

1956 FORD

Thunderbird

HANDBOOK

*1956 Ford
Thunderbird
Handbook*

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Ford Motor Company
DEARBORN, MICHIGAN

Foreword

Your Thunderbird has been designed and built to give you the kind of road performance and safety that will please the most exacting motoring enthusiast. Yet, this fine, new personal car retains all of the comforts and conveniences that you would expect to find only in a family sedan.

This handbook has been prepared as your guide to help you get the most satisfaction from your Thunderbird for as long as you drive it. Everything you need to know to drive and enjoy your car is described here.

Many Thunderbird owners regularly take their cars to their Ford Dealers for periodic lubrication and service. However, if you prefer doing your own mechanical maintenance, this handbook gives lubrication information, minor adjustment procedures, and service specifications to help you keep your car in top shape.

The descriptions and specifications contained in this handbook were in effect at the time the book was approved for printing. The Ford Division of Ford Motor Company reserves the right to discontinue models at any time, or to change specifications or design, without notice and without incurring obligation.

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From The Driver's Seat

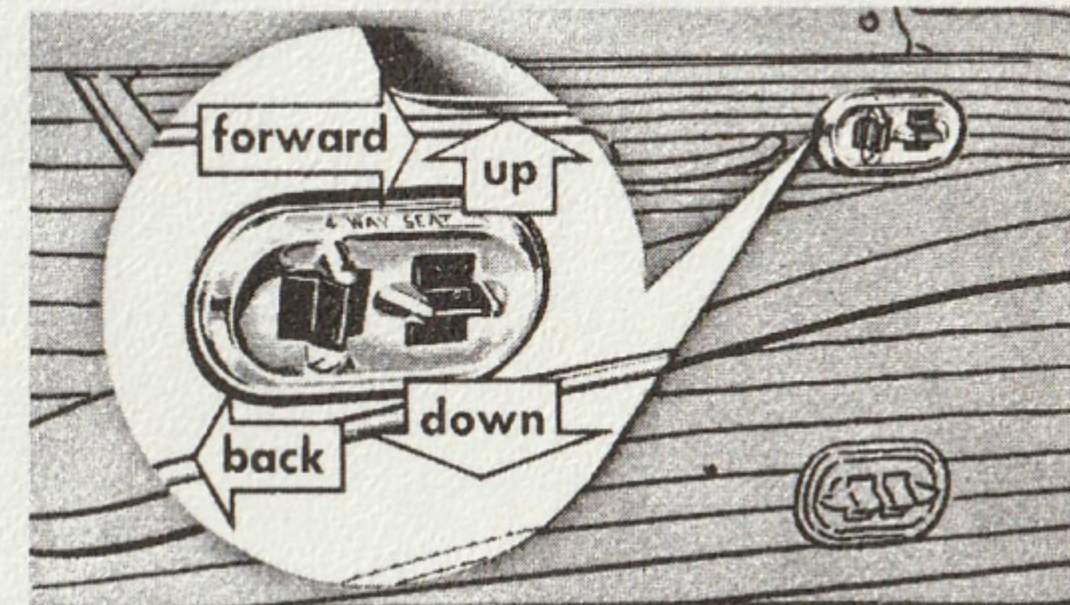
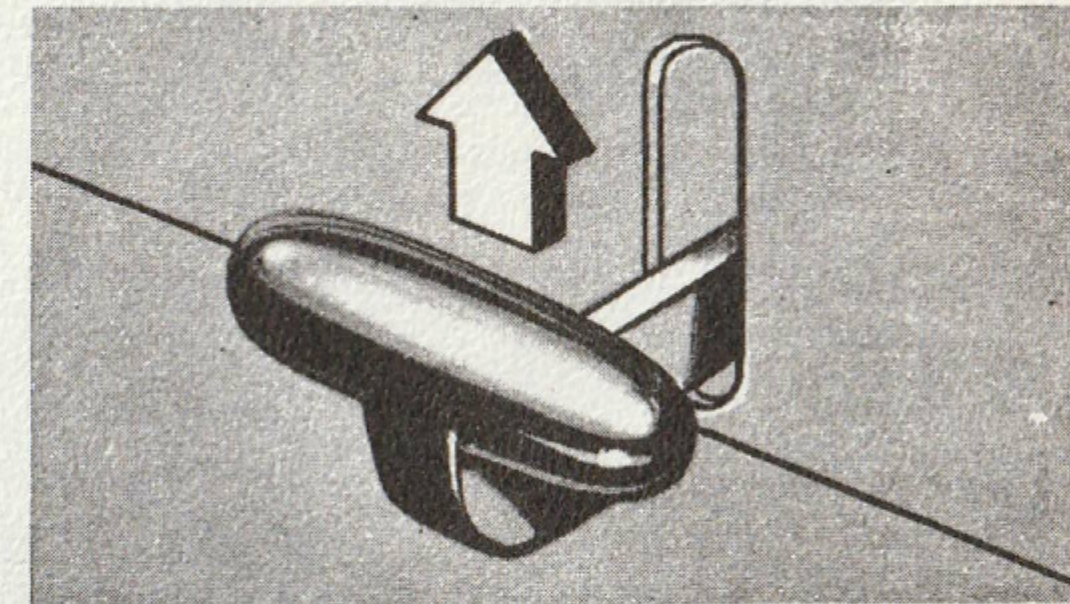
Sitting behind the wheel of your new Thunderbird may be an entirely new and different experience for you, especially if you've driven only conventional cars in the past. You'll want to get out on the road right away to enjoy motoring at its finest. However, there's plenty of time for fun with your Thunderbird. Relax for a few minutes in the driver's seat, read the next few pages of this handbook carefully, and get better acquainted with your new car before you drive it.

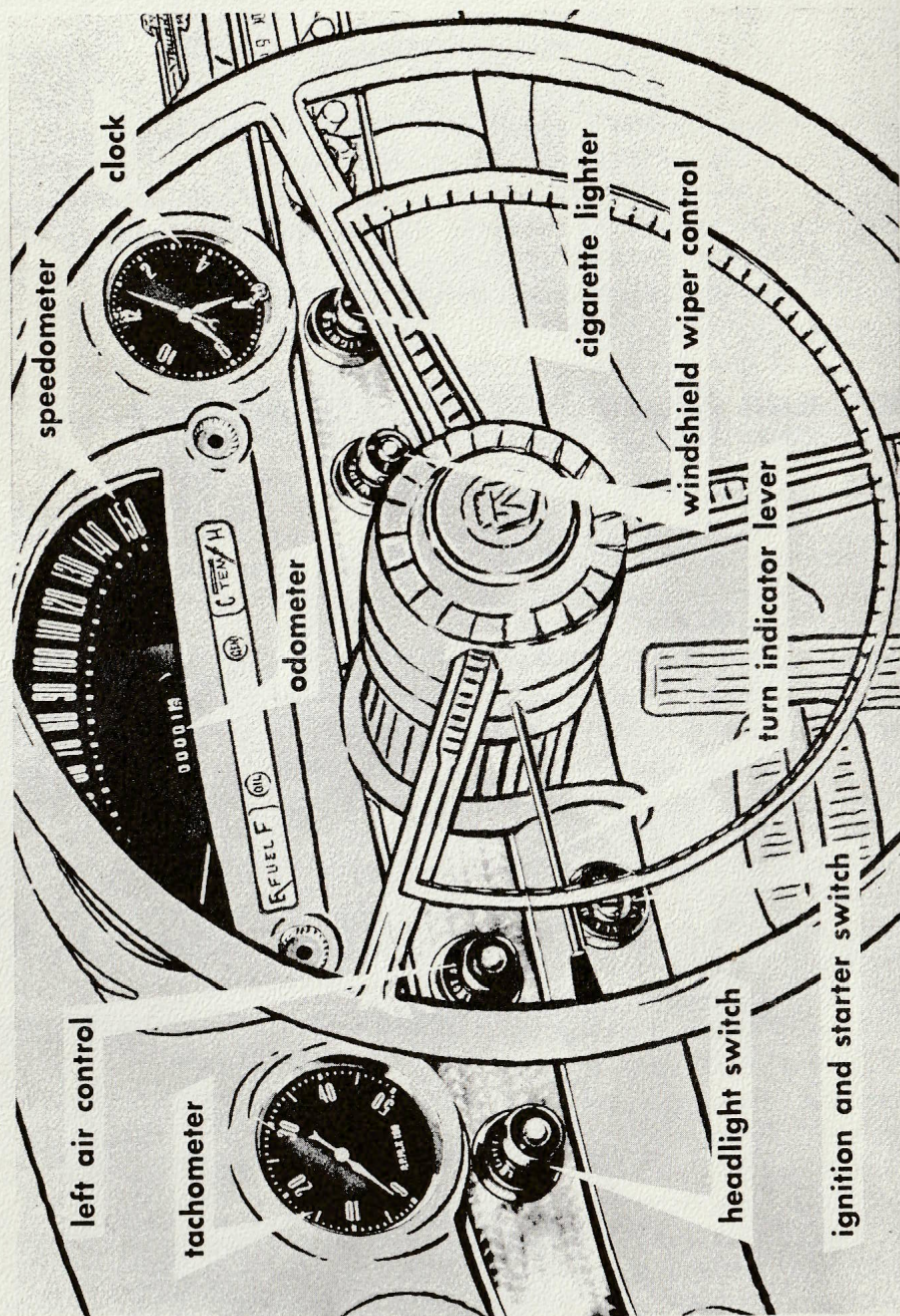
SEAT AND STEERING WHEEL ADJUSTMENTS

MANUALLY-ADJUSTED SEAT. The lever at the left side of the seat unlocks the seat for adjustment. To move the seat, pull the lever upward, then slide the seat forward or backward to the position that suits you best. Release the lever, and the seat will be firmly locked in place.

4-WAY POWER SEAT. Two buttons on the left door panel control the optional 4-Way Power Seat. Press the buttons in the direction that you want the seat to move, then release them when the seat is in the position you want. The 4-Way Power Seat controls will operate only when the ignition switch is at ON or ACC.

SEAT-BACK ADJUSTMENT. The angle of the seat-back on either the manually-adjusted seat or the 4-Way Power Seat can be adjusted separately. Just turn the stop screws at both lower rear corners of the seat to tilt the seat-back toward the front or rear. Adjust the two screws evenly, then tighten them securely after you've made the adjustment.





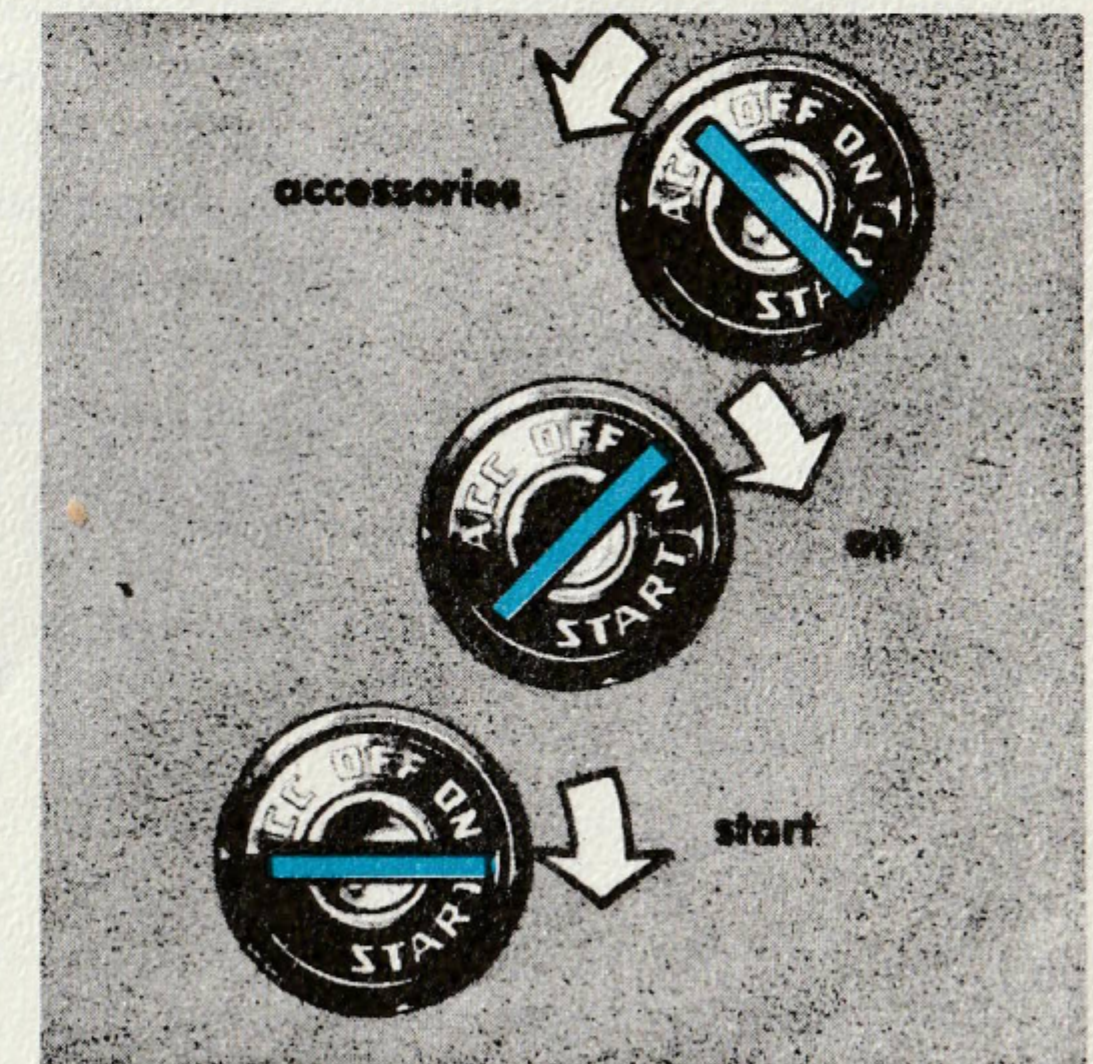
STEERING WHEEL. After you've adjusted the seat, you can move the new safety-type Lifeguard steering wheel forward or backward to the driving position that's most comfortable for you. Turn the large collar on the steering column clockwise about $\frac{1}{2}$ turn, then move the steering wheel to the desired position. Lock the wheel in place by turning the collar counterclockwise $\frac{1}{2}$ turn. *Be sure that the wheel is tightly locked.*

SEAT BELTS. If you've had Ford seat belts installed in your car for your added safety, be sure they're fastened when you drive. Slide the end of your seat belt through the bottom of the safety buckle opening. The belt will automatically lock itself wherever you want it. When the belt is properly adjusted, the buckle should be between the front of your waist and your hip. To unfasten the seat belt, just lift up the top of the buckle, and the end of the belt will slide out through the buckle.

INSTRUMENTS AND CONTROLS

All the instruments and controls are grouped directly in front of you. Everything you'll need to operate your Thunderbird is within easy reach of the driver's seat. Glance occasionally at the various gauges and indicators while you're driving your car. If sudden engine trouble should occur, this good habit may save you inconvenience and the cost of expensive repairs.

IGNITION SWITCH. Four key positions are clearly shown on the ignition switch. When the key is in the OFF position, the ignition system, instruments, and most of the electrical circuits (radio, heater, Power-Lift Windows, etc.) won't operate. The ACC position permits the use of the accessories when the engine isn't running. When the key is at ON, all of the electrical circuits, including the ignition system, are ready for use. Turning the key, against a spring tension, to the right toward START operates the starter motor.



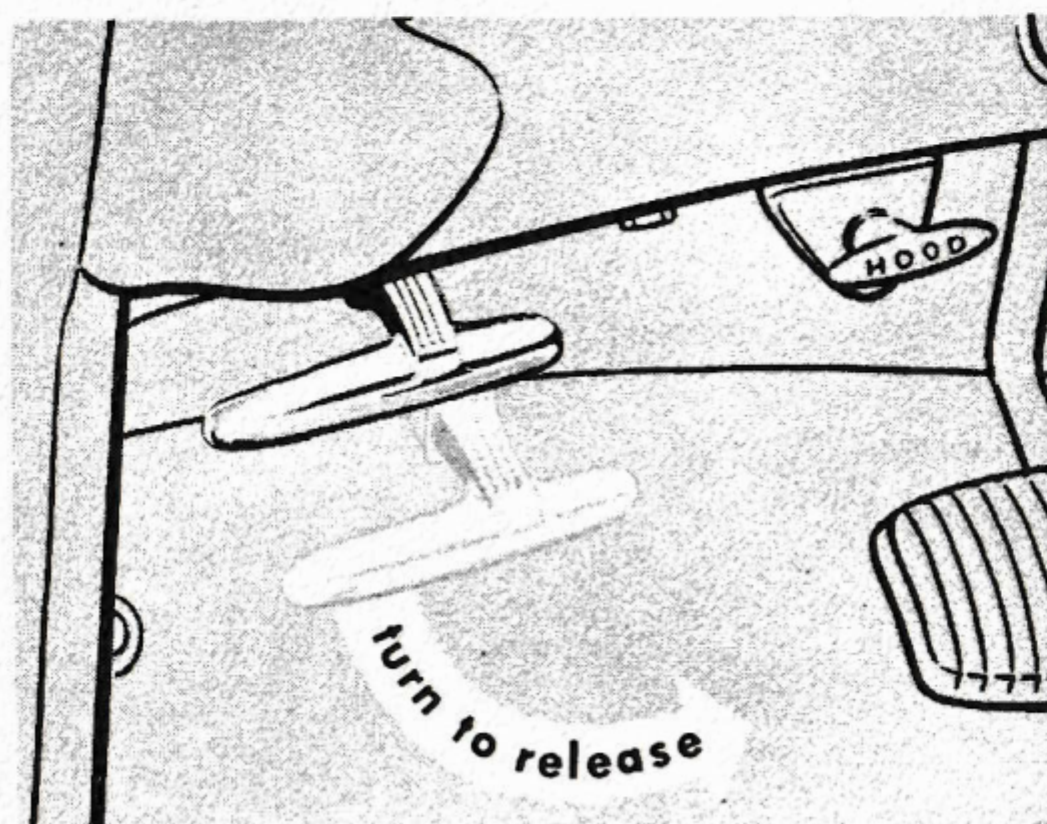
HEADLIGHT AND CONTROL PANEL LIGHT SWITCH. The lights on your car can be turned on at any time, even when the ignition switch is off. Pull the LIGHTS knob out to the first position to turn on the parking lights and taillights. Pull the knob out all the way to turn on the headlights. The control panel lights go on at either position and can be brightened or dimmed by turning the LIGHTS knob.

HEADLIGHT BEAM SELECTOR. When the headlights are on, you can raise or lower the beams by pressing the headlight beam selector with your foot. Use the low headlight beams when passing oncoming traffic or when overtaking and passing other cars from the rear. The high beams will give you greater visibility on dark roads. A small, red light above the odometer (mileage gauge) goes on when the high beams are on.

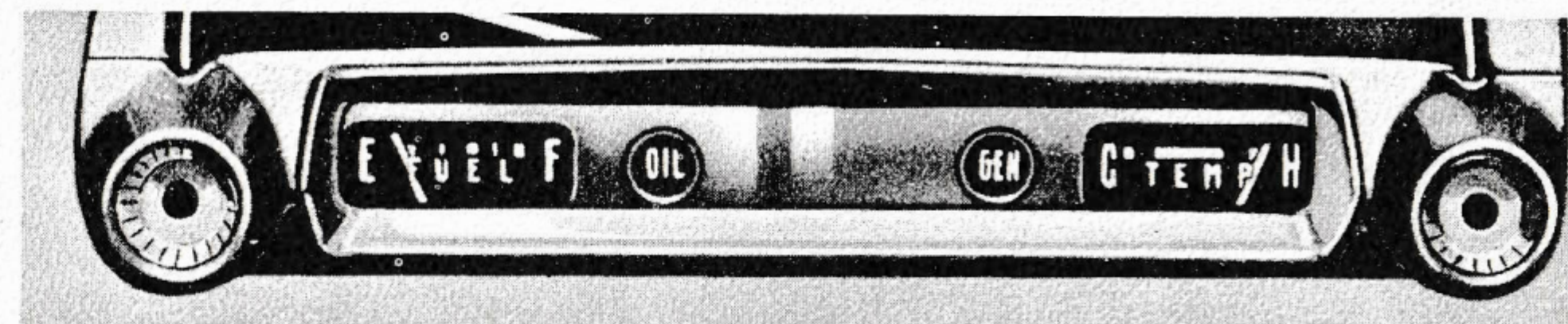
WINDSHIELD WIPER CONTROL. On rainy days, start the windshield wipers by turning the WIPERS knob clockwise. The further you turn the knob, the faster the wipers will move back and forth across the windshield.

AUTOWIPE WINDSHIELD WASHER. When you press the control pedal at the left corner of the floor, the optional AutoWipe Windshield Washer and the wipers automatically come into action. *It's not necessary to turn on the WIPERS knob when using the AutoWipe Windshield Washer.* Fluid will squirt on the windshield, and the wipers will clean the glass.

An all-weather cleaning solution, which cleans better than plain water, should be added to the water in the windshield washer reservoir. If you use the windshield washer on a cold windshield at freezing temperatures, the fluid may freeze when it touches the cold glass and temporarily obscure your vision. However, the heater defrosters will usually warm the glass enough so that the fluid will clean the windshield without freezing.



PARKING BRAKE HANDLE. To apply the parking brakes, pull the T-shaped handle all the way out. You'll be able to pull the handle out more easily if you push the brake pedal down with your foot at the same time. To release the parking brakes, turn the handle counter-clockwise as far as it will go, then push it in all the way. *Always be sure that the parking brakes are fully released before you move the car.*



FUEL GAUGE. The gauge pointer normally rests at the E (empty) mark when the ignition switch is turned off. When the switch is on, the gauge shows you the level of gasoline in the fuel tank. It's best to keep the tank nearly full whenever possible so that you won't be "caught short" of gasoline at an inconvenient time or place.

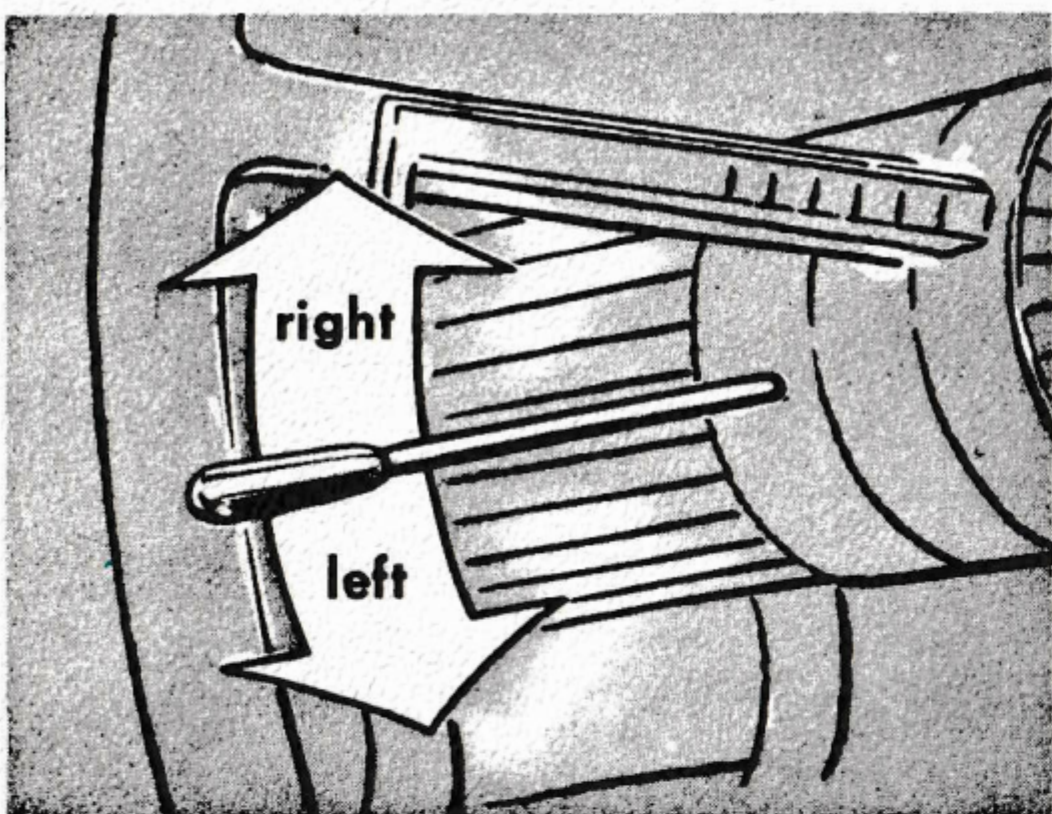
OIL PRESSURE INDICATOR. When you turn on the ignition switch, the OIL light goes on. After the engine starts, the light should go out. If the light remains on longer than a few seconds, there may be trouble in the engine lubrication system. *Stop the car and turn off the ignition switch when the light remains on steadily.*

GENERATOR INDICATOR. If the battery is discharging and the generator isn't supplying current while the engine is running, the GEN light goes on. If you continue to drive the car with this condition, the battery will run down so that it may not operate the starter when you want to start the engine again. *When the engine is idling, a flickering GEN light doesn't necessarily mean generator or battery trouble unless the light remains on after the engine speed has been increased.*

TEMPERATURE GAUGE. The gauge pointer normally rests at the H (hot) mark when the ignition switch is turned off. When the switch is on, the gauge shows the temperature of the engine coolant. At normal engine operating temperatures, the pointer should be about halfway between C and H. If the pointer moves to the H mark when the engine is running, the engine is overheated. Let the engine cool for a few minutes, then slowly add water to the radiator while the engine is idling. *Be careful of escaping steam or hot water when you remove the radiator cap.*

SPEEDOMETER AND ODOMETER. The car's speed, in miles per hour, is shown on the Astra-Dial speedometer. The odometer (mileage gauge) records the total accumulated mileage that your car has been driven, and is useful for keeping track of lubrication intervals and trip mileages.

TACHOMETER. A glance at the tachometer shows you, in revolutions per minute, the engine's speed. The tachometer, which operates as long as the engine is running, reads from 0 to 5000 r.p.m.



TURN INDICATOR. Flick the turn indicator lever downward to signal for a left turn, upward for a right turn. Flasher lights on the front and rear of the car and on the control panel indicate the direction you intend to turn. The indicator normally stops operating after the turn. However, if the steering wheel doesn't rotate enough to stop the indicator, you may have to flick the lever to the off position after turning.

HOOD LOCK RELEASE HANDLE. The engine compartment hood is held shut by a lock. To open the hood, pull the HOOD handle out. When the lock is released, the hood will pop up. Push the HOOD handle in, and the hood will automatically lock itself when it's lowered.

FOOT PEDALS. The brake and accelerator pedals are placed close enough to each other to permit quick and easy movement of your foot from one pedal to the other for positive control of your car. If your Thunderbird is equipped with Overdrive or a conventional transmission, the clutch pedal is at the left side of the brake pedal.

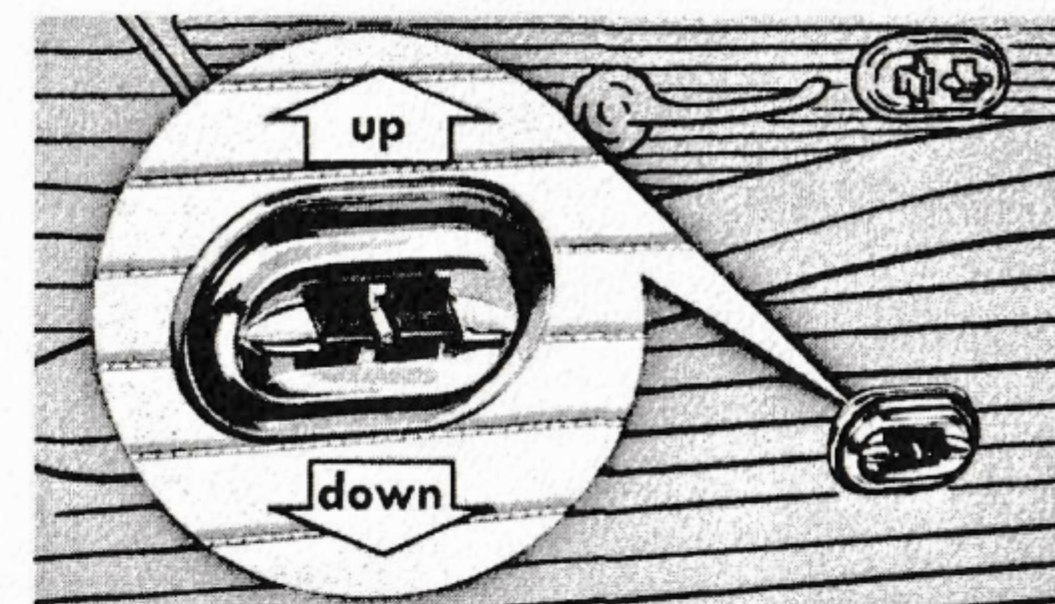
TRANSMISSION LEVER. The transmission is operated by a lever on the floor at your right. The Fordomatic selector lever must be at N (neutral) before you can start your car. With Overdrive or the conventional transmission, the gear shift lever should be in the neutral position when you operate the starter.

