

# FORD TRUCK TIMES

july-august 1951



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WHY A 2-SPEED AXLE?.....page 22

*The Arizona countryside where Ford trucks are tested is as scenic as it is rugged. On the cover is a photograph by Bob Allen, of McLaughlin and Company, showing a section of the test route.*

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july-august, 1951

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*Arizona's mountain roads are part of Ford's truck testing grounds. Photograph by Bob Allen, McLaughlin and Company.*

## ***Calculated Mistreatment***

***Rugged Roads that Lead to Better Ford Trucks***

*by Jerome Palms*

**T**HE future trucks that will run off Ford assembly lines in 1953 are today being given every sort of brutal treatment that engineers can devise. Long before they get to the production stage, engines and chassis, and all experimental parts, from radiator caps to tail-pipes, are put through tests that will find the kinks and get rid of them. Even after production



starts, test engineers keep tabs on production quality and run endless tests to make Ford trucks better.

Three separate projects make up these activities under Ford's Vehicle Testing Department. Work is centered at the headquarters in Dearborn with actual on-the-road testing in the Dearborn area, around Phoenix, Arizona, and at Jenners-town, Pennsylvania.

The Dearborn test track incorporates the several truck hazards illustrated here, plus many others. The mud bath shown, for instance, is made up of clay, calcium chloride, salt and water, a corrosive mixture that is given plenty of opportunity to splash up, in and around all areas where it might cause trouble. If any danger spots show up, engineers get to work—a minor change will often solve the problem—and the test is repeated. This procedure continues until the experimental part gets through the run with a 100% score.

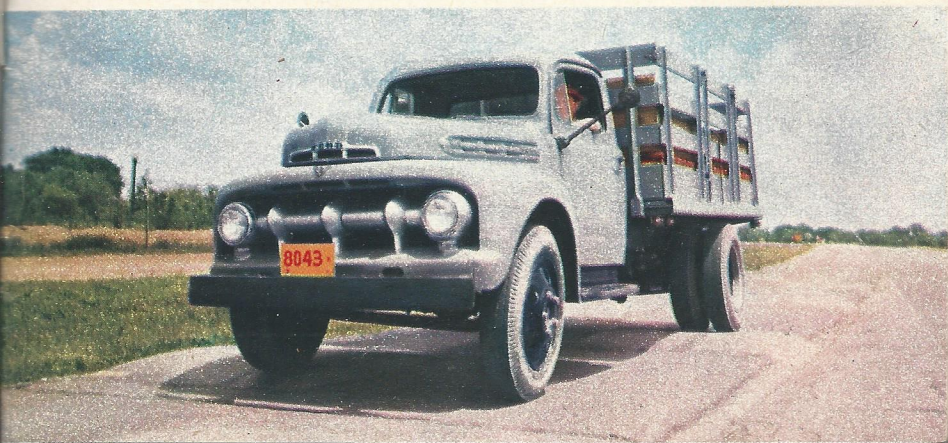
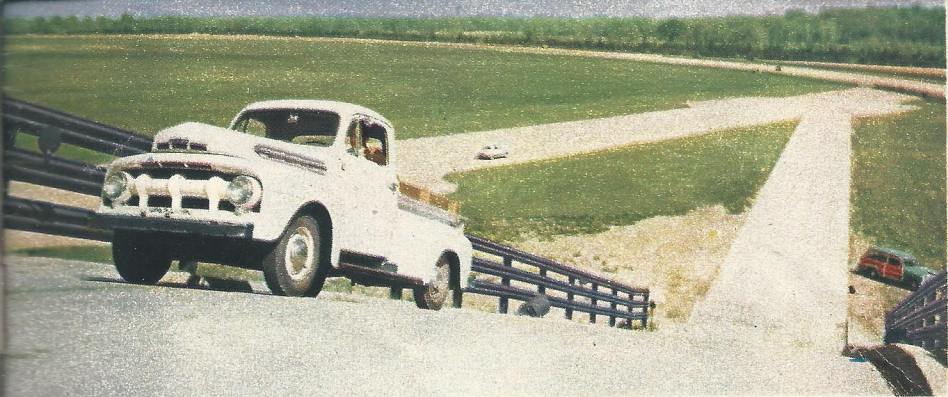
There is a water bath that similarly tests the truck's resistance to dampness and spray. The sand trap through which trucks must plow under various load conditions brings out power and traction performance and enables engineers to study the effects of dust and grit on engines, gear boxes and other moving parts. Getting traction in deep sand from a standing position with a heavy load gives the engine, clutch and transmission as severe a pounding as could be encountered. These various obstacles combine to make an endurance run that will give a truck treatment as severe as a lifetime's hard wear.

Included in the track is a section of heavy cobblestone paving and another of concrete blocks called "body twisters" which are spaced to put a severe twisting action on the truck frame. A typical "shock" test would call for 500 runs across the cobblestones with a set of experimental shock absorbers, followed by 500 more runs with standard shock absorbers installed and all other conditions identical. The two sets are then compared by examination under instruments that actually strain them to the breaking point under tremendous pressure.

A test hill has been built up on the flat countryside from slag brought in from the Rouge plant's blast furnaces. Both a

*At upper right is an F-1 pickup completing a climb on the test hill's 30 per cent grade. The center picture shows an F-8 splashing through a bath of mud and salt. At lower right is a heavily loaded F-5 taking the "body twisters." Photographs by Dick McKay.*







17 per cent grade and a 30 per cent grade, steeper than most trucks will ever meet, are available for clutch and hand brake tests. Making a stop on this hill is like driving off a cliff, then parking half-way down.

