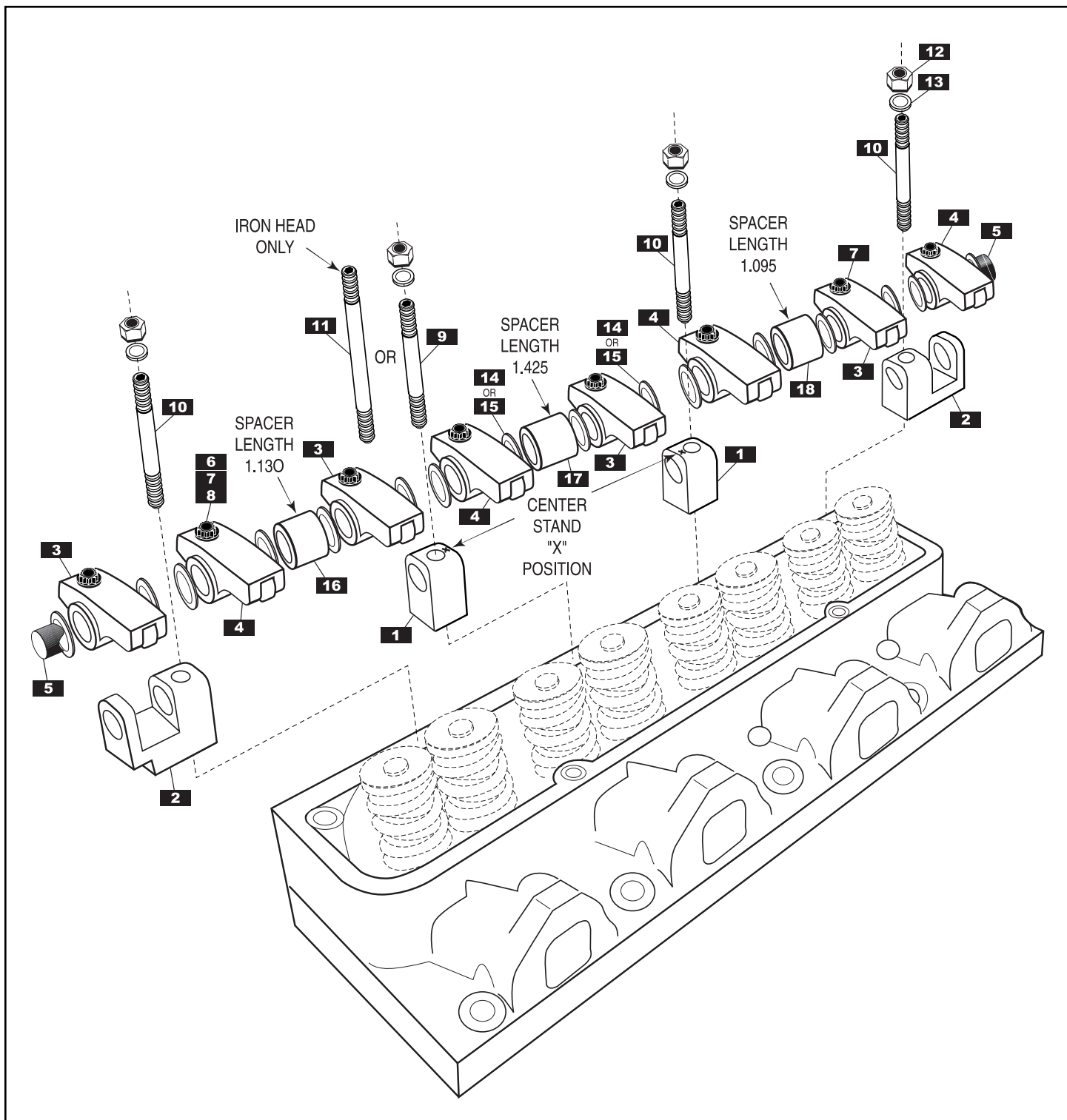
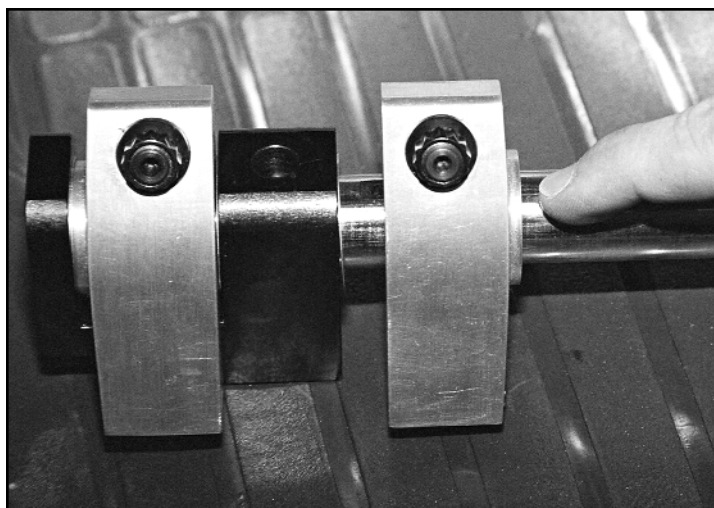


Figure 1.

