

How to Select Parts for Your Ford Flathead Engine Rebuild

If you're tackling most of a rebuild yourself, it's easier than ever to find parts, thanks to the Internet. You just type "flathead Ford V-8 parts" into a search engine and dozens of sources appear. Many of the bigger suppliers, such as Mahle for pistons and Clevite for bearings, do not sell direct, so you have to search out their retailers. The good news is, parts are fairly plentiful. However, the market is constantly changing.

Manufacturers sometimes stop making certain parts when they discover how small the market really is. Some parts, such as the Mallory distributor, are currently out of production, so you may have a search on your hands. The same applies to blocks.

Source List

The following is an alphabetical list of items that you are likely to need. The list also includes some popular suppliers.



Vintage Air is a leader in air-conditioning systems for the aftermarket and for car manufacturers, including Ford. The company has recently added the flathead Ford to its extensive line. Shown is its new bracketry for mounting the air compressor alongside the relocated generator. (Photo Courtesy Vintage Air)

Air Conditioning

Henry Ford installed air conditioning in his cars via something called a cowl vent. Today's driver, however, often wants a little more comfort and control. Air conditioning kits are available for flathead applications from March Performance and Vintage Air. The former sells a modern-looking billet assembly with serpentine belts.

The air-conditioning kit from Vintage Air is traditional in appearance, with old-style V-belts. The air-conditioning unit mounts on a fabricated bracket bolted to the original generator mount. The generator is mounted on a bracket to the driver's left.

Ardun Head Conversion

Zora Arkus-Duntov, “the Father of the Corvette,” designed the Ardun overhead valve conversion for the flathead Ford to increase the horsepower of Ford truck engines. Original kits are scarce (maybe 200 total were made), so Don Ferguson has reproduced them. The kit, which fits 1939–1953 engines, includes heads, valvetrain, spark plug tubes, valve covers, Coke-bottle solid lifters, water outlets, stock exhaust port block-offs, attaching hardware, exhaust-header flanges, and head, intake, and exhaust gaskets.



Don Ferguson’s Ardun is as complete as by comes, albeit by with a commensurate price tag. It includes exceptionally well-cast heads, covers that polish beautifully, complete valve and rocker assemblies, head gaskets, and four-port exhaust flanges (rather than the flathead’s three-port flanges).



H&H produces the Austin brand of intakes that were developed exclusively for Ardun heads. The lineup includes 2 x 2, 3 x 2, 4 x 2, Holley 4-barrel, and a blank blower manifold ready for machining; they accept anything from the SCoT blower to 4-71 Series blowers.



Federal-Mogul/Sealed Power manufactures main bearings for the 239- and 255-ci engines in standard sizes as well as .010, .020, and .030 undersize. Scat also offers a variety of bearings that you can buy direct.

For those going the Ardun route, H&H Flatheads produces a line of Austin intake manifolds that accept a variety of carb combinations, as well as a blank manifold for blower applications.

Bearings

A good number of companies supply bearings. The big players are Clevite (a division of Mahle),

Federal-Mogul, Dura-Bond, Melling, and King Bearing. These companies are actually big OEM suppliers that do not sell direct to the public; you have to search out their dealers. Their websites are not really designed for the end user and can be difficult to navigate. That said, Mahle/Clevite, Federal-Mogul, and King Bearing manufacture a number of flathead products in addition to bearings, and it is worth persevering through the search process to find their other products.



Cam bearings are available from a number of sources. Mike prefers Melling's Dura-Bond brand. Indeed, Dura-Bond makes cam bearings specifically for H&H.



This flathead-to-GM/ Chevy T-5 adapter kit from H&H is more complete than some other kits on the market. It comes with a cast-aluminum bellhousing, clutch disc, pilot bushing, throw-out bushing, fork, and cross shaft. Not all T-5s are exactly the same; you might have to enlarge the four attaching bolt holes to align with the adapter. (Photo Courtesy Wilcap)

Bellhousings and Adapters

The flathead came with four bellhousing styles, and any rebuilder should be careful when trying to figure it all out, especially when you are fitting the engine into a hot rod project and want something other than a stock transmission. H&H carries bellhousings from multiple sources, including those from the QuickTime division of Mr. Gasket. Quick Time offers two complete bellhousing kits that adapt 1949–1953 flatheads to Toploader BorgWarner T10 or TKO 500-600/TR3550/T5 Mustang transmissions.

In addition to the more common flathead-to-Chevy or -T-5 manual adapters, Flat-O offers the option of adapting a Ford C-4 tranny to your flattie. The kit comes with a cast-aluminum bellhousing, a balanced flexplate, a torque converter, all the hardware, and complete instructions.

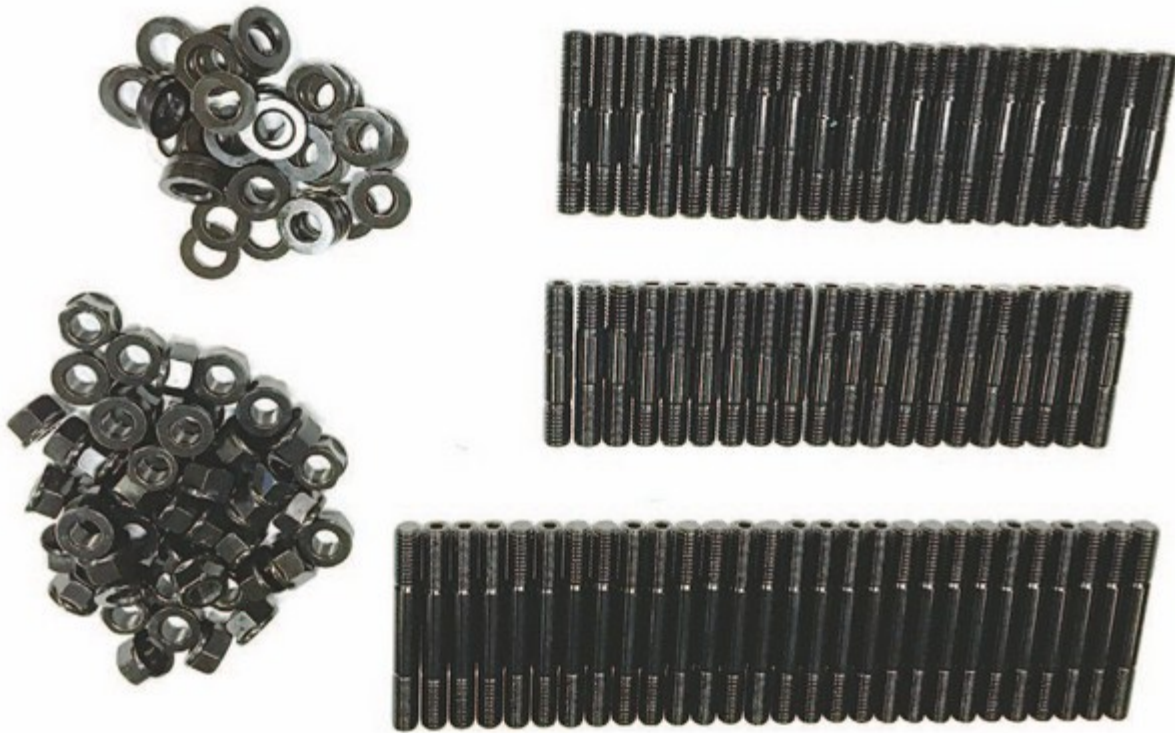


This complete kit from Speedway is designed to adapt the versatile Tremec TKO-500 transmission to your 1949–1953 Ford flathead engine. The fifth gear offers .68 overdrive for smooth highway cruising. The OEM 3-inch bellhousing needed to accommodate this kit is not included and is not available from Speedway. (Photo Courtesy Speedway Motors)

Offenhauser offers a cast aluminum adapter for bolting a 3-, 4-, or 5-speed Chevy manual transmission to the back of a 1932–1948 Ford block or a 1939–1950 Merc. Wilcap, a name that has been around for many years, produced a line of cast-aluminum adapters to bolt to Chevy, or in one case, Ford, transmissions.

Bolts and Fasteners

For a one-stop shop for bolts and fasteners, try Automotive Racing Products (ARP). The company's online catalog is full of useful technical information and fastener technology. ARP lists a few flathead products, including head studs and polished stainless-steel acorn head nuts to thread cleaning chasers; these are essential.



ARP has head stud and nut kits for 1938–1948 and 1949–1953 flatheads, as well as longer stud kits for Edelbrock and Offenhauser aluminum heads. Kits include all studs, stainless washers, and polished stainless domed head nuts. Fastener assembly lubricant is also included. (Photo Courtesy ARP)

If you can't be bothered figuring out the various bolts individually, kits are available from companies such as Speedway Motors. Speedway offers several bolt kits, including a stainless steel socket-head water pump kit. If stainless is your material of choice, check out Totally Stainless, which offers a wide range of bolt kits in hex, socket, 6-point, and even 12-point configurations. It also sells kits for headers, trans mounts, generators, fan pulleys, and heads.

