

SHOP TIPS

Autolite



VOL. 7, NO. 12

AUGUST, 1969



BOSS 302 & BOSS 429 MUSTANGS



Technical parts and service information published by the Autolite-Ford Parts Division and distributed by Ford and Lincoln-Mercury dealers to assist servicemen in Service Stations, Independent Garages and Fleets.

ALL ABOUT THE "BOSS 302", PLUS... BLUEPRINTING SPECIFICATIONS AND STRIP TIPS FOR THE "BOSS 429!"

ALSO IN THIS ISSUE—HOW YOU CAN BECOME A "MUSCLE PARTS" HEADQUARTERS.

SEE SPECIAL INSERT—Up to 20% Savings on Autolite Filters!

PERFORMANCE CORNER



BOSS 302...

IN THIS ISSUE

PERFORMANCE CORNER

Boss 302... Engine and Chassis Features, Options 2-5

Boss 429... Engine and Chassis Features, Specifications, Options, "Strip Tips for Quick Trippers"... 6-11

MUSCLE PARTS PROFITS

Muscle Parts Catalog, Promotion Materials, Parts Ordering 12-13

TECHNICAL SERVICE BRIEFS

Timely Tips for the Service Bay 14-15

REMANUFACTURED

FORD PARTS

Brake Linings, Wheel Cylinder Repair Kits ... 16

FILTER FREE FOR ALL

... SPECIAL INSERT

Specials on Oil, Air and Fuel Filters

Be sure and file this and future bulletins for ready reference. If you have any suggestions for additional information that you would like to see included in this publication, please write to: Autolite-Ford Parts Division of Ford Motor Company, Merchandising Services Dept., P.O. Box 3000, Livonia, Michigan 48151.

The descriptions and specifications contained in this book were in effect at the time the publication was approved for printing. The Ford Motor Company, whose policy is one of continuous improvement, reserves the right to discontinue models at any time, or to change specifications or design without notice and without incurring obligation.



COPYRIGHT © 1969 FORD MOTOR COMPANY
DEARBORN, MICHIGAN

VOL. 69 MSD 70 LITHO IN U.S.A.



The "Boss 302" Mustang is on the road and ready to drop in on you for service. Based on the Trans-Am racing version of the Mustang Sports Roof model, the Boss 302 was designed as an integral street/track racing package.

ENGINE

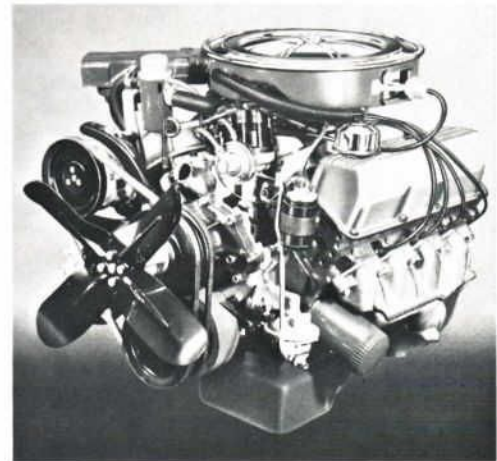


Figure 1—Boss 302 Engine

The special version of the production 302 engine used in the Boss 302 is the same engine that is classed as a 5-litre F.I.A. "formula" engine. The major difference between this engine and a stock 302 is the addition of specially-designed cylinder heads featuring canted valves and high-turbulence combustion chambers. The chambers are called "advanced-wedge" design, because of their resemblance to the famous "wedge" design used in the racing "427" engine. The canted valves allow larger valve heads, larger cylinder head ports, and give a more straight-line flow of gases in and out of the cylinder.

NEW "MUSCLE MUSTANG" FROM FORD

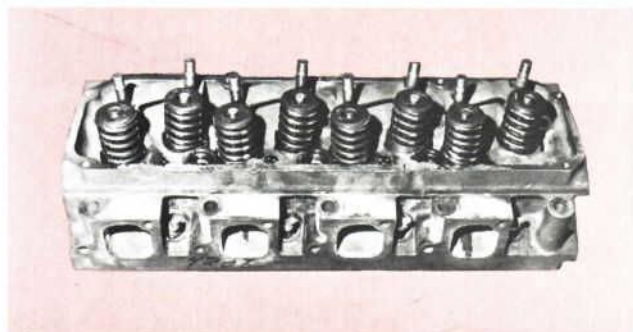


Figure 2—New Cylinder Head with "Canted" Valves

THE CAMSHAFT is a mechanical type having a duration of 290° for both intake and exhaust, with an overlap of 58° . Lobe lift of the stock camshaft is $.290''$, which—with a valve lash of $0.025''$ —gives an actual valve lift of $.477''$.

THE CRANKSHAFT is of forged steel, for extra rigidity and strength. It is balanced both statically and dynamically, with all the rods and pistons in place. To withstand severe high speed stress, the oversize forged bearing caps use four bolts instead of the customary two, on the intermediate caps.

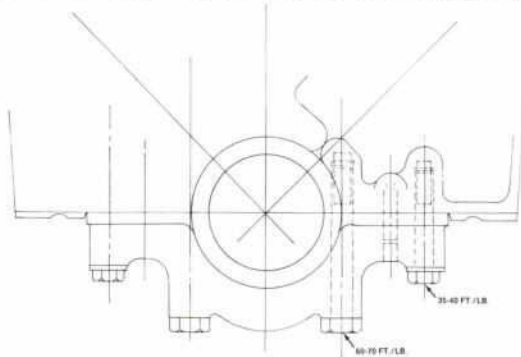


Figure 3—New Four-Bolt Main Bearing Caps

Because the four bolts used on the bearing caps are two sizes ($\frac{7}{16}''$ inboard bolts, and $\frac{3}{8}''$ outboard bolts) they have different torque specs. The $\frac{7}{16}''$ bolts should be torqued to 60-70#, and the $\frac{3}{8}''$ bolts should be torqued to 35-40#. See Figure 3.

CONNECTING RODS are the same type used in the High Performance 289—forged steel for high load-carrying characteristics.

Connecting rod bolts are larger than the stock 302 ($\frac{3}{8}''$ as compared to $\frac{5}{16}''$) and the rods are spot-faced for the bolts instead of being broached.

PISTONS are the extruded, pop-up type that give a maximum compression ratio of 11:1 (nominal 10.5:1). Super premium fuel is recommended with this engine.

THE IGNITION SYSTEM uses an entirely new dual-point distributor. This distributor features dual-diaphragm vacuum/centrifugal advance, and has a concentric-pivot breaker plate.



Figure 4—New Dual-Point, Dual-Advance Distributor

SPARK PLUGS are Autolite AF-32s, gapped at $0.028''$ - $0.032''$. This set-up is good for all-around street and light strip use. For hotter strip use, go to a colder plug such as the AF-12 or AF-22. This will keep you in the Autolite Power Tip plugs, but will allow some strip running. For all-out strip use, use AF-1 or AF-2—a non-power-tip type plug that will give you all-out capabilities.

CARBURETION is furnished through a monster 780 cfm Holley carburetor and a cast aluminum high-rise manifold. This gives good fuel/air distribution to the new cylinder heads, and provides ample breathing for both high and low rpm.

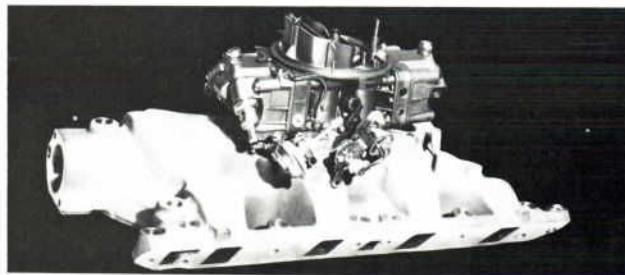


Figure 5—Holley Carburetor and High Rise Manifold

LUBRICATION is based on a high-pressure oil pump delivering over 75 pounds pressure at the pump. The oil pan features a "windage baffle"—a shroud that shields the oil in the sump from the crankshaft windage blast—and an anti-surge baffle that assures oil pick-up under all acceleration conditions.

AND TO PROTECT THE ENGINE . . . Ford has introduced an Electronic RPM Limiter. This device is connected into the ignition system at the distributor, and is designed to short out cylinders at random as the engine reaches 6150 rpm. This shorting out of cylinders limits engine rpm smoothly, and without throwing undue strain on the engine. This prevents an inadvertent overspeed condition that could cause damage to the engine.

PERFORMANCE CORNER



BOSS 302...

DRIVE LINE

THE HIGH PERFORMANCE CLUTCH is a centrifugal type, employing a woven asbestos facing .125" thick. The disc is damped with torsionally-mounted springs, in the conventional manner. Pressure plate springs exert an 1162-pound force when engaged, thus allowing positive drive of the clutch disc.

