

FREE SAMPLE

The opening pages of

Ford Bronco Drivetrain 4x4 Systems 1966 1977

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RESTORATIONESSENTIALS

Factory-Correct Restoration Reference

Ford Bronco Drivetrain & 4x4 Systems

Model Years 1966–1977

Coverage	Engines, transmissions, transfer case, axles, 4x4 operation
Transfer case	Dana 20 (T-shift early; J-shift later)
Transmissions	3-speed column manual; C4 automatic (1973+)
Front axle	Dana 30 (1966–70); Dana 44 (1971–77)
Rear axle	Ford 9-inch; 3.50 standard, 4.11 optional
Brakes	Drums (1966–75); front discs (1976–77)

Every specification in this guide was checked against factory literature, marque references, period road tests, and documented survivor vehicles. Where sources disagree or the record is silent, this guide says so rather than guessing.

Published by RestorationEssentials



How This Guide Works

This is the **drivetrain companion** to the RestorationEssentials *Ford Bronco Restoration Guide (1966–1977)*. Where that guide covers identity, body, trim, and year changes, this one covers everything that turns: engines in service, transmissions, the Dana 20 transfer case, axles and gearing, brakes, steering, and correct 4x4 operation. It is a restoration guide — factory-correct specification and service — not a buyer's guide and not a modification manual. Specifications were checked against Broncozone's VIN/warranty-plate reference, CJ Pony Parts' 1977 data, and period Ford literature.

Engines in Service

Engine	VIN	Years	Service notes
170 I6	F	1966–72	1-bbl; solid, simple; check oil pressure at hot idle
200 I6	S	1973–74	1-bbl; same service profile as the 170
289 V8	N	1966–68	2-bbl/4-bbl by application; 200 hp in 1966
302 V8	G	1968–77	1977: 135 hp, 8.4:1, 4.00 x 3.00 in bore/stroke

- Cooling: the short nose leaves little margin. A correct shroud, clutch fan, and clean radiator matter more than any “upgrade.”
- Fuel: 1-bbl sixes and 2-bbl V8s want fresh, ethanol-aware rebuilds — modern fuel attacks old rubber and some pot-metal carburetor parts.
- Ignition: points distributors through the run (Duraspark electronic from 1976 on some applications) — set dwell and timing to the year-correct specification sticker under the hood.
- Smog equipment (1970s trucks): thermactor, EGR, and charcoal canister by year — restore it for factory-correct judging; photograph routing before disassembly.

Transmissions

Unit	Type	Years	Notes
3-speed manual	Column shift	1966–77	Standard; linkage bushings are the wear item
C4 automatic	3-speed auto	1973+	Column or floor shift by application

- Column-shift linkage: rebuild the bushings and the lower column bearing before condemning the transmission for hard shifting.
- C4 service: fluid and filter, band adjustment, and vacuum modulator to factory specification. A C4 that flares on the 2–3 shift usually wants bands and a modulator, not a rebuild.

Dana 20 Transfer Case

- Cast-iron, gear-driven, part-time case — the reason early Broncos survive decades of abuse.
- Shift patterns: T-shift (early) and J-shift (later) — the gate shape identifies which you have; linkage parts do not interchange.
- Service: gear oil to the fill plug; inspect the shift rails and detents when the case is out. Worn detents cause pop-out of low range — the classic Dana 20 complaint.



- Leaks at the yoke seals and the shift-rail bores are normal age, not fatal flaws — reseal with the case on the bench.
- Twin-stick conversions exist in the aftermarket; a factory-correct restoration keeps the single factory shifter.

Axles and Gearing

Axle	Years	Notes
Dana 30 front	1966–70	Drum brakes; smaller U-joints than the 44
Dana 44 front	1971–77	Stronger; disc brakes 1976–77
Ford 9-inch rear	1966–77	Drop-out third member; the era's strongest light axle

- Factory gearing: 3.50 standard (warranty-plate axle code 18); 4.11 optional. Verify against the axle tag — gears are the most commonly changed item.
- 9-inch service: pinion seal, carrier bearings, and backlash to specification. The drop-out third member makes bench service straightforward.
- Front axle service: wheel bearings, ball joints (Dana 44) or kingpins, U-joints, and — on 1966–68 trucks — the standard locking hubs.
- Tire size and gearing must match: oversized tires on 3.50 gears make a 302 work hard and overheat the C4. Factory-correct means factory-size tires or gears matched to what's fitted.

Brakes and Steering

- 1966–75: drum brakes all around with a dual master cylinder from 1967. Rebuild the hydraulics completely — wheel cylinders, hoses, master, and hardware — not just the shoes.
- 1976–77: factory front disc brakes. Rebuild calipers, replace hoses, and verify the proportioning valve and master cylinder are the disc-brake units.
- Steering: manual steering early; power steering optional from 1973. Rebuild the steering box and replace the rag joint and tie-rod ends as a set — wandering is usually the joint and box, not the alignment.
- Parking brake: cables seize from disuse; free or replace them — a working parking brake is a safety item, not a concours extra.

Correct 4x4 Operation

- The Dana 20 is a part-time case: 2H for pavement, 4H for loose surfaces at speed, 4L for crawling, N for flat-towing or PTO.
- Lock the front hubs before you need them; unlock on pavement. Driving locked hubs on dry pavement in 4H winds up the driveline.
- Shift-on-the-fly into 4H is acceptable at low speed with hubs locked; always stop to engage 4L.
- After water crossings: check the axle, transmission, and transfer-case fluids for milkiness — breathers let water in.

Suspension and Ride Height

- Front: coil springs on radius arms — bushings, C-bushings, and track-bar bushings set the handling. Worn C-bushings cause the classic Bronco wander.
- Rear: leaf springs; check for cracked leaves, worn shackles, and collapsed bushings.