

## TDR INDEX—ISSUES 45-48 by Bob and Jeannett Vallier

Of the annual indexes to the TDR, this is the tenth.

The first index, compiled in summer 1996, covered all previous twelve issues, and it did it in two pages. It was a normal, run-of-the-mill index; that is, it simply listed key words alphabetically and provided page numbers where they appeared in the pages of the magazines.

In summer '97, Clay Maxam took the index in a bold new direction, to provide readers an informative research tool—he combined the usual simple alphabetical index with annotations to the separate entries, so that readers had not only page references, but summaries

or descriptions of content. In other words, he provided thumbnail reviews of all information in the pages of the previous year of the TDR. With this handy reference, readers have a notion of how relevant a particular entry will be to their research of a topic.

The present index continues in this format, adding two minor but useful features: an index to the miscellaneous noises and to various leaks identified by readers and addressed in Issues 45-48.

**Bob and Jeannette Vallier**  
TDR Writers

### **Accelerator pedal, "hard spot"**

Issue 45 (12-Valve Engines) A "hard spot" when depressing the accelerator pedal disappears after the engine is running and is within specs of the Bosch P7100 fuel injection pump governor. 39

### **Accelerator pedal, binding**

Issue 46 (12-Valve Engines) An accelerator pedal that binds and refuses to depress completely may be explained by a frayed throttle cable. 26

### **Accident in traffic, what to do at the scene**

Issue 48 (From the Shop Floor) Robert Patton tells of an accident he had in traffic and provides a checklist of all that a driver should do before leaving the scene. 156–157

### **Aerodynamics. See Tailgate removal, effect on aerodynamics**

### **Air/fuel control (AFC), supply line, failure**

Issue 47 (First Generation) A reader describes his improvised repair of a failed AFC line, using off-the-shelf fittings, at a cost of less than five dollars. 28

Issue 47 (12-Valve Engines) Readers discover that low power in a 12-valve Turbo Diesel engine may result from a pinched or cut plastic line supplying boost pressure to the air/fuel control (AFC) housing. 32

### **Air conditioner, spontaneous disengagement. See Alternator, failure to charge**

### **Air conditioner evaporator, leaking, replacing**

Issue 47 (12-Valve Engines) A failing air conditioner may be caused by a corroded and leaking evaporator, resulting from collection of debris on the air intake, requiring replacement and suggesting installation of the "Cab Fresh Filter Kit." 36–37

### **Air filters, stock vs. oiled element**

Issue 45 (Idle Clatter) Re-usable air filters fail to meet Cummins standards, according to Jim Anderson, who recommends sticking with the standard air filter. 99

Issue 47 (Shadetree) Joe Donnelly, who in the past said he preferred a paper air filter, reports that he now uses an aFe "Pro-Guard" oiled "cloth" filter for street use and for dyno testing, although the standard paper filter works well. 82–84

### **Alternator, failure to charge**

Issue 48 (First Generation) Spontaneous downshifting and failure of air-conditioner compressor, speedometer, and volt meter suggest an alternator malfunction caused by a problem in the ECM or the crankshaft position sensor. 17

Issue 48 (12-Valve Engines) Alternator's failure to charge may be traced to defective connectors between the engine-speed sensor and the PCM, remedied by checking, cleaning, and re-connecting the three leads. 28

### **Anti-theft switch**

Issue 46 (Third Generation) Robert Patton asks for help in building an anti-theft switch for his automatic '03 truck similar to Joe Donnelly's design for wiring an '04 with the six-speed manual transmission. 40

### **Axle, rear, howling noise**

Issue 45 (Idle Clatter) A howling noise issuing from the rear end, reported by owners of 2004 trucks, may come from the rear axle; and Dodge engineers are at work on solving the problem. 86

### **Axle, rear, rebuilding**

Issue 46 (First Generation) Andy Mikonis describes signs of wear in his Dana 70 rear axle and his recommended re-build by Randy Martin. 18

### **Axle, rear, seals, routine replacement. See Brakes, rear, replacing drums and servicing**

### **Axle, rear, vent**

Issue 45 (First Generation) The rear axle has a vent tube designed to equalize air pressure within the axle housing while blocking contaminants. 32

### **Backup sensor, installing in the bumper**

Issue 45 (Turbo Tips) Instead of using brackets to mount the "Parking Partner's" backup sensors below the bumper, a reader cut holes in the bumper for a neat installation. 13

### **Baselines, establishing**

Issue 45 (The Way We Were) In a reprint from Issue 29, James Langan gives full instructions for establishing a truck's performance baseline, useful in appraising the value of upgrades and aftermarket accessories. 78–81

### **Belt, serpentine, emergency replacement**

Issue 46 (TDRRelease) A press release provides information on an emergency replacement serpentine belt that bypasses the air conditioner when its compressor clutch has seized up. 160

### **Belt, serpentine, routine replacement**

Issue 46 (24-Valve Engines) A TDR reader provides instructions for releasing the belt tensioner, permitting removing and replacing the belt on the Turbo Diesel engine. 36

### **Belt, serpentine, squeaking, chirping**

Issue 45 (Turbo Tips) A noise which a reader calls "a diesel sneeze" is normal. 12

Issue 46 (Idle Clatter) A chirp or squeak from under the hood upon engine shutdown is normal, says Jim Anderson. 112

Issue 48 (First Generation) Persistent squeaking or chirping in the belt drive area indicates two possible causes: a glazed belt, with suggestions for replacement; a worn tensioner, with instructions for testing. 17

### **Block 53 problem. See also Engine block, replacing**

Issue 48 (Idle Clatter) Jim Anderson advises owners of '99 Turbo Diesel trucks with coolant leaking from the engine block (the "Block 53 Problem") to work with Dodge, who warrants the engine. 94

### **Block heater, alternative power connection**

Issue 48 (Kohl Fusion) Ron Kohl describes a rig he devised for connecting the block heater to a power source at the rear of the truck without opening the hood, using an outdoor extension cord strung under the truck. 134–135

### **Bodywork, do-it-yourself**

Issue 48 (From the Shop Floor) His vehicle damaged in a traffic accident, Robert Patton decides to make the body repairs himself, depending on the TDR website and eBay for body parts. 156–157

### **Boost fooling. See Fueling box power enhancements**

### **Brake, rear, replacing drums and servicing**

Issue 45 (First Generation) Readers compare notes on sources of brake drums and how to mount them on their First Generation trucks, with due attention to replacing studs and axle seals. 36

### **Brakes, parking brake vs. exhaust brake**

Issue 47 (Idle Clatter) Jim Anderson warns first-time buyers of Turbo Diesels against confusing the functions of the parking brake and the exhaust brake: the latter will not function as a substitute for the former. 88

**Brakes, poor performance**

Issue 45 (Idle Clatter) Jim Anderson lists possible explanations for poor braking performance and long brake pedal travel with a spongy feel. 90

**Brakes, rear, replacing drums and servicing**

Issue 47 (First Generation) Readers share advice on removing and installing the brake drum on the First Generation truck, and attendant servicing, including replacing automatic adjusters and axle seals. 31

**Brake hub, Dana 70, socket size**

Issue 46 (First Generation) TDR readers provide the correct size of the socket for removing the brake hub on the First Generation Turbo Diesel, Dana 70 axle. 22

**Brake rotors, cracks**

Issue 48 (First Ride) James Walker assures a neighbor that it is normal for brake rotors to slowly develop surface cracks over time, which does not call for overhaul. 83

**Brake system, maintenance, fluid changing, line inspection**

Issue 48 (Ranch Dressing) John Holmes emphasizes the importance of regular periodic change of brake fluid and inspection of lines and hoses. 105

**Brake torque proportioning valve**

Issue 45 (Member2Member) James Walker explains the bias-proportioning valve which brake torque is balanced between front and rear of the vehicle, but he counsels that adjusting it is a job best reserved to experts. 14-17

**Braking system, truck-trailer integrated. See Trailer brake controller, integrated, introduced by Ford****Brush guard, high impact plastic**

Issue 46 (Khol Fusion) Ron Khol declares that while vendors such as Mopar may call their plastic brush guards "high impact," his experience suggests that they are less sturdy than metal guards. 138-139

**BSFC and volumetric efficiency. See Performance enhancements, evaluating****Bumper, front, aftermarket, heavy-duty**

Issue 48 (TDRRelease) "RhinoTuffBumper" is described by its maker as "completely functional" and not a cosmetic addition. 171

**Cables, chains, hooks, and straps for winching and hauling. See Off-road driving, equipment for the four-wheel Dodge Turbo Diesel****Chrysler-Dodge, history and tradition**

Issue 45 (Miscellaneous RAMblings) Donn Bunn expresses his admiration for the first Chrysler auto, introduced in 1924, the Chrysler 70, notable for speed and four-wheel hydraulic brakes. 110

Issue 46 (Miscellaneous RAMblings) Donn Bunn reprises Chrysler's "Huge Stumble" in 1954, when poor vehicle style, discussed in Issue 45, pp. 110-111, was compounded by serious quality problems. 125-127

Issue 46 (Miscellaneous RAMblings) Donn Bunn tells how Chrysler developed the original Hemi to win at Daytona in 1964, but which would power Dodge in the market till 1971. 127-130

Issue 47 (Miscellaneous RAMblings) Donn Bunn rounds off his earlier account of Chrysler's "Huge Stumble" with citations of favorable reviews of the 1954 PowerFlite transmission and the upscale DeSoto. 118

**Clutch release bearing, removal**

Issue 48 (First Generation) A member assures another that it is possible to remove the clutch release bearing by removing only the transmission without removing the clutch bell housing. 14

**Coolant leak. See Headgasket, replacement****Coolant overflow tank breather, extending**

Issue 48 (Third Generation) A reader is concerned that contaminants may enter the coolant overflow tank breather, and installs a routing hose to exclude foreign material. 43

**Coolant temperature sending unit, replacing**

Issue 46 (12-Valve Engines) TDR readers provide instructions on locating, accessing, replacing, and checking connections of the engine coolant temperature sending unit. 34

**Cooling system, components and maintenance**

Issue 45 (24-Valve Engines) A TDR reader discounts the value of popular lab tests to determine if coolant needs changing, and decides simply to follow instructions on the container. 43

Issue 48 (Member2Member) Brad Nelson advises using low-sudsing detergent, such as that for automatic dishwashers, to clean contaminants such as oil from the coolant system. 12

Issue 48 (Ranch Dressing) John Holmes describes the Turbo Diesel engine's cooling system and advises staying with one formulation (same color), maintaining the prescribed mix with water, and checking hoses and belts regularly. 105

**Cranking speed, deficient**

Issue 46 (First Generation) Readers decide that the most effective correction for a sluggish starter is replacement of batteries with ones of 1200 or more CCA rating. 22

**Crankshaft, rear seal, replacing**

Issue 45 (24-Valve Engines) A TDR reader confirms the correct part number for the rear crankshaft seal and provides instructions for doing the job. 45

**Cruise control, malfunctioning**

Issue 46 (12-Valve Engines) A malfunctioning or defunct cruise control in Second Generation trucks may be caused by breaking of a vacuum by leaking battery acid. 30

Issue 47 (Ranch Dressing) John Holmes notes that with power enhancements the cruise control may surge and retreat, cycling up and down both sides of the designated speed, and offers fixes for the '94-'98 12-valve and the '98.5-'02 trucks. 112-113

**Cummins engine, history and tradition**

Issue 47 (Your Story) Jim Anderson reviews "The Engine That Could" and quotes from his earlier review of "The Diesel Odyssey of Clessie Cummins," to present the saga of America's only independent diesel manufacturer. 69-74

**Cummins Turbo Diesels, review of all engines since '89**

Issue 47 (Third Generation) The editor presents a comprehensive review and update of the 2005 Cummins engine: emissions, ratings, hardware, software; with a resumé of all past engines in the series, '89 till the present model. 42-50

**Dash, cramped space behind and beneath**

Issue 47 (Khol Fusion) Ron Khol complains about contemporary vehicle body design which precludes easy access and installation or repair of accessories, to such an extent that owners find it better to sell a vehicle than fix it or refine it. 132