THE 4-SPEED TRANSMISSION is Ford's close-ratio box with fairly "long" ratios (1st—2.78:1, 2nd—1.93:1, 3rd—1.36:1, 4th—direct). Optional ratios are a bit shorter. (1st—2.32:1, 2nd—1.69:1, 3rd—1.29:1, 4th—direct) for the man who wants to wind up a little faster through the gears. Standard reverse ratio is 2.78:1, while the optional gearing furnishes a 2.32:1 ratio.

REAR AXLE RATIO with the standard package is 3.50:1, with a hefty 9" ring gear set-up. It features Ford's unique straddle-mounted pinion for extra duty, and has a 31-spline shaft.

Also available for the Boss 302 is the Traction-Lok rear end, offering ratios of 3.50:1, 3.91:1, and 4.30:1. This provides a wider range of final ratios and more traction for the 302, helping to get all the power down to the ground.

SUSPENSION

THE FRONT SUSPENSION is composed of high-rate (350 lb./in.) springs, direct acting Gabriel shock absorbers, and a special steel stabilizer bar which features specially calibrated rubber mounts. This stabilizer helps prevent side-sway and diving under cornering conditions.

THE REAR SUSPENSION is Hotchkiss type, featuring leaf springs (150 lb./in.) and staggered Gabriel shock absorbers with pistons over 1" in diameter. The staggered shock absorber arrangement (see September 1968 Shop Tips) is designed to restrain or "damp out" excessive wheel hop during full-throttle starts.

BRAKES

FRONT BRAKES are floating caliper disc-type units, with ventilated cast iron discs. The ventilated cast-iron disc provides exceptional cooling and water dissipation, in addition to increased fade resistance, even after repeated stops. Ease of servicing disc brakes make them ideal for sportsman drivers, while providing maximum braking power.

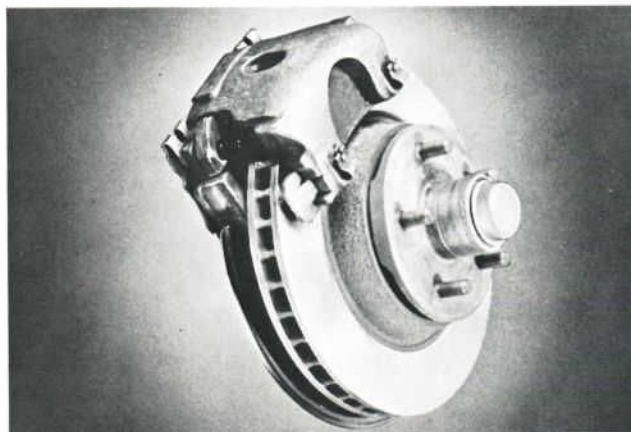


Figure 6—Front Disc Brakes

REAR BRAKES are conventional drum type, with 10-inch drums and single wheel cylinders. Effective lining area with this set-up is 146 square inches. The rear brakes—like the front disc brakes—are self-adjusting. Adjustment takes place when brakes are applied while backing up.

THE MASTER CYLINDER is powered through a dual-diaphragm booster which helps reduce system reaction time for faster braking control. Power to the front and rear brakes is split in a ratio of 65% front and 35% rear, for more straight-line braking.

WHEELS AND TIRES

WHEELS are stamped steel, deep dish, "MAGNUM 500" models, featuring a wide-base, drop-center safety design. Size of the wheels is 15" diameter, with a 7" wide rim. The finish of the standard wheels (shown) is Argent, with bright chrome trim rings. Optional wheels are the same dimensions, but are fully chrome-plated.



Figure 7—"Magnum 500" Wheel and Fiberglass Belted Tire

TIRES are F60 x 15 Super Wide Oval type, with a tread construction of 4 plies (2 fiberglass and 2 polyester) and a sidewall construction of 2 plies of polyester. The cords are

NEW "MUSCLE MUSTANG" FROM FORD

Continued

bias wound, giving a semi-radial configuration. The tires also feature white raised letters on the sidewall. Tires should be rotated regularly, dependent on vehicle usage and/or signs of uneven wear.

NOTE: When changing tires or wheels on the BOSS 302, use caution so not to damage the argent or chrome-plate finish on the wheels and lug-nuts that are standard equipment on these models.

EXTERIOR

SPOILERS

In recent years, it has become common to see airfoil shapes and spoilers on race cars of all descriptions, from flipped-up rear decks on road racing coupes to full-size wings on grand prix racers. The reasoning behind this aerodynamic leaning is that as speed increases, so does the effect of the surrounding air on the vehicle. Because of the speed, certain aerodynamic principles apply to fast-moving vehicles.

LIFT is created by the wing-like shape of the top of the car as the vehicle picks up speed. High wind speeds under the vehicle tend to cause *drag* by creating a partial vacuum at the back of the car as the wind exits. This tends to give the vehicle lightness on the road as speed increases. It also causes the engine to work harder to overcome drag on the tail of the vehicle.

THE BOSS 302 spoilers are designed to partially overcome these "speed stoppers," and to lend more high speed maneuverability to the car.

THE FRONT SPOILER is mounted just under the front bumper. Its job is to break up (or add turbulence to) the smooth flow of air under the car. In this way, the air pressure under the car stays low, and lift and drag are decreased.

THE REAR SPOILER has an inverted airfoil shape, which tends to apply pressure in a downward direction to the rear of the vehicle.

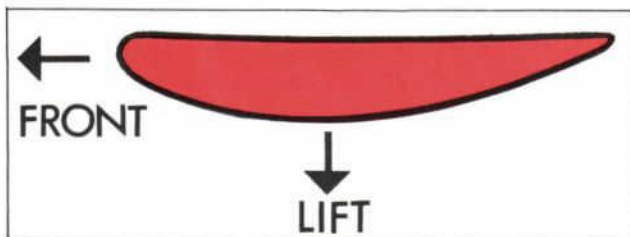


Figure 8—Cross-Section of Rear Spoiler

SPORTS SLATS are an option that—although they do nothing for performance—provide that longed-for comfort for rear seat passengers during sunny days. (Dual mirrors are a mandatory option with the Sports Slats.)

The slats are constructed in such a way that they provide maximum rear seat comfort and minimum vision obstruction for the driver. They are hinged so that the rear glass can be cleaned. The entire assembly lifts off the glass, and is secured in position by two spring clips.



Figure 9—Sports Slats for the Boss 302

COLOR AND TRIM

EXTERIOR COLOR COMBINATIONS for the Boss 302 are based upon utility and performance image. Most prominent is the use of "racing black"—a non-glare finish—contrasting with the high-gloss finish. Racing black is used on the hood, surrounding the headlights, surrounding the tail lights, and on both front and rear spoilers. In addition, it is used on a unique "C" stripe on the sides of the Boss 302.



Figure 10—Boss 302 Interior with Options

INTERIOR TRIM COMBINATIONS allow a full selection of luxury appointments to go with the unique exterior styling. From the optional high-backed bucket seats trimmed in cool "Comfortweave" knitted vinyl down to the standard luxury nylon carpeting, the Boss offers a choice of interiors that's unique in the performance field. With the deluxe interior decor group, simulated teakwood applique trims the instrument panel and optional console, as well as the sports-styled "Rim-Blow" steering wheel.

PERFORMANCE CORNER

BOSS 429



For those who want the ultimate "Muscle Car," Ford offers the Boss 429. It's all "Boss," from the all-new Boss 429 engine to the fiberglass belted super-wide tires.

THE ENGINE AND DRIVE LINE

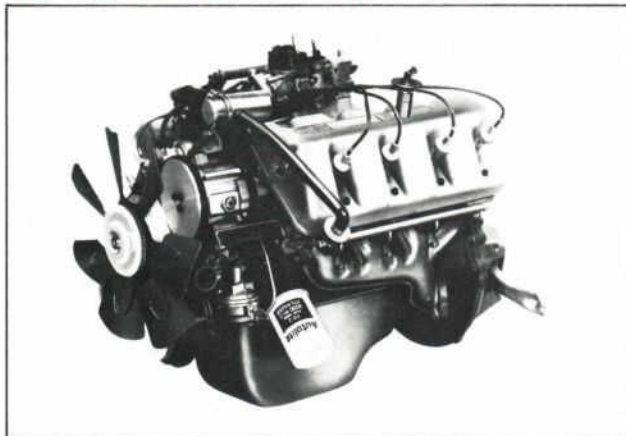


Figure 1—Boss 429 Engine

The Boss 429 engine puts out 370 horsepower, and over 400 foot/pounds of torque. Behind this new engine are a few "secrets" that make it the contender of the year for the "mean machine" award.