DOORS AND WINDOWS

DOOR LOCKS. Just push down the door lock buttons to lock the doors from the inside. Don't worry about accidentally locking your keys inside the car. The door lock buttons operate only after the doors are closed, and you must use the ignition key to lock the doors from the outside.

If a door lock freezes in cold weather, you can usually thaw out the lock by heating the end of the key for a few seconds with a lighted match or cigarette lighter before inserting it in the lock. Don't force the key to turn in the lock because the key may break.

KEY REPLACEMENTS. Now is a good time to jot down your key code numbers. Keep this record in a handy place so that you'll have the numbers with you at all times. If you lose or break a key, any Ford Dealer and many locksmiths can quickly make a replacement key for you by using the code number as a guide.



WINDOWS. The Power-Lift Windows on your Thunderbird can be raised or lowered from the driver's seat. Switches for both windows are located on the left door panel. A separate switch on the right door panel allows the passenger to control his window. Press the switches upward to raise the windows, or press them downward to lower the windows.

The windshield side wings operate independently of the windows and can be moved to the desired positions by hand.

VENTILATING AND HEATING

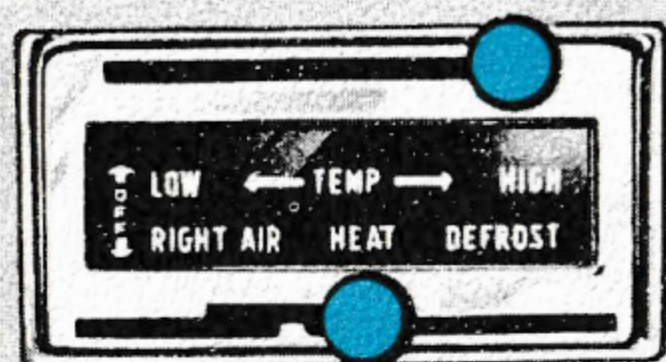
In summer or winter, the all-weather ventilating and heating systems of your Thunderbird provide the best air circulation and temperature for pleasant and comfortable driving.

WARM WEATHER DRIVING. You can bring fresh air into both sides of your car at floor level. Pull out the air control knobs, or open the cowl side vents. The LEFT AIR knob is located just above the ignition switch. The RIGHT AIR control is on the MagicAire System control panel. If your Thunderbird doesn't have a heater, the RIGHT AIR knob is at the left side of the parcel compartment.

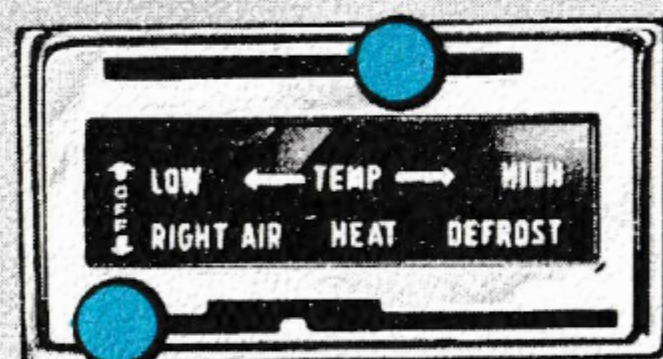
The cowl side vents are located at both sides of the car just forward of the doors. The further you move the vent levers, the more air you admit through the vents.

MAGICAIRE SYSTEM. You'll get better MagicAire System heating results if you open a window slightly.

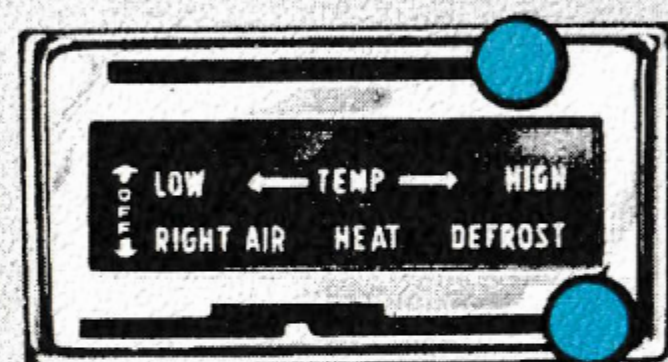
Fresh Air Heat. For heated outside air, set the TEMP lever for the temperature you want, the lower lever at HEAT, and the BLOWER switch at either 1 or 2. When you're driving, you may not need the blower as the car's forward motion will force heated air in from the front of the car.



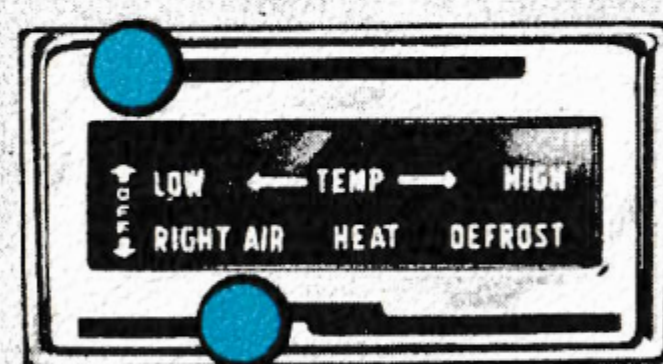
fresh air heat



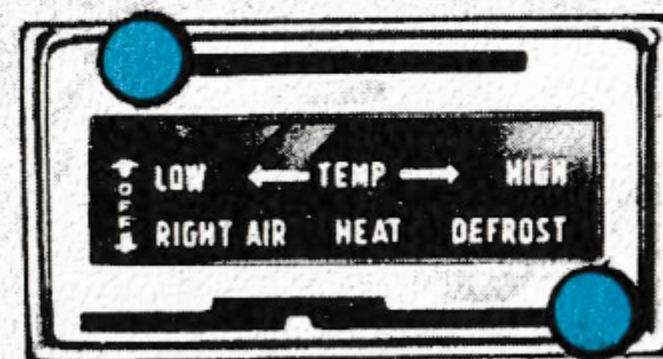
recirculated air heat



defrosting



ventilating



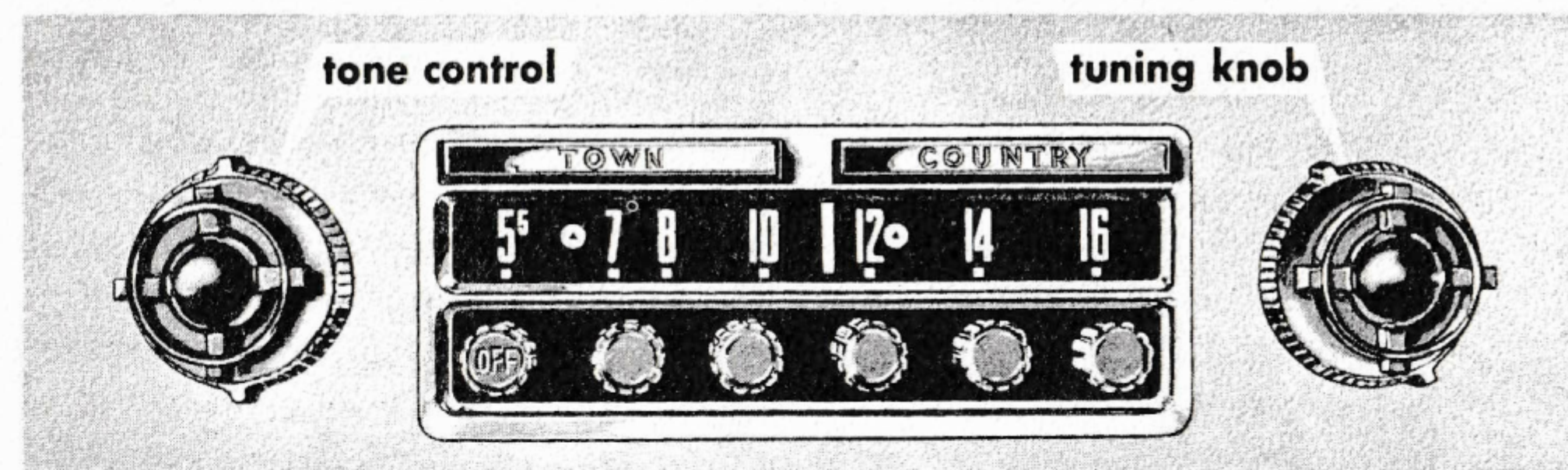
defogging

Recirculated Air Heat. To keep out odor-contaminated air and fumes from heavy traffic or other outside sources, move the lower lever to OFF. The TEMP lever can be placed at the temperature setting you want. Turn the BLOWER switch to either 1 or 2. These control settings will prevent outside air entering the car and will let the air in the car recirculate through the heater.

Defogging and Defrosting. To clear the windshield of fog or frost, set the TEMP lever for the desired temperature. Move the lower lever to DEFROST, and turn the BLOWER switch to 1. For maximum defrosting, set the TEMP lever at HIGH for greatest heat.

Ventilating. Set the TEMP lever at OFF and the lower lever at RIGHT AIR. Pull the LEFT AIR knob out all the way. Open the cowl vents at both sides of the car. These settings will give you fresh cooling air from outside the car without opening the windows.

IN EXTREMELY COLD WEATHER. If you drive frequently in areas having extremely low temperatures, you can increase the heating capacity of the heater by having a high-temperature thermostat installed in your car's cooling system. However, use this thermostat only when you have a permanent-type anti-freeze solution in the cooling system.



SIGNAL-SEEK RADIO

To turn on the new optional Signal-Seek Radio, push any one of the five station selector buttons. The ignition switch, of course, must be at either ACC or ON. You can change stations by turning the tuning knob, by pushing any one of the selector buttons, or by touching either of the two signal-seeking bars. The selector buttons are usually set for local stations in your area. The TOWN and COUNTRY signal-seeking bars will accurately tune in strong local or listenable distant stations picked up by your radio wherever you're driving. The volume and tone can be adjusted for your best listening. To turn off the radio, push the OFF button.

The TOWN signal-seeking bar tunes in powerful local stations. Weaker or more distant stations can be tuned in by touching the COUNTRY bar. Each time you touch either of the bars, the dial pointer will move to the next station on the dial.

In areas where all the stations are unusually weak or very distant, the signal-seeking bars may not be able to tune in the stations, and the dial pointer may continue to move back and forth across the dial. If this should happen, turn off the radio, then push one of the selector buttons to turn it on again. Tune in the station you want with the tuning knob.

To change the station setting of any selector button, turn on the radio for about ten minutes, then tune in the station you want with the tuning knob. Turn the selector button one turn counterclockwise, push it in all the way, then release it slowly. Turn the button clockwise until it is tight. Reset the other selector buttons in the same way.

Notice the two small triangular marks on the tuning dial. These marks are the CONELRAD station settings, used only for Civil Defense information in case of a national emergency.

CONVENIENCE FEATURES

CLOCK. The Thunderbird clock is electrically wound. To set the hands of the clock, pull out the time-setting knob at the bottom of the dial and turn the hands to the correct time. Be sure that the knob goes all the way in when you release it. If the clock should run too fast or too slow, you can regulate the speed by turning the small screw at the top of the dial toward S (slower) or F (faster).

The clock is warranted by the Telechron Department of General Electric Company, but it should be returned to your Ford Dealer for servicing. You should have your clock cleaned and oiled at least once a year.

CIGARETTE LIGHTER. Push the cigarette lighter knob in all the way. In a few seconds, when it's ready for use, the lighter will automatically pop out to its normal position.

ASH RECEPTACLE. The ash receptacle is easily removed for cleaning. Pull it out all the way, as you would when using it, then press down on the front to remove it from the guides at both sides of the opening. To put the receptacle back in position, slide it into the guides.

INTERIOR LIGHT. When you open either door, the light at the center of the control panel goes on. When the doors are both closed, you can turn the light on or off with the switch at the left side of the light.

PARCEL COMPARTMENT. Press the combination release button and lock above the parcel compartment door, and the door will open from the top. Use the round-headed key to lock the parcel compartment door.

DECK LID AND FUEL TANK FILLER

The round-headed key opens the luggage compartment deck lid. Unlatch and pull back the spare tire, then turn the key in the deck lid lock. As soon as the lock is released, the deck lid can easily be raised with one hand. Counterbalancing hinges will hold the deck lid open. To close the deck lid, push the lid down until the lock clicks. *Be sure that the spare tire is securely latched after you close the deck lid.*

The fuel tank filler is under the cover on the deck lid. The cover swings up and is held open by a spring. *Don't allow flames or sparks to be brought near the fuel tank filler. Dangerous gasoline vapors may be present when the cap is off and gasoline is being pumped into the tank.*

HARD TOP

The all-weather Thunderbird hard top can be installed and removed very easily by two people. However, if you don't have anyone to help you, it takes only a few minutes longer to do the job yourself.

Lift the hard top over the car and carefully place it in position on the body. *Be careful not to scratch the body paint with the clamps.* Fasten the rear and front clamps securely. Just reverse the operation when you want to remove the hard top from the car.

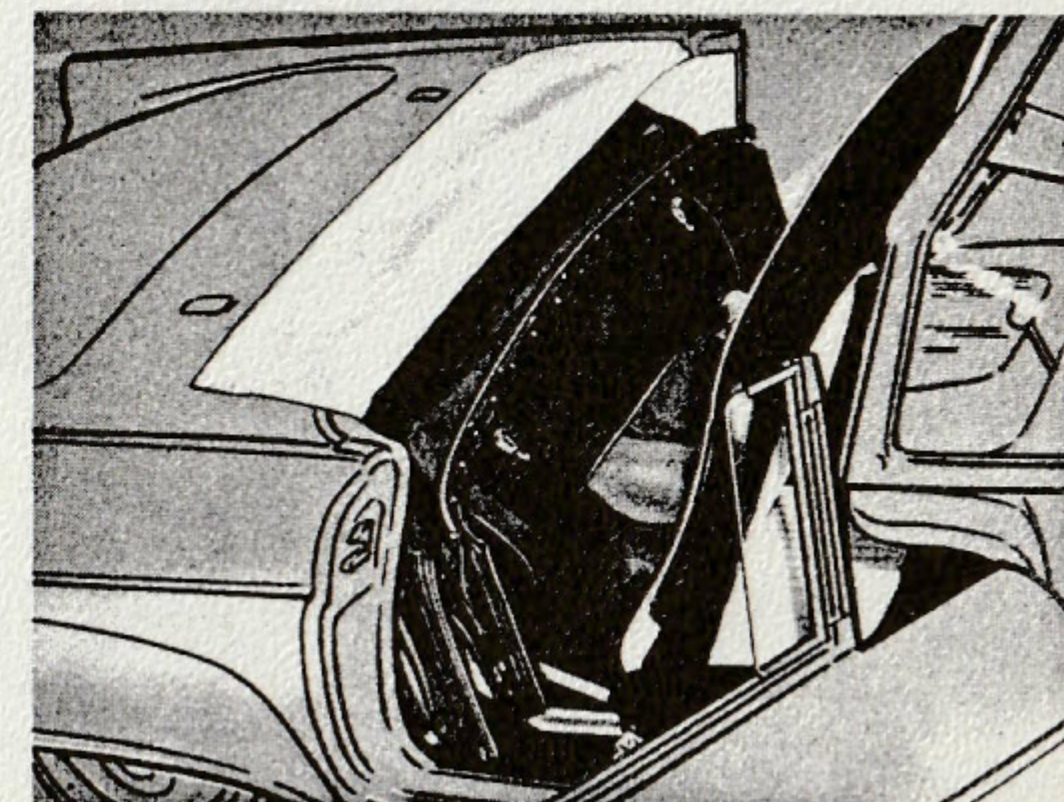
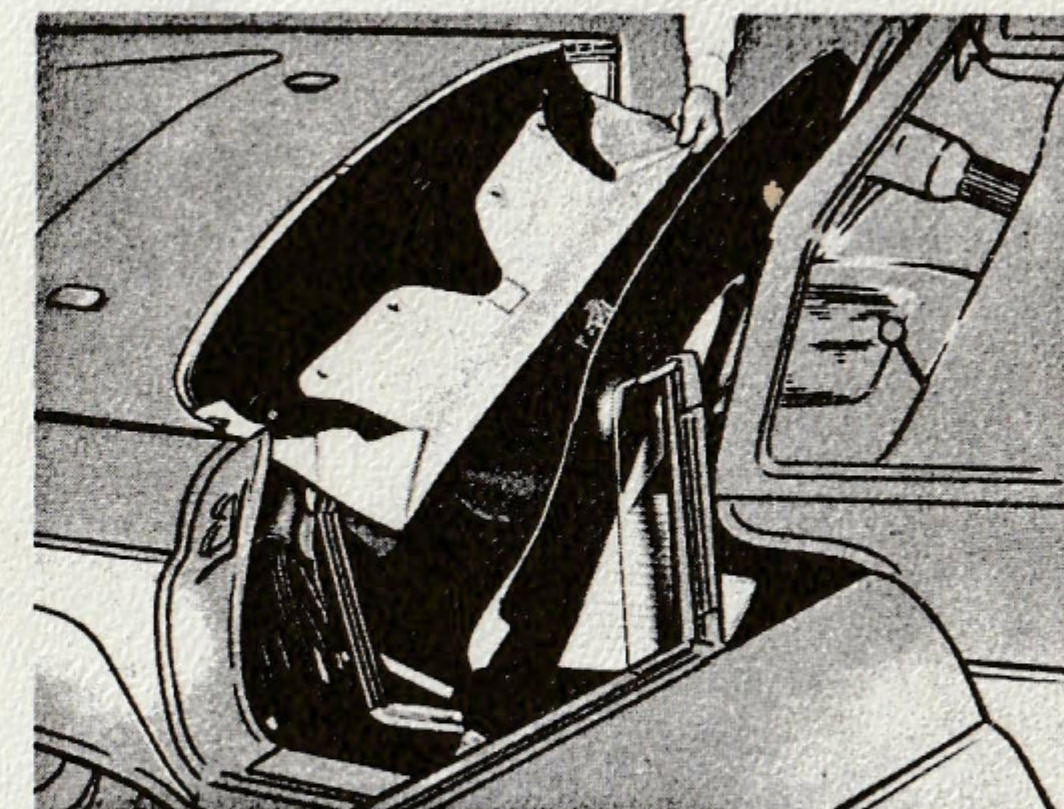
When the top isn't in use, it can be stored in any convenient inside location. However, don't store other heavy articles on top of it.

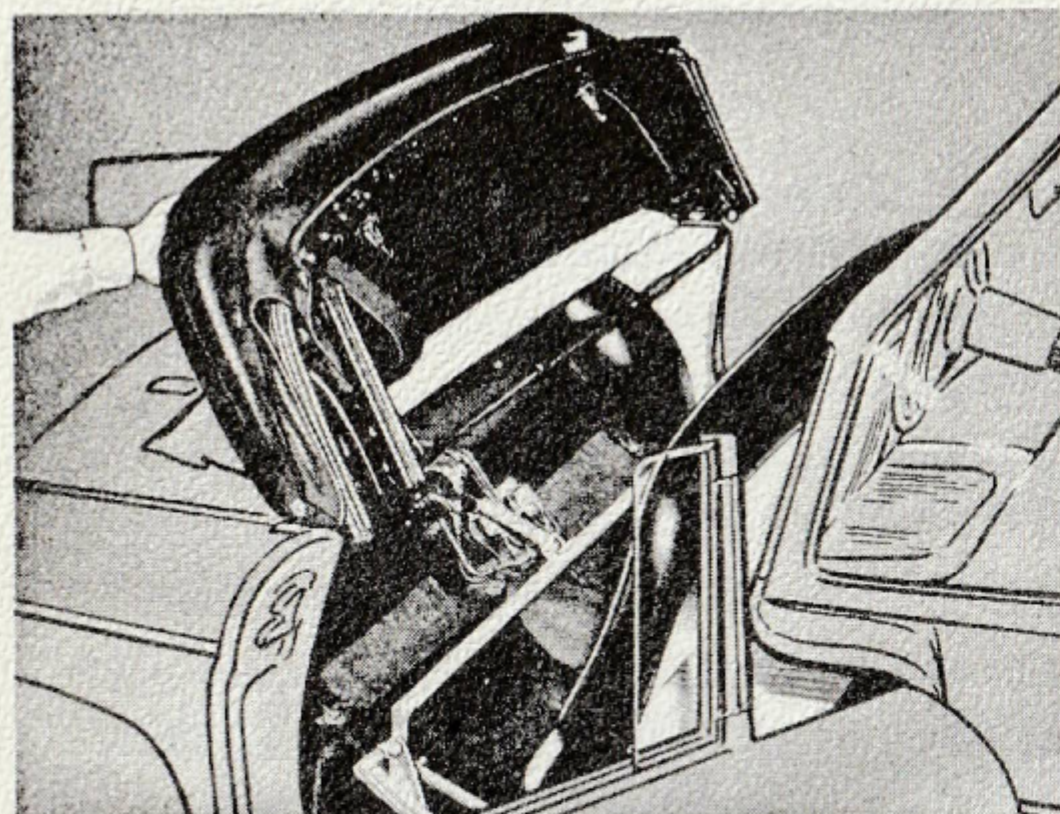
CONVERTIBLE TOP

When raising or lowering the Thunderbird convertible top, open both doors wide, then move the seat forward all the way. With the optional 4-Way Power Seat, move the seat forward and down as far as it will go. Tilt the seat-back forward so that you have access to the top cover, then unfasten all the snap fasteners around the cover. Fold the cover upward with the edges in, and place the cover on the upper back panel.

RAISING THE TOP. Keep the top assembly fully folded, and lift it forward and up as far as possible. Lay the entire assembly on the upper back panel.

Unfold the second and third sections of the top assembly, then reach inside and lock the over center links. *These links must be locked before the forward top*





section is unfolded to prevent tearing the top fabric.

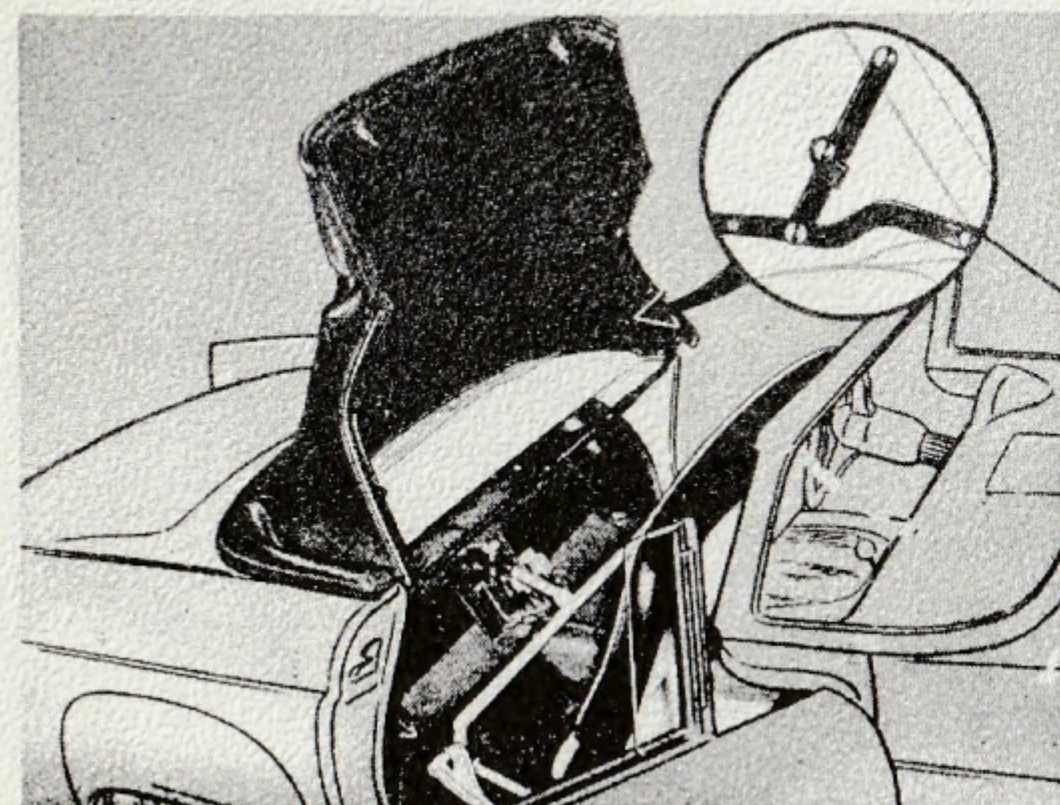
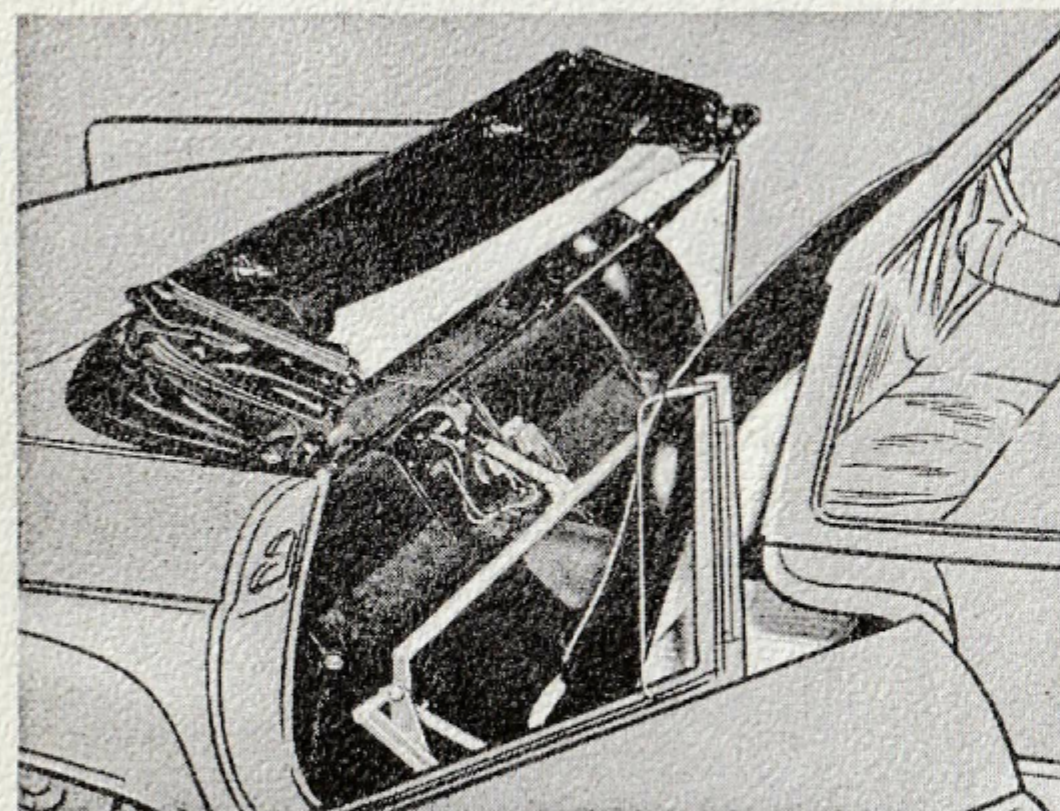
Unfold the forward top section so that it is in line with the second section and is standing vertically. You can perform this operation alone more easily by standing behind the seat and raising the top at the center.