**Dealer service recognition**

Issue 45 (Blowin' in the Wind) The editor presents a roster of The Charger Club, the top 100 Dodge dealers for 2003. 66-67

**Defrost door, broken, repair**

Issue 48 (Third Generation) Because extremely cold plastic turns brittle, the original defrost vent door may break, with loss of control over ventilation: in this event, the solution is a replacement defrost vent door of better construction. 43

**Diesel engine, remanufactured. See Mopar remanufactured Cummins engine****Diesel engines, innovations in the competitive market**

Issue 47 (Four Whaling) Greg Whale identifies new diesel-engined vehicles in America and Europe: besides the 5.6-liter Cummins V-8 tested in a Ram 1500, a Peugeot with a 2.2-liter 150-horsepower four cylinder, as well as candidates by BMW and Saab. 62

**Diesel racing vehicles. See also Drag racing trucks**

Issue 46 (Blowin' in the Wind) The C/DS streamliner, billed as the world's fastest diesel, clocked 292.735 mph at Bonneville, August 2004, although denied a place in the official record books because it failed to make the required back-up run. 76

**Differential, front, cover, exchange**

Issue 47 (Ranch Dressing) John Holmes says that folks who bought the early MagHytec front differential covers for the '02 but experienced gear lube spitting from the breather hose, may receive a free exchange from the maker. 110

**Dip stick handle, O-ring, sourcing**

Issue 46 (24-Valve Engines) A TDR reader is informed that the O-ring under the oil dipstick handle is generic and easily procured at any parts or hardware store. 36

**Dodge-Cummins Turbo Diesel pickup truck, story of its origin**

Issue 48 (Your Story) In an extended interview with retired executives John Keele of Cummins and Troy Simonsen of Dodge, the editor recounts the origins of the Dodge-Cummins Turbo Diesel pickup, in the history-making cooperation of the two companies. 64-69

**Dodge 1964 Custom Sports pickup**

Issue 45 (Miscellaneous RAMblings) Donn Bunn gives us the story and the specs of the fabled Dodge 1964 Custom Sports pickup and its prototype, the Palomino. 111-114

**Dodge 2006 Ram Mega Cab**

Issue 48 (Third Generation) Steve St-Laurent covers the 2005 Chicago Auto Show, comparing Ford, GM, and Dodge front-running competition, particularly for cab space and accessibility, focusing on the new 2006 Dodge Mega Cab with the Cummins Turbo Diesel. 44-46

Issue 48 (Third Generation) Andy Mikonis describes the merits of the new Dodge 2006 Ram Mega Cab, the roomiest of the big three, but also assesses the handicaps its design imposes on expanding the line to longbed and dually. 48

**Dodge Dakota Sidewinder**

Issue 45 (Your Story) Bruce Armstrong describes his day with Sheldon Tackett test driving the Dakota Sidewinder in Azusa, where Gale Banks is preparing the vehicle for racing at Bonneville. 56-58

**Dodge Magnum wagon, success in the SUV market**

Issue 46 (Blowin' in the Wind) The Dodge Magnum wagon is attracting large numbers of SUV buyers, with 40,000 orders placed in less than two months. 68

**Dodge Sprinter**

Issue 45 (Idle Clatter) Jim Anderson takes note of the Dodge Sprinter, a high cube van equipped with the Mercedes-Benz five-cylinder turbo diesel, assembled and sold in the U.S. with a Dodge nameplate. 86

**Dodge Turbo Diesel, Third Generation, quality assessments**

Issue 45 (Idle Clatter) Jim Anderson reports favorable reception of the 2004.5 model trucks, the lag in availability of aftermarket products, and complaints of steering drift and vibration. 88

Issue 46 (Idle Clatter) The 2004 model, like every new truck, has occasioned complaints, particularly of new sound patterns from the hollow-boxed frame and the new rear axle, in part because they are un-masked by a quieter engine, says Jim Anderson. 111

Issue 48 (Idle Clatter) Jim Anderson awards his "thumbs up with attached Attaboy" award to the Third Generation truck body and HPCR Cummins engine, for surmounting the normal teething problems of a new model and demonstrating quality production. 96

**Dodge Turbo Diesel truck, mechanical 12-valve, merits**

Issue 48 (Ranch Dressing) John Holmes buys an old 12-valve Second Generation Turbo Diesel built before 1/1/94 and hence lacking a catalytic converter, a truck simple to work on and with good gas mileage, a great truck, he boasts. 108

**Door lock, remote control, malfunction**

Issue 47 (Third Generation) The remote control to lock/unlock the driver's door is separate from that controlling the other doors and may malfunction independently; nevertheless, the control unit is a single item and is replaced as one unit. 52

**Double-clutching, merits and technique**

Issue 47 (Member2Member) Brad Nelson explains why and how to double-clutch, a technique in shifting the heavy-duty manual transmissions that will increase the life of clutches, engines, transmissions, drivelines, axles, and tires. 12

**Dowel pin problem**

Issue 45 (Letter Exchange) Reader recommends protecting against "killer dowel pin" with the TST Products Dowel Pin Correction Kit. 6

Issue 46 (TDRRelease) Harold Bowers has assembled and offers to sell a kit for addressing the so-called "killer dowel pin" threat. 162

**Drag link, failure**

Issue 46 (First Generation) Readers recommend replacing a repeatedly failed drag link in a First Generation Truck with a Superlift Adjustable Drag Link, which has replaceable ends. 20

## Drag racing trucks

- Issue 45 (Miscellaneous RAMblings) Donn Bunn unearths a tale of Dick Boynton, "the Racing Disk Jockey," who successfully raced a Dodge dragster in the sixties. 115
- Issue 45 (Miscellaneous RAMblings) Donn Bunn continues his series of Mighty Mopar Stories with one of the biggest power sagas, Don Garlits' winning of the 1964 Drag Racing Championships. 116
- Issue 46 (Your Story) Joe Donnelly tells the story of the ultimate performance diesel, the "Edge" drag racing truck, in size and style resembling a 2004 Ram Turbo but built to prove itself the world's fastest pickup in NHRA competition. 50-52

## Driveshaft center bearing, failure

- Issue 48 (First Generation) A failed driveshaft center bearing will spin in its rubber isolating collar, resulting in its freezing against the driveshaft and an alarming noise. 14

## Driving Tips

- Issue 45 (Turbo Tips) Laura Patton tells of her early experiences as a driving instructor and recounts her essential tips for safe and efficient driving. 10-11

## E-mail, response to queries

- Issue 45 (Idle Clatter) The e-mail service provider AOL blocks, as spam, all mail from unrecognized senders, which may explain failure to receive responses to queries by AOL subscribers. 90
- Issue 47 (Four Whaling) Greg Whale tells how some trade magazines handle correspondence, and states his own policy on answering e-mail queries. 64

## Electrical connections, proper wiring

- Issue 46 (Shadetree) Brad Nelson explains the principles and method for properly connecting and grounding the wiring of trailer lights and added truck accessories. 99-100
- Issue 46 (Shadetree) Loren Bengtson describes, in descending order of preference, acceptable ways of making secure electrical connections in truck wiring: solder, crimped connect, Swenco-type screw-on. 102-105

## Electronic controls

- Issue 45 (Ranch Dressing) In today's vehicles, computer controls are interlinked, with the result that the parts they control cannot be replaced or modified without disrupting the system. 105

## Emissions standards

- Issue 47 (Your Story) Jim Anderson says he expects that Cummins will be able to meet the severe 2007 emissions standards. 68

## Engine, raising to access and remove the oil pan

- Issue 48 (First Generation) Members provide instructions and advice for raising the engine to access and remove oil pan. 15-16

## Engine block, replacing

- Issue 48 (24-Valve Engines) Todd Stinson, a victim of the dreaded "block 53 problem," details every step and tool needed in total removal of the short block and replacement of it with a new unit, a project to which he devoted more than 100 man-hours. 30-35

## Engine mounts, replacing

- Issue 45 (First Generation) A reader is provided instructions for replacing worn-out rubber engine mounts. 32

## Engine oil, synthetic, Mobile

- Issue 47 (Idle Clatter) Jim Anderson informs TDR readers that Mobile now markets a full-synthetic diesel-rated truck and SUV 5W-40 engine oil with an API classification of CI-4, therefore suitable for all diesels, including the 2005 model year. 94

## Engine oil dipstick, replacing

- Issue 48 (24-Valve Engines) When the handle of the engine oil dipstick breaks off, use the old stick but substitute the new handle, so as to ensure full travel in the well. 36

## Environmental regulations

- Issue 45 (Four Whaling) Greg Whale characterizes the application of government regulations as inconsistent from one jurisdiction to another and from one engine design to another. 50
- Issue 45 (Exhaust Note) Kevin Cameron tells how each successive technological solution to the problem of environmental pollution, although acclaimed a panacea, has proved to be inadequate. 159-161

## Events 2004

- Issue 45 (Out Standing in the Field) In this issue TDR presents the calendar of events and rallies scheduled in 2004, including the following:
- Scheid Diesel's annual Diesel Extravaganza, Aug. 27-29, Wabash Valley Fairgrounds, Terre Haute, Indiana. 126
  - Midwest TDR Chapter Gathering, at a local dealership, Sept. 12, place announced on website. 126
  - Diesels in the Desert, sponsored by Hunter Dodge and Antelope Valley TDR Chapter, Oct. 24, Lancaster, California. 126
- Issue 46 (Polly's Pickup) The biennial Gale Banks Gearhead Bash was particularly noteworthy in 2004 for the presence of Parnelli Jones and Jay Leno, who showed up in his stainless steel hot rod with a Sherman tank engine; and the Southern California Rattlin' Rams held its first event in July, with 144 registered trucks and 435 attendees. 122-123.

## Events 2005

- Issue 47 (Out Standing in the Field) In this issue TDR presents the calendar of events and rallies scheduled in 2005, including the following:
- Open house and Summit meeting, sponsored by ATS Diesel Performance and the Rocky Mountain TDR chapter, Feb. 12, Arvada, Colorado. 143
  - Seminar and clinic, sponsored by New Mexico Four Wheelers, April, Auges Dodge, Belen, New Mexico. 143
  - Eleventh Annual TDR Western Regional Rally, May Madness, May 4-7, Las Vegas, Nevada. 140-142
  - Thunder in Muncie, organized by Eric McBride of DHRA, June 25-26, Indianapolis Raceway Park, Clermont, Indiana. 140
  - Twelfth Annual Thunder Mountain Truck Fest, sponsored by Cummins Rocky Mountain and Bandimere Dragway, July 23-24, Denver, Colorado. 140
  - Scheid Diesel's annual Diesel Extravaganza, Aug. 26-28, Wabash Valley Fairgrounds, Terre Haute, Indiana. 141

- Issue 48 (Out Standing in the Field) In this issue TDR presents the calendar of events and rallies scheduled in 2005, including the following:

- Eleventh Annual TDR Western Regional Rally, May Madness, May 4-7, Las Vegas, Nevada. 138-140
- The Thunder in Muncie rally, June 25-26 at Indianapolis Raceway Park in Clermont, Indiana. 138
- Twelfth Annual Thunder Mountain Truck Fest, sponsored by Cummins Rocky Mountain and Bandimere Dragway, July 23-24, Denver, Colorado. 138, 142
- Scheid Diesel's annual Diesel Extravaganza, Aug. 26-28, Wabash Valley Fairgrounds, Terre Haute, Indiana. 139

## Exhaust brake, product description

- Issue 46 (Life's a Beach) Jerry Nielsen recites the specifications, details of construction, and merits of the BD exhaust brake, installed on an '04 model 2500, 4 x 4, six-speed Turbo Diesel. 142

## Exhaust brake, retarding power, different profile in use with the HPCR engine

- Issue 47 (Idle Clatter) Although the exhaust brake produces more retarding power with the HPCR engine, because the cam shaft was redesigned, it produces less retarding power at lower engine speeds: the answer is to downshift before descending a grade. 90

## Exhaust brake, switch mounted on the shift lever

- Issue 46 (TDRRelease) Pacbrake publicizes a new transmission shift lever-mounted exhaust brake on/off switch. 159