NEW ALUMINUM HEADS are one of the big secrets of the 429's power. Extremely large, round, free flowing ports match up with a flow-meter-developed high-riser intake manifold, and with smoothly contoured exhaust manifolds. The valves in the crescent curve of the heads are exceptionally large and placed transversely so that the intake valves are nearest the intake manifold and conversely the exhaust valves are closer to the header side of the engine.

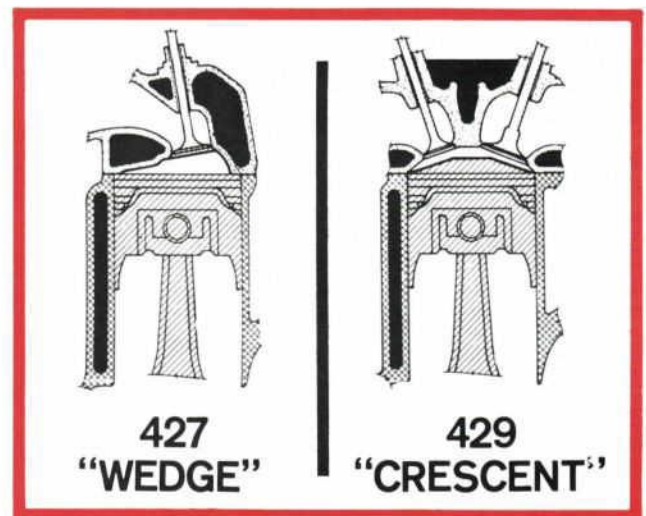


Figure 2—Combustion Chamber Configuration

By staggering the valves in this manner, there is substantial spacing between exhaust valves, thus eliminating hotspot areas. A sophisticated chrome-molly/cobalt-steel alloy is used for the valve seat inserts in the aluminum head. They are shrink-fitted into the cylinder heads, forming a permanent bond. The inserts have exceptional durability and resistance to warpage.

A COLD-AIR PACKAGE is used on the Boss 429 engine, to provide direct intake of outside air to the engine. This set-up is similar to that used on Cobra Jet models, except that the door in the air cleaner is controlled by the driver, rather than by engine vacuum.

THE HOLLEY CARBURETOR is a 735 cfm model, and features replaceable primary and secondary jets.

FEATURES AND SPECIFICATIONS

IGNITION is by a new dual-point, dual-advance distributor with concentric advance plate. This provides maximum spark to the new, smaller Autolite AF-32 spark plugs that are used as stock equipment.

THE BOSS 429 DRIVE LINE is basically similar to that used on the Boss 302—high-performance clutch and pressure plate driving through the Ford full-synchro 4-speed transmission. Gear ratios on the Boss 429 are the same as the optional Boss 302 gears (1st—2.32:1, 2nd—1.69:1, 3rd—1.29:1, 4th—direct, and reverse—2.32:1).

THE REAR AXLE for the Boss 429 incorporates the "Traction-Lok" feature as standard equipment, with ratios available from 3.50:1 to a low 4.30:1. The standard ratio is 3.91:1.

SUSPENSION features ultra-heavy-duty Gabriel front and rear shock absorbers, with the rear shocks in the staggered configuration to reduce wheel hop on full throttle starts. In addition, the Boss 429 features both front and rear stabilizer bars to damp out pitch and roll on cornering.

BRAKES are the same as on the Boss 302—disc front and drum rear. Rear brakes feature high-performance, low-fade linings for maximum control.

TIRES AND WHEELS are the same as the Boss 302; F60 x 15 Belted Super Wide Oval tires mounted on Chrome-plated "Magnum 500" steel wheels with a 7" wide rim.

BODY, TRIM AND COLOR

THE EXTERIOR DESIGN of the Boss 429 is unmistakably Mustang . . . changed only by its massive functional hood scoop and front spoiler and a slight modification to the fender wheel lips to accommodate the extra inch of tread on the F60 x 15 tires.

COLORS available are Raven Black, Royal Maroon, Candy-apple Red, Wimbledon White, Blue and Black Jade.

THE ALL-BLACK INTERIOR is fully carpeted, features high-backed seats covered in Ford's "Comfortweave" knitted vinyl, and is quieted by the special Mustang Mach I sound insulation package.

STANDARD AND MANDATORY EQUIPMENT

- Boss 429 CID V-8 Engine
- High-Capacity Engine Oil Cooler
- 65-Ampere Alternator
- 85-Ampere Battery Mounted In Trunk
- Power Steering With Oil Cooler
- 4-Speed Close-Ratio Gearbox
- Power Front Disc Brakes/Rear Drum Brakes
- "Traction-Lok" Rear Axle w/3.91:1 Ratio Standard
- Special High-Performance Suspension
- Front Spoiler
- F60 x 15 Super Wide Oval Fiberglass Belted Tires
- "Magnum 500" 15" x 7" Chrome-Plated Wheels
- Tachometer
- Inter Decor Group
- Console
- High-Back Bucket Seats With "Comfortweave" Vinyl
- Dual Racing Mirrors
- Visibility Group
- Deluxe Seat Belts

PRODUCTION BLUEPRINTING SPECIFICATIONS (1969 ENGINES)

Following are the Ford Engineering Specifications for production of the Boss 429 engine. On page 10 you will find the specifications for balancing the Boss 429.

BOSS 429 SPECIFICATIONS—PRODUCTION

Compression Ratio	10.5:1
Bore and Stroke	4.36 x 3.59
Brake Horsepower	375 @ 5200
Gross Torque Ft.-Lbs.	450 @ 3400
Engine Idle Manifold Vacuum	15 In. Hg.
Oil Pressure Hot @ 3000 RPM	45-60
Belt Tension	140 New 110 Used
Compression Pressure	Lowest Reading Within 75% of Highest Reading
Firing Order	1-5-4-2-6-3-7-8
Curb Idle RPM	700 RPM
Spark Plugs	AF-32
Gap	.032-.036
Distributor Point Gap	.018-.022
Dwell Angle @ Idle	28°
Initial Distributor Timing	10° BTDC (Vacuum Hoses Off)
Spring Tension Measured Directly behind Contact on Arm	17-21 OZ.
Lobe to Lobe Variation	.003"

Cylinder Head

Combustion Chamber Volume	85-94cc
Valve Guide Bore Dia. Int. & Exh.	.3728-.3735
Valve Seat Width Intake	.060-.080
Valve Seat Width Exhaust	.085-.100
Valve Seat Angle—Intake	30°
Valve Seat Angle—Exhaust	45°
Valve Seat Runout—Max.	.0015
Valve Arrangement (Front to Rear)	RT. IE IE IE IE LT. EI EI EI EI

Steel Compression "O" Ring Gasket Thickness	.085-.095
Rubber "O" Ring Gasket Thickness	.067-.073
Compression "O" Ring Groove Depth in Head	.062-.066
Rubber "O" Ring Groove Depth in Head	.040-.045

Valve Train

Rocker Arm Shaft O.D.	.780-.781
Rocker Arm to Rocker Shaft Clearance	.002-.004
Rocker Arm Bore Diameter	.783-.784
Rocker Arm Ratio, Intake	1.53:1
Exhaust	1.71:1
Valve Push Rod Runout, Max.	.015
Valve Lifter Diameter	.8742-.8745
Valve Lifter Clearance to Bore	.0005-.0020
Hydraulic Lifter Leakdown Rate	5-50 Sec. Max. measured at 1/16 In. Plunger Travel
Valve Spring Pressure	87-97 @ 1.82 300-331 @ 1.32
Wear Limit	.80 @ 1.82 280 @ 1.32

PERFORMANCE CORNER



BOSS 429

PRODUCTION SPECIFICATIONS—CONTINUED

Valve Spring Free Length (Approx.)	2.03
Valve Spring Out-of-Square (Max.)	.078
Valve to Valve Guide Clearance	
Intake	.0010-.0024
Exhaust	.0020-.0034
Hydraulic Lifter Depression	
Allowable	.075-.175
Desirable	.125
Valve Head Diameter, Intake	2.275-2.285
Exhaust	1.895-1.905
Valve Face Angle, Intake	29°
Exhaust	44°
Valve Stem Dia., Intake	.3711-.3718
Exhaust	.3701-.3708
Valve Seat Insert O.D., Intake	2.4935-2.4945
Exhaust	1.9935-1.9945
Valve Seat Insert to Bore Interference	.002-.004

Camshaft—Hydraulic (C9AZ-6250-A)

Lobe Lift—Intake, Exhaust	.289
Theoretical Valve Lift, Intake	.445
Exhaust	.495

Camshaft Timing

Intake Valve Opens	.004 @ 32° BTC
	.100 @ 14.5° ATC
Closes	.006 @ 70° ABC
	.100 @ 21.5° BBC
Exhaust Valve Opens	.004 @ 90° BBC
	.100 @ 41° ABC
Closes	.006 @ 26° ATC
	.100 @ 26.5° BTC