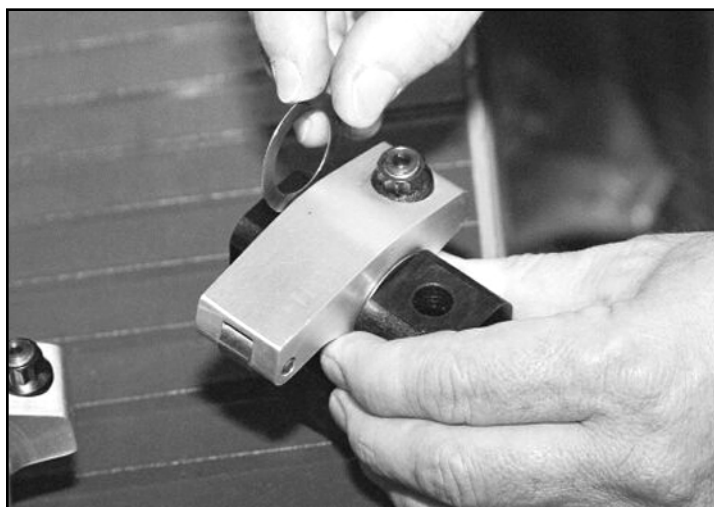
#4). When installing the rocker shaft, the small oil-feed holes on either side of the stud mounting holes (see Illustration #8) must be facing down towards the cylinder head to provide proper lubrication to the rocker arms



**Figure 2.**



**Figure 3.**



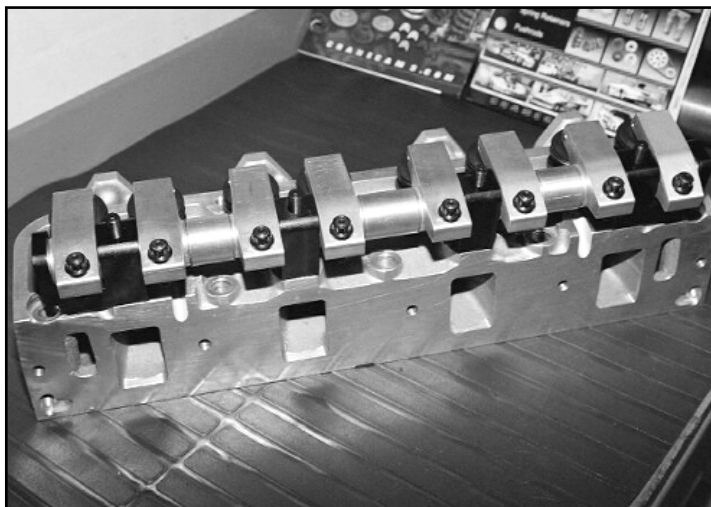
**Figure 4.**

The next rockers inboard are installed on the other side of the mounting stud with the "wide flange" side facing towards the aluminum rocker arm spacer. Again a thrust washer must be installed on each side of each rocker body.

**Note:** OE and Aftermarket heads might require different thickness thrust washers on the sides of the rocker arms and spacers to assure proper alignment of the nose wheel with the valve tip. This will require one or more trial installations and recording of the thrust washer sizes necessary. Assure at least .005" operating clearance between the rocker arm/thrust washer and the stand or spacer. This will prevent binding during operation.

The positioning of the rocker arms on each side of the rocker stand mounting bolts must have the orientation shown in Illustration #3. This shows the "wide flange" sides of the rocker arm facing away from the rocker stand mounting stud area.

This kit includes three different length aluminum spacers to install between the inner rocker arms. Refer to Illustration #1 for correct spacer location. Spacers will install correctly only in one order. If you have the spacers out of order, the rocker arm tips will not align properly with the valve stem tips!

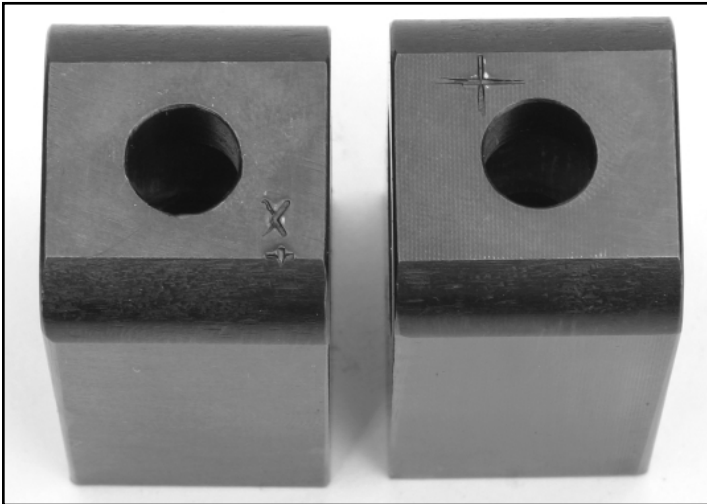


**Figure 5.**

The inner pedestal stands should always have the identifying "X" marks facing inwards toward each other (see Illustration #6). Continue installing shims, spacers, rocker bodies and stand pedestals using Illustrations #1 and #5 as a guide.