Bob Drake sells 3/4-inch head studs for thicker aftermarket aluminum heads.

Camshafts and Sprockets

A number of companies produce off-the shelf camshafts that work for most street engines. Some companies can grind a special cam for you, assuming that you know what you want and that you can explain it to them.



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The big three in off-the-shelf cams are Comp Cams, Isky Racing Cams, and Schneider. Most aftermarket camshafts do not come with the distributor drive gear, so be sure to save the one you take off. H&H can supply new 8BA distributor drive gears as well as rear idler/oil pump drive gears.

Comp Cams lists three solid-lifter cams for 1949–1953 239- and 255-ci engines, and the specs are easily found in its online catalog. The three cams are the Classic Thumpr for street performance, the Mutha Thumpr for street and strip, and the Big Mutha Thumpr for high-performance engines only.

Isky's website is equally user friendly. It offers five different solid grinds, from the MAX #1, a good low-speed cam for use with a stock carb and manifold, all the way up to the 433 competition grind.

Schneider Racing Cams has been around since the 1950s, and its easy-to-use website offers various parts for the flathead, including valve springs, adjustable lifters, and nine different cam grinds. An extra click takes you to a lot of technical information that helps you decide if you want to go "mild" or "wild."

Schneider can also custom-grind a cam from steel billet; the job takes from four to eight weeks. The company also makes cams for Ardun conversions.

Another company that custom grinds cams is Ed Pink's Garage, which can either custom-grind a cam or build a complete engine. This shop is not to be confused with Ed Pink Racing Engines, which rebuilds flatheads.

H&H has worked with its own cam-grinding company since the 1970s. It offers multiple profiles, from Winfield to blower grinds.



SA Gear makes steel crankshaft sprockets and aluminum camshaft gears, while Cloyes makes matched gear sets in a combination of either aluminum and billet steel or ductile iron and billet steel. Original-type fiber camshaft gears are available from Dennis Carpenter. The 1932–1948 engines had their teeth cut in the opposite direction to 1949–1953 engines. Don't try mixing them, because this affects the thrusting control of the camshaft.



The steel gears that drive the distributor and the oil pump can be salvaged. They are also made by several manufacturers and are available from H&H, Offenhauser, Speedway, and other suppliers.

Camshaft Gears

Camshaft gears and crankshaft sprockets are available from Egge and Federal-Mogul/Sealed Power, but the latter's website offers little beyond generic information. Old suppliers include Hoof, Dyna Gear, Cloyes, and Avon, and with some searching, you can find NOS items that are no longer available from the original aftermarket part manufacturer.

Carburetors

Stromberg Carburetor has dealers all over the United States. They supply everything you need to rebuild a stock 97 carburetor, as well as brand-new Stromberg 97s built to original specification with key improvements. The 97 range includes cable choke and LZ-style push-throttle options and a choice of finishes, from OEM-style pale chromate to triple-plated chrome, custom black, and even a "barn-find" patina. Stromberg has just launched an all-new 250-cfm BIG 97 model that combines 55 percent more airflow with improved fuel efficiency. Moreover, it offers a huge range of fuel delivery and linkage parts, which helps you put together a complete setup for a huge variety of manifolds, including Offy, Navarro, Edelbrock, Sharp, Eddie Meyer, and even small-block Chevy and Ford.



One of the best things for flathead fans was reintroduction of the Stromberg 97 and the BIG97, which flows even more fuel for high-performance applications. The carbs have all the original faults fixed and are available in a range of finishes, from “barn-find” to “show chrome.”



Edelbrock reproduces the old Chandler-Groves two-barrel 94. It features a die-cast bowl and air horn with an aluminum three-bolt base. A secondary version of this carburetor features no choke, making it a must-have for multiple carb setups. Both versions feature an extended throttle shaft to make it easier to install dual- and triple-carburetor combinations.

Clutches

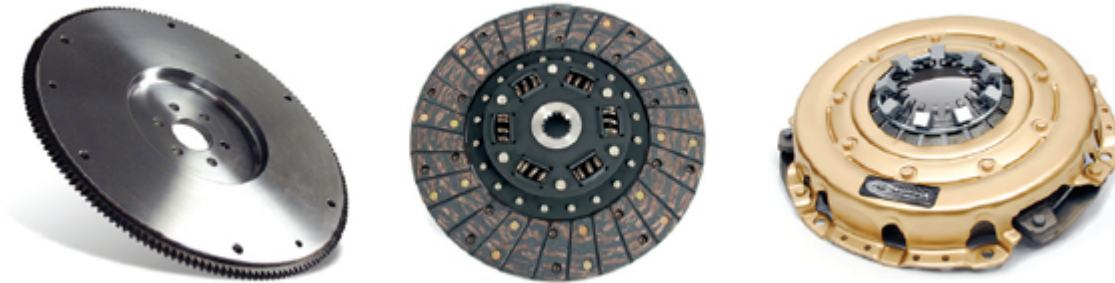
Thankfully, numerous options remain for clutch components. However, as the aftermarket continues to consolidate and the flathead recedes into the past, those options will likely shrink.



Another option is a 4-barrel Edelbrock or a Holley 390 atop a Navarro or Offenhauser manifold. Of course, you need an adapter plate. These components are available from H&H, which also carries an adapter that can be used to adapt a four-bolt carb, such as a Rochester 2GC, to the flathead's three-bolt manifold. Retailers for Edelbrock and Holley include Summit, and Speedway for Offenhauser.



Centerforce has an excellent website: You type in “1953,” and the site fills in the rest of the fields and takes you to flathead-related products: steel flywheels (1949–1953), clutch covers, and clutch discs (1932–1953). Clutches are also available from McLeod and Ram. (Photo Courtesy Centeforce)



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Coils

Chrome-plated or black 40K-volt Flame-Thrower oil-filled coils are available from Pertronix, along with a selection of universal brackets. These brackets are not flat head style. Coils are also available from Mallory and MSD.



Chrome-plated or black-finish coils are available from Pertronix. These are traditional-looking round coils that mount to cylinder heads using stock brackets. (Photo Courtesy Pertronix)

Connecting Rods and Bearings

Unfortunately, few options for connecting rods exist beyond stock and Scat. However, good sources are available for connecting rod bearings. Federal-Mogul/Sealed Power, Mahle/ Clevite, and King Bearing offer bearing sets for 239- and 255-ci engines in standard and two undersize sizes: .010 and .020. Federal-Mogul/Sealed Power also makes piston pin bushings for the 239 to 255 engines in both normal and “split” styles.



These Scat high-tensile forged chrome-moly H-beam connecting rods are designed for a 2-inch crank bearing with a .750-inch wrist pin. They are 7 inches long, feature 3/8-inch cap screws, and weigh 530 grams. (Photo Courtesy Scat)



These Scat rods are designed for a 2.138-inch crank bearing size with a .750-inch wrist pin. They have conventional studs and nuts and are also 7 inches long, weigh 530 grams, and feature high-tensile forged chrome-moly H-beam construction. (Photo Courtesy Scat)

Crankshaft

Sources for new a crankshaft for your flathead are Eagle, Moldex, and Scat. The latter manufactures a wide range of off-the-shelf internally balanced cranks, from 221-ci cast stockers through lightweight cast 4.375-inch strokers. Scat also produces specialty billet cranks. Of course, original Ford and Mercury cranks are in huge supply.