Duration	296° Exh. 282° Int.
Overlap	58°

Camshaft—Mechanical (D0AZ-6250-D)

Lobe Lift—Intake, Exhaust	.298
Theoretical Valve Lift, Intake	.458 @ Zero lash
Exhaust	.509 @ Zero lash

Camshaft Timing

Intake Valve Opens	.010 @ 40.5° BTC
	.100 @ 7° ATC
Closes	.010 @ 79.5° ABC
	.100 @ 21.6° BBC
Exhaust Valve Opens	.010 @ 88.5° BBC
	.100 @ 41° ABC
Closes	.010 @ 31.5° ATC
	.100 @ 26.5° BTC

Duration, Intake, Exhaust	300°
Overlap	72°
Camshaft End Play	.001-.006
Wear Limit	.012
Camshaft Journal to Bearing Clearance	.001-.003
Wear Limit	.006
Camshaft Journal Dia.	2.1238-2.1248
Max. Runout	.005

Camshaft Bearing Location (Distance that front edge of bearing is installed toward rear from front face of cylinder block)	.0400-.0600
Camshaft Sprocket Assembled Face Runout	
TIR Max.	.008
Crankshaft Sprocket Assembled Face Runout	
TIR Max.	.006
Timing Chain Deflection, Max.	.500

Cylinder Block

Cylinder Bore Diameter	4.3600-4.3632
Max. Taper	.001
Wear Limit	.010
Max. Out of Round	.001
Main Bearing Bore Diameter	3.1922-3.1930
Distributor Shaft Bearing Bore Dia.	.5155-.5170

Crankshaft and Flywheel

Main Bearing Journal Diameter	2.9994-3.0002
Runout Max.	.004
Thrust Face Runout Max.	.001
Taper Max.	.0003/In.
Thrust Bearing Journal Length	1.124-1.126
Main Bearing Surface Finish RMS Max.	.9
Thrust Face	.20 Front 16 Rear
Connecting Rod Journal	2.4992-2.5000
Taper Max.	.0004/In.
Crankshaft Free End Play	.004-.008
Crankshaft to Rear Face of Block Runout	.002
Flywheel Clutch Face Runout	.010
Flywheel O.D. Runout	.018
Crankshaft Bearings	
Connecting Rod Brg. to Crankshaft Clearance—Desired	.0020-.0025
Allowable	.0008-.0026
Standard Thickness	.0756-.0761
Main Bearings to Crankshaft Clearance—Desired	.0020-.0025
Allowable	.0009-.0025
Standard Wall Thickness	.0955-.0960

Connecting Rod

Piston Pin Bushing I.D.	1.0386-1.0393
Out of Round Max.	.0003
Taper Max.	.0005
Bearing Bore Dia.	2.6522-2.6530
Out of Round Max.	.0004
Taper Max.	.0004
Alignment—Maximum Total Difference (Pin bushing and crankshaft bearing bore must be parallel and in the same vertical plane within specified total difference at ends of 8-inch long bar measured 4 inches on each side of rod.)	
Twist	.0012
Bend	.004

it's on now!

...AT OUR PARTS COUNTER

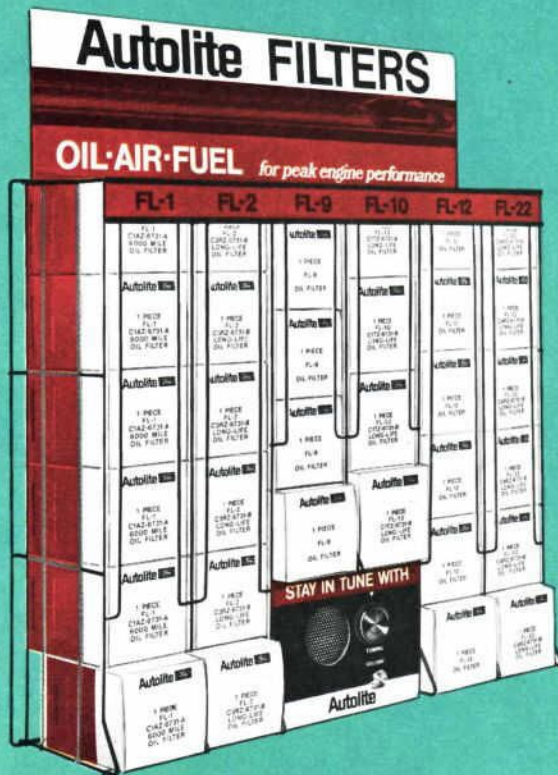
the Autolite
fall filter
free for all!

SAVE UP TO 20%
ON AUTOLITE
FILTERS!



GET IN ON extra profits...

WITH AUTOLITE



radio
rack
refill
offer!

free radio! free rack!

Buy 32 Filters . . . Get This Radio Rack **FREE!**

PURCHASE THE NEW FLK-1000 CONTAINING:

AUTOLITE FLK-1000 ASSORTMENT			
QUANTITY	FILTER	AUTOLITE SUGGESTED STOCKING DEALER PRICE, EACH*	AMOUNT
6	FL-1	\$2.26	\$13.56
6	FL-2	\$2.28	\$13.68
4	FL-9	\$2.28	\$ 9.12
4	FL-10	\$2.26	\$ 9.04
6	FL-12	\$2.26	\$13.56
6	FL-22	\$1.65	\$ 9.90

ALL FOR YOUR REGULAR PRICE OF \$68.86*
THE FILTERS ALONE **ONLY**
(At suggested Autolite Stocking Dealer Prices)

. . . AND RECEIVE AN ATTRACTIVE, RUGGED GRAVITY FEED RACK **PLUS** A BUILT-IN ALL-TRANSISTOR SOLID-STATE RADIO **ABSOLUTELY FREE!**

*Suggested Prices At Time of Printing

dual air
filter
line
special!

dual
fuel
filter
offer!

'S FALL FILTER **free** FOR ALL!

BUY 30...GET 6 FREE!

SAVE 20% When You Buy The Three Most Popular Oil Filters In The Autolite Line!

FL-1 (POPULAR FORD AND CHRYSLER APPLICATION)

FL-2 (POPULAR GM APPLICATION)

FL-12 (POPULAR GM APPLICATION)

Buy 10 each of the FL-1, FL-2 and FL-12 filters at your regular price and get two additional filters of each type **FREE!**

Buy 12 FL-1 Filters . . . Get one fast-moving GM Filter FREE!
Purchase 12 FL-1 filters at your regular price and choose either an FL-2, FL-12 or FL-22 as your FREE 13TH FILTER!



POPULAR "FORD" OFFER
BUY 11...GET 1 FREE!

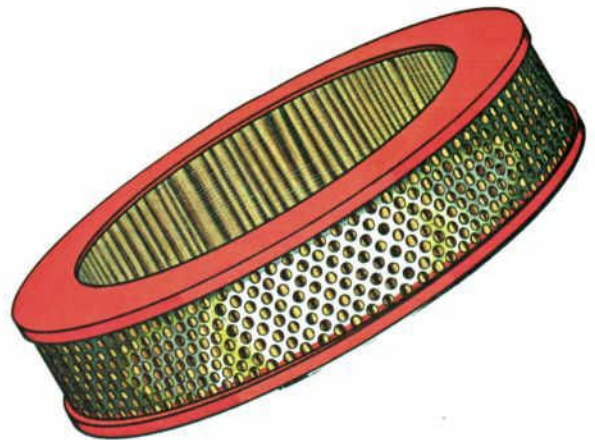
You pay for only 11 when you order 12 Ford Filters!

SAVE OVER 9%

POPULAR "NON-FORD" OFFER
BUY 10...GET 2 FREE!

You pay for only 10 when you order 12 Non-Ford Filters!

SAVE 20%



POPULAR "FORD" OFFER
BUY 11...GET 1 FREE!

Order 12 Ford application fuel filters . . . pay for only 11!

SAVE OVER 9%

POPULAR "NON-FORD" OFFER
BUY 10...GET 2 FREE!

Order 12 Non-Ford application fuel filters . . . pay for only 10!