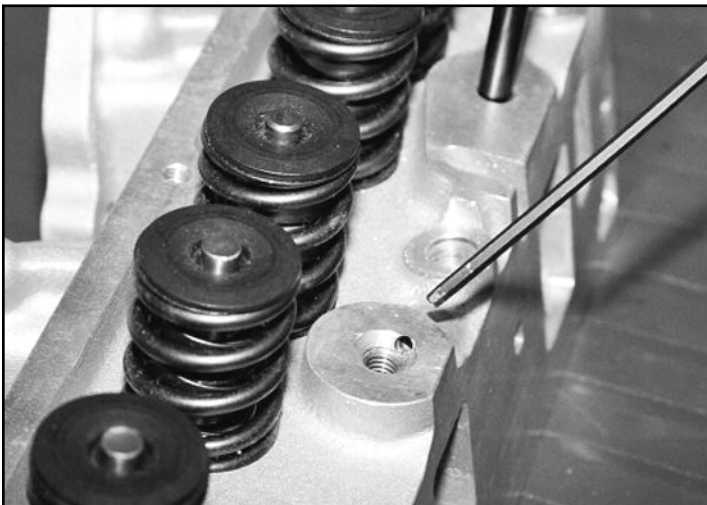
This kit includes 5 mounting studs per head. Only 4 studs are necessary; but OE Ford and aftermarket heads sometimes require a different length stud in the mounting hole with the oil feed passage.





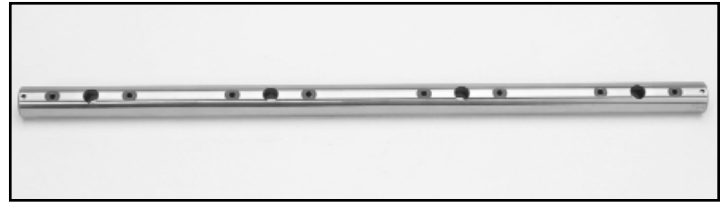
**Figure 6.**

Lubricate the coarse end of the mounting studs with the assembly lube provided. Use only a small amount of lube and wipe it across the threads. (The studs thread into dead ended holes; excess lube will cause the threads to "bottom out" early and come loose!) Install four mounting studs in the head finger tight. Assure that the studs thread completely into their mounting holes. (If necessary, use a clean 3/8-16 tap to clean the threads; assure no debris goes into the oil feed hole that intersects one of the inner mounting holes). Note that the mounting hole with the intersecting oil passage (see Illustration 7) requires an undercut stud. OE Ford cast iron heads require the 3.750" undercut stud in this location because the mounting threads are recessed. Most aftermarket heads require a 3.500" stud in this location because the mounting threads are not recessed.



**Figure 7.**

Install the complete stand/rocker/shaft assembly over the rocker studs. Assure that the small oil feed holes in the rocker shaft are facing downward toward the cylinder head.



**Figure 8.**

**NOTE:** Failure to have the oil holes facing downward will result in excessive wear, to the rocker arms, that is not covered by warranty! Install hardened flat washers over the studs. Lubricate the fine threads with a small amount of assembly lube. Install the 3/8-24 flanged hex-nuts on the studs and torque to 35 lb-ft.

At this time check nose wheel alignment with valve stem tip. Adjust shim positions between the rocker body and spacer/pedestal to center the nose wheel as closely as possible on the valve.

Custom length pushrods might be necessary. When calculating pushrod length; measure the over all length. Keep in mind that because of the adjuster, pushrod length only needs to be accurate to +/- .050". Call the Crane Cams Techline at 386-258-6174 for assistance if necessary or to order custom length pushrods.

Make certain that no portion of the pushrod contacts the rocker arm body throughout the operational cycle. Also, make sure that the valve spring and the valve spring retainer do not contact the rocker arm body at any point in its travel.

Before running the engine, lubricate the ball-end of the pushrod seat/lash adjuster with the assembly lube provided. Set valve lash or lifter preload. Prime the oil pump with a drill motor and engine-priming tool. Assure that oil is flowing from the rocker shaft and dripping from between the rocker arms and stands/shims. Fire engine and check for proper oil pressure and leaks. Correct as necessary.

After 500 miles of operation, recheck mounting stud/nut torque and check valve lash or lifter preload.

Thanks for purchasing your Crane Cams FE Shaft Mounted Rocker Arms! Have fun!