Scat produces a range of internally balanced Series 9000 lightweight cast stroker cranks for the flathead. They are available with strokes ranging from 4 to 4.375 inches. Pin sizes are 2 and 2.138 inches. (Photo Courtesy Scat)

Cylinder Heads

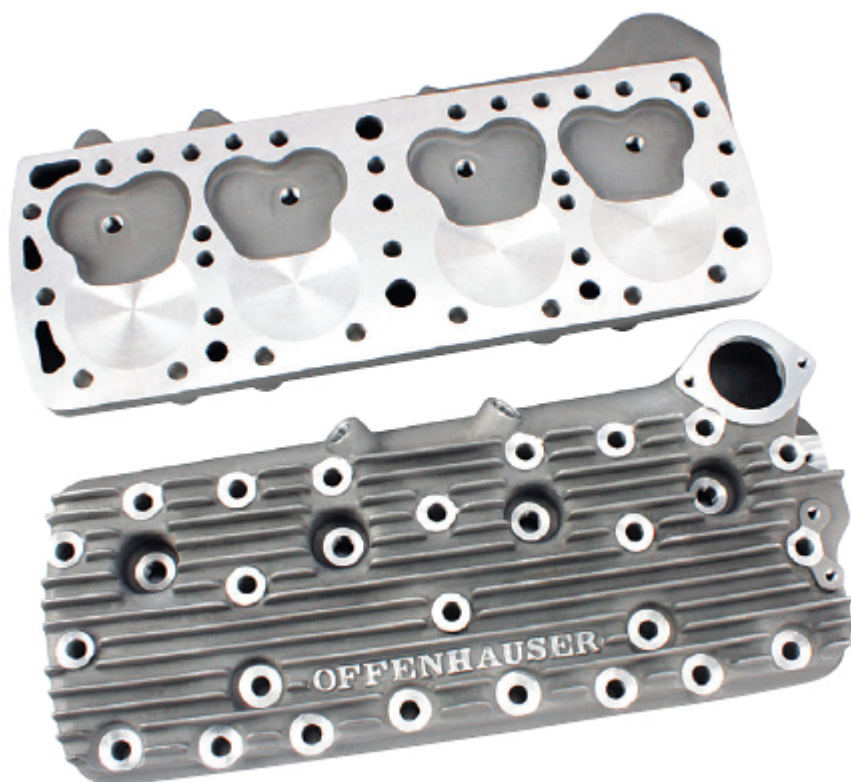
The recent popularity of the flathead has brought about the reproduction of all sorts of obscure parts, including cylinder heads. Suppliers include Edelbrock, Navarro, ORD, Sharp, Smith, Eddie Meyer, Offenhauser, Tattersfield-Baron, and, most recently, TrickFlow. Twin-plug Elco heads are available from Monterey Speed & Sport.



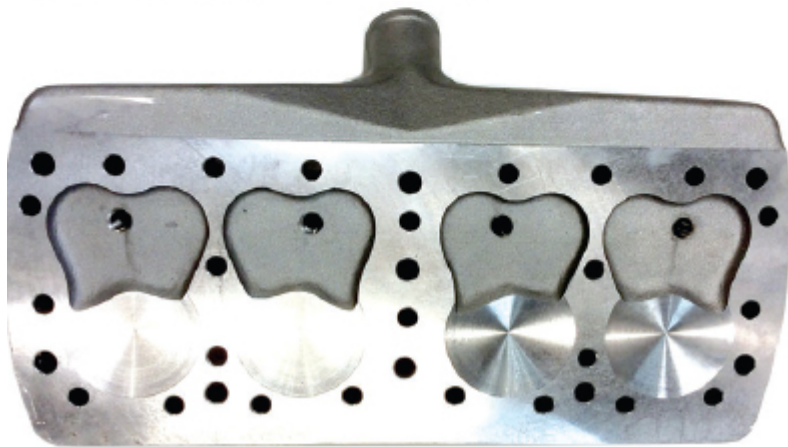
Since just after World War II, Edelbrock has produced exceptional cylinder heads for a variety of flathead applications, including these for the 1949–1953 engines. Because they are thicker than stock heads, you need longer head studs or bolts. (Photo Courtesy Edelbrock)



Made from the original permanent patterns in the original foundry, these 356 aluminum Navarro 8BA heads feature an internal bridging system that reduces flex and increases stability. High-dome and 59A versions are also available.



Although the Offenhauser Engine Company was around before World War II, the Offenhauser Equipment Company, as we know it, was formed after the war, when Fran Hernandez joined Fred Offenhauser in a new speed equipment venture. It produced, among other items, heads for the Ford V-8.



Offering one of the largest water capacities on the market, the Sharp head is made from 356 aluminum heat-treated to T-6 and machined to the highest quality. All heads can be highlighted or fully polished.



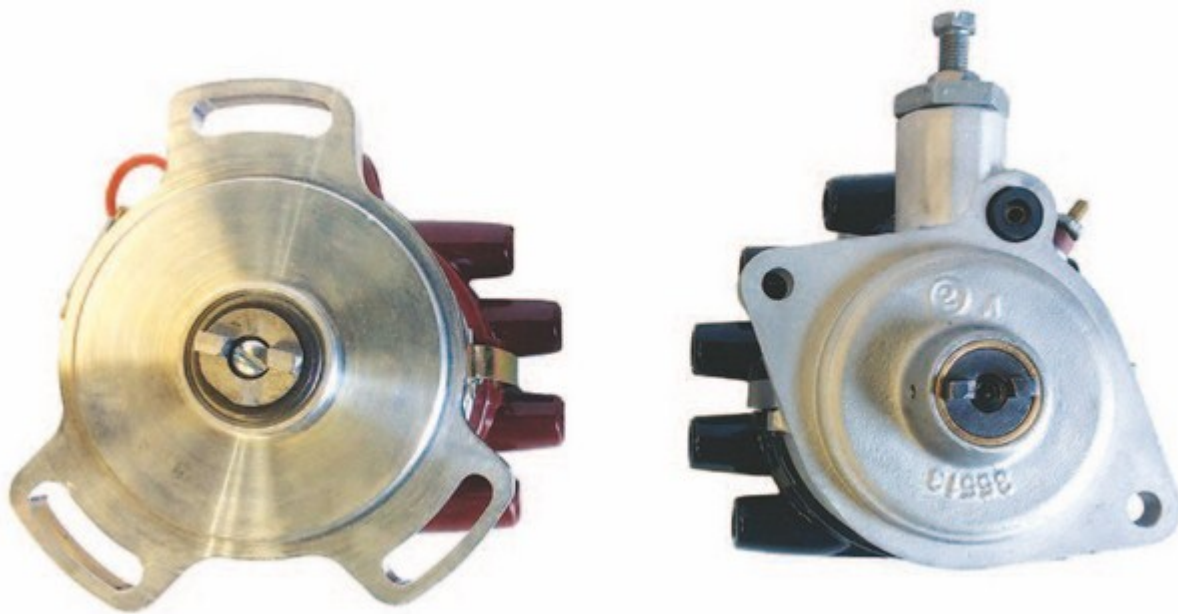
Tattersfield-Baron produced the first viable pop-up piston, cylinder heads, and four-carb intake package for the flathead Ford-Mercury engine. Although not of the pop-up variety, this new cast-aluminum head is available from Baron Racing Equipment



These brand-new Mallory distributors for 1946–1948 flatheads are known as crab style because of the shape of the cap. Since Holley absorbed Mallory, they may no longer be available new. However, you might be able to find them used or NOS.

Distributors

Mallory was absorbed into the MSD group, which was then absorbed into the Holley family. Mallory ignitions are not currently produced, which leaves MSD, Roto-Faze, and original (from the vehicle) as the only distributor options. You can rebuild an original distributor if you want the authentic look. Parts and rebuilt distributors are available from C&G Ford Parts, Dennis Carpenter, Bob Drake, and Mac's. Mallory distributors for 1932–1941 and 1942–1948 engines can be found, but the supply is shrinking as the engines become older, as more people opt for the 1949–1953 version, and as the industry consolidates.



The mounting side of these distributors clearly shows the 1932–1941 three-hole mounting style on the left and the 1942–1948 two-hole style on the right. The three-hole is a modern billet assembly, whereas the two-hole is an original distributor.



Speedway offers adapter plates to mount the later two-bolt distributor to earlier engines, but the later, three-bolt assembly is much longer and could interfere with the fan.



With very few new distributor options for flathead builders, the guys who brought back the Stromberg 97 carburetor are now developing distributors. Both two- and three-bolt versions that combine old-school looks with electronic ignition are expected in mid-2016 (this is a preproduction sample). Timing is adjusted on the side, just like the original Ford 21A distributor. Best of all, the cases are kept as short as possible, so it's easier to package your flathead engine without cutting the firewall.



MSD makes an overly modern-looking billet distributor designed for 1949–1953 8BA engines. Simple and clean, it has only three wires to connect. It has an easy-to-adjust mechanical advance as well as a vacuum advance that can be locked out. Likewise, the mechanical advance assembly can be locked out for a crank-trigger system.



The Roto-Faze distributor is a combination of old and new. It has an old-style cap, albeit blue, and a billet body (that could be massaged to look old). The company is very small, and these distributors are only made to order.