Instruments which collect information from these tests crowd the truck cab, scarcely leaving room for the driver. Thermocouples, which pick up slight variations in temperature, are placed at vital points throughout the truck. These are connected to a network of potentiometers and recording devices from which the driver records as many as 29 performance factors. Accurate speed measurements are made with a fifth wheel which resembles a bicycle wheel towed behind the truck. Engine rpm readings are also recorded from a tachometer on the instrument panel.

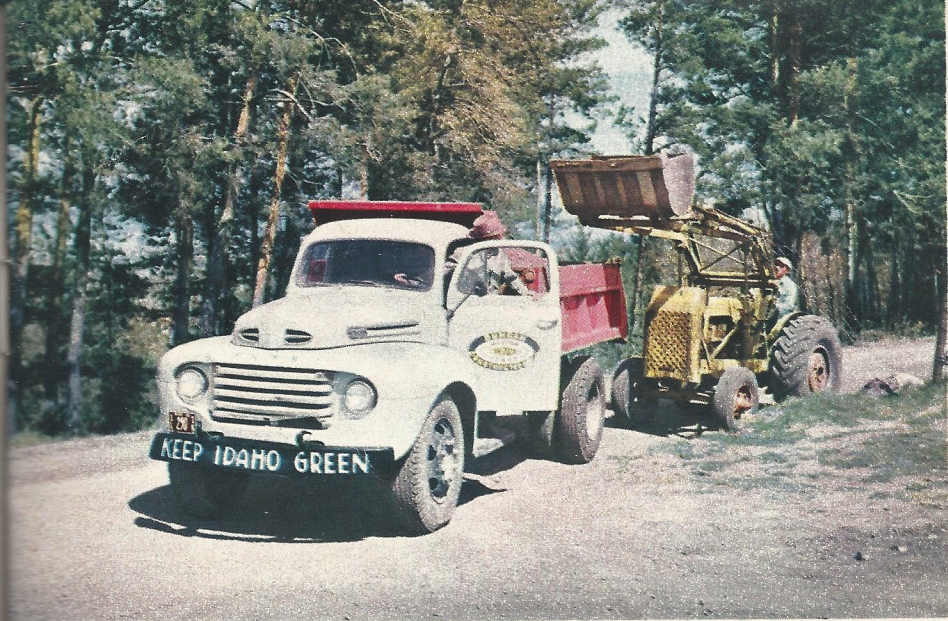
Included in the facilities at Dearborn are a wind tunnel where wind, rain and snow can be manufactured under laboratory control, a cold room with a temperature of 58 degrees below zero, and a high speed track—a curved and banked concrete oval longer than the Indianapolis Speedway—where continuous speeds of 90 mph are possible.

The Jennerstown testing location was chosen for the hilly terrain that gives brakes and clutch a rugged workout. At 2,000 and 10,000 miles, and every 10,000 miles thereafter, brakes are tested for "fading," erratic action and loss of efficiency. The overland runs from Dearborn to Jennerstown and to Phoenix, Arizona, serve as economy tests where controlled gasoline, oil, speed and driving methods are used.

The year-around program carried on in Arizona has headquarters in Phoenix where deserts and mountains, sudden changes in altitude, and extremes of temperature make an excellent testing ground. On a typical day's endurance run, one of the trucks will make a climb of 7,000 feet on winding mountain roads where temperatures often drop to 25 below zero. Then the truck will travel down again into the desert where blacktop road surface temperatures sometimes reach 140 degrees. At the end of the grueling haul, the driver turns in a detailed log sheet from which daily test results are charted and compiled.

After three months a truck will have traveled 50,000 miles and will produce information invaluable in the constant work of improvement. The Ford Vehicle Testing Department in Dearborn annually supervises 5,000,000 test miles to make sure that Ford products are made the best and stay the best. ■





*photograph by Ted Cowin*

## *Warning to Flippers— a one-picture story*

**I**N A CAMPAIGN to “Keep Idaho Green” through the dry spells this summer, when a blaze might sweep away thousands of acres of timber, the Junior Chamber of Commerce in Moscow, Idaho, asked for help in getting their slogan before the public. Bill Duncan, a local trucker, eagerly fell in with the idea and painted the words “Keep Idaho Green” in eight-inch letters across the bumper of his Ford “Economy Run” F-7. He thus expects to get the attention of “Flippers” who account for a costly share in the annual destruction of forest land by tossing lighted cigarettes from car windows.

The Duncan Construction Company’s Big Job truck was at work on a dam construction project during the time it participated in Ford’s six-month Economy Run. With loads of excavated rock weighing up to eleven tons, records show that the F-7 operated on the steep grades with gasoline mileage averaging between seven and nine.—ROBERT H. FORBES. ■



# Stories of the Road

*THE FORD TRUCK TIMES* will pay \$25 each for true, unpublished stories of the road which are accepted for publication in this department. Humorous or unusual incidents that you have observed while hauling about the country are particularly eligible. The funnier they are, the better, but we won't mind considering tear jerkers. Keep your offering under 200 words and mail it to: Editor, *Ford Truck Times*, Ford Motor Company, Dearborn, Michigan. We are sorry that we cannot acknowledge entries received, but those which include postage will be returned if not suitable to our needs.

decorations by  
Don Silverstein



THE WATER DISTRICT service pickup truck was sent out to repair a minor water line leak in our neighborhood. Included with the load of tools and equipment was a fire hydrant for later delivery to another job. The truck was a new one and the usual identifying markings had not yet been painted on its sides. The workmen drew up to a parking space near the job-site and began to unload. To get some needed material out of the truck they slid the fire hydrant down on to the curb out of the way. While working nearby, one of the men noticed a traffic cop writing out a ticket, and after a hurried consultation with his fellows, two of the workmen strolled over to the hydrant, picked it up, set it down some distance ahead of the truck, and grinned with ill-concealed amusement as the baffled cop ruefully pocketed his book and silently went on his way.