SAVE 20%



STOCK UP AT OUR PARTS COUNTER TODAY! USE THE CROSS REFERENCE CHART ON THE NEXT PAGE!

here is a handy cross reference of the more popular filters available at our parts counter:

Purolator to Autolite

OIL FILTERS

PER1	FL-1	P34, P51	FL-25
PER3	FL-3	P48	FL-20
PER5	FL-2	P49	FL-147
PER14	FL-8	P70FF, PN15	FL-145
PER33	FL-9	P76-1, P76-2	FL-23
PER40	FL-12	P124	FL-21
PER49	FL-10	P141	FL-22

Purolator to Autolite

AIR FILTERS

AFP4	FA-10	AFP49	FA-26
AFP13	FA-4	AFP52	FA-8
AFP31	FA-2	AFP57	FA-3
AFP32	FA-25	AFP59	FA-7
AFP40	FA-5	AFP61	FA-6
AFP45	FA-1	AFP64	FA-12
		AFP68	FA-23

Purolator to Autolite

GAS FILTERS

P111-5	FG-1	GF11-1	FG-2
EP124	FG-3	GF11-4	FG-4
EP124-1	FG-3	GF11-8, GF11-11	FG-8
EP221	FG-9	GF11-10	FG-5
EP226	FG-10	GF11-18	FG-12
GF11	FG-2	GF13	FG-15
		GF13-1	FG-14

Fram to Autolite

OIL FILTERS

CH-6PL, CH-129PL	FL-20	PH10, PH-11	FL-2
CH-14	FL-24	PH13, PH-14	FL-7
CH-129PL, CH-6PL	FL-20	PH14	FL-7
PB50	FL-3	PH16	FL-5
PH4	FL-8	PH21	FL-6
PH8	FL-1	PH25	FL-9

Fram to Autolite

AIR FILTERS

CA-105, CA-154PL	FA-4	CA-160PL	FA-10
CA-127	FA-17	CA-162PL	FA-15
CA-135	FA-32	CA-168PL	FA-33
CA-136	FA-39	CA-173PL	FA-13
CA-149	FA-6	CA-176PL	FA-2
CA-304	FA-51	CA-179PL, CA-179APL	FA-12
CA-324	FA-50	CA-114	FA-41
CA-146PL	FA-8	CA-182PL	FA-43
CA-148PL	FA-3	CA-183PL	FA-21
CA-154PL, CA-105	FA-4	CA-184PL	FA-1
		CA-189PL	FA-7

Fram to Autolite

GAS FILTERS

CG-3	FG-3	G3, G-15	FG-8
CG-6	FG-10	G7	FG-6
CG-7, CG-8	FG-9	G8	FG-4
CG-8	FG-9	G9	FG-5
CG-10	FG-18	G12, G-2	FG-2
CG-20	FG-1	G15, G-3	FG-8
G2, G-12	FG-2	G16	FG-12
		G19	FG-13

AC to Autolite

OIL FILTERS

P-3	FL-3	PF-24	FL-9
PF-2	FL-1	PF-25	FL-10
PF-4	FL-8	PF-29	FL-12
PF-6	FL-4	PF-122	FL-21
PF-7	FL-2	PF-133-1	FL-37
PF-10	FL-2	PF-141	FL-22
PF-12	FL-10	PF-210, PF-351	FL-20
PF-13	FL-5	PF-292	FL-24
PF-15	FL-6	PF-336, PF-336-1	FL-23

AC to Autolite

AIR FILTERS

A49C	FA-10	A124CW, A124C	FA-26
A50C, A51C	FA-16	A134C	FA-8
A53C, A94C	FA-9	A169CW, A132C	FA-7
A59C	FA-43	A171C	FA-17
A63C, A119C	FA-13	A176C	FA-14
A81C	FA-4	A178CW, A194C	FA-31
A83C	FA-15	A180C, A96C	FA-12
A85C	FA-30	A211C, A202C	FA-32
A86CW, A86C	FA-2	A212CW	FA-39
A112C	FA-5	A217C	FA-24
A117C	FA-1	A218C	FA-23

AC to Autolite

GAS FILTERS

GF-61, GF-412	FG-2	GF-94	FG-2
GF-67, GF-95, GF-96,		GF-124	FG-3
GF-415	FG-13	GF-149	FG-10
GF-68	FG-7	GF-414	FG-12
GF-70	FG-6	GF-417	FG-9
GF-71	FG-4	GF-433	FG-15
GF-73, GF-98	FG-12	GF-434	FG-14

Autolite 

FOR A COMPLETE LISTING SEE THE TUNE-UP PARTS
APPLICATION SECTION IN YOUR AUTOLITE ALL PRODUCTS
CATALOG #AP 205D, RECENTLY MAILED TO YOU WITH THE
COMPLIMENTS OF OUR DEALERSHIP!

FEATURES AND SPECIFICATIONS

Continued

Assembled to Crankshaft
(Total 2 Rods)
Side Clearance0010-.0020
Wear Limit0023

Piston

Diameter
Red Code4.3569-4.3575
Blue Code4.3581-4.3587
.003 OS4.3593-4.3599
Piston to Cylinder Bore Clearance0030-.0038
Piston Pin Bore Diameter 1.0402-1.0405

Piston Pin

Length 3.290-3.310
Diameter Std. 1.0400-1.0403
Pin to Piston Clearance0003-.0005
Pin to Connecting Rod Bushing,
Interference0007-.0017

Piston Rings

Ring Width, Compression Ring
Top077-.078
Bottom077-.078
Side Clearance, Compression Ring
Top002-.004
Bottom002-.004
Side Clearance, Oil Ring Snug
Ring Gap Width, Compression Ring
Top010-.020
Bottom010-.020
Ring Gap Width, Oil Ring010-.035

Oil Pump

Relief Valve Spring Tension Lbs.
@ Specified Length 20.6-22.6 @ 2.49
Drive Shaft to Housing Bearing
Clearance0015-.0029
Rotor Assembly End Clearance0011-.0041
Outer Race to Housing
(Radial Clearance)006-.013
Oil Pan Capacity 8 Qts.*
*(Includes 1 In Filter
1 In Cooler)

BOSS 429 TORQUE SPECIFICATIONS

Bolt and nut installation torque specifications with lubricated threads (preservative oil coating acceptable).

Operation	Thread Size	Installation Torque
Bolt—Cylinder Head.....	9/16-12	See Head Install.
Bolt—Flywheel to Crankshaft	7/16-20	75-85 Ft. Lb.
Bolt—Main Bearing Cap....	1/2-13	95-105 Ft. Lb.
Bolt—Main Bearing Cap....	3/8-16	35-40 Ft. Lb.
Bolt—Main Bearing Cap....	7/16-14	70-80 Ft. Lb.
Bolt—Crankshaft Damper to Crankshaft (Hand Start) Torque to Specifications...	5/8-18	70-90 Ft. Lb.
Spark Plug.....	14 MM	5-10 Ft. Lb.
Oil Filter Cartridge (Lubricated Seal).....	Tighten 1/2 turn after seal contact Alternate: 105-115 In. Lb.	
Insert—Oil Filter Mounting— To Block.....	1-1/16-12	60-100
Bolt—Exhaust Manifold to Cylinder Head.....	3/8-16	28-33 Ft. Lb.
Shoulder Stud—Exhaust Manifold to Cyl. Head....	3/8-16	28-33 Ft. Lb.
Nut—Carburetor Mounting	5/16-24	12-15 Ft. Lb.
Stud—Carburetor Mounting (Hand Start—Drive to Limit of Threads).....	5/16-18	15 Max. Ft. Lb.
Stud—Intake Manifold Attaching (Hand Start— Drive to Limit of Threads).	3/8-16	15-25 Ft. Lb.
Bolt—Distribution Hold- Down.....	5/16-18	12-15 Ft. Lb.
Bolt—Intake Manifold.....	3/8-16	See Head Install.
Bolt—Front Cover.....	5/16-18	12-15 Ft. Lb.
Bolt—Water Pump to Front Cover.....	5/16-18	12-15 Ft. Lb.
Bolt—Valve Rocker Arm Shaft.....	5/16-18	12-15 Ft. Lb.
Bolt—Oil Filter Adapter Mounting.....	3/4-16	45-50 Ft. Lb.
Bolt—Clutch Housing to Cylinder Block.....	7/16-14	45-50 Ft. Lbs.
Fuel Filter to Carburetor....	1/8 NPSF	40-75 In. Lb.
Stud—Valve Rocker Pedestal —Assy. to Cylinder Head.	5/16-18	11-17 Ft. Lb.
Nut—Valve Rocker Shaft & Pedestal.....	5/16-24	19-27 Ft. Lb.
Nut—Valve Rocker Arm Adjusting Screw.....	7/16-20	20-30 Ft. Lb.