Pull the top down over the windshield header, then fasten the rear rotary clamps. Fasten the side clamps, then fasten the front toggle clamps. Unfold the top cover and snap it into position on the floor with the fasteners. With the convertible top raised, you can use the extra space behind the seat for luggage or packages.

LOWERING THE TOP. Release the front toggle clamps, then release the side clamps. Always release the rear rotary clamps last. *Be sure to place the rear rotary clamps in the locked position after they are released to prevent damage to the rear window when the top is stored.*

Fold the forward section of the top. Release the over-center links and fold the second and third sections. Lay the top on the upper back panel. Be sure that the top fabric isn't pinched in the linkage when the top is folded.

Keep the top fully folded, and lower it into the space behind the seat. Unfold the top cover and fasten it to the floor.



On The Road

You'll soon discover that your new Thunderbird is one of the liveliest cars on the road, and that the temptation to "speed it up" may be hard to resist. However, you can enjoy driving just as much by keeping within the legal speed limits wherever you are and by treating your car with respect and consideration.

DAY TO DAY CARE

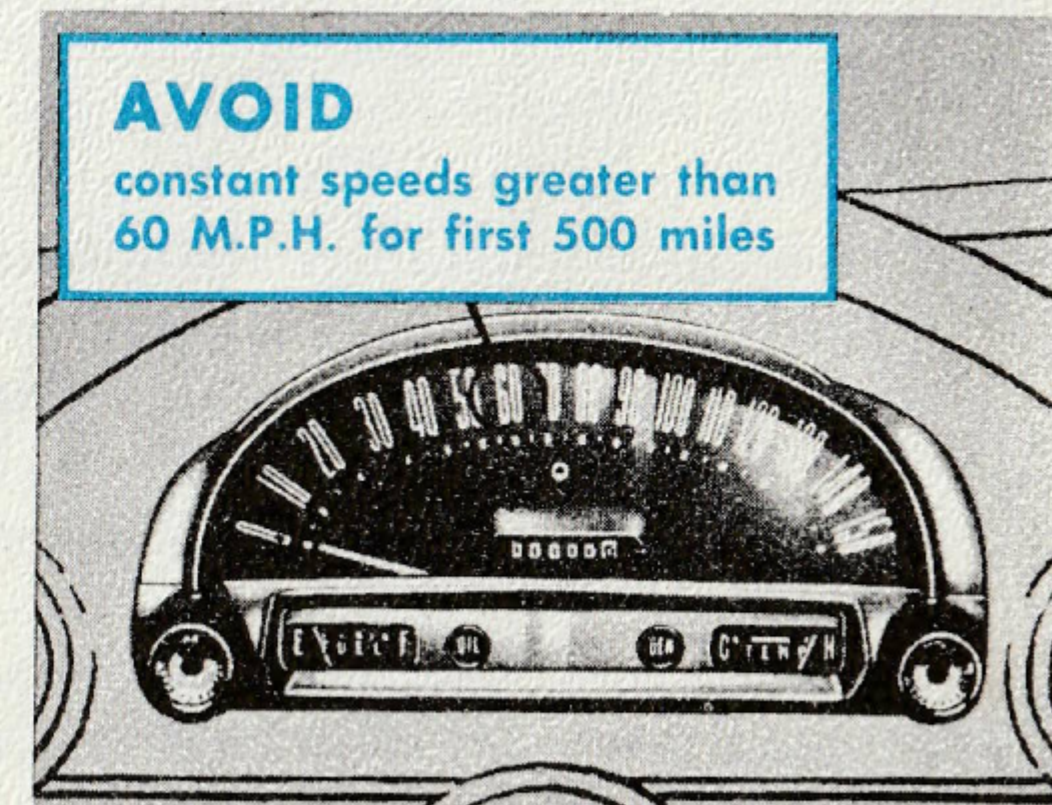
Make sure that your car is "ready to go" whenever you need it. Each time you stop for gasoline, ask the service station attendant to check the car's engine oil and radiator coolant levels. You should also have the battery water level checked frequently, especially in warm, dry climates. Keep the tires at their proper air pressures. You may want to check these items yourself each day before you first drive your Thunderbird.

NEW CAR BREAK IN

Drive your new Thunderbird just as you normally would right from the start. It's not necessary to maintain consistently low speeds during the "breaking-in" process, but you should avoid fast starts and driving at any steady pace during the first 500 miles. Avoid constant speeds above 60 miles per hour during this period. However, occasional short spurts to speeds faster than 60 miles per hour are all right, provided, of course, that you observe state and local traffic regulations.

Get the "feel" of your car's brakes, and know what to expect of them each time you have to stop the car. Make gentle stops from various speeds to help seat the brakes before an emergency stop is demanded of them. Where-

AVOID
constant speeds greater than
60 M.P.H. for first 500 miles



ever possible, avoid making sudden or fast stops for at least the first 100 miles of driving. Don't "ride" the brake pedal with your foot unless you're actually braking the car to a stop.

STARTING THE ENGINE

A safety feature on the Fordomatic-equipped Thunderbird prevents starting the engine unless the selector lever is at N. With Overdrive or the conventional transmission, place the gear shift lever at neutral so that the car won't accidentally move when the starter is operated.

WARNING: *Don't start or run your car's engine in a closed or poorly-ventilated building. Avoid breathing the exhaust gases as they contain poisonous carbon monoxide.*

COLD ENGINE. Push the accelerator pedal to the floor for a moment, then release it completely. Turn the key in the ignition switch to **START**, and release the key when the engine starts. You'll notice that the engine will idle faster than normal until it warms up. The automatic choke, which makes starting easier, causes this change of speed. Let the engine idle for a few minutes or drive slowly to warm it up.

WARM ENGINE. Hold the accelerator pedal down about $\frac{1}{4}$ of the way, then operate the starter. If the engine doesn't start promptly, don't "pump" the accelerator pedal because you'll flood the engine with gasoline. Hold the accelerator pedal to the floor while you start the engine.

PUSHING THE CAR TO START. Make sure that the front bumper of the car that's pushing won't lock with the rear bumper of your car. *It's not advisable to tow the car to start the engine because the sudden forward movement of your car when the engine starts could cause a collision.*

With Fordomatic. Place the selector lever at N. When the car speed reaches 20 miles per hour, turn the ignition switch to **ON**. Move the selector lever to **Lo** or, if the road doesn't provide good traction, to **Dr**. Hold the accelerator pedal halfway down until the engine starts.

With Overdrive or The Conventional Transmission. Push down the clutch pedal and shift into high gear. Pull the **OVERDRIVE** control handle. Turn the ignition switch to **ON**. When the car speed reaches five miles per hour, slowly release the clutch pedal. Hold the accelerator pedal halfway down until the engine starts.

DRIVING WITH FORDOMATIC

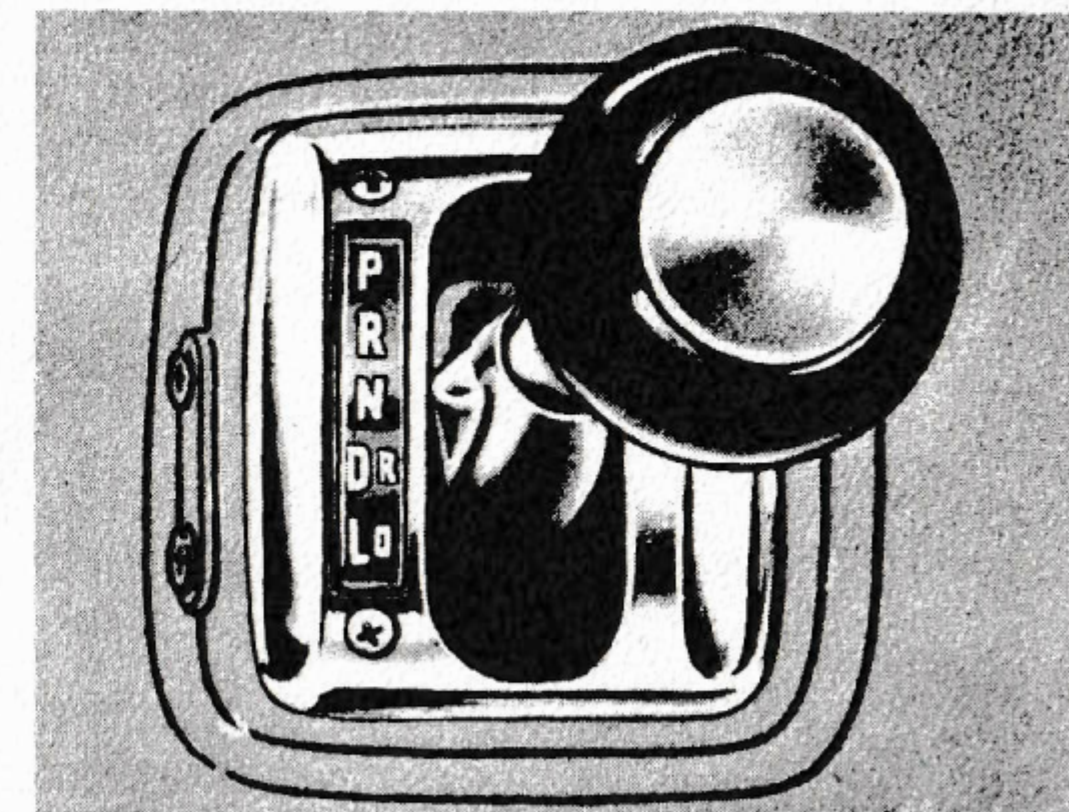
After you've started the engine and are ready to drive your car, press down the locking button on top of the selector lever, and move the lever from **N** (neutral) to the desired position. The locking button prevents accidental movement of the lever from **N** to any of the other positions. *Be sure that the parking brakes are released before you move the car.*

To go forward, move the selector lever to **Dr** (drive), then press down the accelerator pedal. Your Thunderbird normally starts moving in the intermediate gear range, and Fordomatic automatically does all the shifting for you at just the right speeds. The transmission will shift into the high range at a speed somewhere between 15 and 60 miles per hour, depending upon the foot pressure you apply to the accelerator pedal.

For extra-fast "getaways," greater passing ability, and fast acceleration at speeds less than 60 miles per hour, push the accelerator pedal all the way to the floor. Fordomatic will quickly shift down to a lower range to give you the instantaneous response you want. As the car speed increases to about 35 miles per hour, Fordomatic will automatically shift to the high range to give you the most economical operation for the existing road and load conditions.

The **Lo** (low) selector lever position is for operation in mud, sand, deep snow, or other difficult driving conditions, and is not ordinarily used for normal driving. *Don't drive faster than 35 miles per hour with the selector lever at Lo.* To "rock" the car in case you get stuck, keep a light steady pressure on the accelerator pedal (800-1000 r.p.m. on the tachometer), and move the selector lever back and forth between **R** (reverse) and **Lo**. *Never move the selector lever to R while the car is moving forward faster than five miles per hour.*

If you want to use the braking effect of the engine when you're driving down steep hills, move the selector lever to **Lo**. By shifting to **Lo** on hilly roads, Fordomatic will shift into and remain in the intermediate gear range as long as



you maintain speeds faster than 25 miles per hour. However, as soon as the car speed drops below 25 miles per hour, Fordomatic will automatically shift into and remain in the low range. A flick of the lever to Dr shifts the transmission back to the drive range at any time.

When you park your Thunderbird, place the selector lever at P (park). If you park the car on a hill or a slope, apply the parking brakes first, then move the selector lever to P. Otherwise, the weight of the car against the transmission locking mechanism may cause difficulty in moving the lever out of P when you're ready to drive again. *Never move the selector lever to P while the car is moving.*

SHIFTING GEARS

The gear shift pattern for both the conventional transmission and Overdrive is the same. To move the car forward, press down the clutch pedal, then place the gear shift lever in low (first) gear position. *Always start from a stop in low gear.* Release the clutch pedal as you step on the accelerator pedal. As the car gains speed, shift into intermediate (second), then into high (third) gear in the same way.

To shift into either low or reverse gear positions, it's advisable to come to a complete stop before shifting to prevent gear clashing and transmission damage.

If the engine begins to "labor" when driving up steep hills, shift to intermediate or, if necessary, low gear. To maintain a safe and reasonable speed when going down steep hills, let the engine act as a brake by shifting to intermediate or low gear.

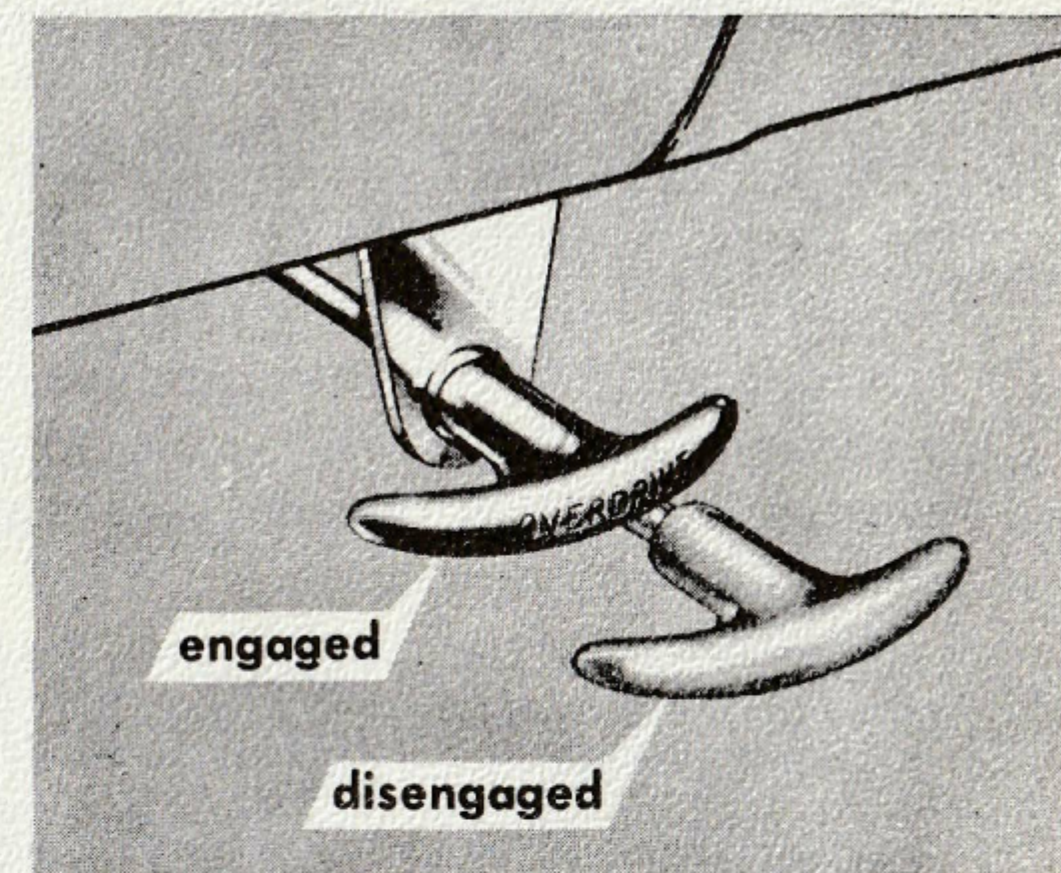
OVERDRIVE

To engage the optional Overdrive at any speed, just push in the OVERDRIVE control handle. In the engaged position, Overdrive

automatically shifts into fourth gear when you momentarily let up the accelerator pedal at speeds higher than 27 miles per hour. When the speed drops below 21 miles per hour, Overdrive automatically shifts from fourth to high (third) gear. For climbing hills or passing other cars when driving in Overdrive, push the accelerator pedal down quickly all the way. The transmission will shift, or "kick down," to high (third) gear.

Overdrive should be disengaged when you're driving down long, steep grades so that you can use the full braking effect of the engine. To disengage Overdrive when the car is moving forward, "kick down" to high (third) gear, pull the OVERDRIVE control handle all the way out, then let up the accelerator pedal. If the car is standing still, just pull the handle out.

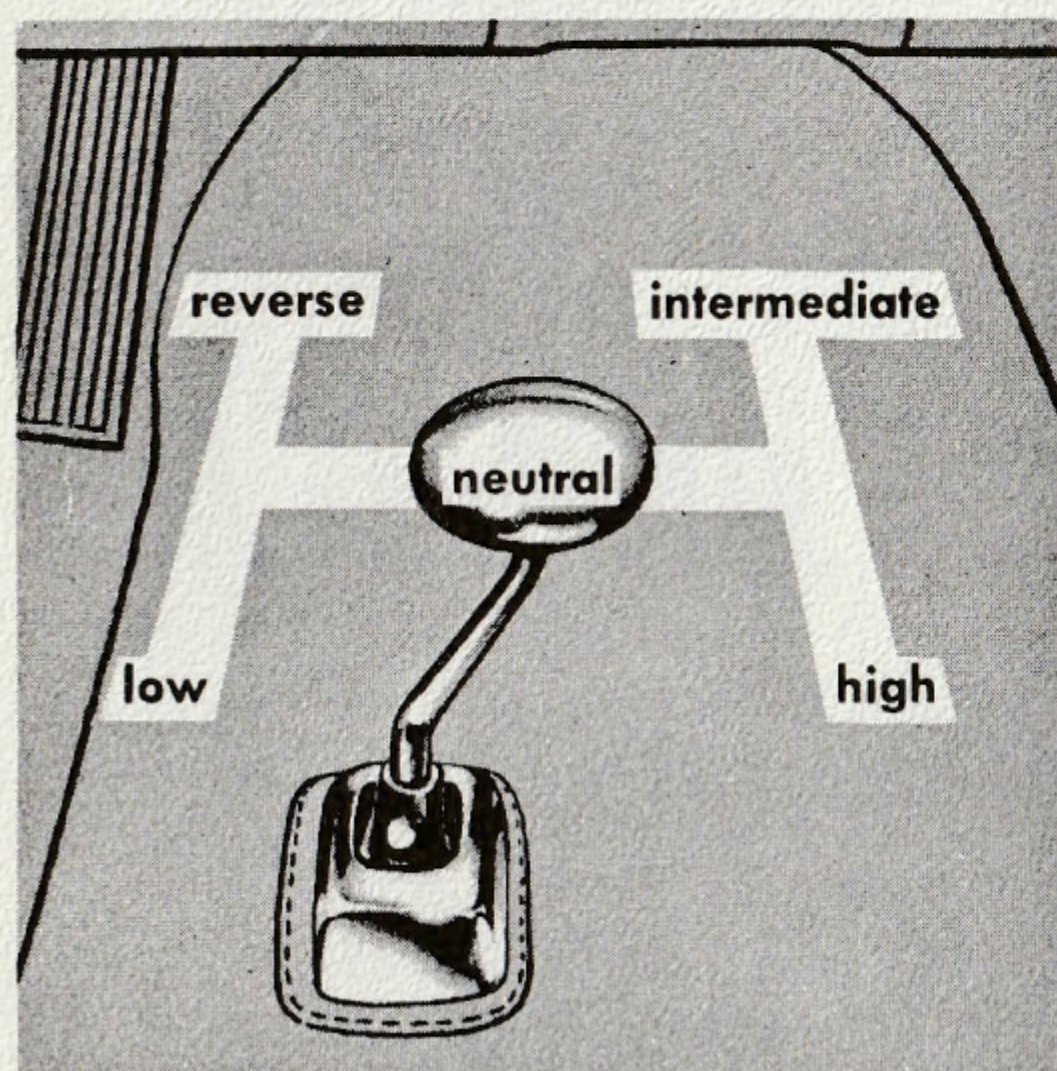
To park your Thunderbird in gear when the OVERDRIVE control handle is pushed in, move the gear shift lever to the reverse position.



POWER-ASSISTED DRIVING

MASTER-GUIDE POWER STEERING. Your car will handle so easily in traffic and when parking, especially in tight spaces, with Ford's optional Master-Guide Power Steering. When you turn the steering wheel, hydraulic pressure is applied to the steering linkage to provide up to 75% of the effort needed to turn the front wheels. Although the Master-Guide Power Steering unit operates only when the car's engine is running, safe steering and full control of your car are provided at all times by the conventional steering system.

SWIFT SURE POWER BRAKES. The pedal for the optional Swift Sure Power Brakes operates the same as the conventional brake pedal except that less pedal pressure is needed to stop the car. Even if the engine stops when the car is moving or the power system isn't operating normally, Swift Sure Power Brakes will operate the same as the conventional brake system to stop the car safely.



DRIVING ON SAND, SNOW, OR ICE

When you're driving through deep sand, snow, or on soft ground, shift the transmission to a lower gear (Lo on Fordomatic) for better traction. You'll have more power available to keep the car going steadily at low speeds without overworking the engine. Keep in mind, however, that your Thunderbird is lower (5½ inches of ground clearance) than most conventional cars, and that you should use care and discretion when you're driving over difficult terrain.

To start your car moving on icy surfaces, start in intermediate or high gear (Dr on Fordomatic) and accelerate slowly to avoid spinning the wheels or skidding the car.

Tire chains or snow tires of the proper size are often helpful in driving where there's poor traction. When using chains, remove the rear fender shields and install the chains very tightly. Any unused adjusting links should be cut off or wired tightly against the tires. Don't drive faster than 35 miles per hour on chains with two people in the car. With heavier loads, drive even more slowly.

PERFORMANCE AND FUEL ECONOMY

There's plenty of "life" in your Thunderbird. Its performance is hard to beat. You'll be surprised at the car's ability to turn corners and to maneuver safely at speeds greater than with most other cars. But don't try any fancy driving with your Thunderbird until you are sure that you can handle the car in any road situation.

You may want to enter your car in competitive driving contests as other Thunderbird owners have. Remember, however, that road and track racing put any car under severe strain, and your Thunderbird was not primarily designed for this kind of driving. While this car has been successful in competition, your Ford Dealer's Warranty does not cover materials or workmanship for a Thunderbird subjected to abnormal use or service.

The Thunderbird engine is designed to take full advantage of premium-grade gasoline, and will perform best when these fuels are used. Make sure that the engine of your car is kept properly adjusted for the gasoline that you intend to use regularly.

For the best gasoline mileage, shift gears at the lowest speeds possible

without "laboring" the engine. Don't race the engine or drive in the low or intermediate gears unnecessarily. After the new car "break-in" period, you'll also get better mileage with your Thunderbird if you drive at a steady, reasonable pace whenever traffic conditions permit. Fast starts, high-speed driving, and frequent accelerating and slowing down in traffic will greatly reduce your car's gasoline mileage.

TIRES

Check the air pressures in your tires, including the spare tire, frequently. For normal, moderate-speed driving, the front and rear tires should have 24 pounds of pressure (cold). For sustained high-speed driving, the pressure (cold) for all tires should be 30 pounds. The pressure will increase as the tires heat up from fast driving, but will return to normal as the tires cool. So, don't "bleed" air from your tires when they are hot to get the right pressure.

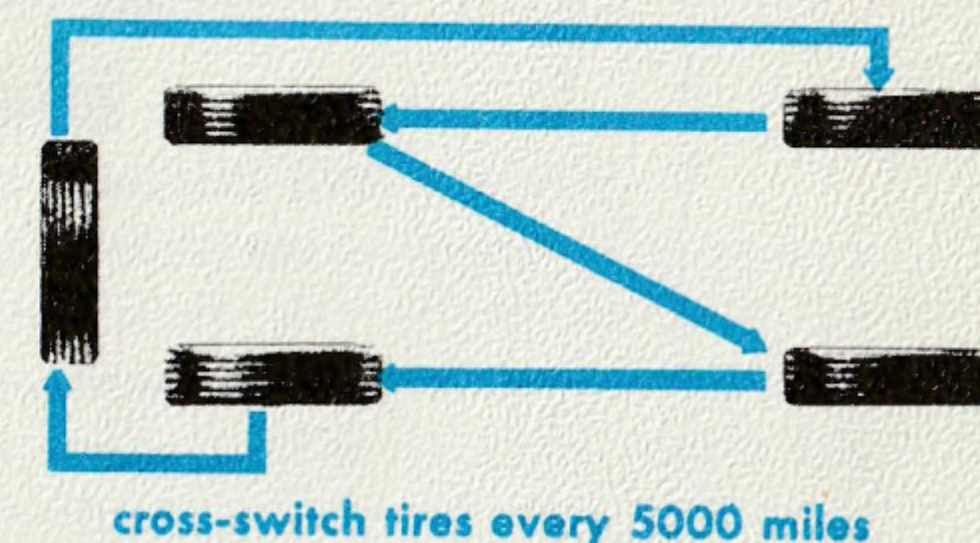
Tubeless tires, which are standard equipment on your Thunderbird, are not puncture proof, but they'll give you fewer flat tires and road delays than conventional tube tires. You'll have no more blowouts caused by tube failures. If you should have a flat tire, all Ford Dealers and most service stations are equipped to repair tubeless tires.

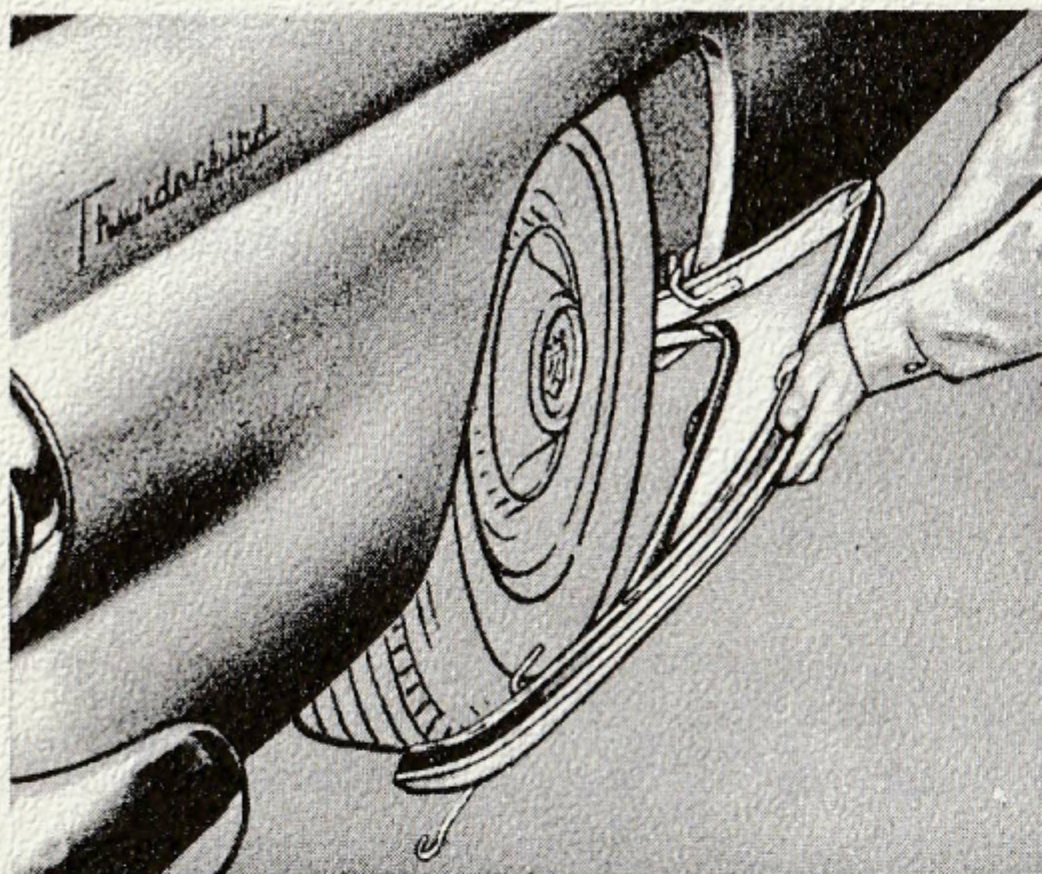
If your car is to be used for racing, you should use special racing-type tires. These tires are designed to withstand the higher air pressures needed and the severe punishment received during sustained high-speed driving and frequent maneuvering.