—RAYMOND A. RICE, Oakland, California



AT THE END of our Thanksgiving vacation one year, I was riding back to Manhattan, and college, with a friend. We were discussing our vacations when a Ford pickup made an abrupt stop ahead of us. We saw him too late and hit the back, locking us together. He was loaded high and heavy with sacked grain and must not have known we hit him. Before we could get out, "he and we" were on our way. Try as we might we couldn't stop the pickup. He didn't seem to realize he had a hitchhiker so we shut off the ignition and cruised along. Twenty-five miles down the road we came to an intersection, one fork to Manhattan and one to Junction City. Of course he took the wrong road. My friend decided to make one last attempt to stop the pickup and slammed on his brakes. We tore loose but the pickup went on down the road with our bumper locked to it. It would have been worth losing our bumper to have seen the look on the driver's face when he arrived home and found he had a spare.

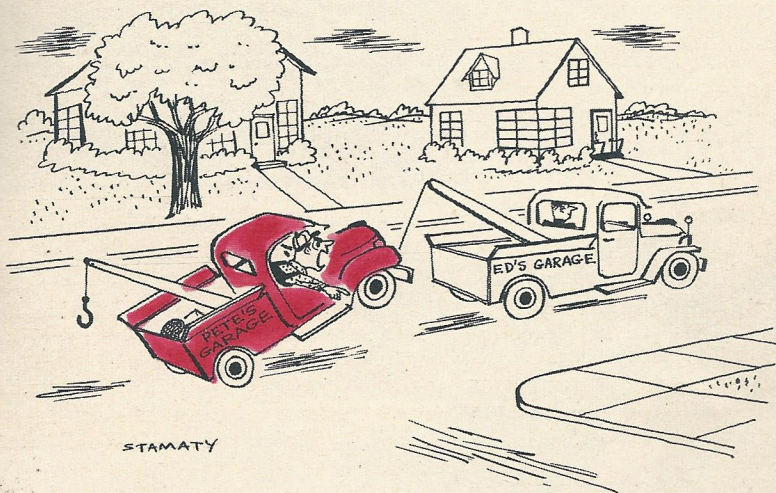
—MARLIN L. AMES, Long Island, Kansas





IT WAS EARLY in 1911 that I bought my first Ford runabout. Ford wasn't making trucks at that time so I replaced the buggy top and turtle back with a wooden truck body and made it into the first pickup in this county. One night that spring a friend and I were driving back to Standish from Pinconning along one of the worst nine miles in Michigan. Our highways at that time had three dimensions—length, width, and depth, mostly depth. Lots of mud holes were kept filled with water hauled at night by farmers who made money pulling cars out of these mudpots. When we came to an especially bad one, we started for what we thought was the best side, then hit and bounded into another hole. We sat there a few minutes figuring how to get out when the truck started slowly moving ahead. We hadn't gone far when our rear wheels got enough traction to pull us out. Getting out to find what it was that moved the truck, we discovered we had landed with the front axle right on top of a huge snapping turtle.

—RALPH J. BURR, Standish, Michigan



*"Hey! . . . to my garage!"*



*Rube Goldberg might have invented this weird harvester, left, which picks, washes, and crates crops of prime celery.*

*The Duda enterprise is entirely Ford-powered. At right a tractor equipped with endless treads cultivates a field of celery.*



*The Dudas built the portable irrigation pump at left in their machine shop. It is powered by a Ford V-8 industrial engine.*



*With ingenuity and Ford parts the Duda family built a corn and celery empire.*

## The "Things" Do It for Duda

*by Franklin M. Reck*

*photographs by John Calkins*

IT'S SOMETHING you wouldn't see anywhere else in the world—an ungainly ten-ton monster of wood, steel and canvas, creeping through a ripe celery field on fourteen B-29 airplane tires, with some fifty folks swarming on it, in it, and beside it. Florida's truck farms flaunt strange inventions. The only difference between their devices and the machinery of Rube Goldberg is that the truck-farm apparitions are true. They exist.

The contraption hinted at above was conceived and reared by the Duda brothers of Sanford, who learned early in life that success in the truck-farming business depended on the creation of "Things" that would effectively multiply the usefulness of hands.

Like dragons in an enchanted land, there are many such Things roaming about their place. There's a corn duster that is an F-5 truck on stilts so that the frame can ride over mature corn and emit a beneficent cloud on the ripening ears. The driver sits seven feet in the air, lord of all he surveys and death to ear worms. There's a low-slung dinosaur made out of a cut-down F-5 frame and a V-8 engine that sports two ten-foot wings, so that it can fertilize twelve rows at a time. There's an eight-row cultivator that is a Ford tractor equipped with endless treads. A mobile irrigation pump with a neck like a giraffe's goes about pumping water out of fields in time of flood, and into fields in the dry season. Since two-thirds of the Dudas' land is diked, water can be pumped in or out of the field according to the need.