## Exhaust brake, transmission control module

- Issue 46 (TDRRelease) Pacbrake issues a press release on its transmission control module for automatic transmission-equipped trucks, the TTS TripleLok Commander, programmed to put the torque converter in lock-up during exhaust brake retarding. 159

## Exhaust brake with the 48RE automatic transmission, issue unresolved

- Issue 45 (Backfire) Responding to a reader's challenge, the editor retraces the history of speculation on the compatibility of an exhaust brake with the 48RE automatic. 146-147
- Issue 48 (Idle Clatter) Jim Anderson criticizes Dodge for ignoring the evidence for successful use of exhaust brakes with the 48RE automatic transmission and adjusting its warranty policy accordingly. 95

## Exhaust Gas Temperature (EGT) probe, loose

- Issue 46 (24-Valve Engines) A TDR reader gives instructions for effectively locking the adaptor for the EGT probe into place on the manifold. 39

## Exhaust system, aftermarket

- Issue 47 (TDRRelease) Borla Performance Industries releases information on its XR-1 Cat-Back exhaust system, true bolt-on for all models, stainless steel pipes with polished five-inch angle-cut tip, weighing less than the original factory system. 170

## Exhaust system, larger diameter barrel

- Issue 45 (Idle Clatter) For most of us there is little or no benefit in terms of added power or improved mileage to installing a larger diameter exhaust system, according to Jim Anderson. 100

## Fan belt, replacing

- Issue 45 (First Generation) Detailed instructions are provided, reader to reader, for replacing the radiator fan belt. 35

## Fan clutch, replacing

- Issue 46 (24-Valve Engines) Jim Brewer provides instructions for removing and replacing a failed fan clutch. 38

## Fifth-gear nut, working loose. See Transmission, five-speed, fifth gear nut

## Fire extinguisher in the cab

- Issue 45 (Idle Clatter) Jim Anderson recommends a dry-powder fire extinguisher in the cab of every pickup truck. 86

## First Generation pickup, powered by an '03 HPCR engine

- Issue 45 (24 x 7) Jerry Nielsen reports his sighting of an HPCR engine under the hood of a First Generation truck, the work of Chuck Garges and Mike Smith. 150

## Five Points Tour, rules of the game

- Issue 48 (Five Points Tour) Inspired by Kevin Cameron's account of his road trips to the far corners of the continent, the TDR provides rules for "The Five Points Tour," a real-time, real-world road game for members to live the adventure themselves. 160-162

## Flywheel-housing oil leak

- Issue 47 (24-Valve Engines) A reader's problem with leaking oil at the flywheel housing and the clutch vent was diagnosed, not as a failed rear crankshaft seal, but as a leak at the back of the valve-cover gasket. 38

## Four-wheel drive, advantages in winter

- Issue 48 (Polly's Pickup) Polly Holmes says that when the winter weather gets bad at her ranch in the Mountain West, four-wheel drive is indispensable. 111

## Four-wheel drive, part-time vs. full-time, explained

- Issue 47 (Khol Fusion) Ron Khol explains the principle and operation of part-time and full-time four-wheel drive, why the latter cannot be operated on hard pavement, viz., the anomaly of wind-up, and various mechanical recourses to deal with it. 130

## Four-wheel drive, transfer case, stuck in LO

- Issue 45 (Third Generation) Several routine maneuvers are described for successfully shifting to 4 HI or 2WD when the gear is stuck in 4 LO. 49

## Freeze plug leak

- Issue 47 (24-Valve Engines) Readers report on alternative ways to repair a leak at the freezer plug without being required to remove the engine head. 39

## Front end, clunking noise

- Issue 48 (First Generation) A member driving a '91 Turbo Diesel with 400,000 miles and a clunking noise in the front end, has replaced every suspension component except the kingpin nylon cones and springs, his last resort. 16

## Fuel-water separator, monitoring

- Issue 47 (Third Generation) Water in fuel is seldom found to be a problem, particularly if diesel is purchased at busy truck stops; but the checking routine is a simple one, typically done at each filter change and is a prudent practice. 52

### Fueling box power enhancements

- Issue 45 (Technical Topics) Doug Leno and Joe Donnelly explain the fueling box for the 2003-04 engine, the relation between fueling/power, pressure/timing, "sticking" boxes, and implications in upgrading other components. 24-29
- Issue 47 (Technical Topics) Continuing their analysis of fueling box enhancements for high-output engines, Doug Leno and Joe Donnelly focus on nine products, emphasizing the need to balance fueling enhancements with other components of a complex system. 53-61
- Issue 48 (Technical Topics) Leno and Donnelly continue their study of fueling boxes for the '03-'04 engines begun in Issue 45, adding information and improved graphs, and providing a basis for further exploration of power enhancements in future issues. 50-58

### Fuel additives

- Issue 45 (Idle Clatter) Jim Anderson recommends against the addition of any conditioner to diesel fuel, with the exception of anti-gelling agent in very cold weather. 99

### Fuel delivery system, aftermarket

- Issue 48 (Ranch Dressing) John Holmes announces that he will test and in a later issue report on the performance of the F.A.S.S. Fuel System, a complete delivery system which replaces everything between the tank and the injection pump. 106

### Fuel efficiency

- Issue 46 (Idle Clatter) Jim Anderson recites the tried-and-true axioms for getting the best fuel economy in the Turbo Diesel pickup. 111
- Issue 48 (First Ride) Recounting a road trip between Detroit and Marquette in Michigan's Upper Peninsula, James Walker reports on his field experiment using his trip computer to calculate the relation between road speed and fuel economy. 76-80
- Issue 48 (Idle Clatter) Noting rising fuel prices, Jim Anderson reviews the ways to calculate efficiency and improve mileage, emphasizing modest road speed. 92

### Fuel filter, changing

- Issue 45 (Shadetree) Robert Patton explains the reasons for, and the step-by-step procedure in, changing the fuel filter on '98.5-and-newer trucks. 68-69
- Issue 48 (24-Valve Engines) The editor and a TDR member rehearse the regular order in replacing the fuel-water separator on 24-valve Turbo Diesel engines. 36
- Issue 48 (Third Generation) A reader asks what the dealer usually charges for changing the fuel filter; he is given an estimate and is advised how he can do the job for himself. 41

### Fuel filter, failure to prime. See Lift pump, failures

### Fuel filter drain-line extension

- Issue 48 (Third Generation) The fuel-filter drain line may be extended with a three-foot length of 5/8-inch heater hose, as described also by Robert Patton in Issue 45, page 68. 41

### Fuel filter housing, cracked, repair

- Issue 48 (24-Valve Engines) A TDR member suggests a fix for a cracked fuel-filter housing on the 24-valve truck, using JB Weld to mend the crack. 36

### Fuel heater, oil leak

- Issue 45 (12-Valve Engines) A fire at the fuel heater damaged O-rings and other rubber components in a reader's vehicle, resulting in fuel leakage: diagnosis and instructions for repair. 39

### Fuel injection lines, leaking

- Issue 48 (24-Valve Engines) TDR readers explain the proper method to tighten leaking fuel injection lines. 36

### Fuel injection pump, replacement

- Issue 47 (24-Valve Engines) TDR readers share know-how about replacing a VP-44 injection pump, rotating the engine and ensuring accurate alignment on dead center. 40-41

### Fuel injection pump key, lost in the engine

- Issue 47 (First Generation) If the injection pump key inadvertently falls into the engine interior, do not start the engine, but fish for the key with light and magnet. 30
- Issue 48 (First Generation) Readers compare notes on retrieving a key lost in the engine while replacing the injection pump, and also problems in extracting a broken plastic timing pin. 15
- Issue 48 (24-Valve Engines) Dropping an injection pump key into the timing case seems to be a fairly common misadventure, and several TDR readers offer suggestions for retrieving it and properly re-positioning the gears. 37

### Fuel leak at the cover to the tank

- Issue 46 (First Generation) The rubber seal in the cover to the fuel tank seldom goes bad, and tightening the cover ring is a reasonable first attempt to correct a leak at this opening. 18

### Fuel mileage calculator option

- Issue 45 (Idle Clatter) Jim Anderson comments on readers' reports of inaccurate readings in the fuel mileage calculator option on 2004 trucks and advises doing one's own calculations. 86

### Fuel pressure alarm light, kit

- Issue 47 (Ranch Dressing) For '98.5-'02 Turbo Diesels, BD is marketing a simple and inexpensive low-pressure alarm-light kit for those who elect not to use a meter. 110

### Fuel pressure gauge, aftermarket

- Issue 48 (The Way We Were) Adding an aftermarket fuel pressure gauge is advisable for trucks of model years '98.5-'02, and optional for later models: reasons for making the addition and instructions for installation are provided. 102-103

### Fuel prices

- Issue 45 (Blowin' in the Wind) The editor explains the correlation between diesel fuel prices and supply-and-demand determined by OPEC politics and regional variables. 64-65
- Issue 48 (Idle Clatter) Jim Anderson says he's all for free enterprise and corporate profits, but notes unjustifiably higher prices at pumps on the interstates than off, and excessive markup of diesel above gas prices. 92-93

### Fuel pump, heavy-duty, aftermarket

- Issue 47 (TDRelease) Diesel Performance Products, maker of the FASS fuel system, announces availability of its heavy-duty fuel-pump stand-alone component for 12-valve and 24-valve engines. 170

### Fuel return line, removal

- Issue 46 (12-Valve Engines) TDR readers give instructions for removing the fuel return lines and precautions in reassembly. 26

### Fuel Shutdown Solenoid, repair

- Issue 46 (12-Valve Engines) TDR readers combine their expertise to troubleshoot a failed fuel solenoid and check ignition switch circuits. 32
- Issue 48 (12-Valve Engines) TDR readers identify procedure for cleaning and re-installing a sticking plunger in the Fuel Shutdown Solenoid, a common cause of loss of fuel prime and failure to start. 25

### Fuel Shutdown Solenoid, replaced with a PTO cable. See PTO (Power Take Off) cable, to bypass the FSS (Fuel Shutdown Solenoid)

### Fuel tank, aftermarket

- Issue 46 (Life's a Beach) Jerry Nielsen describes an Aero aluminized 16-gauge steel replacement fuel tank, itemizes its advantages, and praises its installation by the maker. 141
- Issue 48 (Product Showcase) Joe Donnelly reviews and describes installation of a 56 gallon replacement fuel tank for Third Generation Rams manufactured by Transfer Flow Inc. 166-168

### Fuel tank, modifying to fill the dead-air space

- Issue 48 (Third Generation) A TDR reader devises a way to defeat the Dodge fuel tank design that provides dead-air space for fuel expansion; he describes his modification, warns of possible hazards, and offers a kit for sale to make the modification. 40

### Fuel tank sending unit, replacing

- Issue 45 (12-Valve Engines) Andy Redmond provides instructions for removing and replacing a fuel tank sending unit. 40

### Fuel transfer pump, problems in model years '98.5 to '02. See Fuel transfer pump, replacement

### Fuel transfer pump, re-designed and relocated to fuel tank in '05 model trucks

- Issue 48 (Ranch Dressing) John Holmes applauds the new fuel transfer pump in the '05 truck, designed as a "pusher" rather than a "puller," and its re-location in the fuel tank. 105

### Fuel transfer pump, replacement

- Issue 48 (The Way We Were) The editor reviews and reprints articles on fuel transfer pump replacement in trucks of model years '94-'98 from Issue 40, and in model years '98-'02 from Issue 34 with an update of the latter. 98-101
- Issue 48 (Ranch Dressing) As a product he plans to test and report on in the future, John Holmes identifies an aftermarket fuel transfer pump for models '98.5-'04.5, made by Diesel Performance Products, that plugs into the wiring harness. 106

### Gaskets, from tube silicone

- Issue 45 (Idle Clatter) Jim Anderson suggests using silicone RTV in a tube to make a gasket between surfaces assembled to contain lubricants. 94

