

ROUSH PERFORMANCE ENGINES

# 402R



**515 HP / 500 ft. lbs.**

Roush Performance delivers excitement with the 402R: 515 horsepower and 500 ft. lbs. of torque. This engine's combination of internally balanced rotating assembly — forged crank, rods and pistons — plus the magic of a 4-inch stroke, produces smooth power from idle to red line. *Strap in and hang on ...* the 402R is fun to drive, and performs great on premium unleaded pump fuel.

Expert technicians at Roush have been assembling engines for over 25 years. They have built thousands of race engines that have competed and won in drag racing, road racing, oval-track racing and land-speed record attempts. This same experienced group of engine builders inspect, assemble and test every R Series engine. Each one is *hot tested*, then *dyno tested* to verify power. All R Series engines are shipped with documentation, and carry a warranty.

Roush Performance  
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Livonia, MI 48150

**800-59-ROUSH**

**ROUSH**  
*Performance*

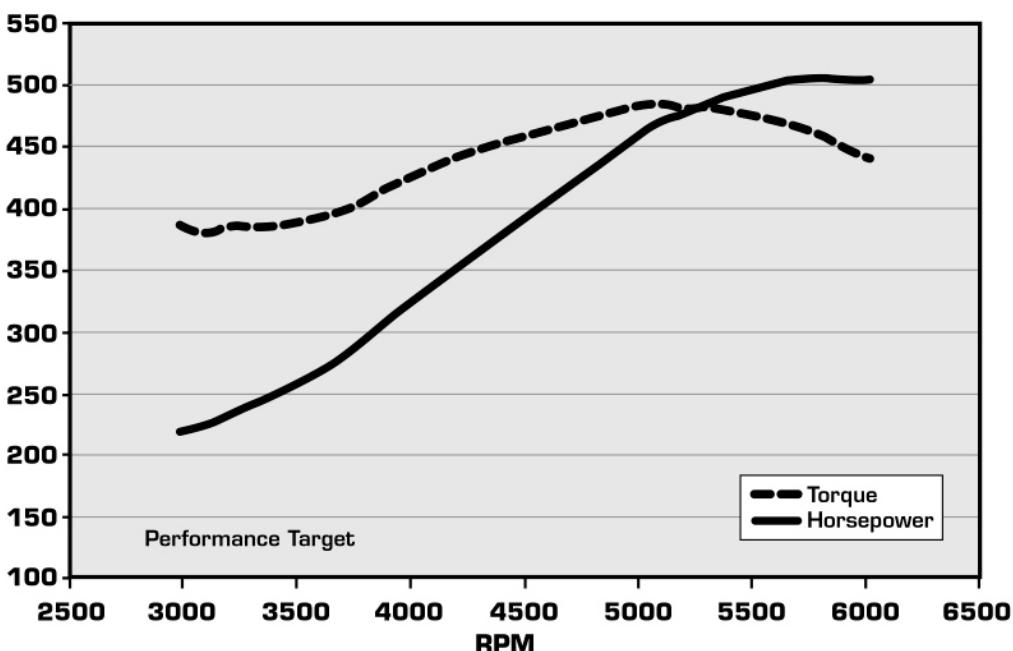
Technical Performance Solutions.

