FREE SAMPLE

The opening pages of

1951 Harley-Davidson Panhead Buyer's Guide

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IRONHEAD

1951 Harley-Davidson Panhead — Factory-Correct Restoration Guide

IronHead single-year guide · Model year 1951 only · Covers all 1951 Panhead Big Twins — the 61ci EL and the 74ci FL, including sidecar variants · The 1950 Panhead and all later years are out of scope except where differences are noted

Factory-correct restoration guides for classic motorcycles

KEY FACTS AT A GLANCE

- **Model year covered:** 1951 only — the EL (61ci) and FL (74ci) Big Twins, plus ES/FS sidecar-geared variants.
- **Engine:** 74ci (73.66 cu in) 45-degree air-cooled OHV V-twin; 3-7/16 x 3-31/32 in bore x stroke; 7.0:1 compression (FL). 61ci EL: 3-5/16 x 3-1/2 in, 60.32 cu in, 7.0:1. Aluminum heads, hydraulic lifters, internal oil lines.
- **New for 1951:** two-piece cam with ramps on both sides; rocker arms machined with pushrod sockets; new script tank emblem; mid-year Linkert M-74B carburetor (standard through 1965); larger pinion shaft mid-year; pushrod cover seals changed to D-rings.
- **Ignition:** 6-volt battery, breaker points; kick start only.
- **Transmission:** 4-speed constant-mesh; hand shift, foot clutch. No foot-shift option in 1951.
- **Chassis:** Wishbone rigid frame; Hydra-Glide telescopic fork; 8-inch front drum brake.
- **Wheels/tires:** Wire-spoked wheels; factory tire data lists 4.00 x 18, 4.50 x 18, and 5.00 x 16 fitments.
- **Dimensions:** 59.5-inch wheelbase.
- **1951 colors:** Brilliant Black, Persian Red, Rio Blue, Police Silver, Metallic Green, White, Metallic Blue (Metallic Green, White, and Metallic Blue at extra cost).
- **Identification:** No frame VIN — the engine serial (left case, between the cylinders, e.g. 51FL1234) is the ownership number. Belly numbers on both crankcase halves must match each other.

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- **Production:** EL 1,532; FL 6,560 — 8,092 across the listed models (compiled figures; Harley-Davidson published no official year totals; ELS and FLS sidecar-geared figures are not reported).
- **1951 price new:** $900 (FL), $885 (EL).
- **Key 1951-only details:** first year of the script tank emblem; mid-year carburetor change means early and late 1951 bikes take different carburetors; revised pushrod seals and D-ring seals; revised pushrod D-rings replace earlier pushrod seals.

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1. Manufacturer history: Harley-Davidson

Harley-Davidson was founded in Milwaukee, Wisconsin, in 1903 by William S. Harley and Arthur Davidson, with Walter and William A. Davidson joining the effort. The first factory went up in 1906; the first V-twin appeared in 1909. Through the 1910s and 1920s Harley built its name on V-twins and racing success; the 45-cubic-inch flathead models of the 1930s kept the company alive through the Depression, and the 1936 EL Knucklehead brought overhead valves to the Big Twin line.

The 1948 Panhead — aluminum heads, hydraulic lifters, internal oiling on the Knucklehead bottom end — was Harley's answer to the Knucklehead's heat and oil troubles; the 1949 Hydra-Glide gave it telescopic forks and the Brooks Stevens look; the 1950 heads made it breathe better. By 1951 the Panhead was Milwaukee's established flagship, and the factory's attention turned to refining the valve train and the carburetor.

The Panhead era that followed is the backbone of this brand: the 1958 Duo-Glide added rear suspension, and the 1965 Electra Glide added electric start and 12-volt electrics. The Panhead ran from 1948 through the 1965 model year, when the Shovelhead took over for 1966.

For the restorer, the authority is the factory literature: the Harley-Davidson Panhead service manual (1948–1957) and the year parts catalogs, backed by Bruce Palmer's *How to Restore Your Harley-Davidson*, Greg Field's *Original Harley-Davidson Panhead*, and the production research compiled by the Panhead & Flathead Site. This guide cites those sources throughout.