To equalize tire wear, cross-switch all five tires every 5000 miles, following the pattern shown in the illustration on this page. Each time your tires are cross-switched, you should have all the wheels of your car checked for proper balance.

CHANGING A WHEEL

If it becomes necessary to change a wheel on your car, set the parking brakes and, as an extra precaution against the car moving, place a block or stone





under the front and rear of one wheel. Remove the spare tire from the tire carrier, then remove the jack and wheel nut wrench from the luggage compartment.

To remove a rear wheel, remove the fender shield. Push the release lever up and in, then pull it down to a vertical position. Pull the rear of the shield down, then slip the locating pin at the front of the shield out of its slot. To install the shield, reverse the above procedure.

Pry off the hub cap with the flat end of the wrench, then loosen the wheel nuts. *Don't remove the nuts yet.* Place the jack under the bumper about two to six inches outside the front bumper guard or the spare tire carrier. Raise the control lever on the side of the jack, then place the wrench in the jack handle socket, and raise the car until the wheel is off the ground. Remove the wheel nuts, replace the wheel, then tighten the nuts. Press the jack control lever down, and slowly lower the car to the ground. Remove the jack, then make sure that all the wheel nuts are tight before putting the hub cap on the wheel.

YOUR THUNDERBIRD'S BEST FRIEND IS YOUR FORD DEALER

He'll be glad to discuss your car's operation with you, and he'll eliminate any difficulties that may arise during your car's "break in."

In The Garage

Your new Thunderbird was inspected and serviced by your Ford Dealer before the car was delivered to you. You can help keep your car operating like new for thousands of miles by seeing that it gets regular lubrication and maintenance services.

While you may want to do your own maintenance on your Thunderbird, as many owners do, most lubrication operations and certain other services require special tools and equipment, and should be done only in a suitably-equipped garage. Your Ford Dealer can perform all of these services for you, and he can help you maintain your car's peak performance from the start. If you want him to, he'll notify you each time the various services become necessary.

AT 1000 MILES

After you've driven your new Thunderbird a full 1000 miles, return it to your Ford Dealer. He'll make a complete 1000-Mile Inspection as described in your Authorized Ford Dealer's Service Policy. Anything that isn't working properly will be inspected and corrected at this time. If your car has Fordomatic, the transmission fluid will be drained, the bands will be adjusted, and the fluid will be filtered and put back in the transmission during this inspection.

While your car is being inspected at the first 1000-mile interval, have your Ford Dealer change the engine oil. This service, together with an oil filter element replacement, is recommended to help prolong the life of your Thunderbird's engine.

REGULAR CARE

After your new Thunderbird has had its 1000-Mile Inspection, be sure that you continue having it inspected and lubricated at regular intervals. The Maintenance Guide on page 26 and the chart for 1956 Thunderbird Lubrication on pages 28 and 29 show when, under average conditions, these important maintenance services should be performed. Severe driving may require you to check your car more often.

Maintenance Guide

	Each 1,000 Miles	Each 2,000 Miles	Each 4,000 Miles	Each 5,000 Miles	Each 10,000 Miles	Each 15,000 Miles	Each 25,000 Miles
Change Engine Oil		X					
Check Rear Axle Lubricant Level	X						
Lubricate Chassis	X						
Check Battery Electrolyte Level and State of Charge	X						
Clean Air Cleaner		X					
Clean Crankcase Breather Cap		X					
Check Body Drain Holes		X					
Change Oil Filter Cartridge			X				
Change or Clean Fuel Filter			X				
Complete Dealer Inspection				X			
Engine Tune-up				X			
Check Brake Master Cylinder Fluid Level				X			
Adjust Brakes				X			
Cross Switch Tires				X			
Clean and Repack Front Wheel Bearings					X		
Change Transmission Lubricant (Overdrive or Conventional)					X		
Adjust Fordomatic Bands and Change Fluid						X	
Change Master-Guide Steering Fluid Reservoir Filter Element							X

ENGINE OIL RECOMMENDATIONS

Be sure that the proper type and viscosity of engine oil is used in the crankcase of your Thunderbird. Engine oils marked "MS" (formerly Heavy Duty) are recommended for use, under all driving conditions, in your car's engine. If "MS" oils aren't available, "MM" (formerly Premium) oils can be used. Engine oils marked "ML" (formerly Regular) are not recommended for use in the Thunderbird's engine.

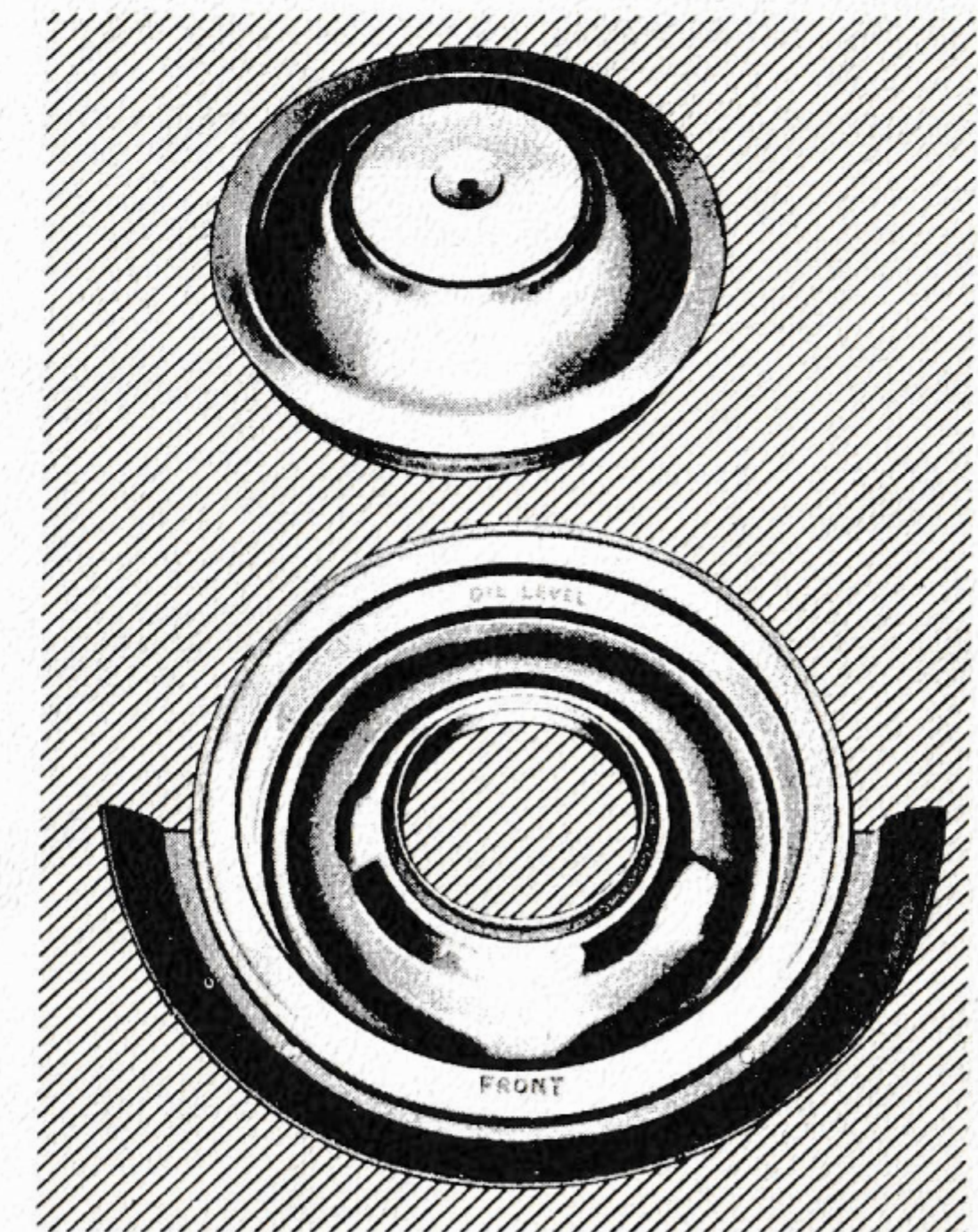
If you're not sure which oil to use, your Ford Dealer can assist you in selecting the correct oil for your car's engine.

AIR CLEANER

The oil-bath air cleaner, mounted on top of the carburetor, filters the air before it enters the carburetor. Road dust that enters the engine compartment is trapped in the maze screen and oil reservoir, and is prevented from passing down to the engine combustion chambers.

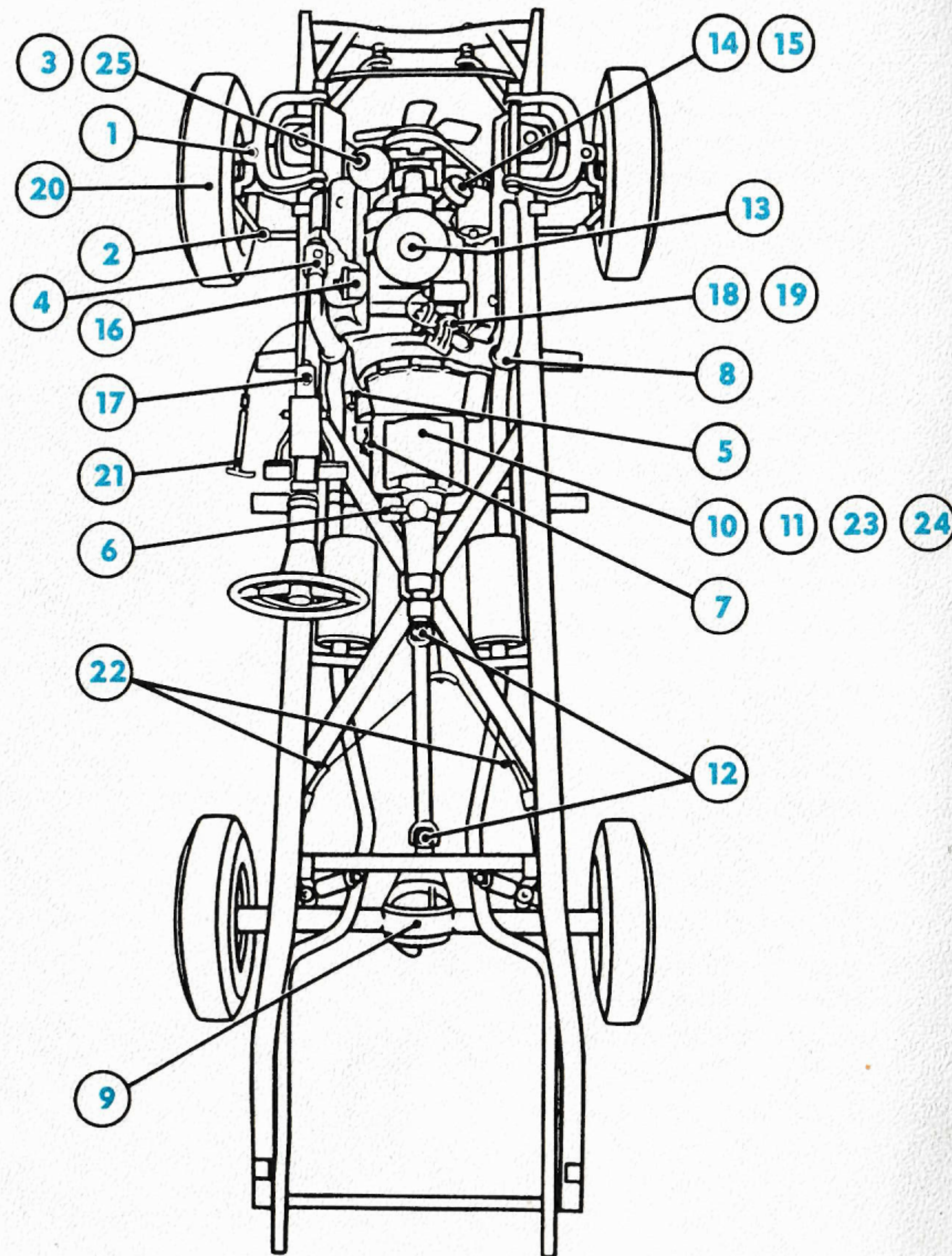
Engine oil (SAE 30 above 32° F and SAE 10W below 32° F) is used in the air cleaner reservoir.

It's very important that the air cleaner be kept clean. A dirty air cleaner may restrict the flow of air and eventually affect the operation of the engine. After each 2000 miles of normal driving, or more often in very dusty areas, remove the air cleaner from the carburetor, drain all the oil from the reservoir, and wash the air cleaner parts thoroughly in a solvent. Saturate the maze screen with engine oil, and fill the oil reservoir to the OIL LEVEL mark. *Don't overfill the oil reservoir.*



Thunderbird Lubrication

ADD SPECIFIED LUBRICANT AS REQUIRED



EACH 1000 MILES

- 1 FRONT SUSPENSION BALL JOINTS (2 FITTINGS EACH SIDE) — PRESSURE GUN GREASE.
- 2 STEERING LINKAGE (7 FITTINGS) — PRESSURE GUN GREASE.
- 3 MASTER-GUIDE POWER STEERING — AUTOMATIC TRANSMISSION FLUID — TYPE A.
- 4 STEERING GEAR — MULTIPURPOSE-TYPE GEAR LUBRICANT, S.A.E. 90.
- 5 CLUTCH EQUALIZER BAR — (2 FITTINGS) — PRESSURE GUN GREASE.
- 6 GEARSHIFT LEVERS (1 FITTING) — PRESSURE GUN GREASE.
- 7 LINKAGE — TRANSMISSION, CLUTCH, AND BRAKE — SPRAY WITH ENGINE OIL, S.A.E. 10W.
- 8 EXHAUST THERMOSTAT VALVE — DOOR LOCK FLUID OR PENETRATING OIL.
- 9 REAR AXLE — M-4642 LUBRICANT ONLY FOR FIRST 5000 MILES, M-4642 LUBRICANT OR MULTIPURPOSE-TYPE GEAR LUBRICANT AFTER 5000 MILES — USE S.A.E. 90 ABOVE -10° F., S.A.E. 80 BELOW -10° F.
- 10 FORDOMATIC — AUTOMATIC TRANSMISSION FLUID — TYPE A.
- 11 TRANSMISSION (CONVENTIONAL OR OVERDRIVE) — MULTIPURPOSE-TYPE GEAR LUBRICANT, S.A.E. 80.
- 12 UNIVERSAL JOINTS (2 FITTINGS) — UNIVERSAL JOINT GREASE.
STRIKER PLATES — COAT WITH WAX STICK.

EACH 2000 MILES

- 13 AIR CLEANER — CLEAN AND REFILL WITH S.A.E. 30 OIL ABOVE 32° F., S.A.E. 10W OIL BELOW 32° F.
- 14 BREATHER CAP — CLEAN AND OIL.

- 15 CRANKCASE — DRAIN AND REFILL WITH ENGINE OIL, S.A.E. 20 OR 20W ABOVE 32° F., S.A.E. 10W FROM 32° F. to -10° F., S.A.E. 5W BELOW -10° F.

EACH 4000 MILES

- 16 OIL FILTER — REPLACE CARTRIDGE.

EACH 5000 MILES

- 17 BRAKE MASTER CYLINDER — HEAVY-DUTY BRAKE FLUID TO RAISE LEVEL TO $\frac{1}{2}$ INCH FROM TOP.
- 18 DISTRIBUTOR — FEW DROPS OF ENGINE OIL IN OIL CUP.
- 19 DISTRIBUTOR CAM — COAT WITH LIGHT FILM OF DISTRIBUTOR GREASE.
DOOR, DECK LID, AND HOOD HINGES — SPRAY WITH S.A.E. 10 OIL.
HOOD LOCK, HOOD AND DECK LID HINGE SPRINGS, DOOR CHECK ARMS, AND CONVERTIBLE TOP LINKAGE PIVOTS — APPLY LUBRIPLATE.

EACH 10,000 MILES

- 20 FRONT WHEEL BEARINGS — REPACK WITH WHEEL BEARING GREASE.
- 21 PARKING BRAKE HANDLE — APPLY LUBRIPLATE TO SHAFT.
- 22 PARKING BRAKE CABLES AND EQUALIZER — APPLY GRAPHITE GREASE.
- 23 TRANSMISSION (CONVENTIONAL OR OVERDRIVE) — DRAIN AND REFILL WITH MULTIPURPOSE-TYPE GEAR LUBRICANT, S.A.E. 80.

EACH 15,000 MILES

- 24 FORDOMATIC — DRAIN, ADJUST BANDS, AND REFILL WITH AUTOMATIC TRANSMISSION FLUID — TYPE A.

EACH 25,000 MILES

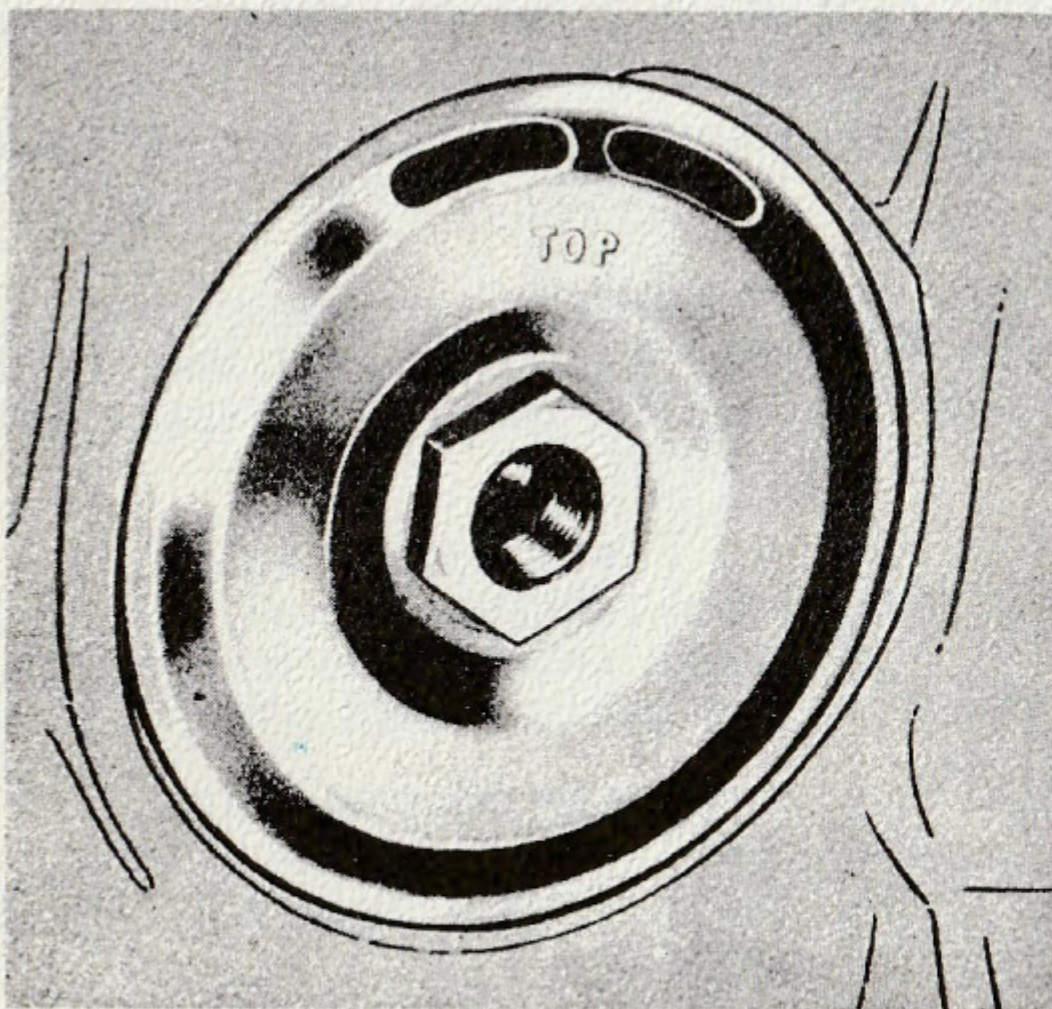
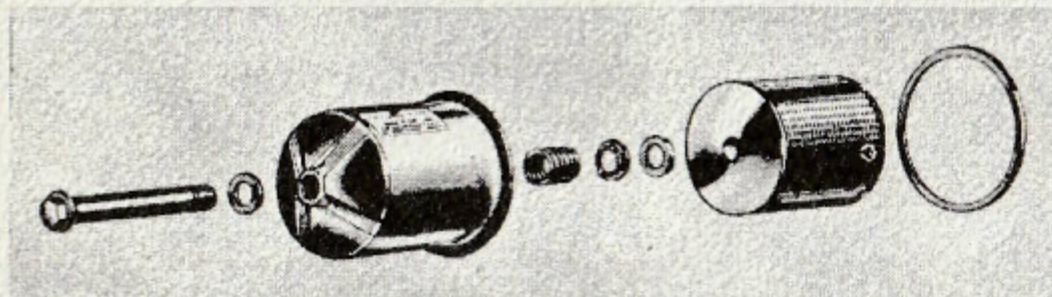
- 25 MASTER-GUIDE POWER STEERING — REPLACE FLUID RESERVOIR FILTER ELEMENT.

OIL FILTER

The full-flow oil filter is mounted on the lower-left side of the engine. All lubricating oil delivered by the oil pump passes through the filter element before it enters the main oil gallery in the engine. If the element should become blocked with dirt, sludge, or thick oil, a by-pass valve in the filter center bolt permits a continuous flow of unfiltered oil through the filter housing and center bolt into the engine.

FILTER ELEMENT REPLACEMENT. Under normal conditions, the filter element should be replaced at 4000-mile intervals to keep the engine oil clean. To be sure that your car's engine gets properly filtered oil, use only FoMoCo replacement filter kits.

1. Place a drip pan under the filter to catch dripping oil.
2. The filter element must be changed from under the car. Loosen the center bolt, then remove the entire filter assembly from the engine.
3. Remove the filter housing gasket from the recess in the cylinder block, and throw it away.



4. Remove all the parts from the filter housing, and throw away the old filter element and all the gaskets.
5. Wash all the remaining parts in a solvent, then dry them thoroughly. Make sure that all the holes in the center bolt are clean and free of dirt, sludge, or thick oil.
6. Install a new fiber gasket on the center bolt, then insert the bolt in the hole in the filter housing.
7. Install the spring and retainer assembly on the center bolt, making sure that the retainer tangs are engaged in the spring.
8. Install a new neoprene gasket and a new filter element on the center bolt.

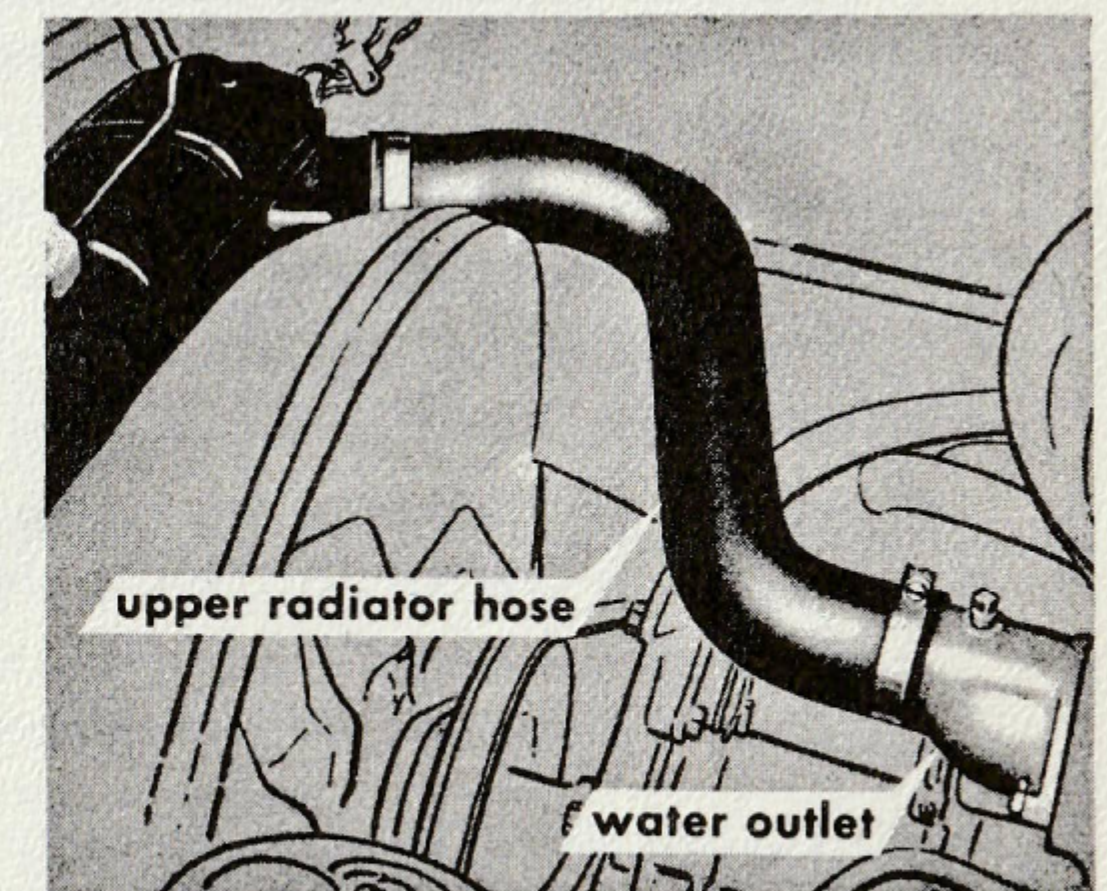
9. Check the position of the anti-drainback diaphragm to make sure that the two elongated holes are at the top of the diaphragm.
10. Place a new neoprene gasket in the filter housing recess in the cylinder block.
11. Place the filter assembly in position, and thread the center bolt into the insert until it is finger tight. Turn the filter housing slightly in both directions to make sure that the housing gasket is evenly seated.
12. Tighten the center bolt (20-25 foot-pounds torque). *Don't overtighten the center bolt as you may distort the filter housing and cause oil leaks.*
13. Check the engine oil level to make sure that it's high enough, then start the engine and run it at fast idle for about five minutes. Carefully check for oil leaks at the filter housing and center bolt while the engine is running.

COOLING SYSTEM CARE

The series-flow, pressure-type cooling system consists of the radiator, fan, water pump, thermostat, engine coolant passages, and all necessary hoses, connections, and fittings. A coolant pressure of 13 pounds per square inch is retained in the system by a vented, spring-loaded radiator cap. This pressure permits the engine to operate at high temperatures without losing or boiling out the coolant. Full-length water jackets in the engine help to reduce internal friction and increase engine efficiency.

The centrifugal, high-capacity water pump circulates the coolant through the system. The pump shaft is supported by a double-row ball bearing which is permanently lubricated and sealed.

The positive-action thermostat regulates the temperature of the engine coolant without being affected by pressure variations in the system.



Proper cooling system maintenance is just as important as changing the engine oil or maintaining correct tire pressures. Neglect is an invitation to trouble, inconvenience, and unnecessary repairs.

CHECKING COOLANT LEVEL. Check the radiator coolant level frequently. *Be careful of escaping steam or hot water when you remove the radiator cap.* The coolant level should be maintained about one inch from the top of the radiator upper tank. Don't overfill the radiator. In warm weather, use clean water and high-quality rust inhibitor. In cold weather, use only the proper amount of clean water and good anti-freeze. You can buy FoMoCo Rust Inhibitor and FoMoCo Anti-Freeze from your Ford Dealer.

While you're checking the coolant level, check the front of the radiator, particularly in summer and fall, for bugs, leaves, papers, etc., that might restrict the flow of air through the radiator core. These obstructions can be flushed out from the rear of the radiator with an ordinary garden hose and cold water.