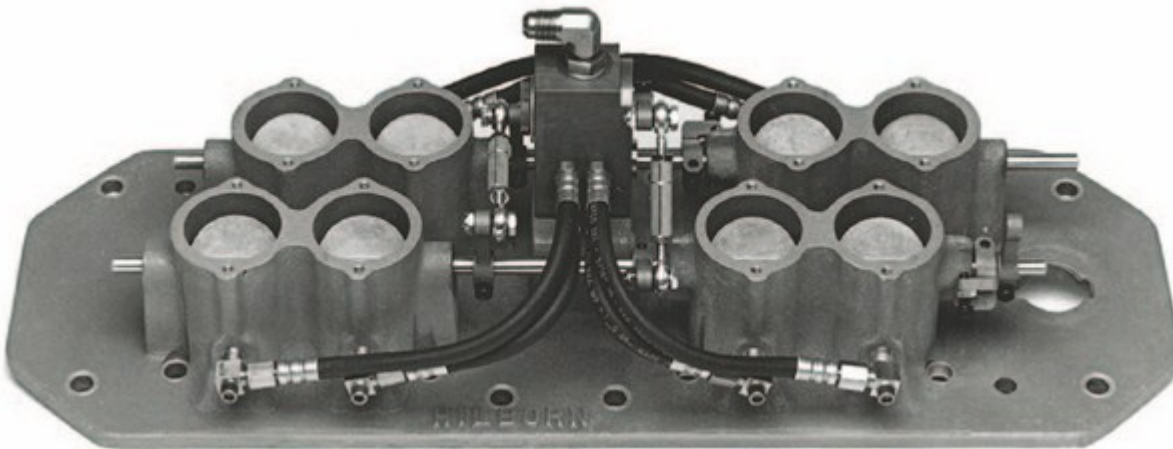
For those who don't like old-style points, an alternative is an Ignitor electronic ignition system from Pertronix. These are generally available with 12-volt negative ground, but some 6-volt negative-ground versions, as well as some 6- and 12-volt positive-ground versions, are available. Also available are 40K-volt coils. Mallory also offers electronic ignition components. (Photo Courtesy Pertronix)



Ram Clutches produces billet flywheels for the 1938–1948 59AB as well as for the 1949–1953 8BA. Other manufacturers include Centerforce, McLeod, and Fidanza. SFI Foundation quality standards apply to flywheels, which means that they must meet certain construction specifications so you should look for the sticker.



McLeod and Fidanza also make aluminum flywheels for the flathead. The reduced weight (about 15 pounds lighter than steel) affords significant performance benefits due to faster throttle response (less inertia) and therefore quicker acceleration. The flywheels also help reduce parasitic driveline losses.



One of the oldest names in fuel injection, Hilborn began by building injectors for flatheads in 1948. It offers two styles of fuel injection: mechanical (shown) and electronic. The electronic division is named Fuel Injection Engineering Co. (Photo Courtesy Hilborn)



Note the SFI sticker, which indicates that this flywheel meets SFI specifications. Initially, SFI stood for SEMA Foundation Inc., but it became a separate organization in 1978. SFI issues and administers quality-assurance standards for specialty performance and racing equipment.

Electronic Ignition

Although it is still possible to rebuild early distributors using a breaker points system, the advent of electronic ignitions offers a more reliable system that fits within a stock distributor cap for that traditional appearance.

Flywheels

Although an abundant supply of stock and aftermarket steel flywheels exists, they are heavy at around 38 pounds. A lightweight 6061 T6 aluminum flywheel from McLeod or Wilcap is a good option, thanks to the replaceable steel friction plate and 1045 steel-hardened ring gear.

Fuel Injection



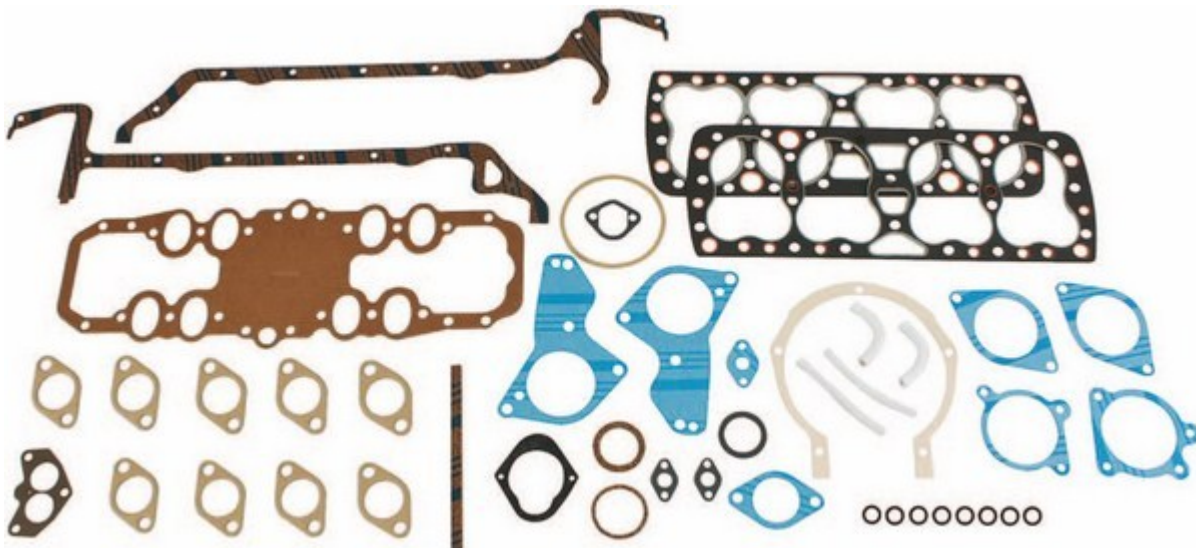
For the street, the EFI version is much more manageable. It has the looks to demand attention, particularly because the flathead has a low profile, so the stacks can add some impressive and much-needed underhood height. Each intake has its own individual stack, runner, and electronically controlled injector. (Photo Courtesy Hilborn)



You don't have a whole lot of choice when it comes to generators; the Powermaster PowerGen is really the only game in town. The generators look original, have a one-wire hookup, and produce 60 amps at idle and 75 at road speed.

In some ways, fuel injection could be historically correct for a flat head; lots of race cars ran it back in the day and it does look cool. However, mechanical setups are difficult to tune for the street, so the best option is an electronic assembly.

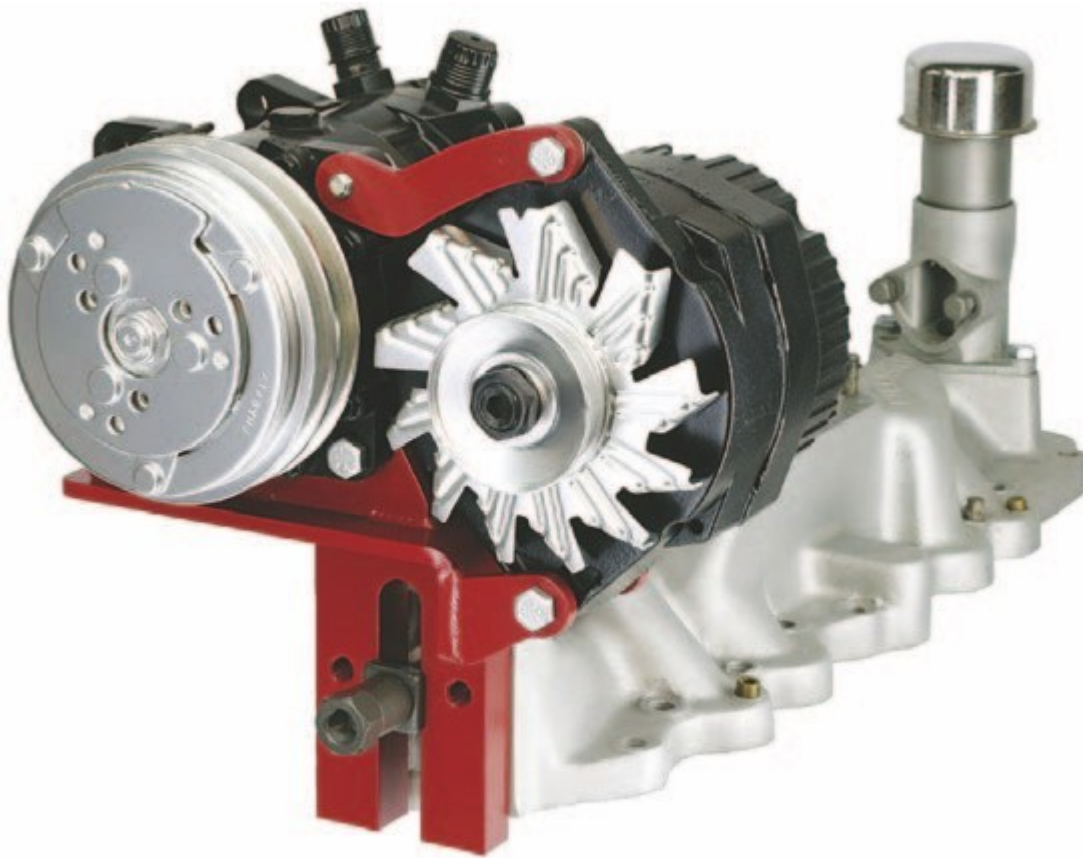
Gaskets



A number of suppliers, including Best Gasket, offer gaskets. They can be purchased as a set (shown) or individually. Head gaskets can be found in various bore sizes, from stock up to .145 oversize.