### Gasket creep, as a cause of exhaust leak

- Issue 47 (First Generation) Exhaust leak in a First Generation truck, caused by manifold creep, can be corrected by retapping bolt holes and installing a Second Generation manifold. 28

### Gasoline, accidentally fueled to the diesel engine

- Issue 45 (Idle Clatter) The risk of damage from inadvertent use of gasoline in a diesel engine is probably negligible if the offending fuel is purged before re-starting the engine. 88

### Gauge, combination turbo-boost and exhaust-brake back-pressure

- Issue 46 (TDRelease) H&E Idle Systems offers a combination turbo boost and exhaust-brake back-pressure gauge. 162

### Gauge, dash, warning light, false alarm

- Issue 46 (Ranch Dressing) A false dash warning to "check gauges" is addressed in Technical Service Bulletin 08-004-03, with instructions to erase and reprogram the instrument cluster with new software: an easy fix, says John Holmes. 120

### Gauge, engine temperature, 12-valve engine, periodic swings

- Issue 46 (Idle Clatter) In the 12-valve Cummins it is normal for the engine temperature gauge to fluctuate because of regular periodic influx of cold water into the engine block at site of engine temperature gauge sender. 112

### Gauges, aftermarket, installing

- Issue 47 (Idle Clatter) Jim Anderson teams up with Bill Carlyle to install the Westach combo (EGT and boost) and the Westach automatic transmission temperature gauge in the open center pocket of the dash, using the AutoMeter three-gauge fixture. 99-101

### Gauges, interpreting readings

- Issue 47 (Idle Clatter) Jim Anderson tells how to interpret readings of EGT, boost, and transmission temperature gauges, to diagnose the health of the engine and to monitor the efficiency of system operation. 101-102

### Gauges, necessity or placebo

- Issue 45 (Idle Clatter) While not absolutely required, a boost and EGT gauge are well worth adding to one's truck; and in heavy hauling with an automatic transmission, a temperature gauge is highly advisable. 102-103

### Gear shift lever, tightening

- Issue 45 (Third Generation) Instructions are provided for removing the rubber boot to access the nut for tightening a loose gear-shift lever. 49

### Geno's Garage annual donation to a non-profit organization

- Issue 46 (TDRelease) Geno's Garage contributed ten thousand dollars to the Make-a-Wish Foundation, the proceeds of its "got diesel?" T-shirt sale in Dec. '03, the project to be repeated in Dec. '04. 163
- Issue 48 (TDRelease) From its annual Christmas fundraising, Geno's Garage contributed \$11,367 to National Hospice and Palliative Care, which provides treatment and comfort to people as they approach the end of their lives, according to Robin Patton. 170

### Global Positioning System (GPS)

- Issue 46 (TDReview) Mark Barnes provides a detailed review of the Garmin StreetPilot 2610 portable GPS unit, comparing it to other models in the same series, with price range and advice. 92-96

#### Graphics reproduction, quality problems

Issue 48 (Tailgating) The editor acknowledges that the reproduction of graphs in "Technical Topics" Issue 47 was of unacceptable quality, apologizes, and redresses by reprinting in Issue 48, pp. 50-57. 5

#### Grinding when shifting the 205 transfer case

Issue 46 (First Generation) A TDR reader explains cause and correction of gear spinning and grinding when shifting the 205 transfer case in First Generation trucks with automatic transmission. 20

#### Headbolts, re-torquing

Issue 45 (First Generation) Knowledgeable technicians agree that when replacing head gaskets, headbolts need not be re-torqued. 34

#### Headbolts, torque sequence

Issue 46 (12-Valve Engines) The headbolt torque sequence is the same for all Cummins B-series engines, although the torque values vary according to model year. 31

#### Headgasket, head stud kit

Issue 45 (TDRRelease) Automotive Racing Products (ARP) offers extra-heavy-duty studs for high-performance Cummins diesels. 156

#### Headgasket, replacement

Issue 45 (24-Valve Engines) John Livingstone provides instructions for removing the cylinder head and replacing the headgasket on Turbo Diesel models '89 through '04. 45-47

#### Headlights, aftermarket "Brite Box"

Issue 48 (Product Showcase) Joe Donnelly reviews the "Brite Box" system, which has the capacity to increase threefold the maximum illumination from combined high and low beams and fog light. 164-165

#### Headlights, failure

Issue 46 (12-Valve Engines) A recall for models '95 and '96 identifies the cause of overheating and melting in the headlight switch, correctable with a 48-dollar kit. 28

Issue 48 (Idle Clatter) The headlight circuit switch is liable to overload and failure in '89-'98 trucks with trailer wiring tied into the taillight wiring; Jim Anderson provides instructions for working around the problem. 95

#### Heater, back and seat, aftermarket kit. See Seat heater kit

#### Heater core, replacement

Issue 46 (Member2Member) Joe Donnelly rehearses steps in the daunting job of replacing a heater core, tells how to make the task a bit less grim, and lists necessary tools. 12-15

#### Hemi engine design, principle and evolution

Issue 46 (Exhaust Note) Kevin Cameron explains the "hemi" chamber design and recounts its evolution from a full hemisphere back in the 20s to today's modified "spherical segment chamber." 167-169

#### Holmes, John, autobiographical sketch

Issue 48 (Ranch Dressing) John Holmes reminisces on his life experiences with diesel engines, from the most primitive to the super-civilized, concluding with a philosophical aside on "progress." 104

#### Homogeneous Charge Compression Ignition (HCCI) engine

Issue 48 (Exhaust Note) Kevin Cameron gives a detailed description of the Homogeneous Charge Compression Ignition (HCCI) engine and analyzes its possible merits as an alternative to both the conventional internal combustion engine and the diesel engine. 176-177

#### Honors and recognition awards

Issue 45 (TDR/R/R) TDR adds to its roster of honorees for referrals to membership, high mileage, and other distinctions in the Turbo Diesel world. 140-144

Issue 46 (TDR/R/R) TDR adds to its roster of honorees for referrals to membership, high mileage, and other distinctions in the Turbo Diesel world. 146-149

Issue 47 (TDR/R/R) TDR adds to its roster of honorees for referrals to membership, high mileage, and other distinctions in the Turbo Diesel world. 144-147

Issue 48 (TDR/R/R) TDR adds to its roster of honorees for referrals to membership, high mileage, and other distinctions in the Turbo Diesel world. 144-149

#### Hood scoop, aftermarket

Issue 48 (Letter Exchange) Joe Donnelly responds to enquiries about his truck's sporty new hood and hood scoop, and provides Mopar numbers and prices. 7

#### Hose clamp, handy emergency tool

Issue 45 (Ranch Dressing) John Holmes showcases a handy tool, called a ClampTite, that will make any kind of hose clamp in an emergency. 106

#### Idle, high, abnormal. See Throttle sticking

#### Idle speed screw, proper adjusting

Issue 46 (12-Valve Engines) To reset engine idle, the idle adjustment screw, not the linkage, is to be adjusted. 26

#### Idling, accelerated for cold weather starting

Issue 46 (TDRRelease) H&E Idle Systems offers a fast idle kit to assist in winter engine warm-up. 162

Issue 48 (Ranch Dressing) John Holmes notes that the '03 model introduced the option of a powertrain control module permitting a faster idle (up to 1500 rpm) controllable from the dash, for assisting cold-weather starts. 106

#### Idling, legal limits

Issue 46 (Idle Clatter) Jim Anderson reminds readers that Cummins discourages idling the engine for longer than ten minutes, and warns of laws in many jurisdictions penalizing excessive idle times with heavy fines. 109

Issue 48 (Blowin' in the Wind) A recent tally updates Jim Anderson's article in Issue 46, p. 109, listing statute limitations on maximum idling time in various jurisdictions in twenty states. 86

#### Idling, optimum time before shutdown

Issue 46 (Idle Clatter) In general and under normal conditions an unloaded Turbo Diesel should be idled for about a minute before shutdown, and for approximately three minutes when fully loaded in hot weather. 112

#### Idling, timing engine shutdown

Issue 47 (Letter Exchange) Ken Moser describes his device for timing engine shutdown, using a \$20 bathroom timer wired directly to the control wire for the fuel pump's stop/start solenoid. 7

#### Ignition key, lost, replacing

Issue 47 (First Generation) Lost ignition keys can be replaced by a Dodge dealer, with proof of ownership and the dealer-system's computer-stored and retrievable key code. 30

#### Index, TDR issues 41-44

Issue 45 (TDRReprint) This index of issues 41-44 accesses technical information arranged by topic with brief informative annotations. 70-77

#### Injection timing, add-on digital remote control

Issue 46 (Ranch Dressing) John Holmes reports installing and testing the TST PowerMaxCR, equipped with remote digital gauges, to permit adjustment of EGT power cut-back and torque. 118

Issue 47 (Ranch Dressing) John Holmes reports his informal testing of the TST PowerMaxCR, a digital remote control for common-rail fuel systems which changes injection timing and duration to achieve power and economy gains. 110

#### Injectors, aftermarket, evaluation

Issue 46 (Ranch Dressing) John Holmes evaluates new Bosio injectors, and finds that the nozzles' spray pattern provides more complete combustion, requiring less throttle and yielding greater efficiency. 118

#### Intercooler, aftermarket

Issue 48 (Product Showcase) Jerry Nielsen interviews Banks Engineering's Peter Treydte in reviewing Banks' intercooler, available either as a stand-alone product or bundled with its PowerPack upgrade. 168-169

#### Interior door panels, difficulty in removing

Issue 47 (Khol Fusion) Ron Khol attributes the near-impossibility of removing interior door panels to cheap manufacturing and to false taste in styling which forbids that screw heads be visible. 131

#### Jacks, Hi-Lift. See Off-road driving, equipment for the four-wheel Dodge Turbo Diesel

#### Jeep Liberty, diesel powered

Issue 45 (Backfire) The editor corrects a field report to confirm that the Jeep Liberty's diesel will be made by VM Motori, bought out by Detroit Diesel, subsequently acquired by DaimlerChrysler. 147

Issue 46 (Blowin' in the Wind) Andy Mikonis provides the specs and describes performance of the new diesel-powered Jeep Liberty, with an engine made by VM Motori of Italy, available as an option in the U.S. market. 72-73

#### Jeep Rescue, diesel-powered concept vehicle

Issue 46 (Blowin' in the Wind) The Jeep Rescue, designed to compete with the Hummer H2, was unveiled as a concept vehicle at the 2004 Detroit Auto Show, probably to be powered by a V-6 diesel engine of a make still undetermined. 73

#### Leaks, various. See the following topic heads:

- Air conditioner evaporator, leaking, replaced;
- Block 53 problem;
- Flywheel-housing oil leak;
- Freeze plug leak;
- Fuel heater, oil leak;
- Fuel injection lines, leaking;
- Fuel leak at the cover to the tank;
- Gasket creep, as a cause of exhaust leak;
- Headgasket, replacement;
- Oil drips from breather tubes;
- Oil seepage at crankcase oil pan gasket;
- Steering gear leak;
- Transmission, automatic, fluid leak from heat-exchanger lines;
- Valve cover leak;
- Water leak at windshield seal and body caulk

#### Lift pump, failures

Issue 46 (24-Valve Engines) On the 24-valve engine, failure of the lift pump is indicated by its refusing to prime the fuel filter, calling for replacement of the lift pump. 36

Issue 46 (Idle Clatter) Repeated failures of the lift pump and injection pump may result from anything sapping voltage from the electrical wire supplying power to the pump, according to Jim Anderson. 112

Issue 47 (Idle Clatter) Jim Anderson acknowledges frequent complaints of lift pump failure on '98.5-'02 trucks, anatomizes the problem, suggests possible ways of mitigating it, and places the problem in a larger context. 96

#### Lift pump replacement, without first removing starter

Issue 47 (24-Valve Engines) Readers report work-arounds to replace the lift pump without first removing the starter as required by the Dodge Service Manual. 39

#### Limited slip, assessing its merits

Issue 46 (First Generation) Andy Mikonis evaluates whether to add limited slip to his Dana 70 rear axle and adduces reasons against it. 18