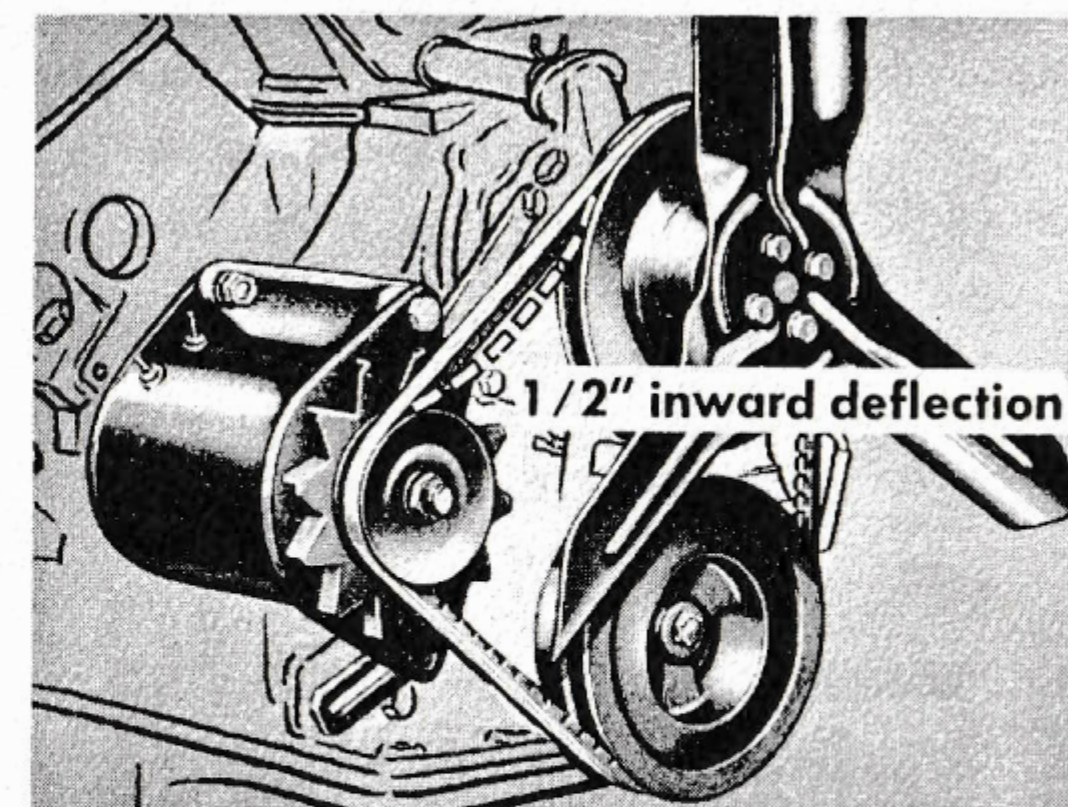
FLUSHING THE SYSTEM. The cooling system should be thoroughly flushed at least twice each year, preferably just before summer and winter. This operation helps clean out rust, scale, and oil which are probably the greatest enemies of your car's cooling system.

1. Open the drain cock at the lower-right rear corner of the radiator, then open both cylinder block drain cocks at the sides of the engine. Let all the coolant drain out.
2. Flush the entire system with clean water. If considerable rust, scale, or oil is present, clean the system with FoMoCo Regular or Heavy-Duty Cooling System Cleanser.
3. Move the MagicAire System TEMP lever to HIGH, then pull off the heater hoses at the engine intake manifold and water pump.
4. Reverse-flush the heater core by running clean water through the hose that is disconnected from the water pump.
5. Inspect the insides of the heater hoses, and replace them if they are excessively clogged and can't be cleaned out.
6. Connect the hoses, then refill the system with the right type and amount of coolant for the expected weather in your area.

CHECKING FOR LEAKS. If the cooling system seems to be leaking, check the condition of the radiator hoses and clamps. Hoses that are collapsed,

torn, cracked, or worn should be replaced. Tighten all hose clamps. Check the radiator core for damage, and have it repaired or replaced if you find leaks.

CHECKING FAN BELT. The fan belt should be replaced if it is frayed, cracked, or otherwise worn. If the belt is loose and slips on the pulleys, or is too tight, it should be adjusted so that the belt deflects about one-half inch when you press it with your thumb about halfway between the generator and water pump pulleys.



1. Loosen the generator mounting bolts and the adjusting strap bolt.
2. Move the generator away from or toward the engine until the belt deflection is about one-half inch.
3. Tighten the adjusting strap bolt and the generator mounting bolts.

CHECKING THE THERMOSTAT. If the engine operating temperature is too high, too low, or constantly changing, the thermostat may not be operating properly and should be checked.

1. Open the radiator drain cock, and let about half of the coolant drain out to bring the level down below the water outlet.
2. Disconnect the upper radiator hose at the water outlet, then loosen the by-pass hose clamps.
3. Remove the two screws that hold the water outlet on the intake manifold, then pull the water outlet forward far enough to remove the thermostat. The by-pass hose will have to be bent slightly to remove the water outlet.
4. Insert a 0.003-inch feeler gauge about $\frac{1}{8}$ inch under the nose of the thermostat butterfly valve. *Replace the thermostat if it won't hold fast to the feeler gauge when the thermostat is cold.*
5. Suspend the thermostat by the feeler gauge in a container of water so that it is completely submerged and about one or two inches from the bottom of the container.
6. Suspend a thermometer in the water so that the thermometer bulb is at the same level as the thermostat element.
7. Heat the water slowly, and stir it frequently to normalize the temperature.

8. When the thermostat drops off the feeler gauge, note the temperature on the thermometer. This is the "begins-to-open" temperature. If the valve opens at more than 5° F above or below the "begins-to-open" temperature, replace the thermostat.

Thermostat	Identification	Begins-To-Open Temperature	Fully-Open Temperature
Standard	160	157°-162° F	180° F
High-Temperature*	180	177°-182° F	200° F

*Use only with permanent-type anti-freeze.

9. The butterfly valve should open $\frac{1}{2}$ to $\frac{9}{16}$ inch from its seat in boiling water. If the valve doesn't open this far, replace the thermostat.
10. If the thermostat is good or if a new thermostat is to be installed, place it in the water outlet with the butterfly valve facing forward and with the TOP mark in proper position.
11. Place a new water outlet gasket on the intake manifold, then fasten the water outlet to the manifold.
12. Connect the radiator hose and tighten the by-pass hose clamps.
13. Fill the cooling system with the right type and amount of coolant for the expected weather in your area.
14. Start the engine. After the engine has reached its normal operating temperature, check the system for leaks.

INSTALLING ANTI-FREEZE. The cooling system should be drained, flushed, inspected, and refilled with a good anti-freeze solution before the weather becomes cold enough to freeze the coolant and damage the engine. FoMoCo Anti-Freeze (Regular or Permanent) is recommended for use in the cooling system of your Thunderbird. However, most other good brands of anti-freeze are satisfactory. *Avoid using anti-freeze that has a petroleum or salt base.* These solutions may damage the rubber parts of the cooling system and clog the radiator core.

Don't mix different types of anti-freeze in the cooling system. The mixed solution prevents making an accurate hydrometer test of the degree of protection against freezing.

Use enough anti-freeze and water to protect the cooling system at the lowest temperature expected in your area. Follow the instructions on the anti-freeze container to determine the proper solution proportions for your car. The Thunderbird cooling system capacity is 20 quarts plus one extra quart for the heater.

POWER PLANT INFORMATION

Your Thunderbird has one of three 8-cylinder, Y-block, overhead-valve engines. While all three engines are basically alike in construction and operation, each engine has been specially designed and powered to fit the needs of the transmission and rear axle which it drives.

A 225-horsepower engine, with a piston displacement of 312 cubic inches and a compression ratio of 9.0:1, is used in the Fordomatic-equipped car. With Overdrive, the engine has 215 horsepower, a piston displacement of 312 cubic inches, and a compression ratio of 8.4:1. The engine used with the conventional transmission has 202 horsepower, a piston displacement of 292 cubic inches, and a compression ratio of 8.4:1.

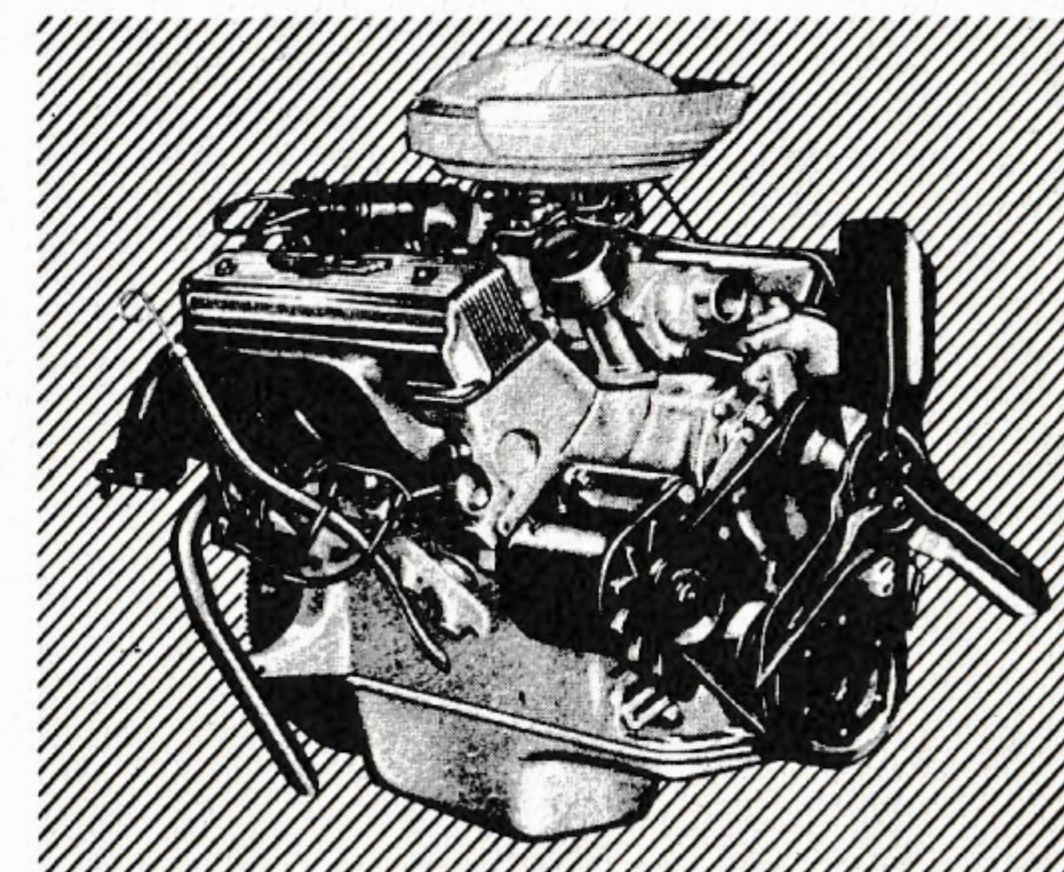
FUEL PUMP. An inverted-type combination fuel and vacuum-booster pump is mounted near the left-front corner of the engine. This position provides cooler pump operation and reduces the possibility of vapor lock. The pump, operated by an eccentric on the camshaft, delivers fuel to the carburetor. The vacuum booster assures continuous operation of the windshield wipers, even when the engine is under heavy load.

FUEL FILTER. A separate fuel filter is installed between the fuel pump and the carburetor. The filter element strains out small particles in the gasoline before the fuel enters the carburetor and engine.

CARBURETOR. The Double Twin-Jet (four-venturi) carburetor is standard equipment on the Thunderbird engine. This carburetor provides the most efficient fuel-air mixture for all driving conditions, and gives the extra breathing capacity needed for rapid acceleration and high-speed operation of your Thunderbird.

Ordinarily, only the two front (primary) venturis are operating at normal driving speeds. When the car is traveling at high speeds, or when a sudden burst of power is needed for rapid acceleration, the increased vacuum in the right primary venturi causes the throttle plates in the two rear (secondary) venturis to open.

VALVES AND TAPPETS. All in-



take and exhaust valves are of the overhead, rotating type which minimizes warpage, wear, sticking, and burning. The steel, mushroom-type valve tappets operate directly off the camshaft.

CAMSHAFT. Five steel-backed babbitt bearings support the camshaft, which is driven by a silent timing chain.

CYLINDER HEADS. The high-compression, high-turbulence, wedge-shaped combustion chambers in the cylinder heads provide faster, more efficient burning of the fuel-air mixture. Thin, steel gaskets are used between the cylinder heads and the block to seal in the coolant and oil, and for maximum heat transfer.

PISTONS AND CONNECTING RODS. The aluminum-alloy, full-skirt pistons are of the flat-head, three-ring design. Their construction permits controlled piston expansion and closer initial piston fitting without bind or excessive friction. The pistons have offset piston pins to minimize noise and equalize the thrust in the cylinder bores.

The top compression ring on each piston is chrome plated. The second compression ring is phosphate coated. The lower oil seal ring has a combination expander-spacer with chrome-plated steel segments.

The lower ends of the forged-steel, I-beam connecting rods have two-piece, selectively-fitted bearing inserts. The inserts are steel-backed copper-lead, and are of the locking type. Bronze piston pin bushings are pressed into the upper ends of the connecting rods.

CRANKSHAFT AND MAIN BEARINGS. The cast alloy-iron crankshaft is supported in the engine by five steel-backed, copper-lead, insert-type main bearings. All of the bearings are selectively fitted to provide accurate crankshaft alignment.

DUAL EXHAUST SYSTEM. A dual exhaust system with 3-chamber, reverse-flow mufflers is used for the quick removal of engine exhaust gases. The exhaust system also helps to increase the engine's efficiency by warming the incoming fuel-air mixture in the intake manifold.

SPARK PLUGS

Anti-fouling, tapered-seat, 18-mm spark plugs are installed as original equipment in the Thunderbird engine. These spark plugs are designed to provide efficient performance through the entire engine heat range. The 60° tapered seat fits directly on the mating surface of the cylinder heads, eliminating the need for spark plug gaskets and giving positive sealing

under high combustion pressures.

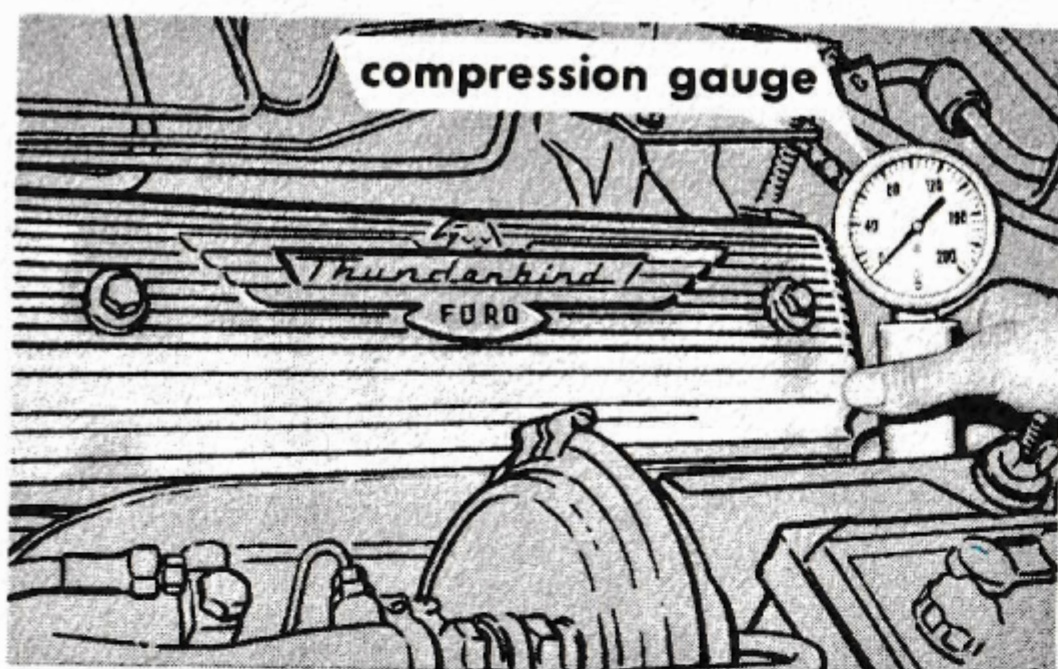
Under normal driving conditions, the spark plugs should be cleaned and inspected every 5000 miles.

1. Pull the ignition wires off the spark plugs, then loosen the plugs about one turn. *Be careful not to burn your hands or arms on hot exhaust manifolds when servicing the spark plugs.*
2. Blow accumulated dirt out of the spark plug wells in the cylinder heads, then remove the spark plugs.
3. Remove heavy deposits from the firing ends of the plugs with a thin-bladed knife.
4. Finish cleaning the plugs with an abrasive-type cleaner. Use the cleaner sparingly as excessive blasting may damage the porcelain around the center electrode.
5. Inspect each plug. If the porcelain is cracked, badly glazed, or eroded, replace the plug. If the electrodes are badly pitted, replace the plug.
6. If necessary, file the tips of both electrodes. They should have clean, flat surfaces.
7. Check the gap width between the electrodes with a wire feeler gauge. The gap should be 0.032-0.036 inches wide. *When adjusting the spark plug gap, bend only the side electrode. Do not bend the center electrode to obtain the correct gap width.*
8. Install the spark plugs in the engine, and tighten them to 15-20 foot-pounds torque. *Do not overtighten the spark plugs as the gap width may change if the plugs are distorted.*

CHECKING ENGINE COMPRESSION

The compression pressure of each cylinder should be checked before any other engine tune-up operations are performed. *An engine with uneven compression cannot be properly tuned.*

1. Run the engine at fast idle speed (about 1200 r.p.m.) for at least 30 minutes, or until the engine is thoroughly warmed.
2. Turn off the ignition, and block the primary throttle linkage in an open position.
3. Pull the ignition wires off the spark plugs, then remove all the spark plugs from the engine. *Don't burn yourself on the hot exhaust manifolds.*



4. Install a compression gauge in one of the spark plug holes, then crank the engine about four revolutions with the starter.
5. Note and record the reading on the gauge. If you have a piece of chalk, write down the reading on the exhaust manifold.
6. Repeat this compression check

on all the other cylinders, and record all the readings.

7. Compare all the readings. On the engine used with Fordomatic, the compression pressure should be 165 pounds (sea level pressure). On the engine used with Overdrive or the conventional transmission, the compression pressure should be 160 pounds. The pressures in all cylinders should be within 10 pounds of each other.

If the compression pressure is low in two adjacent cylinders, a leak may exist between the cylinders. The leak may be caused by a head gasket that isn't sealing properly.

Varying or low compression pressures in all cylinders usually mean that compression is being lost past the valves or the pistons and rings. Squirt engine oil through the spark plug holes, then crank the engine for a few revolutions to distribute the oil evenly on the cylinder walls and around the piston rings. Check all the pressure readings again. If little or no difference between the readings taken in both checks exists, the engine may have sticking or poorly seating valves. However, if the low pressures have increased, they indicate that compression pressure is being lost past the pistons and rings.

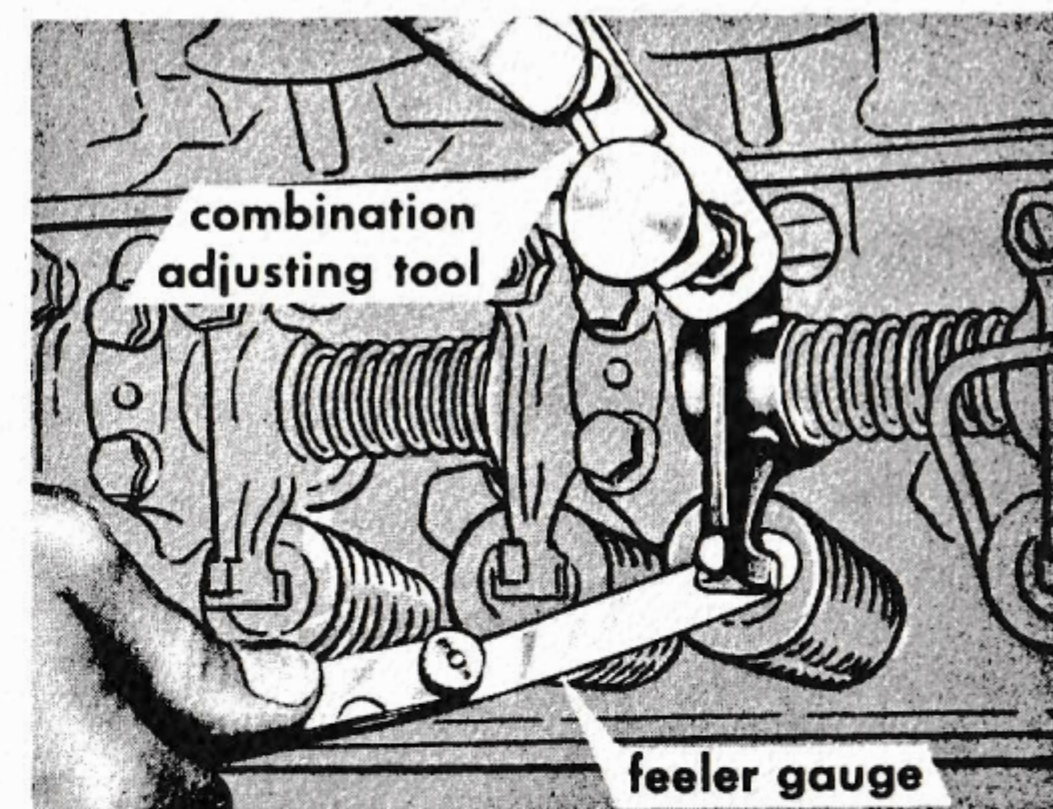
Before going any further with an engine tune-up, all causes of varying or low compression pressures should be eliminated.

CHECKING VALVE LASH

Intake and exhaust valve lash should be checked and, if necessary, adjusted at least every 10,000 miles. If your car is being driven under severe operating conditions or in competition, check the valve lash more often. Improper valve lash may result in excessive noise, high fuel con-

sumption, short valve life, and poor engine performance.

1. Run the engine at fast idle speed (about 1200 r.p.m.) for at least 30 minutes, or until the engine is thoroughly warmed.
2. Reduce the engine speed as much as possible without disturbing the smooth idle.
3. Remove the hold-down nuts from one rocker arm cover, then lightly tap the cover with your hand or a soft leather hammer to loosen the gasket from the cylinder head. Remove the rocker arm cover from the engine. Remove only one rocker arm cover at a time.



4. Check the clearance between the rocker arms and valve stems with a 0.019-inch feeler gauge. The clearance should be the same for all intake and exhaust valves.
5. If it's necessary to adjust the clearance, loosen the rocker arm adjusting screw lock nut, then turn the adjusting screw clockwise to decrease the clearance or counterclockwise to increase the clearance. Tighten the lock nut, then recheck the clearance.
6. Inspect the rocker arm cover gasket. Reuse the gasket if it appears to have a good sealing edge. If it's necessary to replace the gasket, remove the old gasket from the recess in the cover with a screw driver. Clean all sealer and gasket material from the recess, then apply a liberal coating of gasket sealer and press the new gasket in place on the cover.
7. Install the rocker arm cover, and tighten the hold-down nuts to 2-2½ foot-pounds torque. If you don't have a torque wrench, tighten the nuts securely without distorting the rocker arm cover.
8. Remove the other rocker arm cover, and repeat the valve lash check.

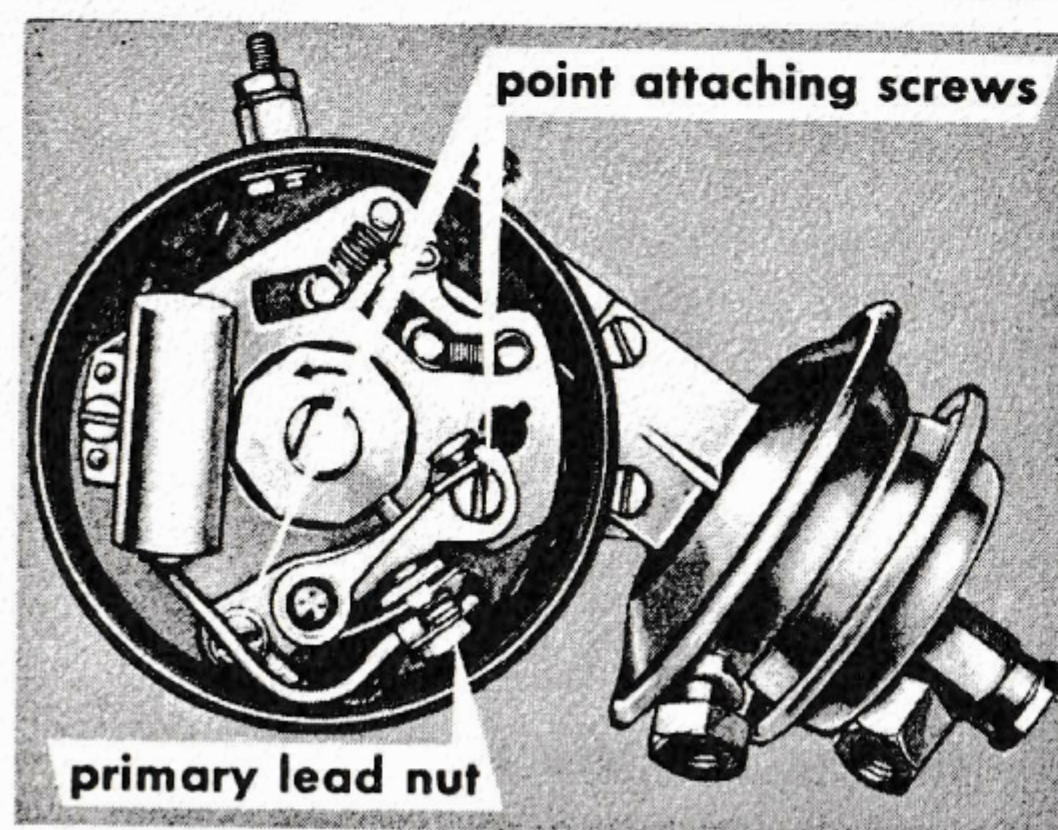
**USE ONLY FoMoCo GENUINE PARTS
TO SERVICE YOUR THUNDERBIRD**

DISTRIBUTOR POINTS

Heavy-duty, vented-type points are used in the double-diaphragm distributor on the Thunderbird engine. Keep the points clean and properly adjusted. Dirty, burned, or worn points will reduce gasoline mileage and cause poor engine performance.

INSPECTION AND CLEANING. The distributor points should be inspected, cleaned or replaced, and adjusted at least every 10,000 miles.