H&H can supply cast-aluminum Navarro and Sharp brackets for relocating the generator to the right or left. The brackets can be finished in any number of ways, from as-cast to polished. Alternate brackets are available from Edelbrock and Offenhauser.



Alan Grove Components makes a variety of fabricated generator and generator/compressor combo brackets for most 1937-and-up flatheads. (Photo Courtesy Alan Grove Components)



Beautifully formed “center-dump” headers such as these are available from Flowtech. Note that these are for hot rod projects; they don’t usually fit into a stock car with stock wishbones. (Photo Courtesy Holley)



These cast-iron headers from Fenton are designed to fit into most 1937–1948 and 1952–1953 Ford cars with stock steering. They are not ideal for 1949–1951 cars with stock steering, but they do come with gaskets and hardware. (Photo Courtesy Speedway Motors)

You can buy gaskets as sets or individually from a number of suppliers, such as Best Gasket and Fel-Pro. Head gaskets are available in stock or big-bore sizes in solid copper, a copper-graphite sandwich, or a graphite composite called Graph tite, which is a sandwich of Kevlar-reinforced graphite material mechanically bonded to both sides of a perforated steel core.

Best Gasket does not sell direct to consumers, only through retailers. However, it has a great, easy-to-navigate website that lists many individual and gasket sets, and includes everything from the rear main seal rope to a complete gasket set for the 1932–1938 21-stud engine. Even though you can't buy direct, it's a good resource as you discover your engine.

Federal-Mogul is another original equipment supplier that does not sell direct to the consumer. It produces a number of flathead components, but you have to consult the catalog on the website to find the head gaskets. The company sells both standard and large overbore versions.

Victor Reinz is a division of Dana that makes gaskets for flatheads. The gaskets are available through mail-order speed shops such as Jegs.

Generator and Brackets

Brand-new 75-amp (60 amps idle) PowerGen generators are available from Powermaster in either black or polished finish, and they come complete with the integral mounting bracket. Powermaster also has a shorty (5 1/2-inch) generator that can be used to accommodate multi-carb assemblies.

H&H and Bob Drake each offer a large variety of custom-shaped brackets to relocate the generator to either the right or left of center for 1949–1953 engines. Both companies also offer left and right brackets that bolt to the cylinder head for 1937–1948 engines.

Headers

A header is available for every application, beginning with stock type cast headers from suppliers such as Bob Drake. Bob even offers a redesigned, cast-iron manifold with a correctly angled outlet port to eliminate the original crossover pipe.

Tubular-type headers are available from Drake, Fenton, Flowtech/ Hooker (Holley), Hedman Heddners, Honest Charley, Hot Rod Speed & Custom, Mac's Auto Parts, Patrick's, Red's Headers, Sanderson (which makes four different styles), and Speedway Motors. Headers also come from Australian companies such as CAE Performance Products.

Lifters

The stock engine has solid lifters. Even though they can be tricky to adjust, adjustable lifters are a far better option. Manufacturers include Comp Cams, Dennis Carpenter, Bob Drake, H&H, Red's Headers, and Isky.

Intake Manifolds

Both new and used intake manifolds are available. They are cool, but old heads can be more work to refurbish than they are worth. New offerings are available from Navarro, Edelbrock, Eddie Meyer, Offenhauser, Sharp, and Tattersfield.



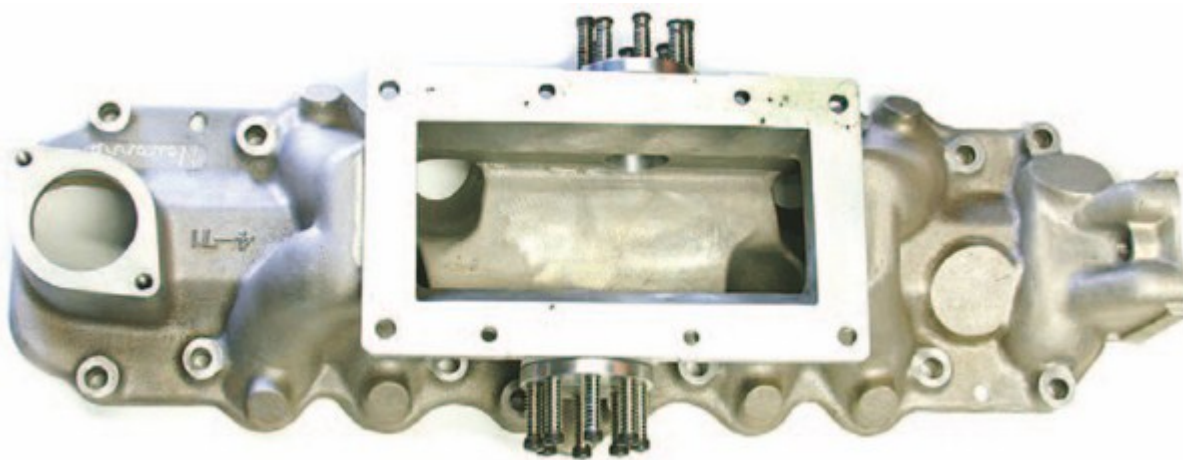
Manufacturers of adjustable lifters include Red's Headers, Comp Cams, Dennis Carpenter, Bob Drake, H&H, and Isky. Those with notches are known as hollow body. They weigh 80 grams each and are tested to 60 HRC on the Rockwell hardness scale.



Vic Edelbrock was there before almost anybody else, and the classic “Made in the United States” Edelbrock 3 x 2 manifold is just one of the company’s many offerings. The manifolds are available for 1938–1953 engines. (Photo Courtesy Edelbrock)



Still cast in Los Angeles, these Offenhauser intakes are available in a number of styles to accept various carb combinations, including a 4-barrel. This one is for 2 x 2s, Holley 94s, or Stromberg 97s.



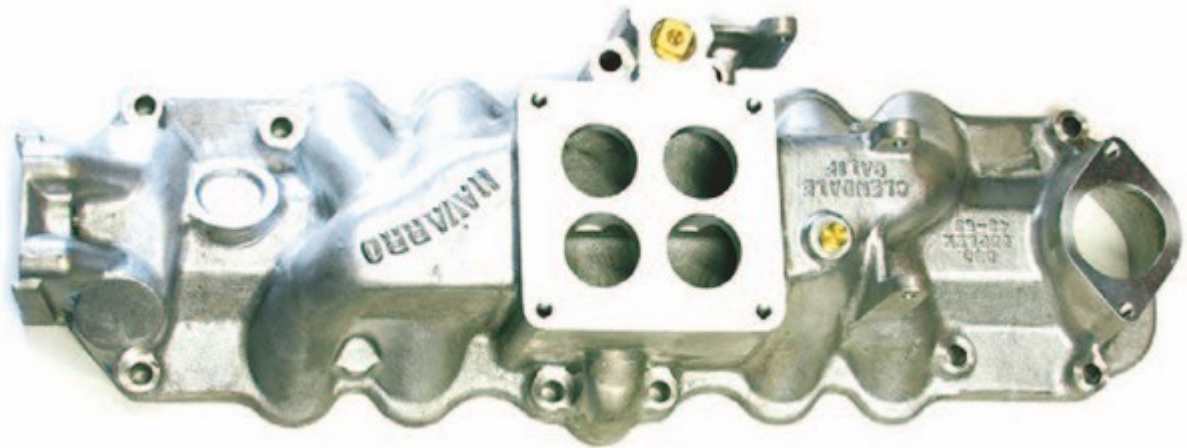
Navarro’s blower intake was designed for the 4-71 GMC blower. With a collar spacer, it can accommodate other types of blowers. It features dual pop-off valves set at 15 psi.



The Navarro Racing Model dual intake features 180-degree event separation and angled runners for even fuel distribution. Incidentally, the intake is made in Los Angeles from Barney Navarro's original mold. It's one of the first he ever made.



Barney developed this 3 x 2 intake from his 2 x 2. It is preferable to use progressive linkage that opens the center carb first. For street applications, you could block off the center carb and just run two, which is what some rodders prefer.



The Navarro 4-barrel manifold for 1938–1953 engines has a heat crossover that goes under the runners

and a unique feature that accommodates the linkage on the driver's or passenger's side of the manifold.



Navarro's Universal 2 x 2 dual intake features 180-degree event separation and angled runners for even fuel distribution. This model incorporates a heat crossover that improves fuel atomization and combustion.

Magneto



Unlike a distributor, a magneto is entirely independent of the battery. Incorporating an internal coil, it generates its own high-tension alternating current. Magnetos are available from Taylor Vertex. On the street, they can cause an engine to run a little hot, so they are used primarily for racing.



Tony Baron makes this nice mains strap kit to beef up the lower end. It bolts to the central mains cap. However, the block must be drilled and tapped to accept the strap, and the oil pan needs extensive modification to accommodate the additional side rails.