327R 342R 402R 427R  
"R" SERIES

# 402R Engine Features

- 1. Base Engine:** Ford Racing Sportsman (Windsor) 9.5 deck height 2-bolt iron block, **4340 forged crank, 4340 forged "H" beam connecting rods** with 3/8" high-strength bolts, **forged crankshaft** and **pistons** with a 10:1 compression ratio.
- 2. Cylinder Heads:** Roush aluminum, "fully CNC-ported" with premium stainless steel valves; 2.02" intake and 1.60" exhaust.
- 3. Camshaft:** Hydraulic roller cam (Roush proprietary) with a double roller timing chain and gear set.
- 4. Valve Train:** 1.6:1 roller rocker arms with dual valve springs mounted on 7/16" studs.
- 5. Intake Manifold:** Single-plane aluminum standard, dual-plane available as an option.
- 6. Carburetor:** Roush "tuned", Holley 770 CFM with vacuum secondaries and electric choke.
- 7. Air Cleaner:** 14" Chrome (standard, others available)
- 8. Valve Covers:** Polished, tall aluminum covers engraved with the **POWERED BY ROUSH logo and your engine's Serial Number** are standard (others are available).
- 9. Oil Pan:** Powder-coated 8-quart "T" style, front sump ROUSH pan is standard. Adjustable Mellinger oil pump with heavy-duty oil pump "drive" shaft.
- 10. Accessory Drive:** Roush aluminum under-drive V-belt pulley system, billet aluminum mounting bracket and spacers with 90-amp, single-wire alternator.
- 11. Fuel Pump:** Mechanical high-performance pump with braided line and fittings from pump to carburetor, with fuel log.
- 12. Flywheel:** SFI-approved 157-tooth billet steel flywheel installed (balanced to 28.2 in.-oz. factor). Aluminum flywheel available as an option.
- 13. Ignition:** MSD "billet aluminum", vacuum advance distributor with Ford Racing 10 mm plug wires and wire looms (8-piece set).
- 14. Starter:** New, super high torque (1.6kw) starter with cable.
- 15. Water Pump:** New Ford production or equivalent, standard rotation for V-belt applications under 6,000 rpm.
- 16. Testing and Documentation:** Each engine is "hot-tested" and then subjected to several "dyno pulls" to verify power. Each 402R engine is shipped with a copy of the test results along with "fender and firewall badges".

**Options:** McLeod clutch (and installation), "Polished-Package" and others are available.



## Technical Information

**Engine Model:** 402R

**Horsepower (maximum):** 515 hp  
(with Victor Jr. intake and 8 qt. Oil Pan)

**Torque (maximum):** 500 ft. lbs.

**Displacement:** 402 cu. in.

**Block:** 9.5" deck, Ford (Windsor) 9.5 Deck Height 2-bolt main

**Crankshaft Type:** Forged 4340 Steel

**Crankshaft Stroke:** 4.00"

**Connecting Rod Type:** Forged 4340 Steel "H-Beam"

**Compression Ratio:** 10:1

**Pistons:** Forged

**Timing Chain:** Double Roller

**Camshaft Info:** Roush Proprietary

**Lifter Type:** Hydraulic Roller

**Cylinder Heads:** Aluminum

**Intake Runner Volume:** 185 cc, fully CNC-ported

**Combustion Chamber Volume:** 61 cc

**Valve Sizes:** 2.02" Intake 1.60" Exhaust

**Rocker Arm Ratio:** 1.6:1

**Spark Plugs:** Autolite 3923 (or comparable)

**Intake Manifold:** Single- or Dual-Plane available

**Fuel System:** Holley 770 CFM Carburetor with vacuum secondaries and electric choke

**Fuel Requirements:** Premium Unleaded (minimum)

**Max. Recommended RPM:** 6,250

**Firing Order:** 1-3-7-2-6-5-4-8

**Timing:** 31 to 34 degrees @ 4,000 rpm (not to exceed 35)

**Oil Pump:** High Output — Adjustable

**Oil Pan:** Powder-Coated 8 qt. Front Sump — Baffled or Dual-Sump (Mustang) available

\*Horsepower output can be reduced when engine is equipped with the Dual-Sump pan.

**Oil Filter:** Motorcraft FL1 (or comparable)

**Oil Weight:** 10w30 — non-synthetic for first 3,000 miles

**Flywheel:** Steel, 157 tooth (balanced to 28.2 oz.)

**Starter:** Ford Motorsports Super High Torque (1.6kw) (or equivalent)

\*Size specifications may vary. Stated horsepowers are averaged and can vary  $\pm$  5%. Details available.

Specifications and content subject to change.

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