#### Loss of power, sudden. See Manifold absolute pressure sensor (MAP), replacing

#### Low-vacuum warning switch, inexpensive repair

Issue 48 (First Generation) A member seeks a replacement for the low-vacuum warning switch and is advised on a quick fix using a package of miscellaneous hose splices available inexpensively at AutoZone. 16

#### Low boost, caused by leak in the charge air system

Issue 47 (Idle Clatter) Jim Anderson explains the test and the fix for low power when caused by a boost leak in the Turbo Diesel's charge air system, most commonly in the rubber portion of the piping system. 90

#### Low power in 12-valve engine, unknown cause. See Air/fuel control (AFC), supply line, failure

#### Lube oil classification

Issue 47 (Idle Clatter) Jim Anderson alerts readers to a new engine-oil classification, CI-4 PLUS, soon to be required for new engines not equipped with EGR, but backward compatible with EGR. 90

Issue 48 (Member2Member) Citing Cummins authority, the editor says that the new lube oil specification denominated "CI-4-Plus," while safe to use, is not required in Dodge diesel pickups not equipped with EGR. 10

Issue 48 (Ranch Dressing) John Holmes explains the API's oil rating system, notes misconceptions about standards, and cautions against ignoring them. 104-105

**Manifold absolute pressure sensor (MAP), replacing**

Issue 45 (24-Valve Engines) A failing manifold absolute pressure (MAP) sensor may account for sudden loss of power; if cleaning the MAP doesn't work, replace with a new unit. 44–45

**May Madness 2004**

Issue 45 (Ranch Dressing) John Holmes reports briefly on May Madness 2004. 104  
Issue 45 (Polly's Pickup) Polly Holmes gives her take on May Madness 2004, with emphasis on bunnies and Vipers. 108  
Issue 45 (Chapter News) Joe Donnelly tells the story of the longest running TDR event, May Madness, held in Henderson, NV, in 2004: recounting events, honoring competition winners, recognizing sponsors, supporters, and volunteers. 130–133

**Mercedes-Benz E320 CDI sedan**

Issue 45 (Four Whaling) Greg Whale has lots of nice things to say about the new Mercedes diesel E-Class sedan recently introduced to the American market. 52

**Miller, Joseph Irwin, former Cummins CEO, eulogy**

Issue 47 (Your Story) Jim Anderson marks the passing of Joseph Irwin Miller, descendant of the original backer-investor in the Cummins engine and a major influence in the destiny of the company and the engine that dominates the diesel industry. 68–69

**Modifications to a new truck, rationale**

Issue 46 (First Ride) James Walker, Jr., recites the rationale of choices in the configuration of his first Turbo Diesel truck and explains the "hows" and "whys" of numerous initial modifications. 58–62

**Mopar remanufactured Cummins engine**

Issue 47 (Ranch Dressing) John Holmes notes the difference between a merely "rebuilt" engine and one completely remanufactured, and endorses the integrity of Mopar's product of remanufactured Cummins Turbo Diesel engine. 108

**Mounts and bumpers for winch installations. See Off-road driving, equipment, for the four-wheel Dodge Turbo Diesel****"Mouse sound"**

Issue 47 (Turbo Tips) A reader describes an annoying noise, a "mouse sound," caused by friction located "where the wire harness leaves the cowl to the hood for the underhood light." 26

**"New-truck fever"**

Issue 48 (Motor Minded) Mark Barnes analyzes the psychological motivations of what he calls "new-truck fever": appetite, obsession, self-aggrandizement, and the fascination of novelty. 62–63

**Nicknames, self-assigned by locals, for inhabitants of a particular region**

Issue 45 (Idle Clatter) Jim Anderson solicits readers' additions to his list of special names local folk give themselves in many regions, for example, Crackers in Georgia or Hillbillies in Tennessee. 96

**Nissan Titan with diesel engine. See Truck industry and the competitive market: design, politics, economics****Noises, various. See the following topic heads:**

**Axle, rear, howling noise;**  
**Belt, serpentine, squeaking, chirping;**  
**Dodge Turbo Diesel, Third Generation, quality assessments;**  
**Driveshaft center bearing, failure;**  
**Front end, clunking noise;**  
**Grinding when shifting the 205 transfer case;**  
**"Mouse sound";**  
**Popping sound;**  
**Power window & door lock switch, muted buzzing sound;**  
**Ticking sound on startup of trucks with automatic transmission;**  
**Transfer case snap ring;**  
**Vibration problems**

**Off-road driving, equipment for the four-wheel Dodge Turbo Diesel**

Issue 47 (Member2Member) Joe Donnelly describes equipment and accessories for getting unstuck when driving the Dodge Turbo Diesel four-wheel drive off road: winches, cable, mounts, chains, hooks and straps, jacks, tire chains, and other accessories. 14–23

**Off-road racing, a Turbo Diesel in the 2004 Baja 1000**

Issue 48 (Your Story) In the first of a three-part series, Kent Kroeker describes the rigors of the Baja 1000 and the reasons he chose Dodge Turbo Diesel as his competition vehicle, to be followed by articles on building his truck and running the race. 72–74

**Oil, crackcase, changing**

Issue 46 (Third Generation) The engine oil change in the '04.5 Turbo Diesel follows the same procedure as in earlier truck models, approached either from above or below, with some preference for the latter. 42

**Oil, engine, pressure regulator**

Issue 46 (12-Valve Engines) A TDR reader gives instructions for locating, checking, and cleaning the bore of the engine oil pressure regulator. 26

**Oil, synthetic**

Issue 45 (Idle Clatter) Jim Anderson opines that unless one operates a truck in the northern tier of states, synthetic engine oil offers little or no value advantage. 100

**Oil additives**

Issue 45 (Idle Clatter) Oil additives offer no benefit and actually may damage the engine, says Jim Anderson. 99

**Oil drips from breather tubes**

Issue 45 (Idle Clatter) Extending the crankcase breather tube and mounting a catch bottle at the end will eliminate some of the drip stains on the driveway and oil mist driven by the cooler fan. 96

**Oil filters, alternatives**

Issue 45 (Turbo Tips) The Fleetguard/Stratapore LF16035 fluted oil filter proves itself easier to remove and replace, especially when addressed with a Lisle tool LC 54780. 13  
Issue 46 (Third Generation) TDR reprints a TSB listing oil filters approved for use in the 5.9L Cummins engine, with an update for the '03-'04.5 models. 40  
Issue 47 (Turbo Tips) A reader says that he uses a sheet of sandpaper to give a grip to his wrench in removing the standard unfluted oil filter; the editor acknowledges the "common-sense" solution, but maintains that the fluted filter is worth the price. 26

**Oil pan, dented**

Issue 45 (12-Valve Engines) The owner of a vehicle with a dented oil pan but no apparent leak is advised to "leave well enough alone." 38

**Oil pressure sending unit, failure**

Issue 45 (First Generation) Unless it is removed when replacing the power steering pump, the oil pressure sending unit will be broken and will fail. 32

**Oil pressure sensor, checking for apparent failure**

Issue 45 (Turbo Tips) The TDR identifies instructions for manually checking function of oil pressure sensor as well as TSB to clear and reprogram a malfunctioning sensor. 12

**Oil seepage at crankcase oil pan gasket**

Issue 47 (24-Valve Engines) Readers report instances of slow oil seepage around the gasket of the oil pan, often controllable (if not fully correctable) by re-tightening bolts. 38

**Overheating, engine, diagnosing**

Issue 46 (24-Valve Engines) An overheating engine may be caused by fouled radiator fins, failed thermostat, or failed fan clutch. 38

Issue 47 (Member2Member) Brad Nelson identifies performance modifications that did not cause overheating and those that did; he explains the physics; and he gives the ultimate solutions. 10–11

**Performance baseline. See Baselines, establishing****Performance enhancements**

Issue 45 (Idle Clatter) Jim Anderson says that power enhancement devices are placebos for the majority of owners, placing his emphasis on reliability. 102

Issue 45 (Product Showcase) Reader Ryan Holte reports testing a hand-held electronic power-programmer by Hypertech, Inc., on the '02 24-valve automatic, which proved to increase torque by 121 ft/lbs and power by 30 hp. 152–153

Issue 45 (TDRelease) Edge Products promotes two versions of its Edge EZ Module, which promises increased horsepower and torque in engine models '98.5-'04. 156

Issue 46 (TDRelease) The Torque Dog 600 Module, designed for the Dodge/Cummins 325/600 engine, promises to add 90 hp with 200 ft/lb of torque above stock at the highest of three settings adjustable while driving. 159

Issue 48 (Life's a Beach) Jerry Nielsen reviews the twin "Super B" turbo kit marketed by BD, comprised of a pair of Borg Warner/Schwitzer turbochargers, Edge Comp Power Box, BD's injectors and exhaust system, and an aFe Pro Guard 7 air filter. 136–137

Issue 48 (TDRelease) In a press release, Bully Dog describes its Power Pup "download" for the '03-'04 truck, designed to permit the driver to increase horsepower and torque by re-flashing the electronic control unit, or ECU, from the cab. 171

**Performance enhancements, evaluating**

Issue 46 (Your Story) Jim Fulmer chronicles the successive power modifications to his '98 12-valve, increasing horsepower from stock to 804 on the dyno at May Madness 2004. 54–55

Issue 47 (The Way We Were) TDR reprises Joe Donnelly's comprehensive presentation, appearing first in Issue 29, on base lines and their use in evaluating enhancement of fuel/miles performance for 12-valve and 24-valve owners. 103–107

**Performance enhancement through use of water/methanol injection. See Water/methanol injection****Pickup trucks, comparison testing**

Issue 45 (Four Whaling) Greg Whale reports on performance comparison of stock pickup trucks at Motor Trend's test facility, and finds the results to be incommensurate and generally inconclusive. 51–52

**Placebos. See Theme for Issue 45: placebos, need vs. desire in the value of parts and accessories****Popping sound**

Issue 45 (Third Generation) Readers trace the source of "a weird popping sound" to binding at the pivot points in the outside rear view mirrors, corrected with lubricant. 48–49

**Power enhancements. See Fueling box power enhancements****Power enhancements, common questions about effect on the hardware**

Issue 48 (Idle Clatter) Jim Anderson answers common questions about the effect of power enhancements on drive-train components, on the life span of the vehicle, on fuel economy, and on warranty coverage. 96

**Power steering pump, replacement**

Issue 48 (First Generation) Andy Mikonis describes removing and replacing his power steering pump, complete with cautionary warnings along the way. 18

**Power window, replacing the gear kit**

Issue 46 (First Generation) Andy Mikonis gives instructions for replacing the gear kit in a failed power-window assembly of a First Generation truck. 20

**Power windows, failure**

Issue 47 (Third Generation) The circuit for controlling the power windows feeds through the ignition switch, and in most cases when it fails, the appropriate repair is to replace the ignition switch. 52

**Power window & door lock switch, muted buzzing sound**

Issue 48 (First Ride) James Walker tells how he used duct tape to dampen the resonating vibration in his power window & door lock switch. 80

**Project vehicle, built for promotional demonstrations**

Issue 46 (TDRelease) Jeff Kelderman publicizes his project vehicle, an '03, 3500 Turbo Diesel truck he calls "Big Red," rigged to promote a variety of aftermarket accessories. 161

**PTO (Power Take Off) cable, to bypass the FSS (Fuel Shutdown Solenoid)**

Issue 48 (12-Valve Engines) Bruce Adams provides step-by-step instructions for installing a PTO (Power Take Off) cable to bypass a failed FSS (Fuel Shutdown Solenoid), an inexpensive alternative to replacing the latter. 20–24

**Racing events**

Issue 46 (Letter Exchange) David Dunbar reports DHRA competition by Jess Garmon, Darren Morrison, and Matt Stuckey; and the modifications they had made to their Turbo Diesel racing pickups. 8–9

**Racing vehicles, diesel. See Dodge Dakota Sidewinder****Radiator, First Generation, replacement sources**

Issue 48 (First Generation) Readers provide two sources of a replacement radiator for a First Generation truck. 16