1. Release the clips that hold the cap on top of the distributor, and lift off the cap with all the wires attached.
2. Clean the inside and outside of the cap with solvent or with a clean, dry cloth.
3. Inspect the cap for cracks or burned contacts. *If the cap has to be replaced, insert the spark plug wires in the new cap in a counterclockwise direction starting with the socket marked "1" and following the proper firing order (1-5-4-8-6-3-7-2). The cylinders are marked from front to rear (right side, 1-2-3-4; left side, 5-6-7-8).*
4. If the original cap appears to be in good condition, pull the spark plug wires out of the cap sockets, one at a time, and inspect the sockets for cracks, corrosion, oil, and dirt. Clean the sockets, or replace the cap if the sockets are damaged.
5. Inspect the terminals on the wires for looseness, and check the insulation for cracks or oil soaking. A loose terminal can be fixed by dropping a spot of solder on it. Replace any worn wires.
6. Lift the rotor out of the distributor, then open the points and inspect them for burns or pits. If the points aren't badly burned or pitted, clean off all oil and dirt with a stiff-bristled brush dipped in solvent. *Don't use a file, sandpaper, or emery cloth to clean the points.*



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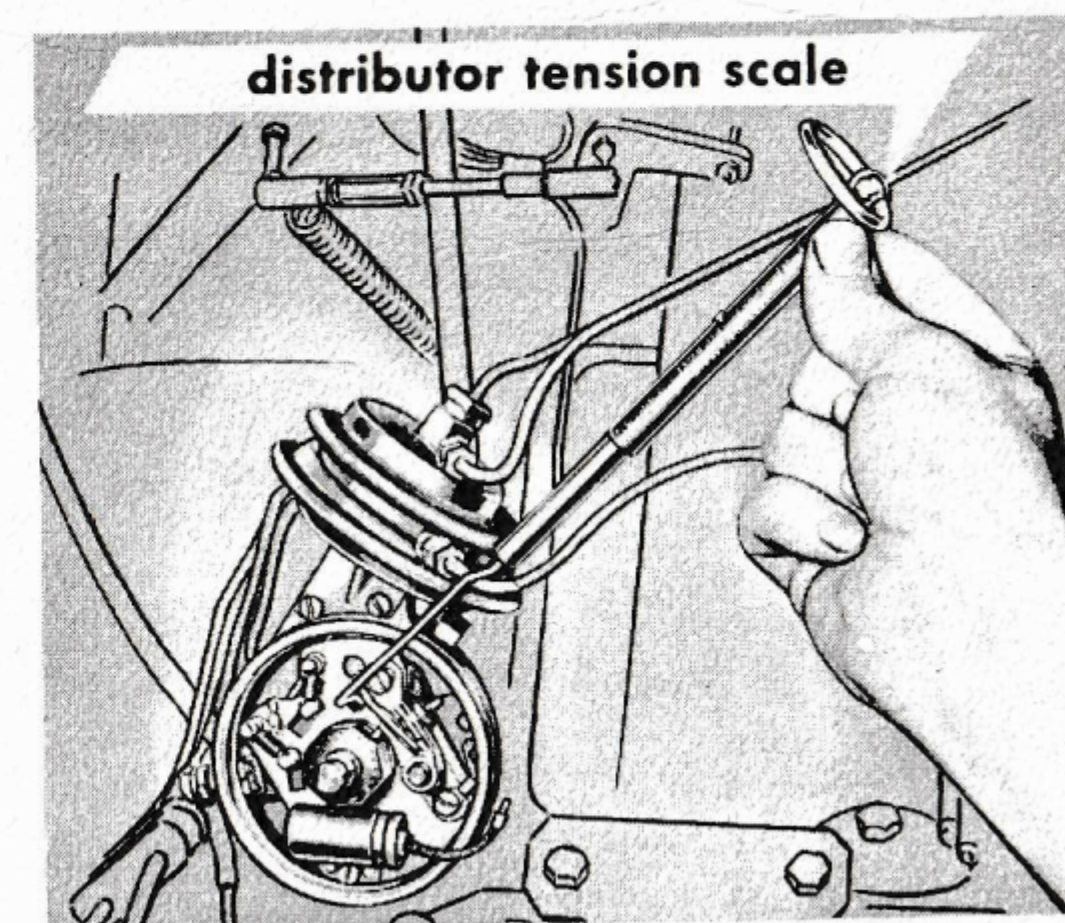
REPLACEMENT. Points with badly burned contacts or excessive metal transfer between the points should be replaced. Burned contacts are often caused by oil and

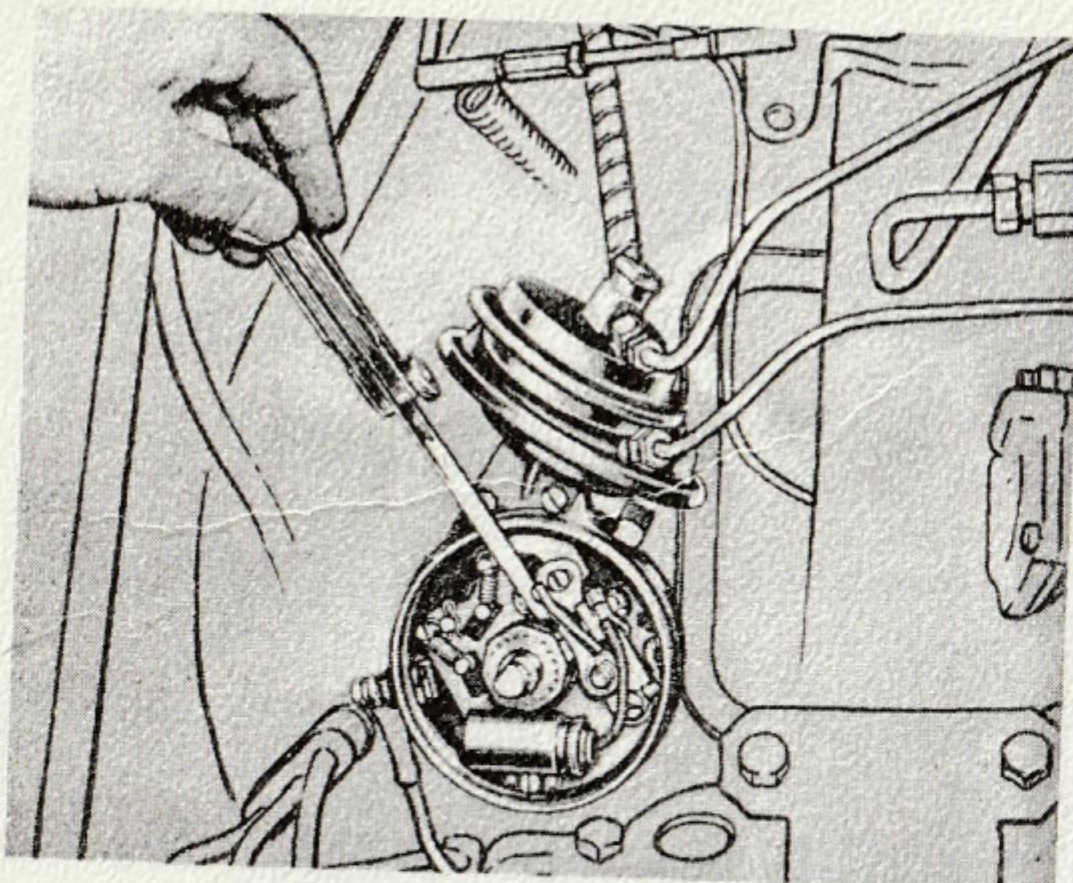
dirt on the contacts. Metal transfer, considered to be excessive when it equals or exceeds the gap setting, is usually caused by incorrect point alignment, voltage regulator setting too high, improper condenser capacity, or a radio condenser installed on the distributor side of the coil.

1. Disconnect the primary and condenser leads from the primary terminal on the point assembly.
2. Remove the screws that fasten the point assembly to the breaker plate, then lift out the point assembly.
3. Connect the primary and condenser leads to the primary terminal on the new point assembly.
4. Fasten the point assembly to the breaker plate with the screws. *Be sure to install the ground wire on the screw nearest the pivot.*
5. Place a spring scale as close to the movable point as possible, and move the scale until the points just start to open. The spring tension should be 17-20 ounces. If the tension isn't correct, disconnect the primary and condenser leads at the primary terminal, loosen the spring locknut, and slide the spring toward the points to increase the tension or away from the points to reduce the tension. When you get the correct tension, connect the primary and condenser leads to the primary terminal.
6. Apply a light film of non-fiber, high-melting point grease to the distributor cam. *Don't use engine oil on the cam. It will spatter on the points and cause them to burn rapidly.*

ADJUSTMENT. When new distributor points are installed, they must be properly aligned and adjusted. The movable point must meet the stationary point squarely and exactly on center. Misaligned points will affect the engine operation and will burn rapidly.

1. Inspect the alignment of the points under a strong light and a good magnifying glass.
2. Align the points by bending or twisting the stationary point. *Don't bend or twist the movable arm.*
3. Using the starter, crank the





- engine until the rubbing block on the distributor rests on one of the high points of the cam.
4. Check the distributor point gap width with a feeler gauge. The correct width should be 0.014-0.016 inch. If the gap width is incorrect, loosen the lock screws and turn the adjusting slot with a screw driver until the correct gap width is obtained. Tighten the lock screws and recheck the gap width. *The point gap width*

must be adjusted accurately because it affects the point dwell and, in turn, the efficiency of the ignition coil.

5. After all adjustments have been made, install the distributor rotor.
6. Install the distributor cap with the tab on the cap seated in the notch in the distributor. Fasten the cap clips.
7. If a dwell meter is available, check the distributor point dwell. The dwell angle should be 26-28½°.

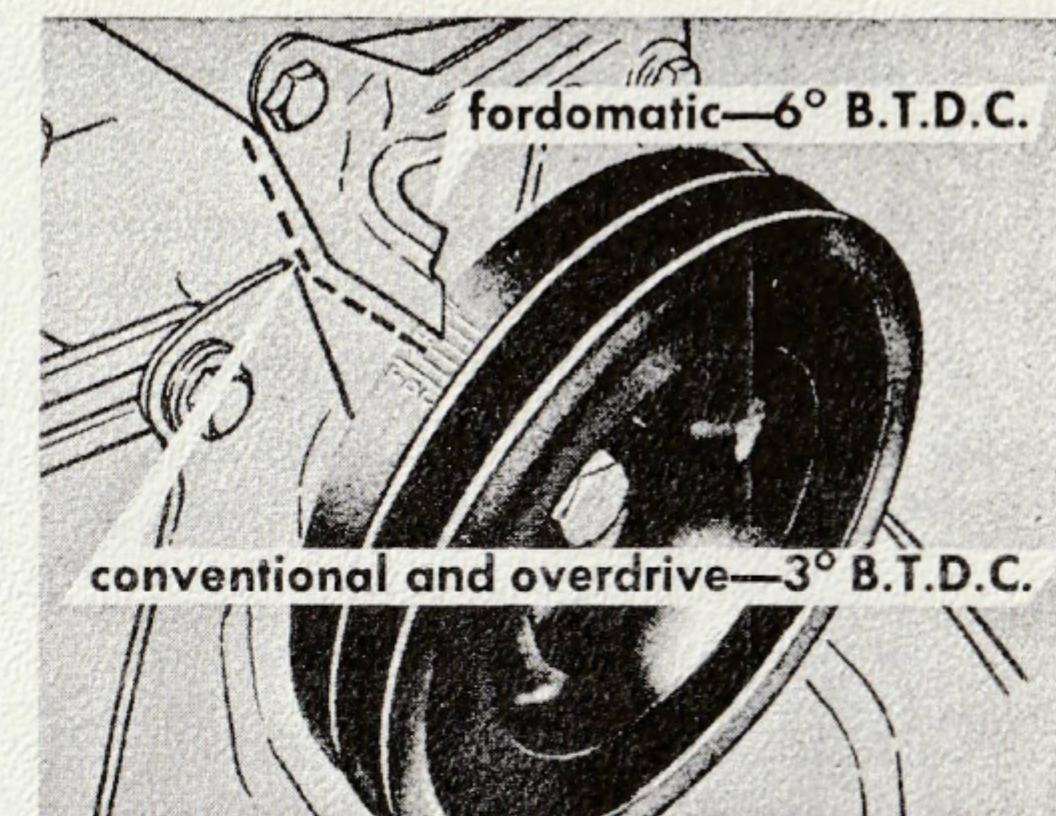
IGNITION TIMING

Each time the distributor points are replaced or adjusted, the ignition timing should be checked and adjusted. A timing light is needed to perform this operation.

The crankshaft damper (pulley) has six timing marks. The longest mark represents top dead center (T.D.C.), and each succeeding mark represents 2°, 4°, 6°, 8°, and 10° before top dead center (B.T.D.C). These marks and a pointer bolted to the water pump are used to time the engine.

1. Disconnect the distributor vacuum line.
2. Connect the timing light high-tension lead to the No. 1 spark plug and the other two timing leads to the battery terminals.
3. Clean the dirt from the timing marks and, if necessary, chalk the proper mark and the pointer so that they'll be more easily seen.
4. Operate the engine at idle speed.

5. Direct the timing light at the pointer. On the Fordomatic-equipped engine, the 6° B.T.D.C. mark on the damper should line up with the pointer when the timing light flashes on. On the engine used with Overdrive or the conventional transmission, the 3° B.T.D.C. mark should line up with the pointer when the light flashes on.



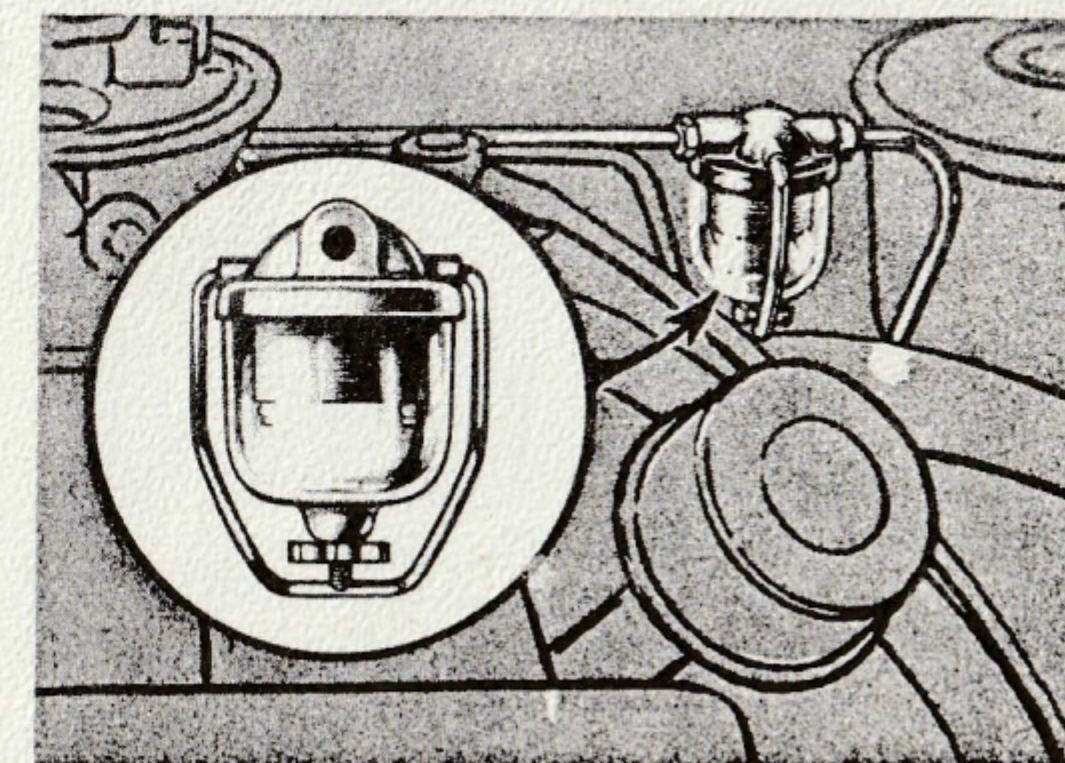
6. If the proper timing mark and the pointer don't line up, turn the distributor body until the correct alignment is obtained. *The timing is advanced when the distributor body is turned clockwise, and is retarded when the body is turned counterclockwise.* Tighten the screw and recheck the timing.
7. Connect the distributor vacuum line.
8. Accelerate the engine, and watch the timing marks with the timing light. If the advance mechanism is operating properly, the ignition timing will advance.

FUEL FILTER CARE

Water or sediment that has accumulated in the fuel filter bowl can easily be removed. Unscrew the bail nut at the bottom of the glass bowl, then remove the bowl. Remove and discard the filter element.

Clean the bowl in solvent. A cracked bowl should be replaced. Replace the gasket if it is torn or will not form a seal.

To install the filter and bowl, place the gasket over the filter, then position the gasket and filter in the recess in the filter body. Install the bowl. Tighten the bail screw securely.



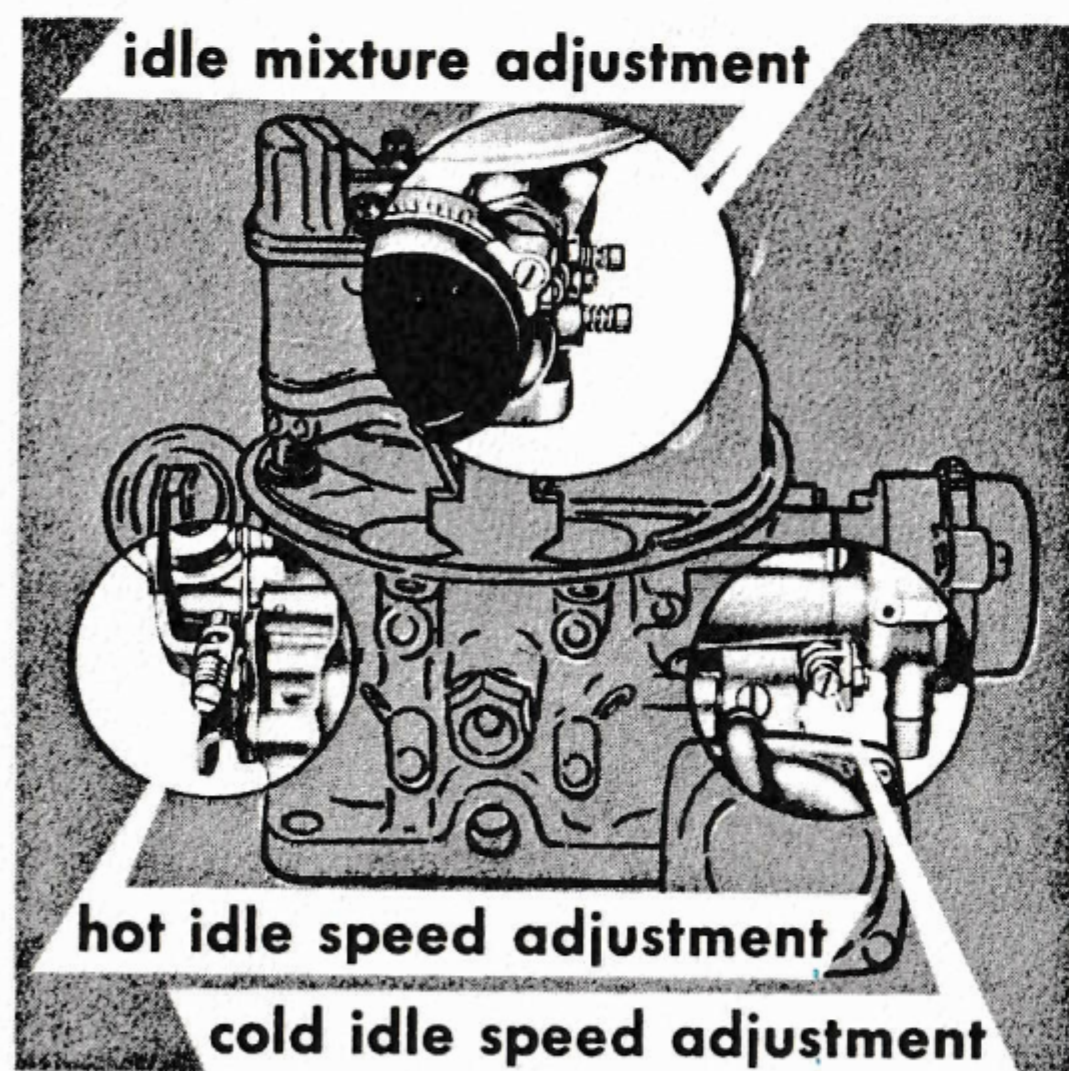
CARBURETOR ADJUSTMENTS

Always make the carburetor adjustments with the engine running at its normal operating temperature.

HOT ENGINE IDLE SPEED. Proper adjustment of the hot engine idle speed is very important. An idle speed that's too fast will cause the car with Fordomatic to "creep." A slow idle speed usually results in poor engine cooling while idling, rough idling, engine stalling, low generator output, and low power steering pump output.

The throttle lever stop screw on the left-hand side of the carburetor controls the hot engine idle speed. Clockwise rotation of the screw increases the speed, and counterclockwise rotation reduces the speed.

1. Set the parking brake, and place the Fordomatic selector lever at N or the gear shift lever at neutral.
2. Run the engine until the temperature has stabilized itself within its normal operating range. Make sure that the choke fast idle cam is in the slow position.
3. Back off the choke fast idle adjustment screw (on the right-hand side of the carburetor) from the fast idle cam.



4. Turn the hot engine idle adjustment screw until the tachometer reads about 475-500 r.p.m. Open the throttle by hand and allow it to close normally. Recheck the idle speed.
5. If the car is equipped with Fordomatic, check and adjust the hot engine idle speed with the selector lever at Dr. At this position, the idle speed should be about 425-450 r.p.m.

After you've made the correct hot engine idle speed adjustment, adjust the cold engine idle speed setting on the carburetor.

COLD ENGINE IDLE SPEED. The

throttle lever stop screw on the right-hand side of the carburetor controls the cold engine idle speed (choke fast idle speed). The screw contacts steps on the fast idle cam during the engine warm-up period.

1. Be sure that the correct hot engine idle speed adjustment has been made before you proceed with this adjustment.
2. With the fast idle cam in the slow position, turn the cold engine idle speed adjustment screw in until it just touches the lowest step on the fast idle cam. *In areas where the normal cold engine idle speed may be considered too high, it can be reduced by backing off the adjustment screw not more than one turn.*

IDLE FUEL MIXTURE. The idle fuel mixture is controlled by two idle mixture adjustment screws located near the front base of the carburetor. Proper mixture adjustment is necessary to get a smooth engine idle.

1. Turn both idle mixture adjustment screws in until they seat lightly, then back off each screw about $\frac{5}{8}$ turn. *Don't turn the screws in too tightly against their seats as their points may become grooved. A damaged screw must be replaced before the proper idle mixture adjustment can be made.*
2. Run the engine at fast idle speed (about 1200 r.p.m.) for at least 30 minutes, or until the engine is thoroughly warmed.
3. When the engine is warm, place the fast idle cam in the slow position, and set the engine idle speed at 475-500 r.p.m.
4. Slowly turn one of the idle mixture adjustment screws inward until the engine begins to run roughly from the lean mixture.
5. Turn the screw out until the engine begins to "roll" or "gallop" from the rich mixture, then turn the screw in until the engine begins to run smoothly.
6. Repeat these procedures for the other idle mixture adjustment screw. The final setting of both screws may result in about $\frac{1}{2}$ turn difference between the screws.
7. If the proper idle fuel mixture adjustment has increased the engine speed, readjust the hot engine idle speed to the correct setting, then recheck the idle fuel mixture. Always favor a slightly rich mixture rather than a lean setting for the final adjustment.

DASHPOT. If your Thunderbird has Fordomatic or is equipped with Overdrive and Swift Sure Power Brakes, an anti-stall dashpot is attached to the carburetor to prevent engine stalling when the throttle is released suddenly. The dashpot retards the rate at which the throttle plates in the carburetor close in their last few degrees of travel.

1. Make sure that the engine is at normal operating temperature and that the fast idle cam is in the slow position.
2. Hold the throttle lever in the closed position, and turn the dashpot adjusting screw out (counterclockwise) until the head of the screw pushes the dashpot rod to the end of its travel. At this point, the engine speed just begins to increase.
3. Turn the dashpot adjusting screw in (clockwise) $1\frac{1}{2}$ or 2 turns to get an end stop clearance of 0.045-0.064 inch.

ACCELERATOR PUMP LINK. The accelerator pump supplies more fuel to the mixture when the accelerator is depressed to pass other cars or to gain speed rapidly. To satisfy acceleration requirements in various climates and altitudes, adjustment holes in the throttle lever allow the accelerator pump link to operate in one of two positions. The hole closest to the throttle shaft provides the shortest pump stroke and is suitable for average or hot weather operation. The outer hole is for cold weather operation. The position of the link can be quickly changed.

1. Remove the air cleaner from the carburetor.
2. Remove the hairpin clip that holds the pump link to the throttle lever.
3. Remove the retaining screw from the pump rod.
4. Place the pump link in the desired adjustment hole in the throttle lever, and fasten it securely with the hairpin clip.
5. Attach the pump link to the pump rod with the retaining screw.
6. Place the air cleaner on the carburetor, and tighten the wing nut.

ACCELERATOR PUMP ROD VENT. The accelerator pump rod is drilled to provide an outside vent for the float bowl in the carburetor. The vent operates only while the throttle plates are in the approximate closed position. A vent clip at the bottom of the pump operating rod can be raised to open the vent, or lowered to close the vent. The vent should be open during the hot weather to allow fuel vapors to escape, thereby improving hot engine starting. Close the vent in cold weather to keep the vapors in the carburetor.

FRONT SUSPENSION

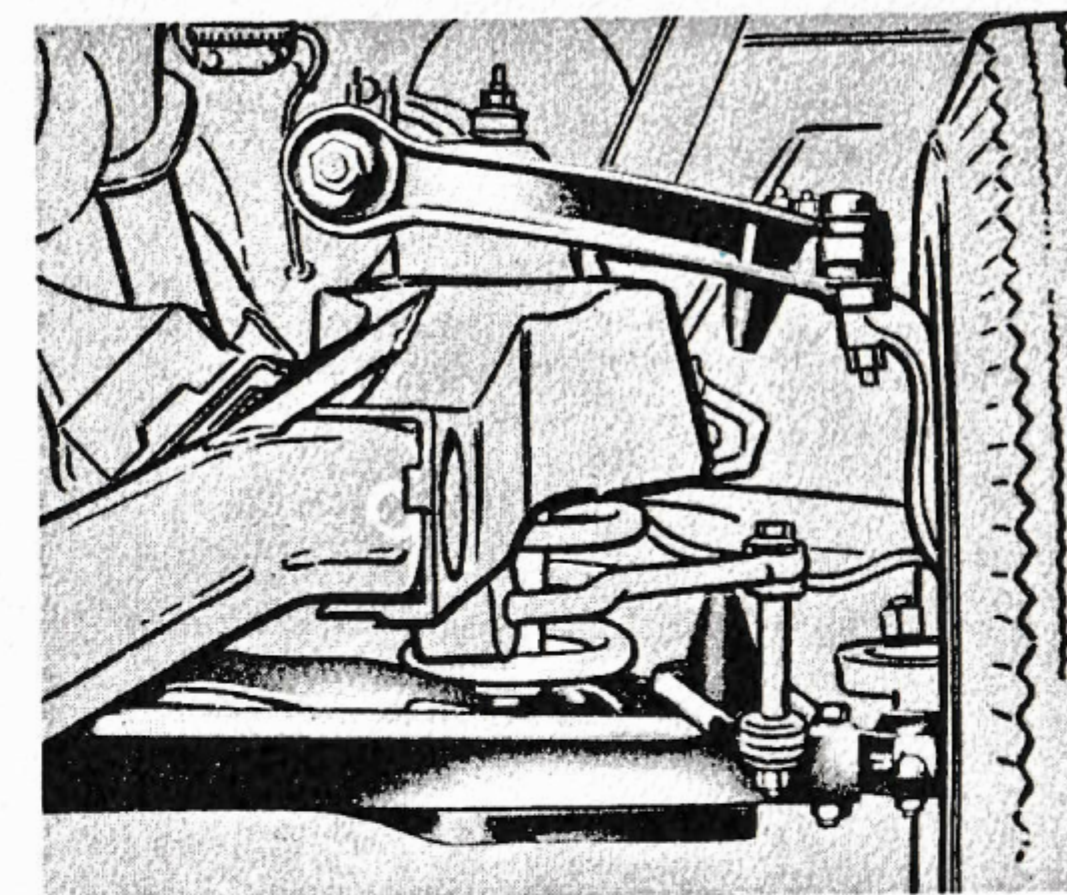
The Thunderbird's ball joint front suspension gives you a smoother, more level ride on bumpy, uneven roads than other types of front suspension. The front wheel spindles are attached directly to the outer ends of the suspension upper and lower arms by means of ball joints. No spindle bolts (king pins) are used, and there are no spindle bushings to replace or ream.

The inner ends of the upper and lower arms are pivoted on torsion-type rubber bushings. When the arms, attached to the car frame through the bushings, move up and down, the bushings twist instead of turn so that the need for lubrication at these points is eliminated.

Each side of the front suspension is lubricated at two points. One lubrication fitting is on the upper ball joint, and the other fitting is on the lower ball joint.

Coil springs are mounted between the suspension lower arms and the car frame, and are controlled by telescopic, direct-action shock absorbers. A stabilizer bar, mounted on the frame and connected to the lower arms, minimizes any rolling motion of the car while turning or driving on rough roads.

The working parts of the front suspension are assembled directly on the car frame and cannot be removed as an assembly. However, individual suspension parts may be removed for replacement when necessary.