The Dudas started truck gardening in 1926 with five acres and a Model T truck. Led by a green-thumbed father they cleared their first palmetto swamps by hand, without benefit of bulldozers. They specialized in celery and sweet corn. Blinking through their own sweat, they pondered the exacting





*This Duda-built fertilizing machine enriches wide swathes as it crawls back and forth across many acres of celery fields.*

*Once the celery appears it must be sprayed regularly to control parasites. At right is a sprayer the Dudas built around a Ford 6 motor.*



*The machine at left is an F-5 on stilts used to pollenate corn. John Duda (in khakis) explains his duster to the Ford representative.*



nature of crops that required so much labor, and they began to dream of the day when their work would be eased by Things.

The acreage grew and the Duda brothers acquired machinery to speed the growing. Ford tractors, Ford trucks, farm tools . . . more acreage . . . more trucks and tools. The Dudas started with Ford products and never found a reason to change. Today their many farms—all rich, flat muck—total 3,000 acres, ninety per cent of it in celery and sweet corn. W. A. Morrison, Ford dealer in Sanford, says the three Duda boys and their dad are one of the largest celery raisers in the world.

If they are, one reason for their eminence is their genius in discovering shortcuts for eternal and minute work done by fingers, thumbs and bent backs. As is the usual case when machines make work more efficient, it results in more demand, more work to do and more workers needed. Every time John Duda dreams up a new Thing to save time, the whole operation grows until now they employ as many as 1,500 pickers during the harvest rushes.

The Dudas have 160 Ford trucks and 100 more Ford tractors and Duda-created devices. They maintain a large parts room to service this fleet. The Ford dealer is well satisfied with the spree of invention that goes on in the shop because each purposeful brainstorm is followed by substantial orders. He's never surprised at a call for such miscellaneous items as truck frames, transmissions, axles, motors, fenders and wheels because he knows that these components will presently emerge as a Thing.

Take the celery harvester. The Dudas were never happy over the old way of gathering celery. Too many squats, h'ists and backbends. John decided to devise something that would do all this in the field. He welded two F-8 truck frames end to end, and over this built a work platform long enough to accommodate eighteen packers and six assistants. Over the platform he constructed another story for a crate-maker. Underneath the platform he installed a 500-gallon water tank to provide a spray washer for the celery. Like wings extending from each side of the truck he rigged two conveyor belts, each twenty-four feet long. He powered this eight-ton gadget with a six-cylinder Ford engine. To support all this stuff in the soft muck he mounted fourteen B-29 airplane nose tires on regular Ford truck wheels. By hooking three Ford transmissions together and installing a two-speed axle, the driver can gear





*This F-2 service wagon is ready at all times to make emergency repairs in the field. It carries welding equipment and a complete tool kit.*

down to two feet per minute in the field (one mile in 44 hours), or twenty-five miles per hour on the highway.

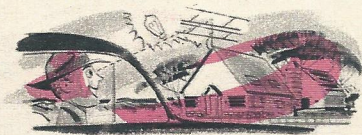
In operation, twenty-four pickers are ranged in front of the conveyors, cutting bunches of celery and placing them on the belt. The leafy bundles travel inward past a trimmer who lops them to 15½ inches so they'll fit into a 16-inch crate. The bunches then travel upward into the maw of the Thing, where they go through the washer and emerge on a long packing table. There the eighteen packers sort them according to size and put them in crates which are passed to a waiting platform truck at a rate of 200 crates each hour.

The Duda brothers, Andrew, Ferdinand, and John, and their father Andrew Senior, have worked together all their lives to build their celery and sweet corn empire. During that time they've bought nothing but Fords and Ford parts. "And we really use 'em," smiles Ferdinand. Their fantastic devices and their great success are proof of that statement. ■



# PROBLEMS OF THE ROAD

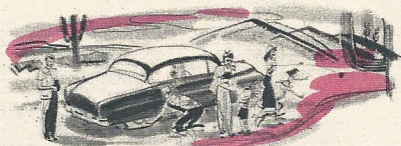
decorations by  
Vince Zenone



**THE PROBLEM:** One day, as I was driving into the city, I ducked off the main highway to escape heavy traffic. After driving a long time along side roads and lanes I realized that I was hopelessly lost. I had no idea in which direction I was supposed to travel.

**THE SOLUTION:** Suddenly I came to a farm home and noticed a television antenna. Then I remembered that the dipoles are set up facing towards the stations, which in my area are in the city. By following the dipoles, I was soon on my way home.

—LOUIS ANTONIONI, Mayville, Wisconsin



**THE PROBLEM:** One day, some years ago, a friend and I and our families set out in his Ford to visit Black Buttes on the Mojave Desert. The day was very hot and we took plenty of water along in our water bags. After climbing the buttes to the summit and roaming around for some time we started home. We had driven only a short distance when we struck soft sand and were stalled. Clumps of greasewood were handy and I kept working this under the rear wheels, but with no great success. Then my friend had an idea.

**THE SOLUTION:** He informed me that before coming to that part of the country he had been warned about driving in the desert and was advised that if he got stuck in soft sand to let some air out of the tires. We did this, the tires flattened, and we crawled right out. So simple!