#### **Radiator overflow-tank hose**

Issue 46 (Third Generation) To prevent the radiator overflow-tank hose from accidentally coming loose during routine under-the-hood maintenance, it helps to install a small clamp on the connection. 42

#### **Road rescue experience**

Issue 48 (Letter Exchange) TDR member Oliver Harris recounts a disappointing experience on the road in which he rescued a stuck motorhome whose owner didn't play by the rules of the cultural ritual requiring a proper expression of appreciation. 6

#### **RV etiquette**

Issue 48 (Polly's Pickup) Drawing on her experience in extended trips in her motor coach with husband, John, Polly Holmes provides rules of etiquette for serene and happy cooperation when living on the road. 114

#### **Salting of roadways, destructive effects**

Issue 47 (Khol Fusion) Ron Khol decries the heavy and indiscriminate winter salting of roadways in northern climes, citing its destructiveness to vehicle suspensions, steering systems, brakes, drivetrains, frames; as well as to the highways. 133

Issue 48 (Letter Exchange) TDR member Larry Wagner agrees with Ron Khol (Issue 47, p. 133) that the heavy and indiscriminate salting of winter highways is ill-advised and irresponsible. 7

#### **Seats, a remedy for defunct original equipment**

Issue 45 (Member2Member) The Airhawk air-cell cushion provides an effective and economical corrective for sagging and broken-down shaped-foam vehicle seats. 17-18

#### **Seat belt, warning chime, de-activating**

Issue 48 (Third Generation) Readers share three methods of effectively de-activating the seat-belt warning chime when it isn't needed or wanted. 42

#### **Seat belt warning light and buzzer, malfunction**

Issue 47 (24-Valve Engines) A reader diagnoses his problem with a malfunctioning seat-belt warning light and buzzer, solved by replacing the timer module, an inexpensive fifteen-minute job. 38

#### **Seat heater kit**

Issue 46 (TDRRelease) Rostra Controls offers an aftermarket seat-heater kit which adjusts to either high or low temp, for the back only or for back and seat bottom combined. 163

Issue 47 (TDRRelease) Geno's Garage personnel give two thumbs up to the Rostra seat heater kit. 171

#### **Shutdown timer, aftermarket**

Issue 48 (TDRRelease) BD Diesel Performance provides information on its "Cooldown Timer," which automatically shuts down the engine when the exhaust temperature falls to a preset point. 170

#### **Side steps, selection and installation**

Issue 46 (Third Generation) Brandon Parks spotlights a set of 8", retractable, made-to-order sidesteps, known as the Kodiak Sidewinder, with instructions for installation. 41

#### **Sleeper, aftermarket conversion installation aft of cab**

Issue 47 (Member2Member) A TDR reader describes McKinley Conversions' fabrication and installation of a sleeper/passenger bay made of 1/8 inch aircraft-grade aluminum, fully integrated and coordinated with the cab. 8-9

#### **Slide-in camper, selecting the right truck model**

Issue 48 (Idle Clatter) Jim Anderson advises a member planning to haul a heavy slide-in camper to buy a 3500 with dual rear wheels, not merely for its greater load capacity but for its added stability with a high center load. 96

#### **Speedometer, malfunction and repair**

Issue 45 (First Generation) Several speedometer malfunctions are identified and several fixes are advanced, most traced to stripped drive cables and drive pins. 35

Issue 48 (First Generation) A TDR member repairs a failed speedometer by disassembling the gear reducer and fixing a spinning gear with Gorilla Glue. 14

#### **STAR, DaimlerChrysler technical assistance facility**

Issue 47 (Ranch Dressing) John Holmes laments a pattern of recent failures by DaimlerChrysler's STAR technical assistance to respond properly to bona fide product problems. 109

#### **Starter, low cranking speed. See Cranking speed, deficient**

#### **Starter failure, diagnosing and repairing**

Issue 48 (Member2Member) Brad Nelson describes the process of replacing and subsequently repairing a failed starter shutoff switch assembly, with a cautionary admonition about using the right tools in the first place. 12

Issue 48 (First Generation) Readers come up with two possible answers to starter failure: corroded wires to the fuel shutoff solenoid, and corroded fuel lines. 15

#### **Steering, faulty**

Issue 45 (Member2Member) A TDR reader presents problem and attempted fixes of vehicle drift; a piece by John Holmes describes a possible but unauthorized corrective. 18-21

Issue 48 (Idle Clatter) Jim Anderson notes a common complaint of a vehicle steering to one side and identifies the possible causes. 94-95

Issue 48 (Idle Clatter) Wandering down the road is a complaint more common in four-wheel drive trucks, in which it is usually caused by worn steering and suspension components, among other possible causes identified by Jim Anderson. 95

#### **Steering gear box, replacing**

Issue 47 (From the Shop Floor) Andy Redmond describes removal and replacement of a worn steering gear box, a procedure performed while installing the steering stabilizer described on pages 152-153 of this issue. 154

#### **Steering gear box, selecting the right ratio in a replacement**

Issue 48 (First Generation) Because replacement steering-gear boxes for First Generation trucks are made in two different gear ratios, care must be exercised in getting a box with the right ratio when making a replacement. 14

#### **Steering gear leak**

Issue 45 (First Generation) Although Dodge dealers prefer to replace a leaky steering gear box, a seal kit is available. Instructions are provided for successful installation. 30

#### **Steering stabilizer**

Issue 47 (Ranch Dressing) John Holmes favorably reviews Solid Steel Industries' steering stabilizer, which he says will reduce steering wander caused by frame flex and steering-box play. 110

Issue 47 (From the Shop Floor) Andy Redmond reviews Solid Steel Industries' "Darin's Steering Stabilizer" and installs it on his four-wheel drive '95 Turbo Diesel, as a companion to the track bar described in Issue 46. 152-155

#### **Steering wobble**

Issue 46 (First Generation) Ken Polman describes the problem, causes, and correction of front-end wobble in four-wheel/Dana 60 trucks, with an unauthorized fix which he maintains solves the problem. 24

#### **Storage of vehicle, long-term**

Issue 46 (Idle Clatter) Jim Anderson provides a detailed checklist with instructions for steps to be taken prior to long-term storage of a Turbo Diesel pickup truck. 112

#### **Suspension lift kit, air ride**

Issue 47 (24 x 7) Jeff Kelderman describes the designing, building, testing and perfecting of his Air Ride Lift kits. 160-161

#### **Sway bar, aftermarket, installation**

Issue 48 (Third Generation) To carry his slide-in camper, David Kelly selects a Hellwig bolt-on sway bar for his '03 Turbo Diesel 3500, and provides instructions for installation. 38-39

#### **Tailgate drop dampener**

Issue 45 (Turbo Tips) The free-fall "thunk" when opening the tailgate can be avoided by attaching it to a tie-down with a bungee cord. 13

Issue 48 (TDRRelease) Geno's Garage reviews Wigidigit's "GateGlide," an easy-to-install and inexpensive auxiliary check cable that permits effortless raising and lowering of the tailgate. 172

#### **Tailgate light wiring, securing**

Issue 45 (Turbo Tips) Reader improvised a fix for sagging wiring to the tailgate light, using a plastic battery post cover. 12

#### **Tailgate removal, effect on aerodynamics**

Issue 46 (Member2Member) Robert Patton cites three authorities to conclude that the best fuel economy is achieved by leaving the tailgate up. 17

#### **Taillight reflectors, improving reflectivity**

Issue 46 (Idle Clatter) Jim Anderson passes along a solution to a common problem: a dulled and corroded aluminum reflector in taillights and turn signals, easily replaced with small spot mirrors. 111

#### **TDR, deemed a useful "technical tool" for making the right truck purchase**

Issue 45 (Letter Exchange) Reader says Joe Donnelly's article (Issue 43) alone was worth the price of subscription in his making the right truck purchase. 6

#### **TDR reprint. See Index to the TDR**

#### **TDR clubs and chapters**

Issue 45 (Chapter News) The quarterly roster of local chapters and news of local events in 2004 include the following:

- The roster of TDR chapters is brought up to date. 134

- Thirty people attended the February meeting of TDR Dodgers, the East Tennessee club, hosted by Don's Tractor Repair. 128

- On June 5, 2004, the NW Bombers (OR & WA) held their second annual party, which drew 70 trucks to a full schedule of events. 128-129

- The Midwest chapter, known as the mWTDR, had its kickoff meeting in July at Bellevue, Nebraska, and made plans for a big event September 12. 128

Issue 46 (Chapter News) The quarterly roster of local chapters and news of local events in 2004 include the following:

- The roster of TDR chapters is brought up to date. 151

- The second annual Weekend on the Edge, sponsored by Edge Products, Ogden, Utah, August 13-14, presented a crowded schedule of dyno competitions and diesel drag-racing at the Rocky Mountain Raceway. 152-153

- The seventh annual Scheid Diesel Extravaganza convened in Terre Haute, Indiana, in August, attended by thousands of fans and scores of vendors, marked by three days of diesel pulls and drag races. 150

Issue 47 (Chapter News) The quarterly roster of local chapters and news of local events in 2004 include the following:

- The roster of TDR chapters is brought up to date. 150

- The fourth annual Lone Star Texas Rally was held October 9-10 in Kerrville, Texas. 148-149

- (Idle Clatter) Jim Anderson reports a meeting of the East Tennessee and South Kentucky TDR chapter in October '04, hosted by Don's Tractor and Diesel Truck Repair, made memorable by the award of "The Dead Lift Pump Trophy." 92

Issue 48 (Chapter News) The quarterly roster of local chapters and news of local events in late 2004 and 2005 include the following:

- RMTDR (Rocky Mountain TDR chapter) held a Christmas (2004) meet-and-greet in Denver, attended by members from throughout the region. 150

- The roster of TDR chapters is brought up to date. 154

- ATS Diesel Performance, Denver, sponsored a diesel rally February 12 at its new 106,000 square foot facilities, with presentations by numerous vendors and TDR writer Joe Donnelly. 152-153

- The Northwest Bombers held their annual rally, sponsored by Rob and Jan Hanson, Enumclaw, Washington, with attendees from California, Oregon, Washington, Idaho, and adjacent Canada. 155

#### **TDR Nationals, tentatively scheduled**

Issue 48 (Letter Exchange) Responding to membership desires for a TDR National rally, Patton projects a possible "Turbo Tech" event and even a TDR National-type event in 2006, with provisional dates: stay tuned. 8

#### **Technical Service Bulletins (TSBs)**

Issue 46 (TDRResource) The editor provides summary of TSBs relevant to Turbo Diesels issued in 2003 and early 2004. 78-86

Issue 46 (TDRResource) The editor recommends taking advantage of a powerful, new information source known as "TechAuthority On-line" providing vehicle-specific full text of relevant TSBs. 88

#### Technological progress, rewards and costs

Issue 46 (Motor Minded) Mark Barnes concedes the appeal of "the new and improved" but counsels that the undeniable benefits of technological innovation often entail substantial loss of real value, in life and in our trucks. 48–49

#### Theme of Issue 45: placebos, need vs. desire in the value of parts and accessories

- Issue 45 (Tailgating) The editor names "placebo parts" as the theme for Issue 45, defines usage, and discusses their role in TDR culture. 4–5
- Issue 45 (Motor Minded) Mark Barnes describes the psychological power of the placebo effect, from early medical hoaxes to today's advertising and marketing of motor oil. 54–55
- Issue 45 (Your Story) Brad Nelson recounts the placebos that enhance his truck life: the vaunted power of his pull, the overkill of 4-wheel drive, all the add-ons that make his Turbo Diesel a unique machine. 62–63
- Issue 45 (Celebrity Corner) Sam Memmolo tells of his testing a placebo part, too good to be true, which didn't make the grade, either as a psychological palliative or a performance enhancer. 82
- Issue 45 (Idle Clatter) Jim Anderson analyzes the placebo effect in aftermarket products and presents an inventory of product categories arranged in ascending order of merit. 99–103
- Issue 45 (Ranch Dressing) Where and how a truck is used often determines whether a heavy-duty accessory is a placebo or a necessity, says John Holmes, a rancher in the Mountain West. 104
- Issue 45 (Khol Fusion) Ron Khol recounts personal experiences with aftermarket products of dubious value. 118–119
- Issue 45 (Life's a Beach) Jerry Nielsen recounts his bad case of the Gotahavit Flu; but he says it doesn't matter that his coveted acquisitions are placebos: a sugar pill is good for what ails you. 124