2. Model history: the Panhead Big Twin, 1948–1965

The 1948 Panhead kept the Knucklehead's proven crankcases, flywheels, and gear train and changed everything above the cylinders: finned aluminum heads with bronze valve seats and steel inserts, pushrod-operated hydraulic lifters, and redesigned rocker arms under pan-shaped covers. 1949 brought the Hydra-Glide telescopic fork, the 8-inch front drum, and the Brooks Stevens restyle; 1950 brought redesigned heads with enlarged ports.

1951 was the valve-train year. Harley fitted a two-piece cam with ramps on both sides, machined the rocker arms with proper pushrod sockets (replacing the earlier socket arrangement), changed the pushrod seals to D-rings, and — mid-year — introduced the Linkert M-74B carburetor that would serve the Big Twin through 1965. A larger pinion shaft arrived mid-year too, and the tanks got a new script emblem. The early-year bikes take the earlier carburetor; the late-year bikes take the M-74B — a detail that decides "correct" on a concours bike.

The model letters work like this. **E** = 61ci medium-compression (6.5:1); **EL** = 61ci high-compression (7.0:1); **F** = 74ci medium-compression (6.6:1); **FL** = 74ci high-compression (7.0:1). **S** = sidecar gearing. **H** (1955 on) = Super Sport; **B** (1965) = electric start; **F** (not first letter, 1952 on) = foot shift; **E** as third letter = Traffic Combination motor with 61ci cam and M61 carburetor.

Year	What changed
1948	First Panhead: aluminum heads, hydraulic lifters, internal oiling; wishbone frame; springer fork (one year only); chromed pan covers (one year only); E/EL and F/FL.
1949	Hydra-Glide telescopic fork replaces the springer; Brooks Stevens restyle; front brake grows 7.25 to 8 inches; Harley-Davidson makes its own breaker points.
1950	Redesigned heads with enlarged ports (about 10 percent more power); fixed-jet carburetor with revised jetting; remote oil filter; primary screws to 6/12 o'clock; die-cast fork sliders.

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Year	What changed
1951	**Two-piece cam with ramps both sides; rocker arms machined with pushrod sockets; mid-year Linkert M-74B carburetor (stays through 1965); larger pinion shaft mid-year; pushrod seals changed to D-rings; new script tank emblem.**
1952	Foot-shift option; all Panheads high-compression only; last year for the 61ci EL; rotating exhaust valves late in the year; generator model 52.
1953	Lifters relocated from top of pushrods to below them; FLE Traffic Combination introduced; 4-rib gearcase cover; 24-roller pinion shaft.
1954	Golden Anniversary brass medallion on front fenders; tapered pinion shaft; Jubilee trumpet horn; first optional dual exhaust; winged fireball emblems.
1955	FLH Super Sport introduced — 8:1 compression, 60 hp @ 5,500 rpm; stronger bottom end with Timken mains; oval taillight; "V" tank emblem.
1956	"Victory" high-lift cam for the FLH and a flow-through air cleaner — about 12 percent more power; redesigned right crankcase oiling.
1957	Round Lucite tank emblem (first plastic emblem); polished aluminum rocker covers; steel-alloy valve guides from February 1; stronger valve springs from 57FLH4444.
1958	Duo-Glide: swingarm rear suspension and hydraulic rear drum brake; thicker cylinder-head fins; brush generator; step-down straight-leg frame.
1959	Arrow-Flite tank emblem; green neutral indicator on the foot-shift dash; chrome front fender tip; black footboards.
1960	Two-piece aluminum fork nacelle; Stellite-faced exhaust valves; rail-type oil-control rings; extra-heavy valve springs.
1961	Dual-point single-fire ignition with individual condensers; rear-cylinder timing mark added mid-year; four-point-star tank emblem.
1962	"Tombstone" speedometer; three round indicator lights; brushed-aluminum trim pieces.
1963	External oil lines to the cylinder heads; wider rear brake hub and shoes; round turn-signal housings; fiberglass saddlebags; new bar-and-shield tank emblem.
1964	Breather hole in the primary housing; oil-pressure switch; hollow hex timer adjuster; last year of the Duo-Glide.
1965	Electra Glide: electric start, 12-volt electrics, new frame, aluminum primary cover, automatic spark advance; last year of the Panhead.