—C. J. FOREMAN, Columbus, Ohio



*These hoists tilt the trucks and unload produce as easily as scraping a plate. It is one of many new twists Alderman has given to agriculture.*

## Farming across the Board

*photographs by Leonard Gillam  
and George Baumgardner.*

TYPICAL of Oregon's agricultural country is the small, independent, locally-owned farm. Ten years ago the Alderman farm, 140 acres situated near Dayton in northwestern Oregon, was typical among these. Today it has expanded to 2,400 acres, with an additional 3,000 acres rented, and is big business in the community, but its character remains un-



changed. "Alderman Farms" is still home-owned and soundly managed by an independent local farmer, Urie S. Alderman, who has gained a reputation as one of the state's foremost agriculturists.

A mild climate and excellent soil make Oregon's fertile northwest an area ideal for truck farming. Almost any vegetable that grows in the temperate zone will





thrive here. The added spark that has made one farm grow among hundreds is Alderman's knack for putting ideas to work plus the expansion of operations that have proved themselves most profitable. Under this kind of management he now operates a saw mill; a frozen food processing plant, a large wholesale meat market, and is currently engaged in filling

government contracts from this season's harvest.

Contained in the land under cultivation are 500 acres of potatoes which are grown solely for use by the potato chip industry. Another parcel is set aside for strawberries which are processed in the frozen food plant. String beans and corn are also grown for quick freezing in the farm's



efficiently operated processing facilities. These products are distributed in groceries and markets throughout the northwest under the trade name, "Alderman Farms."

In addition to producing vegetables, Alderman maintains a large herd of cattle for the wholesale and retail meat business. A sawmill was originally part of the farm's operation, being used to cut lumber for constructing and repairing the farm buildings, for making crates and for other uses, but its expansion was so great that it is now a separate division that operates in the logging business on a large scale.

The tremendous expansion undergone in ten years has seen the mechanization of almost every phase of the farm's operation. This holds true from cultivation to processing where modern machinery and assembly line methods sort, prepare and package the produce for quick freezing.

The methods used at the farm are those that have proved themselves most efficient and most direct. For instance, during harvest time great numbers of trucks—not only Alderman's but those belonging to subcontracting farmers—bringing in produce for processing, jammed up the roads and wasted time as they waited to unload. The problem was solved by rigging up stalls into which the trucks are backed. A hoist lifts the front end into the air and the produce slips back neatly into waiting bins, eliminat-

ing much time-consuming labor.

During the peak harvest season Alderman Farms employs approximately 1,700 people with a payroll running between \$700,000 and \$800,000 annually. Complete facilities are available for the harvest workers, including cafeterias and transportation to and from the farm. Four busses are operated for this purpose, but during the peak season the farm leases another 25 busses from private concerns to bring in workers from communities within a 55-mile radius.

Alderman operates a truck fleet totaling 96 units of which 85 per cent are Ford products. These range from the smaller pickups through the two-ton F-6 stake models. Ford industrial engines are used for irrigation pumping. The farm has a large maintenance shop wherein equipment can be completely rebuilt and all minor maintenance handled. All Ford parts, as well as the farm's new trucks, are furnished on short notice by the Gilbert Tilbury Company, Ford dealer in McMinnville, Oregon.

Just what progress will be made at the Alderman farm in the next ten years hasn't been determined yet, but judging from past performance Ford trucks will play an important part. Alderman has expressed definite satisfaction with the Ford trucks he has operated in the past, and with his dealer's promptness in furnishing any needed spare parts. ■



*The foreman uses a Ford station wagon to look over his acres. At right he inspects a produce harvesting operation in one of his fields.*



*Women workers, at right, sort golden ears of corn in an Alderman packing house. Ears travel on conveyor and are dropped down chute to packers.*



*Crates of corn move off to market in another packing operation. Other Alderman products are potatoes, meat, strawberries, and lumber.*





*Emergency trucks quickly tow surfboats to any point on the beach.→*

## **No Drowning Allowed**

*by Fred Miller*

*photographs by Virgil Deane*

**T**AKING A SWIM at Jacksonville Beach, Florida, is safer than sitting in your own bathtub. Under the many watchful eyes of the Jacksonville Red Cross Volunteer Life Saving Corps, not a single drowning has occurred in the beach's guarded area since the Corps was organized in 1912.

Two crews, all seasoned swimmers volunteering their weekends and holidays, alternate duty on an hourly shift at lookout towers strung along six miles of beach and at other points covering some thirty miles of the coast. When a lifeguard notes a swimmer in distress he drops the Red Cross flag that flies from his tower, grabs his torpedo buoy and dashes into the surf to assist the victim. The dropped flag is a sign to the lookout at the central station who dispatches one of the two new Ford emergency trucks with additional help and a resuscitator. In 39 years, 727 persons have been rescued from drowning, with assistance given to another 14,000.

In addition to rushing men and equipment to the emergency scene, the pickups double as ambulances and are ready to speed surfboats on trailers to any point on the beach for rapid launching. One of their routine duties is an hourly run down the coast carrying personnel for the change of the guard.

Concerning the Ford trucks recently replaced, R. F. S. Harman, Secretary of the American Red Cross Volunteer Life Saving Corps, made this comment:

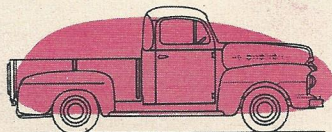
*"These 1946 pickups were subjected to salt sand, salt water and spray every day the corpsmen were on duty through five full seasons. Their service was exceptional as most vehicles at the beach, used only on pavement and subjected only to salt air, rust out after three to four years. Our total operating cost on an average over five years, including gas, oil, tires, annual repainting and undercoating, and repairs, has been approximately \$363.00 per unit per year. The Corps believes that only Fords can give this economy and service under these conditions."* ■

*A Ford pickup stands by to rush equipment and aid to surf victims.→*









## *The Ford Line for '51*

data and specifications for

# THE F-1 SERIES

THE F-1, Ford's  $\frac{1}{2}$ -ton truck with a maximum G.V.W. of 4,700 pounds and a 114-inch wheelbase, is offered with a choice of two engines, the 95 hp Six or the 100 hp V-8. Both engines are of the L-head type with a compression ratio of 6.8 to 1. Both give proved economy performance.