#### Theme of Issue 46: brands and branding, defining product identity

- Issue 46 (Tailgating) The editor names product branding as theme for Issue 46, reflects on importance of brand to product identity, and proposes as theme of Issue 47 strategies for enhancing brand appeal by Cummins, Dodge, and the TDR. 4–6
- Issue 46 (Four Whaling) In a wide-ranging essay, Greg Whale identifies notorious brands, big name brands, defunct brands, unfailingly reliable brands, and brands that have successfully expanded their identity. 44–46
- Issue 46 (Blowin' in the Wind) Chrysler launches a new ad campaign, playing on the success of its 300 sedan, emphasizing pride and emotional response to the Chrysler brand name. 68
- Issue 46 (Blowin' in the Wind) Brad Nelson laments decline in quality of tools sold under several old brands, degraded to compete with lower priced products. 75
- Issue 46 (Celebrity Corner) Sam Memmolo praises Kenworth and sixteen other brand names and says that the TDR is important in maintaining buyers' loyalty to the Dodge-Cummins truck. 106–107
- Issue 46 (Idle Clatter) Jim Anderson maintains that solid merit, not ad agency hype, gives real meaning to a brand name, providing a sure foundation to enduring reputation. 108
- Issue 46 (Ranch Dressing) John Holmes ranks categories of products that justify brand loyalty, on a scale at the top of which are the companies owned by the geniuses behind the products, such as Banks, BD, Mag-Hytec, Sun Coast and TST. 116
- Issue 46 (Ranch Dressing) John Holmes reviews the history of the Ram icon, first used as a Dodge hood ornament in the '30s, later as an emblem for the Hemi V-8 in Dodge cars, and then as a name for trucks and vans from 1981. 116–117
- Issue 46 (Polly's Pickup) Polly Holmes reflects on the fact that when the Dodge Turbo Diesel truck was first introduced, it rode on the coattails of the Cummins brand. 121
- Issue 46 (Khol Fusion) Ron Khol decries branding for "the young, hip, and edgy"; criticizes the ad campaigns that sank Oldsmobile; and praises Chrysler ads that associate the new Hemi engine with its origins in World War II fighter engines. 132–136
- Issue 46 (Life's a Beach) Jerry Nielsen proclaims his contempt for brands that have abandoned quality; his loyalty to the Banks brand and other stalwarts; and his love for his truck, the TDR, and the USA. 140

#### Theme of Issue 47: brands and branding, improving and promoting product identity

- Issue 47 (Tailgating) The editor looks further into the role of brands in the market, and observes that most manufacturers fail to exploit the full potential of their brand identity. 4–5
- Issue 47 (Member2Member) Brad Nelson says that whatever improvements might be made to correct the Turbo Diesel's perceived deficiencies, the unique quality signified by the brand overrides the competition's fluff. 12
- Issue 47 (Four Whaling) Greg Whale offers advice on branding to Dodge: emphasize quiet capability; to Cummins: pursue the mid-range medium-duty motorhome markets; to TDR: continue to listen to the readers. 62
- Issue 47 (Motor Minded) Mark Barnes reflects on how a pleasurable initial experience with a vehicle disposes to a strong attraction to later incarnations of the same brand: his experience with his first Mustang disposes him to buy a new one today. 66–67
- Issue 47 (Idle Clatter) Jim Anderson declines to advise the editor on how better to brand the TDR; says Cummins need not pursue advertising its association with Dodge; and opines that Dodge might advertise less and pass the savings on to the buyer. 88
- Issue 47 (Ranch Dressing) John Holmes offers branding advice: Dodge, give as much emphasis to the Cummins engine as to the Hemi; Cummins, emphasize its history of firsts; TDR, spot Geno catalogs on Parts counters and give TDR copies gratis to new owners. 108
- Issue 47 (Polly's Pickup) To promote product brands, Polly Holmes suggests that Dodge and Cummins sponsor shows nationwide for prospective buyers to test the vehicles; and that Geno's and TDR staff booths at Quartzsite and Good Sam rallies. 114
- Issue 47 (Khol Fusion) Ron Khol says Dodge should brand its Ram Diesel by playing on emotional links to "working on the farm or job site," presented as a personal statement of an appreciation of fine machinery, through a spokesman of masculine probity. 126–127
- Issue 47 (Life's a Beach) Jerry Nielsen advises Dodge to advertise more vigorously the Cummins brand engine and capitalize on the vast readership and loyalty to the Turbo Diesel Register. 134

#### Theme of Issue 48: loyalty to history and tradition of Dodge-Cummins. See also Dodge-Cummins Turbo Diesel pickup truck, story of its origins

- Issue 48 (Tailgating) The editor sets the theme for Issue 48 as loyalty to the Turbo Diesel truck, grounded most particularly in a deliberate regard for tradition and history of Cummins. 4
- Issue 48 (Tailgating) Joe Donnelly says that the loyalty of Cummins to the owners of its engines grounds his loyalty to Cummins, which, together with his experiences with the product, makes it certain that his truck purchases will be Turbo Diesels. 4–5
- Issue 48 (Four Whaling) Greg Whale writes about surveys of loyalty to various automotive products and says that they are riddled by bias and demographic constraints that inhibit impartial judgments. 60–61
- Issue 48 (Blowin' in the Wind) According to Bruce Armstrong, loyalty to the memory and tradition of the individual who created the product (in this case, Lyle Cummins) provides a lasting basis for confidence in the brand bearing his name. 84–85
- Issue 48 (Celebrity Corner) Sam Memmolo lists his favorite tools and recreational vehicles, basing his selection on brand loyalty. 88–91
- Issue 48 (Idle Clatter) Jim Anderson rates his buying choices on a sliding scale ranging from loyalty to quality and friendship, at the top, down to "good enough for me," which may not be tops but serves the purpose. 93
- Issue 48 (Khol Fusion) Ron Khol traces his Dodge loyalty to the first pickup he drove at 15, proceeding with an exposition on early transmissions, fluid drive and the Gyro-Matic, GM's Hydramatic, Dynaflo and Powerglide, and Ford-O-Matic. 122–134
- Issue 48 (Life's a Beach) Jerry Nielsen speculates that most owners of a Turbo Diesel truck owe their primary loyalty to Cummins. 136
- Issue 48 (Exhaust Note) Kevin Cameron reflects that similar stages of the Industrial Revolution, first imitation, finally innovation, have unfolded in one country after another, now in China, with inevitable effect on the diesel engine. 175

#### Thermostat, coolant temperature range

Issue 45 (First Generation) If a coolant thermostat deviates from the range prescribed, it should be replaced. 30

#### Thermostat, normal operation defeated by debris

Issue 47 (12-Valve Engines) A reader reports malfunction of the engine temperature thermostat fouled by a dislodged rubber gasket from the engine side of the thermostat housing. 32

#### Third Generation truck compared to the Second Generation truck

Issue 45 (Khol Fusion) Ron Khol compares his Second Generation model to his daughter's Third Generation Turbo Diesel, concluding that while the latter has many refinements, he is not ready to abandon his more rough and ready ride. 120–122

#### Throttle, sticking

Issue 47 (12-Valve Engines) A broken or worn throttle-return spring may cause the throttle to stick above normal idle. 32

#### Throttle linkage, replacement

Issue 45 (12-Valve Engines) An improved bell-crank lever provides a secure snap-fit, to solve readers' problems with throttle-cable linkage failure. 38

Issue 46 (First Generation) A TDR reader provides all necessary information for replacing and adjusting the throttle linkage in the First Generation truck. 22

#### Ticking sound on startup of trucks with automatic transmission

Issue 46 (Third Generation) On startup of any Turbo Diesel truck equipped with automatic transmission there is a normal ticking sound from the cruise control vacuum pump. 43

#### Tie rod tube, bent

Issue 45 (First Generation) A bent tie rod cross tube can be straightened at a shop with a hydraulic press, or it can be replaced for about \$50. 32

#### Timing case repair

Issue 45 (First Generation) While fixing the dowel pin, readers discover dangerously loose timing gear case bolts. 32

#### Toolbox, end-of-bed design

Issue 45 (Life's a Beach) Jerry Nielsen describes and recommends a toolbox mounted at the end of the bed to replace the tailgate, called a "partner toolbox" by the maker, Highway Products. 125

#### Torque converter, aftermarket, for '98.5-'05 Turbo Diesel trucks

Issue 48 (TDR release) Gale Banks Engineering announces its new Billet Torque Converter for '98.5-'05 trucks modified for increased performance and equipped with the 47RE/48RE transmissions. 171

#### Torque converter, failure to lock up

Issue 48 (12-Valve Engines) A failure of the torque converter to lock up is traced to degradation of the clutch surface in the converter, corrected by manufacturer's repair. 28

#### Torque values for headbolts, all year models. See Headgasket, replacement

#### Tow bar, rated for 10,000 pounds

Issue 47 (Ranch Dressing) For those who want to tow the Turbo Diesel behind a motorhome, John Holmes recommends a heavy-duty trailer made by Blue Ox. 110

#### Tow hooks, chromed

Issue 47 (Ranch Dressing) John Holmes promotes U-Neek Chrome Pickup Products, particularly its chromed tow hooks, which it will swap out with the purchasers' stock items from the '03/'04/'05. 109

#### Tow loads, limits and constraints

Issue 46 (Idle Clatter) Jim Anderson emphasizes the importance of observing load capacities and tow ratings for each tow configuration of truck, and warns of the dangers in ignoring the limits. 110

#### Track bar, Second Generation, aftermarket retrofit

Issue 46 (From the Shop Floor) An answer to the common problem with the factory issue trackbar on Second Generation trucks, the aftermarket bracket made by Solid Steel Industries, added to a new Mopar track bar, improves performance. 154–156

#### Trailer backing

Issue 45 (Idle Clatter) For guidance in trailer parking, Jim Anderson compares using two-way radios to using visual hand signals between the driver and his pilot, concluding that the latter method is safer and more reliable. 94

#### Trailer brake controller, integrated, introduced by Ford

Issue 46 (Blowin' in the Wind) Ford's new "TowCommand" trailer brake controller is built into the dash to coordinate truck and trailer braking as a single integrated hydraulic system. 75

#### Trailer hitch, brackets, for mounting on hydroformed frames

Issue 46 (From the Shop Floor) George Stocum makes a trailer hitch bracket assembly that attaches to the new hydroformed frame with U-bolts, to avoid the welding or drilling forbidden by Dodge. 157

#### Trailer hitch, glide, fifth-wheel

Issue 47 (Life's a Beach) To his recently purchased '04 3500 short bed truck, Jerry Nielsen adds a PullRite Super Glide 16K automatic sliding fifth-wheel trailer hitch. 136

#### Trailer lights, connecting to tow vehicle. See Electrical connections, proper wiring

#### Transfer case fluid, characteristic color and smell

Issue 48 (Third Generation) Readers are assured that as transfer case lube ages its characteristic smell and red color may change, which does not necessarily mean that the fluid needs to be changed. 42

#### Transfer case fluid change procedure

Issue 48 (Third Generation) A TDR reader lists the tools and material necessary to change the fluid in the transfer case and gives instructions and advice for doing the job. 41

#### Transfer case snap ring, failure and upgrade repair

Issue 47 (From the Shop Floor) Andy Redmond diagnoses telltale sounds from transfer case indicating a failed snap ring, which he describes replacing with a locking collar. 156-157

#### Transmission, automatic, failure to shift to first after a stop

Issue 47 (24-Valve Engines) Failure of the automatic transmission to start properly in first gear after a stop indicates a problem sufficiently serious to require replacing the governor solenoid. 40

#### Transmission, automatic, fluid changing

Issue 47 (Shadetree) Robert Patton provides instructions for checking level of automatic transmission fluid and instructions for installing a B&M drain plug kit, making it possible to change all the fluid in the pan. 80-81