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The company context matters when judging a bike. The postwar boom made the late 1940s Harley's biggest years yet; by the mid-1950s British imports were pressuring the sporting end of the market (answered by the 1952 K-model and the 1957 Sportster), while the Big Twin settled into its long career as America's touring motorcycle. The 1969 AMF takeover came after the Panhead era; no Panhead left Milwaukee under AMF ownership.

3. What is unique about the 1951 Panhead

The 1951 is the valve-train year — and a split year. The mid-year changes (two-piece cam refinements, the Linkert M-74B, the larger pinion shaft, the D-ring pushrod seals) mean an early-1951 bike and a late-1951 bike are different restorations. Get the build date before ordering parts.

1951 details to get right:

- **Two-piece cam** with ramps on both sides — the valve-train centerpiece of the year.
- **Rocker arms machined with pushrod sockets** — the earlier arrangement is gone; the sockets are a 1951 visual tell.
- **Pushrod seals changed to D-rings** (and pushrod D-rings replacing the earlier seals).
- **Linkert M-74B — from mid-year.** This carburetor served the Big Twin through 1965, but on a 1951 it is only correct for late-build bikes. An early-1951 bike with an M-74B is not wrong for the road, but it is wrong for the judging field — check the build date.
- **Larger pinion shaft — mid-year.**
- **New script tank emblem** — first year of the script; the 1949–1950 graphics are different.
- **Optional chromed "Hydra-Glide" front-fender emblem** — $1.50 option, available through 1954; a small but documented 1951-correct accessory.

What did NOT exist in 1951 (common mix-ups):

- No foot shift (1952), no lifter relocation (1953), no FLH (1955), no rear suspension (1958), no 12-volt system or electric start (1965).

1951 buyer cautions:

- **Early-versus-late build.** The mid-year carburetor and pinion-shaft changes make the build date the most important document on a 1951. A "restored to factory spec" bike with the wrong carburetor for its build month is a common and expensive error.
- **Rocker-arm sockets.** Verify the machined sockets; earlier-pattern rockers on a 1951 are swapped parts.
- **Same first-generation lifter position:** 1951 lifters still sit atop the pushrods (relocated in 1953), with the oil-supply caveats in the 1948 guide's wear notes.

4. Technical restoration data — 1951 Harley-Davidson Panhead

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4.1 Frame and engine numbers (1951)

Pre-1970 Harleys carry no frame VIN — the engine number is the ownership number. It is stamped on the left crankcase between the cylinders, in the form year-digits + model letters + sequential number, for example:

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51FL1234
51 = model year | FL = model | 1234 = sequential number
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The frame carries only manufacturing stampings and casting numbers.

Belly numbers are stamped on the bottom of each crankcase half. They were stamped by the machinist to identify a matched pair of cases through line boring and final machining — the two halves must carry the SAME belly number, and the belly number has no direct relationship to the engine serial.

4.2 Engine specifications (1951)

Item	Specification
Configuration	45-degree air-cooled OHV V-twin; pushrod hydraulic lifters; aluminum heads
Displacement	73.66 cu in (74ci class) / 60.32 cu in (61ci class)
Bore x stroke	3-7/16 x 3-31/32 in (87.3 x 100.8 mm) — 74 / 3-5/16 x 3-1/2 in — 61
Compression ratio	FL/EL: 7.0:1; F: 6.6:1; E: 6.5:1
Claimed output	FL: 50 hp @ 4,800 rpm (reported for the 1948 FL; the 7.0:1 FL engine carried through 1954 — confirm against the factory service manual for the exact year). No published figure survives for the 61 — do not quote internet estimates.
Carburetor	Early build: earlier carburetor; late build: Linkert M-74B (check build date)
Ignition	6-volt battery, breaker points
Starting	Kick starter only
Clutch	Dry multi-plate
Lubrication	Dry sump; remote-mounted oil filter; gear-driven oil pump

4.3 Carburetion and electrical

- Build-date-dependent carburetor: the Linkert M-74B arrived mid-year and

stayed through 1965. Verify the build date, then rebuild with the correct year's settings — not a generic kit.

- 6-volt battery ignition with breaker points; verify charging under load
- Kick starter only

4.4 Transmission and final drive

- Four-speed constant-mesh gearbox, separate from the engine
- Hand shift, foot clutch — the only arrangement in 1951
- Chain primary and chain final drive; dry multi-plate clutch

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