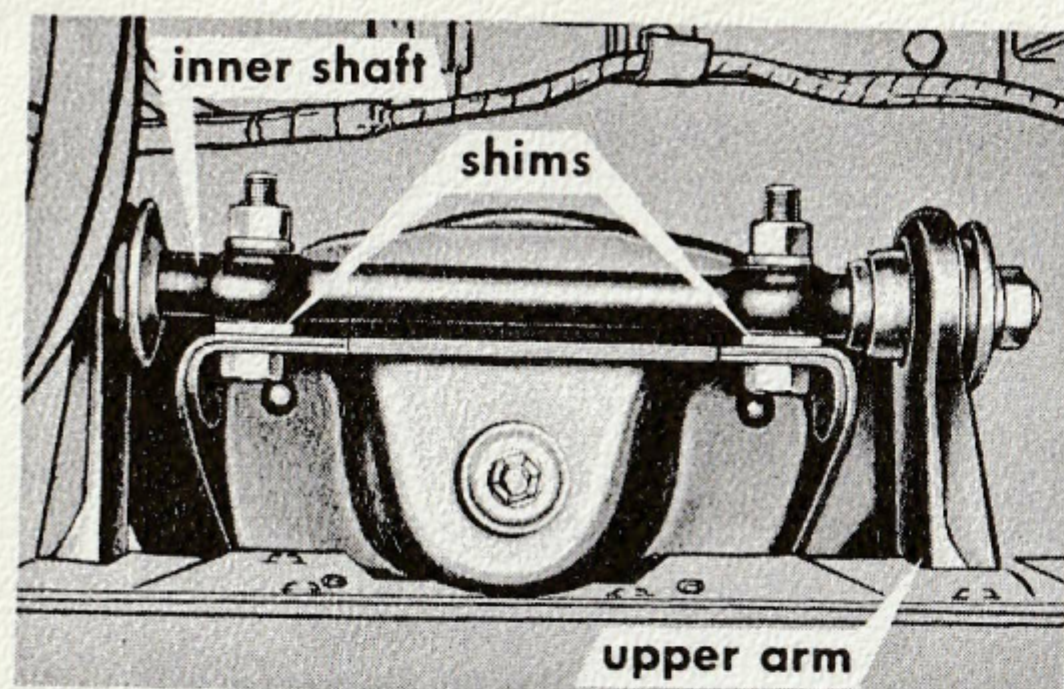
WHEEL ALIGNMENT

All of the factors that affect the running and steering of the front wheels must be considered when checking and adjusting wheel alignment. For this reason, it is essential that wheel alignment checking be performed by someone familiar with alignment work and with the equipment being used.

Several different types of stationary or portable equipment may be used for checking wheel alignment, provided the results are accurate. Definite checking procedures should be followed for each type. Since these checking procedures may vary, only the methods and specifications needed to adjust wheel alignment will be mentioned here.

CASTER AND CAMBER ADJUSTMENTS. Both caster and camber adjustments can be made at the same time after you've checked wheel alignment. However, be careful not to disturb one adjustment while making the other.

Where To Adjust. The adjustments are made with U-shaped shims between each suspension upper arm inner shaft and the frame. Loosen the two



bolts that fasten the inner shaft to the frame, then insert or remove shims between the shaft and the frame to obtain the desired caster and camber angles. After all adjustments have been made, tighten the two bolts (65-90 foot-pounds torque).

How To Adjust. The caster angle can be changed in a positive direction by adding shims at the rear

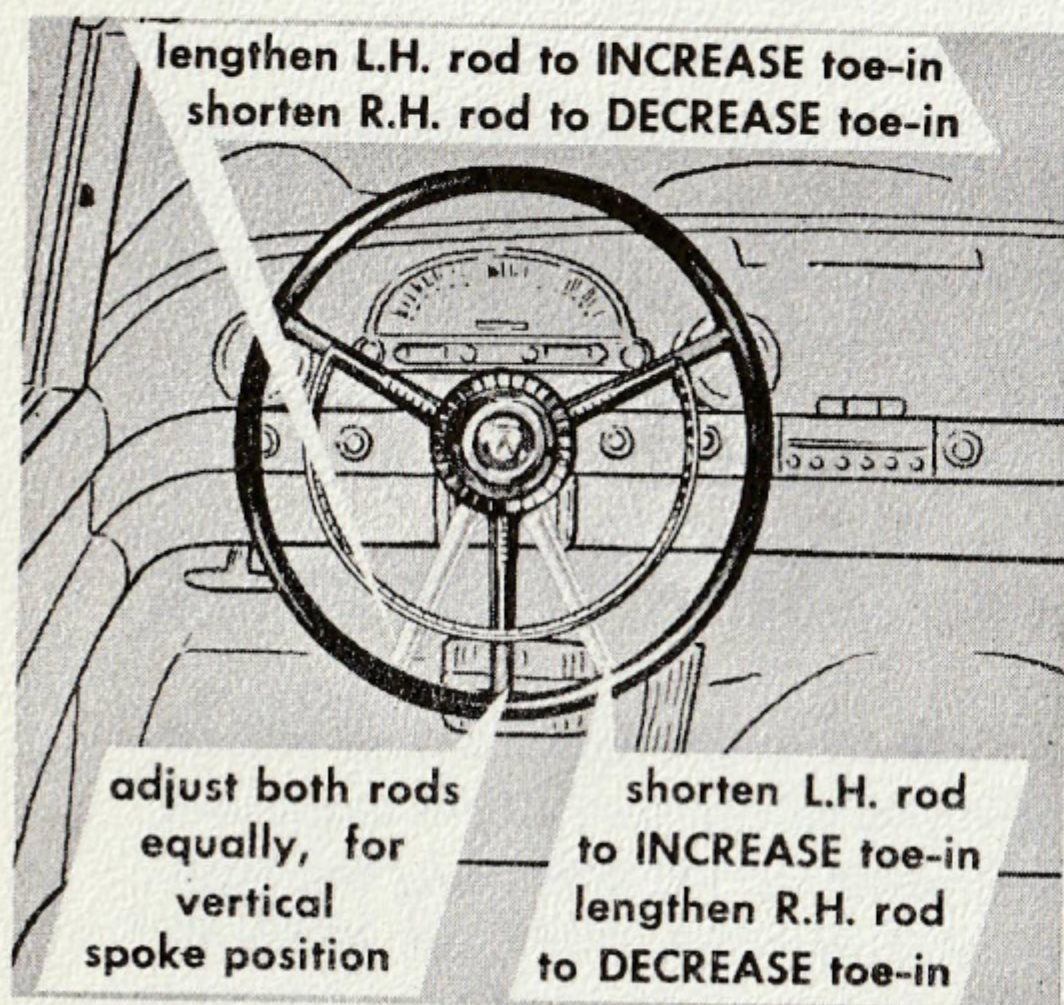
bolt or removing shims at the front bolt. The addition of shims at the front bolt or the removal of shims at the rear bolt will change the caster angle in a negative direction. A $\frac{1}{16}$ -inch change of shim thickness will change the caster angle $\frac{1}{2}^\circ$. *The maximum difference between the shim stack thicknesses at the two bolts should not exceed $\frac{1}{8}$ inch.*

The camber angle can be changed in a positive direction by removing shims at both bolts. The addition of shims at both bolts will change the camber angle in a negative direction. A $\frac{1}{16}$ -inch change of shim thickness will change the camber $\frac{1}{4}^\circ$. *The total shim stack thickness at each bolt should not exceed $\frac{9}{16}$ inch.*

TOE ADJUSTMENT. If the front wheel toe is incorrect, note the position of the steering wheel spokes when the front wheels are in the straight-ahead

position. If the spokes are in their normal position, lengthen or shorten both spindle connecting rods equally to obtain correct toe. *To lengthen or shorten both connecting rods equally, the right and left connecting rod sleeves must be turned an equal number of turns, but each in an opposite direction.*

If the steering wheel spokes aren't in their normal position when the front wheels are in the straight-ahead position, make the adjustment shown in the illustration on this page to obtain correct toe and steering wheel alignment.



If the steering wheel is still not in its normal position after the toe has been adjusted, turn both connecting rod sleeves downward or upward the same amount until the steering wheel is in its proper position.

When adjusting the front wheel toe on a car with power steering, run the engine during the operation so that the power steering control valve will be properly centered in the neutral position.

After completing the toe adjustment, be sure to tighten the connecting rod sleeve clamp bolt nuts to 12-15 foot-pounds torque. Road test the car to check the results of the adjustment.

FRONT WHEEL BEARING ADJUSTMENT

To check a front wheel bearing, jack up the front of the car, rotate the wheel a few revolutions, then grasp the tire at the sides and try to move the wheel in and out.

A properly-adjusted bearing will let the wheel rotate freely with no perceptible end play. *If the wheel rotates roughly or noisily, the bearing or cup is dirty or worn and should be cleaned or replaced.*

If the wheel drags when rotated, the bearing should be adjusted. A bearing that's adjusted too tightly will cause excessive heat and will usually fail in a short time. *Be sure that the wheel drag isn't caused by dragging front brakes.*

If any looseness is felt in the wheel, adjust the bearing. A loose bearing has a tendency to let the car wander or shimmy, and can eventually cause excessive tire wear.

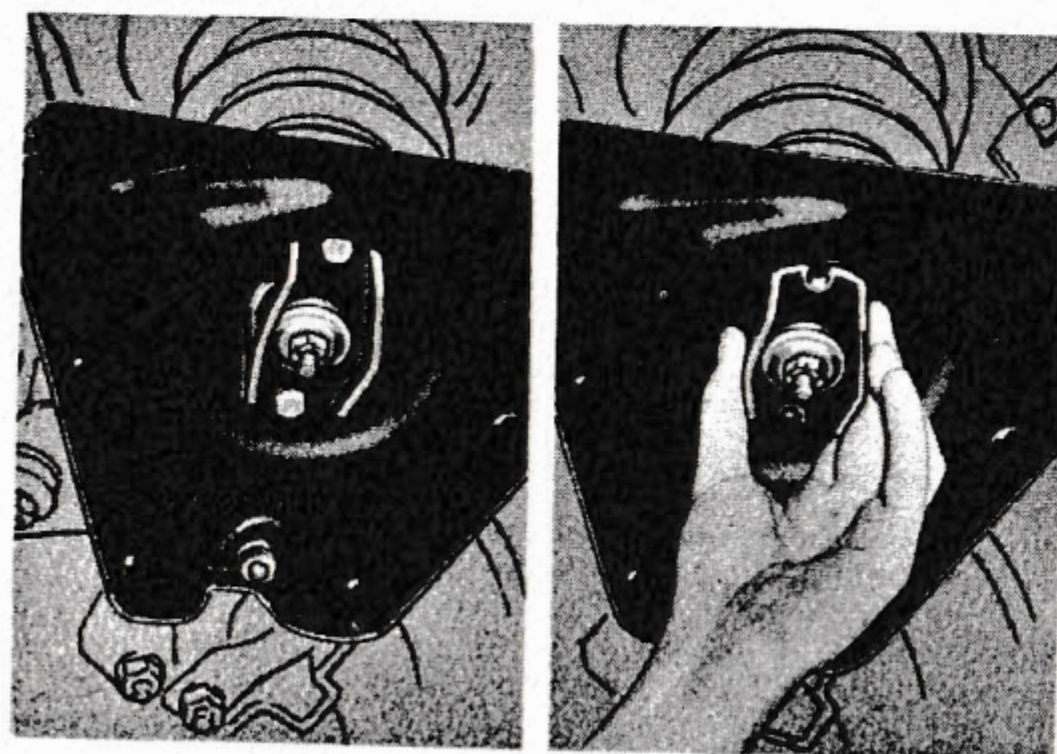
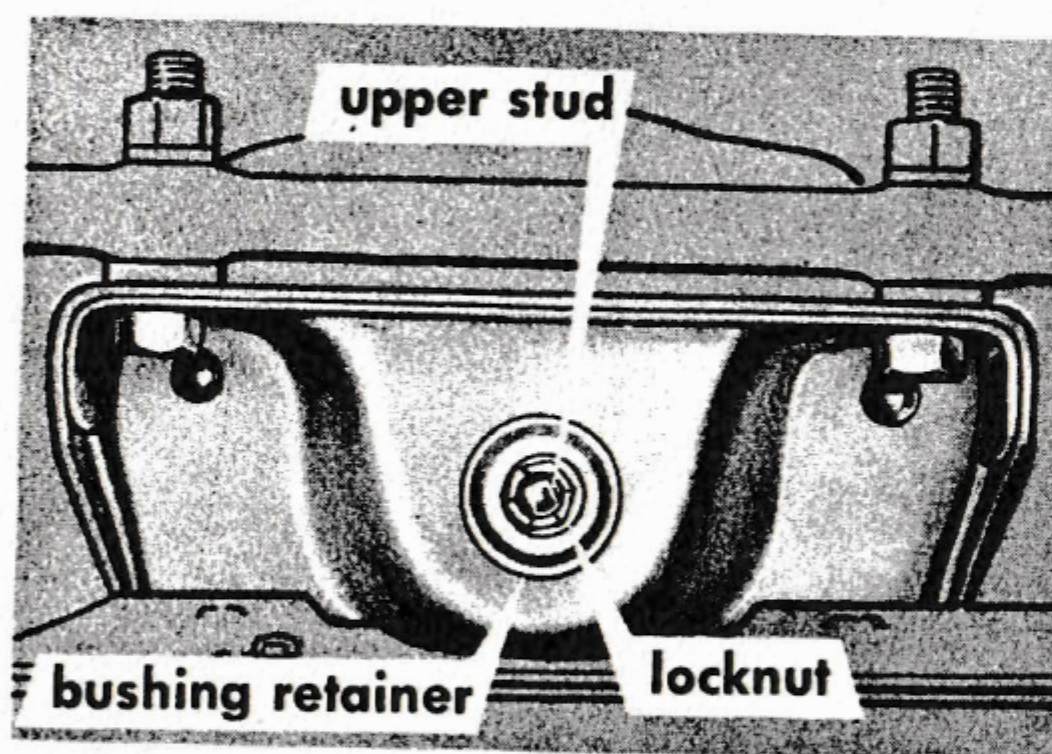
1. Remove the hub cap, the hub grease cap, and the cotter pin.
2. Tighten the wheel bearing adjustment nut while rotating the wheel back and forth until a slight drag is felt. This will assure the proper seating of the bearing in the bearing cup.
3. Back off the adjusting nut until the nearest slot in the nut is aligned with the cotter pin hole in the wheel spindle (about $\frac{1}{6}$ to $\frac{1}{4}$ turn).
4. Lock the adjusting nut in this position with a new cotter pin.
5. Make sure that the bearing is properly lubricated, then install the grease cap and the hub cap.
6. Check the wheel for free and smooth rotation before you lower the front of the car to the ground.

SHOCK ABSORBER REPLACEMENT

The front and rear shock absorbers can't be repaired, and must be replaced if they should become worn or damaged.

Before replacing shock absorbers, check their action by grasping the car's bumper and bouncing the car up and down. If the shock absorbers are in good condition, the car will settle to a normal position. If the car continues to bounce, or remains displaced, the shock absorbers should be replaced with new FoMoCo parts. Shock absorber kits and bushing replacement kits are available at your Ford Dealer. Always replace the bushings when you replace a shock absorber.

FRONT SHOCK ABSORBER. The front shock absorbers are mounted inside the coil springs between the car frame and the suspension lower arms. The top of each front shock absorber is accessible from the engine compartment, and the bottom can be reached from under the car.



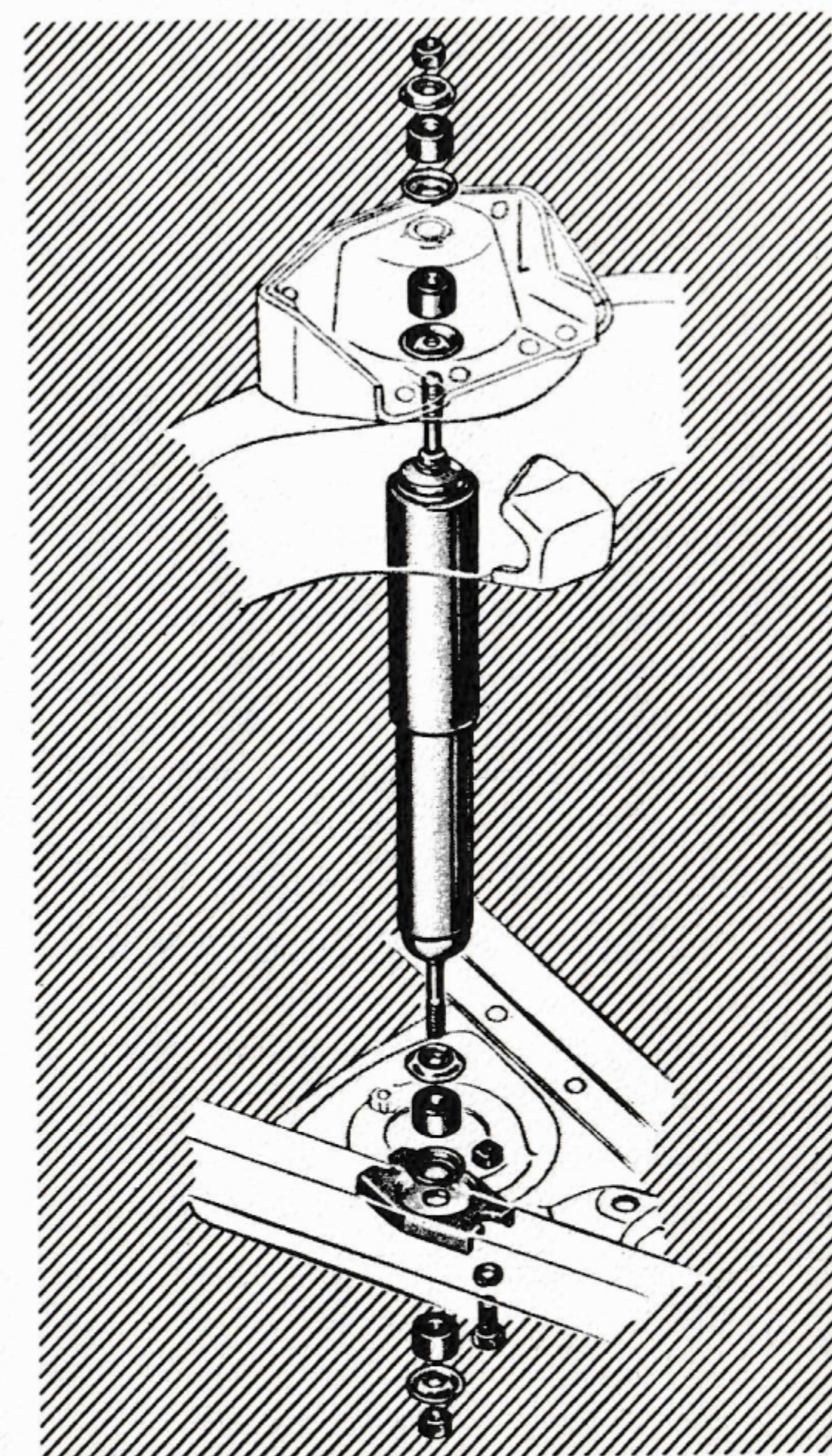
1. Hold the upper stud of the shock absorber with a 1/4-inch end wrench or a pair of vise-grip pliers, then remove the locknut, nut, washer, bushing, and bushing seat.
2. Remove the bolts that fasten the mounting plate to the suspension lower arm, and remove the shock absorber from the car. Remove the remaining bushing and washer from the upper stud.
3. Remove the locknut from the lower end of the shock absorber, then remove all the parts, including the mounting plate, from the lower stud.
4. To install a shock absorber, place the bushings, bushing seat, washer, mounting plate, and nut on the lower stud in

the order shown in the illustration. Tighten the nut to 25-35 foot-pounds torque, then install the locknut. If a torque wrench isn't available, tighten the nut securely so that the washer is firmly seated against the shoulder on the stud.

5. Place a washer and one bushing on the upper stud, then position the shock absorber in the coil spring so that the upper stud extends through the hole in the frame.
6. Fasten the mounting plate to the suspension lower arm.
7. Place the bushing seat and the remaining bushing and washer on the upper stud, then install the nut and tighten it to 25-35 foot-pounds torque.
8. Install the locknut.

REAR SHOCK ABSORBER. Both ends of the rear shock absorber can be reached from under the car.

1. Remove the nut, washer, and bushing from each end of the shock absorber.
2. Compress the shock absorber, and remove it from the car.
3. Remove the remaining parts from both ends of the shock absorber.
4. To install a shock absorber, place a washer and bushing on each end of the shock absorber.
5. Compress the shock absorber, and position it between the two brackets on the car.
6. Install the remaining bushings and washers on both ends of the shock absorber, then tighten the nuts to 25-35 foot-pounds torque.



BRAKE ADJUSTMENTS

The Thunderbird brakes are of the four-wheel hydraulic, single-anchor, internal-expanding type. An 11-inch brake drum and self-energizing primary and secondary brake shoes with duo-servo action are installed at each wheel.

Swift Sure Power Brakes consist of the standard brakes with a vacuum-type brake booster installed in the hydraulic system.

An independent manually-operating parking brake controls the rear wheel brake shoes through a mechanical linkage.

CHECKING THE BRAKE FLUID LEVEL. The brake master cylinder is mounted on the left side of the firewall in the engine compartment. Check the brake fluid level in the cylinder at least every 5000 miles. The fluid level should be within $\frac{1}{2}$ inch of the top of the cylinder. *Use only heavy-duty brake fluid in the Thunderbird hydraulic system. Other types of fluid may damage the brake system and cause brake failure.*

BLEEDING THE HYDRAULIC SYSTEM. Air may enter the hydraulic system if the fluid level in the master cylinder is low or when any part of the system is disconnected. If air gets into the system, the brake pedal will have a spongy action, and it will be necessary to bleed the brakes to correct this condition.

Always use new brake fluid when bleeding the hydraulic system. Never use fluid which has been taken from the system. Don't let dirt or other foreign matter enter the system during the bleeding operation.

1. Raise the hood, clean all dirt from the top of the master cylinder, then remove the filler plug.
2. Make sure that the master cylinder is full of brake fluid. *Don't let the master cylinder get less than half full during the bleeding operation.* The master cylinder can be kept full by inverting a small-necked bottle (about a 12-ounce size) filled with brake fluid so that the neck extends into the filler hole of the cylinder.
3. Attach a rubber drain tube to the bleeder screw at one of the wheel cylinders, then submerge the free end of the tube in a glass jar partially filled with fluid. *The proper sequence for bleeding the wheel cylinders is (1) right-rear, (2) left-rear, (3) right-front, and (4) left-front.*
4. Loosen the bleeder screw, then have someone depress the brake pedal slowly by hand. Let the pedal return slowly to the released position.

Repeat this operation at the wheel cylinder until the fluid coming from the bleeder tube is free of air bubbles.

5. Close the bleeder screw when air bubbles cease to appear in the fluid stream.
6. Make sure that the master cylinder is full, then repeat the bleeding operation at the remaining wheel cylinders.

When bleeding Swift Sure Power Brakes, depress the brake pedal sev-

eral times with the engine off to eliminate any vacuum in the system. Bleed the vacuum booster first, then bleed the wheel cylinders in the usual manner.

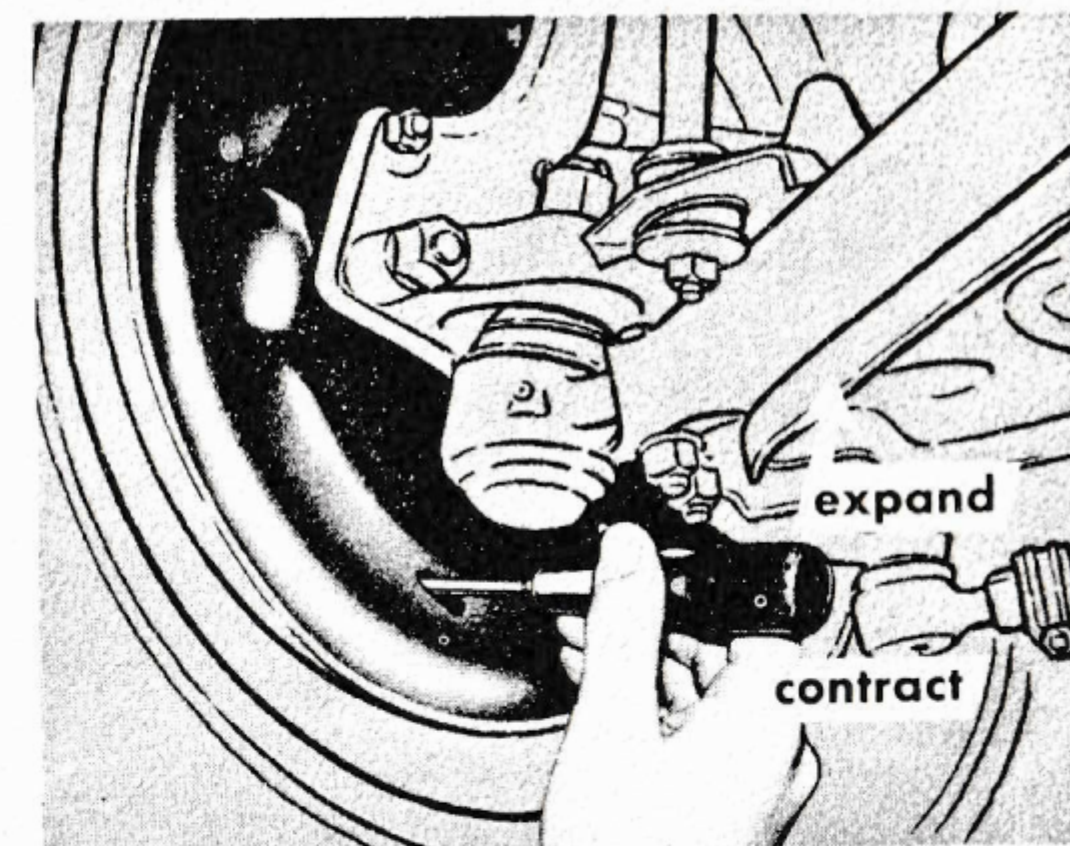
BRAKE SHOE ADJUSTMENT. The brake shoes should be adjusted when the brake pedal travels more than halfway to the floor to apply the brakes.

The brake drums should be at normal room temperature when making a brake shoe adjustment. If the shoes are adjusted when the drums are hot and expanded, the shoes may drag when the drums cool and contract.

1. Raise the car from the floor. *When raising the rear wheels, make sure that the parking brakes are fully released and are not dragging.*
2. Remove the cover from the adjusting hole on the back of one of the brake carrier plates.
3. Turn the adjusting screw with an adjusting tool or a screw driver so that the brake shoes contact the drum. Move the tool or screw driver in an upward direction to expand the shoes.
4. Back off the adjusting screw 10 or 12 notches so that the drum rotates without drag. *If the drum doesn't rotate freely, the brake shoes are probably dirty and should be cleaned. Your Ford Dealer can do this operation for you.*
5. After the brake shoes have been adjusted, place the cover on the adjusting hole, then repeat this procedure on the other brake shoes.

PARKING BRAKE ADJUSTMENT. In most cases, adjustment of the brake shoes will also provide satisfactory parking brake action. However, the parking brakes can be adjusted separately if necessary.