#### Transmission, automatic, fluid leak from heat-exchanger lines

Issue 47 (24-Valve Engines) A leak sited in the automatic transmission line feeding the heat exchanger requires tightening the fittings or replacing the lines. 40

#### Transmission, automatic, governor solenoid and sensor, failed

Issue 46 (24-Valve Engines) Failure of the governor solenoid and sensor in the automatic transmission is diagnosed as cause of malfunction in starting up the drive. 36

#### Transmission, automatic, searching between gears

Issue 46 (12-Valve Engines) TDR readers enumerate possible causes and corrections of intermittent up-shifting and down-shifting in the automatic transmission at cruising speeds. 30

Issue 46 (24-Valve Engines) In operating the automatic transmission, searching between gears may be corrected by recalibrating the accelerator pedal position sensor or, alternatively, by replacing a noise filter box. 39

#### Transmission, automatic, torque converter, aftermarket

Issue 45 (Product Showcase) Sun Coast Transmission displays the merits of its automatic transmission torque converters in a series of fifteen photographs of components. 154-155

#### Transmission, automatic, torque converter, malfunction. See Transmission, automatic, searching between gears

#### Transmission, auxiliary

Issue 47 (Product Showcase) Loren Bengtson describes auxiliary transmissions, made by both Gear Vendors and U.S. Gear, for both manuals and automatics, providing half-step gears in underdrive, analyzing reasons for choice. 162-168

#### Transmission, five-speed, fifth gear nut, replacing

Issue 46 (Member2Member) Brad Nelson tells of repeated failures of the fifth-gear nut on his NV4500, finally resorting to welding the errant nut to the shaft. 16

Issue 46 (Member2Member) In a comment appended to Nelson's procedure to fix the fifth-gear nut problem (p. 16), the editor warns against welding and recommends a new, fully splined nut/shaft replacement. 16-17

Issue 47 (Member2Member) Brad Nelson revisits his description in Issue 46, of a weld to fix a loose fifth-gear nut. Bottom line to the reader: don't try it. 12

#### Transmission, manual, stuck in fourth gear

Issue 45 (First Generation) As First Generation trucks age, forks and shifters become worn, and manual transmissions may jam, a problem recounted here and addressed by several readers. 34

#### Transmission, six-speed, factory change on 1 January 2005

Issue 48 (Ranch Dressing) John Holmes alerts readers to the fact that as of 1 January 2005 the six-speeds installed in the Turbo Diesels changed from the NV5600 to the Getrag G56. 106

#### Transmission, six-speed, hard to shift

Issue 46 (Third Generation) The NV5600 six-speed transmission is noticeably stiffer and slower to shift than the NV4500 five-speed; nevertheless, a change of fluid "makes a world of difference." 42

#### Travel. See also Five Points Tour, rules of the game

Issue 46 (Idle Clatter) Jim Anderson narrates his summer northward road travel in his and Peg's new fifth-wheel trailer, exploring Upper Michigan. 112-113

Issue 46 (Polly's Pickup) Polly Holmes tells of her and John's first camping trip in their 40' diesel pusher, to Crater Lake National Park, accompanied by fellow Foretravel motorhome families. 124

Issue 47 (Idle Clatter) As he and Peg meander across the South in late summer, Jim Anderson speculates that he may not be riding his rig as hard because of high fuel prices. 92

Issue 48 (Idle Clatter) Jim Anderson brings his readers up to date on his winter-2005 travels through Florida, meeting old friends and making new ones, and muses on where his and Peg's wanderings may take them next. 97

Issue 48 (Five Points Tour) Kevin Cameron recounts his lifelong fascination with road adventures around the continent. 160

#### Travel Companion

Issue 45 (TDR Travel Companion) Alan Gossett tells how TDR Travel Companion Dave Shuart gave him hospitality and help on the way home from buying a truck sight-unseen on e-Bay. 135

Issue 45 (TDR Travel Companion) TDR narrates the history of its unique resource for members seeking help on the road, and sets forth the rules and codes for participating in membership. 136-138

#### Truck, early history

Issue 47 (Miscellaneous RAMblings) Donn Bunn begins a comprehensive history of the American motor truck, from its 1898 origins in the bicycle industry, to steam and electric, finally gasoline and diesel, recalling many old brands, down till 1910. 118-125

Issue 48 (Miscellaneous RAMblings) In his continuing history of the auto and truck in America, Donn Bunn reviews an article in AEI magazine recounting the origins and early development of the Mack truck. 116

#### Truck bed, cracks. See Truck frame, insufficient torsional rigidity

#### Truck bed, replacement

Issue 48 (Member2Member) Bill Swails describes the installation of a specialized replacement truck bed, a workhorse flat-bed modeled of aluminum, made by Ute. 10-11

#### Truck frame, insufficient torsional rigidity

Issue 47 (Khol Fusion) Ron Khol notes recent problems with cracks in truck beds; he speculates that the explanation is insufficient torsional rigidity in the frame; he analyzes the engineering principles; and he laments compromises to cut costs. 127-129

#### Truck industry and the competitive market: design, politics, economics. See also Diesel engines, innovations in the competitive market; See also Dodge Magnum wagon, success in the SUV market

Issue 45 (Blowin' in the Wind) Robert Patton reviews rumors and reports that Ford seeks a Cummins engine for a competitive light-duty pickup. 65

Issue 46 (Blowin' in the Wind) The editor reviews recent media conjecture on whether Ford will go to Cummins for its planned diesel V-6 or opt to build it in-house. 64

Issue 46 (Blowin' in the Wind) Bruce Armstrong reveals a new V-8, 5.6 liter, aluminum-head, four-valve, turbo, intercooled Cummins diesel engine that will fit in a wide array of SUVs, half-ton pickups, and autos. 65-66

Issue 46 (Blowin' in the Wind) Excerpts from the media reveal the bad judgment that cost Jim Schroer his job as head of marketing for the Chrysler group, followed by the brilliant, if sometimes risky, performance of his successor, Joe Eberhardt. 67

Issue 46 (Blowin' in the Wind) Although not as pure a hemi as the old version designed for aggressive racing performance, the new Hemi V-8 is powerful, user-friendly and a huge marketing success. 68-69

Issue 46 (Blowin' in the Wind) Chrysler Group's CEO, Dieter Zetsche, maintains his marketing shift from "the incentive game" to emphasis on lower warranty costs and buyer confidence in quality. 70

Issue 46 (Blowin' in the Wind) The 2005 Ford Super Duty has increased payload and trailering capacities, with heavier frame, shorter turning radius, larger brakes and wheels, and a trailer controller built into the dash. 74

Issue 47 (Blowin' in the Wind) Robert Patton reports rumors, "and they are more than rumors," that Nissan intends to market a heavy-duty Titan with an American V-6 or V-8 diesel engine, perhaps including the standard Titan and SUVs. 86

Issue 47 (Blowin' in the Wind) The editor cites press reports further substantiating Dodge plans to expand production of truck models at Saltillo, Mexico, and speculates that the Third Generation exterior may be "freshened" in the model-year 2006. 86

Issue 47 (Idle Clatter) Jim Anderson anticipates that the German parent company will pressure Dodge to switch to a Mercedes diesel engine for the Turbo Diesel, which would be a sad day for Cummins and TDR members. 94

Issue 48 (Blowin' in the Wind) Noting continued industry speculation that Nissan will market a diesel pickup in the U.S., the editor conjectures it will have a Mack diesel engine and will be launched concurrently with new emissions standards, 1/1/2007. 85

Issue 48 (Idle Clatter) Dodge will soon introduce several models to compete in the commercial and heavy-duty truck market, including a cab/chassis, or "box off" model, and the "Sprinter" line of vans with a 2.7 liter Mercedes turbo diesel engine. 95

#### Turbocharger, misperception of damage at contact under bolts

Issue 47 (24-Valve Engines) Readers satisfy themselves that what they first perceived as damage at contact of turbocharger mount was intentional milling for balance and therefore innocent. 40

#### Turbocharger air inlet flow shaper (TAG)

Issue 45 (Idle Clatter) Jim Anderson says he has not yet seen convincing evidence that turbocharger air-inlet flow-shapers improve turbo efficiency or increase horsepower. 100

Issue 46 (Ranch Dressing) John Holmes reports improvement in the TAG, a device made by Diesel Power Products designed to shape airflow into the turbo, which he believes increases throttle response and reduces turbo spool-up time. 117-118

Issue 46 (TDRRelease) Diesel Power Products publicizes the TAG-II, an advanced version of its turbo air guide, a device designed to reduce air turbulence in the turbo air inlet. 162

#### Turbocharger rotor, crystallography

Issue 47 (Exhaust Note) Kevin Cameron explains the science and technology of fabricating a turbocharger rotor tough enough to withstand tremendous stress. 176-177

#### Turbocharger systems, aftermarket

Issue 47 (Life's a Beach) Jerry Nielsen installs, tests, and evaluates the first of two new multi-component turbo systems made by BD Diesel Performance. 138-139

Issue 47 (TDRRelease) BD Power publicizes two new turbocharger systems, the Super B Single and Super B Twin for Cummins 5.9 liter engines. 171

**Turbo Diesel engines: ratings, all models, '89-'06**

Issue 47 (Third Generation) In a comprehensive table, Robert Patton presents ratings of all engines in the Turbo Diesel series, '89-'06, under the headings of HP, torque, CPL, transmission, with his interpretation and comments. 44–45

**Turn signal failure**

Issue 45 (First Generation) When the turn signal fails, test with an ohmmeter or by temporarily plugging in a new switch before dismantling the steering shaft. 30

**Vacuum leak, diagnosing and correcting**

Issue 45 (12-Valve Engines) A reader with multiple signs of a vacuum leak is led through steps of testing and repair. 39

**Vacuum pump, oil leak**

Issue 45 (24-Valve Engines) Several readers address a common problem, oil leakage between vacuum pump and power steering pump, here described with full instructions on installing the corrective seal kit. 42–43

**Vacuum pump, rebuilding**

Issue 47 (12-Valve Engines) TDR readers rehearse the difficulties and challenges in rebuilding the vacuum pump in a 12-valve Turbo Diesel engine, describe the steps, and list the requisite tools and supplies. 34–35

**Vacuum pump seals, replacing**

Issue 45 (Idle Clatter) Jim Anderson locates a source for inexpensive replacement of shaft seals for the vacuum pump on '89-'02 trucks. 88

**Valve cover, removal, precautions**

Issue 48 (24-Valve Engines) Speaking from experience, a reader advises that when adjusting valves, a piece of cardboard or other barrier should be inserted behind the engine to avoid contaminating the valve train. 36

**Valve cover leak**

Issue 45 (First Generation) A leak at the valve cover is corrected by proper torquing of cover nuts and, where necessary, a new, inexpensive Cummins brand gasket. 30

Issue 48 (Third Generation) A reader is given instruction for a quick fix of a leak at the valve cover. 42

**Vibration dampener, removal**

Issue 45 (12-valve Engines) Instructions are provided for use of a barring tool in removing the bolts which secure the vibration dampener. 40

**Vibration problems**

Issue 45 (Third Generation) Robert Patton and John Holmes address a variety of vibration problems most common in '04.5 trucks, describing the eight most likely explanations with possible correctives. 48

Issue 45 (Ranch Dressing) John Holmes expands his analysis of vibration problems besetting '03/'04 Rams, alerting readers to the issue, and anticipating a fix by Dodge engineers. 105

Issue 46 (Ranch Dressing) To his previous analysis of vibration problems in the '03-'04 trucks, John Holmes adds what he calls "launch shudder," a 1-2-3 pulsing that feels like the old Dana limited slip in need of friction modifier. 117

Issue 47 (Ranch Dressing) John Holmes adds yet two more possible fixes to the oft-reported vibration problem in the '03-'04 trucks. 109

**Voltmeter, erratic reading. See Alternator, failure to charge****Voltmeter, fluctuation following startup**

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**Weather stripping, doors, sources**

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**Windshield, compound curve, defects of design**

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**Windshield deflector, homemade**

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**Windshield washer fluid heater kit**

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