H&H produces these sturdy mains caps, precision milled from billet steel for applications beyond street. They come complete with the corresponding ARP hardware and replace the existing mains caps.

A simple and efficient magneto gives a nod to the flathead's racing heritage while providing a strong spark. Vintage items are available from manufacturers such as Kong and Harman-Collins. However, finding a rebuilder is increasingly difficult.

Mains Cap Strap

If you're building any kind of high-performance flathead, beefing up the bottom end is essential. The block does not have enough meat for four-bolt mains, but you can incorporate billet mains caps and a strap that ties the caps and the pail rail together for added rigidity. The pan needs some modification though.

Oil Filter

In most cases, the flathead did not come with an oil filtration system; it wasn't even an option until 1940. When Ford did introduce an oil filter, it was the bypass style, which meant that only a portion of the oil was filtered. Many builders don't see the need for one, but if it's on your wish list, kits are available from Bob Drake. Drake's is a rather modern-looking assembly (it bolts to the original heads, not finned aluminum heads) with a billet holder for the filter. For a vintage-looking assembly, check the Speedway Motors/Offenhauser beehive-style filter. Another modern-looking remote kit is available from R&L Engines, while a re-creation of the old Hildebrandt beehive-style filter is available from

O'Brien Truckers.



Several remote oil filter assemblies are available and in the right vehicle they can enhance the appearance while keeping the oil clean and cool. This polished cast-aluminum Hildebrandt filter house is from O'Brien Truckers.

Oil Pump and Pickup Tube

Melling and Federal-Mogul/ Sealed Power are really the only two sources for oil pumps. Melling pumps are known worldwide for their accuracy and quality, and the company's brand-new replacement oil pumps are manufactured from high-quality steel. They feature all-new components and are individually hand-turned and pressure tested to guarantee that they'll perform like the originals. They are available in either standard or high-volume (HV); HV models pump 25 percent more oil. The 1949–1953 HV pump measures 5 1/2 inches from the mount surface to the bottom of the pump and is 1 1/4 inches longer than the standard pump. Consequently, the bottom of the pan will likely require modification to accept this additional depth. If this pump is to be used in a 1948 or older block, you also need Melling pickup tube PN 910-16259.



The flathead has an archaic oiling system and typically no filter, so it makes sense to have a good pump. The Melling pump fits all engines, from 1932 to 1953. A 25-percent-higher-volume pump is also available. However, it is 1 1/4 inches longer than stock and some modification to the pan might be necessary for installation.



The oil pump pickup tube/ filter assembly is designed for 1932–1947 car oil pans and for 1932–1953 truck oil pans. If this is all you can obtain for a later car, you might have to change pans to accommodate it.



A wide variety of pistons are available in a variety of sizes. On the left is a Ross forged piston; on the right is a heat-treated, cast-aluminum piston from Egge. The choice is yours, depending upon your application. Cast pistons are fine for street.

You may be able to salvage the oil pickup tube that came with your engine, because not all oil pickups are the same. The only new pickup tubes available are direct replacements in 1932–1947 car oil pans and 1932–1953 truck oil pans.

Pistons and Rings

Pistons are available from a number of manufacturers. Mahle has an easily navigable website, and it doesn't take long to find the flathead offerings in the "Racing Components" catalog. Mahle offers pistons for bore sizes of 3.312, 3.342, and 3.375 with strokes of 4.000, 4.125, and 4.250 inches. All pistons come with rings.

Ross Pistons also has an easy-to-use website with quite a selection of pistons for both Ford and Mercury in bore sizes varying from 3.312 to 3.375 and strokes between 3.375 and 4.125 inches.

Scat manufactures forged aluminum pistons in a variety of sizes, from 3.312 to 3.375 diameters and in 4.000, 4.125, and 4.250-inch strokes. All options can easily be found on the website.



The balance machining is done just inside the skirt on both of these pistons (Ross, left; Egge, right). Both are three-ring pistons for less drag; Egge also offers a four-ring option.

Plugs and Plug Wires

Choosing plugs for your rebuilt flathead might necessitate some trial and error as you break in the engine and ascertain what heat range is suitable for your location and driving style. You might need long-reach plugs for late Edelbrock and similar aluminum heads. They are available from Champion.

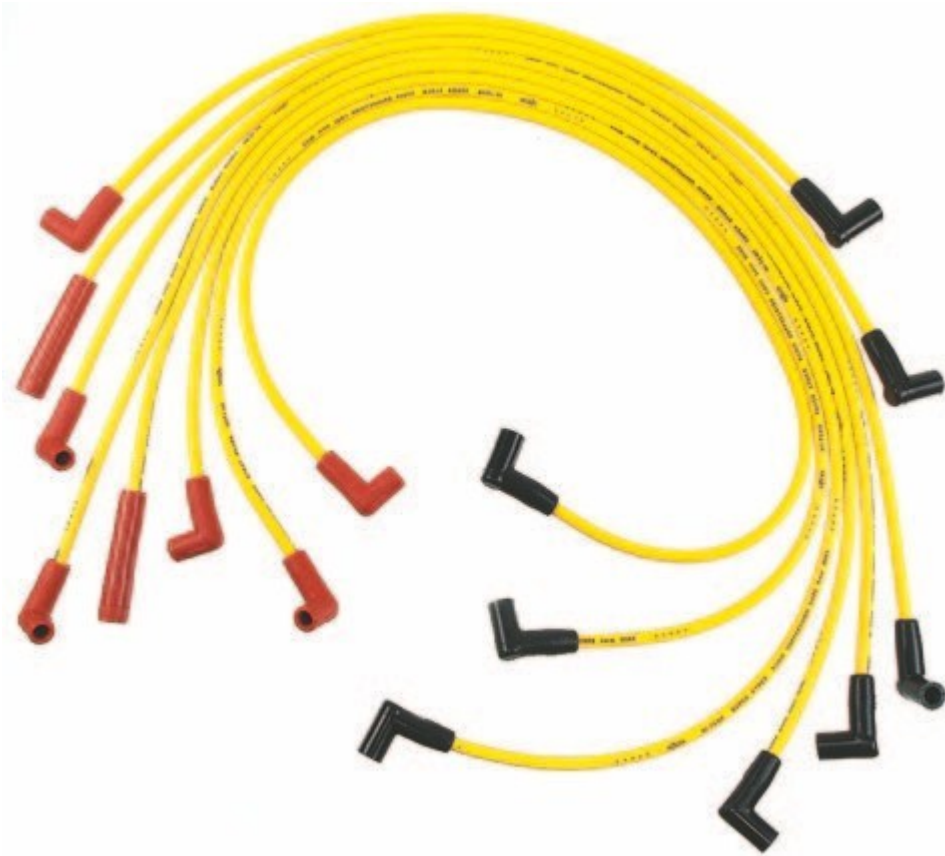
You have many choices for plug wires: everything from the original, cloth-covered style to high-tech options. If yellow is your choice, Accel (part of the MSD group) makes a 7-mm wire set with red caps. Wires are also available from Mallory, Moon, and Taylor; original-type plug wires cut to length, with original-style ends, are available from Bob Drake.



Champion offers plugs (H-10), as do NGK (B-6L) and Autolite (216, Mike's preference). Plug sizes varied throughout the flathead's life: In 1932 they measured 7/8 inch; from 1933 to 1937 they measured 18 mm; from 1938 to 1953 they measured 14 mm.



Taylor produces an 8-mm Pro Series plug wire set with modern-looking cast, right-angled boots. They are available in a multitude of colors.



Accel offers its signature 4000 Series yellow silicone-jacket spiral copper-core 7-mm plug wires with universal 90-degree red/black boots (also available in other colors). (Photos Courtesy Accel)



Bob Drake produces these vintage-looking, cloth-covered wires in a variety of authentic colors, such as red/black and yellow/black, for that period-correct look. Even the black boots look period correct.