The Rouge 226 Truck Six (226 cubic inch displacement) develops 180 lbs.-ft. torque at 1,200 rpm and maximum brake horsepower of 95 at 3,300 rpm. Bore is 3.30 inches and stroke is 4.40 inches.

The Rouge 239 Truck V-8 (239 cubic inch displacement)—the only V-8 engine built for trucks in this class—develops 180 lbs.-ft. torque at 2,000 rpm and maximum brake horsepower of 100 at 3,800 rpm. Bore is 3.187 inches and stroke is 3.75 inches.

A 3-speed synchro-silent transmission with steering post shift is standard on the F-1 with a 3-speed heavy duty transmission and a 4-speed transmission with floor shift optional.

The rear axle ratio is 3.92 to 1 which gives optimum performance for average use. For heavy work and rough terrain a 4.27 ratio is offered.

Size 6.00-16 4 p.r. tires are standard with either 6.00-16 6 p.r. or 6.50-16 6 p.r. available. The latter fit standard wheels and allow maximum payload.

Body styles making up the F-1 line include the  $6\frac{1}{2}$ -foot pickup, most popular of all trucks. This model takes a payload of 1,480 pounds with 45 cubic feet of space in the box. Seasoned hardwood boards interlocked with steel skid strips make up the floor. An all-level loading surface is provided when the tailgate is lowered. Four stake pockets permit the mounting of uprights to support extra side panels, caravan tops and other special equipment.

The 8-foot panel delivery has a total capacity of 160.3 cubic feet and will take a maximum payload of 1,330 pounds. The all-steel body has a large rear opening four feet wide, and an easy loading height less than two feet from the ground.

The  $6\frac{1}{2}$ -foot stake model carries a payload of 1,410 pounds, or with stake sections removed converts to a platform truck with a 1,530-pound maximum payload.

The F-1's 5-star cabs are designed and built for minimum driver fatigue. The 5-star Extra



cab, at slight additional cost, offers features that give the F-1 family car comfort. Among these are foam rubber seat padding, two-tone upholstery, 1½-inch insulation with thermacoustic headlining, cigar lighter, dome light and many other conveniences.

The seven standard body colors include the dark shades, Raven Black, Silvertone Gray and Sheridan Blue; the brighter colors, Vermillion and Meadow Green; and the light tones, Alpine Blue

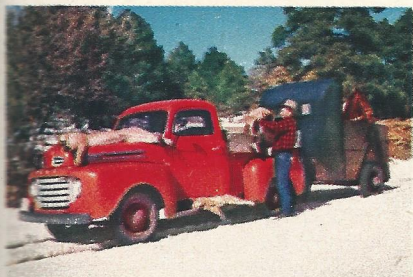
and Sea Island Green.

A complete line of accessories such as heavy duty front springs and extra-heavy duty rear springs, is available for all models. ■

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*If you wish to receive additional information and complete specifications on the Ford F-1, simply send your request to the FORD TRUCK TIMES, Ford Motor Company, Dearborn, Michigan, being sure to print your name and address plainly.* ■

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**R**EWARDED by the thrill of the chase and a \$75 bounty, Lester J. Cravey of Williams, Arizona, uses an F-1 Ford to hunt lions in the Arizona wilderness. This Ford has been in on the kill of nine of the big cats. The eighth, a mature tom captured after an arduous six-mile chase over the rocky sides of Hell's Canyon, is shown reposing on the truck while Cravey loads the ninth, a small lion about a year old. The bobcat resting on the running board is an incidental casualty.

Lion hunter Cravey has fitted a

## **Special Use—**

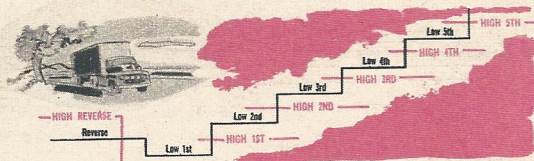
### **F-1 Lion Hunter**

*photograph by Alfred C. Edwards*

raised platform into the bed of the pickup beneath which his five trained lion dogs get warm and comfortable shelter traveling to and from the hunt. Above the platform additional eight-inch side panels provide space for camping gear, tent, bedroll, and food.

The pickup pulls a two-horse trailer across the narrow, often snow-covered, mountain roads while the agile Comet and Pinto Pete contentedly munch hay. Cravey needs a spare horse because the lion chases are usually prolonged and tiring. ■





## The 2-Speed Axle

**speed when you want it—power when you need it**

**W**HEN A FORD truck is equipped with the 2-speed axle it becomes outstanding for all-around performance and economy. The versatility provided by a choice of two rear axle ratios gives the driver a gear for every road and load condition. Truck operation is made more profitable by maintaining high average road speed, exerting greater pulling power when needed, keeping the engine speed in its most efficient range at all times and effecting greater economy under all conditions.