The following general installation torque specifications apply to any operation not listed:

Thread Size	Torque Ft. Lb.	Thread Size	Torque Ft. Lb.
1/4-20	6-9	7/16-14	43-50
1/4-28	6-9	7/16-20	50-60
1/4 Pipe	12-17		
5/16-18	12-15	1/2-13	60-70
5/16-24	15-18	1/2-20	70-80
		1/2-14 Pipe	25-30
3/8-16	20-25	9/16-18	85-95
3/8-24	30-35	5/8-18	130-145
3/8 Pipe	23-28		

Operation	Thread Size	Installation Torque
Bolt—Rocker Arm Cover to Cylinder Head.....	5/16	12-15 Ft. Lb.
Clamp—Water Bypass Hose		15-20 In. Lb.
Bolt—Oil Pan.....	1/4-20 5/16-18	7-9 Ft. Lbs. 9-11 Ft. Lbs.
Plug—Oil Pan Drain.....	1/2-20	15-25 Ft. Lb.
Nut—Connecting Rod (Hand Start—Torque 35-40 Ft. Lb.) Hand Torque to....	3/8-24	40-45 Ft. Lb.
Bolt—Camshaft Thrust Plate to Cyl. Block.....	1/4-20	9-12 Ft. Lb.
Bolt—Cam Sprocket to Camshaft.....	3/8-16	40-45 Ft. Lb.

PERFORMANCE CORNER



BOSS 429

STREET 'N STRIP BLUEPRINTING SPECS

Here are the blueprinting and balancing specifications developed by Ford Engineering and the Stock Vehicle Department. They reflect field experience as well as engineering tests, and should be used as a guideline for racing machines. All specifications are recommended for "Stock" class.

BOSS 429 BLUEPRINTING SPECS— STREET 'N STRIP

Critical Dimensions

Piston to Cylinder Bore Clearance	.0045-.0055
Main Bearing Clearance	.0025
Connecting Rod Bearing Clearance	.0025
Connecting Rod Side Clearance (Min.)	.025
Piston Pin Clearance	.0005-.0008
Piston to Deck Height (Obtain by slabbing block)	.030
*Valve Seat Width and Angle	
Intake (At outer edge of valve)	.035 30°
Exhaust (At outer edge of valve)	.050 45°
Compression Ring Gasket Thickness	.085-.095
Valve Spring Installed Height:	
C9AZ-6250-A Hydraulic Cam or	
D0AZ-6250-D Mechanical Cam	
(Obtain by shimming <i>under</i> valve spring seat)	
• Intake (123 Lbs.)	1.75
• Exhaust (101 Lbs.)	1.80

*For all-out drag racing only. For street operation, the valves must have a larger seating area for increased heat dissipation and resistance to burning under street conditions. Therefore, for street operation or other than all-out quarter-mile racing, use .070" for intake and .090" for exhaust.

Balance

(A) Heavyweight Rod, Floating Pin Version, Designated "820S" on Intake Manifold under Coil Assembly. 1st 279 engines of 1969 production.

	No.	Cent. Wt. (Grams)
Rod Assembly; Crankpin End	2	1636-1648
Bearing, Rod	4	136-138
Oil In Crankpin		30
Crank Plugs		72-78
TOTAL CENTRIFUGAL WEIGHT		1874-1894
NOMINAL TOTAL CENTRIFUGAL WEIGHT		1884
Piston	1	780-786
Piston Pin	1	186.5-189.5
Ring, Compression (Upper)	1	22-24
(Lower)	1	21-23

Ring, Oil Control	1	18-20
Retainer, Piston Pin	2	3.5
Rod Assembly; Piston Pin End	1	319-325

TOTAL RECIPROCATING

WEIGHT.....1350-1371

NOMINAL TOTAL

RECIPROCATING WEIGHT.....1360.5

TOTAL BOBWEIGHT.....3244.5 (Nominal)

(B) Lightweight Rod, Pressed Pin Version, Designated "820T" on Intake Manifold under Coil Assembly.

Rod Assembly; Crankpin End.... 2 1168-1180

Bearing, Rod..... 4 139-141

Oil In Crankpin..... 30

Crank Plugs..... 72-78

TOTAL CENTRIFUGAL WEIGHT..1409-1429

NOMINAL TOTAL

CENTRIFUGAL WEIGHT.....1419

Piston..... 1 780-786

Piston Pin..... 1 180-183

Ring, Compression (Upper)..... 1 22-24

 (Lower)..... 1 21-23

Ring, Oil Control..... 1 18-20

Rod Assembly; Crankpin End.... 1 319-325

TOTAL RECIPROCATING

WEIGHT.....1245-1266

NOMINAL TOTAL

RECIPROCATING WEIGHT.....1255.5

TOTAL BOBWEIGHT.....2674.5 (Nominal)

STRIP TIPS FOR QUICK TRIPPERS

ENGINE—Here are some touch-up tricks that will give you the ultimate output from the Boss 429.

- **FOR THE C9AZ-6250-A HYDRAULIC CAM**—Back off the rocker arm adjusting screw (with the lifter on the base circle of the cam) until the push rods are free to turn, then tighten a quarter turn. This will prevent tappets from "pumping up," and will raise valve toss speed of the engine.
- **FOR THE D0AZ-6250-D MECHANICAL CAM**—Remember that the aluminum cylinder heads "grow" as they warm up, causing quite a change in the valve lash (hot vs. cold). Set valves at 0.013" cold or at 0.024" hot.
- Install lightweight, fabricated exhaust headers. Try 34" primary tubes into the collectors. Make collectors of 2 1/8" O.D. material for street use, or 2 1/2" for strip. Headers are available from: Larson Engineering
26121 Van Born Road
Taylor, Michigan 48180
- Use a reduced-pitch flex-blade fan, or one with decreased diameter.
- Use solid-core ignition wire in place of the standard radio-suppression type. Autolite "Steelductor Silicone" cable and connectors work well, and are heat resistant also.
- Block the heat riser passage. This will cause the mixture to run cooler and produce more power.
- Install the deep sump oil pan and extra long oil pickup.
- Use #84 secondary carburetor jets with standard exhaust, or #86's with headers and open exhaust.
- Disconnect the power-steering pump drive belt.

FEATURES AND SPECIFICATIONS

Continued

- (STREET) Set the distributor initial advance at 12-14 degrees. With the maximum internal advance of 20 degrees at 3200 engine rpm, this will give a maximum advance of 32-34 degrees. (STRIP) Use C3AZ-12171-A breaker points (2 sets) and check for 32 oz. tension. These are low mass points to prevent point bounce, but they also have a high wear rate. Remove the vacuum hoses and plug the openings. Try 10-14 degrees initial spark advance. Check distributor to desired rpm on distributor machine. *Maximum safe advance is 38 degrees.* Retard spark as necessary to prevent preignition damage to the aluminum pistons and cylinder heads.
- Open up the hood scoop for increased air flow. To do this, remove the scoop from the vehicle, and cut away the front part of the fiberglass inner panel which seals on the air cleaner tray. Reinstall the scoop.
- Use Autolite AF-22 spark plugs for strip, AF-32's for street. Set gap at .032-.036.

- Install a 5-6 psi electric fuel pump at the tank.
- Use the highest octane fuel available.

DRIVE LINE

- Remove teeth on second and third gear blocker rings, for faster power shifting.
- Install 4.57:1 ratio ring and pinion, along with a Detroit Automotive Locker.
- Install 7" slicks on rear.

SUSPENSION

- Install 302 CID Mustang front springs.
- Install 90/10 uplock front shocks and reinforce the shock absorber brackets.
- Install a good set of traction bars on the rear axle.

BOSS 429 PARTS LIST

PART NAME	PART NUMBER	NO. PER ENGINE
A. Gaskets		
Cylinder Head (Comp.)	(Serviced in kit)	8
Cylinder Head .50 I.D. "O" Ring	C9ZZ-6051-B	34
Cylinder Head .25 I.D. "O" Ring	1 Kit Per Cyl. Head)	10
Valve Rocker Cover	C9AZ-6584-A	2
Cylinder Front Cover	C8SZ-6020-A	1
Water Pump Cover	C8SZ-8513-A	1
Water Pump	C8VE-8507-A	1
Water Outlet Connection	C8SZ-8255-A	1
Intake Manifold to Head	C9AZ-9441-B	2
Carburetor to Spacer	C9AZ-9447-B	1
Fuel Pump	C3AZ-9417-C	1
Carburetor to Air Cleaner	C5ZZ-9654-B	1
Oil Pump to Cylinder Block	C8SZ-6659-A	1
Oil Pump to Screen & Cover	B8TZ-6626-A	1
Oil Pump Inlet Tube Flange	B8TZ-6626-A	1
Oil Filter Adapter	C9AZ-6A636-A	1
Oil Filter Bolt	86H-6734	2
Oil Pan R.H.	(Use Kit Number	1
Oil Pan L.H.	C8SZ-6781-A	1
Oil Pan Drain Plug	Contains 1 Each)	1
Heat Tube	C9AZ-9D429-A	3
B. Seals		
Crankshaft Front Oil	C3AZ-6700-A	1
Crankshaft Rear Oil	C9AZ-6701-A	2
Oil Pan	(Contained in	
	C8SZ-6781-A Kit)	2
Intake Manifold to Block	C8SZ-9A425-A	2
Engine Rear Cover Plate	C8SZ-6411-A	1
Carburetor Air Inlet to Hood	C9ZZ-9B624-F	1
Valve Stem	C9AZ-6571-A	16
C. Materials—Cylinder Head Installation		
Chlorothane (Degreaser)		As Required