Rebuild Kits

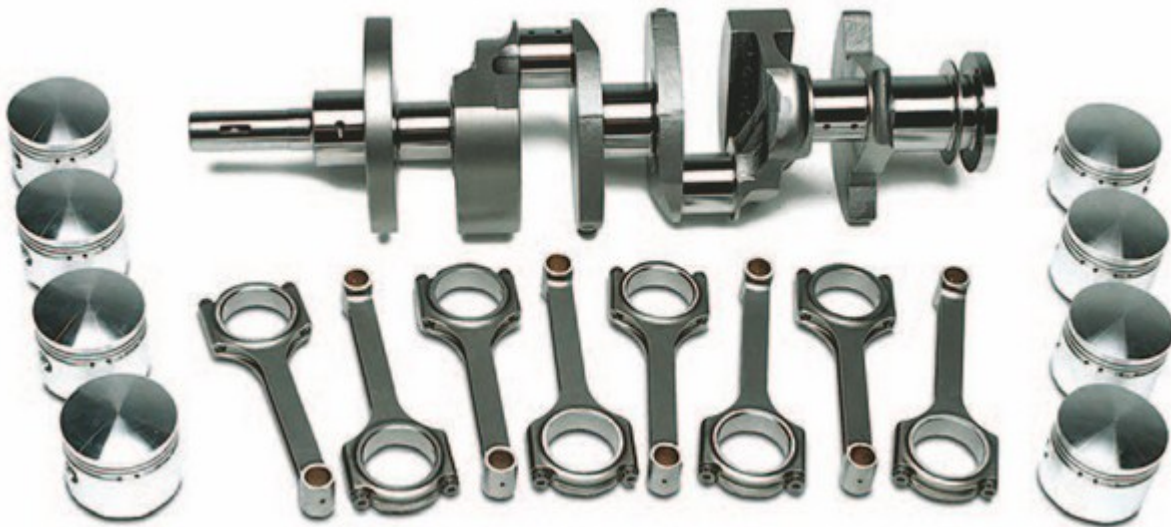
Many companies, including Falcon Performance, Kanters, Egge, H&H, and Northern Auto Parts, sell rebuild kits. These kits include all of the essentials, including pistons, rings, cam and bearings, gaskets, oil pump, cam, lifters, valves, guides, and springs. Kanters offers three kit levels: basic, master, and deluxe.



One of the companies supplying rebuild kits for the 1949–1953 flathead is Northern Auto Parts. Its Master kit includes Federal Mogul stock-style pistons, Sealed Power stock-style piston rings, Federal Mogul stock-style rod and main bearings, Durabond stock-style cam bearings, a Melling stock-style oil pump, and a Fel-Pro stock-style gasket set. All for a little more than \$600. (Photo Courtesy Northern Auto Parts)



The Big Dog kit from March Performance Pulleys includes a unique center-mounted, remote power steering pump that not only provides power for your steering but also acts as an easy belt-tensioning mechanism. The kit includes all mounting hardware, two water pumps with either 45- or 90-degree motor mounts, and powder-coated pulleys in a variety of finishes. Billet generators (105- or 140-amp) are optional. (Photo Courtesy March Pulleys)



If you want to do less research and less mixing and matching, opt for one of Scat's rotating assemblies.

They include a Series 98000 Scat pro comp crank, Pro Sport H-beam connecting rods with 7/26-inch cap screws, forged pistons, rings, and rod and main bearings, all balanced ready to go. (Photo Courtesy Scat)

Rotating Assemblies



Unless you are very lucky or purchase a French block, any old flathead you find is probably going to need a sleeve or two (or more). It's a fact of life. These are no-flange sleeves from H&H.



Powermaster produces two lightweight, 200 ft-lb XS Torque starter motors: one for the 1932–1952

models and another specifically for the French blocks. Both are available with either plain or chrome finish. Early Ford V-8 Sales in South Carolina also makes a starter.

A rotating assembly, available from a supplier such as Scat, comprises the crank, rods, piston assemblies, and more often than not the rod and main bearings. A matched set of parts can be a good way to go.

Serpentine Belt Systems

There is something to be said for the reliability and efficiency of a serpentine belt system, but it's not everybody's choice for a traditional hot rod engine. March's 1949–1953 serpentine belt system offers no-slip reliability and includes all mounting hardware, two water pumps with either 45- or 90-degree motor mounts, and powder-coated pulleys in a variety of finishes. Either 105- or 140-amp billet generators are optional.

Sleeves

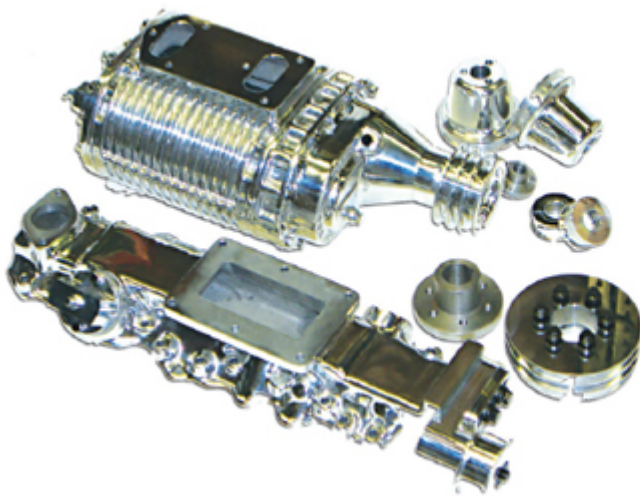
A number of options are available when it comes to sleeves. Your machine shop probably has a supplier, but they are also available from Los Angeles Sleeve and Melling, as well as suppliers such as Dennis Carpenter, H&H, and Speedway.

Starters

Unfortunately, you don't have a whole lot of options in the starter category. You can either have your original factory starter rebuilt and paint it or dress it up with an accessory cover, or you can opt for a new stock or compact Powermaster unit.

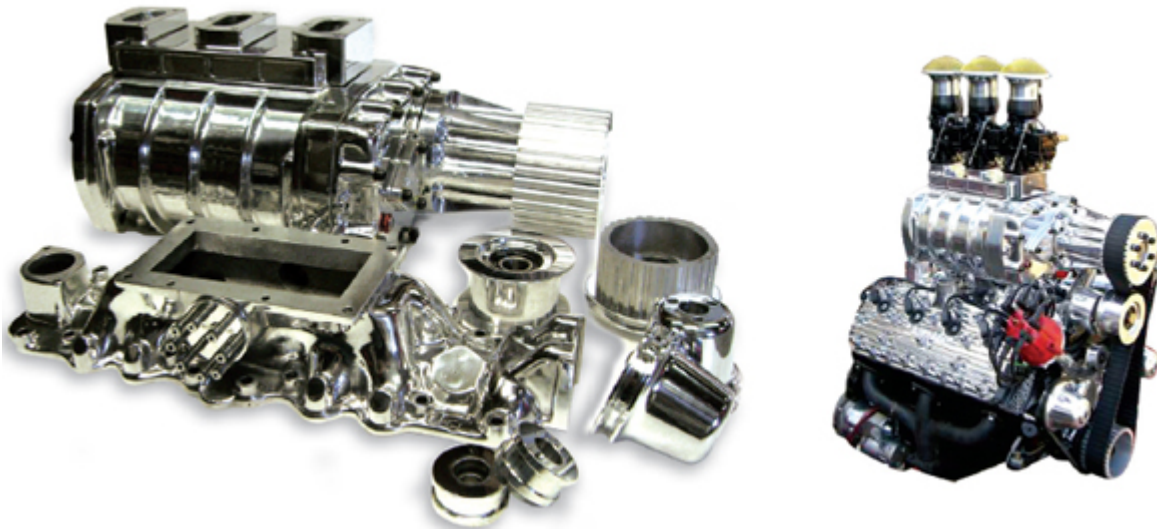
Superchargers

The flathead can have a visually low silhouette. Therefore, it can benefit from the visual impact of being blown. H&H offers two blower kits. The Navarro blower kit, based on Barney Navarro's original setup, employs a GMC 4-71 Roots-type Gilmer belt-driven supercharger and comes complete with manifold pulleys, belt tensioner, blower snout, and a three-carb intake manifold. Also available is a kit with a faithful reproduction of the SCoT (Supercharger Company of Turin) blower. The V-belt-driven blower kit includes everything needed for installation.



This faithful re-creation of the historic SCoT blower features brand-new castings and all-new internals for a modern blower with traditional looks. The kit comes with intake manifold, crank pulley, tensioner,

and water pump pulleys. It's designed to mount two carburetors.



The 4-71 GMC kit from Navarro. The blower, made by H&H (which owns Navarro), comes completely polished and includes the intake manifold, water pump pulleys, crank pulley, Gilmer belt tensioner, generator belt tensioners, short blower snout, and a 3 x 2 carburetor intake manifold.