### What It Does:

To understand what a 2-speed axle does for truck performance it should be compared to the operation of a truck having the conventional single speed axle. On most models there is a choice of rear axle ratios available. High speed ratios permit the engine to run relatively more slowly than the low speed ratio axles, but trucks thus equipped develop less pulling power and are less satisfactory for steep grades and heavy going. The low speed ratio axle

permits the engine to revolve relatively fast and develop the greater pulling power needed, but after delivering its load a heavy duty truck with a single low ratio has a slow trip home because of its reduced road speed.

The selection then of a single ratio involves a compromise adapted to average conditions. For some hauling jobs the compromise axle does the work practically and efficiently, but in many cases only a choice of two axle ratios will get the most out of a truck, with minimum engine wear and maximum economy.

### How It Operates:

The Ford 2-speed axle combines the characteristics of a high speed and a low speed axle. This is accomplished by adding planetary gears and a simple shifting mechanism to the conventional axle. Either ratio may be selected instantly by a vacuum shift control, doubling the number of gears available in the truck. When in the high speed ratio the planetary gears are locked and the unit func-



tions as a conventional axle. When the axle is shifted to the low speed ratio, the planetary gears come into operation and through them a secondary reduction is obtained.

The 2-speed axle is available on Ford trucks in series F-5, F-6, F-7 and F-8. With the F-8, for example, the standard single speed rear axle has a ratio of 7.17 to 1 which offers optimum performance for average conditions. The optional 2-speed axle makes available either a high speed ratio of 6.5 to 1 or a power ratio of 8.87 to 1. The 5-speed transmission plus 2-speed rear axle provides a total of ten speeds forward—"a gear for every road and every load condition."

#### When to Use It:

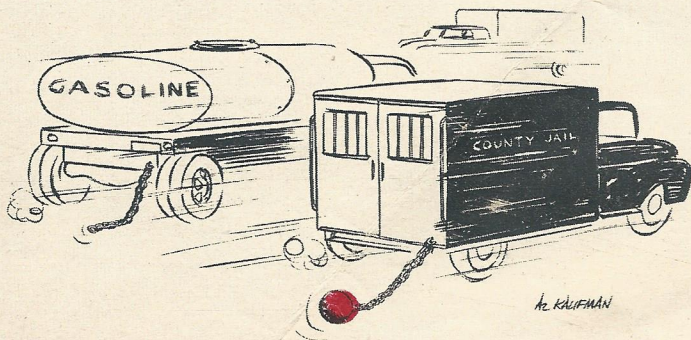
The high ratio makes possible high-speed, over-the-highway road performance at a greatly reduced number of engine revolutions. Savings are made in gasoline, oil

and reduced engine wear. Loads move at more profitable speeds.

The low ratio provides extra pulling power to start the heaviest loads more smoothly, and to get out of mud, sand, loose gravel and deep pits without bucking or frogging.

The axle may be shifted at any speed, enabling the truck to make better time in hilly country, over rough roads, or through heavy traffic.

In dump truck operations, for example, the axle provides ample power to pull out of bad spots with a full load, but when rolling the high ratio can take the lead at lower engine speed. In cross-country hauling, low-low gear starts heavy loads, low gears for hilly sections, high gears to speed over good roads. The 2-speed axle can double a truck's usefulness. Not every truck needs it, but every truck operator should seriously consider its use.









## CASE HISTORY #4

# *Serving the Sand Man*

*story and photographs by Jay Dugan*

THE GREAT GLACIER, on its way through New Jersey some 20,000 years ago, ground tough quartz, shale and feldspar into tiny particles of sand. According to sand men today, the invention of the power shovel and the assembly of the Ford truck followed as the most significant events in history.

This at least is the opinion strongly held at the Whitehead Brothers Company of New York City, one of America's oldest and largest sand producers. They have been putting the bite on Mother Earth for over 110 years, with plants in Dorchester, New Jersey, and sixteen other Eastern locations.

Of the twenty-two varieties of sand that Whitehead sells, there are two principal types—bonded and unbonded. The former will unite into any shape to retain molten metal, from a few ounces to more than 150 tons, for casting. Modern industry is literally shaped in sand. The unbonded material is used for cores, sand blasting, filtering, and as industrial filler.

Whitehead sands are dug from dry beds by power shovel, or sucked up by floating dredges when found under water. Lugging the huge loads, over a million tons annually, is the day and night job of Whitehead's 59 Ford trucks.

"Working conditions for our Fords are severe," says A. Y. Gregory, Whitehead president. "They are hauling maximum loads in ice, snow, mud and dust every season of the year. The economy and availability of replacement parts, the fact that we can easily replace an entire motor when necessary, and the fine resale value are all arguments in favor of continuing our 26-year policy of buying Ford trucks."

Despite the heavy low-gear haulage and the abrasive action of fine sand on engine parts and brake drums, the company demands constant usage from its F-6's, F-7's, and F-8's, but has found that time out for regular maintenance checks saves time and money in the long run. ■

← View of pit where white silica sand is mined.