PART NAME	PART NUMBER	NO. PER ENGINE
Silicone Rubber Primer		As Required
Silicone Rubber Sealant		As Required
D. Bearings		
Camshaft	C8SZ-6261-A	5
Clutch Pilot	B8AZ-7600-A	1
Crankshaft Main		
Front Upper	C9AZ-6333-G	4
.010 U.S. (Thicker Wall)	C9AZ-6333-H	4
Front Lower	C9AZ-6337-G	4
.010 U.S.	C9AZ-6337-H	4
Thrust Upper	C9AZ-6333-N	1
.010 U.S.	C9AZ-6333-P	1
Thrust Lower	C9AZ-6337-N	1
.010 U.S.	C9AZ-6337-P	1
Connecting Rod	C8SZ-6211-A	16
.010 U.S. (Thicker Wall)	C8SZ-6211-B	16
E. Rings, Piston		
Compression Upper	(Use Standard	8
Compression Lower	C8SZ-6148-A	8
Segment Oil Control	Kit For Each	16
Spacer Oil Control	2 Pistons)	8
F. Miscellaneous		
Insert Valve Seat Intake	C9AZ-6057-A	8
Insert Valve Seat Exhaust	C9AZ-6057-B	8
Insert Valve Guide	C9AZ-6510-A	16
Insert Thread (Helicoil)		
Exhaust Manifold	382007-S2	16
Hose—Water Bypass	C2OZ-8597-C	1
Hose—Fuel	C3SZ-9324-C	1
Clamp Fuel Hose	373030-S8	2

NOW AVAILABLE TO YOU!

1 FOR THE MONEY...



NEW! 80-page Muscle Parts Catalog!

This exciting book introduces a new concept in modifications: *Staged Performance!* You'll cash in on high performance parts sales and installation with this new MUSCLE MAG FROM FORD!

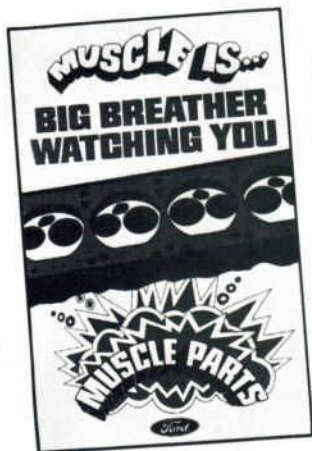
All the basic information on high performance engines, transmissions, drive line, and suspension! Plus a complete section on all the options and accessories for more muscle or dress-up. Includes a complete price list for all parts in the catalog. And every Muscle Part is available in the Ford regular parts system . . . through your Ford or Lincoln-Mercury Dealer! All kinds of parts from MILD to WILD—street to all-out track performance! Covers all Ford Motor Company Engines:

289 CID	302 CID (Except Boss)	351 CID	390 CID
	428 Cobra Jet	427 "Wedge" racing engine	

Order your supply of catalogs now and you're on your way to "muscling" in on big high performance sales and profits!

COMPLETE 80-PAGE BOOK ONLY \$1.00 at Our Parts Counter!

2 FOR THE SHOW...



Here are materials available to identify yourself as Muscle Parts Headquarters!

Let everyone know that yours is the place for high performance Muscle Parts! Posters, bumper stickers and decals are just a few of the many materials available to help you increase your Muscle Parts sales!

ASK HOW YOU CAN GET YOUR SUPPLY OF PROMOTIONAL MATERIALS AT OUR PARTS COUNTER!

VISIT OUR PARTS COUNTER AND ASK ABOUT

MUSCLE PARTS PROFITS!

3 TO GET READY...



We Can Help You Get Set Up As Muscle Parts Headquarters In Your Area!

All the parts and materials are available through any Ford or Lincoln-Mercury Dealer! Order your supplies at the parts counter—Ford will ship (direct) to you! You save time and the expense involved in handling and delivery! Just use the special Muscle Parts order pad!

...AND 4 TO GO!

The High Performance Market Is Big . . . And Growing BIGGER!

High performance is a big, exciting, and fast-growing market! It includes not only the performance buffs who seek raw power but also those who are satisfied with the *image* of power. It appeals to the widespread desire to be identified with a car that has "muscle."

The opportunities are tremendous—yearly sales of

performance parts and accessories alone are estimated at over 340 million dollars!

There are millions of Ford-built cars on the road—prime prospects for high performance parts sales! For example, there are over two million Mustangs alone—it's a big market—ready and waiting for you! So visit our parts counter and you'll be ready to go!

CORTINA WHEEL SHIMMY 1967/68 CORTINA MODEL "C"

Wheel shimmy or small rotational movement of the steering wheel may be encountered on some 1967 and 1968 model "C" Cortinas. This condition is usually noted at speeds between 40 and 50 mph.

To reduce this condition, a step by step procedure is outlined and should be followed exactly.

- Torque all front suspension and steering gear mounting bolts.
- Set steering gear pre-loads to specification.
- Check and adjust front wheel bearings to specification.
- Measure wheel and tire runouts both laterally and radially. To bring the unit to the best level possible these runouts should be less than .030" both radially and laterally. In some cases it may be necessary to replace the tires on which the radial and lateral runouts are greater than .030".
- Install the revised lower track control arms, Part No. 3034E-3078-B and the revised compliance bushings 3014E-5493-D (Class "C" items).
- Set toe-in to maximum specification.
- Dynamically balance all 4 wheels and tires on the car using a strobe light balancer.

Dynamic balance means that the tire and wheel assemblies are balanced in two (2) directions, radial and lateral.

To balance the tires in a lateral direction requires a wheel balancer which utilizes a strobe light.

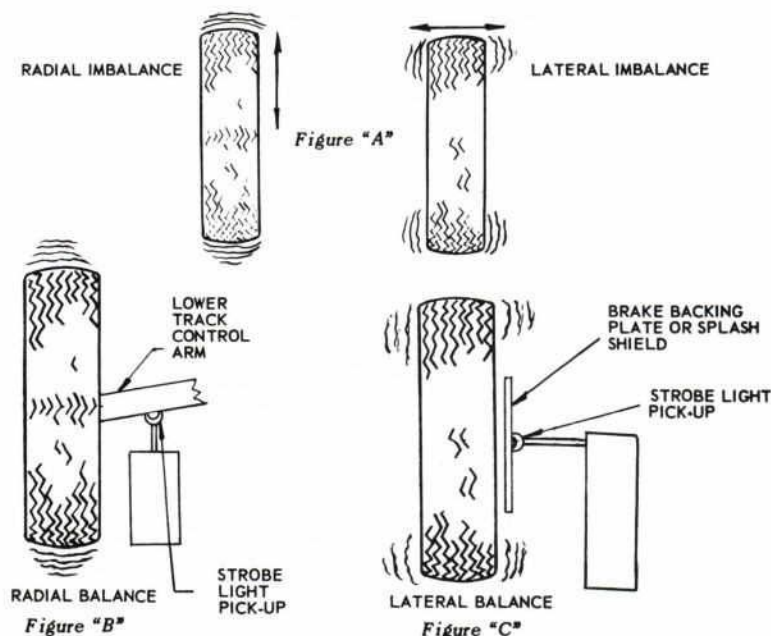


Figure 1—Use of Wheel Balance

Following are the steps required to perform a dynamic (radial and lateral) balance on the car.

- Place the strobe light pick-up beneath the lower suspension arm (vertical direction) and balance the wheel and tire in the normal manner.
- When the radial balance is completed, turn the wheel to be balanced approximately 20° outboard and remove the pick-up from the lower control arm. Rotate the pick-up 90° and place it on the inside of the brake backing plate or splash shield as near the front as possible.
- Spin the wheel and observe a reference point on the tire-wheel assembly using the strobe light. Stop the wheel and rotate it by hand until the reference point is in the exact position as it was observed while spinning.
- Select weight as done in the radial balance procedure and attach it to the *inside* of the wheel in line with the pick-up.
- Place an identical weight on the *outside* of the wheel 180° from the first weight so that the dynamic weight will not destroy the radial balance.
- Repeat this procedure as necessary to achieve proper lateral balance, always counterbalancing the trial weight with an identical weight 180° from the pick-up.

4-SPEED SHIFT LINKAGE ADJUSTMENT

All 1969 Ford-built Models w/Floor or Console-Mounted Linkage

The 1969 four-speed transmission shift linkage requires a more precise adjustment than previous models. The new adjustment procedure is described below and *must be followed* to obtain correct shift adjustment on the 1969 four-speed transmission.