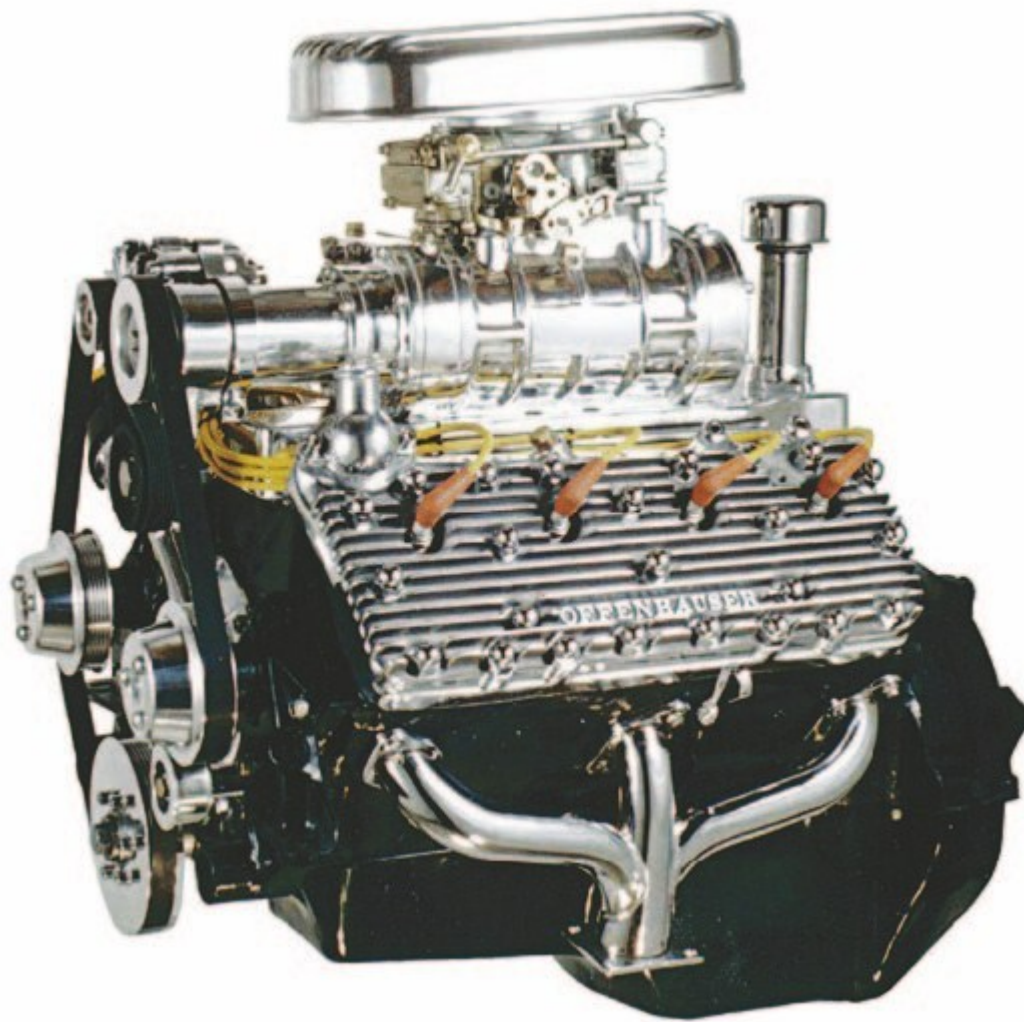
Timing cover

If your old timing cover is not serviceable, you can buy a new one from several sources, including TR Designs.

Tools

A few special tools make rebuilding the flathead easier. Manley offers a valve spring chamfering tool, Mac's has a nice stud extractor, and Van Pelt Sales has some necessary tools for both sale and rent.

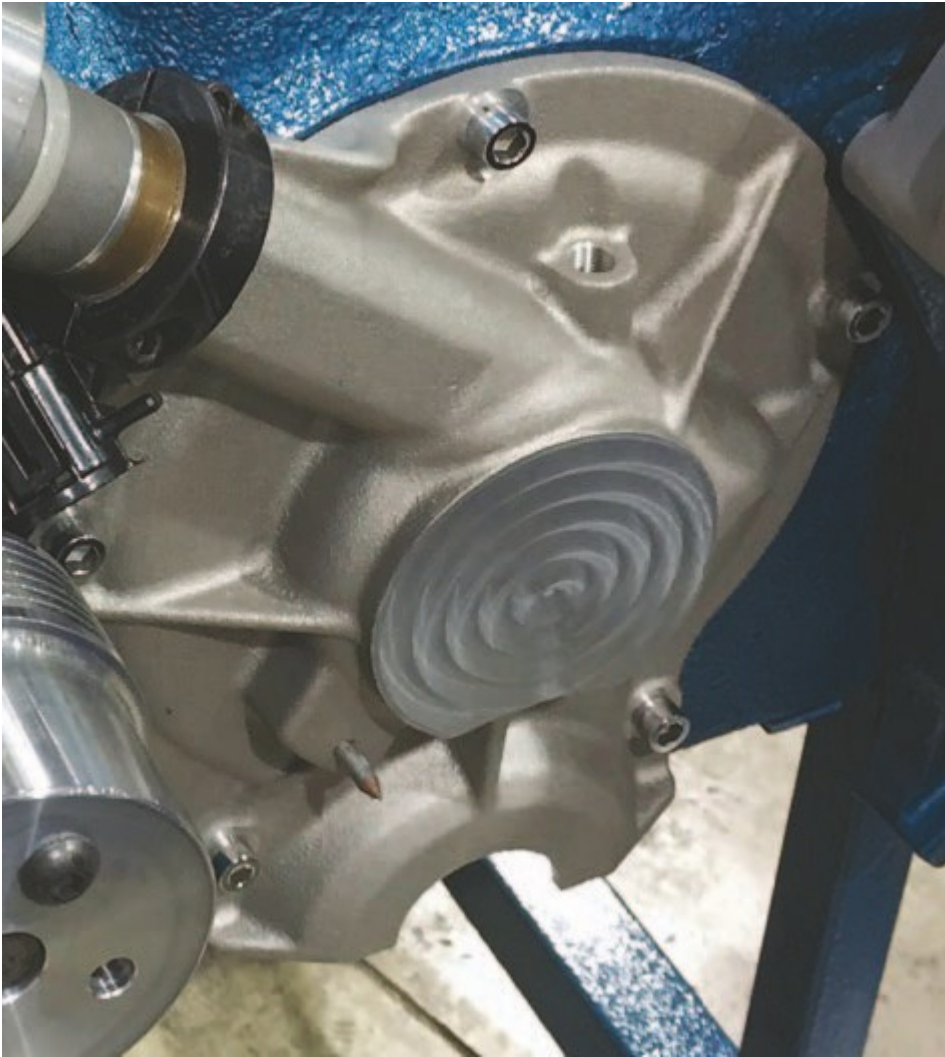
Valve seats



Roadrunner Engineering offers supercharger kits. Based on Weiland/Holley 142 or 174 Roots-type superchargers, the 1949–1953 kits (shown) use serpentine belts and the 1938–1948 Nostalgia kits use V-belts. (Photo Courtesy Roadrunner Engineering)



TR Designs developed its kit around the Magnuson supercharger and a serpentine belt system. The kit is comprehensive and includes water pumps and a new cast-aluminum timing cover. An intercooler is available separately. (Photo Courtesy TR Designs)



This cast-aluminum front cover from Tom Roberts/TR Designs is made to fit both 59A and 8BA engines. It can be used to convert the 59A to the later, more vertical 8BA distributor, if you use the later cam. Also available is the camshaft gear drive hub for the 59A.



A few special tools make rebuilding a flathead easier (see Chapter 2). For example, Manley offers a valvespring chamfering tool, a rod bolt stretch gauge, and assembly lube. Bob Drake sells a number of specialty tools, including the important valveguide removal/installation tool (shown).

As described in Chapter 6, flathead Ford V-8 valve seats can be non-existent in a badly used engine. It is highly recommend that you replace all 16, unless you are on a very tight budget.



Hardened valveseats are a must with today's unleaded fuel. They are available from SB International. However, because of the necessary block machining, this is really a machine shop installation.



Speedway offers completely new water pumps for 1949–1953 engines in both cast iron and polished aluminum. They feature severe-duty roller and ball bearings, close tolerances, and modular impellers to provide maximum flow and reduce cavitation. They also have modern ceramic seals on a heavy-duty 3/4-inch shaft, making the assembly exceptionally strong and efficient. They are designed to work with 5/8-inch belt-drive systems.

Valvetrain

Valves, after many years of use and combustion abuse, can be totally shot. If you're building any kind of decent engine, a complete set of new stainless steel valves is mandatory.

Water Necks

Depending up the state of your engine, the water necks can be serviceable, broken, or corroded. A good selection for all sorts of configurations is available from H&H, Offenhauser, and Speedway.

Water Pumps

You don't have many choices when it comes to water pumps because they are engine specific; you need the right pump for the right block. Depending upon the year of your engine, new cast-iron and even polished aluminum pumps are available from Bob Drake and Speedway.



Manley Performance supplies stainless-steel valves in either the Budget Performance category or the Pro Flo high-performance series (for a little extra). The valves have chrome stems and hardened tips.



Bob Drake makes new cast-iron pumps that match the originals. Their all-new double-row ball bearings and ceramic seals offer superior function and life span compared to stock units. They come fitted with original-style pulleys to accept either 3/8-inch or 5/8-inch belts. Gaskets are included.



Manley Performance supplies stainless-steel valves in either the Budget Performance category or the Pro Flo high-performance series (for a little extra). The valves have chrome stems and hardened tips.