*photograph by John Bickel*

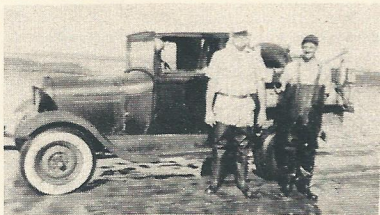
## *Goodbye Wooden Roads* *—a one-picture story*

THE truck shown above is obeying what is probably the lowest speed limit in North America: 5 mph. It is traveling on wooden "duckboard" streets that were the principal thoroughfares of the all-native town of Metlakatla, Alaska, on Annette Island, off Ketchikan. The town is the home of the Tsimshian Indians, said to be the wealthiest tribe in Alaska. But the wooden streets haven't long to stay. Last year Metlakatla's native council and mayor perfected a \$175,000 road-building plan that will result in a system of wide graveled roads and concrete sidewalks to replace the duckboards. This will give the prosperous Tsimshians more room for the trucks and cars they are buying in increasing numbers. The new roads will also provide arteries for the heavy freight traffic to and from the tribe's modern salmon cannery, the community's principal source of revenue. ■



## Know a Better One?

**R**UNNING through salt water across Cape Cod sand flats would be tough enough on a current model truck, but Clint Eldridge of Brewster, Massachusetts, does it daily from March 15 through November 1 with a 22-year-old Model A coupe converted into a pickup truck. He uses the old workhorse to lift fish nets in his two weirs. He keeps on top of the sand by running 9 x 13 rear tires and 7.50 x 15's on the front, inflated to between 15 and 18 pounds. His only piece of special equipment is a 15-leaf spring in the rear to carry his heavy loads of fish. When he readies the truck for the beach he slaps 50 pounds of grease over the



entire undercarriage with a paint brush to withstand the punishment of salt and sand. He can count on three seasons out of his truck before abrasion and corrosion chew up his running gear. At this point the undercarriage must be replaced, but the engine continues to run in good order. —S. LEON CLIVER, Sr., East Natick, Massachusetts. ■





# Mail Truck

decorations by Vince Zenone



## Leaping with a Load On

**D**ear Sirs: While hauling freight on the Richardson Highway between Valdez and Fairbanks, Alaska, I was following an F-8 Ford two-axle truck carrying a ten-ton load of steel. The driver dozed at the wheel while driving around 45 mph, and when he hit the soft shoulder he awoke to see a ditch three feet wide and four feet deep running parallel with the road. It was impossible to bring the truck back on the road so instead of going into the ditch on an angle, which he knew would roll him over, he tried to jump the ditch with all the speed he could coax out of his rig.

In doing so his front end hit the opposite side of the ditch and threw the back end around so that when he stopped he was straddling the ditch. After much digging and carrying of dirt we filled in the ditch and I pulled him out with my truck. We examined his Ford and found no damage whatsoever. After seeing this truck carry almost twice its rated capacity, and go through such an enormous strain, my respect for Ford trucks has been increased greatly.

BURRELL RUCKER  
Tacoma, Washington



## Dog of Distinction

**D**ear Sirs: I have owned and driven school busses for 23 years, over many different types of roads and terrain. All of them have been Fords and the 1938 model was driven 90,000 miles without having the clutch relined. I now have a 1947 V-8 which is doing very

nicely. Our dog, a cocker spaniel, seems unusually fond of this one and comes a mile or more down the road to meet me every evening. She knows when it is time and nothing can stop her, rain or shine. She sits and waits on the side of the road where the door opens, and when I stop she climbs in quickly and sits down on the floor, happy as can be. Similar busses do not confuse her, no matter how much they resemble mine. She knows which is which and when it is Saturday and Sunday. How she can tell when it is time to start out puzzles us, but it appears that she does quite a bit of thinking and that she knows her Fords. I am a regular reader of your FORD TRUCK TIMES and have especially enjoyed Stories of the Road and the other short features.

CHARLES E. PRAGAR  
Mack, Ohio





## Seven Thousand Passengers

**D**ear Sirs: We haul white Leghorn chicks to Lansdale, Pennsylvania, which is about seventy-five miles from Lancaster, making the run twice a week with a load of six to seven thousand chicks. The trip is made in two hours each way which we consider good time. Altogether we have fourteen Ford trucks, both V-8's and Sixes. We find the Ford Six to be very handy around the farm due to the low operating cost and flexibility. Our F-1 panel Ford V-8 we use mainly for transporting young

chicks to our customers which is done mostly over rough country road. The chicks must be delivered on time as they are perishable. Our Fords have never let us down. As far as mileage is concerned we get on an average of from two to three more miles per gallon from our Fords than from our previous trucks. We never have to add oil between the regular 1000 to 1500 oil change which was not the case with our other make trucks. Ford trucks do more per dollar, especially on repair and maintenance. We have found that we save from \$35 up to \$80 a month regularly on parts and repairs alone, and can buy any parts that are needed at much less than we were paying for parts on our previous make of trucks.

MARTIN S. MUSSER  
Mount Joy, Pennsylvania

## *... and one for the road*

**T**HREE YEARS AGO Ran Wilbourn, proprietor of an auto works in Los Angeles, made a pet out of his 1937 Ford shop pickup. Even then, at 11 years of age, the truck was in excellent condition, but Wilbourn wanted an especially well groomed pet. So he put it in his shop for customizing and refinishing. Below is a picture of it now, as sleek a pickup as rolls the roads. Although the truck was thoroughly modified, Ford parts were used throughout: hub caps are stock '37, reshaped and rechromed; '37 bumpers were altered as shown; the radiator shell is stock '37, broadened. The unusual grill was made up of pieces found in the shop scrap pile. Other refinements included low-

ering the cab top three inches, lifting edges of the front fenders to give a sweep effect, and recessing the spare tire by forming three separate wells. The pickup bed is wood paneled on the bottom and sides, and the upholstery is foam rubber and leatherette. The pickup works every day, proving that a Ford truck plus proper care adds up to something like perpetual motion. ■





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