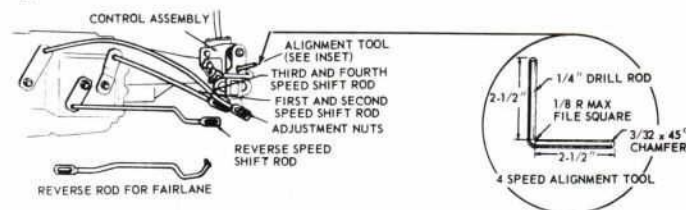


Figure 2—Control Assembly

Adjustment Procedure

1. Loosen the linkage adjustment nuts on the two forward speed shift rods at the control assembly as shown in Figure 2.
2. Disconnect the reverse gear shift rod at the control assembly except on Fairlane which disconnects at the transmission lever.
3. Place an alignment tool, made of 1/4-inch diameter drill rod bent to an "L" shape, through the control bracket and linkage holes until it bottoms. Figure 2 inset illustrates the alignment tool specifications.
4. Rotate the reverse lever of the transmission clockwise to shift the transmission into reverse gear. The reverse lever is the center lever of the three levers as shown in Figure 3.
5. Tighten the two forward speed shift rods at the control assembly to 10-20 lb. ft. torque.

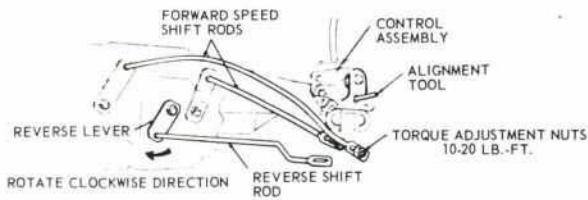


Figure 3—Reverse Lever Detail

6. Rotate the reverse transmission lever counterclockwise until it stops as directed in Figure 4.
7. Attach the reverse shift rod to the control assembly, except Fairlane which attaches at the transmission lever, and torque nut to 10-20 lb. ft.

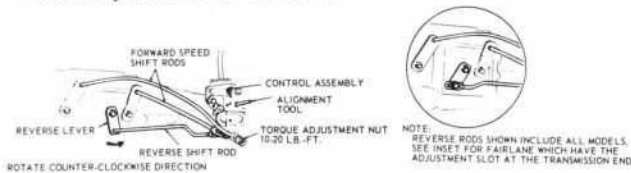


Figure 4—Final Adjustment Details

8. Remove the alignment tool.

The above procedure will insure correct neutral position adjustment of the 1969 four-speed transmission in the neutral position.

Adjustment Tool Note

The adjustment tool specified for the 1969 four-speed shift linkage will fit similar applications on prior year four-speed shift models. Tools made for older four-speed model adjustment *will not* fit 1969 models.

ENGINE IGNITION NOISE IN RADIO

1968 Thunderbird

Reports indicate that difficulty is being encountered in correcting some customer complaints of engine ignition noise audible during radio operation in 1968 Thunderbirds.

This problem is most frequently the result of an inadequately grounded antenna or a loose connection between the antenna lead-in cable and the antenna, see Figure 5. The following items can also contribute to this problem.

- Loose or missing hood bond strap.
- Loose or missing body to frame ground cable (left front fender apron to frame).
- Loose spark plug wires or fouled spark plugs.

If inspection and correction of the items mentioned above does not reduce the ignition noise to a satisfactory level, perform the operation below that applies to the radio installed in the vehicle.

AM Radio and AM Radio-Tape Play Combination

Install three additional hood bond straps (Part No. C7SA-16A600-A, Class CG) as shown in Figure 6.

AM/FM Stereo Radio

Install three additional hood bond straps (Part No. C7SA-16A600-A, Class CG) as shown in Figure 6.

Install a capacitor (Part No. C9SZ-18832-A, Class C) to the battery terminal of the ignition coil as shown in Figure 7. It will be necessary to remove the existing push-on wire terminal and install an eyelet type terminal to the wire presently on the battery terminal of the coil so that the capacitor lead wire can be attached to the coil.

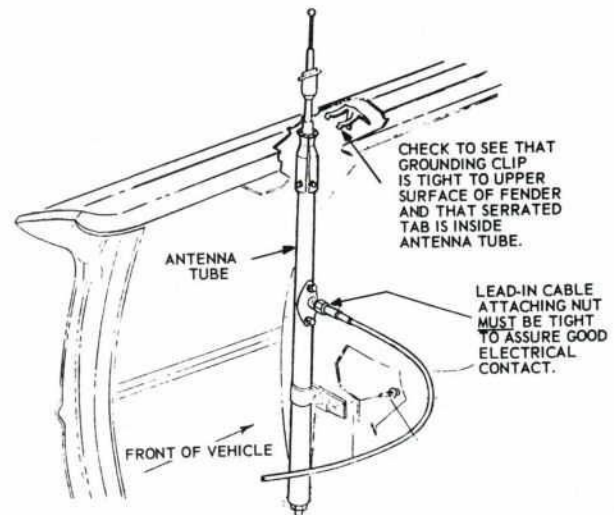


Figure 5—Antenna Inspection

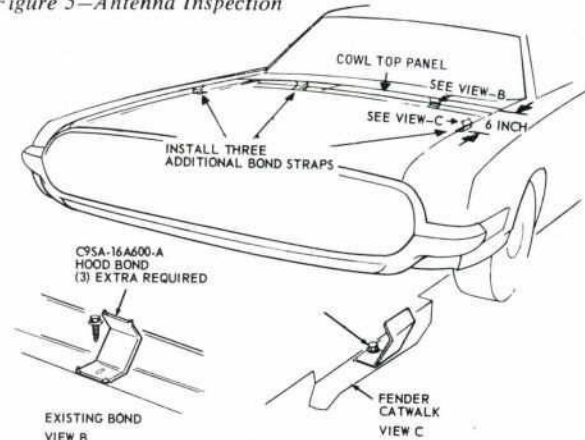
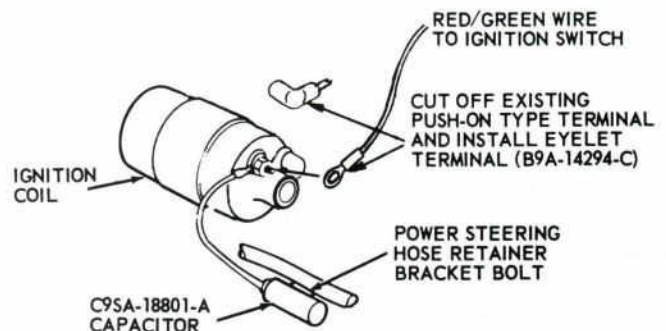


Figure 6—Installation of Hood Bond Straps



USE FOR AM/FM MULTIPLEX ONLY

Figure 7—Installation of Ignition Coil Capacitor

LAKEHURST MOTORS INC.

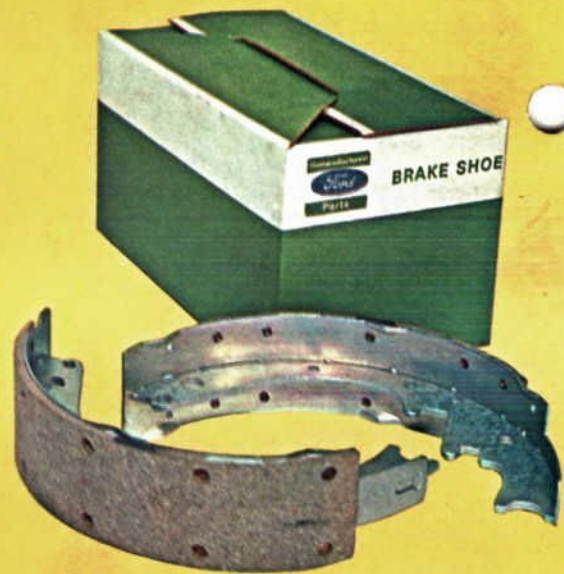
71 LOCUST ST. - RT. 37 244-4251
TOMS RIVER, NEW JERSEY 08753

YOUR SOURCE FOR GENUINE FORD AND AUTOLITE ORIGINAL EQUIPMENT PARTS

BOTH Brand-New and Ford Authorized Remanufactured Brake Linings Provide Original Equipment Quality



- Meet all state and federal brake regulations.
- Quality control tested
- Precision pre-ground for smooth, even lining-to-drum contact.
- Scientifically-selected lining material more effectively dissipates heat, to resist brake fade and provide longer wear.



And to keep ALL Ford Quality in Ford brakes ... Install Ford Wheel Cylinder Repair Kits



- SAME high quality as original equipment cups and boots.
- All-rubber compound is high temperature, wear resistant type.
- Precision molded boots fit tight . . . to seal hydraulic system from dirt and moisture.
- Cups designed to maintain full, continuous sealing for smoother, surer braking.