1. Make sure that the parking brake handle is fully released.
2. Loosen the lock nut on the equalizer rod, then tighten the adjusting nut just enough to remove the slack from the cables. Pull the cables alter-

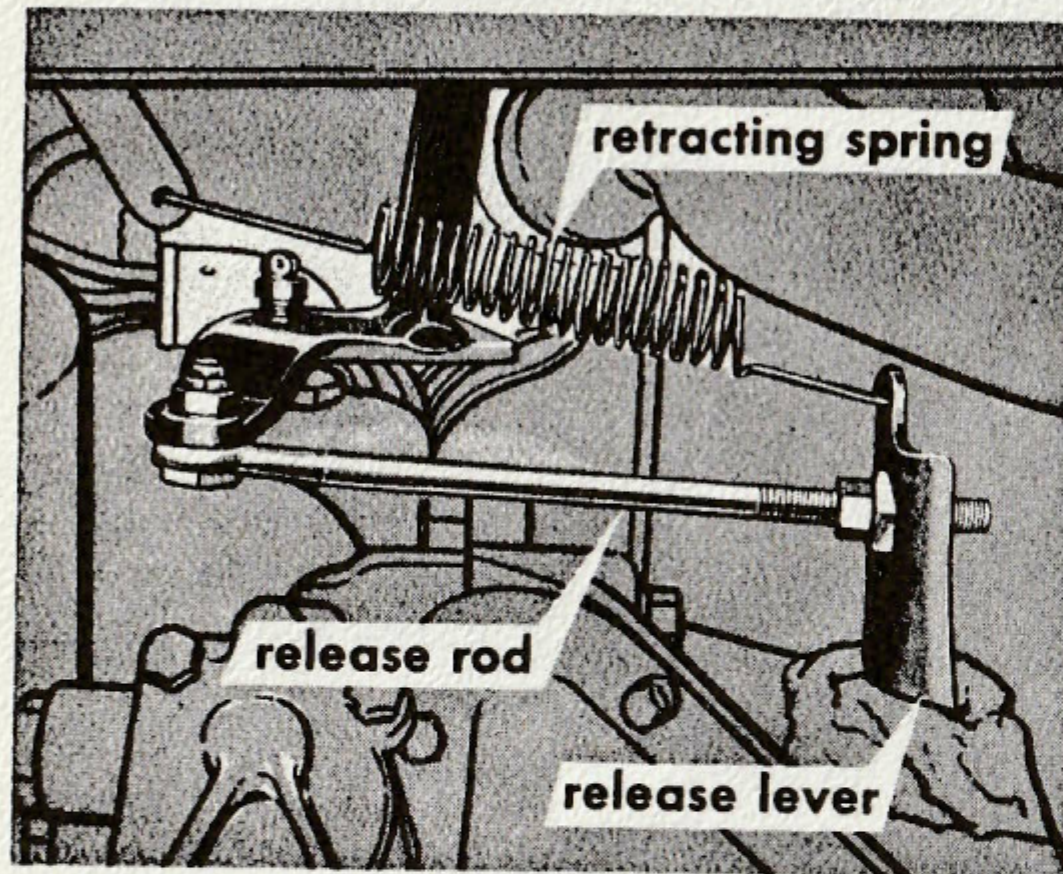


nately to equalize the tension on each cable through the yoke. *Don't tighten the cables too much as the rear brake shoes will be pulled off their anchors.*

3. Tighten the lock nut securely.

CLUTCH PEDAL ADJUSTMENTS

An 11-inch, semi-centrifugal, single dry-plate, cushion-disc type clutch is used on the Thunderbird equipped with either the Overdrive or conventional 3-speed transmission.



A clutch pedal adjustment should be made whenever the clutch does not disengage or engage properly, or when new clutch parts have been installed.

TOTAL TRAVEL ADJUSTMENT.

With the engine turned off, measure the total travel of the clutch pedal. If the total travel isn't within $6\frac{3}{8}$ - $6\frac{5}{8}$ inches, move the clutch pedal bumper and the bracket up or down until the travel is within these limits. Adjust the pedal assist spring link to give the

spring a length of $6\frac{5}{8}$ inches when the pedal is fully depressed.

FREE TRAVEL ADJUSTMENT. After the total travel has been correctly adjusted, depress the clutch pedal by hand, and measure the distance the pedal travels before the clutch begins to disengage. If the free travel isn't $1\frac{1}{8}$ - $1\frac{3}{8}$ inches with the engine turned off, loosen the lock nut on the clutch pedal release rod and turn the adjusting nut clockwise to increase the free travel or counterclockwise to reduce the free travel.

The free travel should also be checked with the engine running at about 3000 r.p.m. and with the gear shift lever at neutral. Under these conditions, the free travel must be at least $\frac{1}{2}$ inch. If necessary, readjust the free travel to obtain this measurement.

If the clutch still doesn't operate properly after the clutch pedal has been correctly adjusted, the clutch assembly should be removed from the car for inspection and repair or replacement.

BATTERY CARE

The 12-volt battery is mounted under the hood on the left side of the engine compartment. Check the battery water level at least every two weeks, or every 1000 miles, and add distilled water to the cells whenever the level is below the diamond in the bottom of the filler well. In hot, dry climates, the battery should be checked more often, preferably each time you stop for gasoline, to prevent the battery running dry. When water is added in freezing weather, the car should be driven for at least five miles to make sure that the water mixes thoroughly with the electrolyte in the battery. Otherwise, the water may freeze and crack the battery case.

Check the state of charge in the battery frequently every 1000 miles, and keep the battery fully charged, especially in cold weather.

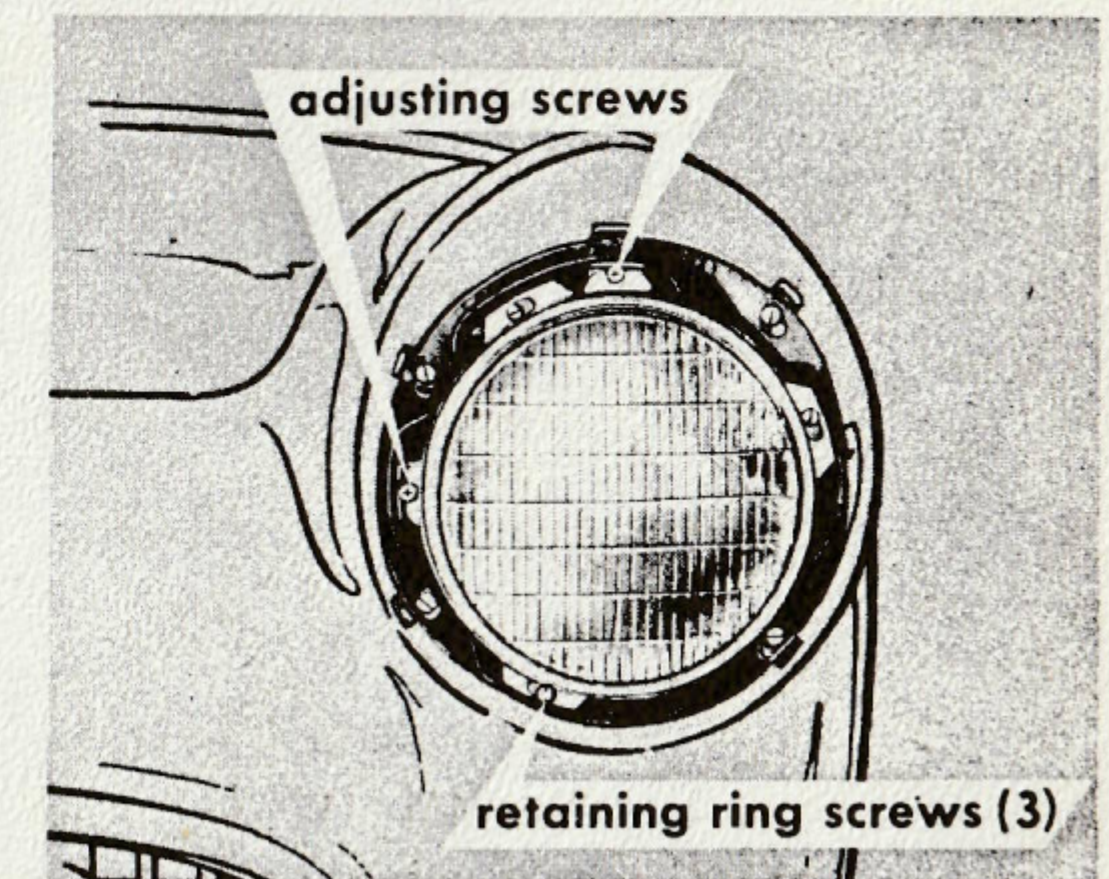
Keep the battery cable terminals clean, and make sure that the cables are tightly clamped to the terminals. Corroded terminals or loose cable clamps cause high electrical resistance, and may result in a discharged battery. Corrosion can be removed with a solution of baking soda and water or ammonia and water. Flush the top of the battery with clear water after cleaning the terminals and clamps, then coat these parts with grease to retard further corrosion.

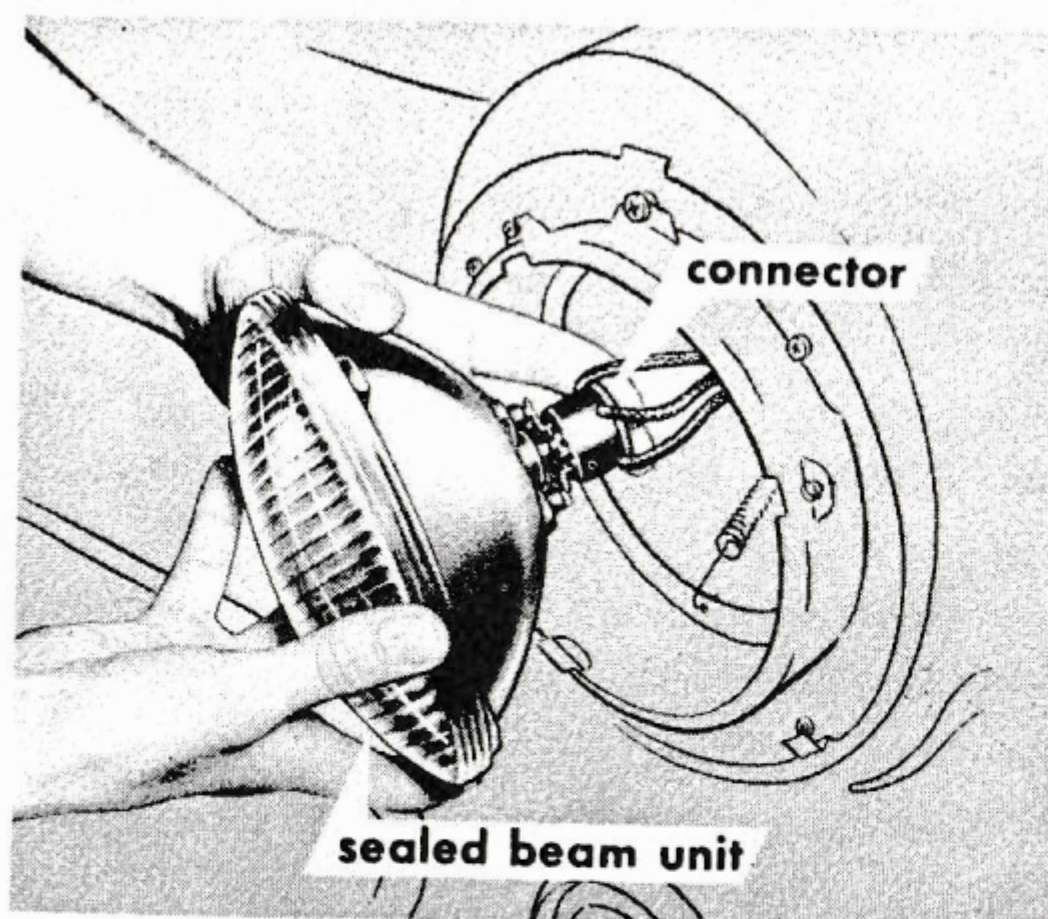
HEADLIGHTS

The Thunderbird 12-volt headlights are of the sealed-beam type with each lens, reflector, and double filament all assembled in a single, sealed unit. This construction prevents tarnishing of the reflector and provides a more uniform intensity of light through the entire life of the unit.

UNIT REPLACEMENT. When one of the headlight units burns out, a new 12-volt replacement unit can be quickly installed.

1. Insert a screw driver in the slot at the bottom of the headlight trim ring, and pry forward to





remove the ring. *Be careful not to scratch the paint on the ring or the fender.*

2. Loosen the three retaining ring screws, then rotate the ring counterclockwise to remove the headlight unit.
3. Pull the wiring plug off the back of the headlight unit. *Don't pull the wires as you may break the plug connections.*
4. Connect the plug to the new headlight unit. *Be sure that the prongs on the unit are all the way in the plug.*

5. Place the headlight unit and the retaining ring in the housing, and turn the retaining ring clockwise to lock the unit in place. Tighten the retaining screws securely.
6. Hook the headlight trim ring at the top of the headlight, and press it into position. Make sure that it snaps securely on the spring clips.

HEADLIGHT ADJUSTMENT. Both headlight units can be adjusted vertically or horizontally. Turning the vertical adjusting screw in or out will raise or lower the headlight beam. Turning the horizontal screw in or out will move the beam to the right or left.

An accurate adjustment of the headlight beams requires special equipment for aiming the beams. Your Ford Dealer has this equipment, and he

can quickly adjust your car's headlights to provide maximum road illumination without blinding oncoming drivers.

PARKING, TAIL, AND STOP LIGHTS

Combination parking and turn-indicator lights are located directly beneath the headlights. The tail,

stop, and turn-indicator lights are all combined in the taillight housing in the rear fenders. Back-up lights are housed directly above the taillights. Burned-out lamps in any of these lights can easily be replaced by removing the lens retaining screws and the lens. *Be sure to use the correct 12-volt replacement lamps.*

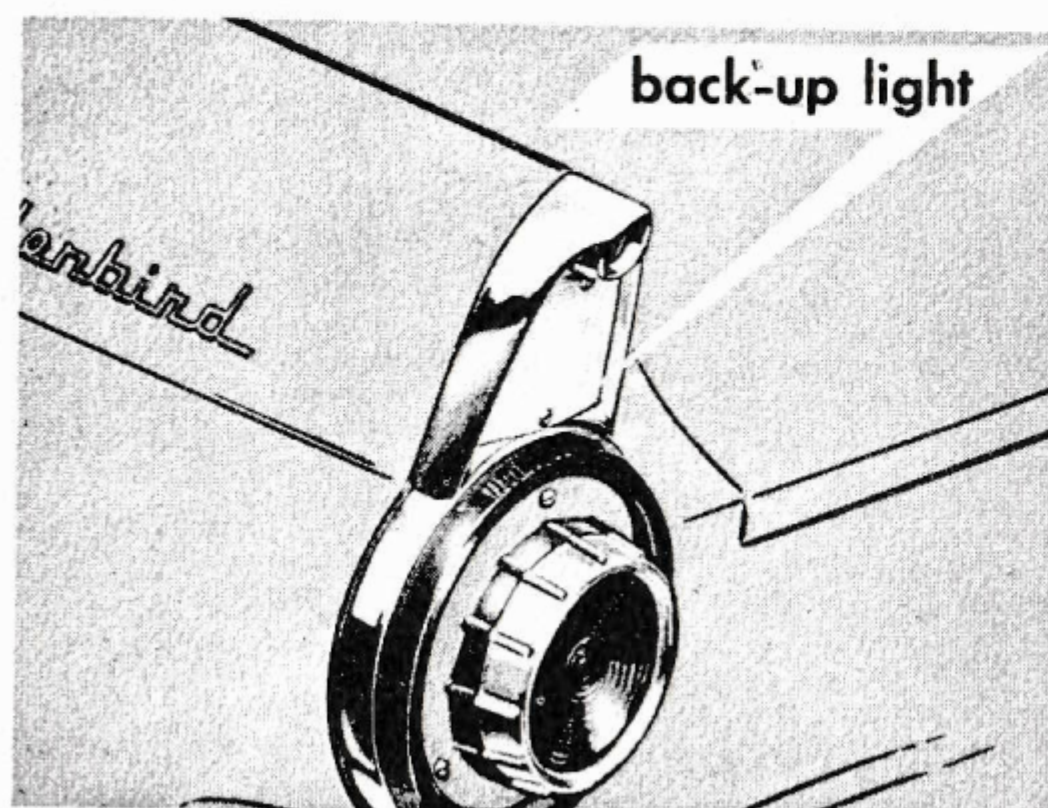
LICENSE PLATE LAMP

The license plate lamp is located on the rear bumper. Lamp replacement is accomplished by removing the two lens attaching screws and the lens.

CIRCUIT BREAKER AND FUSES

A circuit breaker, which is part of the headlight switch, protects the headlight, taillight, and control panel light circuit. When a shorted wire or other electrical trouble overloads the circuit, the circuit breaker opens and shuts off the supply of electrical current. When this happens, you should find the source of the trouble and correct it immediately.

Glass-enclosed, cartridge-type fuses protect the other circuits in the car except the cigarette lighter circuit. The fuse for this circuit is of the metal-enclosed type, and it screws into the back of the lighter element. Use only fuses rated according to the specifications at the back of this manual. Otherwise, damage to the electrical system may result.



WHEREVER YOU DRIVE YOUR THUNDERBIRD . . .

. . . you are seldom more than a few miles from Ford Service. Ford Dealers all over the world are ready to serve you whenever you may need them.

Beauty Maintenance

Don't neglect your Thunderbird's appearance. It's easy to keep the outside finish and interior trim looking beautiful throughout the car's life if you take care of it properly right from the start.

OUTSIDE FINISH CARE

WASHING THE CAR. Wash the car often and thoroughly with warm or cold water. FoMoCo Foam Car Washing Solution does an excellent job of taking off dirt and preserving the new-car luster of the paint finish. *Don't wash the car with hot water or strong soaps.* In areas where salt is used to keep roads and streets free of ice and snow, wash the car more often than usual to prevent salt damage to the finish. Don't wipe off dust and dirt when the finish is dry as you may scratch the paint.

POLISHING THE CAR. In most areas, a good coat of automobile wax or polish will protect the finish of your Thunderbird for several months. However, if you drive frequently in places having severe or unusual weather conditions, it may be necessary for you to apply wax or polish more often. Various FoMoCo cleaners, waxes, and polishes for restoring and preserving the paint finish are available at your Ford Dealer.

CHROME AND BRIGHT METAL CARE. The high-quality chrome and bright metal parts of your car require no special care. Wash them with a mild soap or detergent and water. Rinse with clear water, then wipe the parts dry. Chrome cleaning compounds may be used sparingly to remove rust. *Don't scour the metal with steel wool or polish with abrasives.* FoMoCo Chrome Protector will help to keep your Thunderbird's chrome and bright metal parts in excellent condition in all kinds of weather.

UPHOLSTERY

The vinyl plastic upholstery and other soft interior trim can be easily cleaned with warm water and mild soap. Rinse with clear water, then wipe dry with a soft cloth. If the interior trim is badly soiled, use FoMoCo Foam Cleaner as directed on the cleaner container. *Don't use any other types of cleaning fluid on vinyl plastic upholstery or trim.*

To keep the floor carpet in good condition and to prevent dirt from getting ground into the carpet nap, use a vacuum cleaner often. When the carpet does get very dirty, wash it with FoMoCo Foam Cleaner.

CONVERTIBLE TOP CARE

CLEANING. The Thunderbird has either a rayon fabric or vinyl plastic top. Proper care of the top will help to lengthen its life and will reduce the possibility of weather and dirt damage. Don't fold a damp top. Leave the top in the raised position until it's thoroughly dry.

Wash the convertible top often, at least once every three months, with a mild soap and water. The vinyl plastic top should be washed each time the car is washed. Stubborn stains or spots can be removed with FoMoCo Foam Cleaner. An abrasive cleaner can be used on the plastic top only if necessary. Before you wash the fabric top, remove all loose dirt from the fabric with a whisk broom or a vacuum cleaner.

Wash the rear window with FoMoCo Car Washing Solution or with warm water and mild soap powder or detergent. Rinse the window with plenty of clean water, then wipe it dry with a clean, soft cloth. *Never wipe dust and dirt off the convertible rear window with a dry cloth as the window may become scratched.*

A fabric top that has become faded can be restored to look like new with FoMoCo Top Dye. The dye will bring back the original color of the top, help to preserve the material, and act as a sealer. Your Ford Dealer can restore the top for you with FoMoCo Top Dye.

ADJUSTING. At times, it may be necessary to adjust the convertible top to provide a better fit, to improve the weather seal, or to eliminate sags in the top fabric.

Centering No. 1 Roof Rail (Header). If the header does not center on the top of the windshield frame, loosen the two locating dowels, and move them to one side or the other until the header is properly centered.

Fore and Aft Adjustment of Header. This adjustment provides proper alignment of the header to the windshield frame and also eliminates any excess slack in the top fabric between the header and the No. 2 roof rail. Two screws on each side, which attach the header to the front side rail, are located at the top of the front side rail, and are used to make this adjustment. Loosen the side rail weatherstrips and the two header retaining screws, and slide the header back or forward to obtain the correct

position of the header. Readjust the weatherstrips.

Side Rail Sag. The set screw, located in the rear side rail pivot, may be turned in or out to maintain a parallel position of the rear side rail with the door glass frame.

Weather Seal. To check the weather seal at the header or at the upper back panel, loosen the toggle clamps, and insert a strip of paper under the weatherstrip. Fasten the toggle clamps, then pull out the paper. If the paper can be removed easily, turn the threaded hooks on the toggle clamps inward, one turn at a time, until the paper is held firmly. Don't tighten the toggle clamps too much as fastening the clamps will be difficult and unnecessary "squashing" of the weatherstrip will result. The side rail weatherstrips can be adjusted in or out to provide a proper seal at the door glass.

HARD TOP CARE

The outside painted finish of the hard top should be cleaned the same way as the rest of the car's outside finish. The inside headlining should be cleaned only with warm water and a mild soap. Rinse with clean water and dry with a clean, soft cloth. *Don't use cleaning fluids of any type.*

When you're not using the hard top, store it indoors where it can be kept clean and dry. If the top is to be stored for several weeks, cover it so that dirt can't settle on it.

If necessary, you can adjust the locating dowels at the front of the top and the toggle clamps the same way that they're adjusted on the convertible top.

WHITE SIDE WALL TIRES

Scuffed or dirty white side wall tires should be cleaned with FoMoCo Whitewall Tire Cleaner. Apply the cleaner following the directions on the container, and rinse the tires with plenty of clean water.

Specifications

GENERAL DIMENSIONS

Wheelbase.....	102 inches	Height—Without Top.....	50.2 inches
Tread—Front.....	56 inches	Hard Top.....	52.2 inches
Rear.....	56 inches	Convertible Top.....	52.4 inches
Length (Over-all).....	185.2 inches	Ground Clearance (At Frame Side Member).....	5.9 inches

ENGINES

GENERAL

	Thunderbird Y-8	Thunderbird Special Y-8
Type.....	Overhead-Valve, 90° Y, 8-Cylinder	Overhead-Valve, 90° Y, 8-Cylinder
Bore (Inches).....	3.75	3.80
Stroke (Inches).....	3.30	3.44
Piston Displacement (Cubic Inches).....	292	312
Taxable Horsepower.....	45.00	46.21
Brake Horsepower (@ 4600 r.p.m.).....	202	215 (Overdrive) 225 (Fordomatic)
Torque (Foot-Pounds @ 2600 r.p.m.).....	289	317 (Overdrive) 324 (Fordomatic)
Compression Ratio.....	8.4:1	8.4:1 (Overdrive) 9.0:1 (Fordomatic)
Compression Pressure (p.s.i. @ Cranking Speed).....	160	160 (Overdrive) 165 (Fordomatic)
Idle Speed (r.p.m.).....	475-500	475-500
Cylinder Numbering (Front to Rear)		
Right Side.....	1-2-3-4	1-2-3-4
Left Side.....	5-6-7-8	5-6-7-8
Intake and Exhaust Valve Lash—Hot (Inches).....	0.019	0.019

ENGINE ELECTRICAL

Distributor Point Gap (Inches).....	0.014-0.016	0.014-0.016
Distributor Dwell Angle (Degrees).....	26-28½	26-28½
Breaker Arm Spring Tension (Ounces).....	17-20	17-20
Spark Plug Size and Type.....	18 mm., Anti-Fouling	18 mm., Anti-Fouling
Spark Plug Gap (Inches).....	0.032-0.036	0.032-0.036
Cylinder Firing Order.....	1-5-4-8-6-3-7-2	1-5-4-8-6-3-7-2
Ignition Timing.....	3° B.T.D.C.	3° B.T.D.C. (Overdrive) 6° B.T.D.C. (Fordomatic)

Distributor Vacuum Advance— Distributor r.p.m.	Distributor Degrees	Vacuum (Inches Hg.)
200	0	0
300	0±½	0.16
400	0-1	0.29
800	5½-6½	0.88
1200	8½-9½	1.27
1600	11-12	1.73
2000	13-14¼	2.19

ENGINES (continued)

FUEL SYSTEM

Fuel Pump—Static Fuel Pressure (p.s.i. @ 500 r.p.m.).....	4-5	
Minimum Capacity (@ 500 r.p.m.).....	1 pint in 30 seconds	
Minimum Vacuum (Inches Hg @ 500 r.p.m.).....	10	
Carburetor Metering Jet Identification Numbers—		
Altitude	Main Jets	Secondary Jets
0 to 5,000 Feet.....	50	73
5,000 to 10,000 Feet.....	49	63
10,000 to 15,000 Feet.....	48	55
Anti-Stall Dashpot Adjustment (Inches).....	0.045-0.064	

COOLING SYSTEM

Radiator Cap Pressure (p.s.i.)			13
Thermostat—	Begins-To-Open	Fully-Open	
Identification	Temperature	Temperature	
Standard (160)	157°-162° F	180° F	
High-Temperature (180)	177°-182° F	200° F	
Fan Belt Deflection (Inches)			1/2

ELECTRICAL SYSTEM

BATTERY

Voltage	12
Capacity (Ampere Hours @ 20-Hour Rate)	55
Number of Cells	6
Number of Plates Per Cell	11
Ground Terminal Polarity	Negative

GENERATOR

Voltage	12
Wattage	450
Maximum Current Rating (Amperes)	30
Number of Brushes	2

GENERATOR REGULATOR

Current Rating (Amperes)	30
Cut-In Voltage	12.0-12.8
Voltage Regulation Setting (Volts)	14.6-15.4
Current Regulation Setting (Amperes)	28-32

FUSES (12 VOLTS)

Clock	On Rear of Headlight Switch	9 amperes
Heater Blower	On Switch Wire	14 amperes
Interior Light	On Rear of Headlight Switch	9 amperes
Overdrive	In Engine Compartment	15 amperes
Turn Indicator	Behind Control Panel	7.5 amperes
Headlights, Tail, Stop, and Control Panel (Circuit Breaker)	On Switch	12 amperes
Radio	On Power Feed Wire	7.5 amperes

LIGHTS (12 VOLTS)

Headlight	Lamp Rating	Lamp Number
Back-Up Light	50-40 watts	5400
Parking, Tail, Stop, and Turn Indicators	32 c.p.	1073
Interior	4-32 c.p.	1034
License Plate	6 c.p.	89
Fordomatic Selector Dial	3 c.p.	67
Control Panel (All Lights) and Parcel Compartment	3 c.p.	67
	2 c.p.	57

TRANSMISSIONS

TRANSMISSION GEAR RATIOS

	Conventional Drive	Overdrive
First	2.33:1	2.33:1
Second	1.48:1	1.48:1
Third	1.00:1	1.00:1
Fourth (Overdrive)		0.70:1
Reverse	3.15:1	3.15:1

FORDOMATIC DRIVE RATIOS

Low	2.40:1
Intermediate	1.467:1
Drive	1.00:1
Reverse	2.00:1

CHASSIS

REAR AXLES

Gear Ratios—Fordomatic	3.31:1
Conventional Drive	3.73:1
Overdrive	3.92:1

FRONT WHEEL ALIGNMENT

Caster (Degrees) —Maximum	1 1/2
Minimum	1/2
Camber (Degrees) —Maximum	1 1/4
Minimum	1/4
Toe-In (Inches) —Maximum	1/8
Minimum	1/16

TIRES AND WHEELS

Tire Size and Ply Rating	6.70x15-4
Tire Pressures (p.s.i.)—Normal Driving	24 (all tires)
Sustained High-Speed Driving	30 (all tires)
Wheel Nut Torque (Foot-Pounds)	55-85

STEERING

Steering Gear Ratio	20.1:1
Over-all Ratio	23.0:1

PEDAL FREE TRAVEL

Clutch Pedal (Inches)	1 1/8-1 3/8
Brake Pedal (Inches)	5/16-7/16

REFILL CAPACITIES (U. S. MEASURES)

Cooling System—With Heater	21 quarts
Without Heater	20 quarts
Fuel Tank	17 gallons
Transmission—Fordomatic	20 1/2 pints
Conventional Drive	3 1/2 pints
Overdrive	4 1/2 pints
Rear Axle	3 pints
Crankcase	5 quarts*

*Add 1 quart extra with oil filter element replacement.

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FORM 7513-56

LITHO IN U.S.A.